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原子力発電プラント(国内)の要目リスト

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—— 1976年版 ——

日本原子力研究所東海研究所安全工学部

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すでに刊行した原子力発電プラント諸元リスト（国内編） JAERI-M 5959（1975）は、1974年までの日本の国内で設計・建設・運転されている営業用原子力発電プラント20基のプラントデータを整理、収録したものであった。その後の原子力発電プラントの増加や、変更等に伴うデータの追加、修正を電算機により処理し、1976年までの各プラントの要目を表形式にまとめた。

JAERI-M 6732

Design and safety features of commercial nuclear power
plants in Japan

--- 1976 edition ---

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Division of Reactor Safety, Tokai, JAERI

(Received September 16, 1976)

The December 1975 edition (JAERI-M 5959) contained design particulars and safety features of 20 commercial nuclear power plants in Japan as of December 1974.

Subsequently new plants have been put into operation and some plants under construction have undergone design modifications.

The present edition presents similar data of the commercial nuclear power plants in Japan up to June 1976, compiled by computer processing.

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1 はじめに

日本国内の原子力発電プラントの性能・機器・装置についての仕様の一覧表を作成し、索引を付した。

収録したプラントは、国内の発電炉26基(うち試験炉2基)であり、比較対照のために外国の発電炉9基を加えている。

索引となるアイテム(項目)としてとり上げたものは、522項目であるが、炉型の相違・設計の新旧などの差により、一部のアイテムを欠くプラントもある。

最初、プラントに関するデータを集めはじめた目的は、原子炉燃料の設計、安全性評価に使用することであった。そのため現在でもアイテムは燃料関係に多少かたよっていると考えられる。

収録したデータは公開された資料のうち、入手しうるもののみによったため、大部分は設計段階のものである。したがって、建設・工事・補修の過程で変更されたものも多いと考えられる。そのようなデータは、新しいデータが公開された際に逐次、増補、改訂を加えることにしている。この報告書のデータは、1976年5月までに入手したデータを整理したものである。

この報告書巻末の表-6のプラントデータ集は、原子炉の各部の形状、材質、寸法、性能などといったハードウェアのデータだけでなく、各原子炉の歴史的経過、原子炉敷地の状況、安全対策、安全性解析などのいわばソフトウェアについての記述にも若干の工夫をこらして収録している。

データの加除、作表、索引作成などの処理は、すべてコンピュータを使用している。このデータ処理プログラムは、“FREP”と呼ばれるもので、データを効率的、経済的に処理するために独自に開発されたものである。FREPの概要については、Appendixを参照されたい。

FREPは、コア使用量、処理時間、出力ページ数などの経済性に特に意を用いたプログラムである。処理時間の経済性を考慮して索引を4ワードを1ユニットとして実施するようにプログラムしている。そのため、4ワード以上の言語については読みにくい点が生じている。

例えば、CONDENSERは、CONDENSERとなる。

計算機による言語処理の試みの一つとして上記の如き方法を採用した。FREPは、FORTRAN-IVでプログラムされており、FACOM-230-75および、CDC-6600用の2種のVersionが存在する。

新しい追加データ、修正すべきデータが、ある程度集積したら逐次改訂版を出してゆくことを予定している。データの誤りあるいは不備な点についてのご批判を得て改善していきたいと考えている。

この1976年版は、旧版(JAERI-M 5959, 1974年12月)の成果に基づいている。旧版の編集を担当された、森島淳好、藤田操、栗山実の各氏に謝意を表す。また、処理プログラムFREPの開発については、センチュリ・リサーチ・センター株式会社の、石橋明弘、小野正夫、大坪直昭各氏の助力をえた。

2 収録内容と利用法

2.1 利用法

この報告書に収録した原子炉プラントデータを取扱うため、6種のリストが用意されている。そのリスト群は、

- | | | |
|---|--------------|-------|
| 1 | 採用している原子炉リスト | (表-1) |
| 2 | 要目アイテムリスト | (表-2) |
| 3 | 略語リスト | (表-3) |
| 4 | キーワードリスト | (表-4) |
| 5 | 索引リスト | (表-5) |
| 6 | データリスト | (表-6) |

である。ただし、データ検索に利用するのは、4～6のリストである。

何かプラントデータが必要な場合、まず要目アイテムをさがさなければならない。知りたい要目アイテムは、キーワードリスト(表-4)でさがす。キーワードは、アルファベット順に示され、英字による単語、つづり、略語から成立っている。知りたい項目の見出し語をここでさがす。もしそのなかに略語が使用され、略語について知りたい場合は、略語リスト(表-5)を参照する。知りたいデータをさがす順序は次の通りである。

- 1 キーワードリスト(表-4)から索引リスト(表-5)のページ(S-XX)を読み取る。
- 2 索引リスト(表-5)のページ(S-XX)からデータリスト(表-6)のページ(D-XXX)を読み取る。
- 3 データリスト(表-6)のページ(D-XXX)により目的に応じたデータを得ることが出来る。

このように一定の順序と約束にしたがって、知りたい要目アイテムを見い出すことが出来る。

この報告書の使い方を実例をあげて説明する。

(例) 燃料棒表面熱流束を知りたい場合：

- 1 キーワードリスト(表-4)で、HEAT FLUX を引く。その索引頁 S-10 を読みとる。
- 2 索引リスト(表-5)の右上に示される、PAGE *** S-10 *** を開く。
- 3 HEAT FLUXの個所には、
H. TRANS. HEAT FLUX MAX MEAN 843220 SEE PAGE ** D-222 **
の記載がある。
- 4 データリスト(表-6)中の右上のD-222をみる。そこに各原子力プラントにおける燃料棒の表面熱流束のデータを見い出すことができる。

ここで、(1)で指示されているデータは炉心の100%出力状態の熱流束であり、そのなかでMEANとあるものは炉心平均熱流束、MAX.は最高熱流束の値である。単位は、D-222の最初の方に示されているKCAL/SQM/H、すなわち、kcal/m²-hrである。なお(2)は、

112%出力、(3)は125%出力の状態下の値を示している。このように上部にデータのコメントが記され、その下に各プラントのデータ値が示される。

各プラントのデータは、左端から、プラント名、炉の型式、プラント番号、データ値の順に示され、次に原子炉設置許可申請書等で報告されたページと、その日付が示される。

2.2 対象とした原子炉(表-1)について

収録の対象とした原子炉を巻末の表-1に示す。プラント名の前に付された番号は、FREPプログラム処理上付されたプラントコード番号である。

また収録した国内の発電炉を地図上にプロットした図をFig-1に示す。図には原子炉設置点を中心としたその周辺の人口数も記入してある。

2.3 要目アイテム(表-2)について

要目の項目(以下アイテム)としては、現在241アイテムを採用している。要目アイテムリストを巻末の表-2に示す。

リストはそのコード番号順である。左から順に、コード番号、アイテム、データリスト頁の順に示してある。

この報告書の原子炉要目として取上げているデータはこの要目アイテムリストに収録されている項目についてのみである。したがって、このリストに出ていないデータは、この報告書にはない。

2.4 略語リスト(表-3)について

アイテム、索引などの冗長を省くために略語を使用した。使用した略語リストを巻末の表-3に示す。リストは、左側が略語右側に原意を示す。

2.5 キーワードリスト(表-4)について

巻末の表-4は192のキーワードリストである。キーワードはアルファベット順に整理されており、利用者はこの中から必要な語を選び右側の索引ページ(S-XXXで示されている)を求め、表-5の索引リストの右上に示されたページの中に収録されたアイテムを見出すことができる。つづいて、アイテムの右側のデータ、ページ(D-XXXで示されている)を読みとり、表-6中から必要なデータを求めることができる。

2.6 索引リスト(表-5)について

索引リストを巻末の表-5に示す。索引リストは、アルファベット順に記されたキーワードの間に、キーワードを含むアイテムとそのコード番号、データリストのページ(D-XXXで示す)から成っている。

利用者は、キーワードリストから読み取った索引ページS-XXXを、この章の右肩に示したページの中から読み取り、アイテムを探し、データリストのページ(D-XXX)を探すことができる。

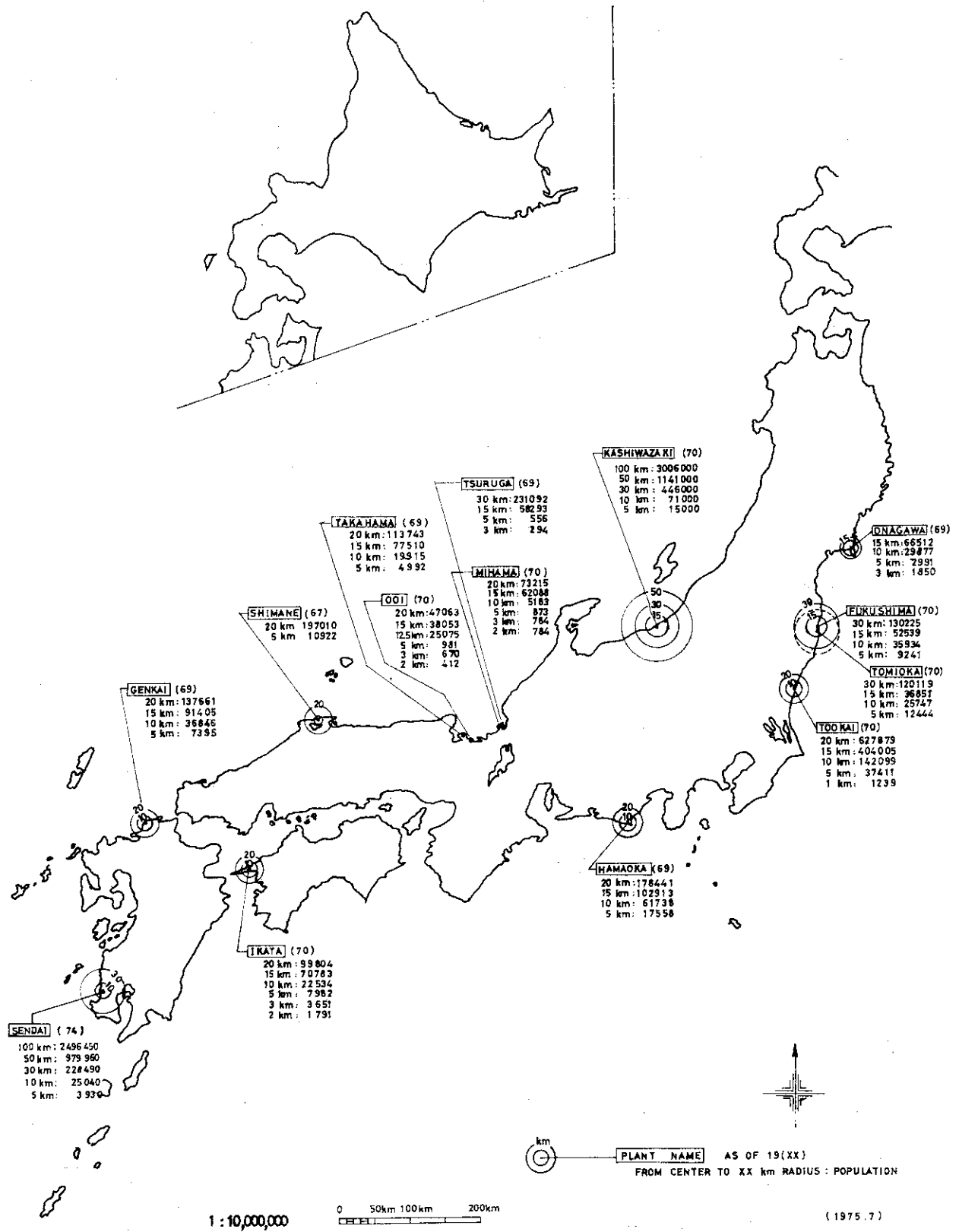


Fig. 1 Location of Power Reactors in JAPAN and Populations Surrounding Them

2.7 データリスト(表-6)について

すべてのデータは巻末の表-6データリストに収録されている。

この要目データには、機器の箇數、寸法、材質などの一般的データのほかに、アイテムの定義、事故の想定、安全対策なども含ませたため、一般のデータ集とは異なった様式をとった部分がある。

定義などは、簡単な記述とそれらの論理式で表示したり、想定を条件を例記するような方式も併用した。

配例は、アイテムをコード番号順に示し、原子炉のデータを並べる方式である。

データリストのページは、プリントアウトのシートの右肩にD-***で示されている。

Appendix データ処理プログラムFREPについて

軽水動力炉プラントデータは、プログラムFREPによって整理している。FREPは、先に発行した報告書(JAERI-M 5959)で扱ったデータを処理するプログラムFREP1を修正、拡充したものである。

プログラムFREPは、

FREP 1

FREP 2

FREP 3

FREP 4

の4つの独立したプログラムで構成されている。

Fig A-1にプログラムFREP機能の概要図を示し以下にその説明をする。

FREP 1 : 軽水動力炉プラントデータカードを、ディスク(一時データファイル)か又は、磁気テープに書き込むプログラムである。

FREP 2 : ディスクあるいは磁気テープに納められている軽水動力炉プラントデータを呼び出し、これに新データを追加して、新たな軽水動力炉プラントデータを、ディスク又は、磁気テープに書き込むプログラムである。

FREP 3 : FREP 1又は、FREP 2によってディスクか、磁気テープに書き込まれた軽水動力炉プラントデータを、ディスクから磁気テープへ又は、磁気テープからディスクへ転記するプログラムである。

FREP 4 : 収録された軽水動力炉プラントデータファイルから情報検索を行い、ラインプリンタに出力させるプログラムである。

次章に各プログラムの機能を説明する。

A.1 FREP1の機能

A.1.1 FREP1の概要

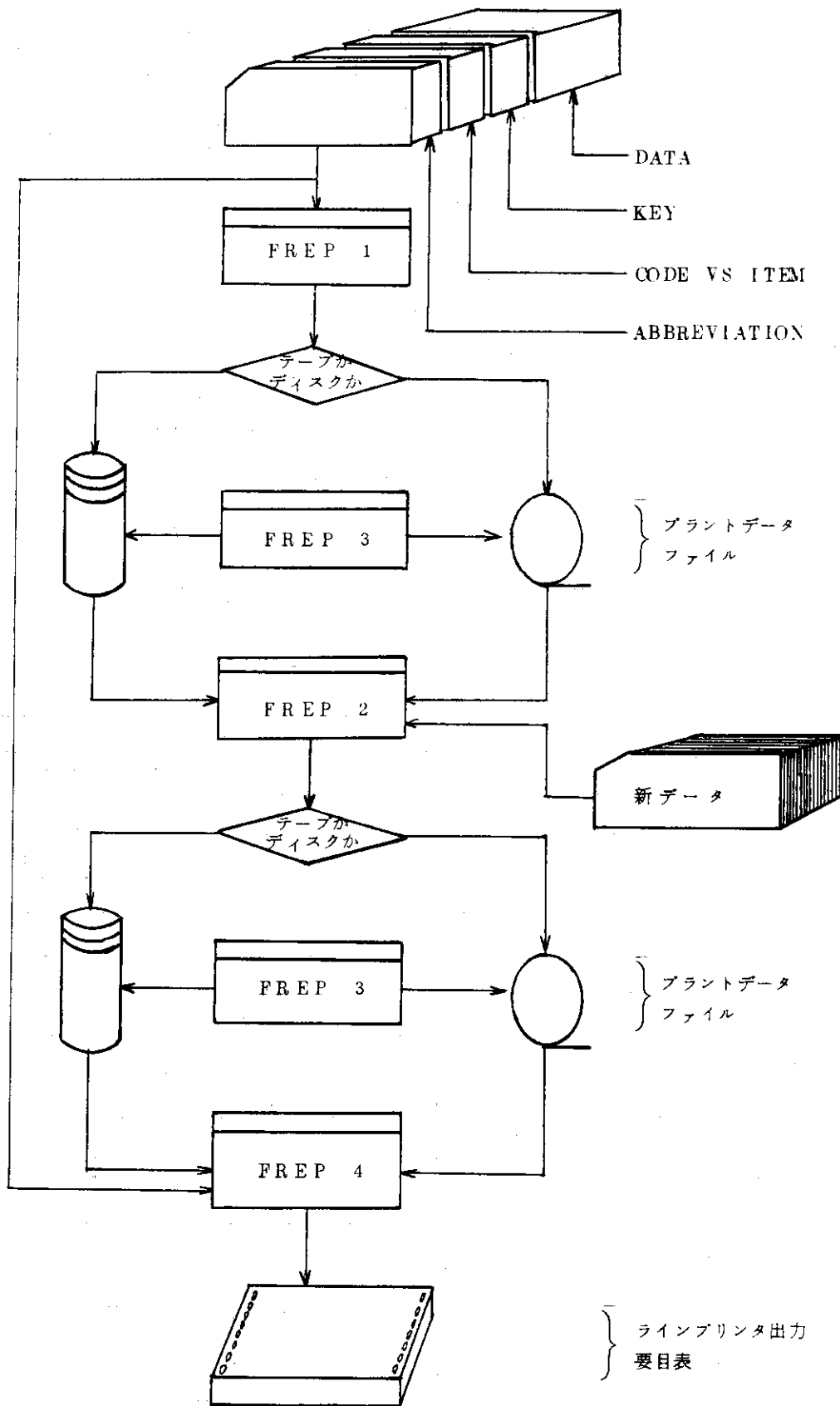
FREP1は、軽水動力炉要目表を作成するためのデータカードを、ディスク(一時データファイル)又は、磁気テープに書き込むプログラムである。

データカードから軽水動力炉プラントデータの削除、追加及び要目表の作成を行なう場合、データカード枚数が多いために起るカードリーダーのトラブル等を考慮すると、データカードをディスクか磁気テープに編集しておき、これをデータの削除、追加及び要目表作成の作業に使用の方が便利である。そのためFREP1プログラムが作成された。

現在軽水動力炉プラントデータは、カードにして約9400枚ある。このデータカードは次の4つのデッキ群から成立する。

| | | |
|--------------|---|------|
| ABBREVIATION | : | AAAA |
| CODE VS ITEM | : | 9999 |
| KEY | : | AAAA |
| DATA | : | 9999 |

これらの4つのデッキ群は、AAAA, 9999, AAAA, 9999のカードで区切られている。



FigA.1 FREPプログラムの機能

11 \$ DATA

12 \$ NAM1 IOLD, INEW \$

13 DATA Cards

14 \$ JEND

磁気テープに入れる場合は上記の10の\$ DISKTN制御文のかわりに、

10' \$ TAPE FILE, LABEL, NEW, VOL, UNIT

を使用すればよい。

以下に制御文の説明を記述する。

プライオリティカード

2～5までのプライオリティカードは大略次のようである。

CPU使用時間 : 約9400枚のデータカードをディスク(一時データファイル)に書き込むのに約19秒であった。

出力量 : 出力量は、プログラム出力とも全部で約10ページである。

コア使用量 : FREP1プログラムは、DECIMAL=10730Wなので、C.0でよい。

10番のカードを具体的に示すと次のようになる。

10" \$ DISKTN F02, J1180. PLANT2, TRK=200

これは一時データファイルの作成を行なう制御文である。FILEは上記の例でF02を使用した。FNAMEすなわちFileの名は、PLANT2と登録している。TRKはトラック数の指定で、FACOM-230-75では100トラックでデータカード4500枚分に相当する。現在データカードが約9400枚なのでトラック数は約200を必要とする。

12番のカードを具体的に示すと次のようになる。

12' \$ NAM1 IOLD=5, INEW=2 \$

プログラムのデータ入力、まずNAMELISTでIOLDとINEWの入力を要する。上記はその例である。IOLDは、入力機器の指定である。ここでは軽水炉プラントデータをカードで入力するので、IOLDは5である。INEWは出力機器の指定である。出力は10"で示したように、\$ DISKTN FILE F02と指定したので、INEWは2にしなければならない。

13番のカード群を具体的に示すと次のようになる。

13 DATA Cards

軽水動力炉要目表作成に必要なデータカードは、現在約9400枚になっている。各デッキのデータカード数の内訳を次に示す、又各デッキのデータカード入力順番をも次に示すようになる。

| | |
|--------------|------------|
| ABBREVIATION | カード約350枚 |
| AAAA | デッキ区切カード1枚 |
| CODE VS ITEM | カード約530枚 |
| 9999 | デッキ区切カード1枚 |
| KEY | カード約200枚 |
| AAAA | デッキ区切カード1枚 |
| DATA | カード約8320枚 |
| 9999 | デッキ区切カード1枚 |

ここでデータカード入力の時、注意しなければならないことは、各デッキの区切に、AAAA, 9999, AAAA, 9999 カードを入れなければならないことである。

上記に制御文の説明をしたが、詳しいことは、原研計算センターで編集されているマニュアルを参照されたい。

たと、カードで入力された新データを再編集し、新たに作られたデータをFILE F03, File名すなわちFNAMEはPLANTS 3に登録する制御文である。データ数がふえるのでTRKすなわちトラック数の指定は250を必要とする。

13番のカードを具体的に示すと次の通りである。

13'

| | |
|-----------------------|----|
| \$NAM1 IOLD=2, INEW=3 | \$ |
|-----------------------|----|

データカード入力は、まずNAMELISTによりIOLDとINEWの入力を要する。IOLDは、10'の\$DISKTO1で指定した機番がF02であるのでIOLD=2, INEWは、11'の\$DISKTNで指定した機番がF03であるのでINEW=3にしなければならない。

14番のカードを具体的に示すと次の通りである。

14'

| |
|------|
| RV01 |
|------|

新データのINDEX名を指定するカードである。オリジナルのINDEX名は、A.1.1のFREP1で付された, ABBR, CODE, KEY, R001, R002, , と登録されている。しかし新データのINDEX名は未定義なので、そのINDEX名を入力カードで指定しなければならない。その指定INDEX名の例が14'のRV01である。

INDEX名の入力FORMATは4文字(A4)であるから、カードの第1コラムから第4コラムまでに、任意の文字を入れればよい。全部ブランクは許されない。また、*I, *Dも許されない。たとえば、REV1, RV01, TR01等を指定すればよい。数回の改訂を行なったとき、改訂履歴がわかるように、2ケタは数字によって前後関連がわかるようにしておく方が望しい。Fig A. 3にFREP2の流れ図を示す。

15, 16番のカードを具体的に示すと次の通りである。

15'

| |
|-------------|
| *I INDEX NO |
|-------------|

16'

| |
|-----------|
| DATA Card |
|-----------|

15番のカードは、新データを挿入する時に使用するカードである。16番のカードは、新データカードである。以下に例で使用方法を説明する。

(例)

ABBREVIATION デッキの中に新データ

T.D THEORETICAL DENSITY

のカードを挿入する場合

15'

| |
|------------------|
| *I □□ ABBR □ 324 |
|------------------|

16'

| |
|-------------------------------------|
| T.D. □□□□□□□□ THEORETICAL □ DENSITY |
|-------------------------------------|

とする。

FREP4で一貫番号を付したABBREVIATIONの出力リストを抜き書きすると、

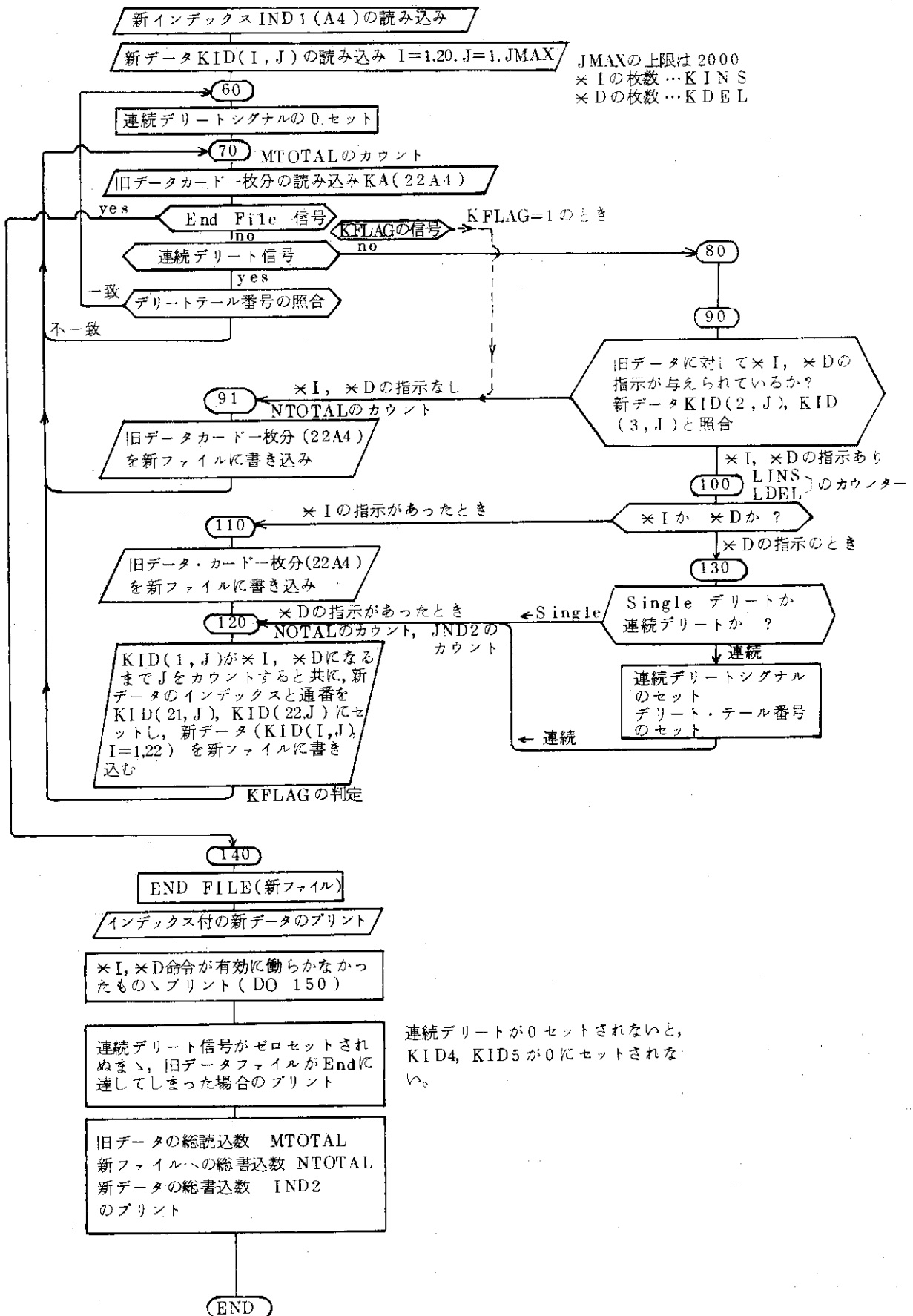


Fig-A. 3 Flow chart of program FREP-2

ABBR □ 324 TCV TURBINE CONTROL VALVE

ABBR □ 325 TEMP TEMPERATURE

となっている。この間に新データを挿入したいとき、15'のカードのように×I □ □ ABBR □ 324 とし、次のカード16'にデータを付ければ良い。すなわち、データ挿入の時は、挿入したい位置の前のINDEX NO.を指定する。FORMATは5A4であるから、第1コラムから、×Iを、第5コラムからINDEX名すなわちこの場合ABBRを入れる。INDEX NO.は324であり、第10コラムから第12コラムまでに324と入れればよい。ここで注意しなければならないことは、読み込みが4キャラクタ(A4)であり、数字の桁を合わせるため、この場合下1桁を第12コラムに合わせることである。

新データを読み込むFORMATは、20A4である。第1コラムから第8コラムまでを略語、第13コラムから説明文にすると出力した時に見やすいようになっている。

17番のカードは、現在入れてあるデータを削除したい場合に使用するカードであり、次の例によって説明する。

(例)

17' ×D □ □ ABBR □ 324

このカードは、ABBREVIATIONの324番を削除する。FREP4で一貫番号を付したABBREVIATIONの出力リストは

ABBR 324 TCV TURBINE CONTROL

となっている。この単1データを削除する場合上記17'のように、第1コラムから×D、第5コラムから第8コラムにINDEX名、すなわちABBR、第9コラムから第12コラムにINDEX NO. 324とする。ここでもINDEX NO.は数なので桁合せの必要上下1桁を第12コラムに合せなければならない。

以上に説明したごとく単1データを削除するだけなら、そのINDEX名とNO.だけで済む。

18、19番のカードは、いま入れてあるデータを削除し、新データを挿入する場合で、以下の例によって説明する。

(例)

18' ×D □ □ ABBR □ 324 ABBR □ 325

19' T.D. □ □ □ □ □ □ □ □ THEORETICAL □ DENSITY

これは、ABBREVIATIONデータの324から325番を削除し、その個所に19'の新しいデータを挿入する。さらに詳しく述べると、FREP4のABBREVIATION出力リストが、

ABBR 324 TCV TURBINE CONTROL VALVE

ABBR 325 TEMP TEMPERATURE

となっており、この旧データを削除して

T.D. THEORETICAL DENSITY

の新データを挿入したいとき、18', 19' のようにする。18' の書式は、第1コラムから第4コラムに×D□□, 第5コラムからINDEX名, この例ではABBR, 第9コラムから第12コラム削除の始めのINDEX NO.を入れ, 次に第13コラムから第16コラムに削除の終りのINDEX名ABBR, 第17コラムから第20コラムにINDEX NO., 325 を入れなければならない。ここでも注意しなければならないことは、INDEX NO.は、削除の始めと終りのNOは、桁を合せること。

以上に説明したように、連続削除では、削除の始めと終りのINDEX名と、NO.を入れる。

A.3 FREP3の機能

A.3.1 FREP3の概要

FREP3は、軽水動力炉プラントデータを、ディスク（一時データファイル）から磁気テープへ、または、磁気テープからディスクへ転記するプログラムである。

このプログラムは、ディスクトラブルの時のバックアップ用の磁気テープを作成する場合に使用する。

このプログラムの読み込み、書き込みのFORMATは22A4である。したがって、カードからディスク、もしくはテープへの転記には使用できない。

A.3.2 プライオリティカードの選定

FACON-230-75の場合、ディスクからテープへ転記に用する時間は、データ数約9400で、CPU TIME 18秒であった。

コアメモリは殆んど必要としない。出力ページ数は1ページ、プログラムと合せても数ページにしかない。

A.3.3 入力オプションについて

入力データは、ディスク（一時データファイル）と磁気テープの機番の指定である。機番の指定はコントロールカードおよびその番号をNAMELISTで入力する。その使用法は、A.2.2節の10'～13'に述べた方法に準ずる。

A.4 FREP 4の機能

A.4.1 FREP 4の概要

FREP 4は、軽水動力炉プラントの要目表を作成するプログラムである。

このプログラムのデータ入力には、Fig A.1 に示したように、カード、ディスク（一時データファイル）及び、磁気テープによる入力が可能である。ただしデータカードで入力すると、データの後のINDEX名とNO. が入らない為、新データの追加及び削除等の作業はカードで行なわれなければならない。

A.4.2 FREP 4の制御文

ディスクからプラントデータの入力を行なう時、FACOM-230-75 の制御文を以下に示す。

| | | |
|-----|-----------|-------------------------------------|
| 1 | \$NO | XXXX |
| 2 | | T. 1/TIME 1M |
| 3 | | W. 7/PAGE 500 |
| 4 | | C. 1/CORE 64 |
| 5 | | P. 1/PCH 0 |
| 6 | \$GJOB | XXXXXXXX, NAME, XXX.XX |
| 7 | \$FORT | |
| 8 | | FORTRAN Source cards |
| 9 | \$LIEDRUN | OUT=500 |
| 10 | \$DISKTO1 | FILE, FNAME |
| 11 | \$DATA | |
| 12 | | \$NAM1 IN, IW, SCALE, MEMOL, ISPEC, |
| 12' | | NSPEC, IITEM, NITEM, ISKIP \$ |
| 13 | \$JEND | |

である。

上記の説明を以下に示す。

2から5のプライオリティカードは大略以下のようである。

| |
|------------|
| プライオリティカード |
|------------|

CPU使用時間：約9400のデータを処理するために要する時間は、約36秒であった。

出力量：出力量は、プログラムと要目表を合せて約350ページである。

コア使用量：FREP4の所要コアメモリは54kWである。

10番のカードを具体的に示すと次のようになる。

```
10' $DISKTO1 F03, J1180·PLANT3
```

このカードは、FREP2プログラムによって、新旧データを再編成してディスク（一時データファイル）に登録したPLANT3を入力データとして使用することを指定する制御文である。

12, 12'のカードを具体的に示すと次のようになる。

```
12' $NAM1 IN=3, IN=6 $
```

このデータカードは、NAMELIST 入力で作業内容を指定するカードである。以下に指定とその作業内容を説明する。

IN 入力がカードによるか、磁気テープあるいは、ディスク（一時データファイル）によるかを指定するシグナルであり、IN=5とすればカード入力。ディスクおよび磁気テープによる入力は、コントロールカードによって指定したファイル機番を指定することによってデータが読み込まれる。12'のカードの場合、IN=3は、10'カードで指定されたF03を意味するのでディスクからの入力である。

IW 出力がラインプリンタか、磁気テープあるいはディスクかを指定するシグナルである。IWは特に指定がなければ、6が設定され、ラインプリンタに出力される。

SCALE 出力データにINDEX名と一貫番号を付けて出力するシグナルである。SCALE=0.とすると軽水動力炉要目表の出力、SCALE=1.とすると出力データにINDEX名と一貫番号を付けた作業用データファイルの出力が得られる。

作業用データファイルは、各ブロックのデータのあとにスケール（カードコラム）が出るようになっている。またこれと同じに、INDEXと一貫番号が左端にプリントされる。データの増補、改訂にさいし、スケールはデータのコラムの位置どりを簡単にし、かつ削除、挿入すべきデータ番号を参照するために使用される。

MEMOL 作業用データファイル出力で、各項のあとにブランク行がほしい場合、ブランクにすべきライン数を指定するシグナルである。通常MOL=1~3である。

ISPEC 指定の炉のデータのみを出力、あるいは削除した時に用いられる。出力の時は、ISPECは正で、出力させない時は負とする。

NSPEC ISPECの指定により、出力あるいは削除したい特定の炉の原子炉プラントコード番号を入力するのに用いられる。又、NSPECは10個まで

許される。

たとえば、ISPEC=2, NSPEC(1)=3, 5と指定すると、原子炉プラントのコード番号が、3のものと5のものだけが出力され、あとのデータは出力されない。またISPEC=-2, NSPEC(1)=3, 5と指定すると、3と5以外のものが出力され、3と5は出力からのぞかれる。

I I T E M 特定の項目のデータのみを出力、あるいは出力させない時に用いられる。出力の時は、I I T E Mは正で、出力させない時は負とする。

N I T E M I I T E Mの指定により、出力あるいは削除したい特定の項目の番号を入力するのに用いられる。又、N I T E Mは10個まで許される。

I I T E M, N I T E Mは、前にのべたISPEC, NSPECの指定方法に準ずる。

I S K I P ラインプリンタ出力の場合、出力ページの制限があり、出力の節約上はじめの部分の出力をスキップさせたい時に指定するシグナルである。

たとえば、ISKIP=200と指定すると、データ集の右上に示されるページ、D-200頁からあとのデータが出力される。又、必要とする部分のページを出力させたい場合にも用いられる。このようにしたからと云って、索引との頁の対応がずれることはない。

索引例 (2.1 利用例参照)

HEAT FLUX

表-4

| | | | |
|-------|--------------|-------|-------|
| | | | |
| ... | .. HEAT FLUX | S-10 | |
| | | | |

表-5

| | | |
|-------------------------------------|-----------------------|-----------|
| | <u>PAGE***S-10***</u> | |
| | | |
| | | |
| HEAT FLUX | | HEAT FLUX |
| H. TRANS. HEAT FLUX MAX MEAN 843220 | SEE PAGE***D-222*** | |
| | | |
| | | |

表-6

| | |
|------------------------|--|
| <u>PAGE***D-222***</u> | |
| 表-6のPAGE D-222 参照 | |

表-1 採用している原子炉リスト

表-2 要目アイテムリスト

| | | | | | | | | | | | | | | | | | | | | |
|-------|-----------------------|------------------|------------|------------|------------------|----------|----|--------|----------|----------|----------|-------------|----------|----------|----------|-------|-----|----|----|---|
| 100 | SOURCE DOCUMENT | | | | | 1 | 0 | 35320 | ACC.ANA. | RECIRC. | RUPTURE | DRY-WELL | P-CHANGE | LOC | 23 | 4 | | | | |
| 110 | HISTORY OF CONSTRUCT | ION | PERMIT | | | 1 | 2 | 35340 | FUEL | CLADDING | PERFORAT | AND ZR-W | REACTION | RATE | 23 | 3 | | | | |
| 120 | HISTORY OF CONSTRUCT | ION | PERMIT | APPLICAT | | 2 | 2 | 35360 | HEAT | GENERAT. | RATE OF | ZR-W | REACTION | | 24 | 1 | | | | |
| 122 | REVISE OF CONSTRUCT | ION | PERMIT | | | 2 | 2 | 35600 | PERFORMA | NCE | EVALUATI | ON OF | ECCS | LOCA FW | 24 | 2 | | | | |
| 130 | REVISE OF CONSTRUCT | ION | PERMIT | APPLICAT | | 2 | 2 | 36200 | ACCIDENT | | MAINT | STEAM | TUBE | RUPTURE | 25 | 2 | | | | |
| 200 | IMPORTED | | | | | 3 | 2 | 36310 | ACC.ANA. | | | M-STEAM | TUBE | RUPTURE | 25 | 3 | | | | |
| 300 | HISTORY OF CONSTRUCT | ION AND OPERATIO | N | | | 4 | 1 | 36320 | ACC.ANA. | | | M-STEAM | TUBE | RUPTURE | 26 | 3 | | | | |
| 10000 | SA FIN. OF AR-TRA | | | | | 5 | 1 | 43000 | MCA HA | ITEMS | | | | | 26 | 2 | | | | |
| 10020 | SA DEFINITI UN OF | ACCIDENT | | | | 5 | 2 | 43110 | MCA HA | BWR LOC | FP | LEAK | RATE | FROM | DRY-WELL | 27 | 4 | | | |
| 10100 | SAFETY STANDARD UNDER | AR-TRA | | | | 5 | 2 | 43120 | MCA HA | BWR LOC | FP | RELEASE | FROM | FUEL | 27 | 4 | | | | |
| 10120 | SAFETY STANDARD UNDER | ACCIDENT | | | | 6 | 2 | 43130 | MCA HA | PWR LOPC | FP | GAS | RELEASE | FROM | FUEL | 28 | 5 | | | |
| 20000 | KIND OF AB-TRA | FROM | VARIOUS | SYSTEMS | | 6 | 1 | 43140 | MCA HA | BWR LOC | FP | GAS | RELEASE | FROM | BUILDING | 28 | 6 | | | |
| 21000 | KIND OF AB-TRA | FROM | RECIRC. | SYSTEM | | 6 | 2 | 43150 | MCA HA | PWR LOPC | FP | GAS | RELEASE | FROM | BUILDING | 29 | 6 | | | |
| 21110 | AB-TRA | RECIRC. | PUMP | TRIP | | 7 | 4 | 43160 | MCA HA | BWR LOC | ESTIMATI | ON OF | IRRADIAT | ION DOSE | 29 | 4 | | | | |
| 21120 | AB-TRA | RECIRC. | PUMP | SHAFT | STICK | 7 | 4 | 43170 | MCA HA | PWR LOPC | ESTIMATI | ON OF | IRRADIAT | ION DOSE | 30 | 5 | | | | |
| 21200 | AB-TRA | RECIRC. | FLOW | REGULATO R | MALFUNC. | 8 | 3 | 43180 | HA | BWR LOC | ESTIMATI | ON OF | IRRADIAT | ION DOSE | 30 | 4 | | | | |
| 21320 | AB-TRA | MISS | START-UP | OF COLD | RECIRC. LOOP (1) | 9 | 3 | 43190 | NATIONAL | HEREDITY | IRRADIAT | ION DOSE | HA | | 31 | 5 | | | | |
| 21340 | AB-TRA | MISS | START-UP | OF COLD | RECIRC. LOOP (2) | 9 | 3 | 43220 | MCA HA | BWR MSTR | FP | RELEASE | FROM | FUEL | 31 | 4 | | | | |
| 21360 | AB-TRA | MISS | START-UP | OF COLD | RECIRC. LOOP (3) | 9 | 3 | 43240 | MCA HA | BWR MSTR | FP | GAS | RELEASE | FROM | BUILDING | 32 | 6 | | | |
| 22000 | KIND OF AB-TRA | FROM | FEEDWATE R | SYSTEM | | 10 | 1 | 43250 | MCA HA | PWR SGR | FP | GAS | RELEASE | FROM | BUILDING | 32 | 6 | | | |
| 22100 | AB-TRA | TRUBLE | OF FEEJ | WATER | CONTRULL ER | 10 | 1 | 43260 | BWR MCA | BWR MSTR | ESTIMATI | ON OF | IRRADIAT | ION DOSE | 33 | 4 | | | | |
| 22200 | AB-TRA | LOSS | OF FEEJ | WATER | HEATEK | 11 | 1 | 43270 | MCA HA | BWR SGR | ESTIMATI | ON OF | IRRADIAT | ION DOSE | 34 | 5 | | | | |
| 22300 | AB-TRA | LOSS | OF FEEJ | WATER | | 11 | 1 | 43280 | BWR HA | BWR MSTR | ESTIMATI | ON OF | IRRADIAT | ION DOSE | 34 | 4 | | | | |
| 23000 | KIND OF AB-TRA | FROM | MAIN | STEAM | SYSTEM | 11 | 2 | 43500 | DISTANCE | SITE | BOUNDARY | AND | PLANT | CENTER | 35 | 0 | | | | |
| 23100 | AB-TRA | GENERATO R | TRIP | | | 12 | 4 | 110100 | REACTOR | COUNTRY | SITE | OWNER | CRITICAL | DATE | 35 | 1 | | | | |
| 23200 | AB-TRA | TURBINE | TRIP | SUMMARY | | 12 | 4 | 110200 | REACTOR | TYPE | | | | | 37 | 1 | | | | |
| 23210 | AB-TRA | TURBINE | TRIP (1) | WITH | BY PASS | V. ACT | 13 | 4 | 110300 | REACTOR | TYPE | | | | 38 | 1 | | | | |
| 23220 | AB-TRA | TURBINE | TRIP (2) | WITHOUT | BY PASS | V. ACT | 13 | 4 | 520200 | ENGINEER | | | | | 39 | 1 | | | | |
| 23230 | AB-TRA | TURBINE | TRIP (3) | | | | 14 | 4 | 611000 | REACTOR | SITE | SITUTAI O N | AREA | | 39 | 0 | | | | |
| 23300 | AB-TRA | MAIN | STFAM | ISOLATE | VALVE | CLOSE | 14 | 2 | 621220 | SITE | WATER | QUALITY | PH | SOURCE | 40 | 2 | | | | |
| 23400 | AB-TRA | MALFUNC. | OF FEEJ | INITIAL | PRESSURE | ADJUSTER | 15 | 3 | 621240 | SITE | WATER | QUALITY | PH | E-CDTVTY | NIGORID | 40 | 2 | | | |
| 23500 | AB-TRA | PRESSURE | RELIEF | VALVE | OPEN | | 15 | 3 | 621260 | SITE | WATER | QUALITY | HARDNESS | ALKALI | | 40 | 2 | | | |
| 24000 | KIND OF AB-TRA | FROM | CONTROL | SYSTEM | | | 16 | 1 | 621280 | SITE | WATER | QUALITY | SD-4 | ION | CL ION | NH-4 | ION | 41 | 2 | |
| 24100 | AB-TRA | CONTROL | ROD | WITHDRAW | SUBCRI. | STATE | 16 | 2 | 621420 | SITE | WATER | QUALITY | NO-3 | ION | NO-2 | ION | | 41 | 2 | |
| 24200 | AB-TRA | CONTROL | ROD | WITHDRAW | ON | POWER | 17 | 2 | 621440 | SITE | WATER | QUALITY | SILICA | | | | | 42 | 2 | |
| 25100 | AB-TRA | OTHERS | LOSS OF | AUX. | POWER | SUPPLY | 17 | 2 | 621460 | SITE | WATER | QUALITY | CATION | ANION | TOTAL | | | 42 | 2 | |
| 31000 | KIND OF ACCIDENT | IN BWR | | | | | 18 | 1 | 621480 | SITE | WATER | QUALITY | FE | TOTAL | | | | 42 | 2 | |
| 32100 | ACCIDENT | CAUSE | AND | RESULT | CONTROL | ROD DROP | 18 | 2 | 621620 | SITE | WATER | QUALITY | | | | | | 43 | 2 | |
| 32200 | ACCIDENT | COUNTERP | LAN TO | CONTROL | ROD | DROP | 19 | 3 | 641200 | POPULATI | ON FROM | 1KM | RADIUS | TO 10KM | RADIUS | | | 43 | 1 | |
| 32310 | ACC.ANA. | CONTRNL | ROD | DROPOUT | | | 19 | 2 | 641400 | POPULATI | ON FROM | 15KM | RADIUS | TO 100K | RADIUS | | | 44 | 1 | |
| 32320 | ACC.ANA. | CONTROL | ROD | DROPOUT | RESULT | | 20 | 2 | 731100 | REACTOR | OUTPUT | POWER | THERMAL | ELECTRIC | AL | | | 45 | 1 | |
| 33100 | ACCIDENT | CAUSE | RESULT | CONTROL | ROD | RUNAWAY | 20 | 2 | 731120 | REACTOR | OUTPUT | POWER | ELECTRIC | AL | MWE | | | 0 | 1 | |
| 33200 | ACCIDENT | COUNTERP | LAN TO | CONTROL | ROD | RUNAWAY | 20 | 3 | 731140 | CORE | COOLANT | WATER | STEAM | FLOW | RATE | | | 47 | 2 | |
| 34100 | ACCIDENT | CAUSE | COUNTERP | LAN | FUEL | HANDLING | 21 | 2 | 731180 | FEED.W | COOLANT | TEMP. | INLET | OUTLET | SUBCOOL | | | 48 | 2 | |
| 35200 | ACCIDENT | LOSS OF | COOLANT | PRECONDI | TION | KIND | 21 | 1 | 731190 | REACTOR | PWR CORE | COOLANT | INLET | OUTLET | TEMP. | | | 49 | 2 | |
| 35210 | ACCIDENT | LOSS OF | COOLANT | MINOR | DESTRUCT | ION | 22 | 1 | 731200 | CORE | OUTLET | STEAM | QUALITY | AND | VOID | RATIO | | | 50 | 2 |
| 35220 | ACCIDENT | LOSS OF | COOLANT | MEDIUM | DESTRUCT | ION | 22 | 1 | 731220 | PLANT | PRESSURE | | | | | | | 51 | 1 | |
| 35230 | ACCIDENT | LOSS OF | COOLANT | MAJOR | DESTRUCT | ION | 22 | 1 | 731240 | REACTOR | CORE | SIZE | DIA * | HEIGHT | | | | 51 | 1 | |
| 35300 | ACC.ANA. | RECIRC. | RUPTURE | LOCA | | | 22 | 2 | 731260 | FUEL | LOADING | WEIGHT | TON-U02 | TON-U | TON-U235 | | | 54 | 1 | |
| 35310 | ACC.ANA. | RECIRC. | RUPTURE | LOCA | | | 23 | 2 | 731300 | REACTOR | STEAM | STEAM | RATE | T/H | | | | 55 | 1 | |

| | | | | | | | | | | | | | | | | | | |
|--------|----------|----------|----------|----------|-----------|----------|----|---|--------|----------|----------|----------|----------|----------|----------|-------|-----|---|
| 732200 | CORE | FUEL | ASSY | NUMBER | | | 56 | 1 | 736600 | PRESSURE | VESSEL | APPLIED | STANDARD | LIFE AND | N.DOSE | 99 | 2 | |
| 732220 | FUEL | SPACER | NUMBER | PER ASSY | MATERIAL | TYPE | 58 | 2 | 737220 | STEAM | SEPARAT. | UNIT NO. | TYPE | MATERIAL | | 100 | 1 | |
| 732240 | FUEL | CHANNEL | BOX | MATERIAL | SIZE | THICK | 59 | 1 | 737240 | STEAM | SEPARAT. | INLET | QUALITY | CARRY | UNDER | 100 | 2 | |
| 732250 | FUEL | ASSY | SIZE | PWR | | | 60 | 1 | 737410 | STEAM | DRYER | NUMBER | CAPACITY | OPERATAB | LE TEMP | 100 | 1 | |
| 732260 | UD-2 | WEIGHT | PER FUEL | ASSY | KGUD-2/ | ASSY | 60 | 2 | 737420 | STEAM | DRYER | TYPE | INLET | OUTLET | WETNESS | 100 | 1 | |
| 732280 | FUEL | ASSY | TOTAL | WEIGHT | KG (INC | H-WARE) | 61 | 2 | 738200 | JET PUMP | NUMBER | CAPACITY | | | | 101 | 2 | |
| 732300 | THERMAL | CONDUCTI | VITY | OF UD-2 | | | 62 | 1 | 738400 | JET PUMP | FLOW AND | PRESSURE | RATIO | AND | EFFICIE. | 101 | 2 | |
| 732320 | THERMAL | CONDUCTI | VITY | OF | ZRY | | 62 | 1 | 738600 | JET PUMP | SIZE AND | VELOCITY | AT | NOZZLE | | 101 | 2 | |
| 732340 | FISSION | PRODUCT | GENERATE | RATIO | GAS FP | PRESSURE | 63 | 3 | 751120 | RECIRC. | SYSTEM | MAINT | PROPERTY | | | 102 | 1 | |
| 732350 | THERMAL | EXPANSIO | N | OF UD-2 | PELLET | | 63 | 2 | 751140 | MAIN | STEAM | SYSTEM | AND | FEED | WATER | TEMP. | 102 | 1 |
| 732360 | THERMAL | EXPANSIO | N | OF ZRY | CLADDING | | 63 | 2 | 751160 | RECIRC. | SYSTEM | PUMP AND | LOOP | DESIGN-P | DESIGN-T | 102 | 3 | |
| 732380 | UD-2 | PELLET | SOLID | FP | SWELLING | RATE | 63 | 3 | 751180 | RECIRC. | SYSTEM | PUMP AND | LOOP | TUBE | SIZE | 103 | 3 | |
| 732400 | FUEL | UD-2 | PFLEET | SIZE | DIA AND | LENGTH | 64 | 1 | 752220 | RECIRC. | SYSTEM | (PUMP) | VALVE | NUMBER | SIZE | 104 | 2 | |
| 732440 | FUEL | ROD | CLADDING | MATERIAL | THICK. | U.D. | 66 | 2 | 752410 | RECIRC. | PUMP | TYPE | NUMBER | | | 105 | 2 | |
| 732460 | FUEL | ROD | EFFECT. | LENGTH | AND ASSY | LENGTH | 69 | 2 | 752430 | RECIRC. | PUMP | HEAD | COOL-P | NPSH | INPUT-P | 106 | 2 | |
| 732480 | FUEL | ROD NO. | PER ASSY | AND ROD | PITCH | ARRANGE | 71 | 3 | 753220 | M-STEAM | TUBE | NUMBER | SIZE AND | DESIGN-P | | 107 | 2 | |
| 732490 | FUEL | ASSY | VERTICAL | ITY | CHECK | METHOD | 72 | 1 | 753310 | M-STEAM | FLOW | LIMITER | TYPE | NUMBER | | 107 | 2 | |
| 732500 | SPACER | ALIGNMEN | T | CHECK | METHOD | | 72 | 1 | 753320 | M-STEAM | FLOW | LIMITER | P-LOSS | SIZE | | 107 | 3 | |
| 732600 | PLENUM | VS FUEL | VOLUME | RATIO | DR | LENGTH | 73 | 1 | 753330 | M-STEAM | FLOW | LIMITER | MATERIAL | | | 108 | 2 | |
| 732620 | FUEL | UD-2 | PELLET | ENRICH | HWR | | 74 | 2 | 753400 | M-STEAM | ISOLATE | VALVE | TYPE | AND | SIZE | 108 | 4 | |
| 732630 | FUEL | UD-2 | PELLET | ENRICH | PWR | | 75 | 2 | 753420 | M-STEAM | ISOLATE | VALVE | NUMBER | DESIGN-P | DESIGN-T | 108 | 3 | |
| 732640 | BURN-UP | 1ST CORE | AVG. | FINAL-C. | AVG. 1ST | ASSY MAX | 76 | 1 | 753440 | M-STEAM | ISOLATE | VALVE | P-LOSS | RATED | FLOW | 108 | 3 | |
| 732650 | EXPOSURE | ACTUAL | RESULT | MWD/TON | BURN-UP | | 77 | 1 | 753460 | M-STEAM | ISOLATE | VALVE | SHUT-OFF | TIME SET | POINT | 108 | 3 | |
| 732660 | FUEL | LINEAR | HEAT | RATING | W/CM | | 78 | 1 | 753450 | M-STEAM | ISOLATE | VALVE | CONTROL | SOURCE | | 109 | 3 | |
| 732680 | FUELROD | PELLET | CENTER | TEMP. | MAX C | | 80 | 2 | 753500 | M-STEAM | 3RD | VALVE | TYPE NO. | LEAK | RATE | 109 | 3 | |
| 732700 | GAP | CONDUCTA | NCE | PELLET | AND | CLADDING | 81 | 3 | 753620 | SAFETY | VALVE | TYPE | NUMBER | | | 109 | 2 | |
| 732720 | FUEL | CLADDING | MCHANCA | L | PROPERTY | | 81 | 1 | 753640 | SAFETY | VALVE | SET | PRESSURE | CAPACITY | | 110 | 2 | |
| 732740 | FUEL | CLADDING | CRUD | DEPOSITE | CORROSION | RATE | 81 | 3 | 753650 | SAFETY | VALVE | FOR | PRESSURI | ZER PWR | | 110 | 3 | |
| 732760 | HEAT | TRANSFER | COEF. | CLADDING | WATER | | 82 | 2 | 753820 | RELIEF | VALVE | TYPE | NUMBER | | | 110 | 2 | |
| 732800 | FUEL | CLADDING | SURFACE | TEMP. | MAX C | | | | | | | | | | | | | |

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|--------|------------|-------------|------------|----------|----------|------------|-----|--------|---------|------------|----------|------------|------------|----------|----------|--------|-----|---|
| 757670 | SPRAY | PIPE LAYING | FUR PRES | SURIZER | PWR | 119 | 2 | 765660 | SAMPLE | BOX | CAPACITY | DESIGN-P | DESIGN-T | NUMBER | 143 | 1 | | |
| 761000 | KIND OF | REACTOR | AUXILIARY | SYSTEM | BWR | 120 | 1 | 766020 | HIGH-P. | INJECT. | SYSTEM | DRIVER | TYPE | | 144 | 1 | | |
| 761100 | KIND OF | REACTOR | AUXILIARY | SYSTEM | PWR | 120 | 1 | 766030 | HIGH-P. | INJECT. | SYSTEM | DRIVER | PROPERTY | | 144 | 1 | | |
| 762100 | FUNCTION | OF CVCS | | | PWR | 121 | 1 | 766040 | HIGH-P. | INJECT. | SYSTEM | DRIVER | PROPERTY | | 144 | 1 | | |
| 762130 | MAIN | COMPONENTS | OF CVCS | | PWR | 121 | 2 | 766050 | HIGH-P. | INJECT. | SYSTEM | DRIVER | MATERIAL | | 145 | 1 | | |
| 762142 | NEW FUEL | STORAGE | | | | 122 | 1 | 766440 | HIGH-P. | INJECT. | SYSTEM | PUMP | PROPERTY | | 145 | 2 | | |
| 762144 | SPENT FUEL | STORAGE | POOL | | | 123 | 2 | 767220 | BORON | INJECT | SYSTEM | NUMBER | CONTROL | WORTH | 146 | 2 | | |
| 762150 | PSSFPC | DEMINE. | | | | 123 | 1 | 767420 | BORON | INJECT | SYSTEM | PUMP NO. | TYPE | CAPACITY | 146 | 2 | | |
| 762160 | PSSFPC | H.EXCH. | | | | 123 | 1 | 768000 | REACTOR | AUX.COOL | SYSTEM | DESIGN-P | DESIGN-T | DESIGN-F | 147 | 1 | | |
| 762170 | PSSFPC | PUMP | | | | 124 | 1 | 768100 | MAIN | COMPONENTS | OF | CGS | PWR | | 147 | 2 | | |
| 762200 | RWPS | REACTOR | WATER | PURIFIC. | SYSTEM | DESIGN-F | 124 | 1 | 768220 | REACTOR | AUX.COOL | SYSTEM | H.EXCH. | TYPE AND | NUMBER | 148 | 3 | |
| 762220 | RWPS | REACTOR | WATER | QUALITY | | | 124 | 2 | 768420 | REACTOR | AUX.COOL | SYSTEM | W-PUMP | TYPE AND | NUMBER | 149 | 3 | |
| 762230 | RWPS | DEMINE. | PUMP | TYPE | NUMBER | CAPACITY | 125 | 3 | 768440 | REACTOR | AUX.COOL | SYSTEM | C.WATER | SURGE | TANK | 149 | 2 | |
| 762240 | RWPS | DEMINE. | NUMBER | AND | CAPACITY | | 125 | 2 | 768620 | REACTOR | AUX.COOL | SYSTEM | S.W-PUMP | TYPE | NUMBER | 150 | 3 | |
| 762250 | RWPS | PIPING | DESIGN-P | DESIGN-T | MATERIAL | | 125 | 1 | 768720 | SFP | SPENT | FUEL | PIT | H.EXCH. | | 150 | 2 | |
| 762260 | RWPS | CVCS | REGENE. | H.EXCH. | TYPE NO. | CAPACITY | 126 | 3 | 768760 | SFP | SPENT | FUEL | PIT | PUMP | | 151 | 2 | |
| 762280 | RWPS | CVCS | NON-REG. | H.EXCH. | TYPE NO. | CAPACITY | 127 | 3 | 768780 | SFP | SPENT | FUEL | PIT | DEMINE. | | 151 | 2 | |
| 762290 | CVCS | MAIN | COMPONENTS | | | | 127 | 2 | 768800 | SFP | SPENT | FUEL | PIT | FILTER | | 151 | 2 | |
| 762300 | CVCS | SURPLUS | HEAT | EXTRACT. | H.EXCH. | | 128 | 2 | 768820 | SFP | SPENT | FUEL | PIT | SKINNER | PUMP | 152 | 2 | |
| 762320 | CVCS | SHAFT | SEAL | WATER | H.EXCH. | | 128 | 2 | 768840 | SFP | SPENT | FUEL | PIT | SKINNER | FILTER | 152 | 2 | |
| 762340 | CVCS | PRIMARY | COOLANT | MIXED | HED | DEMINE. | 129 | 2 | 768860 | SFP | SPENT | FUEL | PIT | SKINNER | STRAINER | 152 | 1 | |
| 762350 | CVCS | BORON | REMOVE | DEMINE. | | | 129 | 2 | 769100 | SAMPLE | SAMPLING | POINT | PWR | | | 152 | 1 | |
| 762360 | CVCS | COOLANT | POSITIV | ION | DEMINE. | | 129 | 2 | 770000 | MAIN | TURBINE | SYSTEM | COMPONENTS | | PWR | 153 | 3 | |
| 762370 | CVCS | VOLUME | CONTROL | TANK | NUMBER | CAPACITY | 130 | 2 | 772220 | MAIN | TURBINE | TYPE | | | | 153 | 2 | |
| 762380 | CVCS | BORIC | ACID | CHARGE | PUMP | | 131 | 3 | 772240 | MAIN | TURBINE | NUMBER | CAPACITY | SPEED | | 154 | 2 | |
| 762500 | CVCS | BORIC | ACID | PUMP | TYPE | NUMBER | 131 | 3 | 772320 | MAIN | TURBINE | MIST | SEPARATO | R | TYPE | NUMBER | 155 | 2 |
| 762520 | CVCS | BORIC | ACID | TANK | NUMBER | CAPACITY | 132 | 3 | 772330 | MAIN | TURBINE | MIST | SEPARATO | R | | 155 | 2 | |
| 762540 | CVCS | BORIC | ACID | SUPPLY | TANK | | 132 | 3 | 772340 | MAIN | TURBINE | MIST | SEPARATO | R | SIZE | | 155 | 2 |
| 762560 | CVCS | PRIMARY | SYSTEM | CHEMICAL | S | TANK | 132 | 2 | 772350 | MAIN | TURBINE | MIST | SEPARATO | R | MATERIAL | | 155 | 2 |
| 762580 | CVCS | COOLANT | FILTER | | | | 133 | 2 | 772390 | MSTS | H.STEAM | STOP | VALVE | | | 155 | 2 | |
| 762600 | CVCS | SHAFT | SEAL | WATER | HEATER | | 133 | 1 | 772410 | MSTS | REGULATI | ON | VALVE | | | 156 | 1 | |
| 762620 | CVCS | SHAFT | SEAL | WATER | INJECT. | FILTER | 133 | 2 | 772430 | MSTS | REHEATED | STEAM | STOP | VALVE | | 156 | 1 | |
| 762640 | CVCS | BORIC | ACID | FILTER | | | 134 | 3 | 772450 | MSTS | INTERCEP | T | VALVE | | | 156 | 1 | |
| 763100 | MAIN | COMPONENTS | OF | SIS | PWR | | 134 | 2 | 772470 | MSTS | TURNING | DEVICE | | | | 156 | 0 | |
| 763120 | SIS | BORIC | ACID | TANK FOR | REFUEL | | 134 | 3 | 772490 | MSTS | MOISTURE | SEPSKAT. | HEATER | | | 157 | 0 | |
| 763140 | SIS | BORIC | ACID | HIGH-P | INJECT | PUMP | 135 | 3 | 772530 | MSTS | LUB.SYS. | MAIN | OIL | PUMP | | 157 | 1 | |
| 763150 | SIS | BORIC | ACID | LOW-P | INJECT | PUMP | 135 | 3 | 772550 | MSTS | LUB.SYS. | AUX. | OIL | PUMP | | 157 | 1 | |
| 763160 | SIS | PR-RIZED | BORIC | ACID | TANK | | 136 | 3 | 772570 | MSTS | LUB.SYS. | TURNING | OIL | PUMP | | 158 | 1 | |
| 763180 | SIS | BORIC | ACID | INJECT | TANK | | 136 | 3 | 772590 | MSTS | LUB.SYS. | EMERGENC | OIL | PUMP | | 158 | 1 | |
| 763300 | SIS | BORIC | ACID | CHARGE | PUMP | | 136 | 3 | 772610 | MSTS | LUB.SYS. | OIL | COOLER | | | 158 | 0 | |
| 763620 | RCIC | TURBINE | | | | | 137 | 2 | 772630 | MSTS | LUB.SYS. | MAIN | OIL | TANK | | 158 | 1 | |
| 763640 | RCIC | PUMP | | | | | 137 | 2 | 773200 | CONDENS. | SYSTEM | COMPONENTS | | | | 159 | 1 | |
| 764000 | RHRS | RESIDUAL | HEAT | REMOVE | S | NUMBER | 138 | 1 | 773220 | MAIN | COND. | TYPE | NUMBER | | | 159 | 1 | |
| 764100 | RHRS | MAIN | COMPONENTS | FOR | PWR | | 138 | 1 | 773240 | MAIN | COND. | H.TRANS | AREA AND | EXHAUST | FLOW | 160 | 1 | |
| 764220 | RHRS | W-PUMP | TYPE | NUMBER | CAPACITY | MATERIAL | 139 | 1 | 773280 | MAIN | COND. | TURE | MATERIAL | | | 161 | 1 | |
| 764420 | RHRS | S.W-PUMP | TYPE | NUMBER | CAPACITY | MATERIAL | 140 | 1 | 773600 | DUMP | COND. | TYPE | NUMBER | | | 161 | 1 | |
| 764620 | RHRS | H.EXCH. | TYPE | NUMBER | CAPACITY | MATERIAL | 141 | 1 | 774220 | COND. | PUMP | TYPE | NO. | | | 162 | 2 | |
| 765220 | CURE | SPRAY | SYSTEM | NUMBER | FLOW | AND OTHERS | 142 | 2 | 774260 | COND. | PUMP | TYPE | NO. | FOR | PWR | 162 | 2 | |
| 765240 | CURE | SPRAY | SYSTEM | PUMP | TYPE | AND | 142 | 3 | 775220 | COND. | DEMINE. | TYPE | | | | 163 | 2 | |
| 765620 | SAMPLE | H.EXCH. | TYPE | NUMBER | CAPACITY | | 143 | 2 | 775230 | CONDENS. | SYSTEM | AIR | EXTRACTO | R | | 163 | 0 | |

| | | | | | | | | | | | | | | | | | | |
|--------|----------|----------|------------|----------|----------|---------|-------|-----|--------|--------------|----------|---------|----------|----------|----------|----------|-----|---|
| 775240 | CONDENS. | SYSTEM | VACUUM | PUMP FOR | SHUT | DOWN | 163 | 1 | 794480 | D.G.LOAD (3) | | | | | | 182 | 1 | |
| 775260 | COND. | DEMINE. | EXIT | WATER | QUANTITY | | 164 | 2 | 794620 | VITAL AC | SOURCE | FOR | INSTRUME | NTATION | | 183 | 0 | |
| 775270 | COND. | DEMINE. | INLET | WATER | QUANTITY | | 164 | 2 | 794650 | PWR EMER | GENCY AC | POWER | SUPPLY | | | 183 | 1 | |
| 775280 | COND. | DEMINE. | ALLOWABL | E SEA | WATER | LEAK | 164 | 3 | 794720 | POWER | SUPPLY | FOR | FOR | PROTECTI | ON | SYSTEM | 184 | 1 |
| 775300 | TURBINE | BYPASS | SYSTEM | | | | 165 | 1 | 794750 | AC POWER | SUPPLY | FOR | FOR | INST.AND | CONTROL | | 184 | 0 |
| 776200 | FEED.W. | SYSTEM | COMPONENTS | | | | 165 | 2 | 794780 | POWER | SUPPLY | FOR | CONTROL | CLUSTER | DRIVE | | 184 | 2 |
| 776210 | FEED.W. | SYSTEM | GROUND | STEAM | CONDENS. | | 165 | 1 | 794820 | FACILITY | BATTERY | TYPE | NUMBER | | | 185 | 1 | |
| 776220 | FEED.W. | HEATER | TYPE | NUMBER | | | 166 | 1 | 794840 | BATTERY | CHARGER | TYPE | NUMBER | CAPACITY | | 186 | 1 | |
| 776260 | DEAERATO | R | TYPE | NUMBER | STORAGE | TANK | 167 | 2 | 794850 | BATTERY | AND | CHARGER | FOR | HPCS | | 186 | 1 | |
| 777260 | FEED.W. | PUMP | TYPE AND | NUMBER | | | 168 | 2 | 794860 | BATTERY | AND | CHARGER | FOR | N.MONIT. | | 187 | 1 | |
| 777280 | FEED.W. | BOOSTER | PUMP | | | | 168 | 2 | 801220 | OFF GAS | PHE | HEATER | NUMBER | AND | TYPE | 187 | 2 | |
| 777320 | AUX. | FEED.W. | PUMP | | | | 169 | 2 | 801240 | OFF GAS | RECOMBIN | ER | NUMBER | AND | TYPE | 188 | 2 | |
| 777340 | FEED.W.S | PH AND | OXYGEN | CONTROL | EQUIPMT. | TANK | 169 | 1 | 801260 | OFF GAS | COND. | NO. | | | | 188 | 2 | |
| 777350 | FEED.W.S | PH AND | OXYGEN | CONTROL | EQUIPMT. | PUMP | 169 | 1 | 801280 | OFF GAS | CUMPRESS | OR | NUMBER | TYPE | AND | PRESSURE | 189 | 2 |
| 777500 | 2NDARY.S | MAKEUP.W | SYSTEM | CONDENSE | D | W. TANK | 169 | 1 | 801320 | OFF GAS | CHARCOAL | HOLD UP | | | | 189 | 2 | |
| 777510 | 2NDARY.S | MAKEUP.W | SYSTEM | PURE | W. TANK | | 170 | 1 | 801340 | OFF GAS | VACUUM | PUMP | | | | 189 | 3 | |
| 777600 | 2NDARY.S | AUX.CCS | BEARING | COOLANT | H.EXCH. | | 170 | 2 | 801350 | OFF GAS | AIR | EJECTOR | | | | 190 | 2 | |
| 777620 | 2NDARY.S | AUX.CCS | BEARING | COOLANT | PUMP | | 170 | 2 | 801400 | OFF GAS | DECAY | TANK | NUMBER | CAPACITY | PRESSURE | 190 | 3 | |
| 777640 | 2NDARY.S | AUX.CCS | WATER | S.W-PUMP | | | 171 | 2 | 801420 | OFF GAS | FILTER | FROM | AIR | EXTRACTO | R | 190 | 3 | |
| 778220 | SEA | AUX. | CIRC. | SYSTEM | FOR | MAIN | COND. | 171 | 2 | 801421 | OFF GAS | POST | FILTER | | | 0 | 3 | |
| 779220 | TURBINE | AUX. | COOL | PUMP | TYPE | NO. | 172 | 3 | 801430 | OFF GAS | FILTER | FROM | GRAND | STEAM | NUMBER | 191 | 3 | |
| 779240 | TURBINE | AUX. | COOL | H.EXCH. | TYPE AND | NUMBER | 172 | 3 | 801440 | DEAERATO | R | OFF | GAS | ISOLATE | VALVE | NUMBER | 191 | 4 |
| 779300 | WDACS | WASTE | DISPOSAL | AUX. | COOLING | SYSTEM | 172 | 1 | 801460 | STACK | HEIGHT | | | | | 191 | 1 | |
| 779320 | WDACS | INTERMED | IATE | LOOP | CIRC. | PUMP | 173 | 2 | 801480 | OFF GAS | DECAY | TURE | SIZE | AND | HOLD UP | TIME | 191 | 2 |
| 779340 | WDACS | S.W-PUMP | | | | | 173 | 2 | 802100 | LWDS | TANK | LIST | PWR | | | 192 | 2 | |
| 779360 | WDACS | H.EXCH. | | | | | 173 | 2 | 802110 | LWDS | CONDENSE | D | BORON | STORAGE | TANK | 192 | 2 | |
| 779400 | ECDCS | EMER. | COMPONENTS | | COOLING | SYSTEM | 173 | 1 | 802120 | LWDS | LIQUID | WASTE | STORAGE | TANK | | 192 | 2 | |
| 779420 | ECDCS | EDGCS | I.LOOP | CIRC. | PUMP | | 174 | 1 | 802130 | LWDS | LIQUID | WASTE | HOLD UP | TANK | | 193 | 2 | |
| 779440 | ECDCS | EDGCS | S.W-PUMP | | | | 174 | 1 | 802140 | LWDS | LIQUID | WASTE | EVAPOLAT | OR | CUNDE | NSE TANK | 193 | 2 |
| 779460 | ECDCS | EDGCS | H.EXCH. | | | | 174 | 1 | 802150 | LWDS | LIQUID | WASTE | SUMP | TANK | | 193 | 2 | |
| 779520 | ECDCS | HRS-CCS | I.LOOP | CIRC. | PUMP | | 174 | 1 | 8 | | | | | | | | | |

| CODE NO. VS. ITEM LIST | | | | | | | | | | DATE=04/17/76 | PAGE*** 5*** | | | | |
|------------------------|----------|------------------------------|-------------------------|----------|----------|----------|------------|----------|------------|------------------|--------------|----------|------|-----|---|
| 802410 | LWDS | NEUTRALIZER | ANNEXING TANK | 198 | 2 | 822278 | DRY-WELL | INERTGAS | SYSTEM | LIQ.N2 | STORAGE | TANK | 211 | 2 | |
| 802420 | LWDS | CONDENSE D | WATER SAMPLE TANK | 0 | 2 | 822279 | DRY-WELL | SPRAY | HEADER | | | | 211 | 2 | |
| 802430 | LWDS | CONDENSE D | WATER COLLECT TANK | 0 | 2 | 822280 | DRY-WELL | S.CHAMB. | MATERIAL | NDT | | | 212 | 3 | |
| 802440 | LWDS | LIQUID WASTE | NEUTRALIZATION TANK | 198 | 2 | 822292 | EGRSIRC | EME.GAS | RECIRC. | SYST. IN REACTOR | | CONTAINE | 212 | 1 | |
| 802450 | LWDS | LIQUID WASTE | SAMPLING TANK | 198 | 3 | 822294 | EGVSIRC | EME.GAS | VENT. | SYST. IN REACTOR | | CONTAINE | 212 | 1 | |
| 802460 | LWDS | LIQUID WASTE | SURGE TANK | 199 | 2 | 822310 | PWR | REACTOR | CONTAINE R | | | TYPE | 213 | 2 | |
| 802470 | LWDS | LIQUID WASTE | COLLECT TANK | 199 | 2 | 822350 | PWR | REACTOR | CONTAINE R | | | MATERIAL | 213 | 1 | |
| 802480 | LWDS | EVAPORATOR | SURGE TANK | 199 | 2 | 822390 | PWR | REACTOR | CONTAINE R | | | SHIELD | 214 | 2 | |
| 802490 | LWDS | DISTILLED WATER | SURGE TANK | 199 | 2 | 822420 | S.CHAMB. | TYPE | SIZE | VOLUME | DESIGN.P | BUILDING | 214 | 2 | |
| 802500 | LWDS | SYSTEM DRAIN | FILT-RATE TANK | 200 | 2 | 822460 | S.CHAMB. | VENT | TURE | NUMBER | AND SIZE | | 215 | 1 | |
| 802510 | LWDS | SYSTEM DRAIN | SAMPLING TANK | 200 | 3 | 822480 | S.CHAMB. | DOWN-C. | TURE | NUMBER | HEADER | DIA | 216 | 1 | |
| 802520 | LWDS | SYSTEM DRAIN | SURGE TANK | 0 | 2 | 825000 | ICE | COND. | SIZE | | | | 216 | 1 | |
| 802530 | LWDS | SYSTEM DRAIN | COLLECT TANK | 200 | 2 | 825200 | ICE COND | CAPACITY | COMPART | ENT OODR | OPERAT-P | | 216 | 3 | |
| 802540 | LWDS | LAUNDRY DRAIN | TANK | 200 | 2 | 825410 | CONTAINE R | | SPRAY | PUMP | | | 216 | 3 | |
| 802550 | LWDS | PRECOAT | TANK | 201 | 2 | 825450 | CONTAINE R | | SPRAY | H.EXCH. | | | 217 | 3 | |
| 802560 | LWDS | FILTRATION AUX. | AGENT TANK | 201 | 2 | 825490 | CONTAINE R | | IDGINE | REMOVE | CHEMICAL | TANK | 217 | 2 | |
| 802570 | LWDS | FILTRATE D WASTE | COLLECT TANK | 0 | 2 | 825500 | CONTAINE R | | SPWAY | NOZZLE | | | 217 | 2 | |
| 802580 | LWDS | WASHING WASTE | COLLECT TANK | 201 | 2 | 825700 | CONTAINE R | | ANNULUS | AIR | RECIRC. | FAN | 218 | 2 | |
| 802590 | LWDS | FRODR DRAIN | FILTRATE TANK | 201 | 2 | 825720 | CONTAINE R | | ANNULUS | AIR VENT | FILTER | UNIT | 218 | 3 | |
| 802600 | LWDS | FRODR DRAIN | SAMPLING TANK | 202 | 3 | 825730 | CONTAINE R | | ANNULUS | AIR VENT | IODINE | FILTER | 218 | 3 | |
| 802610 | LWDS | FRODR DRAIN | COLLECT TANK | 202 | 2 | 825740 | CONTAINE R | | ANNULUS | AIR VENT | FAN | | 218 | 2 | |
| 802620 | LWDS | GENERAL WASTE | SURGE TANK | 0 | 2 | 827200 | REACTOR | | BUILDING | SIZE | | | 219 | 1 | |
| 802630 | LWDS | FILTER TYPE AND NUMBER | | 202 | 2 | 827400 | REACTOR | | BUILDING | DESIGN | LEAK | RATE | 219 | 2 | |
| 802640 | LWDS | DECNTAM I. FACTOR OF FILTER | | 202 | 1 | 831200 | MAKE-UP | WATER | DEWINE. | CAPACITY | WATER | QUALITY | 219 | 3 | |
| 802660 | LWDS | JEMINE. TYPE AND NUMBER | | 203 | 2 | 834220 | AIR | CUMPRES. | SYSTEM | AIR-COMP | FDR | CONTROL | 220 | 1 | |
| 802680 | LWDS | DECNTAM I. FACTOR OF DEMINE. | | 203 | 1 | 831260 | MAKE-UP | WATER | | | | | 220 | 1 | |
| 802820 | LWDS | LIQUID WASTE | CONCENTRATOR NO. TYPE | 203 | 1 | 831270 | MAKE-UP | WATER | STEAM | FOR | BRINE | HEATER | 0 | 1 | |
| 802840 | LWDS | LIQUID WASTE | CONCENTRATOR | 203 | 1 | 831280 | MAKE-UP | WATER | CONDENSE | D-W | STORAGE | TANK | 0 | 2 | |
| 803400 | SWDS | TANK LIST | BW | 204 | 2 | 834260 | AUX. | COMPRES. | SYSTEM | AIR-COMP | FOR | FACILITY | 220 | 1 | |
| 803410 | SWDS | CONCENTRATED WASTE | STORAGE TANK | 204 | 2 | 835000 | AUX. | STEAM | SYSTEM | COMPONEN | TS | | 221 | 1 | |
| 803420 | SWDS | SPENT RESIN | STORAGE TANK | 205 | 2 | 835030 | AUX. | STEAM | SYSTEM | AUX. BOI | LER | | 221 | 0 | |
| 803430 | SWDS | PHASE SEPARATION | TANK | 205 | 2 | 835050 | AUX. | STEAM | SYSTEM | STEAM | CONVERTE R | | 221 | 0 | |
| 803440 | SWDS | WASTE SLUDGE | STORAGE TANK | 206 | 2 | 835070 | AUX. | STEAM | SYSTEM | DRAIN | PUMP | | 222 | 1 | |
| 803450 | SWDS | WASTE SLUDGE | SEPARATE TANK | 206 | 2 | 835090 | AUX. | STEAM | SYSTEM | STEAM | DRAIN | TANK | 222 | 1 | |
| 803460 | SWDS | FILTRATE D | SLUDGE STORAGE TANK | 206 | 2 | 836100 | FIRE | PROTECT. | | PUMP | | | 222 | 1 | |
| 803470 | SWDS | CONDENSE SYSTEM | RESIN POWDER STORAGE | 206 | 1 | 836120 | FIRE | PROTECT. | | BACKUP | COMPONEN | TS | 222 | 1 | |
| 803480 | SWDS | PURIFY SYSTEM | FILT. SLUDGE STORAGE | 207 | 1 | 842220 | N.DATA | K-EFF | SHUTDOWN | MARGINE | CONTROL | WORTH | 223 | 3 | |
| 803490 | FUEL | POND SLUDGE | STORAGE TANK | 207 | 2 | 842230 | N.DATA | K-EFF | SHUTDOWN | MARGINE | CONTROL | WORTH | 224 | 3 | |
| 803500 | SWDS | SYSTEM DRAIN | FILTER SLUDGE STORAGE | 207 | 2 | 842240 | N.DATA | CURE | COOLANT | VS FUEL | VOLUME | RATIO | 224 | 1 | |
| 803510 | SWDS | SINKING TANK OF | CONDENSE D WATER PURIFY | 207 | 2 | 842260 | N.DATA | REFLECT. | THICK. | RADIAL | AXIAL | | 225 | 2 | |
| 803520 | SWDS | CONCENTRATED | LIQUID WASTE WEIGHING | 207 | 1 | 842280 | N.DATA | EFFECT. | MULTIPLI | CATION | CONST. OF | INITIAL | 225 | 2 | |
| 803530 | SWDS | SPENT RESIN | STORAGE TANK | 208 | 2 | 842300 | N.DATA | BURDN | CONCENTR | ATION | INITIAL | CORE | 226 | 3 | |
| 803540 | SWDS | WASTE SLUDGE | STORAGE TANK | 208 | 2 | 842320 | N.DATA | OF REAC | TIVITY | TEMP. | DOPPLER | VOID | 226 | 4 | |
| 822220 | DRY-WELL | TYPE | SIZE | 209 | 1 | 842420 | N.DATA | NEUTRON | FLUX | FAST | EPI-TH | THERMAL | 227 | 1 | |
| 822240 | DRY-WELL | FREE | VOLUME | DESIGN-P | DESIGN-T | LEAKRATE | 210 | 2 | 843220 | H.TRANS. | HEAT | FLUX | MEAN | 228 | 1 |
| 822270 | DRY-WELL | DIAPHRAGM | FLOOR | 210 | 1 | 843240 | FUEL | HEAT | TRANS. | AREA AND | FLOW AREA | | 230 | 1 | |
| 822272 | DRY-WELL | VACUUM RELIEF DEVICE | | 210 | 1 | 843420 | CORE | POWER | DENSITY | MEAN | KW/H | KW/KGUO2 | 231 | 1 | |
| 822274 | DRY-WELL | FGCS | BLOWER | 211 | 1 | 843440 | CORE | FUEL | POWER | DENSITY | KW/KGUO2 | KW/KGU | 232 | 1 | |
| 822275 | DRY-WELL | FGCS | RECOMBINER | 211 | 1 | 843620 | PEAKING | FACTOR | TOTAL | CHANNEL | AXIAL | LOCAL | 232 | 3 | |
| 822276 | DRY-WELL | FGCS | COOLER | 211 | 1 | 843640 | HOT | CHANNEL | FACTOR | N.DATA | THERMAL | DATA | 233 | 3 | |

| CODE NO. VS. ITEM LIST | | | | | | | | | | DATE=04/17/76 | PAGE*** 6*** | | | |
|------------------------|-----------------------------------|------------------------|------------------|-----|---|--------|--------------------|----------|----------|---------------|--------------|----------|-----|---|
| 843820 | MCFR | | | 233 | 1 | 943260 | MAX RAD. LEVEL | BR.TC.MD | IN | REACTOR | WATER | | 238 | 1 |
| 843830 | DNBR | | | 234 | 1 | 943280 | MAX RAD. LEVEL | CORR-P. | (1) IN | REACTOR | WATER | | 238 | 1 |
| 843840 | HEAT | GENERATE RATIO | FUEL VS TOTAL | 234 | 1 | 943400 | MAX RAD. LEVEL | CORR-P. | (2) IN | REACTOR | WATER | | 239 | 1 |
| 853400 | EARTHQUAKE-PROOF DESIGN | | GAL | 235 | 1 | 944220 | SWD USED | RESIN | PRODUCTI | ON RATE | | | 239 | 1 |
| 854200 | REACTION OF BED-ROCK FOR | | REACTOR | 235 | 1 | 944240 | SWD USED | POWDER | RESIN | PRODUCTI | ON RATE | ACTIVITY | 239 | 1 |
| 854400 | REACTOR BUILDING DESIGN-P (INNER) | | | 235 | 1 | 944260 | SWD | FILTER | SLUDGE | PRODUCTI | ON RATE | ACTIVITY | 240 | 2 |
| 856300 | TURBINE BUILDING SIZE | EARTHQUAKE-PROOF GRADE | | 236 | 3 | 944280 | SWD FROM | CONCENTR | ATOR | PRODUCTI | ON RATE | ACTIVITY | 240 | 1 |
| 920000 | RAD. SHIELD REGION | STANDARD | | 236 | 1 | 944320 | SWD | CONTROL | ARM | CHANNEL | BOX | CURTAIN | 240 | 3 |
| 942000 | RAD. LEVEL NORMAL | WASTE | GAS DISPOSAL | 237 | 2 | 953100 | LWD (LIQUID WASTE) | DISPOSAL | | | | QUANTITY | 241 | 2 |
| 943220 | MAX RAD. LEVEL | FP TOTAL | IN REACTOR WATER | 237 | 1 | 954100 | KIND OF SWD | DRUM | QUANTITY | | | | 241 | 3 |
| 943240 | MAX RAD. LEVEL | IODINE | IN REACTOR WATER | 238 | 1 | 954100 | KIND OF SWD | DRUM | QUANTITY | | | | 241 | 3 |

表-3 略語リスト

ABBREVIATION

DATE=08/17/76

AB-TRA ABNORMAL TRANIGENT
 AC ACCEPTANCE CRITERIA (PROMULGATED BY THE AEC FOR ECCS DESIGNS)
 ACC. ACCIDENT
 ACRS
 ADS AUTOMATIC DEPRESSURIZATION SYSTEM
 AEC U.S. ATOMIC ENERGY COMMISSION
 AECB ATOMIC ENERGY CONTROL BOARD (CANADA)
 AFWS AUXILIARY FEEDWATER SYSTEM
 AIF ATOMIC INDUSTRIAL FORUM
 ALAP AS LOW AS PRACTICABLE
 ADD ANTICIPATED OPERATIONAL OCCURENCE
 ANA. ANALYSIS
 ANC AEROJET NUCLEAR COMPANY
 ANSI AMERICAN NATIONAL STANDARD INSTITUTE
 APJMS
 APEO ATOMIC POWER EQUIPMENT DEPARTMENT(GE)
 APOC ANTICIPATED PROBABILITY OCCURENCE
 APMH AVERAGE POWER RANGE MONITOR
 APS AMERICAN PHYSICAL SOCIETY
 ASME AMERICAN SOCIETY OF MECHANICAL ENGINEERS
 ASSY ASSEMBLY, OR ASSEMBLIES
 ATWS ANTICIPATED TRANSIENTS WITHOUT SCRAM
 (AT EOL) AT THE END OF LIFE
 AUX. AUXILIARY COMPONENTS OR AUXILIARY SYSTEM
 BASIC BEGINNERS ALL-PURPOSE SYMBOL INSTRUCTION CODE
 HE BEST ESTIMATE
 BEIN HUNDLE ENTHALPY IMBALANCE NUMBER
 BOL BEGINNIG OF LIFE
 BOP BALANCE OF PLANT
 BRF BINARY RELOCATABLE FORMAT
 BWR BOILING-WATER REACTOR
 CBTN COMPANHIA BRASILEIRA DE TECNOLOGIA NUCLEAR
 CCFL COUNTER CURRENT FLOW LIMITING
 CCS GENSIRO HOKI HEIKYAKU SETUBI
 CCW CLOSED COOLING WATER
 CEGB CENTRAL ELECTRICITY GENERATING BOARD
 CHF CRITICAL HEAT FLUX
 CI CONTAINMENT INTEGRITY
 CDC CAPSULE DRIVER CORE
 CDIVITY CONDUCTIVITY
 CNA CANADIAN NUCLEAR ASSOCIATION
 COM COMMON
 COMPO. COMPONENTS
 COND. CONDENSER
 COND.W CONDENSED WATER
 CORR-P CORROSION PRODUCTS
 COSMIC CORE SIMULATOR FOR METHOD INVESTIGATION OF CONTROL SYSTEMS.
 CPR CRITICAL POWER RATIO
 CR CORE
 CRD CONTROL ROD DRIVE
 CREST COMMITTEE ON REACTOR SAFETY TECHNOLOGY
 (CRPPH) COMMITTEE ON THE SAFETY OF NUCLEAR INSTALLATION
 CRPPH COMMITTEE ON RADIATION PROTECTION AND PUBLIC HEALTH
 CRT CATHODE RAY TUBE
 CRVICS CONTAINMENT AND REACTOR VESSEL ISOLATION CONTROL SYSTEM
 CSI CONTAINMENT RESEARCH INSTALLATION

ABBREVIATION

DATE=08/17/76

CSNI COMMITTEE ON THE SAFETY OF NUCLEAR INSTALLATIONS
 CSS CORE SPRAY SYSTEM
 CUBM CUBIC METER
 CVCS CHEMICAL AND VOLUME CONTROL SYSTEM
 (D) DUMP CONDENSER SYSTEM (JPDR-2)
 DBA DESIGN BASIS ACCIDENT
 DENINE. DEMINERALIZER
 DES. DESIGN
 DESIGN.F DESIGN FLOW RATE
 DESIGN.P DESIGN PRESSURE
 DESIGN.T DESIGN TEMPERATURE
 D.G. DIESEL GENERATOR
 DIA. DIAMETER
 DIA.GAP DIAMETRAL GAP
 (DISH) DISHED PELLET
 D.MECH. DRIVE MECHANISM
 DNBR DEPARTURE FROM NUCLEATE BOILING
 (D.S) DUMP CONDENSER SYSTEM (JPDR-2)
 EA EVALUATION MODEL
 ECA ENGINEERING CHANGE AUTHORIZATION
 ECC EMERGENCY CORE COOLANT
 ECCS EMERGENCY CORE COOLING SYSTEMS
 ECN ENGINEERING CHANGE NOTICE
 E.C. EMERGENCY COOLING
 E.CDIVITY ELECTRO CONDUCTIVITY
 ECDCS EMERGENCY COMPONENTS COOLING SYSTEM
 EDGCS EMERGENCY DIESEL GENERATOR COOLING SYSTEM
 EFCV EXCESS FLOW CHECK VALVE
 E.GENER. ELECTRIC GENERATOR
 EGRSIRC EMERGENCY GAS RECIRCULATION SYSTEM IN REACTOR CONTAINER
 EGVSIRC EMERGENCY GAS VENTILATION SYSTEM IN REACTOR CONTAINER
 EHC ELECTRO HYDRAULIC CONTROL
 EMA U/A EUROPEAN MONETARY AGREEMENT UNIT ACCDUNT (1EMA=18)
 EME. EMERGENCY
 EDL END OF LIFE
 EPA U.S. ENVIROMENTAL PROTECTION AGENCY
 EPRI ELECTRIC POWER RESEARCH INSTITUTE
 ER ENVIRONMENTAL REPORT
 ERDE U.S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
 ES ENVIRONMENTAL STATEMENT
 ESF ENGINEERED SAFETY FEATURE
 ESPRI EMPIRE STATE POWER RESORCE INC.
 ET EDDY CURRENT TEST
 EVAP. EVAPOLATOR
 EVAP.C.W EVAPOLATED AND CONDENSATED WATER
 -F ---FLOW
 FA FUEL ARC (MODE OF TCV OPERATION)
 FCS FLAMABLE GAS CONTROL SYSTEM
 FDA FINAL DESIGN APPROVAL
 FDDR FIELD DEVIATION DISPOSITION REQUEST
 FDI FIELD DISPOSITION INSTRUCTION
 FEA FEDERAL ENERGY ADMINISTRATION
 FEED.W FEED WATER
 FGCS FLAMMABLE GAS CONTROL SYSTEM
 (FLAT) FLAT PELLET
 FLECHT FULL LENGTH EMERGENCY COOLING HEAT TRANSFER

| | |
|----------|--|
| FMEA | FAILURE MODES AND EFFECTS ANALYSIS |
| FP | FISSION PRODUCT |
| FPCC | FUEL POOL COOLING AND CLEANUP |
| FRAP-S | FUEL ROD ANALYSIS PROGRAM-STEADY |
| FRAP-T | FUEL ROD ANALYSIS PROGRAM-TEMPERATURE |
| FRC | |
| FSAR | FINAL SAFETY ANALYSIS REPORT |
| F2N1 | NENRYDO-TAI SEKKEI NINKA SINSEI GAIYODO(JNF) KOMONKAI FUKUSIMA-2 |
| F2N2 | CHUJI ZIKOO HOOKOKU (NENRYDO-TAI) KOMONKAI FUKUSIMA-2 |
| FWPCA | FEDERAL WATER POLLUTION CONTRL ACT |
| FY | FISCAL YEAR |
| GDC | GENERAL DESIGN CRITERIA |
| GE | GREATER OR EQUAL |
| GEK | GESELLSCHAFT FUR KERNFORSHUNY M.B.H. KARLSRUHE |
| GESMO | GENERIC ENVIRONMENTAL STATEMENT MIXED OXIDE FUEL |
| GETAB | GENERAL ELECTRIC BWR THERMAL ANALYSIS BASIS |
| GHS | GENSIRYOKU HATUDEN RINRAI 1974 |
| GI THACT | GASTHO-INTESTINAL TRACT |
| GT | GREATER THAN |
| GSK-19 | GENSIRYOKU SANGYOO KAIGI GENSIRYOKU SIRYOO NO.19 |
| HA | HYPOTHETICAL ACCIDENT |
| H AND V | HEATING AND VENTILATING |
| HCU | HYDRAULIC CONTROL UNIT |
| HEPA | HIGH EFFICIENCY PARTICULATE AIR/ABSOLUTE REFERRING TO FILTERS |
| H-EXCH. | HEAT EXCHANGER |
| HFP | HOT FULL POWER |
| HIGH-P. | HIGH PRESSURE |
| HNL | HOLIFIELD NATIONAL LABORATORY = ORNL |
| HPCS | HIGH PRESSURE CORE SPRAY |
| HPCSDGCS | HPCS-DIESEL GENERATOR COOLING SYSTEM |
| HPIS | HIGH PRESSURE INJECT SYSTEM |
| HSST | HEAVY SECTION STEEL TEST |
| HVAC | HEATING, VENTILATING AND AIR CONDITIONING |
| H-WARE | HARD WARE |
| HX | HEAT EXCHANGER |
| IAC | INTERIM ACCEPTANCE CRITERIA |
| ICE COND | ICE CONDENSER |
| ICRP | INTERNATIONAL COMMISSION ON RADIOLOGICAL PROTECTION |
| ID | INNER DIAMETER |
| IEA | INTERNATIONAL ENERGY AGENCY |
| IEP | INTERNATIONAL ENERGY PLAN |
| IFCF | INTEGRATED FUEL CYCLE FACILITY |
| ILRT | INTEGRATED LEAK RATE TEST |
| INC. | INCLUDE |
| INEL | IDAHO NATIONAL ENGINEERING LABORATORY |
| INIS | INTERNATIONAL NUCLEAR INFORMATION SYSTEM |
| IPR | INITIAL PRESSURE REGULATOR |
| IRM | INTERMEDIATE RANGE MONITOR |
| IRS | INSTITUTE OF REACTOR SAFETY |
| ISA | INSTRUMENT SOCIETY OF AMERICA |
| JCAE | |
| KON-5 | KODJIKAIKAKU NINKASHINSEI SANKOOSHO |
| KON-6 | KODJI NINKA SINSEISO NO.6 |
| LAB | LABORATORY TEST, LOCATION AND SCOPE TO BE DEFINED |
| LCO | LIMITING CONDITION FOR OPERATION |
| LDS | LEAK DETECTION SYSTEM |

| | |
|-----------|---|
| LE | LESS OR EQUAL |
| LEIWAR | REACTOR SIMULATOR PROGRAMME FOR LWR, LEICHT WASSER REACTOR. |
| LHGR | LINEAR HEAT GENERATION RATE |
| LIT | LITERATURE SURVEY |
| LDC | LOSS OF COOLANT |
| LCCA | LOSS OF COOLANT ACCIDENT |
| LOFT | LOSS OF FLUID TEST |
| LOFT | LOSS-OF-FLUID TEST FACILITY |
| LDFC | LOSS OF PRIMARY COOLANT |
| LPCI | LOW PRESSURE COOLANT INJECTION |
| LPCS | LOW PRESSURE CORE SPRAY |
| LPIS | LOW PRESSURE INJECTION SYSTEM |
| LRM | LOCAL POWER RANGE MONITOR |
| LPZ | LOW POPULATION ZONE |
| LSSS | LIMITING SAFETY SYSTEM SETTING |
| LT | LESS THAN |
| LUB. SYS. | LUBRICATION SYSTEM |
| LWA | LIMITED WORK AUTHORIZATION |
| LWDS | LIQUID WASTE DISPOSAL SYSTEM |
| LWR | LIGHT-WATER REACTOR |
| LWST | LIQUID WASTE STORAGE TANK |
| NAC | ASSEMBLER FOR NORD COMPUTERS |
| MAFUNC. | MAJFUNCTION |
| MAPLHGR | MAXIMUM AVERAGE PLANER LINEAR HEAT GENERATION RATE |
| MCA | MAXIMUM CREDIBLE ACCIDENT |
| MCFR | MINIMUM CRITICAL HEAT FLUX RATIO |
| MCFR | MINIMUM CRITICAL POWER RATIO |
| MGM | MOTOR-GENERATOR-MOTOR |
| MLO | MEAN LOW WATER DATUM |
| MOTOR.D | MOTOR DRIVE |
| MPC | MAXIMUM PERMISSIBLE CONCENTRATIONS |
| MSIV | MAIN STEAM ISOLATION VALVE |
| MSIV-LCS | MAIN STEAM ISOLATION VALVE-LEAK CONTROL SYSTEM |
| MSL | MEAN SEA LEVEL |
| MSTM | MAIN STEAM TUBE RUPTURE |
| M-STEAM | MAIN STEAM |
| MSTS | MAIN STEAM TURBINE SYSTEM |
| MT | MAGNETIC PARTICLE TEST |
| MTBF | MEANTIME BETWEEN FAILURES |
| MTR | MEANTIME TO REPAIR |
| NAS | NATIONAL ACADEMY OF SCIENCES |
| NB | NUCLEAR BOILER |
| NBR | NUCLEAR BOILER RATED (POWER) |
| NCC | |
| N.DATA | NUCLEAR DATA |
| N.DOSE | NEUTRON DOSE |
| NDT | NIL DUCTILITY TRANSITION TEMPERATURE |
| NEC | NUCLEAR ENERGY CENTER |
| NECSS | NUCLEAR ENERGY CENTER SITE SURVEY |
| NED | NUCLEAR ENERGY DIVISION (GE) |
| NEPA | NATIONAL ENVIRONMENTAL POLICY ACT |
| NI | NUCLEAR ISLAND |
| NII | NUCLEAR INSTALLATIONS INSPECTORATE |
| NMS | NEUTRON MONITORING SYSTEM |
| NOM | NOMINAL |
| NPSH | NET POSITIVE SUCTION HEAD |

ABBREVIATION

DATE=08/17/76

NRC NUCLEAR REGULATORY COMMISSION
 NSF NATIONAL SCIENCE FOUNDATION
 NSSS NUCLEAR STEAM SUPPLY SYSTEM
 NSSSS NUCLEAR STEAM SUPPLY SHUTOFF SYSTEM
 NTRALIZE NEUTRALIZED OR NEUTRALIZER
 OBE OPERATING BASIS EARTHQUAKE
 OPCS SYSTEM OPERATOR-PROCESS COMMUNICATION SYSTEM
 OPERAT-P OPERATION PRESSURE
 O.D. OUTER DIAMETER
 OVLDR OVERLAY PROGRAMME LOADER
 -P ---PRESSURE
 PA PUBLIC ADDRESS (SYSTEM)
 P AND ID PROCESS AND INSTRUMENTATION DRAWING
 PAHR POST ACCIDENT HEAT REMOVAL
 PARR POST ACCIDENT RADIOACTIVITY REMOVAL
 PBF POWER BURST FACILITY
 PC PERCENT
 PCOMR PRECONDITIONING INTERIM OPERATING MANAGEMENT RECOMMENDATION
 PCM POWER / COOLING MISMATCH (IN PBF)
 PCS PROCESS COMPUTER SYSTEM
 PCT PEAK CLADDING TEMPERATURE
 PDA PRELIMINARY DESIGN APPROVAL
 PFE PLENUM FILL EXPERIMENT
 PIF POST IRRADIATION EXPERIMENTS
 PION PRECONDITIONING INTERIM OPERATING MANAGEMENT
 PMF PROBABLE MAXIMUM FLOOD
 PPIF PROJECT AND PROGRAM INFORMATION FILE
 PRM POWER RANGE MONITOR
 PSAR PRELIMINARY SAFETY ANALYSIS REPORT
 PSSFPC PURIFICATION SYSTEM FOR SPENT-FUEL-POOL-COOLANT
 PT PENETRANT TEST
 PV PRESSURE VESSEL
 PWR PRESSURIZED-WATER REACTOR
 QA QUALITY ASSURANCE
 QED QUICK AND EASY EDITING
 RAD. RADIATION
 RBM ROD BLOCK MONITOR (CONTROL ROD HEIKINUKI KANSI SODI)
 RCIC REACTOR CORE ISOLATION COOLING
 RCN REACTOR CENTRUM NEDERLAND
 R.COOL. REACTOR COOLING
 RCPB REACTOR COOLANT PRESSURE BOUNDARY
 RCPS REACTOR COOLANT PURIFICATION SYSTEM
 RCS REACTOR COOLANT SYSTEM
 RECIRC. RECIRCULATION
 REG AEC DIRECTORATE OF REGULATION
 REG REGION
 RESA REFERENCE SAFETY ANALYSIS
 REVAB RELIEF VALVE AUGMENTED BYPASS
 RG REGULATORY GUIDE
 RG AND E ROCHESTER GAS AND ELECTRIC CORPORATION
 RHR RESIDUAL HEAT REMOVAL SYSTEM
 RHRS-CCS RHRS-COMPONENTS COOLING SYSTEM
 RIA REACTIVITY INITIATED ACCIDENT
 RPS REACTOR PROTECTION SYSTEM
 RPV REACTOR PRESSURE VESSEL
 RS RETROSPECTIVE SEARCH

ABBREVIATION

DATE=08/17/76

RSAC REACTOR SAFETY ADVISORY COMMITTEE
 RSD REACTOR SYSTEM OUTLINE
 RSR AEC DIVISION OF REACTOR SAFETY RESEARCH
 RT RADIOGRAPHIC TEST
 RT REACTOR TRIP
 RWCU REACTOR WATER CLEAN UP
 RWM ROD WORTH MINIMIZER
 RWPS REACTOR WATER PURIFICATION SYSTEM
 SA SAFETY ANALYSIS
 SAG SENIOR ADVISORY GROUP
 SAR SAFETY ANALYSIS REPORT
 SCAT STEADY STATE CAPSULE TEMPERATURE
 SEPARAT. SERARATOR
 SGIS STANDBY GAS TREATMENT SYSTEM
 S.CHAMB SUPPRESSION CHAMBER
 SCRAM EMERGENCY SHUT-DOWN SYS. FOR TERMINATING THE REACTOR CHAIN REACTION
 S.C.RATIO SHORT CIRCUIT RATIO
 SDI SELECTIVE DISSEMINATION OF INFORMATION
 SFSP SPENT FUEL STORAGE POOL
 SGR STEAM GENERATOR THIN TUBE RUPTURE
 SHK GENSIRO SETTI HEIKODO KYOKA SINSEI SYO TENPU SYORUI
 SINTRAN OPERATING SYSTEM FOR NORD-10
 SIS SAFETY INJECTION SYSTEM
 SKS GENSIRO SETTI KYOKA SINSEI SYO TENPU SYORUI
 SLIC STANDBY LIQUID CONTROL
 SN RATIO SIGNAL VS NOISE RATIO
 SRM SOURCE RANGE MONITOR
 SRP STANDARD REVIEW PLAN
 SRV SAFETY RELIEF VALVE
 SS SAFE SHUTDOWN
 SSE SAFE SHUTDOWN EARTHQUAKE
 STEAM-P STEAM PRESSURE
 S.T.P. STANDARD TEMPERATURE AND PRESSURE
 STRIP SHORT-TERM REALISTIC IRRADIATION PROOF-TEST
 SUS STAINLESS STEEL
 SW SERVICE WATER
 SWD SOLID WASTE DISPOSAL
 SWDS SOLID WASTE DISPOSAL SYSTEM
 S.W-PUMP SEA WATER PUMP
 SQ STEAM QUALITY OR SQUARE
 -T ---TEMPERATURE
 (T) TURBINE SYSTEM (JPDR-2)
 TC TANDEM COMPOUND
 TCV TURBINE CONTROL VALVE
 T.D. THEORETICAL DENSITY
 TEMP TEMPERATURE
 TG TURBINE GENERATOR
 THICK THICKNESS
 TIP TRAVERSING INCORE PROBE
 TK TANK
 TRC TECHNICAL REVIEW COMMITTEE
 (T.S) TURBINE SYSTEM (JPDR-2)
 TSS TIME SHARING SYSTEM
 TURB. D TURBINE DRIVE
 UHI UPPER HEAD INJECTION
 UT ULTRASONIC TEST

ABBREVIATION

DATE=08/17/76

VOL.PC. VOLUME PERCENT
 VR VOID RATIO OR VOLUME RATIO
 WDACS WASTE DISPOSAL AUXILIARY COOLING SYSTEM
 WG WORKING GROUP
 WGST WASTE GAS STORAGE TANK
 WREM WATER REACTOR EVALUATION MODEL
 WT WEIGHT
 W-PUMP WATER PUMP
 ZR-W ZIRCONIUM-WATER REACTION

PLANT PERFORMANCE DATA

DATE=08/17/76

PAGE***D-241***

| LWD | (LIQUID WASTE DISPOSAL) | QUANTITY 953100 | | | | | | | | DATE | 70/ 5 |
|------------|---------------------------|---|------|-----|-----|-----|------|-----|-----|------|-------|
| | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | | |
| | | (1)EXTRACTED WATER FROM BORTIC ACID CUBM/YEAR (2)DRAIN FROM PRIMARY SYSTEM CUBM/YEAR, A=LITRE/DAY (3)FROM CONTAINER SUMP CUBM/YEAR (4)FLOOR DRAIN CUBM/YEAR (5)FROM CLEAN-UP CUBM/YEAR (6)LAUNDRY DRAIN CUBM/YEAR (7)DISPOSAL FROM SAMPLING CUBM/YEAR, A=LITRE/DAY (8)FROM RESIN CUBM/YEAR NOTE R=(REVISED) | | | | | | | | | |
| | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | | |
| TAKAHAMA-2 | PWR 23 | 2300 | 300A | | | | | 40A | | 9-12 | 70/ 5 |
| GENKAI-1 | PWR 24 | 1300 | 700A | | | | | 10A | | 9-9 | 70/ 5 |
| DDI-1,2 | PWR 26 | 2300 | 1300 | 400 | 400 | 200 | 2700 | 300 | | 9-13 | 71/ 1 |
| MIHAMA-3 | PWR 27 | 4300K | 300 | 300 | | 100 | 1500 | 150 | 300 | 9-13 | 71/11 |
| IKATA-1 | PWR 20 | 1300 | 300 | 300 | | 100 | 2000 | 150 | 200 | 9-9 | 72/11 |

| KIND OF SWD | DRUM | QUANTITY 954100 | | | | | | | | DATE | 70/ 5 |
|-------------|--------|--|------|-------|-------|------|------|------|-------|---------|-------|
| | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | TOTAL | | |
| | | (1)=USED RESIN ***UNIT*** = DRUM(MON)/YEAR (2)=USED POWDER RESIN (3)=FILTER SLUDGE (4)=CONC. LIQUID WASTE DISPOSAL (5)=MISCELLANEOUS SOLID WASTE DISPOSAL (6)=SOLID WASTE DISPOSAL FROM CONCENTRATED LIQUID WASTE DISPOSAL (7)=SAMPLING WASTE DISPOSAL | | | | | | | | | |
| | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | TOTAL | | |
| UNAGAWA | BWR 4 | 60. | 130. | 240. | 500. | 600. | | | 1530. | 9-4-(9) | 70/ 5 |
| HAMAOKA-1 | BWR 5 | 170. | 220. | 290. | 1000. | 250. | | | 1930. | 9-13 | 70/ 5 |
| FUKUSIMA-5 | BWR 9 | 500. | | 450. | 5200. | 600. | | | 6750. | 9-4-(9) | 71/ 2 |
| TOOKAI-2 | BWR 12 | 700. | | 2400. | 2600. | 600. | | | 6300. | 9-4-(9) | 71/12 |
| KASHINAZAKI | BWR 15 | 600. | | 200. | 4100. | 600. | | | 5500. | 9-4-15 | 75/ 3 |
| TAKAHAMA-2 | PWR 23 | 310. | | | | 190. | 140. | | 640. | 9-13 | 70/ 5 |
| GENKAI-1 | PWR 24 | 130. | | | | 140. | 70. | | 340. | 9-9 | 70/ 5 |
| DDI-1,2 | PWR 26 | 540. | | | | 500. | 180. | 190. | 1410. | 9-14 | 71/ 1 |
| MIHAMA-3 | PWR 27 | 310. | | | | 190. | 140. | | 90. | 9-14 | 71/ 8 |
| IKATA-1 | PWR 20 | SCUBM/YEAR | | | | 200. | 500. | | 90. | 9-11 | 72/11 |

CODE NO. VS PLANT NAME

| NO. | PLANT NAME | NO. | PLANT NAME | NO. | PLANT NAME | NO. | PLANT NAME |
|-----|--------------|-----|------------|-----|------------------|-----|-----------------|
| 1 | JPDR-1 | 26 | DDI-1,2 | 51 | HALDEN | 76 | NORTH ANNA-12 |
| 2 | JPDR-2 | 27 | MIHAMA-3 | 52 | VERMONT YANKEE | 77 | JOSEPH M.FARLEY |
| 3 | TSURUGA | 28 | IKATA-1 | 53 | BROWNS FERRY | 78 | |
| 4 | UNAGAWA | 29 | GENKAI-2 | 54 | MILLSTON | 79 | |
| 5 | HAMAOKA-1 | 30 | IKATA-2 | 55 | DRESDEN-1 | 80 | |
| 6 | FUKUSIMA-1 | 31 | SENDAI | 56 | DRESDEN-2 | 81 | FUGEN |
| 7 | FUKUSIMA-2,3 | 32 | | 57 | OYSTER CREEK | 82 | |
| 8 | SHIMANE | 33 | | 58 | DUANE ARNOLD | 83 | |
| 9 | FUKUSIMA-5 | 34 | | 59 | | 84 | |
| 10 | FUKUSIMA-4 | 35 | | 60 | | 85 | |
| 11 | FUKUSIMA-6 | 36 | | 61 | | 86 | |
| 12 | TOOKAI-2 | 37 | | 62 | | 87 | |
| 13 | HAMAOKA-2 | 38 | | 63 | | 88 | |
| 14 | TOHIOKA | 39 | | 64 | | 89 | |
| 15 | KASHINAZAKI | 40 | | 65 | | 90 | JOYO |
| 16 | | 41 | | 66 | | 91 | MONJU |
| 17 | | 42 | | 67 | | 92 | |
| 18 | | 43 | | 68 | | 93 | |
| 19 | | 44 | | 69 | YANKEE | 94 | |
| 20 | | 45 | | 70 | SAXTON | 95 | |
| 21 | MIHAMA-1 | 46 | | 71 | BURLINGTON | 96 | |
| 22 | MIHAMA-2 | 47 | | 72 | TURKEY POINT-3,4 | 97 | |
| 23 | TAKAHAMA-2 | 48 | | 73 | H.B.ROBINSON-2 | 98 | PLANT NAME |
| 24 | GENKAI-1 | 49 | | 74 | SURRY-1,-2 | 99 | |
| 25 | TAKAHAMA-1 | 50 | | 75 | BEAVER VALLEY | 100 | OTHERS |

表-4 キーワードリスト

| | | | | | |
|--------------------------------|------|-------------------------|-------|----------------------------|-------|
| ABNORMAL TRANSIENT =SEE AB-TRA | S- 0 | FEED-W. | S- 8 | NATIONAL HEREDITY | S- 15 |
| AB-TRA | S- 1 | FILTER | S- 8 | N.JATA | S- 15 |
| ACC. ANA. | S- 1 | FISSION PRODUCT | S- 8 | NDT | S- 16 |
| ACCIDENT | S- 1 | FLOW LIMITER | S- 8 | NEUTRON SOURCE | S- 16 |
| AIR COMPRES. SYSTEM | S- 2 | FLOW RATE COOLANT | S- 8 | OFF GAS | S- 16 |
| ANNULUS | S- 2 | FLOW RATE STEAM | S- 8 | OPERAT-P | S- 16 |
| BATTERY | S- 2 | FP | S- 8 | OUTPUT POWER | S- 16 |
| BOILER FOR FACILITY | S- 0 | FUEL ASSY | S- 9 | OVERLAY | S- 16 |
| BDIC ACID | S- 2 | FUEL STORAGE | S- 9 | OWNER | S- 16 |
| BORDN CONCENTRATION | S- 2 | FW | S- 9 | P.DIST. ADJUSTER | S- 16 |
| BORDN INJECT SYSTEM | S- 2 | GAP | S- 9 | PEAKING FACTOR | S- 17 |
| BUILDING | S- 2 | GAS | S- 9 | PELLET | S- 17 |
| BURNABLE POISON | S- 3 | GENERATOR | S- 10 | PERFORAT | S- 17 |
| BURN-UP | S- 3 | GENERATOR TRIP | S- 10 | PHASE SEPARAT. | S- 17 |
| CCS | S- 3 | GUIDE THIMBLE | S- 10 | PIT | S- 17 |
| CENTER TEMP. | S- 3 | HA | S- 10 | PITCH | S- 17 |
| CHANNEL | S- 3 | HEAT FLUX | S- 10 | PLANT PRESSURE | S- 17 |
| CHANNEL FACTOR | S- 3 | HEAT GENERATE RATIO | S- 10 | PLENUM SUPPLY | S- 17 |
| CLADDING | S- 3 | HEAT TRANS. AREA | S- 10 | POISON CURTAIN | S- 17 |
| COMPART ENT DOOR | S- 3 | HEAT TRANSFER | S- 10 | POOL | S- 17 |
| COMPONENTS | S- 4 | HEREDITY | S- 10 | POPULATION | S- 17 |
| COND. DEMINE. PUMP | S- 4 | H.EXCH. | S- 10 | POWER DENSITY | S- 17 |
| CONSTRUCTION PERMIT | S- 4 | HIGH-P. INJECT. SYSTEM | S- 11 | POWER SUPPLY | S- 18 |
| CONTAINER | S- 4 | HISTORY | S- 11 | PRESSURE VESSEL | S- 18 |
| | S- 4 | ICE COND | S- 11 | PRESSURIZER | S- 18 |
| CONTROL ROD | S- 4 | IMPORTED COMPONENTS | S- 11 | PRIMARY COOLING PUMP | S- 18 |
| CONTROL CLUSTER | S- 5 | IN-CORE MONITOR | S- 11 | PRIMARY COOLING SYSTEM | S- 18 |
| CONTROL WORTH | S- 5 | INITIAL | S- 11 | PRIMARY LOOP | S- 18 |
| CORE SPRAY SYSTEM | S- 5 | IRRADIATION DOSE | S- 11 | PUMP | S- 18 |
| CORROSION | S- 5 | ISOLATED R.COOL. SYSTEM | S- 0 | QUANTITY | S- 19 |
| COUNTERPLAN | S- 5 | JET PUMP | S- 12 | RAU. LEVEL | S- 19 |
| CRITICAL DATE = SEE OWNER | S- 0 | LEAK | S- 12 | RAU. SHIELD | S- 20 |
| CRUD | S- 5 | LINEAR HEAT RATING | S- 12 | RCIC | S- 20 |
| CVCS | S- 5 | LDC | S- 12 | RCPS | S- 20 |
| DEAERATOR | S- 6 | LUCA ECCS | S- 12 | REACTIVITY | S- 20 |
| DEFINITION | S- 6 | LUPC | S- 12 | REACTOR AUX.COOL SYSTEM | S- 20 |
| DEMINE. | S- 6 | LWD | S- 12 | REACTOR AUXILIARY SYSTEM | S- 20 |
| D.G. | S- 6 | LWDS | S- 12 | REACTOR TYPE | S- 20 |
| DNBR | S- 6 | MAIN COND. SYSTEM | S- 13 | REACTOR PUMP | S- 20 |
| DOPPLER | S- 6 | MAIN STEAM SYSTEM | S- 14 | REACTOR SYSTEM | S- 20 |
| DOSE | S- 7 | MAIN TURBINE | S- 14 | REFLECT. | S- 21 |
| DRUM | S- 7 | MAKE-UP | S- 14 | REGULATOR | S- 21 |
| DRY-WELL | S- 7 | MALFUNC. | S- 14 | RELIEF VALVE | S- 21 |
| DUMP COND. | S- 7 | MCA | S- 14 | RESA REFERENCE SAFETY ANAL | S- 0 |
| EARTHQUAKE-PROOF | S- 7 | MCHER | S- 14 | RESIDUAL HEAT REMOVE.S | S- 21 |
| E.GENER. | S- 7 | MISS START-UP | S- 14 | REVISE | S- 21 |
| EFFECT. LENGTH | S- 7 | M.STEAM ISOLATE VALVE | S- 15 | ROD PITCH ARRANGE | S- 21 |
| ENGINEER | S- 7 | M.STEAM | S- 15 | RSAC REACTOR SAFETY ADVIS | S- 0 |
| ENRICH | S- 7 | M.STEAM SIZE | S- 15 | RUPTURE | S- 21 |
| EXPANSION | S- 7 | MSTR | S- 15 | RWPS | S- 21 |

| | | | | | |
|------------------|-------|----------------|-------|----------------------|-------|
| SAFETY STANDARD | S- 21 | REACTOR CORE | S- 23 | TANK | S- 24 |
| SAFETY VALVE | S- 22 | SPACER | S- 23 | TEMP. COOLANT | S- 26 |
| SAMPLE BDX | S- 22 | SPRAY | S- 23 | THERMAL CONDUCTIVITY | S- 26 |
| SAMPLE H.EXCH. | S- 22 | STACK | S- 23 | TRIP | S- 26 |
| SAMPLING | S- 22 | START-UP | S- 23 | TURBINE | S- 26 |
| S-CHAMB- | S- 22 | STEAM DRYER | S- 23 | TURBINE AUX. COOL | S- 27 |
| SCRAM | S- 22 | STEAM-G. | S- 23 | TURBINE TRIP | S- 27 |
| SFA WATER | S- 22 | STEAM QUALITY | S- 23 | VALVE | S- 27 |
| SGTR | S- 22 | STEAM SEPARAT. | S- 24 | VITAL SOURCE | S- 0 |
| SHAFT STICK | S- 22 | STROKE | S- 24 | VOID | S- 27 |
| SHUTDOWN MARGIN | S- 22 | SUBCOOL | S- 24 | WATER QUALITY | S- 27 |
| SIS | S- 22 | SND | S- 24 | WDACS | S- 28 |
| SITE = SEE OWNER | S- 0 | SND | S- 24 | WEIGHT FUEL | S- 28 |
| SITE WATER | S- 23 | SWELLING | S- 24 | ZR-W | S- 28 |

表-5 索引リスト

AB-TRA

AB-TRA

| | | | | | | | | |
|---------|----------|----------|----------|------------------|----------|---------------|---------------|-------|
| SA | DFIN.OF | AB-TRA | | | 10000 | SEE PAGE***D- | 5*** | |
| SAFETY | STANDARD | UNDER | AB-TRA | | 10100 | SEE PAGE***D- | 5*** | |
| KIND OF | AB-TRA | FROM | VARIOUS | SYSTEMS | 20000 | SEE PAGE***D- | 6*** | |
| KIND OF | AB-TRA | FROM | RECIRC. | SYSTEM | 21000 | SEE PAGE***D- | 6*** | |
| AB-TRA | | RECIRC. | PUMP | TRIP | 21110 | SEE PAGE***D- | 7*** | |
| AB-TRA | | RECIRC. | PUMP | SHAFT | 21120 | SEE PAGE***D- | 7*** | |
| AB-TRA | RECIRC. | FLDW | REGULATO | R MALFUNC. | 21200 | SEE PAGE***D- | 8*** | |
| AB-TRA | MISS | START-UP | OF COLD | RECIRC. LOOP (1) | 21320 | SEE PAGE***D- | 9*** | |
| AB-TRA | MISS | START-UP | OF COLD | RECIRC. LOOP (2) | 21340 | SEE PAGE***D- | 9*** | |
| AB-TRA | MISS | START-UP | OF COLD | RECIRC. LOOP (3) | 21360 | SEE PAGE***D- | 10*** | |
| KIND OF | AB-TRA | FROM | FEEDWATE | R SYSTEM | 22000 | SEE PAGE***D- | 10*** | |
| AB-TRA | TROUBLE | OF FEED | WATER | CONTROLL | ER | 22100 | SEE PAGE***D- | 10*** |
| AB-TRA | LOSS | OF FEED | WATER | HEATER | | 22200 | SEE PAGE***D- | 11*** |
| AB-TRA | LOSS | OF FEED | WATER | | | 22300 | SEE PAGE***D- | 11*** |
| KIND OF | AB-TRA | FROM | MAIN | STEAM | SYSTEM | 23000 | SEE PAGE***D- | 11*** |
| AB-TRA | GENERATI | R TRIP | | | 23100 | SEE PAGE***D- | 12*** | |
| AB-TRA | TURBINE | TRIP | SUMMARY | | 23200 | SEE PAGE***D- | 12*** | |
| AB-TRA | TURBINE | TRIP (1) | WITH | BY PASS | V. ACT | 23210 | SEE PAGE***D- | 13*** |
| AB-TRA | TURBINE | TRIP (2) | WITHOUT | BY PASS | V. ACT | 23220 | SEE PAGE***D- | 13*** |
| AB-TRA | TURBINE | TRIP (3) | | | 23230 | SEE PAGE***D- | 14*** | |
| AB-TRA | MAIN | STEAM | ISOLATE | VALVE | CLOSE | 23300 | SEE PAGE***D- | 14*** |
| AB-TRA | MALFUNC. | OF | INITIAL | PRESSURE | ADJUSTER | 23400 | SEE PAGE***D- | 15*** |
| AB-TRA | PRESSURE | RELIEF | VALVE | OPEN | | 23500 | SEE PAGE***D- | 15*** |
| KIND OF | AB-TRA | FROM | CONTROL | SYSTEM | | 24000 | SEE PAGE***D- | 16*** |
| AB-TRA | CTRL | RDD | WITHDRAM | SUBCRI. | STATE | 24100 | SEE PAGE***D- | 16*** |
| AB-TRA | CONTROL | RDD | WITHDRAM | ON | POWER | 24200 | SEE PAGE***D- | 17*** |
| AB-TRA | OTHERS | LOSS OF | AUX. | POWER | SUPPLY | 25100 | SEE PAGE***D- | 17*** |

ACC.ANA.

ACC.ANA.

| | | | | | | | | |
|----------|---------|---------|----------|----------|---------|---------------|---------------|-------|
| ACC.ANA. | CONTROL | RDD | DROPOUT | | 32310 | SEE PAGE***D- | 19*** | |
| ACC.ANA. | CONTROL | RDD | DROPOUT | RESULT | 32320 | SEE PAGE***D- | 20*** | |
| ACC.ANA. | RECIRC. | RUPTURE | LOCA | | 35300 | SEE PAGE***D- | 22*** | |
| ACC.ANA. | RECIRC. | RUPTURE | LOCA | | 35310 | SEE PAGE***D- | 23*** | |
| ACC.ANA. | RECIRC. | RUPTURE | DRY-WELL | P-CHANGE | LOC | 35320 | SEE PAGE***D- | 23*** |
| ACC.ANA. | | | M-STEAM | TUBE | RUPTURE | 36310 | SEE PAGE***D- | 25*** |
| ACC.ANA. | | | M-STEAM | TUBE | RUPTURE | 36320 | SEE PAGE***D- | 26*** |

ACCIDENT

ACCIDENT

| | | | | | | | | |
|----------|----------|----------|----------|----------|----------|---------------|---------------|-------|
| SA | DEFINITE | ON OF | ACCIDENT | | 10020 | SEE PAGE***D- | 5*** | |
| SAFETY | STANDARD | UNDER | ACCIDENT | | 10120 | SEE PAGE***D- | 6*** | |
| KIND OF | ACCIDENT | IN BWR | | | 31000 | SEE PAGE***D- | 18*** | |
| ACCIDENT | CAUSE | AND | RESULT | CONTROL | ROD DROP | 32100 | SEE PAGE***D- | 18*** |
| ACCIDENT | COUNTERP | LAN TO | CONTROL | ROD DROP | OUT | 32200 | SEE PAGE***D- | 19*** |
| ACCIDENT | CAUSE | RESULT | CONTROL | ROD | RUNAWAY | 33100 | SEE PAGE***D- | 20*** |
| ACCIDENT | COUNTERP | LAN TO | CONTROL | ROD | RUNAWAY | 33200 | SEE PAGE***D- | 20*** |
| ACCIDENT | CAUSE | COUNTERP | LAN | FUEL | HANDLING | 34100 | SEE PAGE***D- | 21*** |
| ACCIDENT | LOSS OF | COOLANT | PRECONDI | TION | KIND | 35200 | SEE PAGE***D- | 21*** |
| ACCIDENT | LOSS OF | COOLANT | MINOR | DESTRUCT | ION | 35210 | SEE PAGE***D- | 22*** |
| ACCIDENT | LOSS OF | COOLANT | MEDIUM | DESTRUCT | ION | 35220 | SEE PAGE***D- | 22*** |

ACCIDENT

ACCIDENT

| | | | | | | | | |
|----------|---------|---------|-------|----------|---------|-------|---------------|-------|
| ACCIDENT | LOSS OF | COOLANT | MAJOR | DESTRUCT | ION | 35230 | SEE PAGE***D- | 22*** |
| ACCIDENT | LOSS OF | MAIN | STEAM | TUBE | RUPTURE | 36200 | SEE PAGE***D- | 25*** |

AIR

COMPRES. SYSTEM

AIR

COMPRES. SYSTEM

| | | | | | | | | |
|-----|----------|--------|----------|-----|----------|--------|---------------|--------|
| AIR | COMPRES. | SYSTEM | AIR-COMP | FUR | CONTROL | 834220 | SEE PAGE***D- | 220*** |
| AIR | COMPRES. | SYSTEM | AIR-COMP | FUR | FACILITY | 834260 | SEE PAGE***D- | 220*** |

ANNULUS

ANNULUS

| | | | | | | | | |
|---------|---|---------|----------|---------|--------|--------|---------------|--------|
| CONTAIN | R | ANNULUS | AIR | RECIRC. | FAN | 825700 | SEE PAGE***D- | 218*** |
| CONTAIN | R | ANNULUS | AIR VENT | FILTER | UNIT | 825720 | SEE PAGE***D- | 218*** |
| CONTAIN | R | ANNULUS | AIR VENT | IOBINE | FILTER | 825730 | SEE PAGE***D- | 218*** |
| CONTAIN | R | ANNULUS | AIR VENT | FAN | | 825740 | SEE PAGE***D- | 218*** |

BATTERY

BATTERY

| | | | | | | | | |
|----------|---------|---------|--------|------------|--|--------|---------------|--------|
| FACILITY | BATTERY | TYPE | NUMBER | | | 794820 | SEE PAGE***D- | 185*** |
| BATTERY | CHARGER | TYPE | NUMBER | CAPACITY | | 794840 | SEE PAGE***D- | 186*** |
| BATTERY | AND | CHARGER | | FOR HPCS | | 794850 | SEE PAGE***D- | 186*** |
| BATTERY | AND | CHARGER | | FOR MONIT. | | 794860 | SEE PAGE***D- | 187*** |

BORIC ACID

BORIC ACID

| | | | | | | | | |
|------|---------|-------|----------|----------|----------|--------|---------------|--------|
| CVCS | BORIC | ACID | CHARGE | PUMP | | 762380 | SEE PAGE***D- | 131*** |
| CVCS | BORIC | ACID | PUMP | TYPE | | 762500 | SEE PAGE***D- | 131*** |
| CVCS | BORIC | ACID | TANK | NUMBER | CAPACITY | 762520 | SEE PAGE***D- | 132*** |
| CVCS | BORIC | ACID | SUPPLY | TANK | | 762540 | SEE PAGE***D- | 132*** |
| CVCS | BORIC | ACID | FILTER | | | 762640 | SEE PAGE***D- | 134*** |
| SIS | BORIC | ACID | TANK FOR | REFUEL | PUMP | 763120 | SEE PAGE***D- | 134*** |
| SIS | BORIC | ACID | HIGH-P | INJECT | PUMP | 763140 | SEE PAGE***D- | 135*** |
| SIS | BORIC | ACID | LOW-P | INJECT | PUMP PWR | 763150 | SEE PAGE***D- | 135*** |
| SIS | P-RIZED | BORIC | ACID | TANK | | 763160 | SEE PAGE***D- | 136*** |
| SIS | BORIC | ACID | INJECT | TANK | | 763180 | SEE PAGE***D- | 136*** |
| SIS | BORIC | ACID | CHARGE | PUMP | | 763300 | SEE PAGE***D- | 136*** |
| LWDS | BORIC | ACID | RECOVERY | SYSTEM | | 802300 | SEE PAGE***D- | 196*** |
| LWDS | BORIC | ACID | PURIFY | DEMINE. | | 802310 | SEE PAGE***D- | 196*** |
| LWDS | BORIC | ACID | EVAP-C.W | DEMINERA | LIZER | 802330 | SEE PAGE***D- | 196*** |
| LWDS | BORIC | ACID | EVAP-C.W | DEMINERA | LIZER | 802350 | SEE PAGE***D- | 196*** |

BORON CONCENTRATION

BORON CONCENTRATION

| | | | | | | | | |
|--------|-------|----------|-------|---------|------|--------|---------------|--------|
| N.DATA | BORON | CONCENTR | ATION | INITIAL | CORE | 842300 | SEE PAGE***D- | 226*** |
|--------|-------|----------|-------|---------|------|--------|---------------|--------|

BORON INJECT SYSTEM

BORON INJECT SYSTEM

| | | | | | | | | |
|-------|--------|--------|----------|---------|----------|--------|---------------|--------|
| BORON | INJECT | SYSTEM | NUMBER | CONTROL | WORTH | 767220 | SEE PAGE***D- | 146*** |
| BORON | INJECT | SYSTEM | PUMP NO. | TYPE | CAPACITY | 767420 | SEE PAGE***D- | 146*** |

BUILDING

BUILDING

| | | | | | | | | |
|--------|----------|---------|---------|--------|----------|--------|---------------|--------|
| MCA HA | BWR LOC | FP GAS | RELEASE | FROM | BUILDING | 43140 | SEE PAGE***D- | 28*** |
| MCA HA | PWR LOC | FP GAS | RELEASE | FROM | BUILDING | 43150 | SEE PAGE***D- | 29*** |
| MCA HA | BWR MSTR | FP GAS | RELEASE | FROM | BUILDING | 43240 | SEE PAGE***D- | 32*** |
| MCA HA | PWR SGTR | FP GAS | RELEASE | FROM | BUILDING | 43250 | SEE PAGE***D- | 32*** |
| PWR | REACTOR | CONTAIN | R | SHIELD | BUILDING | 822390 | SEE PAGE***D- | 214*** |

BUILDING

| | |
|--|--------|
| REACTOR BUILDING SIZE | 827200 |
| REACTOR BUILDING DESIGN LEAK RATE | 827400 |
| REACTOR OF HEAD ROCK FOR REACTOR BUILDING WEIGHT | 854200 |
| REACTOR BUILDING DESIGN-P (INNER) | 854400 |
| TURBINE BUILDING SIZE EARTHQUAKE-PROOF GRADE | 856300 |

| | |
|---------------|--------|
| SEE PAGE***D- | 219*** |
| SEE PAGE***D- | 219*** |
| SEE PAGE***D- | 235*** |
| SEE PAGE***D- | 235*** |
| SEE PAGE***D- | 236*** |

BUILDING

BURNABLE POISON

| | |
|--|--------|
| BURNABLE POISON MATERIAL CONTROL WORTH | 733730 |
|--|--------|

| | |
|---------------|-------|
| SEE PAGE***D- | 92*** |
|---------------|-------|

BURNABLE POISON

BURN-UP

| | |
|--|--------|
| BURN-UP 1ST CORF AVG. FINAL-C. AVG. 1ST ASSY MAX | 732640 |
| EXPOSURE ACTUAL RESULT MWU/TON BURN-UP | 732650 |

| | |
|---------------|-------|
| SEE PAGE***D- | 76*** |
| SEE PAGE***D- | 77*** |

BURN-UP

CCS

| | |
|--|--------|
| MAIN COMPONENTS OF CCS PWR | 768100 |
| 2NDARY.S AUX.CCS BEARING COOLANT H.EXCH. | 777600 |
| 2NDARY.S AUX.CCS BEARING COOLANT PUMP | 777620 |
| 2NDARY.S AUX.CCS | 777640 |

| | |
|---------------|--------|
| SEE PAGE***D- | 147*** |
| SEE PAGE***D- | 170*** |
| SEE PAGE***D- | 170*** |
| SEE PAGE***D- | 171*** |

CCS

CENTER TEMP.

| | |
|-----------------------------------|--------|
| FULLROD PELLET CENTER TEMP. MAX C | 732680 |
|-----------------------------------|--------|

| | |
|---------------|-------|
| SEE PAGE***D- | 80*** |
|---------------|-------|

CENTER TEMP.

CHANNEL

| | | | | | | |
|------------------------------|--|------------------------------|---------------------------------|--------------------------------|--------------------------|--------|
| FUEL KIND OF PEAKING HOT SWD | CHANNEL IN-CORE FACTOR CHANNEL CONTROL | BOX MONITOR TOTAL FACTOR ROD | MATERIAL CHANNEL N.DATA CHANNEL | SIZE CHANNEL AXIAL THERMAL BDY | THICK LOCAL DATA CURTAIN | 732240 |
| | | | | | | 781100 |
| | | | | | | 843620 |
| | | | | | | 843640 |
| | | | | | | 944320 |

| | |
|---------------|--------|
| SEE PAGE***D- | 59*** |
| SEE PAGE***D- | 176*** |
| SEE PAGE***D- | 232*** |
| SEE PAGE***D- | 233*** |
| SEE PAGE***D- | 240*** |

CHANNEL

CHANNEL FACTOR

| | |
|--|--------|
| PEAKING HOT FACTOR CHANNEL TOTAL CHANNEL AXIAL LOCAL | 843620 |
| | 843640 |

| | |
|---------------|--------|
| SEE PAGE***D- | 232*** |
| SEE PAGE***D- | 233*** |

CHANNEL FACTOR

CLADDING

| | | | | |
|--|--|--|--|--------|
| FUEL THERMAL EXPANSION CLADDING CONDUCTANCE CLADDING | PERFORATION OF MATERIAL THICKNESS MECHANICAL | AND ZIRCONIUM CLADDING PELLET PROPERTY | REACTION RATE CLADDING D.D. AND CLADDING | 35340 |
| | | | | 732360 |
| | | | | 732440 |
| | | | | 732700 |
| | | | | 732720 |

| | |
|---------------|-------|
| SEE PAGE***D- | 23*** |
| SEE PAGE***D- | 63*** |
| SEE PAGE***D- | 66*** |
| SEE PAGE***D- | 81*** |
| SEE PAGE***D- | 81*** |

CLADDING

| | | | |
|--|---------------------------------------|--|--------|
| FUEL HEAT TRANSFER CLADDING PELLET CONTROL | CLADDING CRUDE DEPOSIT CORROSION RATE | DEFINITION CLADDING MAX C FUL MATERIAL NUMBER SIZE | 732740 |
| | | | 732760 |
| | | | 732800 |
| | | | 732810 |
| | | | 733240 |

| | |
|---------------|-------|
| SEE PAGE***D- | 81*** |
| SEE PAGE***D- | 82*** |
| SEE PAGE***D- | 83*** |
| SEE PAGE***D- | 84*** |
| SEE PAGE***D- | 86*** |

| | |
|---|--------|
| CONTROL CLUSTER CLADDING MATERIAL NUMBER SIZE | 733320 |
|---|--------|

| | |
|---------------|-------|
| SEE PAGE***D- | 89*** |
|---------------|-------|

COMPARTMENT DOOR

| | |
|---|--------|
| ICE COND CAPACITY COMPARTMENT DOOR OPERAT-P | 825200 |
|---|--------|

| | |
|---------------|--------|
| SEE PAGE***D- | 216*** |
|---------------|--------|

COMPARTMENT DOOR

COMPONENTS

| | | |
|--|----------------|--------|
| IMPORTED M.STEAM SYSTEM COMPONENTS | COMPONENTS | 200 |
| MAIN CVCS MAIN COMPONENTS | COMPONENTS PWR | 755000 |
| | | 762130 |
| | | 762290 |
| | | 763100 |
| RHRS MAIN COMPONENTS | FOR PWR | 764100 |
| MAIN TURBINE SYSTEM COMPONENTS | PWR | 768100 |
| | | 770000 |
| CONDENS. FEED.W. SYSTEM COMPONENTS | | 773200 |
| | | 776200 |
| ECOCs EMER. STEAM PROTECT. SYSTEM COMPONENTS | COOLING SYSTEM | 779400 |
| | | 835000 |
| | | 836120 |

| | |
|---------------|--------|
| SEE PAGE***D- | 3*** |
| SEE PAGE***D- | 112*** |
| SEE PAGE***D- | 121*** |
| SEE PAGE***D- | 127*** |
| SEE PAGE***D- | 134*** |
| SEE PAGE***D- | 138*** |
| SEE PAGE***D- | 147*** |
| SEE PAGE***D- | 153*** |
| SEE PAGE***D- | 159*** |
| SEE PAGE***D- | 165*** |
| SEE PAGE***D- | 173*** |
| SEE PAGE***D- | 221*** |
| SEE PAGE***D- | 222*** |

COMPONENTS

COND. DEMINE.

| | |
|-----------------------------|--------|
| COND. DEMINE. TYPE | 775220 |
| COND. DEMINE. EXIT | 775260 |
| COND. DEMINE. INLET EXIT | 775270 |
| COND. DEMINE. ALLOUABLE SEA | 775280 |

| | |
|---------------|--------|
| SEE PAGE***D- | 163*** |
| SEE PAGE***D- | 164*** |
| SEE PAGE***D- | 164*** |
| SEE PAGE***D- | 164*** |

COND. DEMINE.

COND. PUMP

| | |
|-----------------------------|--------|
| COND. PUMP TYPE NO. FOR PWR | 774220 |
| | 774260 |

| | |
|---------------|--------|
| SEE PAGE***D- | 162*** |
| SEE PAGE***D- | 162*** |

COND. PUMP

CONSTRUCTION PERMIT

| | |
|---|-----|
| HISTORY OF CONSTRUCTION PERMIT APPLICAT | 110 |
| HISTORY OF CONSTRUCTION PERMIT APPLICAT | 120 |
| REVISE OF CONSTRUCTION PERMIT APPLICAT | 122 |
| REVISE OF CONSTRUCTION PERMIT APPLICAT | 130 |

| | |
|---------------|------|
| SEE PAGE***D- | 1*** |
| SEE PAGE***D- | 2*** |
| SEE PAGE***D- | 2*** |
| SEE PAGE***D- | 2*** |

CONSTRUCTION PERMIT

CONTAINER

| | |
|---------------------------------------|--------|
| PWR REACTOR CONTAINER TYPE | 822310 |
| PWR REACTOR CONTAINER MATERIAL | 822350 |
| PWR REACTOR CONTAINER SHIELD BUILDING | 822390 |
| CONTAINER SPRAY PUMP | 825410 |
| CONTAINER SPRAY H.EXCH. | 825450 |

| | |
|---------------|--------|
| SEE PAGE***D- | 213*** |
| SEE PAGE***D- | 213*** |
| SEE PAGE***D- | 214*** |
| SEE PAGE***D- | 216*** |
| SEE PAGE***D- | 217*** |

CONTAINER

| | |
|--|--------|
| CONTAINER IODINE REMOVE CHEMICAL TANK | 825490 |
| CONTAINER SPRAY NOZZLE | 825500 |
| CONTAINER ANNULUS AIR RECIRC. FAN | 825700 |
| CONTAINER ANNULUS AIR VENT FILTER UNIT | 825720 |
| CONTAINER ANNULUS AIR VENT IODINE FILTER | 825730 |
| CONTAINER ANNULUS AIR VENT FAN | 825740 |

| | |
|---------------|--------|
| SEE PAGE***D- | 217*** |
| SEE PAGE***D- | 217*** |
| SEE PAGE***D- | 218*** |
| SEE PAGE***D- | 218*** |
| SEE PAGE***D- | 218*** |
| SEE PAGE***D- | 218*** |

CONTROL ROD

CONTROL ROD

| | |
|---|-------|
| AB-TRA CONTROL ROD WITHDRAW SUBCNI. STATE | 24100 |
| AB-TRA CONTROL ROD WITHDRAW ON POWER | 24200 |
| ACCIDENT CAUSE AND RESULT CONTROL ROD DRDP | 32100 |
| ACCIDENT COUNTERP LAN TO CONTROL ROD DRDP OUT | 32200 |
| ACC.ANA. CONTROL ROD DROPOUT | 32310 |

| | |
|---------------|-------|
| SEE PAGE***D- | 16*** |
| SEE PAGE***D- | 17*** |
| SEE PAGE***D- | 18*** |
| SEE PAGE***D- | 19*** |
| SEE PAGE***D- | 19*** |

CONTROL ROD

| | | | | | |
|----------|----------|----------|----------|--------|----------------|
| ACC.ANA. | CONTROL | ROD | DROPHUT | RESULT | 32320 |
| ACCIDENT | CAUSE | RESULT | CONTROL | ROD | RUNAWAY 33100 |
| ACCIDENT | COUNTERP | LAN TO | CONTROL | ROD | RUNAWAY 33200 |
| GUIDE | THIMBLE | FOR | CONTROL | ROD | CLUSTER 732820 |
| CONTROL | ROD | EFFECT. | LENGTH | ANU | STROKE 733220 |
| CONTROL | ROD | CLADDING | MATERIAL | NUMBER | SIZE 733240 |
| CONTROL | ROD | FOLLOWER | MATERIAL | WIDTH | OTHER 733260 |
| CONTROL | ROD | PITCH | MM | | 733280 |
| SWO | CONTROL | ROD | CHANNEL | 90X | CURTAIN 944320 |

| | |
|---------------|--------|
| SEE PAGE***D- | 20*** |
| SEE PAGE***D- | 20*** |
| SEE PAGE***D- | 20*** |
| SEE PAGE***D- | 84*** |
| SEE PAGE***D- | 85*** |
| SEE PAGE***D- | 86*** |
| SEE PAGE***D- | 87*** |
| SEE PAGE***D- | 88*** |
| SEE PAGE***D- | 240*** |

CONTROL ROD

CONTROL CLUSTER

| | | | | | | |
|---------|---------|----------|----------|---------|---------|--------|
| GUIDE | THIMBLE | FOR | CONTROL | ROD | CLUSTER | 732820 |
| CORE | CONTROL | CLUSTER | NUMBER | FORM | | 733310 |
| CONTROL | CLUSTER | CLADDING | MATERIAL | NUMBER | SIZE | 733320 |
| CONTROL | CLUSTER | ABSORBER | MATERIAL | | | 733340 |
| CONTROL | CLUSTER | PITCH | MM | | | 733360 |
| CONTROL | CLUSTER | D.MECH. | NUMBER | TYPE | SPEED | 733510 |
| POWER | SUPPLY | FOR | CONTROL | CLUSTER | DRIVE | 794780 |

| | |
|---------------|--------|
| SEE PAGE***D- | 84*** |
| SEE PAGE***D- | 88*** |
| SEE PAGE***D- | 89*** |
| SEE PAGE***D- | 90*** |
| SEE PAGE***D- | 90*** |
| SEE PAGE***D- | 91*** |
| SEE PAGE***D- | 184*** |

CONTROL CLUSTER

CONTROL WORTH

| | | | | | |
|----------|--------|----------|---------|---------|--------------|
| BURNABLE | POISON | MATERIAL | CONTROL | WORTH | 733730 |
| BORDN | INJECT | SYSTEM | NUMBER | CONTROL | WORTH 767220 |
| N.DATA | K-EFF | SHUTDOWN | MARGINE | CONTROL | WORTH 842220 |
| N.DATA | K-EFF | SHUTDOWN | MARGINE | CONTROL | WORTH 842230 |

| | |
|---------------|--------|
| SEE PAGE***D- | 92*** |
| SEE PAGE***D- | 146*** |
| SEE PAGE***D- | 223*** |
| SEE PAGE***D- | 224*** |

CONTROL WORTH

CORE SPRAY SYSTEM

| | | | | | | |
|------|-------|--------|--------|----------|--------|--------|
| CORE | SPRAY | SYSTEM | NUMBER | FLOW AND | OTHERS | 765220 |
| CORE | SPRAY | SYSTEM | PUMP | TYPE AND | NUMBER | 765240 |

| | |
|---------------|--------|
| SEE PAGE***D- | 142*** |
| SEE PAGE***D- | 142*** |

CORE SPRAY SYSTEM

CORROSION

| | | | | | | |
|------|----------|------|----------|-----------|------|--------|
| FUEL | CLADDING | CRUD | DEPOSITE | CORROSION | RATE | 732740 |
|------|----------|------|----------|-----------|------|--------|

| | |
|---------------|-------|
| SEE PAGE***D- | 81*** |
|---------------|-------|

CORROSION

COUNTERP LAN

| | | | | | | | |
|----------|----------|----------|---------|------|----------|-----|-------|
| ACCIDENT | COUNTERP | LAN TO | CONTROL | ROD | DROP | OUT | 32200 |
| ACCIDENT | COUNTERP | LAN TO | CONTROL | ROD | RUNAWAY | | 33200 |
| ACCIDENT | CAUSE | COUNTERP | LAN | FUEL | HANDLING | | 34100 |

| | |
|---------------|-------|
| SEE PAGE***D- | 19*** |
| SEE PAGE***D- | 20*** |
| SEE PAGE***D- | 21*** |

COUNTERP LAN

CRUD

| | | | | | | |
|------|----------|------|----------|-----------|------|--------|
| FUEL | CLADDING | CRUD | DEPOSITE | CORROSION | RATE | 732740 |
|------|----------|------|----------|-----------|------|--------|

| | |
|---------------|-------|
| SEE PAGE***D- | 81*** |
|---------------|-------|

CRUD

CVCS

| | | | | | | |
|----------|----------|----------|----------|----------|----------|--------|
| FUNCTION | OF CVCS | PWR | | | | 762100 |
| MAIN | COMPONEN | TS | OF | CVCS | PWR | 762130 |
| RWPS | CVCS | REGENE. | H.EXCH. | TYPE NO. | CAPACITY | 762260 |
| RWPS | CVCS | NON-REG. | H.EXCH. | TYPE NO. | CAPACITY | 762280 |
| CVCS | MAIN | COMPONEN | TS | | | 762290 |
| CVCS | SURPLUS | HEAT | EXTRACT. | H.EXCH. | | 762300 |
| NVCS | SHAFT | SEAL | WATER | H.EXCH. | | 762320 |

| | |
|---------------|--------|
| SEE PAGE***D- | 121*** |
| SEE PAGE***D- | 121*** |
| SEE PAGE***D- | 126*** |
| SEE PAGE***D- | 127*** |
| SEE PAGE***D- | 127*** |
| SEE PAGE***D- | 128*** |
| SEE PAGE***D- | 128*** |

CVCS

CVCS

| | | | | | | |
|------|---------|----------|----------|---------|----------|--------|
| CVCS | PRIMARY | COOLANT | MIXED | BED | DEMINE. | 762340 |
| CVCS | BORDN | REMOVE | DEMINE. | | | 762350 |
| CVCS | COOLANT | POSITIVE | ION | DEMINE. | | 762360 |
| CVCS | VOLUME | CONTROL | TANK | NUMBER | CAPACITY | 762370 |
| CVCS | BURIC | ACID | CHARGE | PUMP | | 762380 |
| CVCS | BORIC | ACID | PUMP | TYPE | NUMBER | 762500 |
| CVCS | BORIC | ACID | TANK | NUMBER | CAPACITY | 762520 |
| CVCS | BORIC | ACID | SUPPLY | TANK | | 762540 |
| CVCS | PRIMARY | SYSTEM | CHEMICAL | S TANK | | 762560 |
| CVCS | COOLANT | FILTER | | | | 762580 |
| CVCS | SHAFT | SEAL | WATER | HEATER | | 762600 |
| CVCS | SHAFT | SEAL | WATER | INJECT. | FILTER | 762620 |
| CVCS | BURIC | ACID | FILTER | | | 762640 |

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|---------------|--------|
| SEE PAGE***D- | 129*** |
| SEE PAGE***D- | 129*** |
| SEE PAGE***D- | 129*** |
| SEE PAGE***D- | 130*** |
| SEE PAGE***D- | 131*** |
| SEE PAGE***D- | 131*** |
| SEE PAGE***D- | 132*** |
| SEE PAGE***D- | 132*** |
| SEE PAGE***D- | 132*** |
| SEE PAGE***D- | 132*** |
| SEE PAGE***D- | 133*** |
| SEE PAGE***D- | 133*** |
| SEE PAGE***D- | 133*** |
| SEE PAGE***D- | 133*** |
| SEE PAGE***D- | 133*** |

CVCS

DEAERATOR

| | | | | | | | |
|-----------|-------|------|--------|---------|-------|----------|--------|
| DEAERATOR | R OFF | TYPE | NUMBER | STORAGE | TANK | CAPACITY | 776260 |
| DEAERATOR | | | GAS | ISOLATE | VALVE | NUMBER | 801440 |

| | |
|---------------|--------|
| SEE PAGE***D- | 167*** |
| SEE PAGE***D- | 191*** |

DEAERATOR

DEFINITION

| | | | | | | |
|----|------------|----|----------|--|--|-------|
| SA | DEFINITION | OF | ACCIDENT | | | 10020 |
|----|------------|----|----------|--|--|-------|

| | |
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| SEE PAGE***D- | 5*** |
|---------------|------|

DEFINITION

DEMINE.

| | | | | | | |
|---------|---------|----------|----------|----------|----------|--------|
| PSSFPC | DEMINE. | PUMP | TYPE | NUMBER | CAPACITY | 762150 |
| RWPS | DEMINE. | NUMBER | AND | CAPACITY | | 762230 |
| RWPS | DEMINE. | NUMBER | AND | CAPACITY | | 762240 |
| CVCS | PRIMARY | COOLANT | MIXED | BED | DEMINE. | 762340 |
| CVCS | BORDN | REMOVE | DEMINE. | | | 762350 |
| CVCS | COOLANT | POSITIVE | ION | DEMINE. | | 762360 |
| SFP | DEMINE. | FUEL | PIT | DEMINE. | | 766780 |
| COND. | DEMINE. | TYPE | | | | 775220 |
| COND. | DEMINE. | EXIT | WATER | QUANTITY | | 775260 |
| COND. | DEMINE. | INLET | EXIT | WATER | QUANTITY | 775270 |
| COND. | DEMINE. | ALLOWABL | E SEA | WATER | LEAK | 775280 |
| LWDS | BORIC | ACID | PURIFY | DEMINE. | | 802310 |
| LWDS | BORIC | ACID | PURIFY | DEMINE. | FILTER | 802330 |
| LWDS | DEMINE. | TYPE AND | NUMBER | | | 802660 |
| MAKE-UP | WATER | DEMINE. | CAPACITY | WATER | QUALITY | 831220 |

| | |
|---------------|--------|
| SEE PAGE***D- | 123*** |
| SEE PAGE***D- | 125*** |
| SEE PAGE***D- | 125*** |
| SEE PAGE***D- | 129*** |
| SEE PAGE***D- | 129*** |
| SEE PAGE***D- | 129*** |
| SEE PAGE***D- | 151*** |
| SEE PAGE***D- | 163*** |
| SEE PAGE***D- | 164*** |
| SEE PAGE***D- | 164*** |
| SEE PAGE***D- | 164*** |
| SEE PAGE***D- | 196*** |
| SEE PAGE***D- | 196*** |
| SEE PAGE***D- | 203*** |
| SEE PAGE***D- | 219*** |

D.G.

| | | | | | | |
|--------------|-----------|--|--------|------|----------|--------|
| D.G. | ENGINE | | | | | 794220 |
| J.G. | GENERATOR | | NUMBER | TYPE | CAPACITY | 794240 |
| D.G.LOAD (1) | | | | | | 794440 |
| D.G.LOAD (2) | | | | | | 794460 |
| D.G.LOAD (3) | | | | | | 794480 |

| | |
|---------------|--------|
| SEE PAGE***D- | 180*** |
| SEE PAGE***D- | 181*** |
| SEE PAGE***D- | 182*** |
| SEE PAGE***D- | 182*** |
| SEE PAGE***D- | 182*** |

DNBR

| | | | | | | |
|------|--|--|--|--|--|--------|
| DNBR | | | | | | 843830 |
|------|--|--|--|--|--|--------|

| | |
|---------------|--------|
| SEE PAGE***D- | 234*** |
|---------------|--------|

DNBR

DOPPLER

DOPPLER

PLANT PERFORMANCE DATA SAKUIN

DATE=08/17/76

PAGE***S- 7***

DOSE

| | | | | | |
|----------|----------|------------------|----------|------------------|--------|
| MCA | BWR LOC | ESTIMATION | OF | IRRADIATION DOSE | 43160 |
| MCA HA | PWR LOPC | ESTIMATION | OF | IRRADIATION DOSE | 43170 |
| HA | BWR LOC | ESTIMATION | OF | IRRADIATION DOSE | 43180 |
| NATIONAL | HEREDITY | IRRADIATION DOSE | HA | | 43190 |
| BWR MCA | BWR MSTR | ESTIMATION | OF | IRRADIATION DOSE | 43260 |
| MCA HA | PWR SGTR | ESTIMATION | OF | IRRADIATION DOSE | 43270 |
| BWR HA | BWR MSTR | ESTIMATION | OF | IRRADIATION DOSE | 43280 |
| PRESSURE | VESSEL | APPLIED | STANDARD | LIFE AND N. DOSE | 736600 |

| | |
|---------------|-------|
| SEE PAGE***D- | 29*** |
| SEE PAGE***D- | 30*** |
| SEE PAGE***D- | 30*** |
| SEE PAGE***D- | 31*** |
| SEE PAGE***D- | 33*** |
| SEE PAGE***D- | 34*** |
| SEE PAGE***D- | 34*** |
| SEE PAGE***D- | 99*** |

DOSE

DRUM

| | | | |
|-------------|------|----------|--------|
| KIND OF SWD | DRUM | QUANTITY | 954100 |
|-------------|------|----------|--------|

| | |
|---------------|--------|
| SEE PAGE***D- | 241*** |
|---------------|--------|

DRUM

DRY-WELL

| | | | | | | |
|-----------|-----------|------------|----------|----------|----------|--------|
| ACC. ANA. | RECIRC. | RUPTURE | DRY-WELL | P-CHANGE | LOC | 35320 |
| MCA HA | BWR LOC | FP LEAK | RATE | FROM | DRY-WELL | 43110 |
| DRY-WELL | TYPE | SIZE | | | | 822220 |
| DRY-WELL | FREE | VOLUME | DESIGN-P | DESIGN-T | LEAKRATE | 822240 |
| DRY-WELL | DIAPHRAGM | FLOOR | | | | 822270 |
| DRY-WELL | VACUUM | RELIEF | DEVICE | | | 822272 |
| DRY-WELL | FGCS | BLOWER | | | | 822274 |
| DRY-WELL | FGCS | RECOMBINER | | | | 822275 |
| DRY-WELL | FGCS | COOLER | | | | 822276 |
| DRY-WELL | INERTGAS | SYSTEM | LIQ-N2 | STORAGE | TANK | 822278 |
| DRY-WELL | SPRAY | HEADER | | | | 822279 |
| DRY-WELL | S.CHAMB. | MATERIAL | NOT | | | 822280 |

| | |
|---------------|--------|
| SEE PAGE***D- | 23*** |
| SEE PAGE***D- | 27*** |
| SEE PAGE***D- | 209*** |
| SEE PAGE***D- | 210*** |
| SEE PAGE***D- | 210*** |
| SEE PAGE***D- | 210*** |
| SEE PAGE***D- | 211*** |
| SEE PAGE***D- | 211*** |
| SEE PAGE***D- | 211*** |
| SEE PAGE***D- | 211*** |
| SEE PAGE***D- | 211*** |
| SEE PAGE***D- | 211*** |
| SEE PAGE***D- | 211*** |
| SEE PAGE***D- | 212*** |

DRY-WELL

DUMP COND.

| | | | |
|------------|------|--------|--------|
| DUMP COND. | TYPE | NUMBER | 773600 |
|------------|------|--------|--------|

| | |
|---------------|--------|
| SEE PAGE***D- | 161*** |
|---------------|--------|

DUMP COND.

EARTHQUAKE-PROOF

| | | | | | |
|------------------|----------|------|------------------|--------|--------|
| EARTHQUAKE-PROOF | DESIGN | GAL | | 853400 | |
| TURBINE | BUILDING | SIZE | EARTHQUAKE-PROOF | GRADE | 856300 |

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| SEE PAGE***D- | 235*** |
| SEE PAGE***D- | 236*** |

EARTHQUAKE-PROOF

E.GENER.

| | | |
|----------|-----------------|--------|
| E.GENER. | TYPE AND NUMBER | 793220 |
|----------|-----------------|--------|

| | |
|---------------|--------|
| SEE PAGE***D- | 179*** |
|---------------|--------|

E.GENER.

EFFECT. LENGTH

| | | | |
|-------------|----------------|-----------------|--------|
| FUEL ROD | EFFECT. LENGTH | AND ASSY LENGTH | 732460 |
| CONTROL ROD | EFFECT. LENGTH | AND STROKE | 733220 |

| | |
|---------------|-------|
| SEE PAGE***D- | 69*** |
| SEE PAGE***D- | 85*** |

EFFECT. LENGTH

ENGINEER

| | | |
|----------|--|--------|
| ENGINEER | | 520200 |
|----------|--|--------|

| | |
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| SEE PAGE***D- | 39*** |
|---------------|-------|

ENGINEER

ENRICH

| | | | | | |
|------|------|--------|--------|-----|--------|
| FUEL | UO-2 | PELLET | ENRICH | BWR | 732620 |
| FUEL | UO-2 | PELLET | ENRICH | PWR | 732630 |

| | |
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| SEE PAGE***D- | 74*** |
| SEE PAGE***D- | 75*** |

ENRICH

EXPANSION

| | | | | |
|-------------------|----|------|--------|--------|
| THERMAL EXPANSION | OF | UO-2 | PELLET | 732350 |
|-------------------|----|------|--------|--------|

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| SEE PAGE***D- | 63*** |
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EXPANSION

PLANT PERFORMANCE DATA SAKUIN

DATE=08/17/76

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EXPANSION

| | | | | |
|-------------------|----|-----|----------|--------|
| THERMAL EXPANSION | OF | ZRY | CLADDING | 732360 |
|-------------------|----|-----|----------|--------|

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| SEE PAGE***D- | 63*** |
|---------------|-------|

EXPANSION

FEED.W.

| | | | | | |
|---------|---------|-----------------|-------|----------|--------|
| FEED.W. | SYSTEM | COMPONENTS | | 776200 | |
| FEED.W. | SYSTEM | GROUND | STEAM | CONDENS. | 776210 |
| FEED.W. | HEATER | TYPE | AND | NUMBER | 776220 |
| FEED.W. | PUMP | TYPE AND NUMBER | | | 777260 |
| FEED.W. | BOOSTER | PUMP | | | 777280 |
| AUX. | FEED.W. | PUMP | | | 777320 |

| | |
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| SEE PAGE***D- | 165*** |
| SEE PAGE***D- | 165*** |
| SEE PAGE***D- | 166*** |
| SEE PAGE***D- | 168*** |
| SEE PAGE***D- | 168*** |
| SEE PAGE***D- | 169*** |

FEED.W.

FILTER

| | | | | | | |
|-----------|---------|-----------------|----------|----------------|----------|--------|
| CVCS | COOLANT | FILTER | | 762580 | | |
| CVCS | SHAFT | SEAL | WATER | INJECT. FILTER | 762620 | |
| CVCS | BORIC | ACID | FILTER | | 762640 | |
| SFP | SPENT | FUEL | PIT | FILTER | 768800 | |
| SFP | SPENT | FUEL | PIT | SKIMMER FILTER | 768840 | |
| OFF GAS | FILTER | FROM | AIR | EXTRACTOR | 801420 | |
| OFF GAS | POST | FILTER | | | 801421 | |
| OFF GAS | FILTER | FROM | GRAND | STEAM | 801430 | |
| LWDS | BORIC | ACID | PURIFY | DEMINE. FILTER | 802330 | |
| LWDS | FILTER | TYPE AND NUMBER | | | 802630 | |
| SWDS | SYSTEM | DRAIN | FILTER | SLUDGE | STORAGE | 803500 |
| CONTAINER | R | ANNULUS | AIR VENT | FILTER | UNIT | 825720 |
| CONTAINER | R | ANNULUS | AIR VENT | IDDINE | FILTER | 825730 |
| SWD | FILTER | SLUDGE | PRODUCTI | ON RATE | ACTIVITY | 944260 |

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| SEE PAGE***D- | 133*** |
| SEE PAGE***D- | 133*** |
| SEE PAGE***D- | 134*** |
| SEE PAGE***D- | 151*** |
| SEE PAGE***D- | 152*** |
| SEE PAGE***D- | 190*** |
| SEE PAGE***D- | 0*** |
| SEE PAGE***D- | 191*** |
| SEE PAGE***D- | 196*** |
| SEE PAGE***D- | 202*** |
| SEE PAGE***D- | 207*** |
| SEE PAGE***D- | 218*** |
| SEE PAGE***D- | 218*** |
| SEE PAGE***D- | 240*** |

FILTER

FISSION PRODUCT

| | | | | | |
|-----------------|----------|-------|--------|----------|--------|
| FISSION PRODUCT | GENERATE | RATIO | GAS FP | PRESSURE | 732340 |
|-----------------|----------|-------|--------|----------|--------|

| | |
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| SEE PAGE***D- | 63*** |
|---------------|-------|

FISSION PRODUCT

FLOW LIMITER

| | | | | | |
|----------|------|---------|----------|--------|--------|
| M. STEAM | FLOW | LIMITER | TYPE | NUMBER | 753310 |
| M. STEAM | FLOW | LIMITER | P-LOSS | SIZE | 753320 |
| M. STEAM | FLOW | LIMITER | MATERIAL | | 753330 |

| | |
|---------------|--------|
| SEE PAGE***D- | 107*** |
| SEE PAGE***D- | 107*** |
| SEE PAGE***D- | 108*** |

FLOW LIMITER

FLOW RATE COOLANT

| | | | | | | |
|------|---------|-------|-------|------|------|--------|
| CDRE | COOLANT | WATER | STEAM | FLOW | RATE | 731140 |
|------|---------|-------|-------|------|------|--------|

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| SEE PAGE***D- | 47*** |
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FLOW RATE COOLANT

FLOW RATE STEAM

| | | | | | | |
|---------|---------|-------|-------|------|------|--------|
| CDRE | COOLANT | WATER | STEAM | FLOW | RATE | 731140 |
| REACTOR | STEAM | FLOW | RATE | T/H | | 731300 |

| | |
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| SEE PAGE***D- | 47*** |
| SEE PAGE***D- | 55*** |

FLOW RATE STEAM

FP

| | | | | | | | |
|--------|----------|----|---------|---------|------|----------|-------|
| MCA HA | BWR LOC | FP | LEAK | RATE | FROM | DRY-WELL | 43110 |
| MCA HA | BWR LOC | FP | RELEASE | FROM | FUEL | | 43120 |
| MCA HA | PWR LOPC | FP | GAS | RELEASE | FROM | | 43130 |
| MCA HA | BWR LOC | FP | GAS | RELEASE | FROM | BUILDING | 43140 |
| MCA HA | PWR LOPC | FP | GAS | RELEASE | FROM | BUILDING | 43150 |
| MCA HA | BWR MSTR | FP | RELEASE | FROM | FUEL | | 43220 |

| | |
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| SEE PAGE***D- | 27*** |
| SEE PAGE***D- | 27*** |
| SEE PAGE***D- | 28*** |
| SEE PAGE***D- | 28*** |
| SEE PAGE***D- | 29*** |
| SEE PAGE***D- | 31*** |

FP

FP

| | | | | | | | |
|---------|----------|----------|-------|----------|----------|----------|--------|
| MCA HA | BWR MSTR | FP | GAS | RELEASE | FROM | BUILDING | 43240 |
| MCA HA | PWR SGTR | FP | GAS | RELEASE | FROM | BUILDING | 43250 |
| FISSION | PHDDUCT | GENERATE | RATIO | GAS FP | PRESSURE | | 732340 |
| UO-2 | PELLET | SOLID | FP | SWELLING | RATE | | 732380 |

| | |
|---------------|-------|
| SEE PAGE***D- | 32*** |
| SEE PAGE***D- | 32*** |
| SEE PAGE***D- | 63*** |
| SEE PAGE***D- | 63*** |

FUEL ASSY

| | | | | | | | |
|------|---------|----------|----------|----------|---------|--|--------|
| CORE | FUEL | ASSY | NUMBER | | | | 732200 |
| FUEL | SPACER | NUMBER | PER ASSY | MATERIAL | TYPE | | 732220 |
| FUEL | ASSY | SIZE | PWR | | | | 732250 |
| UO-2 | WEIGHT | PER FUEL | ASSY | KGUO-2/ | ASSY | | 732260 |
| FUEL | ASSY | TOTAL | WEIGHT | KG (INC | H-WARE) | | 732280 |
| FUEL | ROD | EFFECT. | LENGTH | AND ASSY | LENGTH | | 732460 |
| FUEL | ROD NO. | PER ASSY | AND ROD | PITCH | ARRANGE | | 732480 |
| FUEL | ASSY | VERTICAL | ITY | CHECK | METHOD | | 732490 |

| | |
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| SEE PAGE***D- | 56*** |
| SEE PAGE***D- | 58*** |
| SEE PAGE***D- | 60*** |
| SEE PAGE***D- | 60*** |
| SEE PAGE***D- | 61*** |
| SEE PAGE***D- | 69*** |
| SEE PAGE***D- | 71*** |
| SEE PAGE***D- | 72*** |

FUEL STORAGE

| | | | | | | | |
|----------|---------|---------|---------|------|--|--|--------|
| NEW FUEL | STORAGE | | | | | | 762142 |
| SPENT | FUEL | STORAGE | POOL | | | | 762144 |
| FUEL | POND | SLUDGE | STORAGE | TANK | | | 803490 |

| | |
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| SEE PAGE***D- | 122*** |
| SEE PAGE***D- | 123*** |
| SEE PAGE***D- | 207*** |

FW

| | | | | | | | |
|----------|-----|----------|-------|------|------|----|-------|
| PERFORMA | NCE | EVALUATI | ON OF | ECCS | LOCA | FW | 35600 |
|----------|-----|----------|-------|------|------|----|-------|

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| SEE PAGE***D- | 24*** |
|---------------|-------|

GAP

| | | | | | | | |
|----------|----------|----------|--------|------|----------|-----|--------|
| FUEL ROD | CLADDING | MATERIAL | THICK. | D.D. | DIA. | GAP | 732440 |
| GAP | CONDUCTA | NCE | PELLET | AND | CLADDING | | 732700 |

| | |
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| SEE PAGE***D- | 66*** |
| SEE PAGE***D- | 81*** |

GAS

| | | | | | | | |
|----------|----------|----------|----------|----------|----------|----------|--------|
| MCA HA | PWR LOPC | FP | GAS | RELEASE | FROM | FUEL | 43130 |
| MCA HA | BWR LOC | FP | GAS | RELEASE | FROM | BUILDING | 43140 |
| MCA HA | PWR LOPC | FP | GAS | RELEASE | FROM | BUILDING | 43150 |
| MCA HA | BWR MSTR | FP | GAS | RELEASE | FROM | BUILDING | 43240 |
| MCA HA | PWR SGTR | FP | GAS | RELEASE | FROM | BUILDING | 43250 |
| FISSION | PRODUCT | GENERATE | RATIO | GAS FP | PRESSURE | | 732340 |
| OFF GAS | PRE | HEATER | NUMBER | AND TYPE | | | 801220 |
| OFF GAS | RECOMBIN | ER | NUMBER | AND TYPE | | | 801240 |
| OFF GAS | COND. | NO. | | | | | 801260 |
| OFF GAS | COMPRESS | OR | NUMBER | TYPE AND | PRESSURE | | 801280 |
| OFF GAS | CHARCOAL | HOLD UP | | | | | 801320 |
| OFF GAS | VACUUM | PUMP | | | | | 801340 |
| OFF GAS | AIR | EJECTOR | | | | | 801350 |
| OFF GAS | DECAY | TANK | NUMBER | CAPACITY | PRESSURE | | 801400 |
| OFF GAS | FILTER | FROM | AIR | EXTRACTO | R | | 801420 |
| OFF GAS | POST | FILTER | | | | | 801421 |
| OFF GAS | FILTER | FROM | GRAND | STEAM | | | 801430 |
| DEAERATO | R OFF | GAS | ISOLATE | VALVE | NUMBER | | 801440 |
| OFF GAS | DECAY | TUBE | SIZE AND | HOLD UP | TIME | | 801480 |
| EGMSIRC | EME+GAS | RECIRC. | SYST. IN | REACTOR | CONTAIN | | 822292 |
| EGVSIRC | EME+GAS | VENT. | SYST. IN | REACTOR | CONTAIN | | 822294 |

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| SEE PAGE***D- | 28*** |
| SEE PAGE***D- | 28*** |
| SEE PAGE***D- | 29*** |
| SEE PAGE***D- | 32*** |
| SEE PAGE***D- | 32*** |
| SEE PAGE***D- | 63*** |
| SEE PAGE***D- | 187*** |
| SEE PAGE***D- | 188*** |
| SEE PAGE***D- | 188*** |
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| SEE PAGE***D- | 191*** |
| SEE PAGE***D- | 191*** |
| SEE PAGE***D- | 191*** |
| SEE PAGE***D- | 191*** |
| SEE PAGE***D- | 212*** |
| SEE PAGE***D- | 212*** |

GAS

| | | | | | | | |
|------------|------------|--------------|------------|----------|----------|--|--------|
| RAD. | LEVEL | NORMAL | WASTE | GAS | DISPOSAL | | 942000 |
| GENERATO R | | SEE E.GENER. | | | | | |
| AB-TRA | GENERATO R | TRIP | | | | | 23100 |
| D.G. | GENERATO R | NUMBER | TYPE | CAPACITY | | | 794240 |
| HPCS | DIESEL | GENEKATO R | ENGINE | | | | 794260 |
| HPCS | DIESEL | GENEKATO R | GENERATO R | | | | 794280 |

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| SEE PAGE***D- | 237*** |
| SEE PAGE***D- | 12*** |
| SEE PAGE***D- | 181*** |
| SEE PAGE***D- | 181*** |
| SEE PAGE***D- | 182*** |

GENERATO R TRIP

| | | | | | | | |
|--------|------------|------|--|--|--|--|-------|
| AB-TRA | GENERATO R | TRIP | | | | | 23100 |
|--------|------------|------|--|--|--|--|-------|

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| SEE PAGE***D- | 12*** |
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GUIDE THIMBLE

| | | | | | | | |
|-------|---------|--------------|---------|---------|--|--|--------|
| GUIDE | THIMBLE | FOR CONTROL | ROD | CLUSTER | | | 732820 |
| GUIDE | THIMBLE | FOR INSTRUME | NTATION | | | | 732830 |

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| SEE PAGE***D- | 84*** |
| SEE PAGE***D- | 84*** |

HA

| | | | | | | | |
|----------|----------|----------|----------|----------|----------|----------|-------|
| MCA HA | ITEMS | | | | | | 43000 |
| MCA HA | BWR LOC | FP | LEAK | RATE | FROM | DRY-WELL | 43110 |
| MCA HA | BWR LOC | FP | RELEASE | FROM | FUEL | | 43120 |
| MCA HA | PWR LOPC | FP | GAS | RELEASE | FROM | FUEL | 43130 |
| MCA HA | BWR LOC | FP | GAS | RELEASE | FROM | BUILDING | 43140 |
| MCA HA | PWR LOPC | FP | GAS | RELEASE | FROM | BUILDING | 43150 |
| MCA HA | PWR LOPC | ESTIMATI | ON OF | IRKADIAT | ION DOSE | | 43170 |
| HA | BWR LOC | ESTIMATI | ON OF | IRKADIAT | ION DOSE | | 43180 |
| NATIONAL | HEREDITY | IRKADIAT | ION DOSE | HA | | | 43190 |
| MCA HA | BWR MSTR | FP | RELEASE | FROM | FUEL | | 43220 |
| MCA HA | BWR MSTR | FP | GAS | RELEASE | FROM | BUILDING | 43240 |
| MCA HA | PWR SGTR | FP | GAS | RELEASE | FROM | BUILDING | 43250 |
| MCA HA | PWR SGTR | ESTIMATI | ON OF | IRKADIAT | ION DOSE | | 43270 |
| BWR HA | BWR MSTR | ESTIMATI | ON OF | IRKADIAT | ION DOSE | | 43280 |

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| SEE PAGE***D- | 26*** |
| SEE PAGE***D- | 27*** |
| SEE PAGE***D- | 27*** |
| SEE PAGE***D- | 28*** |
| SEE PAGE***D- | 28*** |
| SEE PAGE***D- | 29*** |
| SEE PAGE***D- | 30*** |
| SEE PAGE***D- | 30*** |
| SEE PAGE***D- | 31*** |
| SEE PAGE***D- | 31*** |
| SEE PAGE***D- | 32*** |
| SEE PAGE***D- | 32*** |
| SEE PAGE***D- | 34*** |
| SEE PAGE***D- | 34*** |

HEAT FLUX

| | | | | | | | |
|----------|------|------|-----|------|--|--|--------|
| H.TRANS. | HEAT | FLUX | MAX | MEAN | | | 843220 |
|----------|------|------|-----|------|--|--|--------|

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| SEE PAGE***D- | 228*** |
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HEAT GENERATE RATIO

| | | | | | | | |
|------|----------|-------|---------|-------|--|--|--------|
| HEAT | GENERATE | RATIO | FUEL VS | TOTAL | | | 843840 |
|------|----------|-------|---------|-------|--|--|--------|

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| SEE PAGE***D- | 234*** |
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HEAT TRANS. AREA

| | | | | | | | |
|------|------|--------|------|-----|------|------|--------|
| FUEL | HEAT | TRANS. | AREA | AND | FLOW | AREA | 843240 |
|------|------|--------|------|-----|------|------|--------|

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| SEE PAGE***D- | 230*** |
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HEAT TRANSFER

| | | | | | | | |
|------|----------|-------|----------|-------|--|--|--------|
| HEAT | TRANSFER | COEF. | CLADDING | WATER | | | 732760 |
|------|----------|-------|----------|-------|--|--|--------|

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| SEE PAGE***D- | 82*** |
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HEREDITY

| | | | | | | | |
|----------|----------|----------|----------|----|--|--|-------|
| NATIONAL | HEREDITY | IRKADIAT | ION DOSE | HA | | | 43190 |
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| SEE PAGE***D- | 31*** |
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H.EXCH.

H.EXCH.

PLANT PERFORMANCE DATA SAKUIN

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PAGE***S- 11***

H.EXCH.

| | | | | | | |
|----------|----------|----------|----------|----------|----------|--------|
| RWPS | CVCS | REGENE. | H.EXCH. | TYPE NO. | CAPACITY | 762260 |
| RWPS | CVCS | NON-REG. | H.EXCH. | TYPE NO. | CAPACITY | 762280 |
| CVCS | SURPLUS | HFAT | EXTRACT. | H.EXCH. | | 762300 |
| CVCS | SHAFT | SEAL | WATER | H.EXCH. | | 762320 |
| RHRS | H.EXCH. | TYPE | NUMBER | CAPACITY | MATERIAL | 764620 |
| SAMPLE | H.EXCH. | | TYPE | NUMBER | CAPACITY | 765620 |
| REACTOR | AUX.COOL | SYSTEM | H.EXCH. | TYPE AND | NUMBER | 768220 |
| SFP | SPENT | FUEL | PIT | H.EXCH. | | 768720 |
| 2NDARY.S | AUX.CCS | BEARING | COOLANT | H.EXCH. | | 777600 |
| TURBINE | AUX. | COOL | H.EXCH. | TYPE AND | NUMBER | 779240 |
| WDACS | H.EXCH. | | | | | 779360 |
| ECUCS | EGCS | H.EXCH. | | | | 779460 |
| ECUCS | RHRS-CCS | H.EXCH. | | | | 779560 |
| ECUCS | HPCSDGCS | H.EXCH. | | | | 779660 |
| CONTAINR | R | SPRAY | H.EXCH. | | | 825450 |

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| SEE PAGE***D- | 126*** |
| SEE PAGE***D- | 127*** |
| SEE PAGE***D- | 128*** |
| SEE PAGE***D- | 128*** |
| SEE PAGE***D- | 141*** |
| SEE PAGE***D- | 143*** |
| SEE PAGE***D- | 148*** |
| SEE PAGE***D- | 150*** |
| SEE PAGE***D- | 170*** |
| SEE PAGE***D- | 172*** |
| SEE PAGE***D- | 173*** |
| SEE PAGE***D- | 174*** |
| SEE PAGE***D- | 175*** |
| SEE PAGE***D- | 175*** |
| SEE PAGE***D- | 217*** |

HIGH-P. INJECT. SYSTEM

| | | | | | | |
|---------|---------|--------|--------|----------|--|--------|
| HIGH-P. | INJECT. | SYSTEM | DRIVER | TYPE | | 766020 |
| HIGH-P. | INJECT. | SYSTEM | DRIVER | PROPERTY | | 766030 |
| HIGH-P. | INJECT. | SYSTEM | DRIVER | PROPERTY | | 766040 |
| HIGH-P. | INJECT. | SYSTEM | DRIVER | MATERIAL | | 766050 |
| HIGH-P. | INJECT. | SYSTEM | PUMP | PROPERTY | | 766440 |

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| SEE PAGE***D- | 144*** |
| SEE PAGE***D- | 144*** |
| SEE PAGE***D- | 144*** |
| SEE PAGE***D- | 145*** |
| SEE PAGE***D- | 145*** |

HISTORY

| | | | | | | |
|---------|----|----------|----------|----------|----------|-----|
| HISTORY | OF | CONSTRUC | TION | PERMIT | | 110 |
| HISTORY | OF | CONSTRUC | TION | PERMIT | APPLICAT | 120 |
| HISTORY | OF | CONSTRUC | TION AND | OPERATIO | N | 300 |

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| SEE PAGE***D- | 1** |
| SEE PAGE***D- | 2** |
| SEE PAGE***D- | 4** |

ICE COND

| | | | | | | |
|----------|----------|----------|-----|------|----------|--------|
| ICE | COND. | SIZE | | | | 825000 |
| ICE COND | CAPACITY | COMPARTM | ENT | DOOR | OPERAT-P | 825200 |

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| SEE PAGE***D- | 216*** |
| SEE PAGE***D- | 216*** |

IMPORTED COMPONENTS

| | | | | | | |
|----------|----------|----|--|--|--|-----|
| IMPORTED | COMPUNEN | TS | | | | 200 |
|----------|----------|----|--|--|--|-----|

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| SEE PAGE***D- | 3** |
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IN-CORE MONITOR

| | | | | | | |
|---------|---------|---------|---------|--------|----|--------|
| KIND OF | IN-CORE | MONITOR | CHANNEL | NUMBER | | 781100 |
| IN-CORE | MONITOR | NEUTRON | FLUX | LEVEL | NV | 781200 |

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| SEE PAGE***D- | 176*** |
| SEE PAGE***D- | 176*** |

INITIAL

| | | | | | | |
|---------|----------|----------|----------|----------|----------|--------|
| AB-TRA | MALFUNC. | OF | INITIAL | PRESSURE | ADJUSTER | 23400 |
| P.V.NDT | INITIAL | FINAL | HEAT AND | COOLING | RATE | 736300 |
| N.DATA | EFFECT. | MULTIPLI | CATION | CONST.OF | INITIAL | 842280 |
| N.DATA | BORON | CONCENTR | ATION | INITIAL | CORE | 842300 |

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| SEE PAGE***D- | 15*** |
| SEE PAGE***D- | 97*** |
| SEE PAGE***D- | 225*** |
| SEE PAGE***D- | 226*** |

IRRADIATION DOSE

| | | | | | | | | |
|-----|---------|----------|----------|----|----------|----------|----------|-------|
| MCA | BWR LOC | ESTIMATI | ON | OF | IRRADIAT | ION DOSE | 43160 | |
| MCA | HA | PWR LOPC | ESTIMATI | ON | OF | IRRADIAT | ION DOSE | 43170 |
| HA | BWR LOC | ESTIMATI | ON | OF | IRRADIAT | ION DOSE | 43180 | |

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| SEE PAGE***D- | 30*** |

PLANT PERFORMANCE DATA SAKUIN

DATE=08/17/76

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IRRADIATION DOSE

| | | | | | | | |
|----------|----------|----------|----------|----|----------|----------|-------|
| NATIONAL | HEREDITY | IRRADIAT | ION DOSE | HA | | 43190 | |
| BWR MCA | BWR MSTR | ESTIMATI | ON | OF | IRRADIAT | ION DOSE | 43260 |
| MCA HA | PWR SGTR | ESTIMATI | ON | OF | IRRADIAT | ION DOSE | 43270 |
| BWR HA | BWR MSTR | ESTIMATI | ON | OF | IRRADIAT | ION DOSE | 43280 |

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| SEE PAGE***D- | 31*** |
| SEE PAGE***D- | 33*** |
| SEE PAGE***D- | 34*** |
| SEE PAGE***D- | 34*** |

JET PUMP

| | | | | | | |
|----------|----------|----------|-------|--------|----------|--------|
| JET PUMP | NUMBER | CAPACITY | | | | 738200 |
| JET PUMP | FLOW AND | PRESSURE | RATIO | AND | EFFICIE. | 738400 |
| JET PUMP | SIZE AND | VELOCITY | AT | NOZZLE | | 738600 |

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| SEE PAGE***D- | 101*** |
| SEE PAGE***D- | 101*** |
| SEE PAGE***D- | 101*** |

LEAK

| | | | | | | |
|----------|----------|----------|----------|----------|----------|--------|
| MCA HA | BWR LOC | FP LEAK | RATE | FROM | DRY-WELL | 43110 |
| M.STEAM | 3RD | VALVE | TYPE NO. | LEAK | RATE | 753500 |
| COND. | DEMINE. | ALLOWABL | E SEA | WATER | LEAK | 775280 |
| DRY-WELL | FREE | VOLUME | DESIGN-P | DESIGN-T | LEAKRATE | 822240 |
| REACTOR | BUILDING | DESIGN | LEAK | RATE | | 827400 |

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| SEE PAGE***D- | 27*** |
| SEE PAGE***D- | 109*** |
| SEE PAGE***D- | 164*** |
| SEE PAGE***D- | 210*** |
| SEE PAGE***D- | 219*** |

LINEAR HEAT RATING

| | | | | | | |
|------|--------|------|--------|------|--|--------|
| FUEL | LINEAR | HEAT | RATING | W/CM | | 732660 |
|------|--------|------|--------|------|--|--------|

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| SEE PAGE***D- | 78*** |
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LOC

| | | | | | | | |
|----------|---------|----------|----------|----------|----------|----------|-------|
| ACC.ANA. | RECIRC. | RUPTURE | DRY-WELL | P-CHANGE | LOC | 35320 | |
| MCA HA | BWR LOC | FP LEAK | RATE | FROM | DRY-WELL | 43110 | |
| MCA HA | BWR LOC | FP | RELEASE | FROM | FUEL | 43120 | |
| MCA HA | BWR LOC | FP GAS | RELEASE | FROM | BUILDING | 43140 | |
| MCA | BWR LOC | ESTIMATI | ON | OF | IRRADIAT | ION DOSE | 43160 |
| HA | BWR LOC | ESTIMATI | ON | OF | IRRADIAT | ION DOSE | 43180 |

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| SEE PAGE***D- | 23*** |
| SEE PAGE***D- | 27*** |
| SEE PAGE***D- | 27*** |
| SEE PAGE***D- | 28*** |
| SEE PAGE***D- | 29*** |
| SEE PAGE***D- | 30*** |

LOCA ECCS

| | | | | | | | |
|----------|-----|----------|----|----|------|---------|-------|
| PERFORMA | NCE | EVALUATI | ON | OF | ECCS | LOCA FN | 35600 |
|----------|-----|----------|----|----|------|---------|-------|

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| SEE PAGE***D- | 24*** |
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LOPC

| | | | | | | | |
|--------|----------|----------|---------|------|----------|----------|-------|
| MCA HA | PWR LOPC | FP GAS | RELEASE | FROM | FUEL | 43130 | |
| MCA HA | PWR LOPC | FP GAS | RELEASE | FROM | BUILDING | 43150 | |
| MCA HA | PWR LOPC | ESTIMATI | ON | OF | IRRADIAT | ION DOSE | 43170 |

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| SEE PAGE***D- | 28*** |
| SEE PAGE***D- | 29*** |
| SEE PAGE***D- | 30*** |

LWD

| | | | | | | |
|-----|----------|-------|------------|----------|--|--------|
| LWD | (LIQUID | WASTE | DISPOSAL) | QUANTITY | | 953100 |
|-----|----------|-------|------------|----------|--|--------|

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| SEE PAGE***D- | 241*** |
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LWDS

| | | | | | | | |
|------|----------|-------|----------|----------|----------|------|--------|
| LWDS | TANK | LIST | PWR | BORON | STORAGE | TANK | 802100 |
| LWDS | CONDENSE | D | STORAGE | TANK | | | 802110 |
| LWDS | LIQUID | WASTE | STORAGE | TANK | | | 802120 |
| LWDS | LIQUID | WASTE | HOLD UP | TANK | | | 802130 |
| LWDS | LIQUID | WASTE | EVAPULAT | OR CONDE | NSE TANK | | 802140 |
| LWDS | LIQUID | WASTE | SUMP | TANK | | | 802150 |
| LWDS | AUX. BUJ | LDING | SUMP | TANK | | | 802160 |
| LWDS | HOLDUP | | | TANK | | | 802170 |

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| SEE PAGE***D- | 192*** |
| SEE PAGE***D- | 192*** |
| SEE PAGE***D- | 192*** |
| SEE PAGE***D- | 193*** |
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LWDS

LWDS

| | | | | | | | | |
|------|-----------|----------|----------|---------------|--------|--------|---------------|--------|
| LWDS | RESIN | RECLAIM | LIQUID | WASTE | HOLDUP | 802180 | SEE PAGE***D- | 194*** |
| LWDS | CHEMICAL | S | DRAIN | TANK | | 802190 | SEE PAGE***D- | 194*** |
| LWDS | WATCH | TANK | | | | 802200 | SEE PAGE***D- | 194*** |
| LWDS | MONITOR | | | | TANK | 802210 | SEE PAGE***D- | 194*** |
| LWDS | WASHING | WATER | TANK | | | 802220 | SEE PAGE***D- | 194*** |
| LWDS | PROCESS | WATER | HOLDUP | TANK | | 802230 | SEE PAGE***D- | 195*** |
| LWDS | CHEMICAL | FLUID | DRAIN | TANK | | 802240 | SEE PAGE***D- | 195*** |
| LWDS | FLOOR | DRAIN | TANK | | | 802250 | SEE PAGE***D- | 195*** |
| LWDS | PRIMARY | COOLANT | STORAGE | TANK | | 802260 | SEE PAGE***D- | 195*** |
| LWDS | PRIMARY | COOLANT | STORAGE | TANK | | 802270 | SEE PAGE***D- | 195*** |
| LWDS | LIQUID | WASTE | EVAPULAT | OR | | 802290 | SEE PAGE***D- | 196*** |
| LWDS | BORIC | ACID | RECOVERY | SYSTEM | | 802300 | SEE PAGE***D- | 196*** |
| LWDS | BORIC | ACID | PURIFY | DEMINE. | | 802310 | SEE PAGE***D- | 196*** |
| LWDS | BORIC | ACID | PURIFY | DEMINE. | FILTER | 802330 | SEE PAGE***D- | 196*** |
| LWDS | BORIC | ACID | EVAP.C.W | DEMINE.RA | LIZER | 802350 | SEE PAGE***D- | 196*** |
| LWDS | LIQUID | WASTE | EVAP. | COND.W | TANK | 802370 | SEE PAGE***D- | 197*** |
| LWDS | ION | EXCH. | | | | 802390 | SEE PAGE***D- | 197*** |
| LWDS | TANK | LIST | | | | 802400 | SEE PAGE***D- | 197*** |
| LWDS | NEUTRALI | ZER | ANNEXING | TANK | | 802410 | SEE PAGE***D- | 198*** |
| LWDS | CONDENSE | D | WATER | SAMPLE | TANK | 802420 | SEE PAGE***D- | 0*** |
| LWDS | CONDENSE | D | WATER | COLLECT | TANK | 802430 | SEE PAGE***D- | 0*** |
| LWDS | LIQUID | WASTE | NEUTRALI | ZATION | TANK | 802440 | SEE PAGE***D- | 198*** |
| LWDS | LIQUID | WASTE | SAMPLING | TANK | | 802450 | SEE PAGE***D- | 198*** |
| LWDS | LIQUID | WASTE | SURGE | TANK | | 802460 | SEE PAGE***D- | 199*** |
| LWDS | LIQUID | WASTE | COLLECT | TANK | | 802470 | SEE PAGE***D- | 199*** |
| LWDS | EVAPORAT | OR | SURGE | TANK | | 802480 | SEE PAGE***D- | 199*** |
| LWDS | DISTILLED | WATER | SURGE | TANK | | 802490 | SEE PAGE***D- | 199*** |
| LWDS | SYSTEM | DRAIN | FILTRATE | TANK | | 802500 | SEE PAGE***D- | 200*** |
| LWDS | SYSTEM | DRAIN | SAMPLING | TANK | | 802510 | SEE PAGE***D- | 200*** |
| LWDS | SYSTEM | DRAIN | SURGE | TANK | | 802520 | SEE PAGE***D- | 0*** |
| LWDS | SYSTEM | DRAIN | COLLECT | TANK | | 802530 | SEE PAGE***D- | 200*** |
| LWDS | LAUNDRY | DRAIN | | TANK | | 802540 | SEE PAGE***D- | 200*** |
| LWDS | PNECOAT | | | TANK | | 802550 | SEE PAGE***D- | 201*** |
| LWDS | FILTRATI | ON AUX. | AGENT | TANK | | 802560 | SEE PAGE***D- | 201*** |
| LWDS | FILTRATE | D WASTE | COLLECT | TANK | | 802570 | SEE PAGE***D- | 0*** |
| LWDS | WASHING | WASTE | COLLECT | TANK | | 802580 | SEE PAGE***D- | 201*** |
| LWDS | FLOOR | DRAIN | FILTRATE | TANK | | 802590 | SEE PAGE***D- | 201*** |
| LWDS | FLOOR | DRAIN | SAMPLING | TANK | | 802600 | SEE PAGE***D- | 202*** |
| LWDS | FLOOR | DRAIN | COLLECT | TANK | | 802610 | SEE PAGE***D- | 202*** |
| LWDS | GENERAL | WASTE | SURGE | TANK | | 802620 | SEE PAGE***D- | 0*** |
| LWDS | FILTER | TYPE AND | NUMBER | | | 802630 | SEE PAGE***D- | 202*** |
| LWDS | DECONTAM | I. FACTO | R OF FIL | TER | | 802640 | SEE PAGE***D- | 202*** |
| LWDS | DEMINE. | TYPE AND | NUMBER | | | 802660 | SEE PAGE***D- | 203*** |
| LWDS | DECONTAM | I. FACTO | R OF DEM | INC. | | 802680 | SEE PAGE***D- | 203*** |
| LWDS | LIQUID | WASTE | CONDENR | ATOR NO. TYPE | | 802820 | SEE PAGE***D- | 203*** |
| LWDS | LIQUID | WASTE | CONCENTR | ATOR | | 802840 | SEE PAGE***D- | 203*** |

| | | | | | | | | |
|------|-------|------|--------|--|--------|---------------|--------|-------|
| MAIN | COND. | | | | | | MAIN | COND. |
| MAIN | COND. | TYPE | NUMBER | | 773220 | SEE PAGE***D- | 159*** | |

| | | | | | | | | |
|---------|---------|----------|----------|----------|----------|--------|---------------|---------|
| MAIN | COND. | | | | | | MAIN | COND. |
| MAIN | COND. | H.TRANS | AREA AND | EXHAUST | FLOW | 773240 | SEE PAGE***D- | 160*** |
| MAIN | COND. | TUBE | MATERIAL | | | 773280 | SEE PAGE***D- | 161*** |
| SEA | WATER | CIRC. | SYSTEM | FOR MAIN | COND. | 778220 | SEE PAGE***D- | 171*** |
| MAIN | STEAM | SYSTEM | | | | | MAIN | STEAM |
| MAIN | STEAM | SYSTEM | | | | | MAIN | STEAM |
| KIND OF | AB-TRA | FROM | MAIN | STEAM | SYSTEM | 23000 | SEE PAGE***D- | 11*** |
| MAIN | STEAM | SYSTEM | AND FEED | WATER | TEMP. | 751140 | SEE PAGE***D- | 102*** |
| M.STEAM | SYSTEM | MAIN | STEAM | TUBE | PWR | 755010 | SEE PAGE***D- | 112*** |
| MAIN | TURBINE | | | | | | MAIN | TURBINE |
| MAIN | TURBINE | SYSTEM | COMPONEN | TS | PWR | 770000 | SEE PAGE***D- | 153*** |
| MAIN | TURBINE | TYPE | | | | 772220 | SEE PAGE***D- | 153*** |
| MAIN | TURBINE | NUMBER | CAPACITY | SPEED | | 772240 | SEE PAGE***D- | 154*** |
| MAIN | TURBINE | MIST | SEPARATO | R TYPE | NUMBER | 772320 | SEE PAGE***D- | 155*** |
| MAIN | TURBINE | MIST | SEPARATO | R | | 772330 | SEE PAGE***D- | 155*** |
| MAIN | TURBINE | MIST | SEPARATO | R SIZE | | 772340 | SEE PAGE***D- | 155*** |
| MAIN | TURBINE | MIST | SEPARATO | R | MATERIAL | 772350 | SEE PAGE***D- | 155*** |
| MAKE-UP | | | | | | | MAKE-UP | |
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PUMP

PUMP

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| CONTAINER | SPRAY | PUMP | | | | 825410 | SEE PAGE***D- | 216*** |
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| FIRE | PROTECT. | | PUMP | | | 836100 | SEE PAGE***D- | 222*** |

QUANTITY

QUANTITY

| | | | | | | | | |
|---------|----------|--------|------------|----------|----------|---------------|---------------|--------|
| LWD | (LIQUID | WASTE | DISPOSAL) | QUANTITY | 953100 | SEE PAGE***D- | 241*** | |
| KIND OF | SWD | DRUM | QUANTITY | | 954100 | SEE PAGE***D- | 241*** | |
| RAD. | LEVEL | | | | | RAD. | LEVEL | |
| RAD. | LEVEL | NORMAL | WASTE | GAS | DISPOSAL | 942000 | SEE PAGE***D- | 237*** |

| | | | | | | | | |
|------------|-----------|-------------|----------|----------|----------|--------|---------------|------------------|
| RAD. | LEVEL | | | | | RAD. | LEVEL | |
| MAX RAD. | LEVEL | FP TOTAL | IN | REACTOR | WATER | 943220 | SEE PAGE***D- | 237*** |
| MAX RAD. | LEVEL | IBDINE | IN | REACTOR | WATER | 943240 | SEE PAGE***D- | 238*** |
| MAX RAD. | LEVEL | BRATE.MD | IN | REACTOR | WATER | 943260 | SEE PAGE***D- | 238*** |
| MAX RAD. | LEVEL | CDRR-P. (1) | IN | REACTOR | WATER | 943280 | SEE PAGE***D- | 238*** |
| MAX RAD. | LEVEL | CDRR-P. (2) | IN | REACTOR | WATER | 943800 | SEE PAGE***D- | 239*** |
| RAD. | SHIELD | | | | | RAD. | SHIELD | |
| RAD. | SHIELD | REGION | STANDARD | | | 920000 | SEE PAGE***D- | 236*** |
| RCIC | | | | | | | RCIC | |
| RCIC | TURBINE | | | | | 763620 | SEE PAGE***D- | 137*** |
| RCIC | PUMP | | | | | 763640 | SEE PAGE***D- | 137*** |
| REACTIVITY | | | | | | | REACTIVITY | |
| N.DATA | OF REAC | TIVITY | TEMP. | DOPPLER | VOID | 842320 | SEE PAGE***D- | 226*** |
| REACTOR | AUX.COOL | SYSTEM | | | | | REACTOR | AUX.COOL SYSTEM |
| REACTOR | AUX.COOL | SYSTEM | DESIGN-P | DESIGN-T | DESIGN-F | 768000 | SEE PAGE***D- | 147*** |
| REACTOR | AUX.COOL | SYSTEM | H.EXCH. | TYPE AND | NUMBER | 768220 | SEE PAGE***D- | 148*** |
| REACTOR | AUX.COOL | SYSTEM | W-PUMP | TYPE AND | NUMBER | 768420 | SEE PAGE***D- | 149*** |
| REACTOR | AUX.COOL | SYSTEM | C.WATER | SURGE | TANK | 768440 | SEE PAGE***D- | 149*** |
| REACTOR | AUX.COOL | SYSTEM | S.W-PUMP | TYPE | NUMBER | 768620 | SEE PAGE***D- | 150*** |
| REACTOR | AUXILIARY | SYSTEM | | | | | REACTOR | AUXILIARY SYSTEM |
| KIND OF | REACTOR | AUXILIARY | SYSTEM | BWR | | 761000 | SEE PAGE***D- | 120*** |
| KIND OF | REACTOR | AUXILIARY | SYSTEM | PWR | | 761100 | SEE PAGE***D- | 120*** |
| REACTOR | TYPE | | | | | | REACTOR | TYPE |
| REACTOR | TYPE | BWR | | | | 110200 | SEE PAGE***D- | 37*** |
| REACTOR | TYPE | PWR | | | | 110300 | SEE PAGE***D- | 38*** |
| REACTOR | AUX.COOL | SYSTEM | H.EXCH. | TYPE AND | NUMBER | 768220 | SEE PAGE***D- | 148*** |
| REACTOR | AUX.COOL | SYSTEM | W-PUMP | TYPE AND | NUMBER | 768420 | SEE PAGE***D- | 149*** |
| REACTOR | AUX.COOL | SYSTEM | S.W-PUMP | TYPE | NUMBER | 768620 | SEE PAGE***D- | 150*** |
| PWR | REACTOR | CONTAINER | TYPE | | | 822310 | SEE PAGE***D- | 213*** |
| RECIRC. | PUMP | | | | | | RECIRC. | PUMP |
| AB-TRA | | RECIRC. | PUMP | TRIP | | 21110 | SEE PAGE***D- | 7*** |
| AB-TRA | | RECIRC. | PUMP | SHAFT | STICK | 21120 | SEE PAGE***D- | 7*** |
| RECIRC. | SYSTEM | PUMP AND | LOOP | DESIGN-P | DESIGN-T | 751160 | SEE PAGE***D- | 102*** |
| RECIRC. | SYSTEM | PUMP AND | LOOP | TUBE | SIZE | 751180 | SEE PAGE***D- | 103*** |
| RECIRC. | PUMP | TYPE | NUMBER | | | 752410 | SEE PAGE***D- | 105*** |
| RECIRC. | PUMP | HEAD | COOL-P | NPSH | INPUT-P | 752430 | SEE PAGE***D- | 106*** |
| RECIRC. | SYSTEM | | | | | | RECIRC. | SYSTEM |
| KIND OF | AB-TRA | FROM | RECIRC. | SYSTEM | | 21000 | SEE PAGE***D- | 6*** |
| RECIRC. | SYSTEM | MAIN | PROPERTY | | | 751120 | SEE PAGE***D- | 102*** |
| RECIRC. | SYSTEM | PUMP AND | LOOP | DESIGN-P | DESIGN-T | 751160 | SEE PAGE***D- | 102*** |
| RECIRC. | SYSTEM | PUMP AND | LOOP | TUBE | SIZE | 751180 | SEE PAGE***D- | 103*** |

| RECIRC. SYSTEM | | | | | | | RECIRC. SYSTEM | |
|------------------------|----------|--------------|-----------|----------|----------|---------------|------------------------|--------|
| RECIRC. SYSTEM | (PUMP) | VALVE | NUMBER | SIZE | 752220 | SEE PAGE***D- | 104*** | |
| REFLECT. | | | | | | | REFLECT. | |
| N.DATA | REFLECT. | THICK. | RADIAL | AXIAL | 842260 | SEE PAGE***D- | 225*** | |
| REGULATOR | | | | | | | REGULATOR | |
| AB-TRA | RECIRC. | FLOW | REGULATOR | MALFUNC. | 21200 | SEE PAGE***D- | 8*** | |
| RELIEF VALVE | | | | | | | RELIEF VALVE | |
| AB-TRA | PRESSURE | RELIEF | VALVE | OPEN | 23500 | SEE PAGE***D- | 15*** | |
| RELIEF | VALVE | TYPE | NUMBER | | 753820 | SEE PAGE***D- | 110*** | |
| RELIEF | VALVE | SET | PRESSURE | | 753840 | SEE PAGE***D- | 111*** | |
| RELIEF | VALVE | CAPACITY | | | 753860 | SEE PAGE***D- | 111*** | |
| RELIEF | VALVE | FOR | PRESSURE | ZER PWR | 753880 | SEE PAGE***D- | 111*** | |
| M.STEAM | SYSTEM | M.STEAM | RELIEF | VALVE | PWR | 755090 | SEE PAGE***D- | 113*** |
| RESIDUAL HEAT REMOVE.S | | | | | | | RESIDUAL HEAT REMOVE.S | |
| RHRS | RESIDUAL | HEAT | REMOVE.S | NUMBER | 764000 | SEE PAGE***D- | 138*** | |
| REVISE | | | | | | | REVISE | |
| REVISE | OF | CONSTRUCTION | PERMIT | APPLICAT | 122 | SEE PAGE***D- | 2*** | |
| REVISE | OF | CONSTRUCTION | PERMIT | APPLICAT | 130 | SEE PAGE***D- | 2*** | |
| ROD PITCH ARRANGE | | | | | | | ROD PITCH ARRANGE | |
| FUEL | ROD NO. | PER ASSY | AND ROD | PITCH | ARRANGE | 732480 | SEE PAGE***D- | 71*** |
| RUPTURE | | | | | | | RUPTURE | |
| ACC.ANA. | RECIRC. | RUPTURE | LOCA | | | 35300 | SEE PAGE***D- | 22*** |
| ACC.ANA. | RECIRC. | RUPTURE | LOCA | | | 35310 | SEE PAGE***D- | 23*** |
| ACC.ANA. | RECIRC. | RUPTURE | DRY-WELL | P-CHANGE | LOC | 35320 | SEE PAGE***D- | 23*** |
| ACCIDENT | | MAIN | STEAM | TUBE | RUPTURE | 36200 | SEE PAGE***D- | 25*** |
| ACC.ANA. | | | M.STEAM | TUBE | RUPTURE | 36310 | SEE PAGE***D- | 25*** |
| ACC.ANA. | | | M.STEAM | TUBE | RUPTURE | 36320 | SEE PAGE***D- | 26*** |
| RWPS | | | | | | | RWPS | |
| RWPS | REACTOR | WATER | PURIFIC. | SYSTEM | DESIGN-F | 762200 | SEE PAGE***D- | 124*** |
| RWPS | REACTOR | WATER | PURIFIC. | QUALITY | | 762220 | SEE PAGE***D- | 124*** |
| RWPS | DEMINE. | PUMP | TYPE | NUMBER | CAPACITY | 762230 | SEE PAGE***D- | 125*** |
| RWPS | DEMINE. | NUMBER | AND | CAPACITY | | 762240 | SEE PAGE***D- | 125*** |
| RWPS | PIPING | DESIGN-P | DESIGN-T | MATERIAL | | 762250 | SEE PAGE***D- | 125*** |
| RWPS | CVCS | REGENE. | H.EXCH. | TYPE NO. | CAPACITY | 762260 | SEE PAGE***D- | 126*** |
| RWPS | CVCS | NON-REG. | H.EXCH. | TYPE NO. | CAPACITY | 762280 | SEE PAGE***D- | 127*** |
| SAFETY STANDARD | | | | | | | SAFETY STANDARD | |
| SAFETY | STANDARD | UNDER | AB-TRA | | | 10100 | SEE PAGE***D- | 5*** |
| SAFETY | STANDARD | UNDER | ACCIDENT | | | 10120 | SEE PAGE***D- | 6*** |

| SAFETY VALVE | | | | | | | SAFETY VALVE | |
|------------------|----------|----------|----------|----------|----------|--------|------------------|--------|
| SAFETY | VALVE | TYPE | NUMBER | | | 753620 | SEE PAGE***D- | 109*** |
| SAFETY | VALVE | SET | PRESSURE | CAPACITY | | 753640 | SEE PAGE***D- | 110*** |
| SAFETY | VALVE | FOR | PRESSURE | ZER PWR | | 753660 | SEE PAGE***D- | 110*** |
| M.STEAM | SYSTEM | M.STEAM | SAFETY | VALVE | PWR | 755110 | SEE PAGE***D- | 113*** |
| SAMPLE BOX | | | | | | | SAMPLE BOX | |
| SAMPLE | BOX | CAPACITY | DESIGN-P | DESIGN-T | NUMBER | 765660 | SEE PAGE***D- | 143*** |
| SAMPLE H.EXCH. | | | | | | | SAMPLE H.EXCH. | |
| SAMPLE | H.EXCH. | | TYPE | NUMBER | CAPACITY | 765620 | SEE PAGE***D- | 143*** |
| SAMPLING | | | | | | | SAMPLING | |
| SAMPLE | SAMPLING | POINT | PWR | | | 769100 | SEE PAGE***D- | 152*** |
| LWDS | LIQUID | WASTE | SAMPLING | TANK | | 802450 | SEE PAGE***D- | 198*** |
| LWDS | SYSTEM | DRAIN | SAMPLING | TANK | | 802510 | SEE PAGE***D- | 200*** |
| LWDS | FROOR | DRAIN | SAMPLING | TANK | | 802600 | SEE PAGE***D- | 202*** |
| S.CHAMB. | | | | | | | S.CHAMB. | |
| DRY-WELL | S.CHAMB. | MATERIAL | NDT | | | 822280 | SEE PAGE***D- | 212*** |
| S.CHAMB. | TYPE | SIZE | VOLUME | DESIGN.P | DESIGN.T | 822420 | SEE PAGE***D- | 215*** |
| S.CHAMB. | VENT | TUBE | NUMBER | AND SIZE | | 822460 | SEE PAGE***D- | 215*** |
| S.CHAMB. | DOWN-C. | TUBE | NUMBER | HEADER | DIA | 822480 | SEE PAGE***D- | 216*** |
| SCRAM | | | | | | | SCRAM | |
| KIND OF | REACTOR | SCRAM | SIGNAL | LIMIT | BWR | 783210 | SEE PAGE***D- | 177*** |
| KIND OF | REACTOR | SCRAM | SIGNAL | LIMIT | PWR | 783230 | SEE PAGE***D- | 178*** |
| SEA WATER | | | | | | | SEA WATER | |
| SEA | WATER | CIRC. | SYSTEM | FOR MAIN | COND. | 778220 | SEE PAGE***D- | 171*** |
| SGTR | | | | | | | SGTR | |
| MCA HA | PWR SGTR | FP GAS | RELEASE | FROM | BUILDING | 43250 | SEE PAGE***D- | 32*** |
| MCA HA | PWR SGTR | ESTIMATI | ON | OF | IRRADIAT | 43270 | SEE PAGE***D- | 34*** |
| SHAFT STICK | | | | | | | SHAFT STICK | |
| AB-TRA | RECIRC. | PUMP | SHAFT | STICK | | 21120 | SEE PAGE***D- | 7*** |
| SHUTDOWN MARGINE | | | | | | | SHUTDOWN MARGINE | |
| N.DATA | K-EFF | SHUTDOWN | MARGINE | CONTROL | WORTH | 842220 | SEE PAGE***D- | 223*** |
| N.DATA | K-EFF | SHUTDOWN | MARGINE | CONTROL | WORTH | 842230 | SEE PAGE***D- | 224*** |
| SIS | | | | | | | SIS | |
| MAIN | CUMPNEN | TS | OF | SIS | PWR | 763100 | SEE PAGE***D- | 134*** |
| SIS | BORIC | ACID | TANK | FOR | REFUEL | 763120 | SEE PAGE***D- | 134*** |
| SIS | BORIC | ACID | HIGH-P | INJECT | PUMP | 763140 | SEE PAGE***D- | 135*** |
| SIS | BORIC | ACID | LOW-P | INJECT | PUMP PWR | 763150 | SEE PAGE***D- | 135*** |
| SIS | P-RIZED | BORIC | ACID | TANK | | 763160 | SEE PAGE***D- | 136*** |
| SIS | BORIC | ACID | INJECT | TANK | | 763180 | SEE PAGE***D- | 136*** |

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| SIS | | | | | | | SIS | |
| SIS | BORIC | ACID | CHARGE | PUMP | 763300 | SEE PAGE***- | 136*** | |
| SITE WATER | | | | | | | SITE | WATER |
| SITE | WATER | QUALITY | WATER | SOURCE | 621220 | SEE PAGE***- | 40*** | |
| SITE | WATER | QUALITY | PH | E.COVITY | 621240 | SEE PAGE***- | 40*** | |
| SITE | WATER | QUALITY | HARDNESS | ALKALI | 621260 | SEE PAGE***- | 40*** | |
| SITE | WATER | QUALITY | SO-4 ION | CL ION | 621280 | SEE PAGE***- | 41*** | |
| SITE | WATER | QUALITY | NO-3 ION | NO-2 ION | 621420 | SEE PAGE***- | 41*** | |
| SITE | WATER | QUALITY | SILICA | | 621440 | SEE PAGE***- | 42*** | |
| SITE | WATER | QUALITY | CATION | ANION | 621460 | SEE PAGE***- | 42*** | |
| SITE | WATER | QUALITY | FE TOTAL | | 621480 | SEE PAGE***- | 42*** | |
| SITE | WATER | QUALITY | | | 621620 | SEE PAGE***- | 43*** | |
| REACTOR CORE | | | | | | | REACTOR | CORE |
| REACTOR | PWR CORE | COOLANT | INLET | OUTLET | TEMP. | 731190 | SEE PAGE***- | |
| REACTOR | CORE | SIZE | DIA | HEIGHT | | 731240 | SEE PAGE***- | |
| SPACER | | | | | | | SPACER | |
| FUEL | SPACER | NUMBER | PER ASSY | MATERIAL | TYPE | 732220 | SEE PAGE***- | |
| SPACER | ALIGNMENT | | | CHECK | METHOD | 732500 | SEE PAGE***- | |
| SPRAY | | | | | | | SPRAY | |
| SPRAY | VALVE | FDR | PRESSURE | ZER PWR | | 753890 | SEE PAGE***- | |
| SPRAY | PIPE | LAYING | FDR PRES | SUNIZER | PWR | 757670 | SEE PAGE***- | |
| CORE | SPRAY | SYSTEM | NUMBER | FLOW AND | OTHERS | 765220 | SEE PAGE***- | |
| CORE | SPRAY | SYSTEM | PUMP | TYPE AND | NUMBER | 765240 | SEE PAGE***- | |
| DRY-WELL | SPRAY | HEADER | | | | 822279 | SEE PAGE***- | |
| CONTAINER | SPRAY | PUMP | | | | 825410 | SEE PAGE***- | |
| CONTAINER | SPRAY | H.EXCH. | | | | 825450 | SEE PAGE***- | |
| CONTAINER | SPRAY | NOZZLE | | | | 825500 | SEE PAGE***- | |
| STACK | | | | | | | STACK | |
| STACK | HEIGHT | | | | | 801460 | SEE PAGE***- | |
| START-UP | | | | | | | START-UP | |
| AB-TRA | MISS | START-UP | OF COLD | RECIRC. | LOOP (1) | 21320 | SEE PAGE***- | |
| AB-TRA | MISS | START-UP | OF COLD | RECIRC. | LOOP (2) | 21340 | SEE PAGE***- | |
| AB-TRA | MISS | START-UP | OF COLD | RECIRC. | LOOP (3) | 21360 | SEE PAGE***- | |
| E.TRANS. | MAIN | EMERGENC | Y | START-UP | FACILITY | 793280 | SEE PAGE***- | |
| STEAM DRYER | | | | | | | STEAM | DRYER |
| STEAM | DRYER | NUMBER | CAPACITY | OPERATAB | LE TEMP | 737410 | SEE PAGE***- | |
| STEAM | DRYER | TYPE | INLET | OUTLET | WETNESS | 737420 | SEE PAGE***- | |
| STEAM-G. | | | | | | | STEAM-G. | |
| STEAM-G. | DESIGN-P | OPERAT-P | | | | 757220 | SEE PAGE***- | |
| STEAM-G. | CAPACITY | WETNESS | TUBE | SURFACE | AREA | 757240 | SEE PAGE***- | |
| STEAM QUALITY | | | | | | | STEAM | QUALITY |
| CORE | OUTLET | STEAM | QUALITY | AND VOID | RATIO | 731200 | SEE PAGE***- | |
| PLANT PERFORMANCE DATA SAKUIN | | | | | | | DATE=08/17/76 | PAGE***- 24*** |
| STEAM QUALITY | | | | | | | STEAM | QUALITY |
| STEAM | SEPARAT. | INLET | QUALITY | CARRY | UNDER | 737240 | SEE PAGE***- | |
| STEAM SEPARAT. | | | | | | | STEAM | SEPARAT. |
| STEAM | SEPARAT. | UNIT NO. | TYPE | MATERIAL | | 737220 | SEE PAGE***- | |
| STEAM | SEPARAT. | INLET | QUALITY | CARRY | UNDER | 737240 | SEE PAGE***- | |
| STROKE | | | | | | | STROKE | |
| CONTROL | ROD | EFFECT. | LENGTH | AND | STROKE | 733220 | SEE PAGE***- | |
| SUBCOOL | | | | | | | SUBCOOL | |
| FEED.W | COOLANT | TEMP. | INLET | OUTLET | SUBCOOL | 731180 | SEE PAGE***- | |
| SWD | | | | | | | SWD | |
| SWD USED | RESIN | PRODUCTI | ON RATE | | | 944220 | SEE PAGE***- | |
| SWD USED | POWDER | RESIN | PRODUCTI | ON RATE | ACTIVITY | 944240 | SEE PAGE***- | |
| SWD | FILTER | SLUDGE | PRODUCTI | ON RATE | ACTIVITY | 944260 | SEE PAGE***- | |
| SWD FROM | CONCENTR | ATOR | PRODUCTI | ON RATE | ACTIVITY | 944280 | SEE PAGE***- | |
| SWD | CONTROL | ROD | CHANNEL | BOX | CURTAIN | 944320 | SEE PAGE***- | |
| KIND OF | SWD | DRUM | QUANTITY | | | 954100 | SEE PAGE***- | |
| SWDS | | | | | | | SWDS | |
| SWDS | TANK | LIST | BWR | | | 803400 | SEE PAGE***- | |
| SWDS | CONCENTR | ATED | WASTE | STORAGE | TANK | 803410 | SEE PAGE***- | |
| SWDS | SPENT | RESIN | STORAGE | TANK | | 803420 | SEE PAGE***- | |
| SWDS | PHASE | SEPARATO | R | TANK | | 803430 | SEE PAGE***- | |
| SWDS | WASTE | SLUDGE | STORAGE | TANK | | 803440 | SEE PAGE***- | |
| SWDS | WASTE | SLUDGE | SEPARATE | TANK | | 803450 | SEE PAGE***- | |
| SWDS | FILTRATE | D | SLUDGE | STORAGE | TANK | 803460 | SEE PAGE***- | |
| SWDS | CONDENSE | SYSTEM | RESIN | POWDER | STORAGE | 803470 | SEE PAGE***- | |
| SWDS | PURIFY | SYSTEM | FILT. | SLUDGE | STORAGE | 803480 | SEE PAGE***- | |
| SWDS | SYSTEM | DRAIN | FILTER | SLUDGE | STORAGE | 803500 | SEE PAGE***- | |
| SWDS | SINKING | TANK OF | CONDENSE | D WATER | PURIFY | 803510 | SEE PAGE***- | |
| SWDS | CONCENTR | ATED | LIQUID | WASTE | WEIGHING | 803520 | SEE PAGE***- | |
| SWDS | SPENT | RESIN | STORAGE | TANK | | 803530 | SEE PAGE***- | |
| SWDS | WASTE | SLUDGE | STORAGE | TANK | UNDERGRD | 803540 | SEE PAGE***- | |
| SWELLING | | | | | | | SWELLING | |
| UN-2 | PELLET | SOLID | FP | SWELLING | RATE | 732380 | SEE PAGE***- | |
| TANK | | | | | | | TANK | |
| PRESSURE | ZER | RELIEF | TANK | DESIGN-P | CAPACITY | 757650 | SEE PAGE***- | |
| CVCS | VOLUME | CONTROL | TANK | NUMBER | CAPACITY | 762370 | SEE PAGE***- | |
| CVCS | BORIC | ACID | TANK | NUMBER | CAPACITY | 762520 | SEE PAGE***- | |
| CVCS | BORIC | ACID | SUPPLY | TANK | | 762540 | SEE PAGE***- | |
| CVCS | PRIMARY | SYSTEM | CHEMICAL | S TANK | | 762560 | SEE PAGE***- | |
| SIS | BORIC | ACID | TANK | REFUEL | | 763120 | SEE PAGE***- | |
| SIS | P-RIZED | BORIC | ACID | TANK | | 763160 | SEE PAGE***- | |

| TANK | | | | | | TANK | | | | | |
|-------------|-----------------|-------------|-----------------|-------------------|--------|---------------|--------|--|--|--|--|
| SIS REACTOR | BURIC AUX. COOL | ACID SYSTEM | INJECT C. WATER | TANK SURGE | 763180 | SEE PAGE***D- | 136*** | | | | |
| MSIS | LUB. SYS. | MAIN | OIL | TANK | 768440 | SEE PAGE***D- | 149*** | | | | |
| DEAERATOR | R TYPE | NUMBER | STORAGE | TANK CAPACITY | 772630 | SEE PAGE***D- | 158*** | | | | |
| FEED. W. S | PH AND | OXYGEN | CONTROL | EQUIPMT. TANK | 776260 | SEE PAGE***D- | 167*** | | | | |
| | | | | | 777340 | SEE PAGE***D- | 169*** | | | | |
| 2NDARY. S | MAKEUP. W | SYSTEM | CONDENSE D | W. TANK | 777500 | SEE PAGE***D- | 169*** | | | | |
| 2NDARY. S | MAKEUP. W | SYSTEM | PURE W. TANK | | 777510 | SEE PAGE***D- | 170*** | | | | |
| OFF GAS | DECAY | TANK | NUMBER | CAPACITY PKESSURE | 801400 | SEE PAGE***D- | 190*** | | | | |
| LWDS | TANK | LIST | PWR | | 802100 | SEE PAGE***D- | 192*** | | | | |
| LWDS | CONDENSE D | | BURDN | STORAGE TANK | 802110 | SEE PAGE***D- | 192*** | | | | |
| LWDS | LIQUID WASTE | | STORAGE | TANK | 802120 | SEE PAGE***D- | 192*** | | | | |
| LWDS | LIQUID WASTE | | HOLD UP | TANK | 802130 | SEE PAGE***D- | 193*** | | | | |
| LWDS | LIQUID WASTE | | EVAPOLAT | DR CONDE NSE TANK | 802140 | SEE PAGE***D- | 193*** | | | | |
| LWDS | LIQUID WASTE | | SUMP | TANK | 802150 | SEE PAGE***D- | 193*** | | | | |
| LWDS | AUX. HUI LOING | | SUMP | TANK | 802160 | SEE PAGE***D- | 193*** | | | | |
| LWDS | HOLDUP | | | TANK | 802170 | SEE PAGE***D- | 193*** | | | | |
| LWDS | CHEMICAL S | | DRAIN | TANK | 802190 | SEE PAGE***D- | 194*** | | | | |
| LWDS | WATCH | TANK | | | 802200 | SEE PAGE***D- | 194*** | | | | |
| LWDS | MONITOR | | | TANK | 802210 | SEE PAGE***D- | 194*** | | | | |
| LWDS | WASHING | WATER | TANK | | 802220 | SEE PAGE***D- | 194*** | | | | |
| LWDS | PROCESS | WATER | HOLDUP | TANK | 802230 | SEE PAGE***D- | 195*** | | | | |
| LWDS | CHEMICAL | FLUID | DRAIN | TANK | 802240 | SEE PAGE***D- | 195*** | | | | |
| LWDS | FLOOR | DRAIN | TANK | | 802250 | SEE PAGE***D- | 195*** | | | | |
| LWDS | PRIMARY | COOLANT | STORAGE | TANK | 802260 | SEE PAGE***D- | 195*** | | | | |
| LWDS | PRIMARY | COOLANT | STORAGE | TANK | 802270 | SEE PAGE***D- | 195*** | | | | |
| LWDS | LIQUID WASTE | | EVAP. COND. W | TANK | 802370 | SEE PAGE***D- | 197*** | | | | |
| LWDS | TANK | LIST | | | 802400 | SEE PAGE***D- | 197*** | | | | |
| LWDS | NEUTRALIZ | ER | ANNEXING | TANK | 802410 | SEE PAGE***D- | 198*** | | | | |
| LWDS | CONDENSE D | | WATER | SAMPLE TANK | 802420 | SEE PAGE***D- | 0*** | | | | |
| LWDS | CONDENSE D | | WATER | COLLECT TANK | 802430 | SEE PAGE***D- | 0*** | | | | |
| LWDS | LIQUID WASTE | | NEUTRALI ZATION | TANK | 802440 | SEE PAGE***D- | 198*** | | | | |
| LWDS | LIQUID WASTE | | SAMPLING | TANK | 802450 | SEE PAGE***D- | 198*** | | | | |
| LWDS | LIQUID WASTE | | SURGE | TANK | 802460 | SEE PAGE***D- | 199*** | | | | |
| LWDS | LIQUID WASTE | | COLLECT | TANK | 802470 | SEE PAGE***D- | 199*** | | | | |
| LWDS | EVAPORAT | DR | SURGE | TANK | 802480 | SEE PAGE***D- | 199*** | | | | |
| LWDS | DISTILLED | WATER | SURGE | TANK | 802490 | SEE PAGE***D- | 199*** | | | | |
| LWDS | SYSTEM | DRAIN | FILTRATE | TANK | 802500 | SEE PAGE***D- | 200*** | | | | |
| LWDS | SYSTEM | URAIN | SAMPLING | TANK | 802510 | SEE PAGE***D- | 200*** | | | | |
| LWDS | SYSTEM | DRAIN | SURGE | TANK | 802520 | SEE PAGE***D- | 0*** | | | | |
| LWDS | SYSTEM | DRAIN | COLLECT | TANK | 802530 | SEE PAGE***D- | 200*** | | | | |
| LWDS | LAUNDRY | DRAIN | | TANK | 802540 | SEE PAGE***D- | 200*** | | | | |
| LWDS | PRECUAT | | | TANK | 802550 | SEE PAGE***D- | 201*** | | | | |
| LWDS | FILTRATI ON | AUX. | AGENT | TANK | 802560 | SEE PAGE***D- | 201*** | | | | |
| LWDS | FILTRATE D | WASTE | COLLECT | TANK | 802570 | SEE PAGE***D- | 0*** | | | | |
| LWDS | WASHING | WASTE | COLLECT | TANK | 802580 | SEE PAGE***D- | 201*** | | | | |
| LWDS | FRODR | DRAIN | FILTRATE | TANK | 802590 | SEE PAGE***D- | 201*** | | | | |
| LWDS | FRODR | DRAIN | SAMPLING | TANK | 802600 | SEE PAGE***D- | 202*** | | | | |
| LWDS | FRODR | DRAIN | COLLECT | TANK | 802610 | SEE PAGE***D- | 202*** | | | | |
| LWDS | GENERAL | WASTE | SURGE | TANK | 802620 | SEE PAGE***D- | 0*** | | | | |

| TANK | | | | | | TANK | | | | | |
|-----------|------------|------------|------------|---------------|--------|---------------|---------|--|--|--|--|
| SWDS | TANK | LIST | BWR | | 803400 | SEE PAGE***D- | 204*** | | | | |
| SWDS | CONCENTR | ATED | WASTE | STORAGE TANK | 803410 | SEE PAGE***D- | 204*** | | | | |
| SWDS | SPENT | RESIN | STORAGE | TANK | 803420 | SEE PAGE***D- | 205*** | | | | |
| SWDS | PHASE | SEPARATO R | | TANK | 803430 | SEE PAGE***D- | 205*** | | | | |
| SWDS | WASTE | SLUDGE | STORAGE | TANK | 803440 | SEE PAGE***D- | 206*** | | | | |
| SWDS | WASTE | SLUDGE | SEPARATE | TANK | 803450 | SEE PAGE***D- | 206*** | | | | |
| SWDS | FILTRATE D | | SLUDGE | STORAGE TANK | 803460 | SEE PAGE***D- | 206*** | | | | |
| SWDS | FUEL | SLUDGE | STORAGE | TANK | 803490 | SEE PAGE***D- | 207*** | | | | |
| SWDS | SINKING | TANK OF | CONDENSE D | WATER PURIFY | 803510 | SEE PAGE***D- | 207*** | | | | |
| SWDS | SPENT | RESIN | STORAGE | TANK | 803530 | SEE PAGE***D- | 208*** | | | | |
| SWDS | WASTE | SLUDGE | STORAGE | TANK UNDERGRD | 803540 | SEE PAGE***D- | 208*** | | | | |
| DRY-WELL | INERTGAS | SYSTEM | LIQ. N2 | STORAGE TANK | 822278 | SEE PAGE***D- | 211*** | | | | |
| CONTAINER | IODINE | REMOVE | CHEMICAL | TANK | 825490 | SEE PAGE***D- | 217*** | | | | |
| MAKE-UP | WATER | CONDENSE | D-W | STORAGE TANK | 831280 | SEE PAGE***D- | 0*** | | | | |
| AUX. | STEAM | SYSTEM | STEAM | DRAIN TANK | 835090 | SEE PAGE***D- | 222*** | | | | |
| TEMP. | COOLANT | | | | | TEMP. | COOLANT | | | | |
| FEED. W | COOLANT | TEMP. | INLET | OUTLET | 731180 | SEE PAGE***D- | 48*** | | | | |
| REACTOR | PWR CORE | COOLANT | INLET | OUTLET | 731190 | SEE PAGE***D- | 49*** | | | | |
| TEMP. | COOLANT | | | | | TEMP. | COOLANT | | | | |
| FEED. W | COOLANT | TEMP. | INLET | OUTLET | 731180 | SEE PAGE***D- | 48*** | | | | |
| REACTOR | PWR CORE | COOLANT | INLET | OUTLET | 731190 | SEE PAGE***D- | 49*** | | | | |
| TEMP. | COOLANT | | | | | TEMP. | COOLANT | | | | |
| FEED. W | COOLANT | TEMP. | INLET | OUTLET | 731180 | SEE PAGE***D- | 48*** | | | | |
| REACTOR | PWR CORE | COOLANT | INLET | OUTLET | 731190 | SEE PAGE***D- | 49*** | | | | |
| TEMP. | COOLANT | | | | | TEMP. | COOLANT | | | | |
| FEED. W | COOLANT | TEMP. | INLET | OUTLET | 731180 | SEE PAGE***D- | 48*** | | | | |
| REACTOR | PWR CORE | COOLANT | INLET | OUTLET | 731190 | SEE PAGE***D- | 49*** | | | | |
| TEMP. | COOLANT | | | | | TEMP. | COOLANT | | | | |
| FEED. W | COOLANT | TEMP. | INLET | OUTLET | 731180 | SEE PAGE***D- | 48*** | | | | |
| REACTOR | PWR CORE | COOLANT | INLET | OUTLET | 731190 | SEE PAGE***D- | 49*** | | | | |
| TEMP. | COOLANT | | | | | TEMP. | COOLANT | | | | |
| FEED. W | COOLANT | TEMP. | INLET | OUTLET | 731180 | SEE PAGE***D- | 48*** | | | | |
| REACTOR | PWR CORE | COOLANT | INLET | OUTLET | 731190 | SEE PAGE***D- | 49*** | | | | |
| TEMP. | COOLANT | | | | | TEMP. | COOLANT | | | | |
| FEED. W | COOLANT | TEMP. | INLET | OUTLET | 731180 | SEE PAGE***D- | 48*** | | | | |
| REACTOR | PWR CORE | COOLANT | INLET | OUTLET | 731190 | SEE PAGE***D- | 49*** | | | | |
| TEMP. | COOLANT | | | | | TEMP. | COOLANT | | | | |
| FEED. W | COOLANT | TEMP. | INLET | OUTLET | 731180 | SEE PAGE***D- | 48*** | | | | |
| REACTOR | PWR CORE | COOLANT | INLET | OUTLET | 731190 | SEE PAGE***D- | 49*** | | | | |
| TEMP. | COOLANT | | | | | TEMP. | COOLANT | | | | |
| FEED. W | COOLANT | TEMP. | INLET | OUTLET | 731180 | SEE PAGE***D- | 48*** | | | | |
| REACTOR | PWR CORE | COOLANT | INLET | OUTLET | 731190 | SEE PAGE***D- | 49*** | | | | |
| TEMP. | COOLANT | | | | | TEMP. | COOLANT | | | | |
| FEED. W | COOLANT | TEMP. | INLET | OUTLET | 731180 | SEE PAGE***D- | 48*** | | | | |
| REACTOR | PWR CORE | COOLANT | INLET | OUTLET | 731190 | SEE PAGE***D- | 49*** | | | | |
| TEMP. | COOLANT | | | | | TEMP. | COOLANT | | | | |
| FEED. W | COOLANT | TEMP. | INLET | OUTLET | 731180 | SEE PAGE***D- | 48*** | | | | |
| REACTOR | PWR CORE | COOLANT | INLET | OUTLET | 731190 | SEE PAGE***D- | 49*** | | | | |
| TEMP. | COOLANT | | | | | TEMP. | COOLANT | | | | |
| FEED. W | COOLANT | TEMP. | INLET | OUTLET | 731180 | SEE PAGE***D- | 48*** | | | | |
| REACTOR | PWR CORE | COOLANT | INLET | OUTLET | 731190 | SEE PAGE***D- | 49*** | | | | |
| TEMP. | COOLANT | | | | | TEMP. | COOLANT | | | | |
| FEED. W | COOLANT | TEMP. | INLET | OUTLET | 731180 | SEE PAGE***D- | 48*** | | | | |
| REACTOR | PWR CORE | COOLANT | INLET | OUTLET | 731190 | SEE PAGE***D- | 49*** | | | | |
| TEMP. | COOLANT | | | | | TEMP. | COOLANT | | | | |
| FEED. W | COOLANT | TEMP. | INLET | OUTLET | 731180 | SEE PAGE***D- | 48*** | | | | |
| REACTOR | PWR CORE | COOLANT | INLET | OUTLET | 731190 | SEE PAGE***D- | 49*** | | | | |
| TEMP. | COOLANT | | | | | TEMP. | COOLANT | | | | |
| FEED. W | COOLANT | TEMP. | INLET | OUTLET | 731180 | SEE PAGE***D- | 48*** | | | | |
| REACTOR | PWR CORE | COOLANT | INLET | OUTLET | 731190 | SEE PAGE***D- | 49*** | | | | |
| TEMP. | COOLANT | | | | | TEMP. | COOLANT | | | | |
| FEED. W | COOLANT | TEMP. | INLET | OUTLET | 731180 | SEE PAGE***D- | 48*** | | | | |
| REACTOR | PWR CORE | COOLANT | INLET | OUTLET | 731190 | SEE PAGE***D- | 49*** | | | | |
| TEMP. | COOLANT | | | | | TEMP. | COOLANT | | | | |
| FEED. W | COOLANT | TEMP. | INLET | OUTLET | 731180 | SEE PAGE***D- | 48*** | | | | |
| REACTOR | PWR CORE | COOLANT | INLET | OUTLET | 731190 | SEE PAGE***D- | 49*** | | | | |
| TEMP. | COOLANT | | | | | TEMP. | COOLANT | | | | |
| FEED. W | COOLANT | TEMP. | INLET | OUTLET | 731180 | SEE PAGE***D- | 48*** | | | | |
| REACTOR | PWR CORE | COOLANT | INLET | OUTLET | 731190 | SEE PAGE***D- | 49*** | | | | |
| TEMP. | COOLANT | | | | | TEMP. | COOLANT | | | | |
| FEED. W | COOLANT | TEMP. | INLET | OUTLET | 731180 | SEE PAGE***D- | 48*** | | | | |
| REACTOR | PWR CORE | COOLANT | INLET | OUTLET | 731190 | SEE PAGE***D- | 49*** | | | | |
| TEMP. | COOLANT | | | | | TEMP. | COOLANT | | | | |
| FEED. W | COOLANT | TEMP. | INLET | OUTLET | 731180 | SEE PAGE***D- | 48*** | | | | |
| REACTOR | PWR CORE | COOLANT | INLET | OUTLET | 731190 | SEE PAGE***D- | 49*** | | | | |
| TEMP. | COOLANT | | | | | TEMP. | COOLANT | | | | |
| FEED. W | COOLANT</ | | | | | | | | | | |

| TURBINE AUX. COOL | | | | | | TURBINE AUX. COOL | |
|-------------------|---------|----------|---------|----------|--------|-------------------|---------------|
| TURBINE | AUX. | COOL | PUMP | TYPE | NO. | 779220 | SEE PAGE***D- |
| TURBINE | AUX. | COOL | H.EXCH. | TYPE AND | NUMBER | 779240 | SEE PAGE***D- |
| TURBINE TRIP | | | | | | | |
| AB-TRA | TURBINE | TRIP | SUMMARY | | | 23200 | SEE PAGE***D- |
| AB-TRA | TURBINE | TRIP (1) | WITH | BY PASS | V. ACT | 23210 | SEE PAGE***D- |
| AB-TRA | TURBINE | TRIP (2) | WITHOUT | BY PASS | V. ACT | 23220 | SEE PAGE***D- |
| AB-TRA | TURBINE | TRIP (3) | | | | 23230 | SEE PAGE***D- |

| VALVE | | | | | | VALVE | |
|-----------|-----------|----------|----------|----------|----------|--------|---------------|
| AB-TRA | MAIN | STEAM | ISOLATE | VALVE | CLOSE | 23300 | SEE PAGE***D- |
| AB-TRA | PRESSURE | RELIEF | VALVE | OPEN | | 23500 | SEE PAGE***D- |
| RECIRC. | SYSTEM | (PUMP) | VALVE | NUMBER | SIZE | 752220 | SEE PAGE***D- |
| M.STEAM | ISOLATE | VALVE | TYPE AND | SIZE | | 753400 | SEE PAGE***D- |
| M.STEAM | ISOLATE | VALVE | NUMBER | DESIGN-P | DESIGN-T | 753420 | SEE PAGE***D- |
| M.STEAM | ISOLATE | VALVE | P-LOSS | RATED | FLOW | 753430 | SEE PAGE***D- |
| M.STEAM | ISOLATE | VALVE | SHUT-OFF | TIME SET | POINT | 753440 | SEE PAGE***D- |
| M.STEAM | ISOLATE | VALVE | CONTROL | SOURCE | | 753450 | SEE PAGE***D- |
| M.STEAM | 3RD | VALVE | TYPE NO. | LEAK | RATE | 753500 | SEE PAGE***D- |
| SAFETY | VALVE | TYPE | NUMBER | | | 753620 | SEE PAGE***D- |
| SAFETY | VALVE | SET | PRESSURE | CAPACITY | | 753640 | SEE PAGE***D- |
| SAFETY | VALVE | FOR | PRESSURE | ZER PWR | | 753660 | SEE PAGE***D- |
| RELIEF | VALVE | TYPE | NUMBER | | | 753820 | SEE PAGE***D- |
| RELIEF | VALVE | SET | PRESSURE | | | 753840 | SEE PAGE***D- |
| RELIEF | VALVE | CAPACITY | | | | 753860 | SEE PAGE***D- |
| RELIEF | VALVE | FOR | PRESSURE | ZER PWR | | 753880 | SEE PAGE***D- |
| SPRAY | VALVE | FOR | PRESSURE | ZER PWR | | 753890 | SEE PAGE***D- |
| M.STEAM | SYSTEM | M.STEAM | ISOLATE | VALVE | PWR | 755030 | SEE PAGE***D- |
| M.STEAM | SYSTEM | M.STEAM | CHECK | VALVE | PWR | 755050 | SEE PAGE***D- |
| M.STEAM | SYSTEM | M.STEAM | DUMP | VALVE | PWR | 755070 | SEE PAGE***D- |
| M.STEAM | SYSTEM | M.STEAM | RELIEF | VALVE | PWR | 755090 | SEE PAGE***D- |
| M.STEAM | SYSTEM | M.STEAM | SAFETY | VALVE | PWR | 755110 | SEE PAGE***D- |
| MSTS | M.STEAM | STOP | VALVE | | | 772390 | SEE PAGE***D- |
| MSTS | REGULATI | ON | VALVE | | | 772410 | SEE PAGE***D- |
| MSTS | REHEATED | STEAM | STOP | VALVE | | 772430 | SEE PAGE***D- |
| MSTS | INTERCEPT | GAS | VALVE | | | 772450 | SEE PAGE***D- |
| DEAERATOR | R OFF | | ISOLATE | VALVE | NUMBER | 801440 | SEE PAGE***D- |

| VOID | | | | | | VOID | |
|---------|---------|--------|---------|----------|-------|--------|---------------|
| CONC | OUTLET | STEAM | QUALITY | AND VOID | RATIO | 731200 | SEE PAGE***D- |
| N. DATA | OF REAC | TIVITY | TEMP. | DOPPLER | VOID | 842320 | SEE PAGE***D- |

| WATER QUALITY | | | | | | WATER QUALITY | |
|---------------|-------|---------|----------|-----------|----------|---------------|---------------|
| SITE | WATER | QUALITY | WATER | SOURCE | | 621220 | SEE PAGE***D- |
| SITE | WATER | QUALITY | PH | E.CDIVITY | NIGORID0 | 621240 | SEE PAGE***D- |
| SITE | WATER | QUALITY | HARDNESS | ALKALI | | 621260 | SEE PAGE***D- |
| SITE | WATER | QUALITY | SO-4 ION | CL ION | NH-4 ION | 621280 | SEE PAGE***D- |
| SITE | WATER | QUALITY | NO-3 ION | NO-2 ION | | 621420 | SEE PAGE***D- |
| SITE | WATER | QUALITY | SILICA | | | 621440 | SEE PAGE***D- |

| WATER QUALITY | | | | | | WATER QUALITY | |
|---------------|-------|----------|----------|---------|---------|---------------|---------------|
| SITE | WATER | QUALITY | CATION | ANION | TOTAL | 621460 | SEE PAGE***D- |
| SITE | WATER | QUALITY | FE TOTAL | | | 621480 | SEE PAGE***D- |
| SITE | WATER | QUALITY | | | | 621620 | SEE PAGE***D- |
| RWPS | WATER | REACTOR | WATER | QUALITY | | 762220 | SEE PAGE***D- |
| MAKE-UP | WATER | DEMINER. | CAPACITY | WATER | QUALITY | 831220 | SEE PAGE***D- |

| WDACS | | | | | | WDACS | |
|-------|----------|----------|------|---------|--------|--------|---------------|
| WDACS | WASTE | DISPOSAL | AUX. | COOLING | SYSTEM | 779300 | SEE PAGE***D- |
| WDACS | INTERMED | LATE | LOOP | CIRC. | PUMP | 779320 | SEE PAGE***D- |
| WDACS | S.W-PUMP | | | | | 779340 | SEE PAGE***D- |
| WDACS | H.EXCH. | | | | | 779360 | SEE PAGE***D- |

| WEIGHT FUEL | | | | | | WEIGHT FUEL | |
|-------------|---------|----------|---------|---------|----------|-------------|---------------|
| FUEL | LOADING | WEIGHT | TON-UO2 | TON-U | TON-U235 | 731260 | SEE PAGE***D- |
| UD-2 | WEIGHT | PER FUEL | ASSY | XGUD-2/ | ASSY | 732260 | SEE PAGE***D- |
| FUEL | ASSY | TOTAL | WEIGHT | KG (INC | H-WARE) | 732280 | SEE PAGE***D- |

| ZR-W | | | | | | ZR-W | |
|------|----------|----------|----------|----------|------|-------|---------------|
| FUEL | CLADDING | PERFORAT | AND ZR-W | REACTION | RATE | 35340 | SEE PAGE***D- |
| HEAT | GENERAT. | RATE OF | ZR-W | REACTION | | 35360 | SEE PAGE***D- |

表-6 データリスト

PLANT PERFORMANCE DATA

DATE=08/17/76

PAGE***D- 1***

| SOURCE | DOCUMENT | | 100 | | | |
|----------------|----------|----|--|------|--|-------|
| JPDH-2 | BWR | 2 | KDN-6 | | | / |
| TSURUGA | BWR | 3 | 80-3-3(70/5),81-3-2(70/7/22),KONS | | | / |
| ONAGAWA | BWR | 4 | 80-6-3(70/5)SKST,85-6(70/11), | | | / |
| HAMAOKA-1 | BWR | 5 | 80-2-3(70/5)SKST,85-4(70/11),95-2(71/9)SHKS, | | | / |
| FUKUSIMA-1 | BWR | 6 | 82-3-3(70/8),82-3-4(70/8) | | | / |
| FUKUSIMA-2,3 | BWR | 7 | 82-2-2(70/8),82-2-3(70/8) | | | / |
| FUKUSIMA-2,3 | BWR | 7 | NENRYOD TAI SEKKEI NINKA SINSEI GAIYOD(JNF) KOMMON KAI | F2N1 | | 71/ 2 |
| FUKUSIMA-2,3 | BWR | 7 | CHUUI-ZIKOO NI TUIE NO HOOKOKU (TODDEN) KOMMON KAI | F2N2 | | 71/ 2 |
| SHIMANE | BWR | 8 | 70/6/20 | | | / |
| SHIMANE | BWR | 8 | 89-8-2(71/3) | | | / |
| FUKUSIMA-5 | BWR | 9 | 89-2-3(71/2) | | | / |
| FUKUSIMA-4 | BWR | 10 | 94-3-3(71/8) | | | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 98-3-3(71/12) | | | 72/ 1 |
| TOKAI-2 | BWR | 12 | 98-2-3(71/12) | | | 72/ 1 |
| HAMAOKA-2 | BWR | 13 | 106-2-3(72/ 9) SHKS, 93BUKAI | | | / |
| KASHIWAZAKI | BWR | 15 | 137-3-5 SKS 120BUKAI | | | 75/ 3 |
| TAKAHAMA-2 | PWR | 23 | SHK(70/10) | | | / |
| TAKAHAMA-2 | PWR | 23 | 80-4-3(70/5)SHKT,85-9(70/11), | | | / |
| GENKAI-1 | PWR | 24 | 6783-5 | | | / |
| GENKAI-1 | PWR | 24 | 80-5-3(70/5)SKST,85-5(70/11), | | | / |
| DUI-1,2 | PWR | 26 | 88-2-2(71/1) | | | / |
| MIHAMA-3 | PWR | 27 | 94-2-3(71/8) | | | / |
| IKATA-2 | PWR | 30 | 138-3-3 SHK 121BUKAI | | | 75/ 5 |
| VERMONT YANKEE | BWR | 52 | A-2(70/7) 68BUKAI-SANKOO SIRYOD | | | / |
| BROWNS FERRY | BWR | 53 | GSK-19(69/2) | | | / |
| MILLSTON | BWR | 54 | R-9(66/8) | | | / |
| DRESDEN-1 | BWR | 55 | DIRECTORY OF NUCLEAR REACTORS VOL.4 IAEA(1962) | | | / |
| DRESDEN-2 | BWR | 56 | R-9(66/8) | | | / |
| DRESDEN-2 | BWR | 56 | DIRECTORY OF NUCLEAR REACTORS VOL.7 IAEA(1968) | | | / |
| OYSTER CREEK | BWR | 57 | R-9(66/8) | | | / |
| DUANE ARNOLD | BWR | 58 | A-2(70/7) 68BUKAI-SANKOO SIRYOD | | | / |
| YANKEE | BWR | 69 | DIRECTORY OF NUCLEAR REACTORS VOL.4 IAEA(1961) | | | / |
| SAXTON | BWR | 70 | DIRECTORY OF NUCLEAR REACTORS VOL.4 IAEA(1961) | | | / |
| BURLINGTON | PWR | 71 | GSK-19(69/2) | | | / |

HISTORY OF CONSTRUCTION PERMIT 110

| | | | | |
|------------|-----|---|---|-------|
| FUKUSIMA-1 | BWR | 6 | 66/7/5(REV.0),66/12/19(R.1),70/6/10(R.2),70/10/8(R.3) | 70/11 |
|------------|-----|---|---|-------|

PLANT PERFORMANCE DATA

DATE=08/17/76

PAGE***D- 2***

HISTORY OF CONSTRUCTION PERMIT APPLICAT 120

| | | | | |
|-----------|-----|----|------------------------------|---|
| ONAGAWA | BWR | 4 | 70/5/30(REV.0),70/11/9(R.1), | / |
| HAMAOKA-1 | BWR | 5 | 70/5/22(REV.0),7 | / |
| SHIMANE | BWR | 8 | 69/11/13(OK) | / |
| GENKAI-1 | PWR | 24 | 70/5/30(REV.0),70/11/6(R.1), | / |
| DUI-1,2 | PWR | 26 | 71/1(REV.0), | / |

REVISE OF CONSTRUCTION PERMIT 122

| | | | | |
|--------------|-----|---|------------------------|-----------------------|
| HAMAOKA-1 | BWR | 5 | 45/12/10(45-7660) SK | / |
| FUKUSIMA-2,3 | BWR | 7 | 41/12/ 1(41-4591) SK | / |
| FUKUSIMA-2,3 | BWR | 7 | 43/ 3/29(43-1617) SHK | 2-GDD RO ZODSETU |
| FUKUSIMA-2,3 | BWR | 7 | 44/ 2/10(44- 419) SHK | 1-GDD SISETU HENKOO |
| FUKUSIMA-2,3 | BWR | 7 | 44/ 4/ 7(44-1121) SHK | 1-GDD POWER UP |
| FUKUSIMA-2,3 | BWR | 7 | 45/ 1/ 7(44-6070) SHK | 1,2-GDD SISETU HENKOO |
| FUKUSIMA-2,3 | BWR | 7 | 45/ 1/23(44-6670) SHK | 3-GDD RO ZODSETU |
| FUKUSIMA-2,3 | BWR | 7 | 45/ 3/13(45- 374) SHK | 1-GDD SISETU HENKOO |
| FUKUSIMA-2,3 | BWR | 7 | 45/ 7/30(45-3499) SHK | 2-GDD SISETU HENKOO |
| FUKUSIMA-2,3 | BWR | 7 | 45/ 9/14(45-6097) SHK | 1-GDD SISETU HENKOO |
| FUKUSIMA-2,3 | BWR | 7 | 45/12/19(45-7663) SKHK | 2-GDD SISETU HENKOO |
| FUKUSIMA-2,3 | BWR | 7 | 45/12/19(45-7665) SKHK | 1-GDD SISETU HENKOO |
| SHIMANE | BWR | 8 | 44/11/13(44-5540) SK | / |
| SHIMANE | BWR | 8 | 45/10/13(45-4965) SHK | / |

REVISE OF CONSTRUCTION PERMIT APPLICAT 130

| | | | | |
|------------|-----|----|-------------------------------|-------|
| SHIMANE | BWR | 8 | 70/10/13(1ST-OK) | / |
| SHIMANE | BWR | 8 | 71/ 3/ 6(2ND-SINSEI) | / |
| FUKUSIMA-5 | BWR | 9 | 71/2/22(REV.0) | / |
| FUKUSIMA-4 | BWR | 10 | 71/ / (REV.0) | / |
| FUKUSIMA-6 | BWR | 11 | 71/12/21(REV.0) | 72/ 1 |
| TOKAI-2 | BWR | 12 | 71/12/21(REV.0) | 72/ 1 |
| TAKAHAMA-2 | PWR | 23 | 70/5/29(REV.0),70/10/13(R.1), | 71/ 1 |
| MIHAMA-3 | PWR | 27 | 71/7/12(REV.0) | / |

| IMPORTED | | COMPONENTS | | PLANT PERFORMANCE DATA | DATE=08/17/76 | PAGE***0- | 3*** |
|--------------|-----|------------|--|------------------------|---------------|-----------|------|
| | | | | 200 | | | |
| ONAGAWA | BWR | 4 | SAFETY VALVE, RELIEF VALVE, MAIN STEAM ISOLATION VALVE | | | 70/ 6 | |
| ONAGAWA | BWR | 4 | HPCI TURBINE PUMP, RCIC TURBINE PUMP, RECIRC. PUMP, | | | 70/ 6 | |
| ONAGAWA | BWR | 4 | MG-SET FLUID COUPLING, SOME OF NUCLEAR INSTRUMENTS, | | | 70/ 6 | |
| ONAGAWA | BWR | 4 | **KODJ KEIKAKU GAYDO PAGE 13. | | 70/6/20 | 70/ 6 | |
| HAMAOKA-1 | BWR | 5 | VALVES (PRIMARY COOLANT SYSTEM) | | POCK.B P196 | / | |
| HAMAOKA-1 | BWR | 5 | RECIRCULATION PUMPS | | POCK.B P197 | / | |
| HAMAOKA-1 | BWR | 5 | INSTRUMENTS, | | POCK.B P197 | / | |
| HAMAOKA-1 | BWR | 5 | PARTS (OFF GAS SYSTEM) | | POCK.B P197 | 71/ | |
| FUKUSIMA-1 | BWR | 6 | INITIAL CHARGE FUEL ASSEMBLIES, | | POCK.B P190 | 71/ | |
| FUKUSIMA-1 | BWR | 6 | STEAM SEPARATOR, DRYER, CORE SUPPORT STRUCTURE | | POCK.B P190 | 71/ | |
| FUKUSIMA-1 | BWR | 6 | RECIRCULATION PIPING | | POCK.B P190 | 71/ | |
| FUKUSIMA-1 | BWR | 6 | VALVES(RECIRC.LOOP-STOP-V., MAIN-STEAM-ISOLATION-V., | | POCK.B P190 | 71/ | |
| FUKUSIMA-1 | BWR | 6 | SAFETY-V., RELIEF-V.) | | POCK.B P190 | 71/ | |
| FUKUSIMA-1 | BWR | 6 | RECIRC.-PUMPS, INSTRUMENTS, CONTROL ROD AND DRIVE-MECH. | | POCK.B P191 | 71/ | |
| FUKUSIMA-1 | BWR | 6 | MAIN TURBINE AND GENERATOR | | POCK.B P191 | 71/ | |
| FUKUSIMA-1 | BWR | 6 | FILTER, RECOMBINER, COMPRESSOR (OFF GAS SYSTEM) | | POCK.B P191 | 71/ | |
| FUKUSIMA-1 | BWR | 6 | CENTRIFUGAL WATER SEPARATOR, DRUM PACKING MACHINE (SWDS) | | POCK.B P191 | 71/ | |
| FUKUSIMA-2,3 | BWR | 7 | (2-G00) STEAM SEPARATOR, DRYER, CORE SUPPORT STRUCTURE | | POCK.B P190 | 71/ | |
| FUKUSIMA-2,3 | BWR | 7 | (2-G00) SAFETY VALVES | | POCK.B P190 | 71/ | |
| FUKUSIMA-2,3 | BWR | 7 | (BOTH 2,3) MAIN-STEAM-ISOLATION-V., RELIEF-V | | POCK.B P190 | 71/ | |
| FUKUSIMA-2,3 | BWR | 7 | (BOTH 2,3) RECIRC.-PUMPS | | POCK.B P191 | 71/ | |
| FUKUSIMA-2,3 | BWR | 7 | (2-G00) INSTRUMENTS (WHOLE) | | POCK.B P191 | 71/ | |
| FUKUSIMA-2,3 | BWR | 7 | (3-G00) INSTRUMENTS (PARTS) | | POCK.B P191 | 71/ | |
| FUKUSIMA-2,3 | BWR | 7 | CONTROL ROD AND DRIVE MECHANISM | | POCK.B P191 | 71/ | |
| FUKUSIMA-2,3 | BWR | 7 | (2-G00) MAIN TURBINE, AND GENERATOR | | POCK.B P191 | 71/ | |
| FUKUSIMA-2,3 | BWR | 7 | (2-G00) FILTER, RECOMBINER, COMPRESSOR (OFF GAS SYSTEM) | | POCK.B P191 | 71/ | |
| FUKUSIMA-2,3 | BWR | 7 | (2-G00) CENT.-WATER-SEPARATOR, DRUM-PACK.-M. (SWDS) | | POCK.B P191 | 71/ | |
| SHIMANE | BWR | 8 | RECIRCULATION PUMPS | | POCK.B P195 | / | |
| SHIMANE | BWR | 8 | INSTRUMENTS, CONTROL-ROD AND DRIVE MECHANISM | | POCK.B P195 | / | |
| SHIMANE | BWR | 8 | FILTER ELEMENTS, COMPRESSOR (OFF GAS SYSTEM) | | POCK.B P195 | / | |
| MIHAMA-1 | PWR | 21 | INITIAL CHARGE FUEL ASSEMBLIES | | POCK.B P192 | 71/ | |
| MIHAMA-1 | PWR | 21 | PRESSURE VESSEL | | POCK.B P192 | 71/ | |
| MIHAMA-1 | PWR | 21 | CORE SUPPORT STRUCTURE, STEAM GENERATOR | | POCK.B P192 | 71/ | |
| MIHAMA-1 | PWR | 21 | PRIMARY PIPING AND ISOLATION VALVE | | POCK.B P192 | 71/ | |
| MIHAMA-1 | PWR | 21 | CHARGE PUMP, FILTER (CVCS) | | POCK.B P193 | 71/ | |
| MIHAMA-1 | PWR | 21 | PUMPS (PRIMARY COOLANT CIRCULATION) | | POCK.B P193 | 71/ | |
| MIHAMA-1 | PWR | 21 | HEATER AND SPRAY NOZZLE (PRESSURIZER) | | POCK.B P193 | 71/ | |
| MIHAMA-1 | PWR | 21 | INSTRUMENTS, CONTROL ROD AND DRIVE MECHANISM, | | POCK.B P193 | 71/ | |
| MIHAMA-1 | PWR | 21 | MONITOR AND OIL CLEANER (STEAM TURBINE) | | POCK.B P193 | / | |
| MIHAMA-1 | PWR | 21 | FLEXIBLE JOINT (ELECTRIC GENERATOR) | | POCK.B P193 | / | |
| MIHAMA-1 | PWR | 21 | COMPRESSOR,FILTER (OFF-GAS SYSTEM) | | POCK.B P193 | / | |
| MIHAMA-1 | PWR | 21 | TANK,PUMP,ION-EXCHANGER (LWDS) | | POCK.B P193 | / | |
| MIHAMA-2 | PWR | 22 | INITIAL CHARGE FUEL ASSEMBLIES | | POCK.B P192 | 71/ | |
| MIHAMA-2 | PWR | 22 | CORE SUPPORT STRUCTURE, | | POCK.B P192 | 71/ | |
| MIHAMA-2 | PWR | 22 | INCONEL TUBES AND STEAM SEPARATOR (PARTS OF STEAM GENE.) | | POCK.B P192 | 71/ | |
| MIHAMA-2 | PWR | 22 | CHARGE PUMP, FILTER (CVCS) | | POCK.B P193 | 71/ | |
| MIHAMA-2 | PWR | 22 | PUMPS (PRIMARY COOLANT CIRCULATION) | | POCK.B P193 | 71/ | |
| MIHAMA-2 | PWR | 22 | HEATER (PRESSURIZER), | | POCK.B P193 | 71/ | |

| IMPORTED | | COMPONENTS | | PLANT PERFORMANCE DATA | DATE=08/17/76 | PAGE***0- | 4*** |
|------------|-----|------------|---|------------------------|---------------|-----------|------|
| | | | | 200 | | | |
| MIHAMA-2 | PWR | 22 | INSTRUMENTS, CONTROL ROD AND DRIVE MECHANISM, | | POCK.B P193 | / | |
| MIHAMA-2 | PWR | 22 | COMPRESSOR,FILTER (OFF-GAS SYSTEM) | | POCK.B P193 | / | |
| MIHAMA-2 | PWR | 22 | EVAPOLATOR (LWDS) | | POCK.B P193 | / | |
| TAKAHAMA-1 | PWR | 25 | INSTRUMENTS, CONTROL ROD AND DRIVE MECHANISM, | | POCK.B P193 | / | |
| GENKAI-1 | PWR | 24 | RECIRCULATION PUMPS | | POCK.B P195 | / | |
| GENKAI-1 | PWR | 24 | HEATER (PRESSURIZER) | | POCK.B P195 | / | |
| GENKAI-1 | PWR | 24 | INSTRUMENT-PARTS, CONTROL-ROD AND DRIVE MECHANISM-PARTS | | POCK.B P195 | / | |
| TAKAHAMA-1 | PWR | 25 | INITIAL CHARGE FUEL ASSEMBLIES | | POCK.B P192 | 71/ | |
| TAKAHAMA-1 | PWR | 25 | CORE SUPPORT STRUCTURE, STEAM GENERATOR | | POCK.B P192 | 71/ | |
| TAKAHAMA-1 | PWR | 25 | PRIMARY PIPING AND ISOLATION VALVE | | POCK.B P192 | 71/ | |
| TAKAHAMA-1 | PWR | 25 | PRIMARY COOLANT PURIFICATION SYSTEM | | POCK.B P193 | 71/ | |
| TAKAHAMA-1 | PWR | 25 | PRIMARY COOLANT CIRCULATION SYSTEM | | POCK.B P193 | 71/ | |
| TAKAHAMA-1 | PWR | 25 | HEATER (PRESSURIZER), | | POCK.B P193 | / | |
| TAKAHAMA-1 | PWR | 25 | FILTER (OFF-GAS SYSTEM) | | POCK.B P193 | / | |
| TAKAHAMA-1 | PWR | 25 | EVAPOLATOR,FILTER (LWDS) | | POCK.B P193 | / | |
| FUGEN | ATR | 81 | PRESSURE TUBES | | POCK.B P197 | 71/ | |

| HISTORY OF | | CONSTRUCTION AND OPERATION | | PLANT PERFORMANCE DATA | DATE=08/17/76 | PAGE***0- | 4*** |
|------------|-----|----------------------------|--|------------------------|---------------|-----------|------|
| | | | | 300 | | | |
| JPDR-1 | BWR | 1 | 63/10/26 FULL POWER OPERATION | | | / | |
| MIHAMA-1 | PWR | 21 | 72/ 6/14 STEAM GENERATOR THIN TUBE FAILURE | | | / | |
| MIHAMA-2 | PWR | 22 | 72/ 8/11 MAIN TRANS OIL LEAK | | | / | |
| DRESDEN-1 | BWR | 55 | 57/ 3/ START OF CONSTRUCTION | | DNR V4 P91 | 62/ | |
| DRESDEN-1 | BWR | 55 | 59/10/ REACTOR CRITICAL | | DNR V4 P91 | 62/ | |
| DRESDEN-1 | BWR | 55 | 60/ 6/ FULL POWER OPERATION | | DNR V4-P91 | 62/ | |
| FUKUSIMA-1 | BWR | 6 | 66/12/ 8 CONSTRUCTION START (CONTRACT) | | KODNIN MEMO | 70/ 3 | |
| FUKUSIMA-1 | BWR | 6 | 67/ 9/19 REACTOR-CONTAINER SETTING START | | KODNIN MEMO | 70/ 3 | |
| FUKUSIMA-1 | BWR | 6 | 68/ 6/17-21 CONTAINER INITIAL PRESSURE-LEAK TEST | | KODNIN MEMO | 70/ 3 | |
| FUKUSIMA-1 | BWR | 6 | 69/ 5/21 PRESSURE VESSEL SETTING | | KODNIN MEMO | 70/ 3 | |
| FUKUSIMA-1 | BWR | 6 | 69/12/23 PRESSURE VESSEL, PRIMARY SYSTEM PRESSURE TEST | | KODNIN MEMO | 70/ 3 | |
| FUKUSIMA-1 | BWR | 6 | 70/ 3/31 275 KW SOURCE RECEIVE | | KODNIN MEMO | 70/ 3 | |
| FUKUSIMA-1 | BWR | 6 | 70/ 4/ 4 TURBINE AND GENERATOR SETTING START | | KODNIN MEMO | 70/ 3 | |
| FUKUSIMA-1 | BWR | 6 | 70/ 6/25-29 CONTAINER FINAL PRESSURE-LEAK TEST | | KODNIN MEMO | 70/ 3 | |
| FUKUSIMA-1 | BWR | 6 | 70/ 7/ 4 FUEL LOADING START | | KODNIN MEMO | 70/ 3 | |
| FUKUSIMA-1 | BWR | 6 | 70/ 7/ 5 MINIMUM CRITICAL | | KODNIN MEMO | 70/ 3 | |
| FUKUSIMA-1 | BWR | 6 | 70/ 7/22 FUEL LOADING FINISH | | KODNIN MEMO | 70/ 3 | |
| FUKUSIMA-1 | BWR | 6 | 70/ 9/ 8 TURBINE-GENERATOR TURNING START | | KODNIN MEMO | 70/ 3 | |
| FUKUSIMA-1 | BWR | 6 | 70/ 9/26 HEATING-UP START | | KODNIN MEMO | 70/ 3 | |
| TAKAHAMA-1 | PWR | 25 | 71/ 9/ 7 CONTAINER INITIAL PRESSURE-LEAK TEST | | / | | |
| YANKEE | | 69 | 57/11/ START OF CONSTRUCTION | | DNR V4 P33 | 61/ | |
| YANKEE | | 69 | 60/ 8/ REACTOR CRITICAL | | DNR V4 P33 | 61/ | |
| YANKEE | | 69 | 61/ 1/ PRELIMINARY OPERATION AND TESTS (392 MW) | | DNR V4 P33 | 61/ | |
| YANKEE | | 69 | 61/ 6/ FULL DESIGN POWER (485 MW) | | DNR V4 P33 | 61/ | |
| SAXTON | | 70 | 60/ 2/ START OF CONSTRUCTION | | DNR V4 P47 | 61/ | |

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| SA | DEFIN. OF AB-TRA | 10000 | | |
|-------------|---------------------|-------|--|-------|
| | | | (A)=SINGLE COMPONENT FAILURE, OR SINGLE COMPONENT MALFUNCTION (B)=SINGLE MISS OF OPERATOR *ABNORMAL TRANSIENT* IS DEFINED AS ONE WHICH IS INDUCED BY (AS FOLLOWS). | |
| ONAGAWA | BWR 4 ((A),OR.(B)) | | 10-1-(1) | 70/ 5 |
| HAMAOKA-1 | BWR 5 ((A),OR.(B)) | | 10-1 | 70/ 5 |
| FUKUSIMA-5 | BWR 9 ((A),OR.(B)) | | 10-1-(1) | 71/ 2 |
| FUKUSIMA-4 | BWR 10 ((A),OR.(B)) | | 10-1-(1) | 71/ 8 |
| FUKUSIMA-6 | BWR 11 ((A),OR.(B)) | | 10-1-(1) | 71/12 |
| TOOKAI-2 | BWR 12 ((A),OR.(B)) | | 10-1-(1) | 71/12 |
| HAMAOKA-2 | BWR 13 ((A),OR.(B)) | | 10-1 | 73/ 5 |
| KASHIWAZAKI | BWR 15 ((A),OR.(B)) | | 10-1-1 | 75/ 3 |

| SA | DEFINITION OF ACCIDENT | 10020 | | |
|-------------|--|-------|--|-------|
| | | | (A)=TWO OR MORE COMPONENTS FAILURES (B)=TWO OR MORE MISSES BY OPERATOR (C)=COMBINED MISSES (COMPONENT AND OPERATOR) (D)=DEFECT OF (PRIMARY SYSTEM PIPING OR OTHERS) (E)=ABNORMAL CONDITION THAT THE PROBABILITY OF OCCURENCE IS VERY FEW (F)=DEFECT OF REACTOR-COOLANT-PRESSURE-BOUNDARY (X)=PROBABILITY OF (RADIO ACTIVES LEAK OUT TO THE SURROUNDINGS). *ACCIDENT* IS DEFINED AS ONE WHICH IS INDUCED BY (1),AND IS LEAD (2). -----CAUSE----- RESULT | |
| ONAGAWA | BWR 4 (1)=((A),OR.(B),OR.(C),OR.(D)), (2)=(X) | | 10-1-(1) | 70/ 5 |
| HAMAOKA-1 | BWR 5 (1)=((A),OR.(B),OR.(C),OR.(D)), (2)=(X) | | 10-1 | 70/ 5 |
| FUKUSIMA-5 | BWR 9 (1)=((A),OR.(B),OR.(C),OR.(D)), (2)=(X) | | 10-1-(1) | 71/ 2 |
| FUKUSIMA-4 | BWR 10 (1)=((A),OR.(B),OR.(C),OR.(D)), (2)=(X) | | 10-1-(1) | 71/ 8 |
| FUKUSIMA-6 | BWR 11 (1)=((A),OR.(B),OR.(C),OR.(D)), (2)=(X) | | 10-1-(1) | 71/12 |
| TOOKAI-2 | BWR 12 (1)=((A),OR.(B),OR.(C),OR.(D)), (2)=(X) | | 10-1-(1) | 71/12 |
| HAMAOKA-2 | BWR 13 (1)=((A),OR.(B),OR.(C),OR.(D)), (2)=(X) | | 10-1 | 73/ 5 |
| KASHIWAZAKI | BWR 15 (1)=((E),AND.(F)) (2)=(X) | | 10-1-1 | 75/ 3 |

| SAFETY | STANDARD UNDER | AB-TRA | 10100 | |
|-------------|--|--------|--|-------|
| | | | *ABNORMAL TRANSIENT* IS DEFINED IN 10000. (A)=DO NOT EXCEED THE (FUEL DEFECT LIMITATION). (B)=DO NOT EXCEED THE DESIGN LIMIT OF (REACTOR COOLANT PRES.BOUNDARY). | |
| ONAGAWA | BWR 4 (A) | | 10-1-(1) | 70/ 5 |
| HAMAOKA-1 | BWR 5 (A) | | 10-1 | 70/ 5 |
| FUKUSIMA-5 | BWR 9 ((A),AND.(B)) | | 10-1-(1) | 71/ 2 |
| FUKUSIMA-4 | BWR 10 ((A),AND.(B)) | | 10-1-(1) | 71/ 8 |
| FUKUSIMA-6 | BWR 11 ((A),AND.(B)) | | 10-1-(1) | 71/12 |
| TOOKAI-2 | BWR 12 ((A),AND.(B)) | | 10-1-(1) | 71/12 |
| HAMAOKA-2 | BWR 13 ((A),AND.(B)) | | 10-1 | 73/ 5 |
| KASHIWAZAKI | BWR 15 ((A),AND.(B)) B=LT 96.7KG/CM2G =1.1*(87.9KG/CM2G=DES.P) | | 10-1-1 | 75/ 3 |

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| SAFETY | STANDARD UNDER | ACCIDENT | 10120 | |
|-------------|---|----------|---|-------|
| | | | *ACCIDENT* IS DEFINED IN 10020. (A)=THE EFFECT OF RADIAL RAYS TO GENERAL PUBLIC DOES NOT EXCEED THE STANDARD WHICH IS DECIDED BY JAPANESE LAW OR GUIDE. (B)=DOES NOT GIVE A DAMAGE TO (REACTOR COOLANT PRESSURE BOUNDARY) BY SOME FORCE WHICH IS INDUCED BY ACCIDENT. (C)=IN CASE OF HYPOTHETICAL ACCIDENT WHICH MIGHT LEAD THE DAMAGE TO (REACTOR PRESSURE BOUNDARY), IT DOES NOT LEAD TO ANY MORE OTHER DAMAGE OR DAMAGE OF OTHER BOUNDARY. (D)=REACTOR PLANT SHOULD BE MAINTAINED IN SAFETY. (E)=IN CASE OF LOCA, IT DOES NOT LEAD ANY MORE OTHER DAMAGE. | |
| ONAGAWA | BWR 4 ((A),AND.(B),AND.(C)) | | 10-1-(1) | 70/ 5 |
| HAMAOKA-1 | BWR 5 ((A)(EXCEPT LAW),AND.(B),AND.(C)) | | 10-1 | 70/ 5 |
| FUKUSIMA-5 | BWR 9 ((A),AND.(B),AND.(C)) | | 10-1-(1) | 71/ 2 |
| FUKUSIMA-4 | BWR 10 ((A),AND.(B),AND.(C)) | | 10-1-(1) | 71/ 8 |
| FUKUSIMA-6 | BWR 11 ((A),AND.(B),AND.(C)) | | 10-1-(1) | 71/12 |
| TOOKAI-2 | BWR 12 ((A),AND.(B),AND.(C)) | | 10-1-(1) | 71/12 |
| HAMAOKA-2 | BWR 13 ((A),AND.(B),AND.(C)) | | 10-1 | 73/ 5 |
| KASHIWAZAKI | BWR 15 ((D),AND.(A)) | | 10-1-2 | 75/ 3 |

| KIND OF | AB-TRA | FROM | VARIOUS SYSTEMS | 20000 | |
|-------------|----------------------------|------|---|------------|-------|
| | | | (A)=ABNORMAL TRANSIENT INDUCED FROM RECIRC. SYSTEM (B)=ABNORMAL TRANSIENT INDUCED FROM FEED WATER SYSTEM (C)=ABNORMAL TRANSIENT INDUCED FROM MAIN STEAM SYSTEM (D)=ABNORMAL TRANSIENT INDUCED FROM CONTROL SYSTEM (E)=OTHERS SUCH AS AUX. POWER SUPPLY SYSTEM | | |
| ONAGAWA | BWR 4 (A),(B),(C),(D),(E) | | | 10-2-(1,8) | 70/ 5 |
| HAMAOKA-1 | BWR 5 (A),(B),(C),(D),(E) | | | 10-2-11 | 70/ 5 |
| FUKUSIMA-5 | BWR 9 (A),(B),(C),(D),(E) | | | 10-2-(1,9) | 71/ 2 |
| FUKUSIMA-4 | BWR 10 (A),(B),(C),(D),(E) | | | 10-2-(1,9) | 71/ 8 |
| FUKUSIMA-6 | BWR 11 (A),(B),(C),(D),(E) | | | 10-2-(1,8) | 71/12 |
| TOOKAI-2 | BWR 12 (A),(B),(C),(D),(E) | | | 10-2-(1,8) | 71/12 |
| HAMAOKA-2 | BWR 13 (A),(B),(C),(D),(E) | | | 10-1 | 73/ 5 |
| KASHIWAZAKI | BWR 15 (A),(B),(C),(D),(E) | | | 10-2-1 | 75/ 3 |

| KIND OF | AB-TRA | FROM | RECIRC. SYSTEM | 21000 | |
|------------|--|------|---|----------|-------|
| | | | (A)=TROUBLE OF M-G OR RECIRCULATION PUMP (B)=MULFUNCTION OF REGULATOR ON RECIRCULATION SYSTEM (C)=MISS START UP OF RECIRC. LOOP WITHOUT WALN-UP | | |
| ONAGAWA | BWR 4 (A),(B),(C) (A)=21110,21120. (B)=21200. (C)=21320,21360 | | | 10-2-(1) | 70/ 5 |
| HAMAOKA-1 | BWR 5 (A),(B),(C) (A)=21110,21120. (B)=21200. (C)=21320,21360 | | | 10-2 | 70/ 5 |
| FUKUSIMA-5 | BWR 9 (A),(B),(C) (A)=21110,21120. (B)=21200. (C)=21320,21360 | | | 10-2-(1) | 71/ 2 |
| FUKUSIMA-4 | BWR 10 (A),(B),(C) (A)=21110,21120. (B)=21200. (C)=21320,21360 | | | 10-2-(1) | 71/ 8 |
| FUKUSIMA-6 | BWR 11 (A),(B),(C) (A)=21110,21120. (B)=21200. (C)=21320,21360 | | | 10-2-(1) | 71/12 |
| TOOKAI-2 | BWR 12 (A),(B),(C) (A)=21110,21120. (B)=21200. (C)=21320,21360 | | | 10-2-(1) | 71/12 |
| HAMAOKA-2 | BWR 13 (A),(B),(C) (A)=21110,21120. (B)=21200. (C)=21320,21360 | | | 10-2 | 73/ 5 |

AB-TRA RECIRC. PUMP TRIP 21110

(A)=TWO RECIRC PUMPS TRIP
 (R)=ONE RECIRC PUMP TRIP
 (S)=TURBINE-TRIP-SCRAM AFTER 4 SEC (REACTOR-WATER-LEVEL-HIGH)
 (X)=REACTOR POWER WILL SETTLE DOWN TO NAT. CIRC. CONDITION.
 CONDITION MIN. THERMAL MARGIN SCRAM RESULT

| UNIT | TYPE | NO. | COND. | MARG. | SCRAM | RESULT | TIME | PERF. |
|-------------|------|-----|-------|--------------------------|-------|--------|----------|-------|
| ONAGAWA | BWR | 4 | (A) | MCHFR=1.6 AFTER 1.4 SEC. | NONE | (X) | 10-2-(1) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | (A) | MCHFR=1.6 AFTER 1.4 SEC | NONE | (X) | 10-2 | 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | (A) | MCHFR=1.5 AFTER 2.8 SEC | NONE | (X) | 10-2-(1) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | (A) | MCHFR=1.5 AFTER 2.8 SEC | NONE | (X) | 10-2-(1) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | (A) | MCHFR=1.4 AFTER 2.0SEC | NONE | (X) | 10-2-(1) | 71/12 |
| TODOKAI-2 | BWR | 12 | (A) | MCHFR=1.4 AFTER 2.0SEC | NONE | (X) | 10-2-(1) | 71/12 |
| HAMAOKA-2 | BWR | 13 | (A) | MCHFR=1.26 AFTER 2.5 SEC | NONE | (X) | 10-2 | 73/ 5 |
| KASHIWAZAKI | BWR | 15 | (A) | MCHFR=1.3 AFTER 2.0SEC | YES | (S1) | 10-2-11 | 75/ 3 |
| KASHIWAZAKI | BWR | 15 | (B) | MCHFR=1.4 AFTER 2.0SEC | NONE | | 10-2-12 | 75/ 3 |

AB-TRA RECIRC. PUMP SHAFT STICK 21120

(A)=SINGLE RECIRC. PUMP SHAFT STICK (SUDDENLY STOP)
 (S)=TURBINE-TRIP-SCRAM AFTER 3.5 SEC(REACTOR-WATER-LEVEL-HIGH)
 (X)=MCHFR IS RECOVER IN A SHORT TIME. (ABOUT 5 SEC)
 (Y)=MCHFR IS RECOVER IN A SHORT TIME
 CONDITION MIN. THERMAL MARGIN SCRAM RESULT

| UNIT | TYPE | NO. | COND. | MARG. | SCRAM | RESULT | TIME | PERF. |
|-------------|------|-----|-------|--------------------------|-------|--------|----------|-------|
| ONAGAWA | BWR | 4 | (A) | MCHFR=1.1 AFTER 1.2 SEC | NONE | (X) | 10-2-(1) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | (A) | MCHFR=1.1 AFTER 1.2 SEC | NONE | (X) | 10-3 | 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | (A) | MCHFR=1.1 AFTER 1.05 SEC | NONE | (X) | 10-2-(1) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | (A) | MCHFR=1.1 AFTER 1.05 SEC | NONE | (X) | 10-2-(1) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | (A) | MCHFR=1.06 AFTER 1.3 SEC | NONE | (Y) | 10-2-(1) | 71/12 |
| TODOKAI-2 | BWR | 12 | (A) | MCHFR=1.06 AFTER 1.3 SEC | NONE | (Y) | 10-2-(1) | 71/12 |
| HAMAOKA-2 | BWR | 13 | (A) | MCHFR=1.08 AFTER 1.7 SEC | NONE | (Y) | 10-2 | 73/ 5 |
| KASHIWAZAKI | BWR | 15 | (A) | MCHFR=1.1 AFTER 1.3 SEC | YES | (S1) | 10-2-9 | 75/ 3 |

AB-TRA RECIRC. FLOW REGULATO R MALFUNC. 21200

(A)=MAX. CHANGE RATIO OF RECIRC. FLOW. (B)=RELATED FLOW
 (C)=CHANGE RATIO OF THERMAL POWER
 (1)=(A) IS RESTRICTED BY (SOKUDO YODKYUU GOSA SEIGENKI).
 (2)=(A) IS RESTRICTED BY (SCOOP TUBE SOOSA SOKUDO SEIGENKI).

| UNIT | TYPE | NO. | COND. | MARG. | SCRAM | RESULT | TIME | PERF. |
|-------------|------|-----|--|-------|-------|--------|----------|-------|
| ONAGAWA | BWR | 4 | CASE(1)---(A)=4.0 PC/SEC(CORRESPOND TO 3.6 PC/SEC OF(C)) | | | | 10-2-(2) | 70/ 5 |
| ONAGAWA | BWR | 4 | CASE(2)---(A)=5.7 PC/SEC OF (B) | | | | 10-2-(2) | 70/ 5 |
| ONAGAWA | BWR | 4 | CASE(1) AND (2) ARE BOTH SAFE SIDE THAN (ONE PUMP TRIP) | | | | 10-2-(2) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | CASE(1) AND (2) ARE BOTH SAFE SIDE THAN (TWO PUMPS TRIP) | | | | 10-3 | 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | CASE(1)---(A)=4.3 PC/SEC(CORRESPOND TO 2.9 PC/SEC OF(C)) | | | | 10-2-(2) | 71/ 2 |
| FUKUSIMA-5 | BWR | 9 | CASE(2)---(A)=6.3 PC/SEC OF (B) | | | | 10-2-(2) | 71/ 2 |
| FUKUSIMA-5 | BWR | 9 | CASE(1) AND (2) ARE BOTH SAFE SIDE THAN (ONE PUMP TRIP). | | | | 10-2-(2) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | CASE(1)---(A)=4.3 PC/SEC(CORRESPOND TO 2.9 PC/SEC OF(C)) | | | | 10-2-(2) | 71/ 8 |
| FUKUSIMA-4 | BWR | 10 | CASE(2)---(A)=6.3 PC/SEC OF (B) | | | | 10-2-(2) | 71/ 8 |
| FUKUSIMA-4 | BWR | 10 | CASE(1) AND (2) ARE BOTH SAFE SIDE THAN (ONE PUMP TRIP). | | | | 10-2-(2) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | INITIAL CONDITION IS 68PC OF RATED POWER, THEN FLOW INCREASE. | | | | 10-2-(2) | 71/12 |
| FUKUSIMA-6 | BWR | 11 | RESULT= N.FLUX-HIGH-SCRAM,(404PC OF RATED N.FLUX AFTER 1.5SEC. LHGR=83.4PC OF RATED-LHGR, MCHFR=2.4 | | | | 10-2-(2) | 71/12 |
| FUKUSIMA-6 | BWR | 11 | FUEL-CENTER-TEMP. INCREASE = 95 DEG-C | | | | 10-2-(2) | 71/12 |
| TODOKAI-2 | BWR | 12 | INITIAL CONDITION IS 68PC OF RATED POWER, THEN FLOW INCREASE. | | | | 10-2-(2) | 71/12 |
| TODOKAI-2 | BWR | 12 | RESULT= N.FLUX-HIGH-SCRAM,(404PC OF RATED N.FLUX AFTER 1.5SEC. LHGR=83.4PC OF RATED-LHGR, MCHFR=2.4 | | | | 10-2-(2) | 71/12 |
| TODOKAI-2 | BWR | 12 | FUEL-CENTER-TEMP. INCREASE = 95 DEG-C | | | | 10-2-(2) | 71/12 |
| HAMAOKA-2 | BWR | 13 | CASE(1) AND (2) ARE BOTH SAFE SIDE THAN (TWO PUMPS TRIP) | | | | 10-3 | 73/ 5 |
| KASHIWAZAKI | BWR | 15 | CASE(1)FLOW UECREASE 10.0 PC/SEC (ASSUMED) | | | | 10-2-13 | 75/ 3 |
| KASHIWAZAKI | BWR | 15 | CASE(2)FLOW INCREASE 10.0 PC/SEC ,(AT 68 PC OF RATED POWER, 51.PC OF RATED FLOW. ASSUMED) | | | | 10-2-14 | 75/ 3 |
| KASHIWAZAKI | BWR | 15 | RESULT OF CASE(1) | | | | 10-2-14 | 75/ 3 |
| KASHIWAZAKI | BWR | 15 | MCHFR=1.3 AFTER 6 SEC. REACTOR-WATER-LEVEL-HIGH, TURBINE-TRIP, SCRAM. | | | | 10-2-14 | 75/ 3 |
| KASHIWAZAKI | BWR | 15 | THIS PHENOMENA IS SIMILAR TO TWO-RECIRC.PUMP-TRIP. | | | | 10-2-14 | 75/ 3 |
| KASHIWAZAKI | BWR | 15 | RESULT OF CASE(2) | | | | 10-2-15 | 75/ 3 |
| KASHIWAZAKI | BWR | 15 | N.FLUX-HIGH-SCRAM,(180PC OF RATED N.FLUX AFTER 1.2 SEC),LHGR=85.PC OF RATED, AFTER 3SEC, MCHFR IS MAINTAINED ABOVE 1.9 | | | | 10-2-15 | 75/ 3 |
| KASHIWAZAKI | BWR | 15 | | | | | 10-2-15 | 75/ 3 |

AB-TRA MISS START-UP OF COLD RECIRC. LOOP (1) 21320

INITIAL CONDITION BEFORE MISS START UP
 (A)=STANDSTILL COLD LOOP IS FILLED UP WITH (A) DEG C WATER.
 (B)=COOLANT IS FLOWING IN CORE AT (B) PC/RATED FLOW AND A PART FLOW OF NORMAL LOOP IS FLOWING THROUGH STANDSTILL LOOP IN THE OPPOSITE DIRECTION.
 (C)=REACTOR IS BEING OPERATED AT (C) PC/RATED POWER.
 (D)=NORMALLY RECIRC. PUMP IS BEING OPERATED AT THE SPEED WHICH PRODUCE (D) PC/RATED FLOW THROUGH JET PUMP DIFFUSER.
 (E)=SUCTION VALVE IS OPEN (PUMP OF STANDSTILL LOOP)
 =BY PASS VALVE IS OPEN (PUMP OF STANDSTILL LOOP)
 =DELIVER VALVE IS CLOSE (PUMP OF STANDSTILL LOOP)
 (F)=FLUID COUPLING OF STANDSTILL PUMP IS BEING PRESETTED SO THAT THE GENERATOR SPEED MAY APPROACH TO (F) PC/RATED SPEED AFTER START.

| | (A) WATER TEMP. | (B) IN CORE FLOW | (C) REACTOR POWER | (D) J.PUMP DIFFUS.F | (E) GENER. SPEED | | | | |
|-------------|-----------------|------------------|-------------------|---------------------|------------------|-----|--------|----------|-------|
| DNAGAWA | BWR 4 | 38 DEG C | 40. PC | 60. PC | 95. PC | YES | 50. PC | 10-2-(2) | 70/ 5 |
| HAMAOKA-1 | BWR 5 | 38 DEG C | 40. PC | 60. PC | 96. PC | YES | 50. PC | 10-3,4 | 70/ 5 |
| FUKUSIMA-5 | BWR 9 | 38 DEG C | 40. PC | 60. PC | 96. PC | YES | 50. PC | 10-2-(2) | / |
| FUKUSIMA-4 | BWR 10 | 38 DEG C | 40. PC | 60. PC | 96. PC | YES | 50. PC | 10-2-(2) | 71/ 8 |
| FUKUSIMA-6 | BWR 11 | 38 DEG C | 40. PC | 60. PC | 87. PC | YES | | 10-2-(2) | 71/12 |
| TOKAI-2 | BWR 12 | 38 DEG C | 40. PC | 60. PC | 87. PC | YES | | 10-2-(2) | 71/12 |
| HAMAOKA-2 | BWR 13 | 38 C | 40. PC | 60. PC | 96. PC | YES | 50PC | 10-3 | 73/ 5 |
| KASHIWAZAKI | BWR 15 | 38 DEG C | 40. PC | 50. PC | 106. PC | YES | | 10-2-16 | 75/ 3 |

AB-TRA MISS START-UP OF COLD RECIRC. LOOP (2) 21340

COLD RECIRC. LOOP MISS START UP
 CASE(A) CONSEQUENCE
 (A1)= AT 0 SEC. M-G TURN ON
 (A2)=MOTOR(M-G) RUNS TO SYNCHRO SPEED IMMEDIATELY
 AT (A2)SEC, GENERATOR REACHES (A2)PC SPEED/RATED POWER
 (A3)=GENERATOR SUPPLIES POWER TO PUMP MOTOR,
 AT (A3)SEC, PUMP SPEED REACHES (A3)PC/RATED, AND
 AT (A4)SEC, PUMP SPEED DECREASE (A3)PC/RATED.
 =SIMULTANEOUSLY WITH THE INTERLOCK FREE OF DRIVE MOTOR BREAKER,
 PUMP DELIVER VALVE BEGINS TO OPEN, AND REACHES FULL OPEN AT (A4)SEC.
 CASE(B) CONSEQUENCE
 (B1)= AT 0 SEC. PUMP MOTOR TURN ON
 (B2)=MOTOR REACHES TO RATED-SPEED AFTER (B2)SEC.
 GEN.SPD P.SPD P.SPD VALVE P.SPD
 (A21)A22)(A31/A32)(A33/A34) (A41) (B21)
 PC./SEC PC./SEC PC./SEC SEC SEC

| DNAGAWA | BWR 4 | 65./6. | 50./7. | 20./50. | 30. | | | 10-2-(2) | 70/ 5 |
|-------------|--------|---------|--------|---------|-----|-----|--|------------|-------|
| HAMAOKA-1 | BWR 5 | 100./6. | /7. | 20./ | 30. | | | 10-4 | 70/ 5 |
| FUKUSIMA-5 | BWR 9 | 80./5. | 50./6. | 20./40. | 30. | | | 10-2-(2,3) | 71/ 2 |
| FUKUSIMA-4 | BWR 10 | 80./5. | 50./6. | 20./40. | 30. | | | 10-2-(2,3) | 71/ 8 |
| FUKUSIMA-6 | BWR 11 | | | | | 7.0 | | 10-2-(2) | 71/12 |
| TOKAI-2 | BWR 12 | | | | | 7.0 | | 10-2-(2) | 71/12 |
| HAMAOKA-2 | BWR 13 | 75./6. | /6.5 | 20./40. | 30. | | | 10-3,4 | 73/ 5 |
| KASHIWAZAKI | BWR 15 | | | | | 2.5 | | 10-2-16 | 75/ 3 |

AB-TRA MISS START-UP OF COLD RECIRC. LOOP (3) 21360

RESULTS (COLD RECIRC. LOOP MISS START-UP)
 (A)=NEUTRON FLUX INCREASES UP TO ABOUT (A1) PC IN A VERY SHORT SPAN.
 BUT SURFACE HEAT FLUX INCREASES GRADUALLY BECAUSE FUEL HAS HEAT CAPACITY.

| DNAGAWA | BWR 4 | (A1)=100.PERCENT | MCHFR=2.0 | | | | | 10-2-(3) | 70/ 5 |
|-------------|--------|--|-----------|--|--|--|--|----------|-------|
| HAMAOKA-1 | BWR 5 | (A1)=110.PERCENT | MCHFR=2.0 | | | | | 10-4 | 70/ 5 |
| FUKUSIMA-5 | BWR 9 | (A1)= 91.PERCENT | MCHFR=2.0 | | | | | 10-2-(3) | 71/ 2 |
| FUKUSIMA-4 | BWR 10 | (A1)= 91.PERCENT | MCHFR=2.0 | | | | | 10-2-(3) | 71/ 8 |
| FUKUSIMA-6 | BWR 11 | (A1)=110.PERCENT | MCHFR=2.0 | | | | | 10-2-(2) | 71/12 |
| TOKAI-2 | BWR 12 | (A1)=110.PERCENT | MCHFR=2.0 | | | | | 10-2-(2) | 71/12 |
| HAMAOKA-2 | BWR 13 | (A1)=108.PERCENT | MCHFR=1.1 | | | | | 10-4 | 73/ 5 |
| KASHIWAZAKI | BWR 15 | (A1)=125PC AFTER 3SEC.MCHFR=GT 1.9 AFTER 17SEC | | | | | | 10-2-17 | 75/ 3 |

KIND OF AB-TRA FROM FEEDWATER SYSTEM 22000

(A)=TROUBLE OF FEED WATER CONTROLLER
 (B)=LOSS OF FEED WATER HEATER
 (C)=LOSS OF FEED WATER

| DNAGAWA | BWR 4 | (A),(B),(C) | (A)=22100,(B)=22200,(C)= | | | | | 10-2-(3) | 70/ 5 |
|-------------|--------|-------------|--------------------------------|--|--|--|--|----------|-------|
| HAMAOKA-1 | BWR 5 | (A),(B),(C) | (A)=22100,(B)=22200,(C)=22300, | | | | | 10-4 | 70/ 5 |
| FUKUSIMA-5 | BWR 9 | (A),(B),(C) | (A)=22100,(B)=22200,(C)=22300, | | | | | 10-2-(3) | 71/ 2 |
| FUKUSIMA-4 | BWR 10 | (A),(B),(C) | (A)=22100,(B)=22200,(C)=22300, | | | | | 10-2-(3) | 71/ 8 |
| FUKUSIMA-6 | BWR 11 | (A),(B),(C) | (A)=22100,(B)=22200,(C)=22300 | | | | | 10-2-(3) | 71/12 |
| TOKAI-2 | BWR 12 | (A),(B),(C) | (A)=22100,(B)=22200,(C)=22300 | | | | | 10-2-(3) | 71/12 |
| HAMAOKA-2 | BWR 13 | (A),(B),(C) | (A)=22100,(B)=22200,(C)=22300 | | | | | 10-4 | 73/ 5 |
| KASHIWAZAKI | BWR 15 | (A),(B),(C) | (B)=22100,(A)=22200,(C)=22300 | | | | | 10-2-3 | 75/ 3 |

AB-TRA TROUBLE OF FEED WATER CONTROLLER 22100

(1)=INITIAL CONDITION (A)PC/RATED POWER, (B)PC/RATED FLOW IN CORE
 (2)=TROUBLE PROCESS. IN THE CAUSE OF CONTROLLER TROUBLE
 FEED WATER FLOW INCREASE (C)PC/RATED FLOW
 SURCOOL INCREASE
 VOID DECREASE
 POWER INCREASE
 TURBINE TRIP AT (D) SEC. BY THE SIGNAL OF WATER LEVEL HIGH
 SCRAM AT THE SAME TIME TURBINE TRIP
 RV=RELIEF VALVE, SV=SAFETY VALVE, NA=DO NOT ACT
 P.WATER FLOW F.WATER FLOW MAX.PRESS.
 (A) (B) (C) (D) SCRAM MCHFR KG/SQCMG RV, SV.

| DNAGAWA | BWR 4 | 65PC | 45PC | 110PC | 7.5EC | YES | 2.0 | 73.2 | NA | NA | 10-2-(3) | 70/ 5 |
|-------------|--------|------|------|-------|-------|-----|-------|------|-----|-----|----------|-------|
| HAMAOKA-1 | BWR 5 | 65PC | 45PC | 110PC | 7.5EC | YES | 2.0 | 73.2 | NA | NA | 10-5 | 70/ 5 |
| FUKUSIMA-5 | BWR 9 | 65PC | 45PC | 110PC | 8.5EC | YES | 2.0 | 76.5 | NA | NA | 10-2-(3) | 71/ 2 |
| FUKUSIMA-4 | BWR 10 | 65PC | 45PC | 110PC | 7.5EC | YES | 2.0 | 73. | NA | NA | 10-2-(3) | 71/ 8 |
| FUKUSIMA-6 | BWR 11 | 68PC | | 115PC | 5.5EC | YES | 2.2 | 76.8 | NA | NA | 10-2-(3) | 71/12 |
| TOKAI-2 | BWR 12 | 68PC | | 115PC | 5.5EC | YES | 2.2 | 76.8 | NA | NA | 10-2-(3) | 71/12 |
| HAMAOKA-2 | BWR 13 | 65PC | 40PC | 110PC | 6 SEC | YES | 1.6 | 74.4 | NA | NA | 10-4 | 73/ 5 |
| KASHIWAZAKI | BWR 15 | 68PC | | 115PC | 6.5EC | YES | GT1.9 | 76.8 | ACT | ACT | 10-2-18 | 75/ 3 |

AB-TRA LOSS OF FEED WATER

HEATER 22200

CASE(1)=LOSS OF EXTRACTED STEAM BY EXTRACT VALVE TRIP
 CASE(2)=FEED WATER BY PASS
 (A)=WHEN FEED WATER TEMP. FALL DOWN (A) DEG C FROM RATED TEMP.
 (B)=DELAY TIME WHICH FEED WATER FLOWS THROUGH FROM HEATER TO SPARGER
 IS (B) SEC. BUT THIS DELAY EFFECT IS NEGLECTED.
 TRANSIENT POWER UP, RECIRC. FLOW CONTROLLER ACT, AND RECIRC. FLOW
 DECREASE TO (C)PC/RATED FLOW.

| | (A) | (B) | (C) | SCRAM | MCHFR | | |
|-------------|--------|----------|--------|-------|-------|------|----------------|
| ONAGAWA | BWR 4 | 45 DEG C | 25.SEC | 96 PC | NOT. | 1.6 | 10-2-(4) 70/ 5 |
| HAMAOKA-1 | BWR 5 | 45 DEG C | 25.SEC | 95 PC | NOT. | 1.6 | 10-7 70/ 5 |
| FUKUSIMA-5 | BWR 9 | 55 DEG C | 25.SEC | 86 PC | NOT. | 1.4 | 10-2-(4) 71/ 2 |
| FUKUSIMA-4 | BWR 10 | 55 DEG C | 25.SEC | 86 PC | NOT. | 1.4 | 10-2-(4) 71/ 8 |
| FUKUSIMA-6 | BWR 11 | 55 DEG C | 25.SEC | 85 PC | NOT. | 1.2 | 10-2-(3) 71/12 |
| TOKAI-2 | BWR 12 | 55 DEG C | 25.SEC | 85 PC | NOT | 1.2 | 10-2-(3) 71/12 |
| HAMAOKA-2 | BWR 13 | 55 DEG C | | 91 PC | NOT | 1.25 | 10-5 73/ 5 |
| KASHIWAZAKI | BWR 15 | 55 DEG C | | 80 PC | NOT | 1.3 | 10-2-19 75/ 3 |

AB-TRA LOSS OF FEED WATER

22300

ASSUMPTION=IT TAKES (A) SECONDS FROM THE BEGINNING OF DECREASE TO
 ENTIRELY STOP IN FLOW.
 SCRAM =AT (B) SEC. (SCRAM ITEM IS (WATER LEVEL LUM))
 PUMP SPEED=DECREASE TO (C)PC, WITH DELAY TIME (E)SEC. IN ORDER TO AVOID
 CAVITATION WHEN THE FEED WATER FLOW DECREASE TO (D)PC WITH
 INTERLOCK FROM RECIRC. FLOW CONTROLLER.

MCHFR(1) =IS Milder THAN THE CASE OF (TWO RECIRC. PUMPS TRIP-21110)

| | (A) | SCRAM/(B) | (C) | (D) | (E) | MCHFR | |
|-------------|--------|-----------|------------|------------------------|-------|----------------|----------------|
| ONAGAWA | BWR 4 | 4. SEC | YES/12.SEC | 20.PC | 20.PC | (1) | 10-2-(4) 70/ 5 |
| HAMAOKA-1 | BWR 5 | 4-5SEC | YES/12.SEC | 20.PC | 20.PC | (1) | 10-6 70/ 5 |
| FUKUSIMA-5 | BWR 9 | 4. SEC | YES/11.SEC | 20.PC | 20.PC | (1) | 10-2-(4) 71/ 2 |
| FUKUSIMA-4 | BWR 10 | 4. SEC | YES/8.5SEC | 20.PC | 20.PC | 15. SEC GT 1.9 | 10-2-(4) 71/ 8 |
| FUKUSIMA-6 | BWR 11 | 5. SEC | YES/ 7.SEC | | 20.PC | (1) | 10-2-(4) 71/12 |
| TOKAI-2 | BWR 12 | 5. SEC | YES/ 7.SEC | | | (1) | 10-2-(4) 71/12 |
| HAMAOKA-2 | BWR 13 | 4. SEC | YES/7.6SEC | 20.PC | 20.PC | 15. SEC | 10-5 73/ 5 |
| KASHIWAZAKI | BWR 15 | 5. SEC | YES/ 6.SEC | REACTOR P.=76.6KG/CM2G | | (1) | 10-2-21 75/ 3 |

KIND OF AB-TRA FROM MAIN

STEAM SYSTEM 23000

(A)=GENERATOR TRIP (TURBINE REGULATE VALVE PROMPT CLOSE) 23100
 (B)=TURBINE TRIP (MAIN STEAM STOP VALVE PROMPT CLOSE) 23200
 (C)=MAIN STEAM ISOLATION VALVE CLOSE 23300
 (D)=MALFUNCTION OF INITIAL PRESSURE ADJUSTER 23400
 (E)=PRESSURE RELIEF VALVE OPEN 23500

AB-TRA GENERATOR TRIP

23100

(1)CONDITION

(X)=ON THIS CONDITION, REACTOR TO BE SCRAMMED, BUT THIS SCRAM
 CONDITION IS Milder THAN TURBINE-TRIP-SCRAM.
 (Y)=WHEN TURBINE-STEAM-REGULATE-VALVE IS PROMPTLY CLOSED, REVA ACT
 DETECTING PRESSURE-INCREASE, SO REACTOR-PRESSURE WILL NOT
 INCREASE, AND NOT SCRAM.
 MCHFR IS Milder THAN THE CASE OF 2-RECIRC.-PUMP-TRIP.
 (A)TURBINE-REGULATE-VALVE-PROMPT-CLOSE.(CLOSE TIME IS (A)SEC.)
 (BX)REACTOR-PROTECTION-SYSTEM DETECT (A), AND MAKE SCRAM
 (BY)REACTOR-PROTECTION-SYSTEM DETECT (A), TURBINE-BYPASS-VALVE OPEN,
 REVA ACTS, AND MAKE SPC(SELECTED ROD INSERTION).
 (C)TURBINE-BY-PASS-VALVE IS BEING OPENED AS TURBINE-REGULATE-VALVE
 CLOSE.
 (D)REACTOR PRESSURE INCREASE UP TO PRESET-PRESSURE IF RELIEF VALVE
 THEN RELIEF-VALVE ACTS AT ONE TIME.

(2)SCRAM

(3)REVA
 (4)SRI(SELECTED ROD INSERTION)
 (5)MCHFR NC=NOT CHANGE

(6)PEAK-NEUTRON FLUX
 (7)NEUTRON FLUX SETTLE DOWN (7)PC BY SRI.
 (R1)IF WHEN TURBINE-BY-PASS-VALVE DOES NOT ACT, REACTOR SCRAM.
 NC=NOT CHANGE

| | (1) | (A1) | (2) | (3) | (4) | (5) | (6) | (7) | |
|-------------|--------|-------|-------------------|-----|-----|-----|------------|------------|----------------|
| | SEC. | | | | | | PC | PC | |
| ONAGAWA | BWR 4 | X 0.2 | {(X)},{(C)},{(D)} | YES | | | | | 10-2-(4) 70/ 5 |
| HAMAOKA-1 | BWR 5 | X 0.2 | {(X)},{(C)},{(D)} | YES | | | | | 10-7 70/ 5 |
| FUKUSIMA-5 | BWR 9 | X 0.2 | {(X)},{(C)},{(D)} | YES | | | | | 10-2-(5) 71/ 2 |
| FUKUSIMA-4 | BWR 10 | X 0.2 | {(X)},{(C)},{(D)} | YES | | | | | 10-2-(5) 71/ 8 |
| FUKUSIMA-6 | BWR 11 | Y 0.2 | {(Y)} | ND | ACT | YES | 109. 15-25 | {R1} | 10-2-(4) 71/12 |
| TOKAI-2 | BWR 12 | Y 0.2 | {(Y)} | ND | ACT | YES | NC | 109. 15-25 | {R1} |
| HAMAOKA-2 | BWR 13 | X 0.2 | {(X)},{(C)},{(D)} | YES | | | | | 10-6 73/ 5 |
| KASHIWAZAKI | BWR 15 | Y 0.2 | {(Y)} | ND | ACT | YES | 110. 15-25 | {R1} | 10-2-23 75/ 3 |

AB-TRA TURBINE TRIP

SUMMARY

23200

SUMMARY=TURBINE TRIP IS CAUSED BY VIBRATION OF TURBINE SYSTEM OR
 MALFUNCTION OF REACTOR SYSTEM.
 WHEN TURBINE TRIP OCCURS, MAIN STEAM STOP VALVE IS ENTIRELY
 CLOSED WITHIN (A) SEC.

| | (A) | | | | | |
|-------------|--------|--------------|--|--|--|----------------|
| ONAGAWA | BWR 4 | (A)=0.1 SEC. | | | | 10-2-(5) 70/ 5 |
| HAMAOKA-1 | BWR 5 | (A)=0.1 SEC. | | | | 10-6 70/ 5 |
| FUKUSIMA-5 | BWR 9 | (A)=0.1 SEC. | | | | 10-2-(5) 71/ 2 |
| FUKUSIMA-4 | BWR 10 | (A)=0.1 SEC. | | | | 10-2-(5) 71/ 8 |
| FUKUSIMA-6 | BWR 11 | (A)=0.1 SEC. | | | | 10-2-(5) 71/12 |
| TOKAI-2 | BWR 12 | (A)=0.1 SEC. | | | | 10-2-(5) 71/12 |
| HAMAOKA-2 | BWR 13 | (A)=0.1 SEC. | | | | 10-6 73/ 5 |
| KASHIWAZAKI | BWR 15 | (A)=0.1 SEC. | | | | 10-2-24 75/ 3 |

AB-TRA TURBINE TRIP (1) WITH BY PASS V. ACT 23210

CASE(1)=TURBINE TRIP AT HIGH POWER WITH BY-PASS-VALVE-ACT
 SUMMARY=ON THIS CASE, TRANSIENT PHENOMENA IS SAME AS GENERATOR TRIP.
 THE CLOSE OF MAIN-STEAM-STOP-VALVE IS DETECTED BY VALVE
 POSITION-DETECTOR, AND MAKE SCRAM, CONSEQUENTLY BY-PASS-VALVE
 OPEN, AND RELIEF-VALVE ACTS AT ONE TIME.
 PRESSURE UP, VOID DECREASE, AND NEUTRON FLUX UP
 (A)=AT (A1)SEC. PEAK OF NEUTRON FLUX IS (A2)PC.
 (B)= SURFACE HEAT FLUX IS LOWER THAN (B)PC/RATED, SO MCHFR MARGIN
 IS SUFFICIENT.
 (C)=AS BY PASS VALVE ACT, PRESSURE PEAK IS RESTRICTED WITHIN
 (C)KG/SQCMG, SO SAFETY VALVE DOES NOT ACT.

| | (A1) (SEC) | (A2) (PC) | (B) (PC) | (C) (KG/SQCMG) | | |
|-------------|---------------|--------------|-------------|-------------------|-------------------------|----------------|
| ONAGAWA | BWR 4 | 0.4 SEC | 133.PC | 100.PC | 77.4KG/SQCMG | 10-2-(5) 70/ 5 |
| HAMAOKA-1 | BWR 5 | 0.4 SEC | 130.PC | 100.PC | 77.1KG/SQCMG(FIG 2.3-1) | 10-7 70/ 5 |
| FUKUSIMA-5 | BWR 9 | 0.4 SEC | 120.PC | 100.PC | 76.0KG/SQCMG | 10-2-(5) 71/ 2 |
| FUKUSIMA-4 | BWR 10 | 0.4 SEC | 108.PC | 100.PC | 78.0KG/SQCMG | 10-2-(5) 71/ 8 |
| FUKUSIMA-6 | BWR 11 | 0.4 SEC | 133.PC | 100.PC | 79.8KG/SQCMG | 10-2-(5) 71/12 |
| TODKAI-2 | BWR 12 | 0.4 SEC | 133.PC | 100.PC | 79.8KG/SQCMG | 10-2-(5) 71/12 |
| KASHIWAZAKI | BWR 15 | 0.6 SEC | 150.PC | 110.PC | | 10-2-24 75/ 3 |

AB-TRA TURBINE TRIP (2) WITHOUT BY PASS V. ACT 23220

CASE(2)=TURBINE TRIP AT HIGH POWER WITHOUT-BY-PASS-VALVE-ACT
 SUMMARY=ON THIS CASE, PRESSURE TRANSIENT IS MOST SEVERE ONE ON BWR.
 THIS PHENOMENA OCCUR BY PROMPT LOSS OF CONDENSER VACUUM.
 OR BY-PASS-SIGNAL-TRANSMITTER-MALFUNCTION, OR MALFUNC. OF
 VALVE DRIVE MECHANISM.
 THE CLOSE OF MAIN STEAM STOP VALVE IS DETECTED BY VALVE
 POSITION DETECTOR, AND MAKE SCRAM.
 (A)=AT (A1)SEC. PEAK OF NEUTRON FLUX IS (A2) PC.
 (B)=BUT SURFACE HEAT FLUX IS LOWER THAN (B)PC/RATED, SO MCHFR MARGIN
 IS SUFFICIENT.
 (C)=AT (C1)SEC. PRESSURE REACHES (C2)KG/SQCMG, SO RELIEF VALVE IS
 OPENED, MAX. PRESSURE IS (C3)KG/SQCMG, SAFETY VALVE DOES NOT ACT.
 (D)=SAFETY VALVE PRESET PRESSURE IS (D)KG/SQCMG.
 (E)=FUEL TEMPERATURE INCREASE (DEG-C)

| | (A1) SEC | (A2) PC | (B) PC | (C1) SEC | (C2) DEC | (C3) KG/CM2G | (D) C | (E) C | |
|------------|-------------|------------|-----------|-------------|-------------|-----------------|----------|----------|----------------|
| ONAGAWA | BWR 4 | 0.4 | 143. | 100. | 0.8 | 75.9 | 78.6 | (87.2) | 10-2-(5) 70/ 5 |
| HAMAOKA-1 | BWR 5 | 0.4 | 143. | 100. | 0.8 | 75.9 | 78.6 | (87.2) | 10-8 70/ 5 |
| FUKUSIMA-5 | BWR 9 | 0.4 | 125. | 100. | 0.7 | 75.9 | 81. | NA | 10-2-(6) 71/ 2 |
| FUKUSIMA-4 | BWR 10 | 0.4 | 109. | 100. | 1.6 | 78.0 | 80. | NA | 10-2-(6) 71/ 8 |
| FUKUSIMA-6 | BWR 11 | 0.4 | 196. | 107. | | (78.0) | 82.3 | NA 39. | 10-2-(5) 71/12 |
| TODKAI-2 | BWR 12 | 0.4 | 196. | 107. | | (78.0) | 82.3 | NA 39. | 10-2-(5) 71/12 |
| HAMAOKA-2 | BWR 13 | 0.9 | 337. | 115.3 | 1.3 | 78.0 | 83.8 | NA | 10-7 73/ 5 |

AB-TRA TURBINE TRIP (3) 23230

CASE(3)=TURBINE TRIP AT LOW POWER WITHOUT-BY-PASS-VALVE-ACT
 SUMMARY=IN ORDER TO AVOID AN UNNECESSARY SCRAM AT LOW POWER,
 DIRECT SCRAM SIGNAL BY POSITION DETECTOR ON MAIN-STEAM-STOP
 -VALVE IS BY PASSED UP TO (A)PC/RATED POWER.
 SO WHEN REACTOR POWER IS LESS THAN (A)PC, IF PROMPT LOSS OF
 CONDENSER VACUUM OCCURS, IT DOES NOT MAKE SCRAM.
 IF TURBINE TRIP ARRISES WITHOUT BY-PASS-VALVE-ACT -----
 (A)=INITIAL CONDITION POWER IS (A1)PC, FLOW IS (A2)PC.
 (B)=TRANSIENT PROCEDURE
 WHEN TURBINE TRIP, REACTOR IS SCRAMMED BY (NEUTRON FLUX SIGNAL
 HIGH) AT (B1)SEC. (INDIRECTLY)
 RELIEF VALVE ACTS AT ONE TIME.
 (C)=MAX. HEAT FLUX IS WITHIN (C)PC/RATED ALL OVER THE TRANSIENT
 (D)=MCHFR IS GREATER THAN (D)
 (E)=MAX. TRANSIENT PRESSURE IS (E)KG/SQCMG.
 SAFETY VALVE DOES NOT ACT.

| | (A1) PC | (A2) PC | (B1) PC | (C) SEC | (D) PC | (E) KG/CM2G | |
|------------|------------|------------|------------|------------|-----------|----------------|----------|
| ONAGAWA | BWR 4 | 30. | 30. | 40. | 1.3 | 42. | 2.0 75.6 |
| HAMAOKA-1 | BWR 5 | 30. | 30. | 40. | 1.3 | 42. | 2.0 75.6 |
| FUKUSIMA-5 | BWR 9 | 30. | 30. | 40. | 1.3 | 40. | 2.0 81. |
| FUKUSIMA-4 | BWR 10 | 30. | 30. | 40. | 1.8 | 40. | 2.0 79.0 |
| FUKUSIMA-6 | BWR 11 | 30. | 30. | 40. | 1.2 | 44. | 1.8 79.5 |
| TODKAI-2 | BWR 12 | 30. | 30. | 40. | 1.2 | 44. | 1.8 79.5 |
| HAMAOKA-2 | BWR 13 | 30. | 30. | 40. | | 43. | 2.0 79.7 |

AB-TRA MAIN STEAM ISOLATE VALVE CLOSE 23300

SUMMARY=CLOSING TIME IS PRESETTED FROM (A1)SEC TO (A2)SEC IN GENERAL
 ASSUMPTION=IT TAKES (A3)SEC TO CLOSE ALL VALVES ENTIRELY.
 SCRAM =REACTOR IS SCRAMMED BY THE VALVE-POSITION-DETECT-SIGNAL WITH
 (B)PC LOWER FROM FULL OPEN
 SINCE THE VALVE MOVEMENT OF (B)PC HAS NO EFFECT ON FLOW AREA,
 STEAM FLOW SCARCELY FALL DOWN BEFORE THE BEGINNING OF SCRAM.
 TRANSIENT=AFTER (C)SEC FROM JUST CLOSE, RELIEF VALVE ACT.
 AS THE PRESSURE GOES DOWN, RELIEF VALVES GO TO CLOSE.
 MAX. TRANSIENT PRESSURE IS (D)KG/SQCMG, SO SAFETY VALVE DOES NOT ACT

| | (A1) (A2) (A3) | (B) (PC) | (C) (SEC) | (D) (PC) | (E) (KG/SQCMG) | |
|------------|----------------------|-------------|--------------|-------------|-------------------|----------------|
| ONAGAWA | BWR 4 | 3.0/5.0 | 3. SEC | 10.PC | 4.4SEC 76.9 | 10-2-(6) 70/ 5 |
| HAMAOKA-1 | BWR 5 | 3.0/5.0 | 3. SEC | 10.PC | 4.4SEC 76.9 | 10-9 70/ 5 |
| FUKUSIMA-5 | BWR 9 | 3.0/4.5 | 3. SEC | 10.PC | 3.6SEC 77.3 | 10-2-(7) 71/ 2 |
| FUKUSIMA-4 | BWR 10 | 3.0/4.5 | 3. SEC | 10.PC | 3.0SEC 80.0 | 10-2-(7) 71/ 8 |
| FUKUSIMA-6 | BWR 11 | 3.0/4.5 | 3. SEC | 10.PC | 2.5SEC 80.2 | 10-2-(6) 71/12 |
| TODKAI-2 | BWR 12 | 3.0/4.5 | 3. SEC | 10.PC | 2.5SEC 80.2 | 10-2-(6) 71/12 |
| HAMAOKA-2 | BWR 13 | 3.0/5.0 | 3. SEC | 10.PC | 2.5SEC 81.7 | 10-7 73/ 5 |

AB-TRA MALFUNC. OF INITIAL PRESSURE ADJUSTER 23400

- (1)=DUE TO THE MALFUNCTION OF INITIAL PRESSURE ADJUSTER(=IPA), TURBINE CONTROL VALVE(=TCV) AND BY-PASS VALVE(=BPV) IS MISS OPERATED.
- (2)=BUT THE TRANSIENT WHICH IS DUE TO PROMPT CLOSE OF TCV AND BPV IS MILDER THAN THE CASE OF TURBINE-TRIP-BY-PASS-VALVE-NOT-ACT.
- (3)=EVEN THOUGH THE MALFUNC. OF IPR SUCH AS TO LET TCV AND BPV OPEN AT THE SAME TIME HAPPENS, A GREAT DEAL OF STEAM DOES NOT FLOW AS THE TOTAL OPENING OF TCV AND BPV IS RESTRICTED BY TURBIN FLOW CONTROLLER
- (4)=MAX FLOW OF STEAM-REGULATE-VALVE PLUS BYPASS VALVE IS RESTRICTED TO (A4)PC BY TURBINE-FLOW CONTROLLER

| | | | | | |
|------------|-----|----|---------------------|----------|-------|
| ONAGAWA | BWR | 4 | (1),(2),(3) | 10-2-(6) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | (1),(2),(3) | 10-9 | 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | (1),(2),(3) | 10-2-(7) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | (1),(2),(3) | 10-2-(7) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | (1),(2),(4A)=110.PC | 10-2-(7) | 71/12 |
| TOKAI-2 | BWR | 12 | (1),(2),(4A)=110.PC | 10-2-(7) | 71/12 |
| HAMAOKA-2 | BWR | 13 | (1),(2),(3) | 10-8 | 73/ 5 |

AB-TRA PRESSURE RELIEF VALVE OPEN 23500

- (1)=IT IS ASSUMED THAT PRESSURE-RELIEF-VALVE(=PRV) IS KEPT TO OPEN BY TROUBLE FOR SOME REASON
- (2)=IN THAT CASE, PRESSURE AND COOLANT VOLUME IN PRESSURE VESSEL ARE DECREASING GRADUALLY BECAUSE OF THE STEAM FLOW FROM VESSEL IS INCREASE.
- (A)=ASSUMPTION=CAPACITY OF PRV IS PRESETTED BY (A)PC OF TOTAL RATED STEAM FLOW.
- (B)=INITIAL-PRESSURE-ADJUSTER DETECTS THE DECREASE OF PRESSURE IN REACTOR-SYSTEM, AND THROTTLES VALVE TO KEEP THE REACTOR-PRESSURE CONSTANT.
- (C)=REACTOR-POWER IS RECOVERED TO INITIAL POWER BY THE RECIRC.-FLOW CONTROL-SYSTEM. IN THIS CASE MCHFR DOES NOT DECREASE.
- (D)=MAX.-FALL-DOWN-RATE IN TEMP.= (D)DEG-C/MINUTE. BUT THIS RATE IS PERMISSIBLE BECAUSE OF THIS TRANSIENT HAS VERY SHORT TIME SPAN, AND SCARCELY OCCURS THROUGH THE REACTOR LIFE.

| | | | | | | |
|------------|-----|----|-------|---------|----------|-------|
| ONAGAWA | BWR | 4 | 10.PC | 6.DEG-C | 10-2-(7) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 10.PC | | 10-10 | 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | 8.PC | 6.DEG-C | 10-2-(7) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 8.PC | 6.DEG-C | 10-2-(7) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 10.PC | | 10-2-(7) | 71/12 |
| TOKAI-2 | BWR | 12 | 10.PC | | 10-2-(7) | 71/12 |
| HAMAOKA-2 | BWR | 13 | 7.PC | | 10-8 | 73/ 5 |

KIND OF AB-TRA FROM CONTROL SYSTEM 24000

- (A)=CONTROL ROD WITHDRAW FROM SUBCRITICAL STATE 24100
- (B)=CONTROL ROD WITHDRAW FROM ON POWER 24200

| | | | | | |
|------------|-----|----|---------|----------|-------|
| ONAGAWA | BWR | 4 | (A),(B) | 10-2-(7) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | (A),(B) | 10-10 | 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | (A),(B) | 10-2-(7) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | (A),(B) | 10-2-(7) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | (A),(B) | 10-2-(7) | 71/12 |
| TOKAI-2 | BWR | 12 | (A),(B) | 10-2-(7) | 71/12 |

AB-TRA CONTROL ROD WITHDRAW SUBCRI. STATE 24100

- ASSUMPTION
- (A)=THE CONTROL ROD WHICH IS WITHDRAWN, HAS (A) DELTA-K OF CONTROL WORTH.
- (B)=INITIAL CONDITION OF REACTOR IS JUST BELOW CRITICAL.
- (C)=INITIAL POWER IS (C)/RATED POWER
- (D)=INITIAL TEMPERATURE IS (D)DEG-C WITH FUEL AND MODERATOR
- (E)=UNDER THIS STATE, IF CONTROL ROD IS WITHDRAWN, SCRAM SIGNAL OF NEUTRON-FLUX-UPPER-LIMIT BY THE FIRST RANGE OF MEDIUM-REGION-DETECTOR IS ISSUED. BUT ASSUMING THAT THIS SIGNAL IS NEGLECTED CONSERVATIVELY, AND IT IS ASSUMED THAT REACTOR IS SCRAMMED BY THE SIGNAL OF HIGH NEUTRON FLUX FROM AVERAGE-POWER-MONITOR.
- TRANSIENT
- (U)=POWER PEAKING REACHES (U)PC/RATED BY CALCULATION.
- (V)=FUEL CENTER TEMP. IS (V)DEG-C
- (W)=FUEL CLADDING TEMP. IS (W)DEG-C
- (X)=MAX. ENTHALPY OF UO-2 IS (X)CAL/GRAM, (THIS CONDITION IS MILDER THAN THE CASE OF CONTROL-ROD-DROP-ACCIDENT AS MENTIONED 32000.

| | | | | | | | | | | | |
|------------|-----|----|-------|-------|----------|--------|--------|-------|-----------|----------|-------|
| ONAGAWA | BWR | 4 | 0.025 | 1.E-8 | 20.DEG-C | 320.PC | 1400.C | 450.C | 10-2-(7) | 70/ 5 | |
| HAMAOKA-1 | BWR | 5 | 0.025 | 1.E-8 | 20.DEG-C | 320.PC | 1400.C | 450.C | | 70/ 5 | |
| FUKUSIMA-5 | BWR | 9 | 0.025 | 1.E-8 | 20.DEG-C | 262.PC | 1490.C | 534.C | 100.CAL/G | 10-2-(8) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 0.025 | 1.E-8 | 20.DEG-C | 262.PC | 1490.C | 534.C | 100.CAL/G | 10-2-(8) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 0.025 | 1.E-8 | 20.DEG-C | | 1510.C | 238.C | 100.CAL/G | 10-2-(7) | 71/12 |
| TOKAI-2 | BWR | 12 | 0.025 | 1.E-8 | 20.DEG-C | | 1510.C | 238.C | 100.CAL/G | 10-2-(7) | 71/12 |
| HAMAOKA-2 | BWR | 13 | 0.025 | 1.E-8 | 20.DEG-C | | 1510.C | 238.C | | 10-9 | 73/ 5 |

AB-TRA CONTROL ROD WITHDRAW ON POWER 24200

ASSUMPTION

- (A)=MISS OPERATION WHICH CONTROL ROD HAVING MAX.-CONTROL-WORTH IS WITHDRAWN AT VERY LOW SPEED SUCH AS THE BALANCE BETWEEN NEUTRON FLUX AND HEAT FLUX IS KEPT, IS ASSUMED.
- (B)=IN THIS CASE, THE CONTROL-ROD-WITHDRAW-MONITOR DETECTS ABNORMAL-POWER-UP, AND RESTRICTS THE WITHDRAWAL OF CONTROL ROD. ((B)PC OF PRESETTED VALUE)
- (C)=WHEN CONTROL ROD IS WITHDRAWN BY (C1)PC/FULL STROKE FROM PERFECT INSERT POSITION, WITHDRAWAL IS RESTRICTED AND MCHFR DECREASE UP TO (C2).
- (D)=AS ASSUMPTION THAT STEADY STATE IS KEPT AT ANY CONTROL ROD POSITION, HEAT FLUX CHANGES SIMULTANEOUSLY WITH NEUTRON FLUX, WITHOUT DELAY TIME.
- (E)=IN FACT, AS NEUTRON FLUX IS INCREASED FASTER THAN THAT OF HEAT FLUX, AND CONTROL-ROD-WITHDRAWAL IS RESTRICTED MORE FASTER, SO THERMAL CONDITION IS MORE SAFETY SIDE AND MCHFR IS MORE HIGHER THAN THE CASE OF ASSUMPTION.

| UNIT | BWR | NO. | (C1) | (C2) | REMARKS | MCHFR |
|------------|-----|-----|--------|-------------|----------|-------|
| DNAGAWA | BWR | 4 | 110.PC | 40.PC | 10-2-(8) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 110.PC | 40.PC | 10-11 | 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | 108.PC | 38.PC | 10-2-(8) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 108.PC | 38.PC | 10-2-(8) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 108.PC | 58.PC GT1.0 | 10-2-(8) | 71/12 |
| TOOKAI-2 | BWR | 12 | 108.PC | 58.PC GT1.0 | 10-2-(8) | 71/12 |
| HAMAOKA-2 | BWR | 13 | 108.PC | 58.PC 1.0 | 10-9 | 73/ 5 |

AB-TRA OTHERS LOSS OF AUX. POWER SUPPLY 25100

- (A)=IF WHOLE POWER SUPPLY IS LOST, REACTOR IS SCRAMMED. SCRAM FUNCTION IS KEPT BY HYDRO PRESSURE ENERGY AND REACTOR PRESSURE WHICH ARE ALREADY ACCUMULATED.
- (B)=AFTER SCRAM, REACTOR IS COOLED BY ISOLATED REACTOR COOLING SYSTM.
- (C)=THESE SYSTEMS ARE OPERATED BY DIESEL GENERATOR OR BATTERY
- (D)=SO, THERE IS NO TROUBLE CONCERNING THE PLANT-SAFETY.

KIND OF ACCIDENT IN BWR 31000

- *ACCIDENT* IS DEFINED IN 10020.
- (1)=CONTROL ROD DROP OUT ACCIDENT 32000
- (2)=CONTROL ROD RUNAWAY ACCIDENT 33000
- (3)=FUEL HANDLING ACCIDENT 34000
- (4)=LOSS OF COOLANT ACCIDENT 35000
- (5)=MAIN STEAM TUBE RUPTURE ACCIDENT 36000
- (6)=TURBINE ACCIDENT
- (7)=ACCIDENT OF CHARCOAL-HOLDUP SYSTEM FOR RARE GAS
- (8)=OTHERS(SEISMIC,FIRE,TYPHOON,FLOOD,ETC)

| UNIT | BWR | NO. | ACCIDENT TYPE | REMARKS | MCHFR |
|-------------|-----|-----|---------------------------------|----------|-------|
| TSURUGA | BWR | 3 | (1),(2),(3),(4),(5) | 10-3-(1) | 75/ 1 |
| DNAGAWA | BWR | 4 | (1),(2),(3),(4),(5) | 10-3-(1) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | (1),(2),(3),(4),(5) | 10-12 | 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | (1),(2),(3),(4),(5) | 10-3-(1) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | (1),(2),(3),(4),(5) | 10-3-(1) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | (1),(2),(3),(4),(5) | 10-3-(1) | 71/12 |
| TOOKAI-2 | BWR | 12 | (1),(2),(3),(4),(5) | 10-3-(1) | 71/12 |
| HAMAOKA-2 | BWR | 13 | (1),(2),(3),(4),(5) | 10-11 | 73/ 5 |
| KASHIWAZAKI | BWR | 15 | (1),(2),(3),(4),(5),(6),(7),(8) | 10-3-1 | 75/ 3 |

ACCIDENT CAUSE AND RESULT CONTROL ROD DRDP 32100

- CAUSE(1)=MISS OPERATION OF OPERATOR
- CAUSE(2)=MALFUNCTION OF REACTOR CONTROL SYSTEM
- RESULT =REACTOR POWER AND FUEL TEMP. INCREASE PROMPTLY

ACCIDENT COUNTERP LAN TO CONTROL ROD DROP OUT 32200

- (A)=BLADE IS DESIGNED NOT TO STICK EVEN IF SHAFT-BLADE-SEPARATION.
- (B)=S-B-JOINT-MECHANISM IS WELL DESIGNED NOT TO SEPARATE IF NOT NEEDED.
- (C)=UNDER JUST CRITICAL OR JUST BELOW CRITICAL, MOVEMENT OF BLADE IS MONITORED BY NUCLEAR INSTRUMENTATION.
- (D)=UNDER OPERATION, COUPLING IS CERTIFIED BY WITHDRAWAL TO OVER-TRAVEL-POSITION.
- (E)=UNDER THE CASE TO START-UP OR TO MOVE CONTROL ROD WITH WIDE RANGE, OPERATION PROCEDURE IS SETTED SO AS TO BE ABLE TO CONFIRM THAT CONTROL ROD IS BEING MOVED SURELY.
- (F)=AS FAR AS ROD-WITHDRAWAL-SEQUENCE IS KEPT, DROP-OUT-ROD-WORTH IS LESS THAN (F)DELTA-K.
- (G)=ROD-WORTH-MINIMIZER IS INTERLOCKED SUCH THAT DROP-OUT-ROD-WORTH DOES NOT EXCEED (G)DELTA-K.
- (H)=DESIGNED THAT BLADE-FREE-FALL-SPEED DOES NOT EXCEED (H)M/SEC.
- (I)=MAIN-STEAM-ISOLATE-VALVE CLOSE WHEN STEAM-ROD-LEVEL-HIGH AND OFF-GAS-ISOLATE-VALVE CLOSE WHEN OFF-GAS-ROD-LEVEL-HIGH AUTOMATICALLY.
- (J)=OTHER PROTECTION WITH SCRAM (HIGH NEUTRON FLUX, ETC)

| | | | (F) | (G) | (H) | | |
|-------------|-----|----|---------------|---------------|------------|----------|-------|
| TSURUGA | BWR | 3 | | 0.012 DELTA-K | 0.95 M/SEC | 10-3-(2) | 75/ 1 |
| ONAGAWA | BWR | 4 | 0.025 DELTA-K | 0.025 DELTA-K | 1.52 M/SEC | 10-3-(2) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 0.025 DELTA-K | 0.025 DELTA-K | 1.52 M/SEC | 10-13 | 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | 0.025 DELTA-K | 0.025 DELTA-K | 1.52 M/SEC | 10-3-(2) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 0.025 DELTA-K | 0.025 DELTA-K | 1.52 M/SEC | 10-3-(2) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 0.025 DELTA-K | 0.025 DELTA-K | 1.52 M/SEC | 10-3-(2) | 71/12 |
| TODKAI-2 | BWR | 12 | | 0.025 DELTA-K | 0.95 M/SEC | | 75/ 7 |
| HAMAOKA-2 | BWR | 13 | 0.025 DELTA-K | 0.025 DELTA-K | 1.52 M/SEC | 10-12 | 73/ 5 |
| KASHIWA7AKI | BWR | 15 | | 0.015 DELTA-K | 0.95 M/SEC | 10-3-3 | 75/ 3 |

ACC.ANA. CONTROL ROD DROPOUT 32310

- ASSUMPTION
- (A)=UNDER HOT STAND BY, POWER=(A1)/RATED, FUEL TEMP=(A2)DEG-C
- (B)=ONE CONTROL ROD HAVING (B1)DELTA-K WORTH, DROPS OUT AT (B2)M/SEC.
- (C)=HIGH-NEUTRON-FLUX-SCRAM ACTS AT (C1)PC/RATED POWER AND DELAY TIME IS (C2)
- (D)=PROMPT POWER UP IS SUPPRESSED ONLY BY DOPPLER, AND EFFECTS OF TEMP. AND VOID ARE NOT CONSIDERED.

| | | | (A1) | (A2) | (B1) | (B2) | (C1) | (C2) | | |
|-------------|-----|----|-------|---------------------------|-------|------|------|------|------------|-------|
| | | | DEG-C | DELTA-K | M/SEC | PC | PC | SEC | | |
| TSURUGA | BWR | 3 | 1.E-8 | 20. (UNDER GOLD-CRITICAL) | | | | | 10-3-(3) | 75/ 1 |
| TSURUGA | BWR | 3 | 1.E-6 | 286. | 0.012 | 0.95 | 120. | 0.09 | 10-3-(3) | 75/ 1 |
| ONAGAWA | BWR | 4 | 1.E-6 | 286. | 0.025 | 1.52 | 120. | 0.2 | 10-3-(2) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 1.E-6 | 286. | 0.025 | 1.52 | 120. | 0.2 | 10-14 | 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | 1.E-6 | 286. | 0.025 | 1.52 | 120. | 0.2 | 10-3-(2) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 1.E-6 | 286. | 0.025 | 1.52 | 120. | 0.2 | 10-3-(2) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 1.E-6 | 296. | 0.025 | 1.52 | 120. | 0.2 | 10-3-(3) | 71/12 |
| TODKAI-2 | BWR | 12 | 1.E-6 | 296. | 0.025 | 1.52 | 120. | 0.2 | 10-3-(2,3) | 71/12 |
| HAMAOKA-2 | BWR | 13 | 1.E-6 | 286. | 0.025 | 1.52 | 120. | 0.2 | 10-12 | 73/ 5 |
| KASHIWA7AKI | BWR | 15 | 1.E-8 | 20. (UNDER GOLD-CRITICAL) | | | | | 10-3-4 | 75/ 3 |
| KASHIWA7AKI | BWR | 15 | 1.E-6 | 286. | | 0.95 | 120. | 0.09 | 10-3-4 | 75/ 3 |

ACC.ANA. CONTROL ROD DROPOUT RESULT 32320

- (A)=SHORTEST PERIOD IS (A)MILLI-SEC.
- (B)=GENERATED ENERGY IS (B1)MW*SEC. (= (B2)FULL-POWER*SEC.)
- (C)=HYDROGEN WHICH IS PRODUCED BY ZR-WATER REACTION, GOES TO STACK THROUGH CONDENSER, HYDROGEN CONCENTRATION IS TOO THIN TO COMBUSTION.
- (D)=(D1)FUEL RODS NEAR DROPPED-CONTROL-ROD HAVE ENTHALPY=GT(D2)CAL/GR ASSUMING THAT GT(D2)CAL/GR OF ENTHALPY HAS CLADDING DESTROYED.
- (E)=MAX. UO-2 ENTHALPY IS LT(E1)CAL/GR.
- UO-2 MELTING NEEDS FROM (E2) TO (E3)CAL/GR OF ENTHALPY.
- (F)=ONLY (F1)PC OF GENERATED HEAT IS REMOVED BY COOLANT, REST ENERGY IS TRANSFERED WITH DELAY HAVING (F2),(F3)SEC OF TIME CONST. SO GENERATED STEAM IS TREATED BY TURBINE BY PASS SYSTEM. (TURBINE-BY-PASS-CAPACITY IS (F4)PC/RATED)
- (G)=IF FUEL FAILURE, FP GAS GOES TO CONDENSER, AND IS DETECTED AS FLOWS THROUGH STEAM TUBE, AND MAIN STEAM ISOLATE VALVE IS CLOSED AUTOMATICALLY.

| | | | (A) | (B1) | (B2) | (D1) | (D2) | (E1) | (E2)/(E3) | F1 | F2/F3 | (F4) | | |
|-------------|-----|----|-----|-------|------|------|------|------|-----------|----|-------|------|----------|-------|
| TSURUGA | BWR | 3 | | | | 850. | 170. | | /280 | | | | 10-3-(4) | 75/ 1 |
| ONAGAWA | BWR | 4 | 8.4 | 4000. | 2.4 | 330. | 170. | 220. | 220/280 | 3. | 8/9 | 25. | 10-3-(3) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 8.4 | 4000. | 2.4 | 330. | 170. | 220. | 220/280 | 3. | 8/9 | 25. | 10-14 | 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | 8.4 | 4000. | 1.7 | 330. | 170. | 220. | 220/280 | 3. | 8/9 | 25. | 10-3-(3) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 8.4 | 4000. | 1.7 | 330. | 170. | 220. | 220/280 | 3. | 8/9 | 25. | 10-3-(3) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 3.2 | 4000. | 1.16 | 330. | 170. | 220. | 220/280 | 3. | 8/9 | 25. | 10-3-(3) | 71/12 |
| TODKAI-2 | BWR | 12 | 3.2 | 4000. | 1.16 | 330. | 170. | 220. | 220/280 | 3. | 8/9 | 25. | 10-3-(3) | 71/12 |
| HAMAOKA-2 | BWR | 13 | 8.4 | 4000. | 1.6 | 330. | 170. | 220. | 220/280 | 3. | 8/9 | 25. | 10-13 | 73/ 5 |
| KASHIWA7AKI | BWR | 15 | | | | 600. | 170. | | /280 | | | | 10-3-8 | 75/ 3 |

ACCIDENT CAUSE RESULT CONTROL ROD RUNAWAY 33100

- CAUSE(1)=PERFECT DESTRUCTION OF FLANGE OR THIMBLE OR HOUSING OF CONTROL ROD DRIVE MECHANISM
- RESULT =REACTOR POWER PROMPTLY INCREASES.

ACCIDENT COUNTERP LAN TO CONTROL ROD RUNAWAY 33200

- (A)=INTEGRITY AND RELIABILITY ARE CERTIFIED BY PERMEATION, ULTRA SONIC X-RAY, OR OTHERS TESTS.
- (B)=PRESSURE TEST OF PRESSURE VESSEL INCLUDING CONTROL-ROD-DRIVE-MECHANISM IS DONE ON IITE.
- (C)=OVER-PRESSURE-PROTECTION-DEVICE IS INSTALLED WITH PRESSURE VESSEL INCLUDING CONTROL-ROD-DRIVE-MECHANISM.
- IF THIS ACCIDENT SHOULD ARISE.....
- (1)=THIS ACCIDENT IS DETECTABLE BY WATER-LEVEL-INCFASE, TEMP OR PRESSURE IN DRY WELL SUMP IMMEDIATELY.
- (2)=FINALLY REACTOR IS SCRAMMED BY THE SIGNAL OF DRY-WELL-PRESSURE-HIGH.
- (3)=IN ORDER TO AVOID LONG-STROKE-FALL-DOWN OF CONTROL ROD, THIMBLE SUPPORTER IS INSTALLED JUST BELOW CONTROL ROD, SO ADDITIONAL REACTIVITY IS NOT SO HIGH.

| | | | | | |
|-------------|-----|----|---|---------|-------|
| KASHIWA7AKI | BWR | 15 | (3)MOVEMENT OF HOUSING IS RESTRICTED WITHIN 80.MM | 10-3-12 | 75/ 3 |
|-------------|-----|----|---|---------|-------|

ACCIDENT CAUSE COUNTERPLAN FUEL HANDLING 34100

CAUSE
 (A)=TWO CONTROL RODS ARE PERFECTLY WITHDRAWAL, AND ONE FUEL ASSY IS NOT YET INSERTED AT THE CENTER OF 2*4-FUEL-SET-POSITIONS.
 (B)=ALL INTERLOCKS ARE MALFUNCTION.
 (C)=OPERATOR IGNORES FUEL HANDLING PROCEDURE.
 (D)=FUEL ASSY IS DROPPED BY MALFUNCTION OF FUEL HANDLING MACHINE.
 (E)=FUEL ASSY DROPS INTO JUST THE POSITION WHICH MENTIONED (A).
 COUNTERPLAN
 (A)=CERTIFICATION OF ALL CONTROL RODS INSERT
 (B)=CONTROL-ROD-POSITION MONITORING AT CONTROL CENTER
 (C)=CERTIFICATION OF ENOUGH SUBCRITICALITY BY CONT.ROD UP AND DOWN.
 (D)=INTERLOCK BETWEEN CONT.ROD-ALL-INSERT AND CRANE-FROM-POOL-TO-CORE.
 (E)=CONT.ROD CAN NOT WITHDRAW WITH CRANE-ABOVE-CORE-INTERLOCK.
 (F)=TWO CONT.RODS CAN NOT WITHDRAW BY INTERLOCK EVEN IF CRANE AT POOL.
 (G)=CRANE HAS ENOUGH STRENGTH.
 (H)=FUEL GRAPPLER IS FAIL SAFE DESIGNED EVEN IF AIR-PRESSURE-LOSS.
 (I)=THERE IS ENOUGH LIGHTING IN FUEL-CHANGE-PIT.
 (J)=SHIELD WATER HAS ENOUGH TRANSPARENCY IN FUEL-CHANGE-PIT.
 CAUSE COUNTER PLAN

| | | | | | | |
|------------|-----|----|-----------------|-----------------|------------|-------|
| ONAGAWA | BWR | 4 | FROM (A) TO (E) | FROM (A) TO (J) | 10-3-(4,5) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | FROM (A) TO (E) | FROM (A) TO (J) | 10-16-18 | 7 |
| FUKUSIMA-5 | BWR | 9 | FROM (A) TO (E) | FROM (A) TO (J) | 10-3-(4,6) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | FROM (A) TO (E) | FROM (A) TO (J) | 10-3-(4,6) | 71/ 8 |
| HAMAOKA-2 | BWR | 13 | FROM (A) TO (E) | FROM (A) TO (J) | 10-15 | 73/ 5 |

ACCIDENT LOSS OF COOLANT PRECONDITION KIND 35200

PRECONDITION=THERE IS NO FEED WATER WHICH IS SUPPLIED BY NORMAL FEED WATER SYSTEM WITH LOSS OF TURBINE-PUMP-POWER-SUPPLY.
 KIND(1)=MINOR DESTRUCTION OF ANY TUBE WHICH IS CONNECTED WITH PV.
 KIND(2)=MEDIUM DESTRUCTION OF ANY TUBE WHICH IS CONNECTED WITH PV.
 KIND(3)=MAJOR DESTRUCTION OF ANY TUBE WHICH IS CONNECTED WITH PV.
 KIND

| | | | | | |
|------------|-----|----|-------------|------------|-------|
| ONAGAWA | BWR | 4 | (1),(2),(3) | 10-3-(6,8) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | (1),(2),(3) | 10-19-21 | 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | (1),(2),(3) | 10-3-(7,8) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | (1),(2),(3) | 10-3-(7,8) | 71/ 8 |

ACCIDENT LOSS OF COOLANT MINOR DESTRUCTION 35210

REACTOR-ISOLATE-COOLING-SYSTEM START WITH SIGNAL OF REACTOR-WATER-LEVEL-LOW.
 HIGH-PRESSURE-INJECT-SYSTEM START WITH SIGNAL OF REACTOR-WATER-LEVEL-ABNORMAL-LOW
 (A)=DESTRUCTED SECTION AREA WHICH PREVENTS CLAD-MELT-DOWN BY HIGH PRESSURE INJECT-SYSTEM ONLY, IS (A1)SQM IN CASE OF LIQUID PHASE, AND (A2)SQM IN CASE OF STEAM PHASE.
 (A1) (A2)

| | | | | | | |
|------------|-----|----|-----------|----------|----------|-------|
| ONAGAWA | BWR | 4 | 0.007 SQM | 0.07 SQM | 10-3-(7) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 0.006 SQM | 0.07 SQM | 10-20 | 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | 0.008 SQM | 0.14 SQM | 10-3-(7) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 0.008 SQM | 0.14 SQM | 10-3-(7) | 71/ 8 |

ACCIDENT LOSS OF COOLANT MEDIUM DESTRUCTION 35220

HPIS=HIGH PRESSURE INJECT SYSTEM
 CSS=CORE SPRAY SYSTEM
 LPIS=LOW PRESSURE INJECT SYSTEM
 (A)=DESTRUCTED SECTION AREA WHICH PREVENTS CLAD-MELT-DOWN BY (HPIS AND CSS),OR (HPIS AND LPIS) FROM (A1)SQM TO (A2)SQM BY (HPIS AND CSS) IN CASE OF LIQUID PHASE, FROM (A1)SQM TO (A3)SQM BY (HPIS AND LPIS) IN CASE OF LIQUID PHASE.
 -----HPIS-CSS-LP----- HPIS-LPIS-LP
 (A1) (A2) (A3)

| | | | | | | | |
|------------|-----|----|-----------|-----------|-----------|----------|-------|
| ONAGAWA | BWR | 4 | 0.008 SQM | 0.008 SQM | 0.009 SQM | 10-3-(7) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 0.006 SQM | 0.008 SQM | 0.009 SQM | 10-20 | 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | 0.008 SQM | 0.011 SQM | 0.015 SQM | 10-3-(8) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 0.01 SQM | 0.012 SQM | 0.019 SQM | 10-3-(8) | 71/ 8 |

ACCIDENT LOSS OF COOLANT MAJOR DESTRUCTION 35230

(A)=DESTRUCTED SECTION MINIMUM AREA WHICH PREVENTS CLAD-MELT-DOWN BY CCS ONLY OR BY LPIS ONLY.
 (A1)=BY CORE SPRAY SYSTEM IN CASE OF LIQUID PHASE
 (A2)=BY LOW PRESSURE INJECT SYSTEM IN CASE OF LIQUID PHASE
 (A3)=BY CORE SPRAY SYSTEM IN CASE OF STEAM PHASE
 (A4)=BY LOW PRESSURE INJECT SYSTEM IN CASE OF STEAM PHASE
 -----CSS-LP----- LPIS-LP----- CSS-SP----- LPIS-SP-----
 (A1) (A2) (A3) (A4)

| | | | | | | | | |
|------------|-----|----|-----------|-----------|-----------|-----------|----------|-------|
| ONAGAWA | BWR | 4 | 0.008 SQM | 0.009 SQM | 0.006 SQM | 0.007 SQM | 10-3-(8) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 0.008 SQM | 0.009 SQM | 0.005 SQM | 0.007 SQM | 10-21 | 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | 0.011 SQM | 0.015 SQM | 0.009 SQM | 0.011 SQM | 10-3-(8) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 0.012 SQM | 0.019 SQM | 0.009 SQM | 0.011 SQM | 10-3-(8) | 71/ 8 |

ACC.ANA. RECIRC. RUPTURE LOCA

35300

IF RECIRCULATION LOOP RUPTURE, COOLANT FLOWS OUT FROM BOTH RUPTURE ENDS, AND CAUSES LOSS OF COOLANT.

ACC.ANA. RECIRC. RUPTURE LOCA

35310

(A)=AT (A1)SEC. REACTOR WATER IS PERFECTLY LOST.
 (H)=MCHFR IS GT(H1) FROM 0.SEC. TO (A2)SEC.
 (C)=AT (C1)SEC. CORE SPRAY SYSTEM BEGINS TO SPRAY.
 (D)=AT (D1)SEC. LOW PRESSURE INJECT SYSTEM BEGINS TO INJECT
 (E)=CORE IS RESUBMERGED TO HALF CORE LEVEL AT (E1)-(E2)-(E3)SEC
 BY CASE(1)-(2)-(3) RESPECTIVELY.
 CASE(1)=ONE CORE SPRAY AND TWO LOW PRESSURE INJECT PUMPS ACT
 CASE(2)=ONE CORE SPRAY ACTS
 CASE(3)=TWO LOW PRESSURE INJECT PUMPS ACT

| | (A1) | (B1)/(B2) | (C1) | (D1) | (E1) | (E2) | (E3) | | |
|------------|--------|-----------|----------|------|-------|-------|-------|----------|-------|
| ONAGAWA | BWR 4 | 1.0/15.5 | 30.S | 43.S | 145.S | 527.S | 151.S | 10-3-(9) | / |
| HAMAOKA-1 | BWR 5 | 30.S | 1.0/15.5 | 30.S | 43.S | 145.S | 530.S | 10-22 | 70/ 5 |
| FUKUSIMA-5 | BWR 9 | 30.S | 1.0/14.S | 30.S | 43.S | 128.S | 410.S | 10-3-(9) | 71/ 2 |
| FUKUSIMA-4 | BWR 10 | 30.S | 1.0/14.S | 30.S | 43.S | 128.S | 410.S | 10-3-(9) | 71/ 8 |
| HAMAOKA-2 | BWR 13 | 30.S | 1.01 | 30.S | 43.S | | | 10-18 | 73/ 5 |

ACC.ANA. RECIRC. RUPTURE DRY-WELL P-CHANGE LOC

35320

(A)=AT (A1)SEC. DRY-WELL PRESSURE REACHES (A2)KG/SQCMG (MAX).
 (B)=AT (B1)SEC. DRY-WELL PRESSURE SETTLE DOWN TO (A2)KG/SQCMG.
 (C)=AT (C1)DAYS DRY-WELL PRESSURE RETURN TO ATMOS. PRESSURE.
 (A1) (A2) (B1) (B2) (C1)

| | (A1) | (A2) | (B1) | (B2) | (C1) | | |
|------------|--------|------|-------------|------|--------------|---------|-----------------|
| ONAGAWA | BWR 4 | 10.S | 2.4KG/SQCMG | 30.S | 1.8 KG/SQCMG | 33.DAYS | 10-3-(9) 70/ 5 |
| HAMAOKA-1 | BWR 5 | 10.S | 2.8KG/SQCMG | 30.S | 2.0 KG/SQCMG | 37.DAYS | 10-23 70/ 5 |
| FUKUSIMA-5 | BWR 9 | 9.S | 2.6KG/SQCMG | 30.S | 2.0 KG/SQCMG | 33.DAYS | 10-3-(10) 71/ 2 |
| FUKUSIMA-4 | BWR 10 | 9.S | 2.6KG/SQCMG | 30.S | 2.0 KG/SQCMG | 33.DAYS | 10-3-(10) 71/ 8 |
| HAMAOKA-2 | BWR 13 | 10.S | 3.65 | 30.S | 2.0 | 44. | 10-20 73/ 5 |

FUEL CLADDING PERFORAT AND ZR-W REACTION RATE

35340

CONDITION(A)= TWO-LOW-P INJECTION ACT
 CONDITION(B)=ONE CORE SPRAY AND TWO LOW-P INJECTION ACT
 CONDITION(C)=ONE CORE SPRAY ACT (MCA)
 CONDITION(D)=NON COOLING SYSTEM (HA)
 UNITS PERFORATION RATE PERCENT (REACTION RATE PERCENT)
 (A) (B) (C)=MCA (D)=HA

| | (A) | (B) | (C)=MCA | (D)=HA | | |
|------------|--------|-------------|------------|------------|-----------|-------------------|
| ONAGAWA | BWR 4 | 14(0.55) | 7.5(0.02C) | 13.5(0.16) | 100(27.) | 10-3-(9) 70/ 5 |
| HAMAOKA-1 | BWR 5 | 14(0.06) | 7.5(0.02) | 13.5(0.16) | 100(27.5) | 10-22,10-27 70/ 5 |
| FUKUSIMA-5 | BWR 9 | 13.5(0.084) | 7.5(0.014) | 13.5(0.13) | 100(27.5) | 10-3-(9) 71/ 2 |
| FUKUSIMA-4 | BWR 10 | 18.8(0.084) | 7.5(0.014) | 13.5(0.13) | 100(27.5) | 10-3-(9) 71/ 8 |

HEAT GENERAT. RATE OF ZR-W REACTION

35360

(A)=HEAT GENERATION RATE OF ZR-W REACTION IS (A1)KCAL/KG-ZIRCONIUM
 (B)=WEIGHT RATIO OF (ZR REACTED BY ZR-W REACTION)/(TOTAL ZR) IS
 LESS THAN (B1)PC
 (A1) (B1)
 KCAL/ PC
 KG-ZR

| | (A1) | (B1) | | |
|------------|--------|-----------|--|----------------|
| FUKUSIMA-6 | BWR 11 | 1560. 0.1 | | 10-3-(9) 71/12 |
| TOKAI-2 | BWR 12 | 1560. 0.1 | | 10-3-(9) 71/12 |

PERFORMANCE EVALUATION OF ECCS LOCA FW

35600

PERFORMANCE EVALUATION OR ECCS LOCA FW
 A=BLOW-DOWN TIME
 B=STARTING TIME OF ECCS
 C=ARRIVAL TIME AT HIGHEST TEMP. OF CLADDING
 D=(1)=HIGHEST TEMP. OF CLADDING
 E=(2)=REACTION RATE OF MATERIAL-WATER
 F=FW RATIO
 G=FITNESS FOR OTHER QUALIFICATIONS
 QUALIFICATION(1) = D IS LT 1260 C
 QUALIFICATION(2) = E IS LT 1.PC
 QUALIFICATION(3) = CORE SHAPE IS KEPT TO COOL DOWN THROUGH ACCIDENT
 QUALIFICATION(4) = COOLING FOR LONG-TIME IS POSSIBLE
 A. B. C. D. E. F. G.
 (SEC) (SEC) (SEC) (DEG-C) (PC) (PC)

| | A. | B. | C. | D. | E. | F. | G. | | |
|--------------|--------|------|---------|-----|------|---------|-------|---------|-------|
| TSURUGA | BWR 3 | 13 | 30 | 245 | 1168 | ST.0.25 | 80/77 | (3),(4) | 73/ 4 |
| ONAGAWA | BWR 4 | 30 | 30 | 130 | 1159 | ST.0.18 | /93 | (3),(4) | 73/ 4 |
| HAMAOKA-1 | BWR 5 | 30 | 30 | 130 | 1159 | ST.0.18 | /93 | (3),(4) | 73/ 4 |
| FUKUSIMA-1 | BWR 6 | 30 | 30 | 322 | 1166 | ST.0.12 | 92/88 | (3),(4) | 73/ 4 |
| FUKUSIMA-2,3 | BWR 7 | 30 | 30 | 151 | 1185 | ST.0.12 | 94/92 | (3),(4) | 73/ 4 |
| SHIMANE | BWR 8 | 30 | 30 | 157 | 1050 | ST.0.1 | /93 | (3),(4) | 73/ 4 |
| FUKUSIMA-5 | BWR 9 | 30 | 30 | 151 | 1185 | ST.0.12 | 94/92 | (3),(4) | 73/ 4 |
| FUKUSIMA-4 | BWR 10 | 30 | 30 | 151 | 1185 | ST.0.12 | 94/92 | (3),(4) | 73/ 4 |
| FUKUSIMA-6 | BWR 11 | 45 | 45 | 109 | 1024 | ST.0.12 | 98/98 | (3),(4) | 73/ 4 |
| TOKAI-2 | BWR 12 | 45 | 45 | 109 | 1024 | ST.0.12 | 98/98 | (3),(4) | 73/ 4 |
| MIHAMA-1 | PWR 21 | 13.5 | 6.5/25 | 105 | 1143 | ST.0.1 | 84.4 | (3),(4) | 73/ 4 |
| MIHAMA-2 | PWR 22 | 15.5 | 6.5/25 | 75 | 1141 | ST.0.1 | 88.6 | (3),(4) | 73/ 4 |
| TAKAHAMA-2 | PWR 23 | 16.6 | 9.7/25 | 90 | 1177 | ST.0.1 | 81. | (3),(4) | 73/ 4 |
| GENKAI-1 | PWR 24 | 15 | 7/27 | 115 | 1194 | ST.0.1 | 84. | (3),(4) | 73/ 4 |
| TAKAHAMA-1 | PWR 25 | 16.6 | 9.7/25 | 90 | 1177 | ST.0.1 | 81. | (3),(4) | 73/ 4 |
| MIHAMA-1 | PWR 26 | 20.9 | 10.7/25 | 100 | 1177 | ST.0.1 | | (3),(4) | 73/ 4 |
| MIHAMA-3 | PWR 27 | 16.6 | 9.7/25 | 90 | 1177 | ST.0.1 | 81. | (3),(4) | 73/ 4 |
| IKATA-1 | PWR 28 | 15. | 7. /27 | 75 | 1146 | ST.0.1 | 84/90 | (3),(4) | 73/ 4 |

PLANT PERFORMANCE DATA

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| ACCIDENT | MAIN | STEAM | TUBE | RUPTURE | 36200 | | |
|---|------|-------|--------|---------|-------|------------|-------|
| (A)=FLOW RATE WHICH FLOWS OUT THROUGH RUPTURE TUBE IS RESTRICTED WITHIN (A1)PC/RATED BY FLOW RESTRICTOR. (B)=M.STEAM-ISOLAT.-VALVES BEGIN TO CLOSE BY THE SIGNAL WHICH IS INDUCED BY PRESSURE LOSS THROUGH FLOW-RESTRICTOR. (C)=REACTOR IS SCRAMMED WITH (C1)PC-CLOSE OF ISOLAT.-VALVE. | | | | | | | |
| | | | | (A1) | (C1) | | |
| ONAGAWA | BWR | 4 | 200.PC | 10.PC | | 10-3-(11) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 200.PC | 10.PC | | 10-24 | 70/ 5 |
| FUKUSIMA-2,3 | BWR | 7 | 200.PC | 10.PC | | 89-7-3 P5 | 71/ 3 |
| SHIMANE | BWR | 8 | 200.PC | 10.PC | | 89-8-2 P4 | 71/ 3 |
| FUKUSIMA-5 | BWR | 9 | 200.PC | 10.PC | | 10-3-(11) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 200.PC | 10.PC | | 10-3-(11) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 200.PC | 10.PC | | 10-3-(10) | 71/12 |
| TOOKAI-2 | BWR | 12 | 200.PC | 10.PC | | 10-3-(9) | 71/12 |
| HAMAOKA-2 | BWR | 13 | 200.PC | 10.PC | | 10-21 | 73/ 5 |
| KASHIWAZAKI | BWR | 15 | 200.PC | 10.PC | | 10-3-52,53 | 75/ 3 |

| ACC.ANA. | M.STEAM | TUBE | RUPTURE | 36310 | | | | | | |
|--|---------|------|-------------|-------|------------|------|------|------|--------------|-------|
| (A)=CRITICAL FLOW THROUGH FLOW-RESTRICTOR INCREASES UP TO (A1)KG/SEC. (B)=PRESSURE IN PV IS DECREASING AT THE RATE OF (B1)KG/SQCM/SEC. (C)=BECAUSE OF PRESSURE-DROP IN PV, VOID INCREASE, AND WATER LEVEL INCREASES AT THE RATE OF (C1)M/SEC, AND LEVEL REACHES TO STEAM-TUBE-NOZZLE AT (C2)SEC. (D)=M.STEAM-ISOLATE.-VALVE IS PERFECTLY CLOSED AT MAX. (D1)SEC.(INCL. (D2)SEC-DELAY) | | | | | | | | | | |
| | | | | (A1) | (B1) | (C1) | (C2) | (D1) | (D2) | |
| | | | | KG/S. | KG/SQCM/S. | M/S | SEC. | SEC | SEC | |
| ONAGAWA | BWR | 4 | 1620. | 4.5 | 2.0 | 2.2 | 5.5 | 0.5 | 10-3-(11) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 1620. | 4.5 | 2.0 | 2.2 | 5.5 | 0.5 | 10-25 | 70/ 5 |
| FUKUSIMA-2,3 | BWR | 7 | 2520. | 4.5 | 1.8 | 2.7 | 5.0 | 0.5 | 89-7-3 P5 | 71/ 3 |
| SHIMANE | BWR | 8 | 1380(345*4) | | 1.8 | 2.7 | 5.0 | 0.5 | 89-8-2 P4 | 71/ 3 |
| FUKUSIMA-5 | BWR | 9 | 2520. | 4.5 | 1.8 | 2.7 | 5.0 | 0.5 | 10-3-(12) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 2520. | 4.5 | 1.8 | 2.7 | 5.0 | 0.5 | 10-3-(11) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 3630. | 4.2 | 2.0 | 2.0 | 5.0 | 0.5 | 10-3-(10) | 71/12 |
| TOOKAI-2 | BWR | 12 | 3630. | 4.2 | 2. | 2.0 | 5.0 | 0.5 | 10-3-(9)(10) | 71/12 |
| HAMAOKA-2 | BWR | 13 | 2640 | 4.5 | 2. | 2.7 | 5.5 | 0.5 | 10-22 | 73/ 5 |
| KASHIWAZAKI | BWR | 15 | 3560. | | 2.0 | 2.0 | 5.0 | 0.5 | 10-3-53 | 75/ 3 |

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| ACC.ANA. | M.STEAM | TUBE | RUPTURE | 36320 | | | | |
|--|---------|------|----------|----------|----------|------|-----------|-------|
| (A)=TOTAL STEAM AND WATER WEIGHT WHICH FLOW OUT FROM RUPTURE PARTS UNTIL ISOLATE-VALVE-PERFECT-CLOSE ARE (A1),(A2)KG RESPECTIVELY. (B)=TO MAKE CORE BARE, COOLANT MUST FLOW OUT TO THE AMOUNT OF (B1)KG, SO CORE IS KEPT AS SUBMERGED STATE UNTIL ISOLATE-VALVE-PERFECT-CLOSE. (C)=MCHFR IS KEPT ST(C1) THROUGH THIS ACCIDENT. | | | | | | | | |
| | | | | (A1) | (A2) | (B1) | (C) | |
| | | | | STEAM | WATER | | MCHFR | |
| ONAGAWA | BWR | 4 | 5930.KG | 7930.KG | 46000.KG | 1.0 | 10-3-(11) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 5930.KG | 7930.KG | 46000.KG | 1.0 | 10-25 | 70/ 5 |
| FUKUSIMA-2,3 | BWR | 7 | 9250.KG | 8210.KG | 75400.KG | 1.0 | 89-7-3 P5 | 71/ 3 |
| SHIMANE | BWR | 8 | 4500.KG | 6800.KG | | 1.0 | 89-8-2 P5 | 71/ 3 |
| FUKUSIMA-5 | BWR | 9 | 9250.KG | 8210.KG | 75400.KG | 1.0 | 10-3-(12) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 9250.KG | 8210.KG | 75400.KG | 1.0 | 10-3-(12) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 13170.KG | 22250.KG | 81200.KG | 1.0 | 10-3-(10) | 71/12 |
| TOOKAI-2 | BWR | 12 | 13200.KG | 22200.KG | 81200.KG | 1.0 | 10-3-(10) | 71/12 |
| HAMAOKA-2 | BWR | 13 | 8870 | 9830 | 76000 | 1.0 | 10-22 | 73/ 5 |
| KASHIWAZAKI | BWR | 15 | 13200.KG | 22200.KG | 81200.KG | 1.0 | 10-3-53 | 75/ 3 |

| MCA HA | ITEMS | 43000 | | | | | |
|---|-------|-------|-----------------------------------|-------------------------|----------|-------|--|
| (A) LOSS OF COOLANT (B) MAIN STEAM TUBE RUPTURE (C) GAS DECAY TANK RUPTURE (D) STEAM GENERATOR TWIN TUBE RUPTURE | | | | | | | |
| DNAGAWA | BWR | 4 | MCA=(A),(B),(C) WITH EME. COOLING | HA=(A),(B) WITHOUT E.C. | 10-4-(1) | 70/ 5 | |
| HAMAOKA-1 | BWR | 5 | MCA=(A),(B),(C) WITH EME. COOLING | HA=(A),(B) WITHOUT E.C. | 10-26 | 70/ 5 | |
| FUKUSIMA-5 | BWR | 9 | MCA=(A),(B) WITH EME. COOLING | HA=(A),(B) WITHOUT E.C. | 10-4-(1) | 71/ 2 | |
| FUKUSIMA-4 | BWR | 10 | MCA=(A),(B) WITH ONE ECCS | HA=(A),(B) WITHOUT E.C. | 10-4-(1) | 71/ 8 | |
| FUKUSIMA-6 | BWR | 11 | MCA=(A),(B) | HA=(A),(B) | 10-4-(1) | 71/12 | |
| TOOKAI-2 | BWR | 12 | MCA=(A),(B) | HA=(A),(B) | 10-4-(1) | 71/12 | |
| TAKAHAMA-2 | PWR | 23 | MCA=(A),(D) WITH EME. COOLING | HA=(A),(D) WITHOUT E.C. | | 70/ 5 | |
| GENKAI-1 | PWR | 24 | MCA=(A),(D) WITH EME. COOLING | HA=(A),(D) WITHOUT E.C. | | 70/ 5 | |
| FUGEN | ATR | 81 | MCA=(A),(B),(C) WITH EME. COOLING | HA=(A),(B) WITHOUT E.C. | | 70/11 | |

MCA HA BWR LOC FP LEAK RATE FROM DRY-WELL 43110

ASSUMPTION (THIS LEAK RATE IS APPLIED TO *LOSS OF COOLANT ANALYSIS*.)
 (A)=AT MCA, FP RELEASE RATE CORRESPONDS (A1)PC PERFORATION, AND
 LEAK RATE FROM DRY-WELL IS (A2)PC/DAY *(A3)DAYS
 (B)=AT HA, FP RELEASE RATE CORRESPONDS ALL FUEL MELT DOWN, AND
 LEAK RATE FROM DRY-WELL IS (B1)PC/DAY * INFINITE TIME.

| | BWR | LOC | FP | MCA | | HA | | | |
|-------------|-----|-----|--------|-----------|------------|-----------|--------|-----------|-------|
| | | | | (A1) | (A2) | (A3) | (B1) | | |
| ONAGAWA | BWR | 4 | 100.PC | 0.5PC/DAY | * 33. DAYS | 0.5PC/DAY | * INF. | 10-4-(2) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 100.PC | 0.5PC/DAY | * 37. DAYS | 0.5PC/DAY | * INF. | 10-27 | 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | 100.PC | 0.5PC/DAY | * 33. DAYS | 0.5PC/DAY | * INF. | 10-4-(2) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 100.PC | 0.5PC/DAY | * 33. DAYS | 0.5PC/DAY | * INF. | 10-4-(2) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 100.PC | 0.5PC/DAY | * 33. DAYS | 0.5PC/DAY | * INF. | 10-4-(1) | 71/12 |
| TOKAI-2 | BWR | 12 | 100.PC | 0.5PC/DAY | * 33. DAYS | 0.5PC/DAY | * INF. | 10-4-(1) | 71/12 |
| HAMAOKA-2 | BWR | 13 | 100.PC | 0.5PC/DAY | * 44. DAYS | 0.5PC | | 10-24 | 73/ 5 |
| KASHIWAZAKI | BWR | 15 | 100.PC | 0.5PC/DAY | * 33. DAYS | 0.5PC/DAY | * INF. | 10-2-5,33 | 75/ 3 |

MCA HA BWR LOC FP RELEASE FROM FUEL 43120

ASSUMPTION
 (A)=REACTOR HAS OPERATED CONTINUOUSLY (A1)YEAR AT RATED POWER
 (B)=FP RELEASE RATE FROM FUEL ROD TO COOLANT (IN PC/ACCUMULATE TOTAL)
 (C)=FP TRANSFER RATE FROM PV TO DRY-WELL (IN PC)
 (INORGANIC HALOGEN)/(RARE GAS AND ORGANIC HALOGEN)
 (D)=RARE GAS DOES NOT DISSOLVE, NOT FALL OUT, NOT PLATE OUT.
 (E)=SHARING RATE OF INORGANIC HALOGEN WHICH RELEASED OUT TO DRY-WELL
 IS (E1)
 (F)=RATE OF ORGANIC/TOT. HALOGEN IS (F1)PC, AND ORGANIC HALOGEN IS
 HANDLED AS SAME AS RARE GAS.

| | BWR | LOC | FP | (A) | | (B) | | (C) | (E1) | (F1) | | |
|-------------|-----|-----|----------|----------|---------|--------|------|-------|------|------|-----------|-------|
| | | | | RARE GAS | HALOGEN | MCA | HA | | | | | |
| | | | | MCA | HA | MCA | HA | | | | | |
| ONAGAWA | BWR | 4 | 1.YEAR | 2. 100. | 1. 50. | 50.PC | 1.E2 | 10.PC | | | 10-4-(2) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 1.YEAR | 2. 100. | 1. 50. | 50.PC | 1.E2 | 10.PC | | | 10-28 | 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | 1.YEAR | 2. 100. | 1. 50. | 50.PC | 1.E2 | 10.PC | | | 10-4-(2) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 1.YEAR | 2. 100. | 1. 50. | 50.PC | 1.E2 | 10.PC | | | 10-4-(2) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 1.YEAR | 2. 100. | 1. 50. | 50/100 | 1.E2 | 10.PC | | | 10-4-(2) | 71/12 |
| TOKAI-2 | BWR | 12 | 1.YEAR | 2. 100. | 1. 50. | 50/100 | 1.E2 | 10.PC | | | 10-2-(2) | 71/12 |
| HAMAOKA-2 | BWR | 13 | 1.YEAR | 2. 100. | 1. 50. | 50/100 | 1.E2 | 10.PC | | | 10-24 | 73/ 5 |
| KASHIWAZAKI | BWR | 15 | 1000.DAY | 2. 100. | 1. 50. | 50/100 | 1.E2 | 10.PC | | | 10-4-4,33 | 75/ 3 |

MCA HA BWR LOC FP GAS RELEASE FROM FUEL 43130

ASSUMPTION
 REACTOR HAS OPERATED CONTINUOUSLY AT RATED POWER FOR A LONG TIME
 (B1)=FP RELEASE RATE FROM FUEL ROD TO COOLANT (IN PC/ACCUMULATE TOTAL)
 (D)=RATE OF (ORGANIC IODINE)/(TOTAL IODINE) IS (D1)PC.
 (E)=(E1)PC OF FREE IODINE PLATE OUT ON WALL OF CONTAINER.

| | BWR | LOC | FP | (B1) | | (D1) | (E1) | | | |
|------------|-----|-----|---------|----------|---------|-----------|------|--|----------|-------|
| | | | | RARE GAS | HALOGEN | | | | | |
| | | | | MCA | HA | | | | | |
| TAKAHAMA-2 | BWR | 23 | 2. 100. | 1.0 50. | 0.02 1. | 10. 50.PC | | | 10-25*27 | 70/ 5 |
| GENKAI-1 | BWR | 24 | 2. 100. | 1.0 50. | 0.02 1. | 10. 50.PC | | | 10-28*32 | 70/ 5 |
| OUI-1-2 | BWR | 26 | 3. 100. | 1.5 50. | 0.03 1. | 10. 50.PC | | | 10-25*28 | 71/ 1 |
| MIHAMA-3 | BWR | 27 | 2. 100. | 1.0 50. | 0.02 1. | 10. 50.PC | | | 10-25*27 | 71/ 7 |
| IKATA-1 | BWR | 28 | 2. 100. | 1.0 50. | 0.02 1. | 10. 50.PC | | | 10-26*30 | 72/11 |

MCA HA BWR LOC FP GAS RELEASE FROM BUILDING 43140

ASSUMPTION (REFER 43120)
 (A)=FILTER EFFICIENCY IS (A1)PC TO HALOGEN, AND NO EFFECT TO RARE GAS
 (B)=VENTILATION RATE IS (B1)PC/DAY
 (C)=EMERGENCY-RECIRCULATION-GAS-FILTERING SYSTEM
 (V)=EMERGENCY-GAS-VENTILATION SYSTEM

| | BWR | LOC | FP | RARE GAS | | HALOGEN | | (A1) | (B1) |
|--------------|-----|-----|---------|------------|---------|-----------|--------------|-------------|-------|
| | | | | MCA | HA | MCA | HA | | |
| | | | | | | | | | |
| TSURUGA | BWR | 3 | 1.01E3 | CI 3.2 E5 | CI 16. | CI 8.5 E3 | CI 90. 50 | R.KISHEIKA | 75/ 7 |
| ONAGAWA | BWR | 4 | 1.14E4 | CI 5.76E5 | CI 235. | CI 1.23E4 | CI 90. 100. | 10-4-(3) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | *1.1 E4 | CI *5.8 E5 | CI 240. | CI 1.2 E4 | CI 90. 100. | *GAMMA10-29 | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 81.6 E4 | CI 88.8 E5 | CI | | | B=BETA10-29 | 70/ 5 |
| FUKUSIMA-1 | BWR | 6 | 3.5 E5 | CI 4.9 E5 | CI 58. | CI 1.1 E4 | CI 90. 100. | R.KESHEIKA | 75/ 7 |
| FUKUSIMA-2,3 | BWR | 7 | 1.63E4 | CI 8.58E5 | CI 315. | CI 1.81E4 | CI 90. 100. | R.KISHEIKA | 75/ 7 |
| SHIMANE | BWR | 8 | 4.1 E3 | CI 4.9 E5 | CI 72. | CI 1.1 E4 | CI 90. 100. | R.KISHEIKA | 75/ 7 |
| FUKUSIMA-5 | BWR | 9 | 1.63E4 | CI 8.58E5 | CI 355. | CI 1.81E4 | CI 90. 100. | 10-4-(3) | 71/ 2 |
| FUKUSIMA-5 | BWR | 9 | 1.63E4 | CI 8.58E5 | CI 315. | CI 1.81E4 | CI 90. 100. | R.KISHEIKA | 75/ 7 |
| FUKUSIMA-4 | BWR | 10 | 1.63E4 | CI 8.58E5 | CI 315. | CI 1.81E4 | CI 90. 100. | 10-4-(3) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 1.63E4 | CI 2.05E5 | CI 502. | CI 2.64E3 | CI 90. 100. | R.KISHEIKA | 75/ 7 |
| TOKAI-2 | BWR | 12 | 61.30E4 | CI 66.76E4 | CI 493. | CI 2.62E4 | CI 90. 100. | 10-4-(3) | 71/12 |
| TOKAI-2 | BWR | 12 | 82.67E4 | CI 82.04E6 | CI | | | 10-4-(3) | 71/12 |
| TOKAI-2 | BWR | 12 | 1.36E4 | CI 7.04E5 | CI 502. | CI 2.64E3 | CI 90. 100. | R.KISHEIKA | 75/ 7 |
| HAMAOKA-2 | BWR | 13 | | | CI 360. | CI 1.8 E4 | CI 90. 100. | 10-25 | 73/ 5 |
| KASHIWAZAKI | BWR | 15 | 61.38E4 | CI 67.04E5 | CI 50. | CI 2.62E3 | CI 90(C)500. | 10-4-11,35 | 75/ 3 |
| KASHIWAZAKI | BWR | 15 | 83.05E4 | CI 82.13E6 | CI | | | 95(V)100. | 75/ 3 |

PLANT PERFORMANCE DATA

DATE=08/17/76

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| MCA | HA | PWR | LOPC | FP | GAS | RELEASE | FROM | BUILDING | 43150 | ----RARE GAS----- | | ----100(NE(1-13))-- | | | | |
|------------|----|-----|------|----|---------|---------|--------|----------|-------|-------------------|-----|---------------------|-------|-----------|----------|-------|
| | | | | | | | | | | MCA | HA | MCA | HA | | | |
| MIHAMA-1 | | PWR | 21 | | 0.182E4 | CI | 0.78E5 | CI | | 1.1 | CI | 50. | CI | REF23 P47 | 71/ 9 | |
| MIHAMA-2 | | PWR | 22 | | 0.256E4 | CI | 1.28E5 | CI | | 2. | CI | 97. | CI | REF23 P47 | 71/ 9 | |
| TAKAHAMA-2 | | PWR | 23 | | 0.86E4 | CI | 4.32E5 | CI | | 29. | CI | 1430. | CI | 10-26-28 | X0/ 5 | |
| GENKAI-1 | | PWR | 24 | | 0.26E4 | CI | 1.3 | E5 | CI | 13.3 | CI | 666. | CI | 10-29-32 | 70/ 5 | |
| TAKAHAMA-1 | | PWR | 25 | | 0.86E4 | CI | 4.32E5 | CI | | 29. | CI | 1430. | CI | REF23 P47 | 71/ 9 | |
| DDI-1,2 | | PWR | 26 | | 2.5 | E4 | CI | 8.4 | E5 | CI | 31. | CI | 1030. | CI | 10-27-28 | 71/ 1 |
| MIHAMA-3 | | PWR | 27 | | 0.344E4 | | 1.72E5 | | | 28. | | 1370. | | 10-27-28 | 71/ 7 | |
| IKATA-1 | | PWR | 28 | | 0.329E4 | | 1.64E5 | | | 20. | | 994. | | 10-27-30 | 72/11 | |

MCA BWR LOC ESTIMATION OF IRRADIATION DOSE 43160

ACCIDENT=MAXIMUM CREDIBLE ACCIDENT WITH LOSS OF COOLANT
 (A)=IRRADIATION DOSE AT THE POINT WHICH IS ON (A1)M RADIUS WITH (A2)
 AS THE CENTER.
 (T)=INFANTILE THYROID IRRADIATION DOSE IN REM.
 (G)=WHOLE BODY GAMMA IRRADIATION DOSE IN REM.
 (B)=WHOLE BODY BETA IRRADIATION DOSE IN REM.
 (A1) (A2) (T) (G) (B)
 METER CENTER REM REM REM REM

| | | | | | | | | | | | |
|--------------|-----|----|--------|---------|------|-----|--------|-----|--------|------------|-------|
| TSURUGA | BWR | 3 | 600.M | | 1. | REM | 0.003 | REM | | R.KISHEIKA | 75/ 7 |
| ONAGAWA | BWR | 4 | 600.M | STACK | 2.0 | REM | 0.007 | REM | 0.013 | 10-4-(4) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 450.M | REACTOR | 2.1 | REM | 0.0076 | REM | 0.0143 | 10-29 | 70/ 5 |
| FUKUSIMA-1 | BWR | 6 | 1000.7 | | 0.9 | REM | 0.0061 | REM | | R.KISHEIKA | 75/ 7 |
| FUKUSIMA-2,3 | BWR | 7 | 1000.7 | | 4.8 | REM | 0.020 | REM | | R.KISHEIKA | 75/ 7 |
| FUKUSIMA-2,3 | BWR | 7 | 800.7 | | 2.3 | REM | 0.023 | REM | | R.KISHEIKA | 75/ 7 |
| SHIMANE | BWR | 8 | 820.7 | | 1.1 | REM | 1.3 | REM | | R.KISHEIKA | 75/ 7 |
| FUKUSIMA-5 | BWR | 9 | 650.M | REACTOR | 6.0 | REM | 0.026 | REM | 0.042 | 10-4-(4) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 800.M | REACTOR | 5.5 | REM | 0.023 | REM | 0.038 | 10-4-(4) | 71/ 8 |
| FUKUSIMA-4 | BWR | 10 | 800.M | | 2.3 | REM | 0.010 | REM | 0.011 | | / |
| FUKUSIMA-6 | BWR | 11 | 650.M | STACK | 4.0 | REM | 0.011 | REM | 0.024 | | / |
| TOOKAI-2 | BWR | 12 | 570.M | REACTOR | 3.7 | REM | 0.0053 | REM | 0.020 | 10-2-(3) | 71/12 |
| TOOKAI-2 | BWR | 12 | 540.M | | 4.1 | REM | 0.010 | REM | 0.024 | R.KISHEIKA | 75/ 7 |
| HAMAOKA-2 | BWR | 13 | 450 | REACTOR | 3.2 | | 0.0071 | | 0.019 | 10-26 | 73/ 5 |
| KASHINAZAKI | BWR | 15 | 700.M | STACK | 0.25 | REM | 0.0042 | REM | 0.013 | 10-4-16 | 75/ 3 |

PLANT PERFORMANCE DATA

DATE=08/17/76

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MCA HA PWR LOC ESTIMATION OF IRRADIATION DOSE 43170

ACCIDENT(MCA AND HA) WITH LOSS OF PRIMARY COOLANT (PWR)
 (A1)=INFANTILE THYROID IRRADIATION DOSE IN REM
 (A2)=ADULT THYROID IRRADIATION DOSE IN REM
 (B)=WHOLE BODY IRRADIATION DOSE IN REM
 (C)=WHOLE BODY (BETA) IRRADIATION DOSE IN REM

| | | | | | MCA | | | HA | | | | |
|------------|-----|----|------|------|-------|-------|------|------|------|------|-------------|-------|
| | | | | | (A1) | (B) | (C) | (A1) | (B) | (C) | | |
| MIHAMA-1 | PWR | 21 | 0.75 | 0.08 | 0.55 | 0.75 | 1.0 | 2.8 | | | R.KISHEIKA | 75/ 7 |
| MIHAMA-2 | PWR | 22 | 0.7 | 0.11 | 0.12 | 0.7 | 1.4 | 5.8 | | | R.KISHEIKA | 75/ 7 |
| TAKAHAMA-2 | PWR | 23 | 0.8 | 1.4 | 0.12 | 0.03 | 0.8 | 17.0 | 5.5 | 1.7 | 10-27-28 | 70/ 5 |
| GENKAI-1 | PWR | 24 | 0.6 | 0.8 | 0.25 | 0.02 | 0.6 | 9.6 | 12.5 | 0.8 | 10-29-28 | 70/ 5 |
| TAKAHAMA-1 | PWR | 25 | 0.8 | 1.3 | 0.09 | | 0.8 | 16. | 4.1 | | R.KISHEIKA | 75/ 7 |
| DDI-1,2 | PWR | 26 | 0.8 | 1.3 | 0.11 | 0.08 | 0.8 | 11.0 | 3.6 | 2.7 | 10-27-28 | 71/ 1 |
| DDI-1,2 | PWR | 26 | 0.8 | 0.89 | 0.022 | 0.037 | 0.8 | 7.4 | 0.72 | 2. | R.KISHEIKA | 75/ 7 |
| MIHAMA-3 | PWR | 27 | 0.75 | 1.1 | 0.14 | 0.017 | 0.75 | 13.0 | 6.3 | 0.68 | 10-27-28 | 71/ 7 |
| MIHAMA-3 | PWR | 27 | 0.55 | 0.59 | 0.14 | | 0.55 | 7.4 | 6.7 | | R.KISHEIKA | 75/ 7 |
| IKATA-1 | PWR | 28 | 0.7 | 1.9 | 0.11 | 0.03 | 0.7 | 23.0 | 5.7 | 1.6 | 10-27-30,31 | 72/11 |

HA BWR LOC ESTIMATION OF IRRADIATION DOSE 43180

ACCIDENT=HYPOTHETICAL ACCIDENT WITH LOSS OF COOLANT
 (1)RADIUS KILOMETER
 (A)=ADULT THYROID IRRADIATION DOSE IN REM.
 (G)=WHOLE BODY GAMMA IRRADIATION DOSE IN REM.
 (B)=WHOLE BODY BETA IRRADIATION DOSE IN REM.
 (1) (A) (G) (B) (1) (A) (G) (B)
 KM REM REM KM REM REM KM REM REM

| | | | | | | | | | | | | | | | | |
|--------------|-----|----|------|------|-----|-----|----|-----|-----|-----|------------|-------|------|-----|----------|-------|
| TSURUGA | BWR | 3 | 0.6 | 100. | .6 | | | | | | R.KISHEIKA | 75/ 7 | | | | |
| ONAGAWA | BWR | 4 | 0.6 | 27. | .33 | .73 | 2. | .9. | .14 | .25 | 5. | 5. | .060 | .10 | 10-4-(4) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 0.45 | 27. | .38 | .84 | | | | | 10-30 | | | | 70/ 5 | |
| FUKUSIMA-1 | BWR | 6 | 1.0 | 37. | .8 | | | | | | R.KISHEIKA | 75/ 7 | | | | |
| FUKUSIMA-2,3 | BWR | 7 | 1.0 | 65. | .77 | | | | | | R.KISHEIKA | 75/ 7 | | | | |
| FUKUSIMA-2,3 | BWR | 7 | 0.8 | 78. | 1.2 | 2.6 | | | | | R.KISHEIKA | 75/ 7 | | | | |
| SHIMANE | BWR | 8 | 0.82 | 30. | .2 | | | | | | R.KISHEIKA | 75/ 7 | | | | |
| FUKUSIMA-5 | BWR | 9 | 0.65 | 85. | 1.4 | 2.9 | 2. | 33. | .73 | 1.1 | 5. | 13. | .49 | .44 | 10-4-(4) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 0.8 | 78. | 1.2 | 2.6 | 2. | 33. | .73 | 1.1 | 5. | 13. | .49 | .44 | 10-4-(4) | 71/ 8 |
| FUKUSIMA-4 | BWR | 10 | 0.8 | 32. | .53 | 1.1 | | | | | R.KISHEIKA | 75/ 7 | | | | |
| FUKUSIMA-6 | BWR | 11 | 0.65 | 52. | .55 | 1.6 | | | | | R.KISHEIKA | 75/ 7 | | | | |
| TOOKAI-2 | BWR | 12 | 0.54 | 54. | .5 | 1.7 | | | | | R.KISHEIKA | 75/ 7 | | | | |
| HAMAOKA-2 | BWR | 13 | 0.45 | 419 | .4 | 1.1 | | | | | R.KISHEIKA | 75/ 7 | | | | |

NATIONAL HEREDITY IRRADIATION DOSE HA

43190

| | | MAN#REM/YEAR NUMBER | | MAN#REM | | | |
|--------------|-----|---------------------|---------------|--------------------|-----|------------|-------|
| | | MAN# | REM | MAN# | REM | | |
| TSURUGA | BWR | 3 | 8.3E4 (LOC) | | | R.KISHEIKA | 75/ 7 |
| DNAGAWA | BWR | 4 | 8. E4 (LOC) | | | 10-4-(4) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 15. E4 (LOC) | | | 10-30 | 70/ 5 |
| FUKUSIMA-1 | BWR | 6 | 6.7E4 (LOC) | | | R.KISHEIKA | 75/ 7 |
| FUKUSIMA-2,3 | BWR | 7 | 12. E4 (LOC) | | | R.KISHEIKA | 75/ 7 |
| SHIMANE | BWR | 8 | 4.1E4 (LOC) | | | R.KISHEIKA | 75/ 7 |
| FUKUSIMA-5 | BWR | 9 | 12. E4 (LOC) | | | 10-4-(4) | 71/ 8 |
| FUKUSIMA-4 | BWR | 10 | 12. E4 (LOC) | | | 10-4-(4) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 10. E4 (LOC) | | | R.KISHEIKA | 75/ 7 |
| TOKAI-2 | BWR | 12 | 20. E4 (LOC) | | | R.KISHEIKA | 75/ 7 |
| KASHIWAZAKI | HWR | 15 | 6.89E4/1970 | 10.3E4/2020 (LOCA) | | 10-4-37,38 | 75/ 3 |
| MIHAMA-1 | PWR | 21 | 1.1E4 | 1.1E4 | | R.KISHEIKA | 75/ 7 |
| MIHAMA-2 | PWR | 22 | 1.6E4 | 1.7E4 | | R.KISHEIKA | 75/ 7 |
| TAKAHAMA-2 | PWR | 23 | 5.9E4 (LOPC) | 1.3E4 (SGTR) | | 10-29 | 70/ 5 |
| GENKAI-1 | PWR | 24 | 5.5E4 (LOPC) | 3.1E4 (SGTR) | | 10-33,34 | 70/ 5 |
| TAKAHAMA-1 | PWR | 25 | 2.5E4 | 1.3E4 | | R.KISHEIKA | 75/ 7 |
| DUI-1,2 | PWR | 26 | 14. E4 (LOPC) | 1.4E4 (SGTR) | | 10-29 | 71/ 1 |
| DUI-1,2 | PWR | 26 | 7.5E4 | 1.7E4 | | R.KISHEIKA | 75/ 7 |
| MIHAMA-3 | PWR | 27 | 2.7E4 (LOPC) | 1.1E4 (SGTR) | | 10-29 | 71/ 7 |
| MIHAMA-3 | PWR | 27 | 2.7E4 | 1.5E4 | | R.KISHEIKA | 75/ 7 |
| IKATA-1 | PWR | 28 | 6.7E4 (LOPC) | 2.4E4 (SGTR) | | 10-31,32 | 72/11 |

MCA HA BWR MSTR FP

RELEASE FROM FUEL

43220

(A)=ACTUALLY MAX. AMOUNT OF FP WHICH LEAK OUT FROM FUEL ROD WITH PIN-HOLE TO COOLANT WITH DECREASING OF PRESSURE AS REACTOR SHUT DOWN; IS (A1) CURIE OF I-131.
 (B)=FOR ANALYSIS, LET US ASSUME THAT AMOUNT OF FP WHICH CORRESPOND TO (B1) CURIE OF I-131 LEAK OUT FROM FUEL PIN TO REACTOR WATER.
 (C)=THIS AMOUNT(=B1) CORRESPOND TO (C1),(C2), AND (C3).
 (C1)CI(AS I-131 EQUIVALENT) OF WHOLE RADIOACTIVE IODINE.
 (C2)CI(AS EFFECTIVE GAMMA ENERGY 0.5MEV) OF HALOGEN EXCEPT IODINE.
 (C3)CI(AS EFFECTIVE GAMMA ENERGY 0.5MEV) OF RARE GAS.
 (A1) (B1) (C1) (C2) (C3)
 (I-131) (I-131) IODINE HALOGEN RARE GAS

| | | MCA | | HA | | MCA | | HA | | | |
|--------------|-----|-----|--------|--------|-----------|-----------|-----------|-----------|--|--|-------|
| DNAGAWA | BWR | 4 | | | | | | | | | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | | | | | | | | | 70/ 5 |
| FUKUSIMA-2,3 | BWR | 7 | 20000. | 40000. | 75000. | 1.06E5 | 8.99E5 | 89-7-3 P6 | | | 71/ 3 |
| SHIMANE | BWR | 8 | | 10000. | 19000. | | | 89-8-2 P4 | | | 71/ 3 |
| FUKUSIMA-5 | BWR | 9 | 20000. | 40000. | 75000. | 1.06E5 | 8.99E5 | 10-4-(4) | | | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 20000. | 40000. | 75000. | 1.06E5 | 8.99E5 | 10-4-(4) | | | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 20000. | 40000. | 75000. | 1.06E5 | 8.99E5 | 10-4-(5) | | | 71/12 |
| TOKAI-2 | BWR | 12 | 20000. | 40000. | 75000. | 1.22E5(G) | 1.29E6(G) | 10-4-(4) | | | 71/12 |
| HAMAOKA-2 | BWR | 13 | 20000. | 38000. | 5.56E5(G) | 4.1 E4(G) | 4.67E5(G) | 10-27 | | | 73/ 5 |
| HAMAOKA-2 | BWR | 13 | | | 1.64E5(B) | 7.9 E4(B) | 3.69E5(B) | 10-27 | | | 73/ 5 |
| KASHIWAZAKI | BWR | 15 | 20000. | 40000. | | | | 10-4-19 | | | 75/ 3 |

MCA HA BWR MSTR FP

GAS RELEASE FROM BUILDING

43240

--RARE GAS-- --HALOGEN-- --IODINE-- --IODINE-- (UNIT CURIE)
 (I-131)
 MCA HA MCA HA MCA HA MCA HA

| | | MCA | | HA | | MCA | | HA | | | |
|--------------|-----|-----|--------|--------|--------|--------|--------|--------|------------|--|-------|
| TSURUGA | BWR | 3 | 11870. | 17200. | 2610. | 5080. | 183. | 666. | R.KISHEIKA | | 75/ 7 |
| DNAGAWA | BWR | 4 | 531. | 845. | 537 | 813. | 27. | 71. | 10-4-(6) | | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 1361.G | 2186.G | 209.G | 349.G | 900.G | 1475.G | 10-32 | | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 1042.B | 1633.B | 192.B | 394.B | 316.B | 501.B | | | 71/ 7 |
| HAMAOKA-1 | BWR | 5 | 1042.B | 1633.B | 508.B | 895.B | | | R.KISHEIKA | | 75/ 7 |
| HAMAOKA-1 | BWR | 5 | 1361.G | 2186.G | 1109.G | 1824.G | | | R.KISHEIKA | | 75/ 7 |
| FUKUSIMA-1 | BWR | 6 | 7110. | 10290. | 480. | 948. | | | R.KISHEIKA | | 75/ 7 |
| FUKUSIMA-2,3 | BWR | 7 | 3020. | 5040. | 2080. | 2620. | | | R.KISHEIKA | | 75/ 7 |
| SHIMANE | BWR | 8 | 880. | 1508. | 92. | 214. | | | R.KISHEIKA | | 75/ 7 |
| FUKUSIMA-5 | BWR | 9 | 3020. | 5040. | 2080. | 2620. | | | 10-4-(6) | | 71/ 2 |
| FUKUSIMA-5 | BWR | 9 | 3420. | 8471. | 2200. | 3390. | | | R.KISHEIKA | | 75/ 7 |
| FUKUSIMA-4 | BWR | 10 | 3020. | 5040. | 2080. | 2620. | | | 10-4-(6) | | 71/ 8 |
| FUKUSIMA-4 | BWR | 10 | 3420. | 8471. | 2200. | 3390. | | | R.KISHEIKA | | 75/ 7 |
| FUKUSIMA-6 | BWR | 11 | 3200. | 11200. | 3990. | 5450. | | | R.KISHEIKA | | 75/ 7 |
| TOKAI-2 | BWR | 12 | 4210.G | 7980.G | 2230.G | 3070.G | | | 10-4-(6) | | 71/12 |
| TOKAI-2 | BWR | 12 | 3200.B | 6640.B | 960.B | 1420.B | | | 10-4-(6) | | 71/12 |
| TOKAI-2 | BWR | 12 | 3200. | 11200. | 4000. | 5450. | | | R.KISHEIKA | | 75/ 7 |
| HAMAOKA-2 | BWR | 13 | 1390.G | 2042.G | 175.G | 285.G | 2900.G | 4604.G | 10-28 | | 73/ 5 |
| HAMAOKA-2 | BWR | 13 | 1152.B | 1671.B | 340.B | 615.B | 842.B | 1365.B | 10-28 | | 73/ 5 |
| KASHIWAZAKI | BWR | 15 | 2080.G | 4420.G | 3780.G | 3940.G | | | 10-4-28 | | 75/ 3 |
| KASHIWAZAKI | BWR | 15 | 1650.B | 3490.B | 1310.B | 1420.B | | | 10-4-28 | | 75/ 3 |

MCA HA PWR SGTR FP

GAS RELEASE FROM BUILDING

43250

----RARE GAS----- ----IODINE(I-131)---
 MCA HA MCA HA

| | | MCA | | CI | | MCA | | CI | | | |
|------------|-----|-----|--------|--------|-----|------|-----|------|----------|--|-------|
| TAKAHAMA-2 | PWR | 23 | 25400. | 64600. | 56. | 313. | 61. | 359. | 10-27,28 | | 70/ 5 |
| GENKAI-1 | PWR | 24 | 26800. | 74000. | 61. | 359. | 59. | 323. | 10-31,33 | | 70/ 5 |
| DUI-1,2 | PWR | 26 | 28400. | 68400. | 59. | 323. | 56. | 313. | 10-27,28 | | 71/ 1 |
| MIHAMA-3 | PWR | 27 | 19100. | 53600. | 56. | 313. | | | 10-27,28 | | 71/ 7 |
| IKATA-1 | PWR | 28 | 19380. | 58180. | 61. | 359. | | | 10-29,31 | | 72/11 |

BWR MCA BWR MSTR ESTIMATI ON OF IRRADIAT ION DOSE 43260

ACCIDENT=MAXIMUM CREDIBLE ACCIDENT WITH MAIN STEAM TUBE RUPTURE.

(1)POSITION OF CENTER
R=REACTOR
TB=TURBINE BUILDING
(2)RADIUS
METER
(T)INFANTILE THYROID IRRADIATION DOSE IN REM
(G)WHOLE BODY GAMMA IRRADIATION DOSE IN REM
(B)WHOLE BODY BETA IRRADIATION DOSE IN REM
(C)T(=TOTAL), PR(=PRE ISOLATE.-V-CLOSE), PO(=POST ISOLATE.-V-CLOSE)
(1) (2) (T) (G) (B) (C)
M REM REM REM

| Location | Unit | Type | R | (1) | (2) | (T) | (G) | (B) | (C) | Notes | Value |
|--------------|------|------|----|-------|------|--------|--------|-----|-----|------------|-------|
| TSURUGA | BWR | 3 | R | 600. | 60. | 0.090 | | | | R.KISHEIKA | 75/ 7 |
| ONAGAWA | BWR | 4 | R | 600. | 11.8 | 0.0061 | 0.0203 | | | 10-4-(6) | 70/ 5 |
| ONAGAWA | BWR | 4 | R | 450. | 22.0 | 0.011 | 0.035 | | | R.KISHEIKA | 75/ 7 |
| HAMADKA-1 | BWR | 5 | R | 450. | 22.0 | 0.011 | 0.035 | | | 10-33 | 70/ 5 |
| FUKUSIMA-1 | BWR | 6 | R | 1000. | 12. | 0.098 | 0.101 | | | R.KISHEIKA | 75/ 7 |
| FUKUSIMA-2,3 | BWR | 7 | R | 1000. | 35. | 0.038 | 0.051 | | | 89-7-3 P8 | 71/ 3 |
| SHIMANE | BWR | 8 | R | 820. | 7.8 | 0.0049 | 0.011 | | | 89-9-2 P6 | 71/ 3 |
| SHIMANE | BWR | 8 | R | 820. | 3.4 | 0.0023 | 0.0069 | | | 89-8-2 P7 | 71/ 3 |
| SHIMANE | BWR | 8 | R | 820. | 11.2 | 0.0071 | 0.0179 | | | 89-8-2 P7 | 71/ 3 |
| FUKUSIMA-5 | BWR | 9 | R | 650. | 45. | 0.046 | 0.0179 | | | 10-4-(6) | 71/ 2 |
| FUKUSIMA-5 | BWR | 9 | R | 650. | 54. | 0.055 | 0.091 | | | R.KISHEIKA | 75/ 7 |
| FUKUSIMA-4 | BWR | 10 | R | 800. | 39. | 0.040 | 0.060 | | | 10-4-(6) | 71/ 8 |
| FUKUSIMA-4 | BWR | 10 | R | 800. | 39. | 0.037 | 0.057 | | | R.KISHEIKA | 75/ 7 |
| FUKUSIMA-6 | BWR | 11 | R | 650. | 66. | 0.043 | 0.076 | | | R.KISHEIKA | 75/ 7 |
| FUKUSIMA-6 | BWR | 11 | R | 650. | 28. | 0.033 | 0.048 | | | 10-4-(7) | 71/12 |
| TOKAI-2 | BWR | 12 | R | 570. | 21. | 0.021 | 0.078 | | | 10-4-(6) | 71/12 |
| TOKAI-2 | BWR | 12 | R | 650. | 66. | 0.043 | 0.076 | | | R.KISHEIKA | 75/ 7 |
| HAMADKA-2 | BWR | 13 | R | 450. | 58. | 0.019 | 0.049 | | | 10-29 | 71/ 5 |
| KASHIWAZAKI | BWR | 15 | TB | 750. | 23.5 | 0.0114 | 0.0185 | | | 10-4-32 | 75/ 3 |
| KASHIWAZAKI | BWR | 15 | TB | 750. | 2.5 | 0.0031 | 0.007 | | | 10-4-32 | 75/ 3 |
| KASHIWAZAKI | BWR | 15 | TB | 750. | 26. | 0.015 | 0.026 | | | 10-4-32 | 75/ 3 |

MCA HA PWR SGR ESTIMATI ON OF IRRADIAT ION DOSE 43270

ACCIDENT(MCA AND HA) WITH STEAM GENERATOR THIN TUBE RUPTURE (PWR)

(A1)=INFANTILE THYROID IRRADIATION DOSE IN REM
(A2)=ADULT THYROID IRRADIATION DOSE IN REM
(B)=WHOLE BODY IRRADIATION DOSE IN REM
(C)=WHOLE BODY (BETA) IRRADIATION DOSE IN REM

| Location | Unit | Type | MCA | | | HA | | | Notes | Value | | |
|------------|------|------|------|-----|-------|------|------|-----|-------|------------|-------------|-------|
| | | | (A1) | (B) | (C) | (A1) | (B) | (C) | | | | |
| MIHAMA-1 | PWR | 21 | 0.75 | 12. | 0.062 | | | | | R.KISHEIKA | 75/ 7 | |
| MIHAMA-2 | PWR | 22 | 0.7 | 21. | 0.11 | | | | | R.KISHEIKA | 75/ 7 | |
| TAKAHAMA-2 | PWR | 23 | 0.8 | 31. | 0.24 | 1.5 | 0.8 | 35. | 0.6 | 3.9 | 10-27*28 | 70/ 5 |
| GENKAI-1 | PWR | 24 | 0.6 | 29. | 0.11 | 0.7 | 0.6 | 34. | 0.3 | 1.6 | 10-31*33 | 70/ 5 |
| TAKAHAMA-1 | PWR | 25 | 0.8 | 31. | 0.24 | | 0.8 | 35. | 0.6 | | R.KISHEIKA | 75/ 7 |
| DOI-1,2 | PWR | 26 | 0.8 | 33. | 0.26 | 1.8 | 0.8 | 34. | 0.62 | 4.3 | 10-27*28 | 71/ 1 |
| DOI-1,2 | PWR | 26 | 0.8 | 16. | 0.084 | 0.58 | 0.8 | 17. | 0.24 | 1.3 | R.KISHEIKA | 75/ 7 |
| MIHAMA-3 | PWR | 27 | 0.75 | 17. | 0.1 | 0.13 | 0.75 | 21. | 0.32 | 0.27 | 10-27*28 | 71/ 7 |
| MIHAMA-3 | PWR | 27 | 0.55 | 30. | 0.13 | | 0.55 | 36. | 0.35 | | R.KISHEIKA | 75/ 7 |
| IKATA-1 | PWR | 28 | 0.7 | 33. | 0.1 | 0.7 | 0.7 | 38. | 0.3 | 1.5 | 10-29*31*32 | 72/11 |

BWR HA BWR MSTR ESTIMATI ON OF IRRADIAT ION DOSE 43280

ACCIDENT=HYPOTHETICAL ACCIDENT WITH MAIN STEAM TUBE RUPTURE

(1)RADIUS KILOMETER
(A)ADULT THYROID IRRADIATION DOSE IN REM
(G)WHOLE BODY GAMMA IRRADIATION DOSE IN REM
(B)WHOLE BODY BETA IRRADIATION DOSE IN REM
(C)T(=TOTAL), PR(=PRE ISOLATE.-V-CLOSE), PO(=POST ISOLATE.-V-CLOSE)
(1) (A) (G) (B) (1) (A) (G) (B) (1) (A) (G) (B) (C)
KM REM REM REM KM REM REM REM KM REM REM REM

| Location | Unit | Type | (1) | (A) | (G) | (B) | (1) | (A) | (G) | (B) | (1) | (A) | (G) | (B) | (C) | Notes | Value |
|--------------|------|------|------|------|-------|-------|-----|-----|------|------|-------|-------|------|------|-----|------------|-------|
| TSURUGA | BWR | 3 | 0.6 | 100. | .270 | | | | | | | | | | | R.KISHEIKA | 75/ 7 |
| ONAGAWA | BWR | 4 | 0.6 | 13. | .011 | .042 | 2. | 3.0 | .006 | .013 | 5. | 6.8 | .024 | .032 | | 10-4-(7) | 70/ 5 |
| HAMADKA-1 | BWR | 5 | 0.45 | 20. | .016 | .067 | | | | | | | | | | 10-33 | 70/ 5 |
| FUKUSIMA-1 | BWR | 6 | 1. | .097 | .124 | .067 | | | | | | | | | | R.KISHEIKA | 75/ 7 |
| FUKUSIMA-2,3 | BWR | 7 | 1. | 11. | .053 | .064 | 2. | 7.8 | .035 | .040 | 5. | 6.8 | .024 | .032 | | 89-7-3 P8 | 71/ 3 |
| SHIMANE | BWR | 8 | | | | | | | 82. | 2.0 | .0049 | .011 | | | | 89-8-2 P7 | 71/ 3 |
| SHIMANE | BWR | 8 | | | | | | | 82. | 7.9 | .0087 | .0273 | | | | 089-8-2 P8 | 71/ 3 |
| SHIMANE | BWR | 8 | | | | | | | 82. | 9.8 | .0136 | .0383 | | | | 089-8-2 P8 | 71/ 3 |
| SHIMANE | BWR | 8 | 0.82 | 9.8 | .0136 | .0383 | | | | | | | | | | R.KISHEIKA | 75/ 7 |
| FUKUSIMA-5 | BWR | 9 | 0.85 | 15. | .067 | .103 | 2. | 7.8 | .035 | .040 | 5. | 6.8 | .024 | .032 | | 10-4-(6) | 71/ 2 |
| FUKUSIMA-5 | BWR | 9 | 0.65 | 24. | .118 | .178 | | | | | | | | | | R.KISHEIKA | 75/ 7 |
| FUKUSIMA-4 | BWR | 10 | 0.8 | 12. | .058 | .080 | 2. | 7.8 | .035 | .040 | 5. | 6.8 | .024 | .032 | | 10-4-(6) | 71/ 8 |
| FUKUSIMA-4 | BWR | 10 | 0.8 | 11. | .047 | .067 | | | | | | | | | | R.KISHEIKA | 75/ 7 |
| FUKUSIMA-6 | BWR | 11 | 0.65 | 24. | .069 | .133 | | | | | | | | | | R.KISHEIKA | 75/ 7 |
| FUKUSIMA-6 | BWR | 11 | 0.65 | 7.9 | .037 | .052 | 2. | 3.8 | .020 | .019 | 5. | 3.2 | .015 | .015 | | 10-4-(7) | 71/12 |
| TOKAI-2 | BWR | 12 | | | | | | | 57. | 8.7 | .069 | .011 | | | | 10-4-(6) | 71/12 |
| TOKAI-2 | BWR | 12 | 0.54 | 30. | .043 | .180 | | | | | | | | | | R.KISHEIKA | 75/ 7 |
| KASHIWAZAKI | BWR | 15 | | | | | | | 75. | 5.89 | .0114 | .019 | | | | 10-4-43 | 75/ 3 |
| KASHIWAZAKI | BWR | 15 | | | | | | | 75. | 0.87 | .0066 | .015 | | | | 10-4-43 | 75/ 3 |
| KASHIWAZAKI | BWR | 15 | | | | | | | 75. | 6.8 | .018 | .034 | | | | 10-4-43 | 75/ 3 |

DISTANCE SITE BOUNDARY AND PLANT CENTER 43500

MINIMUM DISTANCE BETWEEN SITE BOUNDARY AND PLANT CENTER

| | | | | | |
|-------------|-----|----|--------|----------|-------|
| DNAGAWA | BWR | 4 | 600. M | 10-4-(6) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 450. M | 10-33 | 70/11 |
| FUKUSIMA-5 | BWR | 9 | 650. M | 10-4-(6) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 800. M | 10-4-(6) | 71/ 8 |
| HAMAOKA-2 | BWR | 13 | 450. M | 10-29 | 72/ 9 |
| KASHIWAZAKI | BWR | 15 | 790. M | 6-1-1 | 75/ 3 |
| MIHAMA-1 | PWR | 21 | 700. M | | / |
| TAKAHAMA-2 | PWR | 23 | 800. M | 10-28 | 70/ 5 |
| GENKAI-1 | PWR | 24 | 600. M | 10-33 | 70/ 5 |
| TAKAHAMA-1 | PWR | 25 | 800. M | | / |
| OOI-1,2 | PWR | 26 | 800. M | 10-28 | 71/ 1 |
| MIHAMA-3 | PWR | 27 | 750. M | 10-28 | 71/ 7 |
| IKATA-1 | PWR | 28 | 700. M | 10-27 | 72/11 |
| IKATA-2 | PWR | 30 | 640. M | | 75/ 5 |

REACTOR COUNTRY SITE OWNER CRITICAL DATE 110100

CW.E.CO. =COMMONWEALTH EDISON COMPANY

| | | | | | | | | | |
|----------------|------|----|------------------|-------------|--------|-------------------------------|--------|----------------|-------|
| JPDR-1 | BWR | 1 | JPDR-1 | BWR | JAPAN | JAERI | 1963/8 | /22 | / |
| JPDR-2 | BWR | 2 | JPDR-2 | BWR | JAPAN | JAERI | | / | / |
| TSURUGA | BWR | 3 | TSURUGA | BWR | JAPAN | GENDEN | 1969/1 | 0/3 | / |
| DNAGAWA | BWR | 4 | DNAGAWA-1 | BWR | JAPAN | TOOHOKU | 1975(P | ROGRAM) | / |
| HAMAOKA-1 | BWR | 5 | HAMAOKA-1 | BWR | JAPAN | CHUUBU | 1974(P | ROGRAM) | / |
| FUKUSIMA-1 | BWR | 6 | FUKUSHIMA-1 | BWR | JAPAN | TOODEN | 1970/7 | /15 | / |
| FUKUSIMA-2,3 | BWR | 7 | FUKUSHIMA-2,3 | BWR | JAPAN | TOODEN | 1972,7 | 3(PROGRAM) | / |
| SHIMANE | BWR | 8 | SHIMANE | BWR | JAPAN | CHUUGOKU | | / | / |
| FUKUSIMA-5 | BWR | 9 | FUKUSHIMA-5 | BWR | JAPAN | TOODEN | | / | / |
| FUKUSIMA-4 | BWR | 10 | FUKUSHIMA-4 | BWR | JAPAN | TOODEN | | / | / |
| FUKUSIMA-6 | BWR | 11 | FUKUSHIMA-6 | BWR | JAPAN | TOODEN | | / | / |
| TOOKAI-2 | BWR | 12 | TOOKAI-2 | BWR | JAPAN | GENDEN | | / | / |
| HAMAOKA-2 | BWR | 13 | HAMAOKA-2 | BWR | JAPAN | CHUUBU | | / | / |
| KASHIWAZAKI | BWR | 15 | KASHIWAZAKI | BWR | JAPAN | TOODEN | | / | / |
| MIHAMA-1 | PWR | 21 | MIHAMA-1 | PWR | JAPAN | KANDEN | | 1970/7/29 | / |
| MIHAMA-2 | PWR | 22 | MIHAMA-2 | PWR | JAPAN | KANDEN | 1972(P | ROGRAM) | / |
| TAKAHAMA-2 | PWR | 23 | TAKAHAMA-2 | PWR | JAPAN | KANDEN | 1974(P | ROGRAM) | / |
| GENKAI-1 | PWR | 24 | GENKAI-1 | PWR | JAPAN | KYUUSHUU | 1975(P | ROGRAM) | / |
| TAKAHAMA-1 | PWR | 25 | TAKAHAMA-1 | PWR | JAPAN | KANDEN | 1973(P | ROGRAM) | / |
| OOI-1,2 | PWR | 26 | OOI-1,2 | PWR | JAPAN | KANDEN | | / | / |
| MIHAMA-3 | PWR | 27 | MIHAMA-3 | PWR | JAPAN | KANDEN | | / | / |
| IKATA-1 | PWR | 28 | IKATA | PWR | JAPAN | SHIKOKU | | / | / |
| GENKAI-2 | PWR | 29 | GENKAI-2 | PWR | JAPAN | KYUUSHUU | | / | / |
| IKATA-2 | PWR | 30 | IKATA-2 | PWR | JAPAN | SHIKOKU | | / | / |
| SENDAI | PWR | 31 | SENDAI | PWR | JAPAN | KYUUSHUU | | / | / |
| HALDEN | HBWR | 51 | HALDEN | HBWR | NORWAY | | | / | / |
| VERMONT YANKEE | BWR | 52 | VERMONT YANKEE | BWR | USA | X.Y.NUCLEAR CO. | | / | / |
| BROWNS FERRY | BWR | 53 | BROWNS FERRY | BWR | USA | | | / | / |
| DRESDEN-1 | BWR | 55 | DRESDEN-1 | BWR | USA | CW.E.CO. | | / | / |
| DRESDEN-2 | BWR | 56 | DRESDEN-2 | BWR | USA | CW.E.CO. | | / | / |
| OYSTER CREEK | BWR | 57 | OYSTER CREEK | BWR | USA | | | / | / |
| DUANE ARNOLD | BWR | 58 | DUANE ARNOLD | BWR | USA | IONA.ELEC.L.P.CO | | A-2 P1 | 70/ 7 |
| YANKEE | BWR | 69 | YANKEE POWER ST. | PWR | USA | YANKEE A.ELEC.CO | | DNR V4 P33 | 61/ |
| SAXTON | BWR | 70 | SAXTON EXP. | PWR | USA | SAXTON N.EXP.COP | | DNR V4 PA7 | 61/ |
| BURLINGTON | PWR | 71 | BURLINGTON | PWR | USA | | | / | / |
| FUGEN | ATR | 81 | FUGEN | ATR | PROTO | JAPAN | | / | / |
| JOYO | FAST | 91 | JOYO | FAST | | JAPAN | | / | / |
| MONJU | FAST | 92 | MONJU | FAST | | JAPAN | | / | / |
| JPDR-1 | BWR | 1 | IBARAGI -KEN | NAKA | -GUN | TOOKAI | -MURA | SIRAKATA AZA 5 | IRANE |
| TSURUGA | BWR | 3 | FUKUI -KEN | TSURUGA-SHI | MYOZIN | -MACHI | | / | / |
| DNAGAWA | BWR | 4 | MIYAGI -KEN | OZIKA | -GUN | (DNAGAWA-MACHI AND OZIKA-MACH | | I) | / |
| HAMAOKA-1 | BWR | 5 | SIZUOKA -KEN | OGASA | -GUN | HAMAOKA-MACHI SAKURA | | / | / |
| FUKUSIMA-1 | BWR | 6 | FUKUSIMA-KEN | FUTABA | -GUN | (OOKUMA-MACHI AND FUTABA-MACH | | I) | / |
| FUKUSIMA-2,3 | BWR | 7 | FUKUSIMA-KEN | FUTABA | -GUN | (OOKUMA-MACHI AND FUTABA-MACH | | I) | / |
| SHIMANE | BWR | 8 | SHIMANE -KEN | YATABA | -GUN | KASIMA-MACHI UOAZA KATAKU | | / | / |
| FUKUSIMA-5 | BWR | 9 | FUKUSIMA-KEN | FUTABA | -GUN | (OOKUMA-MACHI AND FUTABA-MACH | | I) | / |
| FUKUSIMA-4 | BWR | 10 | FUKUSIMA-KEN | FUTABA | -GUN | (OOKUMA-MACHI AND FUTABA-MACH | | I) | / |

PLANT PERFORMANCE DATA

DATE=08/17/76

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| REACTOR | COUNTRY | SITE | OWNER | CRITICAL DATE | 110100 | | |
|-------------|---------|------|--------------------|-----------------------|----------------|----------|----------|
| TOOKAI-2 | BWR | 12 | IBARAGI -KEN | NAKA -GUN | TOOKAI -MURA | ODAZA | SIRAKATA |
| KASHIWAZAKI | BWR | 15 | NIIGATA -KEN | KARIWA -GUN | KARIWA -MURA | | |
| MIHAMA-1 | PWR | 21 | FUKUI -KEN | MIKATA -GUN | MIHAMA-MACHI | NIU | |
| TAKAHAMA-2 | PWR | 23 | FUKUI -KEN | ODII -GUN | TAKAHAMA-MACHI | TANDOURA | |
| GENKAI-1 | PWR | 24 | SAGA -KEN | HIGASHI-MATSU-URA-GUN | GENKAI-MACHI | ODAZA | IMAMURA |
| TAKAHAMA-1 | PWR | 25 | FUKUI -KEN | OGII -GUN | TAKAHAMA-MACHI | TANDOURA | |
| OUI-1,2 | PWR | 26 | FUKUI -KEN | OGII -GUN | OUI -MACHI | OUSHIMA | |
| MIHAMA-3 | PWR | 27 | FUKUI -KEN | MIKATA -GUN | MIHAMA-MACHI | NIU | |
| IKATA-1 | PWR | 28 | EHIME -KEN | NISHI-UWA-GUN | IKATA-MACHI | | |
| IKATA-2 | PWR | 30 | EHIME -KEN | NISHI-URA-GUN | IKATA-MACHI | | |
| SENDAI | PWR | 31 | KAGOSIMA-KEN | SENDAI -SHI | GUMIZAKI-MACHI | | |
| MILLSTON | BWR | 54 | MILLSTONE POINT | BWR | USA | | |
| DRESDEN-1 | BWR | 55 | GRUNDY COUNTRY, 3. | USA | | | |

REACTOR TYPE BWR 110200

- (1) REACTOR THERMAL RATING MWT
- (2) TYPE OF RECIRCULATION
 - NC 0 NATURAL CIRCULATION
 - FC 0 FORCED CIRCULATION
- (3) NUMBER OF JET PUMP
- (4) TYPE OF DRY-WELL
 - SLSK 0 FLASK TYPE
 - CONE 0 FRUSTUM CONE TYPE

| REACTOR | TYPE | BWR | CRITICAL DATE | RECIRCULATION | JET PUMP | DRY-WELL | MWT |
|----------------|------|-----|---------------|---------------|----------|----------|-------------------|
| JPDR-1 | BWR | 1 | 45. | NC | | | / |
| JPDR-2 | BWR | 2 | 90. | FC | | | / |
| TSURUGA | BWR | 3 | 968.4 | FC | | | R-9 66/ 8 |
| TSURUGA | BWR | 3 | 1070. | FC | | | 80-3-3 70/ 5 |
| ONAGAWA | BWR | 4 | 1593. | FC | 16 | SLSK | 8-14-(3) 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 1593. | FC | 16 | SLSK | 2-1,8-27 70/ 5 |
| FUKUSIMA-1 | BWR | 6 | 1380. | FC | 20 | SLSK | CDM-M P124 70/ 5 |
| FUKUSIMA-2,3 | BWR | 7 | 2381. | FC | 20 | | 70/6/20 70/ 5 |
| SHIMANE | BWR | 8 | 1380. | FC | 20 | | 70/6/20 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | 2381. | FC | 20 | | 2-1-(1) 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 2381. | FC | 20 | | 2-1-(1) 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 3293. | FC | 20 | CONE | 8-1-(3) 74/ 9 |
| TOOKAI-2 | BWR | 12 | | FC | 20 | CONE | 8-3-(16) 72/ 1 |
| HAMAOKA-2 | BWR | 13 | 2436. | FC | 20 | SLSK | 2-1 72/ 9 |
| KASHIWAZAKI | BWR | 15 | 3293. | FC | 20 | CONE | 8-3-1 75/ 3 |
| VERMONT YANKEE | BWR | 52 | 1593. | | | | A-2 70/ 5 |
| BROWNS FERRY | BWR | 53 | 3293. | FC | | | GSK-19 69/ 2 |
| MILLSTON | BWR | 54 | 1727. | | | | R-9 66/ 8 |
| DRESDEN-1 | BWR | 55 | 625. | NC,FC | | | DNR V4 P91 61/ |
| DRESDEN-2 | BWR | 56 | 2255. | FC | 20 | | DNR V4 P189 66/ 8 |
| OYSTER CREEK | BWR | 57 | 1600. | | | | R-9 66/ 8 |
| OYSTER CREEK | BWR | 57 | 1950. | | | | / |
| DUANE ARNOLD | BWR | 58 | 1593. | | | | / |

PLANT PERFORMANCE DATA

DATE=08/17/76

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REACTOR TYPE PWR 110300

- (1) REACTOR THERMAL RATING MWT
- (2) NUMBER OF REACTOR COOLANT LOOPS
- (3) FUEL ROD ARRANGEMENT IN A BUNDLE
- (4) NUMBER OF SPACER
- (5) ACTIVE FUEL LENGTH MM

| REACTOR | TYPE | PWR | CRITICAL DATE | COOLANT LOOPS | FUEL ROD ARRANGEMENT | NUMBER OF SPACER | ACTIVE FUEL LENGTH | MWT |
|------------------|------|-----|---------------|---------------|----------------------|------------------|--------------------|-------------------|
| MIHAMA-1 | PWR | 21 | 1031. | 2 | 14*14 | 7 | 3048. | 8-16 70/11 |
| MIHAMA-2 | PWR | 22 | 1456. | 2 | 14*14 | 7 | 3660. | 6783-5 71/ 9 |
| TAKAHAMA-2 | PWR | 23 | 2440. | 3 | 15*15 | 7 | 3660. | 8-17 70/ 5 |
| GENKAI-1 | PWR | 24 | 1650. | 2 | 14*14 | 7 | 3660. | 8-18 70/10 |
| TAKAHAMA-1 | PWR | 25 | 2440. | 3 | 15*15 | 7 | 3660. | 6783-5 71/ 9 |
| OUI-1,2 | PWR | 26 | 3423. | 4 | 15*15 | 7 | 3660. | 8-15,8-17 71/ 1 |
| OUI-1,2 | PWR | 26 | 3423. | 4 | 17*17 | 8 | 3900. | 8-3,2-13 75/ 5 |
| MIHAMA-3 | PWR | 27 | 2440. | 3 | 15*15 | 7 | 3660. | 8-15,8-17 71/ 8 |
| IKATA-1 | PWR | 28 | 1650. | 2 | 14*14 | 7 | 3660. | 8-18,8-20 72/11 |
| IKATA-2 | PWR | 30 | 1650. | 2 | 14*14 | 7 | 3660. | 75/ 5 |
| SENDAI | PWR | 31 | 2652. | 3 | 17*17 | 9 | 3600. | 8-3-44 76/ 5 |
| BURLINGTON | PWR | 71 | 3083. | 3 | 15*15 | 9 | 3658. | GSK-19 69/ 2 |
| TURKEY POINT-3,4 | PWR | 72 | 2200. | 3 | 15*15 | 7 | | BR80-4 P1,3 71/ 9 |
| H.B.ROBINSON-2 | PWR | 73 | 2200. | 3 | 15*15 | 7 | | HR80-4 P1,3 71/ 9 |
| SURRY-1,-2 | PWR | 74 | 2449. | 3 | 15*15 | 7 | | HR80-4 P1,3 71/ 9 |
| BEAVER VALLEY | PWR | 75 | 2660. | 3 | 15*15 | 7 | | HR80-4 P1,3 71/ 9 |
| NORTH ANNA-12 | PWR | 76 | 2660. | 3 | 15*15 | 7 | | HR80-4 P2,4 71/ 9 |
| JOSEPH W.FARLEY | PWR | 77 | 2660. | 3 | 15*15 | 7 | | HR80-4 P2,4 71/ 9 |

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ENGINEER

520200

| | | | ELEC. | MECH. | ATOM. | PHSY. | CHEM. | CIVIL | ARCH. | OTHER | TOTAL | | |
|-------------|-----|----|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------------|-------|
| ONAGAWA | BWR | 4 | 44. | 28. | 3. | 1. | 4. | 19. | 8. | 3. | 107. | 5-(2) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 54. | 56. | 3. | 4. | 12. | 24. | 13. | | 169. | 5-3 | 70/ 5 |
| SHIMANE | BWR | 8 | 97. | 85. | 6. | 3. | 16. | 10. | 12. | 2. | 231. | 5-(5) | 71/ 7 |
| FUKUSIMA-5 | BWR | 9 | 80. | 55. | 15. | 5. | 8. | 25. | 11. | 3. | 202. | 5-(3) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 82. | 59. | 19. | 5. | 8. | 26. | 11. | 4. | 214. | 5-(3) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 82. | 59. | 19. | 5. | 8. | 27. | 12. | 4. | 216. | 5-(3) | 72/ 1 |
| TODOKAI-2 | BWR | 12 | 71. | 38. | 21. | 17. | 11. | 5. | 7. | 3. | 173. | 5-(4) | 72/ 1 |
| HAMAOKA-2 | BWR | 13 | 17. | 24. | | | | 18. | 12. | 1. | 72. | 5-4 (SITE) | 72/ 9 |
| KASHIWAZAKI | BWR | 15 | 267. | 158. | 84. | 5. | 22. | 61. | 38. | 6. | 641. | 5-9 | 75/ 3 |
| MIHAMA-1 | PWR | 21 | 101. | 32. | 2. | | | 8. | | | 143. | 5-5 | 71/ 8 |
| TAKAHAMA-2 | PWR | 23 | 10. | 6. | 0. | 0. | 0. | 8. | 6 | | 30 | 5-4 (SITE) | 70/ 5 |
| TAKAHAMA-2 | PWR | 23 | 23. | 22. | | | | 1. | 11. | 1. | 69. | 5-5 | 71/ 8 |
| TAKAHAMA-2 | PWR | 23 | (153) | (79) | (8) | (3) | (15) | (26) | (23) | (3) | (310) | ALL INC.SITE | 70/ 5 |
| GENKAI-1 | PWR | 24 | 35. | 42. | 2. | 6. | 15. | 22. | 14. | | 136 | 5-3 | 70/ 5 |
| OOI-1,2 | PWR | 26 | 1. | 2. | | | | 3. | | | 6 | 5-5 (SITE) | 71/ 1 |
| OOI-1,2 | PWR | 26 | 5. | 4. | | | | 8. | | | 17. | 5-5 | 71/ 8 |
| OOI-1,2 | PWR | 26 | (161) | (88) | (11) | (3) | (14) | (32) | (27) | (4) | (340) | 5-5 INC.SITE | 71/ 1 |
| MIHAMA-3 | PWR | 27 | 16. | 8. | 1. | | | 6. | 7. | | 38. | 5-5 | 71/ 8 |
| MIHAMA-3 | PWR | 27 | (195) | (97) | (10) | (1) | (13) | (42) | (31) | (2) | (391) | 5-5 | 71/ 8 |
| IKATA-1 | PWR | 28 | 42 | 30 | 8 | | | 7 | 23 | 1 | 130 | 5-2 | 72/11 |
| IKATA-2 | PWR | 30 | 87. | 51. | 11. | 1. | 14. | 20. | 19. | 3. | 206. | 5-5 | 75/ 5 |

| REACTOR | SITE | SITUATION | AREA | 611000 | | | |
|-------------|------|-----------|---|-------------|----------|---------|-------|
| | | | LATITUDE | LONGITUDE | AREA | | |
| | | | D/ M/ S | D/ M/ S | (M2) | | |
| ONAGAWA | BWR | 4 | N 38/24/ | E 141/30/ | 1610000. | 6-1-(1) | |
| HAMAOKA-1 | BWR | 5 | N 34/37/ | E 138/09/ | 1600000. | 6-1 | |
| FUKUSIMA-5 | BWR | 9 | N 37/25/ | E 141/00/ | 3200000. | 6-1-(1) | |
| FUKUSIMA-4 | BWR | 10 | N 37/25/ | E 141/00/ | 3200000. | 6-1-(1) | |
| FUKUSIMA-6 | BWR | 11 | N 37/25/ | E 141/00/ | 3200000. | 6-1-(1) | |
| TODOKAI-2 | BWR | 12 | N 36/27/45 | E 140/36/36 | 240000. | 6-1-(1) | |
| HAMAOKA-2 | BWR | 13 | N 34/37/ | | | 6-1-(1) | |
| KASHIWAZAKI | BWR | 15 | N 37/25/17 | E 138/35/51 | 4200000. | 6-1-1 | |
| MIHAMA-1 | PWR | 21 | | | 500000. | / | |
| MIHAMA-2 | PWR | 22 | | | 500000. | / | |
| TAKAHAMA-2 | PWR | 23 | N 35/31/ | E 135/31/ | | 6-1 | |
| GENKAI-1 | PWR | 24 | N 33/31/ | E 129/50/ | 800000. | 6-64 | |
| OOI-1,2 | PWR | 26 | 35/32/ | E 135/39/ | | 6-1 | |
| MIHAMA-3 | PWR | 27 | 35/42/ | E 135/58/ | *560000. | 6-1 | |
| MIHAMA-3 | PWR | 27 | *AREA IS ADDED BY 600000SQM (INCLUDE WITH MIHAMA-1,2) | | | | 71/ 9 |
| IKATA-1 | PWR | 28 | N 33/29/ | E 132/19/ | *750000. | 6-70 | |
| IKATA-1 | PWR | 28 | *AREA INCLUDES (KAIMEN-UMETATE (ABOUT 90000M2)) | | | | 72/11 |
| IKATA-2 | PWR | 30 | | | 750000. | | 75/ 5 |
| SENDAI | PWR | 31 | N 31/49/17 | E 130/11/33 | 1350000. | 6-1-1 | |

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| SITE | WATER | QUALITY | WATER | SOURCE | 621220 | | |
|------------|-------|---------|--|--------|--------|----------|-------|
| ONAGAWA | BWR | 4 | (A)=KITAKAMI GAWA(69/8-69/10), (B)=KITAKAMI (69/12-70/2) | | | 6-2-(1) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | (A)=HAMAOKA SERVICE WATER, (B)=UNDER GROUND | | | 6-6 | 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | (A)=MAX, (B)=MIN. (FROM 67/2 TO 68/3) | | | 6-5-(10) | 71/ 2 |
| FUKUSIMA-6 | BWR | 11 | (A)=MAX, (B)=MIN. (FROM 67/2 TO 68/3) | | | 6 | 72/ 1 |
| TODOKAI-2 | BWR | 12 | (A)=MAX, (B)=MIN. (FROM 68/4 TO 71/8) AKOIGI GAWA | | | 6-2-(2) | 72/ 1 |
| TAKAHAMA-2 | PWR | 23 | (A)=SEKIYA GAWA, (B)=SEKIYA UNDER GROUND | | | 6-11 | 70/ 5 |
| GENKAI-1 | PWR | 24 | (A)=SIRE GAWA, (B)=HATTA GAWA | | | 6-74 | 70/ 5 |
| OOI-1,2 | PWR | 26 | (A)=SABURI GAWA, (B)=SABURI-6 UNDER GROUND | | | 6-12 | 71/ 1 |
| MIHAMA-3 | PWR | 27 | (A)=OTIAI GAWA, (B)=MAJID GAWA, (C)=MAJID UNDER GROUND | | | 6-11,12 | 71/ 8 |

| SITE | WATER | QUALITY | PH | E.CONDUCTIVITY | NIGORID | 621240 | | |
|------------|-------|---------|------|----------------|---------|------------|-----------|----------|
| | | | --- | --- | --- | --- | | |
| | | | (A) | (B) | (A) | (B) | (A) | (B) |
| ONAGAWA | BWR | 4 | 7.2 | 7.2 | 112. | 122. | 27.0 | 17.4 PPM |
| ONAGAWA | BWR | 4 | 7.2 | 7.1 | 138. | 112. | 6.7 | 29.3 PPM |
| HAMAOKA-1 | BWR | 5 | 6.73 | 7.16(MEAN) | 286. | 245.(MEAN) | 1.9(MEAN) | 1.1 DEG |
| HAMAOKA-1 | BWR | 5 | 7.15 | 7.55(MAX) | 300. | 257.(MAX) | 4.5(MAX) | 3.4 DEG |
| HAMAOKA-1 | BWR | 5 | 6.61 | 6.90(MIN) | 259. | 223.(MIN) | 0.0(MIN) | 0.3 DEG |
| FUKUSIMA-5 | BWR | 9 | 7.6 | 7.1 | 81. | 55. | 3.7 | 1.0 DEG |
| FUKUSIMA-6 | BWR | 11 | 7.6 | 7.1 | 81. | 55. | 3.7 | 1.0 |
| TODOKAI-2 | BWR | 12 | 9.22 | 7.32 | 172.5 | 99.9 | | |
| TAKAHAMA-2 | PWR | 23 | 7.0 | 6.6 | 81. | 123. | 0.24 | 0.23PPM |
| GENKAI-1 | PWR | 24 | 7.4 | 7.4 | 142. | 254. | 2.1 | 7.9 PPM |
| OOI-1,2 | PWR | 26 | 7.5 | 6.4 | | | 144. | 258. |
| MIHAMA-3 | PWR | 27 | 7.1 | 7.0 | 57. | 59. | 138. | 1.0 |
| FUGEN | ATR | 81 | 5.5 | 8.5(25DEG.C) | 4.E. | 1. | | |

| SITE | WATER | QUALITY | HARDNESS | ALKALI | 621260 | | |
|------------|-------|---------|--------------|---------------|--------------|-------------|------|
| | | | KOHOO(TOTAL) | KOHOO CALCIUM | ALKALI-TOTAL | | |
| | | | PPM CaCO3 | PPM CaCO3 | PPM CaCO3 | (A) | (B) |
| | | | (A) | (B) | (A) | (B) | (A) |
| ONAGAWA | BWR | 4 | 38.0 | 40.0 | 25.0 | 29.4 | 15.5 |
| ONAGAWA | BWR | 4 | 44.2 | 35.2 | 34.2 | 21.8 | 19.7 |
| HAMAOKA-1 | BWR | 5 | 89.2 | 79.3(MEAN) | 47.9 | 48.2 (MEAN) | 47.9 |
| HAMAOKA-1 | BWR | 5 | 93.4 | 81.4(MAX) | 54.0 | 50.0 (MAX) | 54.0 |
| HAMAOKA-1 | BWR | 5 | 85.0 | 74.0(MIN) | 44.4 | 41.4 (MIN) | 44.4 |
| FUKUSIMA-5 | BWR | 9 | 24.0 | 15.0 | | | |
| FUKUSIMA-6 | BWR | 11 | 24.0 | 15.0 | | | |
| TODOKAI-2 | BWR | 12 | 51.5 | 40.9 | 29.5 | 20.0 | |
| TAKAHAMA-2 | PWR | 23 | 27.7 | 37.4 | | | 26.3 |
| GENKAI-1 | PWR | 24 | 47. | 88.0 | | | 37.0 |
| OOI-1,2 | PWR | 26 | 47.1 | 94.4 | | | 50.6 |
| MIHAMA-3 | PWR | 27 | | | 4.0 | 4.0 | 6.8 |

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| SITE | WATER | QUALITY | 621280 | | | | | | | | | | |
|------------|-------|---------|----------|------------|--------|------------|-----------|-------|----------|-------|----|---------|-------|
| | | | SO-4 ION | | CL ION | | NH-4 ION | | NH-4 ION | | | | |
| | | | (A) | (B) | (A) | (B) | (A) | (B) | (A) | (B) | | | |
| ONAGAWA | BWR | 4 | 33.5 | 38.0 | 8.9 | 10.2 | 0.11 | 0.14 | 6-2-(1) | 70/ 5 | | | |
| ONAGAWA | BWR | 4 | 31.5 | 18.8 | 11.4 | 11.4 | 0.07 | 0.26 | 6-2-(1) | 70/ 5 | | | |
| HAMAOKA-1 | BWR | 5 | 47.0 | 40.2(MEAN) | 34.6 | 30.0(MEAN) | | | 6-6 | 70/ 5 | | | |
| HAMAOKA-1 | BWR | 5 | 54.4 | 42.0(MAX) | 37.4 | 31.5(MAX) | 0.02(MAX) | | 6-6 | 70/ 5 | | | |
| HAMAOKA-1 | BWR | 5 | 40.2 | 32.1(MIN) | 32.3 | 28.3(MIN) | | | 6-6 | 70/ 5 | | | |
| FUKUSIMA-5 | BWR | 9 | 4.8 | TR | 5.5 | 3.1 | 0.3 | TR | 6-5-(10) | 71/ 2 | | | |
| FUKUSIMA-6 | BWR | 11 | 4.8 | TR | 5.5 | 3.1 | 0.3 | TR | 6-5-(10) | 72/ 1 | | | |
| TOOKAI-2 | BWR | 12 | | | 10.9 | 7.2 | 0.2 | 0 | 6-2-(2) | 72/ 1 | | | |
| TAKAHAMA-2 | PWR | 23 | 50.2 | 6.4 | 9.47 | 9.1 | 0.055 | 0.097 | 6-11 | 70/ 5 | | | |
| GENKAI-1 | PWR | 24 | 13.9 | 27.4 | 23.5 | 39.5 | TRACE | TRACE | 6-74 | 70/ 5 | | | |
| DOI-1,2 | PWR | 26 | 8.75 | 20.5 | 11.34 | 18.53 | 0.275 | 0.12 | 6-12 | 71/ 1 | | | |
| MIHAMA-3 | PWR | 27 | 2.0 | 2.0 | TR | 11.1 | 11.5 | 22.5 | 0.008 | 0.008 | TR | 6-11,12 | 71/ 8 |

| SITE | WATER | QUALITY | 621420 | | | | | | | |
|------------|-------|---------|----------|-----------|-----------|-------|----------|-----|----------|-------|
| | | | NO-3 ION | | NO-2 ION | | NO-3 ION | | NO-2 ION | |
| | | | (A) | (B) | (A) | (B) | (A) | (B) | (A) | (B) |
| ONAGAWA | BWR | 4 | 0.58 | 0.64 | | | | | 6-2-(1) | 70/ 5 |
| ONAGAWA | BWR | 4 | 0.59 | 0.82 | | | | | 6-2-(1) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 4.6 | 0.3(MEAN) | | | | | 6-6 | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 6.8 | 1.3(MAX) | 0.02(MAX) | | | | 6-6 | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 1.9 | 0.0(MIN) | 0.02(MAX) | | | | 6-6 | 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | 0.85 | 0.3 | | | | | 6-5-(10) | 71/ 2 |
| FUKUSIMA-6 | BWR | 11 | 0.85 | 0.3 | | | | | 6-5-(10) | 72/ 1 |
| TAKAHAMA-2 | PWR | 23 | 0.734 | 0.89 | | | | | 6-11 | 70/ 5 |
| GENKAI-1 | PWR | 24 | | | TRACE | TRACE | | | 6-74 | 70/ 5 |
| DOI-1,2 | PWR | 26 | 0.883 | 0.91 | | | | | 6-12 | 71/ 1 |
| MIHAMA-3 | PWR | 27 | 0.04 | 0.04 | TR | | | | 6-11,12 | 71/ 8 |

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| SITE | WATER | QUALITY | 621440 | | | | | | | | | | |
|------------|-------|---------|--------|------|----------------|--------|------------------|-------|--------------|------|--------------|----------|-------|
| | | | SILICA | | (SILICA TOTAL) | | (SILICA COLLOID) | | (SILICA ION) | | PPM AS CaCO3 | | |
| | | | (A) | (B) | (A) | (B) | (A) | (B) | (A) | (B) | (A) | (B) | |
| ONAGAWA | BWR | 4 | 16.5 | 13.8 | | | | | | | | 6-2-(1) | / |
| ONAGAWA | BWR | 4 | | 15.1 | | | | | | | | 6-2-(1) | / |
| HAMAOKA-1 | BWR | 5 | 17.5 | 15.8 | (21.0) | (17.3) | (6.0) | (2.5) | | | | 6-6 | / |
| HAMAOKA-1 | BWR | 5 | 15.2 | 15.0 | (17.5) | (16.6) | (2.3) | (1.6) | | | | 6-6 | / |
| HAMAOKA-1 | BWR | 5 | 12.9 | 13.6 | (15.1) | (15.8) | (0.0) | (0.9) | | | | 6-6 | / |
| FUKUSIMA-5 | BWR | 9 | 40.9 | 26.7 | | | | | | | | 6-5-(10) | 71/ 2 |
| FUKUSIMA-6 | BWR | 11 | 40.9 | 26.7 | | | | | | | | 6-5-(10) | 72/ 1 |
| TOOKAI-2 | BWR | 12 | 13.4 | 4.2 | | | | | | | | 6-2-(2) | 72/ 1 |
| TAKAHAMA-2 | PWR | 23 | | | | | 0.22 | 0.28 | 12.6 | 6.5 | | 6-11 | / |
| GENKAI-1 | PWR | 24 | | | | | 1.3 | 3.5 | 14.3 | 13.9 | | 6-74 | / |
| DOI-1,2 | PWR | 26 | 12.12 | 18.6 | | | | | | | | 6-12 | 71/ 1 |
| MIHAMA-3 | PWR | 27 | 12.9 | 12.2 | 21.2 | | | | | | | 6-11,12 | 71/ 8 |

| SITE | WATER | QUALITY | 621460 | | | | | | | |
|------------|-------|---------|--------|-------|-------|-------------|-------|-------|--------------|-------|
| | | | CATION | | ANION | | TOTAL | | PPM AS CaCO3 | |
| | | | (A) | (B) | (A) | (B) | (A) | (B) | (A) | (B) |
| HAMAOKA-1 | BWR | 5 | 134.1 | 116.6 | 172.4 | 140.5(MEAN) | | | 6-6 | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 144.7 | 121.0 | 195.0 | 147.1(MAX) | | | 6-6 | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 127.7 | 109.9 | 161.3 | 134.0(MIN) | | | 6-6 | 70/ 5 |
| TAKAHAMA-2 | PWR | 23 | 43.1 | 56.3 | 64.3 | 89.8 | | | 6-11 | 70/ 5 |
| GENKAI-1 | PWR | 24 | 75.0 | 137.0 | 98.0 | 159.0 | | | 6-74 | 70/ 5 |
| DOI-1,2 | PWR | 26 | 67.4 | 127.0 | 78.3 | 127.1 | | | 6-12 | 71/ 1 |
| MIHAMA-3 | PWR | 27 | 24.4 | 24.4 | 73.9 | 39.8 | 40.6 | 148.9 | 6-11,12 | 71/ 8 |

| SITE | WATER | QUALITY | 621480 | | | | | | | | | | |
|------------|-------|---------|----------|-------|----------|------|---------|----------|------------|------------|--------------|----------|-------|
| | | | FE-TOTAL | | NA-METAL | | K-METAL | | NA+K METAL | | PPM AS CaCO3 | | |
| | | | (A) | (B) | (A) | (B) | (A) | (B) | (A) | (B) | (A) | (B) | |
| ONAGAWA | BWR | 4 | 1.39 | 2.11 | | | | | | | | 6-2-(1) | 70/ 5 |
| ONAGAWA | BWR | 4 | 0.46 | 1.07 | | | | | | | | 6-2-(1) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 0.36 | 0.21 | | | | | 45.5 | 37.1(MEAN) | | 6-6 | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 0.85 | 0.33 | | | | | 53.9 | 40.8(MAX) | | 6-6 | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 0.04 | 0.11 | | | | | 37.7 | 31.6(MIN) | | 6-6 | 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | 0.031 | TR | (12.9 | 9.4 | 1.2 | 0.5 ION) | | | | 6-5-(10) | 71/ 2 |
| FUKUSIMA-6 | BWR | 11 | 0.031 | TR | (12.9 | 9.4 | 1.2 | 0.5 ION) | | | | 6-5-(10) | 72/ 1 |
| TOOKAI-2 | BWR | 12 | 0.51 | 0.17 | | | | | | | | 6-2-(2) | 72/ 1 |
| TAKAHAMA-2 | PWR | 23 | 0.22 | 0.372 | 6.4 | 7.68 | 0.71 | 0.875 | | | | 6-11 | 70/ 5 |
| GENKAI-1 | PWR | 24 | 0.76 | 0.27 | 11.8 | 20.5 | 1.1 | 2.5 | | | | 6-74 | 70/ 5 |
| DOI-1,2 | PWR | 26 | 4.07 | 28.5 | 9.1 | 13.8 | 1.22 | 4.28 | | | | 6-12 | 71/ 1 |
| MIHAMA-3 | PWR | 27 | 0.1 | 0.1 | 1.2 | | | | | | | 6-11,12 | 71/ 8 |

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| SITE | WATER | QUALITY | 621620 | | | | | | CONSUM. OXYGEN | | | |
|------------|-------|---------|---------------------|---------------------|---------------------|---------------------|------------|------------|----------------|-----------|----------|-------|
| | | | CALCIUM IDN | | MG IDN | | SOLID | | PPM AS O | | | |
| | | | PPM AS CaCO3 (A) | PPM AS CaCO3 (B) | PPM AS CaCO3 (A) | PPM AS CaCO3 (B) | PPM (A) | PPM (B) | (A) | (B) | | |
| ONAGAWA | BWR | 4 | | | | | 104. | 92. | 2.30 | 2.10 | 6-2-(1) | 70/ 5 |
| ONAGAWA | BWR | 4 | | | | | 126. | 126. | 2.49 | 1.02 | 6-2-(1) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 33.0 | 29.6 | 46.8 | 43.2 | | | 0.2 | 0.3(MIN) | 6-6 | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 37.2 | 33.3 | 51.4 | 46.2 | | | 1.0 | 0.3(MEAN) | 6-6 | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 39.4 | 38.2 | 54.0 | 48.4 | | | 1.6 | 1.3(MAX) | 6-6 | 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | 19.6 | 10.2 | 5.4 | 1.7 | 118. | 22. | | | 6-5-(10) | 71/ 2 |
| FUKUSIMA-6 | BWR | 11 | 19.6 | 10.2 | 5.4 | 1.7 | 118. | 22. | | | 6-5-(10) | 72/ 1 |
| TODOKAI-2 | BWR | 12 | | | | | 282. | 70. | 5.00 | | 6-2-(2) | 72/ 1 |

| POPULATI ON FROM | 1KM RADIUS | TO | 10KM RADIUS | | | | | 641200 | | |
|------------------|------------|----|---------------------|------------|------------|------------|-------------|------------|-------------|--|
| | | | (1) FROM CENTER TO | | | | | | | |
| | | | 1KM RADIUS | 2KM RADIUS | 3KM RADIUS | 5KM RADIUS | 10KM RADIUS | | | |
| | | | (1) | (2) | (3) | (5) | (10) | | | |
| JPDR-2 | BWR | 2 | 0. | 973. | 3271. | 12931. | 80212. | | / | |
| TSURUGA | BWR | 3 | | | 294. | 556. | | AS OF 1969 | GHB-P78 | |
| ONAGAWA | BWR | 4 | | | 1850. | 2991. | 29877. | AS OF 1969 | 6-4-(1)69/7 | |
| HAMAOKA-1 | BWR | 5 | 40. | 1900. | | 16949. | 60499. | AS OF 1969 | 6-35 69/7 | |
| SHIMANE | BWR | 8 | | | | 10922. | | AS OF 1967 | GHB-P79 | |
| FUKUSIMA-5 | BWR | 9 | | | | 10765. | 35213. | | 6-4-(1) | |
| FUKUSIMA-4 | BWR | 10 | | | | 9579. | 35314. | | 6-4-(1) | |
| FUKUSIMA-6 | BWR | 11 | | | | 9241. | 35934. | AS OF 1970 | 6-4-(1) | |
| TODOKAI-2 | BWR | 12 | 1239. | | | 37411. | 142099. | AS OF 1970 | 6-4-(1) | |
| HAMAOKA-2 | BWR | 13 | | | | 17388. | 61617. | AS OF 1971 | 6-37 | |
| HAMAOKA-2 | BWR | 13 | | | | 17558. | 61738. | AS OF 1972 | 6-37 | |
| TOMIOKA | BWR | 14 | | | | 12444. | 25747. | AS OF 1970 | GHB-P78 | |
| KASHIWA7AKI | BWR | 15 | | | | 15000. | 71000. | | 6-6-9 | |
| MIHAMA-1 | PWR | 21 | | 595. | 595. | 700. | 7603. | | 6-94 | |
| TAKAHAMA-2 | PWR | 23 | | | | 4992. | 19915. | | 6-121 | |
| GENKAI-1 | PWR | 24 | | | | 7395. | 36846. | AS OF 1969 | 6-87 | |
| OUI-1+2 | PWR | 26 | 0. | 412. | 670. | 981. | 25075. | AS OF 1970 | 6-100 | |
| MIHAMA-3 | PWR | 27 | 0. | 784. | 784. | 873. | 5183. | AS OF 1970 | 6-80 | |
| IKATA-1 | PWR | 28 | | 1791. | 3651. | 7982. | 22534. | AS OF 1970 | 6-92 | |
| IKATA-2 | PWR | 30 | | 1800. | 3900. | 7800. | 22000. | AS OF 1974 | 6-6-5 | |
| SENDAI | PWR | 31 | | | | 3930. | 25040. | 1973/ 9 | 6-6-5 | |

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| POPULATI ON FROM | 15KM RADIUS | TO | 100K MRADIUS | | | | | 641400 | | |
|------------------|-------------|----|----------------------|-------------|-------------|-------------|--------------|------------|-------------|--|
| | | | (15) FROM CENTER TO | | | | | | | |
| | | | 15KM RADIUS | 20KM RADIUS | 30KM RADIUS | 50KM RADIUS | 100KM RADIUS | | | |
| | | | (15) | (20) | (30) | (50) | (100) | | | |
| JPDR-2 | BWR | 2 | 233160. | 377289. | | | | | 70/11 | |
| TSURUGA | BWR | 3 | 58293. | | 231092. | | | AS OF 1969 | GHB-P78 | |
| ONAGAWA | BWR | 4 | 66512. | | | | | AS OF 1969 | 6-4-(1)69/7 | |
| HAMAOKA-1 | BWR | 5 | 98917. | 175836. | | | | AS OF 1969 | 6-35 69/7 | |
| SHIMANE | BWR | 8 | | 197010. | | | | AS OF 1967 | GHB-P79 | |
| FUKUSIMA-5 | BWR | 9 | 53083. | | 134027. | | | | 6-4-(1) | |
| FUKUSIMA-4 | BWR | 10 | 50225. | | 134747. | | | | 6-4-(1) | |
| FUKUSIMA-6 | BWR | 11 | 52539. | | 130255. | | | AS OF 1970 | 4-4-(1) | |
| TODOKAI-2 | BWR | 12 | 404005. | 627879. | | | | AS OF 1970 | 6-4-(1) | |
| HAMAOKA-2 | BWR | 13 | 102629. | 176499. | | | | AS OF 1971 | 6-37 | |
| HAMAOKA-2 | BWR | 13 | 102913. | 178441. | | | | AS OF 1972 | 6-37 | |
| TOMIOKA | BWR | 14 | 36851. | | 120119. | | | AS OF 1970 | GHB-P78 | |
| KASHIWA7AKI | BWR | 15 | | | 446000. | 1141000. | 3006000. | | 6-6-9 | |
| MIHAMA-1 | PWR | 21 | 64946. | 78148. | | | | | 6-94 | |
| TAKAHAMA-2 | PWR | 23 | 77510. | 113743. | | | | | 6-121 | |
| GENKAI-1 | PWR | 24 | 91405. | 137661. | | | | AS OF 1969 | 6-87 | |
| OUI-1+2 | PWR | 26 | 38053. | 47063. | | | | AS OF 1970 | 6-100 | |
| MIHAMA-3 | PWR | 27 | 62088. | 73215. | | | | AS OF 1970 | 6-80 | |
| IKATA-1 | PWR | 28 | 70783. | 99804. | | | | AS OF 1971 | 6-92 | |
| IKATA-2 | PWR | 30 | 71000. | 98000. | 176000. | | | AS OF 1974 | 6-6-5 | |
| SENDAI | PWR | 31 | | | 228490. | 979960. | 2496450. | 1974/ 3 | 6-6-5 | |

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| REACTOR | OUTPUT | POWER | THERMAL | ELECTRIC AL | 731100 | | |
|------------------|--------|-------|---------|--------------|-------------------|------------------------|-------------------|
| | | | | | | (D)=SELF-CONSUMPTION | |
| | | | | | | (E)=NET EFFICIENCY | |
| | | | | | | (A) | (B) |
| | | | | | | GROSS | GROSS |
| | | | | | | HEAT | ELECT. |
| | | | | | | (MWT) | (MWE) |
| | | | | | | (C) | (D) |
| | | | | | | NET | SELF- |
| | | | | | | ELECT. | CONSUMP |
| | | | | | | (MWE) | (O/O) |
| | | | | | | (E) | (E) |
| | | | | | | NET | NET |
| | | | | | | EFFI. | EFFI. |
| | | | | | | (O/O) | (O/O) |
| JPDR-1 | | BWR | 1 | 45. | 12.5 | | / |
| JPDR-2 | | BWR | 2 | 90. | 12.5 | | / |
| TSURUGA | | BWR | 3 | 968.4* | 322.41* | | R-9 66/ 8 |
| TSURUGA | | BWR | 3 | 1070. | 357.025 | (1) | 80-3-3 70/ 5 |
| TSURUGA | | BWR | 3 | (1) POWER-UP | MITI SINSEI 70/6. | 1970/9/21(65-BUKAI) PK | / |
| ONAGAWA | | BWR | 4 | 1593. | 524. | | 8-14-(3) 70/ 5 |
| HAMAOKA-1 | | BWR | 5 | 1593. | 540. | | 2-1 70/ 5 |
| FUKUSIMA-1 | | BWR | 6 | 1380. | 460. | | 70/6/20 70/ 5 |
| FUKUSIMA-2,3 | | BWR | 7 | 2381. | 780. | | 70/6/20 70/ 5 |
| SHIMANE | | BWR | 8 | 1380. | 460. | | 70/6/20 70/ 5 |
| FUKUSIMA-5 | | BWR | 9 | 2381. | 784. | | 2-1-(1) 71/ 2 |
| FUKUSIMA-4 | | BWR | 10 | 2381. | 784. | | 2-1-(1) 71/ 8 |
| FUKUSIMA-6 | | BWR | 11 | 3293 | | | 8-1-(3) 74/ 9 |
| HAMAOKA-2 | | BWR | 13 | 2436. | 840. | | 2-1 72/ 9 |
| KASHIWAZAKI | | BWR | 15 | 3293. | 1100. | | 8-3-1 75/ 3 |
| MIHAMA-1 | | PWR | 21 | 1031. | 340. | | / |
| MIHAMA-2 | | PWR | 22 | 1456. | 500. | | 6783-5 70/10 |
| TAKAHAMA-2 | | PWR | 23 | 2440. | 826. | | 80-9-1 70/ 5 |
| GENKAI-1 | | PWR | 24 | 1650. | 559. | | 80-9-1 70/ 5 |
| TAKAHAMA-1 | | PWR | 25 | 2440. | 826. | | 6783-5 70/10 |
| OUI-1,2 | | PWR | 26 | 3423. | 1175. | | 8-15 71/ 1 |
| MIHAMA-3 | | PWR | 27 | 2440. | 826. | | 8-15 71/ 8 |
| IKATA-1 | | PWR | 28 | 1650. | 566. | | 8-18 72/11 |
| IKATA-2 | | PWR | 30 | 1650. | 566.5 | | 2-1 75/ 5 |
| SENDAI | | PWR | 31 | 2652. | 890. | | 8-3-55 76/ 5 |
| HALDEN | | HBWR | 51 | 20. | --- | | / |
| VERMONT YANKEE | | BWR | 52 | 1593. | 537. | | A-2 70/ 5 |
| BROWNS FERRY | | BWR | 53 | 3293. | . | | GSK-19 69/ 2 |
| MILLSTON | | BWR | 54 | 1727. | . | | R-9 66/ 8 |
| DRESDEN-1 | | BWR | 55 | 626. | 192.8 | | DNR V4 P91 61/ |
| DRESDEN-2 | | BWR | 56 | 2255. | 752. | | DNR V4 P189 66/ 8 |
| OYSTER CREEK | | BWR | 57 | 1600.* | 540.* | | R-9 66/ 8 |
| OYSTER CREEK | | BWR | 57 | 1950. | 670. | (1) | / |
| OYSTER CREEK | | BWR | 57 | (1) POWER-UP | | | / |
| DUANE ARNOLD | | BWR | 58 | 1593. | 574. | | A-2 70/ 7 |
| YANKEE | | | 69 | 485. | 150. | | DNR V4 P33 61/ |
| SAXTON | | | 70 | 20. | 4. | | DNR V4 P47 61/ |
| BURLINGTON | | PWR | 71 | 3083. | | | GSK-19 69/ 2 |
| TURKEY POINT-3,4 | | PWR | 72 | 2200. | 688. | | BK80-4 P1 71/ 9 |
| H.B.ROBINSON-2 | | PWR | 73 | 2200. | 700. | | BK80-4 P1 71/ 9 |
| SURRY-1,-2 | | PWR | 74 | 2449. | 822.6 | | BK80-4 P1 71/ 9 |
| BEAVER VALLEY | | PWR | 75 | 2660. | 847. | | BK80-4 P1 71/ 9 |
| NORTH ANNA-12 | | PWR | 76 | 2660. | 800. | | BK80-4 P2 71/ 9 |

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| REACTOR | OUTPUT | POWER | THERMAL | ELECTRIC AL | 731100 | | |
|-----------------|--------|-------|---------|-------------|--------|--|-----------------|
| JOSEPH M.FARLEY | | PWR | 77 | 2660. | 861. | | BK80-4 P2 71/ 9 |
| FUGEN | | ATR | 81 | 557. | 165. | | / |

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| CORE | COOLANT | WATER | STEAM | FLOW RATE 731140 | | | | (3) |
|------------------|---------|-------|--------|-------------------------|--------|--------------------------------------|----|--------------------|
| | | | | (1) TOTAL FLOW | | (2) EFFECTIVE FLOW FOR HEAT TRANSFER | | |
| | | | | 1A | 1B | 2A | 2B | 3A |
| JPDR-1 | BWR | 1 | 1860. | | | | | 69. |
| JPDR-2 | BWR | 2 | 3260. | (2934 T/H CHANNEL FLOW) | | | | 136. (135.2) |
| TSURUGA | BWR | 3 | 17700. | | | | | 1930. |
| ONAGAWA | BWR | 4 | 22500. | | | | | 2910. |
| HAMAOKA-1 | BWR | 5 | 22900. | | | | | 2920. |
| FUKUSIMA-1 | BWR | 6 | 21800. | | | | | R-9 66/8 |
| FUKUSIMA-2,3 | BWR | 7 | 33800. | | | | | 70/6/20 70/6 |
| SHIMANE | BWR | 8 | 21800. | | | | | 2470. 70/6/20 70/6 |
| FUKUSIMA-5 | BWR | 9 | 33800. | | | | | 4440. 8-3-(2) 71/2 |
| FUKUSIMA-4 | BWR | 10 | 33800. | | | | | 4440. 8-3-(2) 71/8 |
| FUKUSIMA-6 | BWR | 11 | 48300. | | | | | 6430. 8-3-(2) 72/1 |
| DOOKAI-2 | BWR | 12 | 48300. | | | | | 6430. 8-3-(2) 72/1 |
| HAMAOKA-2 | BWR | 13 | 35600. | | | | | 4750. 8-8 72/9 |
| KASHIMAZAKI | BWR | 15 | 48300. | | | | | 6430. 8-3-63 75/3 |
| MIHAMA-1 | PWR | 21 | 23300. | 51.3E6 | 21818. | 48.1E6 | | 8-14 66/11 |
| MIHAMA-2 | PWR | 22 | 30000. | 66.0E6 | 27578. | 60.8E6 | | BK80-4 P2 71/9 |
| TAKAHAMA-2 | PWR | 23 | 45000. | (45400.) | | | | BK80-4 P2 71/9 |
| TAKAHAMA-2 | PWR | 23 | 45000. | 100.0E6 | 41276. | 91.0E6 | | 8-49,8-130 70/5 |
| GENKAI-1 | PWR | 24 | 30000. | | | | | BK80-4 P2 71/9 |
| TAKAHAMA-1 | PWR | 25 | 45000. | 100.0E6 | 41276. | 91.0E6 | | 8-50 70/5 |
| OUI-1,2 | PWR | 26 | 60100. | | | | | BK80-4 P2 71/9 |
| MIHAMA-3 | PWR | 27 | 45000. | 100.0E6 | 43318. | 95.5E6 | | 8-133 71/1 |
| IKATA-1 | PWR | 28 | 30000. | | | | | BK80-4 P2 71/9 |
| IKATA-2 | PWR | 30 | 30000. | | | | | 8-18 72/11 |
| SENDAI | PWR | 31 | 45700. | | | | | 8-3-37 75/5 |
| VERMONT YANKEE | BWR | 52 | 21800. | | | | | 8-3-44 76/5 |
| BROWNS FERRY | BWR | 53 | 45178. | | | | | A-2 70/5 |
| MILLSTON | BWR | 54 | 31300. | | | | | GSK 69/2 |
| DRESDEN-1 | BWR | 55 | 11600. | | | | | R-9 66/8 |
| DRESDEN-2 | BWR | 56 | 44500. | | | | | DNR V4 P94 62/ |
| OYSTER CREEK | BWR | 57 | 27700. | | | | | R-9 66/8 |
| DUANE ARNOLD | BWR | 58 | 22900. | | | | | R-9 66/8 |
| YANKEE | BWR | 69 | 19010. | | | | | A-2 P1 70/7 |
| SAXTON | BWR | 70 | 1270. | | | | | DNR V4 P36 61/ |
| BURLINGTON | PWR | 71 | 55247. | | | | | DNR V4 P50 61/ |
| TURKEY POINT-3,4 | PWR | 72 | 46039. | 101.5E6 | 43998. | 97.0E6 | | GSK-19 69/2 |
| H.B.ROBINSON-2 | PWR | 73 | 46039. | 101.5E6 | 43998. | 97.0E6 | | BK80-4 P1 71/9 |
| SURRY-1,-2 | PWR | 74 | 45677. | 100.7E6 | 43635. | 96.2E6 | | BK80-4 P1 71/9 |
| BEAVER VALLEY | PWR | 75 | 45677. | 100.7E6 | 43635. | 96.2E6 | | BK80-4 P1 71/9 |

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| CORE | COOLANT | WATER | STEAM | FLOW RATE 731140 | | | | (3) |
|-----------------|---------|-------|--------|------------------|--------|--------------------------------------|----|-------------------|
| | | | | (1) TOTAL FLOW | | (2) EFFECTIVE FLOW FOR HEAT TRANSFER | | |
| | | | | 1A | 1B | 2A | 2B | 3A |
| NORTH ANNA-12 | PWR | 76 | 45677. | 100.7E6 | 43635. | 96.2E6 | | BK80-4 P2 71/9 |
| JOSEPH M.FARLEY | PWR | 77 | 45677. | 100.7E6 | 43635. | 96.2E6 | | BK80-4 P2 71/9 |
| FUGEN | ATR | 81 | 7600. | | | | | 105-8-3-(2) 73/11 |
| MONJU | FAST | 92 | 70.2 | | | | | GAKKAI5143P 72/5 |

| FEED.W | COOLANT | TEMP. | INLET | OUTLET | SUBCOOL | 731180 | | | |
|----------------|---------|-------|-------|--------|---------|----------------------------|----------------------------|-----------------------------------|-------------------|
| | | | | | | (1) FEED-WATER TEMPERATURE | (2) CORE-INLET TEMPERATURE | (3) CORE-OUTLET STEAM TEMPERATURE | (4) SUBCOOLING |
| | | | | | | (1) (C) | (2) (C) | (3) (C) | (4) KCAL/KG |
| JPDR-1 | BWR | 1 | 127. | 272. | 277. | 3.06 | | | 70/8 |
| JPDR-2 | BWR | 2 | 101. | 271. | 277. | 7.8 | | | 70/8 |
| TSURUGA | BWR | 3 | 184. | 277.5 | | 11.1 | | | R-9 (REV.0) 66/8 |
| TSURUGA | BWR | 3 | 189. | | 285.4 | 11.7 | | | 80-3-3 P20 70/5 |
| ONAGAWA | BWR | 4 | 188.8 | | 286. | 15.0 | | | 8-3-(3) 70/5 |
| HAMAOKA-1 | BWR | 5 | 188.8 | | 286. | 15.8 | | | 8-10,8-114 70/5 |
| FUKUSIMA-1 | BWR | 6 | 176.7 | 277. | 285.4 | 12.9 | | | R-9 66/8 |
| SHIMANE | BWR | 8 | 183.8 | | 286. | 13.3 | | | 8-3-(2) 75/7 |
| FUKUSIMA-5 | BWR | 9 | | | 286. | 13.2 | | | 8-3-(2) 71/2 |
| FUKUSIMA-4 | BWR | 10 | | | 286. | 13.2 | | | 8-3-(2) 71/8 |
| FUKUSIMA-6 | BWR | 11 | 215.6 | | 286. | 11.2 | | | 8-3-(2) 72/1 |
| DOOKAI-2 | BWR | 12 | 215.6 | | 286. | 11.2 | | | 8-3-(2) 72/1 |
| HAMAOKA-2 | BWR | 13 | | | 286. | 11.5 | | | 8-8 72/9 |
| KASHIMAZAKI | BWR | 15 | 216. | | 286. | 10.1 | | | 8-3-64 75/3 |
| VERMONT YANKEE | BWR | 52 | 188. | | 286. | 15.1 | | | A-2 P1 70/6 |
| BROWNS FERRY | BWR | 53 | 191. | | 285.7 | 14.1 | | | GSK-19 69/2 |
| MILLSTON | BWR | 54 | | | | 11.7 | | | R-9 66/8 |
| DRESDEN-1 | BWR | 55 | | 262.2 | 285.9 | | | | DNR V4 P94 62/ |
| DRESDEN-2 | BWR | 56 | | 269.6 | | 11.5 | | | R-9 66/8 |
| DRESDEN-2 | BWR | 56 | | 277.2 | 286.1 | | | | DNR V7 P192 68/ |
| OYSTER CREEK | BWR | 57 | | | | 11.7 | | | R-9 66/8 |
| DUANE ARNOLD | BWR | 58 | 215.6 | | | 13.6 | | | A-2 P1 70/7 |
| BURLINGTON | PWR | 71 | | | | 82.1 | | | GSK-19 69/2 |
| FUGEN | ATR | 81 | | 277. | 284. | | | | 105-8-3-(2) 73/11 |

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| REACTOR | PWR | CORE | COOLANT | INLET | OUTLET | TEMP. | 731190 | | | | | | |
|------------------|------|------|---------|-------|--------|-------|--------|--------------------------------------|--------|----|----|--|--|
| | | | | | | | | (1) CORE INLET TEMPERATURE | | | | | |
| | | | | | | | | 1N 0 NOMINAL TEMPERATURE | DEG.C | | | | |
| | | | | | | | | 1M 0 MAXIMUM TEMPERATURE | DEG.C | | | | |
| | | | | | | | | (2) CORE OUTLET TEMPERATURE | | | | | |
| | | | | | | | | 2A 0 MEAN NOMINAL TEMPERATURE | DEG.C | | | | |
| | | | | | | | | 2B 0 HOT CHANNEL NOMINAL TEMPERATURE | DEG.C | | | | |
| | | | | | | | | ----- (1) ----- (2) ----- | | | | | |
| | | | | | | | | 1N | 1M | 2A | 2B | | |
| MIHAMA-1 | PWR | 21 | | 294.2 | 294.4 | 322. | 344.8 | BK80-4 P2*4 | 71/ 9 | | | | |
| MIHAMA-2 | PWR | 22 | | 289.0 | 291.2 | 324. | 342.5 | BK80-4 P2*4 | 71/ 9 | | | | |
| TAKAHAMA-2 | PWR | 23 | | 287.2 | 289.4 | 322. | 343. | BK80-4 P2*4 | 71/ 9 | | | | |
| GENKAI-1 | PWR | 24 | | 288. | | 323. | | 8-16 | 70/ 5 | | | | |
| TAKAHAMA-1 | PWR | 25 | | 287.2 | 289.4 | 322. | 343. | BK80-4 P2*4 | 71/ 9 | | | | |
| DOI-1,2 | PWR | 26 | | 289. | | 325. | | 8-15 | 71/ 1 | | | | |
| MIHAMA-3 | PWR | 27 | | 287.2 | 289.4 | 322. | 343. | BK80-4 P2*4 | 71/ 9 | | | | |
| IKATA-1 | PWR | 28 | | 288. | | 323. | | 8-18 | 72/ 11 | | | | |
| IKATA-2 | PWR | 30 | | 288. | | 323. | | 8-3-37 | 75/ 5 | | | | |
| SENDAI | PWR | 31 | | 284. | | 321. | | 8-3-44 | 76/ 5 | | | | |
| YANKEE | | 69 | | 258. | | 278. | | DNR V4 P36 | 61/ | | | | |
| SAXTON | | 70 | | 271.1 | | 282.2 | | DNR V4 P50 | 61/ | | | | |
| HURLINGTON | PWR | 71 | | 285. | | 321.1 | | GSK-19 | 69/ 2 | | | | |
| TURKEY POINT-3,4 | PWR | 72 | | 285.7 | 287.9 | | 338.9 | BK80-4 P1*3 | 71/ 9 | | | | |
| H.B.ROBINSON-2 | PWR | 73 | | 285.7 | 287.9 | | 338.9 | BK80-4 P1*3 | 71/ 9 | | | | |
| SURRY-1,-2 | PWR | 74 | | 283.9 | 286.1 | | 338.9 | BK80-4 P1*3 | 71/ 9 | | | | |
| BEAVER VALLEY | PWR | 75 | | 283.9 | 286.4 | | 340.3 | BK80-4 P1*3 | 71/ 9 | | | | |
| NORTH ANNA-12 | PWR | 76 | | 283.9 | 286.4 | | 340.3 | BK80-4 P2*4 | 71/ 9 | | | | |
| JOSEPH W.FARLEY | PWR | 77 | | 283.9 | 286.4 | | 340.3 | BK80-4 P2*4 | 71/ 9 | | | | |
| MONJU | FAST | 92 | | | | 390. | 540. | GAKKAIS143P | 72/ 5 | | | | |

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| CORE | OUTLET | STEAM | QUALITY AND VOID RATIO | 731200 | | | | | | |
|----------------|--------|-------|------------------------|---------------------|--|---------------------------|--|--------------------------|------------|--------------|
| | | | | | | | | (1) OUTLET STEAM QUALITY | | |
| | | | | | | | | (2) VOID RATIO | | |
| | | | | | | | | (1) WT.PC | (2) VOL.PC | WT.PC VOL.PC |
| JPR-1 | BWR | 1 | | 4.7 | | 27. | | / | | |
| JPR-2 | BWR | 2 | | 4.36(100),5.45(125) | | 16.1 | | / | | |
| TSURUGA | BWR | 3 | | 10.0 | | | | R-9 | 66/ 8 | |
| TSURUGA | BWR | 3 | | 11.0 | | 31. | | 80-3-3 | 70/ 5 | |
| ONAGAWA | BWR | 4 | | 12.9 | | 36.5 (CORE MEAN) | | 8-14-(10) | 70/ 5 | |
| HAMAOKA-1 | BWR | 5 | | 13.0 | | 37. | | 8-10 | 70/ 5 | |
| FUKUSIMA-1 | BWR | 6 | | 10.0 | | | | R-9 | 66/ 8 | |
| FUKUSIMA-1 | BWR | 6 | | 11.0 | | | | KUGE | 71/ 1 | |
| SHIMANE | BWR | 8 | | 14.5 | | 31.0 | | 8-14-(20) | 75/ 7 | |
| FUKUSIMA-5 | BWR | 9 | | 13.3 | | 36.8 | | 8-3-(2) | 71/ 2 | |
| FUKUSIMA-4 | BWR | 10 | | 13.3 | | 36.8 | | 8-3-(2) | 71/ 8 | |
| FUKUSIMA-6 | BWR | 11 | | 13.5 | | 38.0 | | 8-3-(2) | 72/ 1 | |
| IDOKAI-2 | BWR | 12 | | 13.5 | | 38.0 | | 8-3-(2) | 72/ 1 | |
| HAMAOKA-2 | BWR | 13 | | 13.2 | | | | 8-8 | 72/ 9 | |
| KASHIWAZAKI | BWR | 15 | | 13.5 | | 42.0 | | 8-3-64 | 75/ 3 | |
| VERMONT YANKEE | BWR | 52 | | 13.6 | | | | A-2 P1 | 70/ 7 | |
| BROWNS FERRY | BWR | 53 | | 13.6 | | 37.3 (MEAN),75.4 (CR.MAX) | | GSK-19 | 69/ 2 | |
| MILLSTON | BWR | 54 | | 9.97 | | | | R-9 | 66/ 8 | |
| DRESDEN-2 | BWR | 56 | | 9.9 | | | | R-9 | 66/ 8 | |
| OYSTER CREEK | BWR | 57 | | 9.8 (REF.PDN.UP) | | | | R-9 | 66/ 8 | |
| OYSTER CREEK | BWR | 57 | | 12.1 (AFT.PDN.UP) | | | | / | | |
| DUANE ARNOLD | BWR | 58 | | 14.3 | | | | A-2 P1 | 70/ 7 | |

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| PLANT | PRESSURE | 731220 | | | KG/CM ² G | KG/CM ² G | KG/CM ² G |
|------------------|----------|--------|--------|-----------|----------------------|----------------------|----------------------|
| | | (1) | (2) | (3) | | | |
| JPDR-1 | BWR | 1 | 61.5 | KG/SQCMG | | / | |
| JPDR-2 | BWR | 2 | 61.5 | KG/SQCMG | | 70/ 8 | |
| TSURUGA | BWR | 3 | 70.3 | KG/SQCMG | 80-3-3 | 70/ 5 | |
| ONAGAWA | BWR | 4 | 70.7 | 74.2 0.14 | 8-3-(2) | 70/ 5 | |
| HAMAOKA-1 | BWR | 5 | 70.7 | 74.2 0.14 | 8-23 | 70/ 5 | |
| HAMAOKA-1 | BWR | 5 | 70.7 | KG/SQCMG | 8-23 | 70/ 5 | |
| FUKUSIMA-1 | BWR | 6 | 70.7 | KG/SQCMG | | / | |
| FUKUSIMA-2,3 | BWR | 7 | 70.7 | KG/SQCMG | | / | |
| SHIMANE | BWR | 8 | 70.7 | KG/SQCMG | | / | |
| FUKUSIMA-5 | BWR | 9 | 70.7 | 74.2 0.14 | 8-3-(2) | 71/ 2 | |
| FUKUSIMA-4 | BWR | 10 | 70.7 | 74.2 0.14 | 8-3-(2) | 71/ 8 | |
| FUKUSIMA-6 | BWR | 11 | 70.7 | 74.2 0.14 | 8-3-(2) | 72/ 1 | |
| TOOKAI-2 | BWR | 12 | 70.7 | 74.2 0.14 | 8-3-(2) | 72/ 1 | |
| HAMAOKA-2 | BWR | 13 | 70.7 | 74.2 0.14 | 8-8 | 72/ 9 | |
| KASHIWAZAKI | BWR | 15 | 70.7 | 73.6 0.14 | 8-3-63 | 75/ 3 | |
| MIHAMA-1 | PWR | 21 | 157. | KG/SQCMG | | / | |
| MIHAMA-2 | PWR | 22 | 157. | KG/SQCMG | 6783-5 | 70/10 | |
| TAKAHAMA-2 | PWR | 23 | 157. | KG/SQCMG | 80-9-1 | 70/ 5 | |
| GENKAI-1 | PWR | 24 | 157. | KG/SQCMG | 80-9-1 | 70/ 5 | |
| TAKAHAMA-1 | PWR | 25 | 157. | KG/SQCMG | 6783-5 | 70/10 | |
| OUI-1,2 | PWR | 26 | 157. | KG/SQCMG | 8-15 | 71/ 1 | |
| MIHAMA-3 | PWR | 27 | 157. | KG/SQCMG | 8-15 | 71/ 8 | |
| IKATA-1 | PWR | 28 | 157. | KG/SQCMG | 8-18 | 72/11 | |
| IKATA-2 | PWR | 30 | 157. | KG/SQCMG | 8-3-37 | 75/ 5 | |
| SENDAI | PWR | 31 | 157. | KG/SQCMG | 8-3-44 | 76/ 5 | |
| VERMONT YANKEE | BWR | 52 | 70.7 | KG/SQCMG | A-2 | / | |
| BROWNS FERRY | BWR | 53 | 70.3 | KG/SQCMG | GSK-19 | 69/ 2 | |
| MILLSTON | BWR | 54 | 70.3 | KG/SQCMG | R-9 | 66/ 8 | |
| DRESDEN-1 | BWR | 55 | 70.505 | KG/SQCMG | DNR V4 P94 | 62/ | |
| DRESDEN-1 | BWR | 55 | 70.365 | KG/SQCMG | DNR V4 P94 | 62/ | |
| DRESDEN-1 | BWR | 55 | 68.610 | KG/SQCMG | DNR V4 P94 | 62/ | |
| DRESDEN-2 | BWR | 56 | 70.36 | KG/SQCMG | DNR V7 P192 | 68/ | |
| DRESDEN-2 | BWR | 56 | 70.3 | KG/SQCMG | R-9 | 66/ 8 | |
| DYSTER CREEK | BWR | 57 | 70.3 | KG/SQCMG | R-9 | 66/ 8 | |
| DUANE ARNOLD | BWR | 58 | 70.7 | KG/SQCMG | A-2 P1 | 70/ 7 | |
| YANKEE | | 69 | 139.6 | KG/SQCMG | DNR V4 P36 | 61/ | |
| YANKEE | | 69 | 137.2 | KG/SQCMG | DNR V4 P36 | 61/ | |
| SAXTON | | 70 | 139.6 | KG/SQCMG | DNR V4 P50 | 61/ | |
| SAXTON | | 70 | 0.457 | KG/SQCMG | DNR V4 P50 | 61/ | |
| SAXTON | | 70 | 1.05 | KG/SQCMG | DNR V4 P50 | 61/ | |
| BURLINGTON | PWR | 71 | 157.3 | KG/SQCMG | GSK-19 | 69/ 2 | |
| TURKEY POINT-3,4 | PWR | 72 | 157. | KG/SQCMG | BK80-4 P1 | 71/ 9 | |
| H.B.ROBINSON-2 | PWR | 73 | 157. | KG/SQCMG | BK80-4 P1 | 71/ 9 | |
| SURRY-1,-2 | PWR | 74 | 157. | KG/SQCMG | BK80-4 P1 | 71/ 9 | |
| BEAVER VALLEY | PWR | 75 | 157. | KG/SQCMG | BK80-4 P1 | 71/ 9 | |

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| PLANT | PRESSURE | 731220 | | | KG/CM ² G | KG/CM ² G | KG/CM ² G |
|-----------------|----------|--------|------|----------|----------------------|----------------------|----------------------|
| | | (1) | (2) | (3) | | | |
| NORTH ANNA-12 | PWR | 76 | 157. | KG/SQCMG | BK80-4 P2 | 71/ 9 | |
| JOSEPH W.FARLEY | PWR | 77 | 157. | KG/SQCMG | BK80-4 P2 | 71/ 9 | |
| FUGEN | ATR | 81 | 68. | KG/SQCMG | 105-8-3-(2) | 73/11 | |

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| REACTOR CORE | SIZE | DIA | HEIGHT | 731240 | |
|------------------|------|-----|-------------------------------------|----------|-------------------|
| | | | (1) DIAMETER (2) HEIGHT | CM CM | |
| | | | NOTE 1= CIRCUMSCRIBED CORE DIAMETER | | |
| | | | (1) | (2) | |
| JPDR-1 | BWR | 1 | 127. | 147. | 70/ 8 |
| JPDR-2 | BWR | 2 | 127. | 147. | 70/ 8 |
| TSURUGA | BWR | 3 | 301.8 | 365.8 | R-9 66/ 8 |
| ONAGAWA | BWR | 4 | 328. | 366. | 8-3-(2) 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 328. | 366. | 8-10 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 330. | 366. | 85-4-2 70/11 |
| FUKUSIMA-1 | BWR | 6 | 344. | 366. | / |
| FUKUSIMA-2,3 | BWR | 7 | 403. | 366. | 82-2-3 70/ 8 |
| SHIMANE | BWR | 8 | 344. | 366. | / |
| FUKUSIMA-5 | BWR | 9 | 403. | 366. | 8-3-(2) 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 403. | 366. | 8-3-(2) 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 475. | 371.0 | 8-1-(3) 74/ 9 |
| TODOKAI-2 | BWR | 12 | 475. | 366. | 8-3-(2) 72/ 1 |
| HAMAOKA-2 | BWR | 13 | 407. | 366. | 8-8 72/ 9 |
| MIHAMA-1 | PWR | 21 | 247. | 305. | / |
| MIHAMA-2 | PWR | 22 | 247. | 365.8 | BK80-4 P6 71/ 9 |
| TAKAHAMA-2 | PWR | 23 | 304. | 366. | 8-121 70/ 5 |
| GENKAI-1 | PWR | 24 | 246. | 366. | 70/ 5 |
| TAKAHAMA-1 | PWR | 25 | 303.5 | 365.8 | BK80-4 P6 71/ 9 |
| DDI-1,2 | PWR | 26 | 337. | 366. | 8-15 71/ 1 |
| MIHAMA-3 | PWR | 27 | 304. | 366. | 8-15 71/ 8 |
| IKATA-1 | PWR | 28 | 246. | 366. | 8-18 72/11 |
| IKATA-2 | PWR | 30 | 246. | 366. | 8-3-37 75/ 5 |
| SENDAI | PWR | 31 | 304. | 366. | 8-3-44 76/ 5 |
| VERMONT YANKEE | BWR | 52 | 330. | 366. | A-2 70/ 5 |
| BROWNS FERRY | BWR | 53 | 475. | 365.8 | GSK-19 69/ 2 |
| HILLSTON | BWR | 54 | 449.8 | 365.8 | R-9 66/ 8 |
| DRESDEN-1 | BWR | 55 | 327.4 (NOTE 1) | 269.2 | DNR V4 P91 62/ |
| DRESDEN-2 | BWR | 56 | 462.8 | 365.8 | R-9 66/ 8 |
| DRESDEN-2 | BWR | 56 | 481.8 (NOTE 1) | 365.8 | DNR V7 P192 68/ |
| OYSTER CREEK | BWR | 57 | 396.2 | 365.8 | R-9 66/ 8 |
| DUANE ARNOLD | BWR | 58 | 330. | 366. | A-2 P1 70/ 7 |
| YANKEE | | 69 | 190.5 | 233.7 | DNR V4 P33 61/ |
| SAXTON | | 70 | 71.7 | 91.4 | DNR V4 P47 61/ |
| BURLINGTON | PWR | 71 | 339.5 | 365.8 | GSK-19 69/ 2 |
| TURKEY POINT-3,4 | PWR | 72 | 303.5 | 365.8 | BK80-4 P5 71/ 9 |
| H.B.ROBINSON-2 | PWR | 73 | 303.5 | 365.8 | BK80-4 P5 71/ 9 |
| SURRY-1,-2 | PWR | 74 | 303.5 | 365.8 | BK80-4 P5 71/ 9 |
| BEAVER VALLEY | PWR | 75 | 303.5 | 365.8 | BK80-4 P5 71/ 9 |
| NORTH ANNA-12 | PWR | 76 | 303.5 | 365.8 | BK80-4 P6 71/ 9 |
| JOSEPH W.FARLEY | PWR | 77 | 303.5 | 365.8 | BK80-4 P6 71/ 9 |
| FUGEN | ATR | 81 | 405. | 370. | 105-8-3-(3) 73/11 |
| MONJU | FAST | 92 | | 90. | GAKKAIS143P 72/ 5 |

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| FUEL | LOADING WEIGHT | TUN-U02 | TUN-U | TUN-U235 | 731260 | |
|----------------|----------------|---------|------------|---------------------------|--|-------------------|
| JPDR-1 | BWR | 1 | 4.8 T-U02 | | | / |
| JPDR-2 | BWR | 2 | 4.8 T-U02 | | 0.111T-U235 | KDN-6 P2 70/ 8 |
| TSURUGA | BWR | 3 | 69. T-U02 | | | R-9 66/ 8 |
| ONAGAWA | BWR | 4 | 81.3 T-U02 | | 71.7 T-U, (1ST-CORE=1.6T, HEIKO=2.0T-U235) | 8-3-(3) 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 81.3 T-U02 | | | 8-10 70/ 5 |
| FUKUSIMA-1 | BWR | 6 | 89.4 T-U02 | | | R-9 66/ 8 |
| SHIMANE | BWR | 8 | | 78.2 T-U, (1ST-CORE=1.6T) | | 8-3-(2) 75/ 7 |
| SHIMANE | BWR | 8 | | 73.4 T-U, (HEIKO =1.9T) | | 8-3-(2) 75/ 7 |
| FUKUSIMA-5 | BWR | 9 | | 106.8 T-U | | 8-3-(2) 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | | 106.8 T-U | | 8-3-(2) 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | | 142. T-U | | 8-1-(3) 74/ 9 |
| TODOKAI-2 | BWR | 12 | | 148.3 T-U | | 8-3-(2) 72/ 1 |
| HAMAOKA-2 | BWR | 13 | | 105.0 T-U | | 8-8 72/ 9 |
| KASHIWAZAKI | BWR | 15 | | 142. T-U | 1ST-CORE=3.2T, HEIKO=3.8T-U235 | 75/ 3 |
| MIHAMA-1 | PWR | 21 | | 70. | | 8-14 66/11 |
| TAKAHAMA-2 | PWR | 23 | | 71. T-U | | 80-9-1 70/ 5 |
| GENKAI-1 | PWR | 24 | | 48. T-U | | 80-9-1 70/ 5 |
| DDI-1,2 | PWR | 26 | | 87. T-U | | 8-15 71/ 1 |
| MIHAMA-3 | PWR | 27 | | 70. T-U | | 8-15 71/ 8 |
| IKATA-1 | PWR | 28 | | 48. T-U | | 8-16 72/11 |
| IKATA-2 | PWR | 30 | | 48. T-U | | 8-3-37 75/ 5 |
| SENDAI | PWR | 31 | | 72. T-U | | 8-3-44 76/ 5 |
| VERMONT YANKEE | BWR | 52 | | 81.3 T-U02 | | A-2 P1 70/ 7 |
| BROWNS FERRY | BWR | 53 | | (170.2)T-U02 | 149.8 T-U | GSK-19 69/ 2 |
| HILLSTON | BWR | 54 | | 129.7 T-U02 | | R-9 66/ 8 |
| DRESDEN-1 | BWR | 55 | | 57.56T-U02 | | DNR V4 P91 62/ |
| DRESDEN-2 | BWR | 56 | | 161.9 T-U02 | | R-9 66/ 8 |
| DRESDEN-2 | BWR | 56 | | 139.5 T-U02 | | DNR V7 P192 68/ |
| DUANE ARNOLD | BWR | 58 | | 81.3 T-U02 | | A-2 P1 70/ 7 |
| YANKEE | | 69 | | | 20.88T-U | DNR V4 P33 61/ |
| SAXTON | | 70 | | 1.0 T-U02 | | DNR V4 P47 61/ |
| BURLINGTON | PWR | 71 | | (100.7)T-U02 | 88.6 T-U | GSK-19 69/ 2 |
| FUGEN | ATR | 81 | | 0.4 T-U235 | 0.1 T-PU (HEIKO=0.3T-U235 0.3-PU) | 105-8-3-(3) 73/11 |

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| REACTOR | STEAM | FLOW | RATE | T/H | 731300 | | |
|----------------|-------|------|-------|-----|-----------|-------------|-------|
| JPDR-1 | BWR | 1 | 69. | T/H | | | / |
| JPDR-2 | BWR | 2 | 136. | T/H | 135.2 T/H | | 70/11 |
| TSURUGA | BWR | 3 | 1930. | T/H | | 80-3-3 P7 | 70/ 5 |
| ONAGAWA | BWR | 4 | 2910. | T/H | | 8-3-(3) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 2920. | T/H | | 8-10,8-114 | 70/ 5 |
| SHIMANE | BWR | 8 | 2470. | T/H | | 8-3-(3) | 75/ 7 |
| FUKUSIMA-5 | BWR | 9 | 4440. | T/H | | 8-3-(2) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 4440. | T/H | | 8-3-(2) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 6430. | T/H | | 8-1-(3) | 74/ 9 |
| TOOKAI-2 | BWR | 12 | 6430. | T/H | | 8-3-(2) | 72/ 1 |
| HAMAOKA-2 | BWR | 13 | 4750. | T/H | | 8-8 | 72/ 9 |
| KASHIWAZAKI | BWR | 15 | 6430. | T/H | | 8-3-63 | 75/ 3 |
| VERMONT YANKEE | BWR | 52 | 2920. | T/H | | A-2 P1 | 70/ 7 |
| BROWNS FERRY | BWR | 53 | 6069. | T/H | | GSK-19 | 69/ 2 |
| DUANE ARNOLD | BWR | 58 | 3100. | T/H | | A-2 P1 | 70/ 7 |
| FUGEN | ATR | 81 | 910. | T/H | | 105-8-3-(2) | 73/11 |

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| CORE | FUEL | ASSY | NUMBER | 732200 | | | |
|---------------------|------|------|---|---|-------|--------------|-------|
| JPDR-1 | BWR | 1 | 72 | | | | / |
| JPDR-2 | BWR | 2 | 72 | | | | 70/ 8 |
| TSURUGA | BWR | 3 | 308 | | | R-9 | 66/ 8 |
| ONAGAWA | BWR | 4 | 368 | | | 8-3-(3) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 368 | | | 8-10,8-108, | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 368 | 69(TYPE 1)+299(TYPE 2 WITH BURNABLE P) | | 95-2-3 P10 | 71/ 9 |
| HAMAOKA-1 | BWR | 5 | TYPE-1 | FUEL ASSY HAS AN DRIFICE IN LOWER TIEPLATE | | 95-2-3 P12 | 71/ 9 |
| FUKUSIMA-1 | BWR | 6 | 400 | | | R-9 | 66/ 8 |
| FUKUSIMA-2,3 | BWR | 7 | 548 | 124+424 | | 82-2-3 | 70/ 8 |
| FUKUSIMA-2,3 | BWR | 7 | 548 | 124+424* | | 82-2-3 | 70/ 8 |
| FUKUSIMA-2,3 | BWR | 7 | 548 | 116+432 | | 85-7-2 | 70/12 |
| FUKUSIMA-2,3 | BWR | 7 | 548 | 117(TYPE 1)+431(TYPE 2 WITH BURNABLE P) | REV-2 | F2N1 P5 | 71/ 2 |
| FUKUSIMA-2,3 | BWR | 7 | 548 | TYPE 1 = 117TA1+(1 Y0BI) | REV-2 | F2N1 P1 | 71/ 2 |
| FUKUSIMA-2,3 | BWR | 7 | DUMMY | FUEL ASSY---NO.-12MDN | | F2N1 P5 | 71/ 2 |
| SHIMANE | BWR | 8 | 400 | | | | / |
| FUKUSIMA-5 | BWR | 9 | 548 | 117(TYPE 1)+431(TYPE 2 WITH BURNABLE P(G02-N3)) | | 8-3-(3) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 548 | 117(TYPE 1)+431(TYPE 2) | | 8-3-(3) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 764 | 168(TYPE 1)+596(TYPE 2 WITH BURNABLE P) | | 8-3-(3) | 72/ 1 |
| TOOKAI-2 | BWR | 12 | 764 | 168(TYPE 1)+596(TYPE 2 WITH BURNABLE P) | | 8-3-(3) | 72/ 1 |
| HAMAOKA-2 | BWR | 13 | 560 | 120(TYPE 1)+440(TYPE 2 WITH BURNABLE P) | | 8-9 | 72/ 9 |
| KASHIWAZAKI | BWR | 15 | 764 | | | 8-3-1 | 75/ 3 |
| MIHAMA-1 | PWR | 21 | 121(+2) | (+2)=MAPI SPARE | | | / |
| MIHAMA-2 | PWR | 22 | 121 | | | BK80-2 P4 | 71/ 8 |
| TAKAHAMA-2 | PWR | 23 | 157 | | | 80-9-1 | 70/ 6 |
| GENKAI-1 | PWR | 24 | 121 | | | 80-9-1,8-16, | 70/ 6 |
| TAKAHAMA-1 | PWR | 25 | 157 | | | BK80-2 P4 | 71/ 8 |
| DDI-1,2 | PWR | 26 | 193 | | | 8-16 | 71/ 1 |
| DDI-1,2 | PWR | 26 | 193 | | | 8-3,2-13 | 75/ 5 |
| MIHAMA-3 | PWR | 27 | 157. | | | 8-16 | 71/ 8 |
| IKATA-1 | PWR | 28 | 121 | | | 8-19 | 72/11 |
| IKATA-2 | PWR | 30 | 121 | | | | 75/ 5 |
| SENDAI | PWR | 31 | 157 | | | 8-3-46 | 76/ 5 |
| VERMONT YANKEE | BWR | 52 | 368 | | | A-2 | 70/ 5 |
| BROWNS FERRY | BWR | 53 | 764 | | | GSK-19 | 69/ 2 |
| MILLSTON | BWR | 54 | 580 | | | R-9 | 66/ 8 |
| DRESDEN-1 | BWR | 55 | 452 | (TOTAL CHANNEL NO.=488) | | DNR V4 P91 | 62/ |
| DRESDEN-2 | BWR | 56 | 724 | | | R-9 | 66/ 8 |
| BYSTER CREEK | BWR | 57 | 560 | | | R-9 | 66/ 8 |
| DUANE ARNOLD | BWR | 58 | 368 | | | A-2 P2 | 70/ 7 |
| YANKEE | BWR | 69 | 76 | 38(TYPE A)+ 38(TYPE B) | | DNR V4 P33 | 61/ |
| SAXTON | 70 | 32 | POSSIBLE POSITION(6*6 ARRAY WITH CORNERS MISSING) | | | DNR V4 P47 | 61/ |
| SAXTON | 70 | 21 | OCCUPIED BY STANDARD FUEL ELEMENTS | | | DNR V4 P47 | 61/ |
| SAXTON | 70 | 10 | BY DUMMY ASSYS, AND ONE BY A SUPERHEATER TUBE | | | DNR V4 P47 | 61/ |
| SAXTON | 70 | 9 | L-SHAPED FUEL ELEMENTS OCCUPY INTERSTITIAL POSITION | | | DNR V4 P47 | 61/ |
| BURLINGTON | PWR | 71 | 193 | | | GSK-19 | 69/ 2 |
| TURKEY POINT-3,4PWR | 72 | 157 | | | | BK80-4 P5 | 71/ 9 |
| H.B.ROBINSON-2 | PWR | 73 | 157 | | | BK80-4 P5 | 71/ 9 |
| SURRY-1,-2 | PWR | 74 | 157 | | | BK80-4 P5 | 71/ 9 |

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| CDME | FUEL | ASSY | NUMBER | 732200 | |
|------|-----------------|------|--------|---|-------------------|
| | BEAVER VALLEY | PWR | 75 | 157 | HK80-4 P5 71/ 9 |
| | NORTH ANNA-12 | PWR | 76 | 157 | HK80-4 P6 71/ 9 |
| | JOSEPH M.FARLEY | PWR | 77 | 157 | HK80-4 P6 71/ 9 |
| | FUGEN | ATR | 81 | 224 | 105-8-3-(2) 73/11 |
| | MUNJU | FAST | 92 | 102(CORE INNER REGION), 90(CORE OUTER REGION) | GAKKAISI43P 72/ 5 |

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| FUEL | SPACER | NUMBER | PER ASSY | MATERIAL TYPE | 732200 | |
|------------------|--------|--------|----------|-----------------------|-------------------|-------------------|
| | | | | (1)NUMBER OF SPACER | | |
| | | | | (2)TYPE | TP1=PLATE TYPE | |
| | | | | | TP2=ONE BODY | |
| | | | | | TP3=GRID + SPRING | |
| | | | | (3)MATERIAL OF GRID | | |
| | | | | (4)MATERIAL OF SPRING | | |
| | | | | | Z2 =ZRY-2 | |
| | | | | | Z4 =ZRY-4 | |
| | | | | | I =INCONEL | |
| | | | | | I750=INCONEL 750 | |
| | | | | | I718=INCONEL 718 | |
| | | | | | NI-CR-FE ALLOY | |
| | | (1) | (2) | (3) | (4) | |
| | | NO. | TYPE | -MATERIAL- | | |
| JPDR-1 | BWR | 1 | 1 | TP1 | Z2 | 70/ 8 |
| JPDR-2 | BWR | 2 | 2 | TP2 | I750 | 70/ 8 |
| TSURUGA | BWR | 3 | 7 | | | / |
| ONAGAWA | BWR | 4 | 7 | Z4 | I750 | 8-3-(4) 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 7 | Z4 | | 8-12 70/ 5 |
| FUKUSIMA-1 | BWR | 6 | 7 | TP3 | Z4 I750 | BWR/6 74/11 |
| FUKUSIMA-2,3 | BWR | 7 | 7 | TP3 | Z4 | F241 P9 71/ 2 |
| SHIWANE | BWR | 8 | 7 | TP3 | Z4 | 8-3-(45) 75/ 7 |
| FUKUSIMA-5 | BWR | 9 | 7 | TP3 | Z4 | 8-3-(4) 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 7 | TP3 | Z4 | 8-3-(4) 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 7 | TP3 | Z4 | 8-3-(4) 72/ 1 |
| TOKAI-2 | BWR | 12 | 7 | TP3 | Z4 | 8-3-(4) 72/ 1 |
| HAMAOKA-2 | BWR | 13 | 7 | TP3 | Z4 | 8-10 72/ 9 |
| KASHIWAZAKI | BWR | 15 | 7 | TP3 | Z4 I750 | 8-3-6 75/ 3 |
| MIHAMA-1 | PWR | 21 | 6 | TP2 | I718 | 8-16 66/11 |
| MIHAMA-2 | PWR | 22 | 7 | TP2 | | HK80-4 P4 71/ 9 |
| TAKAHAMA-2 | PWR | 23 | 7 | TP2 | I | 8-17 70/ 5 |
| GENKAI-1 | PWR | 24 | 7 | TP2 | I | 8-18 70/ 5 |
| TAKAHAMA-1 | PWR | 25 | 7 | TP2 | I | HK80-4 P4 71/ 9 |
| ODI-1,2 | PWR | 26 | 7 | TP2 | I | 8-17 71/ 1 |
| ODI-1,2 | PWR | 26 | 8 | TP2 | I718 | 8-3,2-14 75/ 5 |
| MIHAMA-3 | PWR | 27 | 7 | TP2 | I | 8-17 71/ 8 |
| IKATA-1 | PWR | 28 | 7 | TP2 | I | 8-20 72/11 |
| IKATA-2 | PWR | 30 | 7 | TP2 | I | 8-3-39 75/ 5 |
| SENDAI | PWR | 31 | 9 | TP2 | NI-CR-FE ALLOY | 8-3-46 76/ 5 |
| VERMONT YANKEE | BWR | 52 | 7 | | | A-2 70/ 5 |
| BROWNS FERRY | BWR | 53 | 7 | Z4 | | GSK-19 69/ 2 |
| BURLINGTON | PWR | 71 | 9 | I718 | | GSK-19 69/ 2 |
| TURKEY POINT-3,4 | PWR | 72 | 7 | | | HK80-4 P3 71/ 9 |
| H.B.ROBINSON-2 | PWR | 73 | 7 | | | HK80-4 P3 71/ 9 |
| SURRY-1,-2 | PWR | 74 | 7 | | | HK80-4 P3 71/ 9 |
| BEAVER VALLEY | PWR | 75 | 7 | | | HK80-4 P3 71/ 9 |
| NORTH ANNA-12 | PWR | 76 | 7 | | | HK80-4 P4 71/ 9 |
| JOSEPH M.FARLEY | PWR | 77 | 7 | | | HK80-4 P4 71/ 9 |
| FUGEN | ATR | 81 | 12 | I | | 105-8-3-(6) 73/11 |

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| FUEL | CHANNEL BOX | MATERIAL | SIZE | THICK | 732240 | | |
|----------------|-------------|-------------------------------|------|------------|--------------------------|-------------|-------|
| | | (1) MATERIAL OF CHANNEL BOX | | | | Z4=ZRY-4 | |
| | | (2) SIZE (1)=INNER, (2)=OUTER | | | | Z2=ZKY-2 | |
| | | (3) THICKNESS | | | | MM | |
| | | (1) | (2) | (3) | | | |
| | | MM | MM | MM | | | |
| JPDR-1 | BWR | 1 | Z4 | | 1.5 | | 70/ 8 |
| JPDR-2 | BWR | 2 | Z4 | | 1.5 | | 70/ 8 |
| TSURUGA | BWR | 3 | Z4 | | 2.0 | | / |
| ONAGAWA | BWR | 4 | Z4 | | 2.0 | 8-3-(4) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | Z4 | | | 8-12 | 70/ 5 |
| FUKUSIMA-1 | BWR | 6 | Z4 | 134*134(1) | 2.0 | BWR/6 | 74/11 |
| FUKUSIMA-1 | BWR | 6 | Z4 | | 2.03 | | / |
| FUKUSIMA-2,3 | BWR | 7 | Z4 | 134*134(1) | 2.03 | F2N1 P9 | 71/ 2 |
| SHIMANE | BWR | 8 | Z4 | | | | / |
| FUKUSIMA-5 | BWR | 9 | Z4 | | | 8-3-(4) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | Z4 | 138*138(0) | | 8-3-(4) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | Z4 | 138*138(0) | | 8-3-(4) | 72/ 1 |
| DOOKAI-2 | BWR | 12 | Z4 | 138*138(0) | | 8-3-(4) | 72/ 1 |
| HAMAOKA-2 | BWR | 13 | Z4 | | | 8-10 | 72/ 9 |
| KASHIWA7AKI | BWR | 15 | Z4 | 140.16 (0) | 3.048 | | 75/ 3 |
| VERMONT YANKEE | BWR | 52 | Z4 | | 2.0 | A-2 | 70/ 5 |
| BROWNS FERRY | BWR | 53 | Z4 | 138.125 | | GSK-19 | 69/ 2 |
| DRESDEN-1 | BWR | 55 | Z2 | 109. (1) | | DNR V4 P91 | 62/ |
| DRESDEN-2 | BWR | 56 | Z4 | 138.125 | | DNR V7 P192 | 68/ |
| DUANE ARNOLD | BWR | 58 | Z4 | | 2.0 | A-2 P2 | 70/ 7 |
| MONJU | FAST | 92 | | 104.6 | | GAKKAI5143P | 72/ 5 |
| | | | | | (HEXAGONAL WRAPPER TUBE) | | |

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| FUEL | ASSY | SIZE | PWR | 732250 | | |
|------------------|------|------------------------|---------------------------------|----------------------------|----------------|-----------------|
| | | (1) FUEL ASSEMBLY SIZE | | CROSS SECTION | MM SQUARE | |
| | | (2) TOTAL HEIGHT | | | MM | |
| | | (1) | (2) | | | |
| | | MM | MM | | | |
| MIHAMA-1 | PWR | 21 | 197.18 | | | BK80-4 P4 71/ 9 |
| MIHAMA-2 | PWR | 22 | 197.18 | | | BK80-4 P4 71/ 9 |
| TAKAHAMA-2 | PWR | 23 | 214. | 4170. | | 8-17 70/ 5 |
| GENKAI-1 | PWR | 24 | 200. | 4170. | | 8-18 70/ 5 |
| TAKAHAMA-1 | PWR | 25 | 214.02 | | | BK80-4 P4 71/ 9 |
| DOI-1+2 | PWR | 26 | 214. | 4070 | | 8-17 71/ 1 |
| DOI-1+2 | PWR | 26 | 214. | 4100.(EXCL. NOZZLE SPRING) | | 8-3,2-13 75/ 5 |
| MIHAMA-3 | PWR | 27 | 214. | 4170. | | 8-17 71/ 8 |
| IKATA-1 | PWR | 28 | 200. | 4170. | | 8-20 72/11 |
| IKATA-2 | PWR | 30 | 200. | 4060. | | 8-3-39 75/ 5 |
| SENDAI | PWR | 31 | 214. | 4100. | | 8-3-46 76/ 5 |
| YANKEE | | 69 | (191.668 + 2.896(TUBE TO TUBE)) | | ASSEMBLY PITCH | DNR V4 P34 61/ |
| SAXTON | | 70 | (137.668) | | ASSEMBLY PITCH | DNR V4 P48 61/ |
| BURLINGTON | PWR | 71 | 214.02 | | | GSK-19 69/ 2 |
| TURKEY POINT-3,4 | PWR | 72 | 214.02 | | | BK80-4 P3 71/ 9 |
| H.B.ROBINSON-2 | PWR | 73 | 214.02 | | | BK80-4 P3 71/ 9 |
| SURRY-1,-2 | PWR | 74 | 214.02 | | | BK80-4 P3 71/ 9 |
| BEAVER VALLEY | PWR | 75 | 214.02 | | | BK80-4 P4 71/ 9 |
| NORTH ANNA-12 | PWR | 76 | 214.02 | | | BK80-4 P4 71/ 9 |
| JOSEPH M.FARLEY | PWR | 77 | 214.02 | | | BK80-4 P4 71/ 9 |

UD-2 WEIGHT PER FUEL ASSY KGUD-2/ ASSY 732260

| | | | | | | |
|----------------|-----|----|--------------------------|-------|------------------|--------------|
| JPDR-2 | BWR | 2 | 1.37*49KGUD2/ASSY(DISH), | | | |
| ONAGAWA | BWR | 4 | 222.4 KGUD2/ASSY(FLAT), | 219.3 | KGUD2/ASSY(DISH) | A-2 70/ 5 |
| VERMONT YANKEE | BWR | 52 | 222.4 KGUD2/ASSY(FLAT), | 219.3 | KGUD2/ASSY(DISH) | A-2 70/ 5 |
| BROWNS FERRY | BWR | 53 | 221.1 KGUD2/ASSY(FLAT), | | | GSK-19 69/ 2 |
| DUANE ARNOLD | BWR | 58 | 222.4 KGUD2/ASSY(FLAT), | 219.3 | KGUD2/ASSY(DISH) | A-2 P2 70/ 7 |
| BURLINGTON | PWR | 71 | 517.55KG | | | GSK-19 69/ 2 |

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| FUEL | ASSY | TOTAL | WEIGHT | KG (INC .H-WARE) | 732280 | | |
|------------------|------|-------|--------------------|------------------|----------------|-----------|-------|
| JPDR-1 | BWR | 1 | 100. | KG(FLAT) | | ABOUT | / |
| JPDR-2 | BWR | 2 | | | 100.0 KG(DISH) | ABOUT | 70/ 8 |
| DNAGAWA | BWR | 4 | 309.1 | KG(FLAT) | 306.0 KG(DISH) | | 70/ 5 |
| FUKUSIMA-1 | BWR | 6 | 184. | KG | | A-2 | 74/11 |
| MIHAMA-1 | PWR | 21 | (483.5 KG) * 121 = | 58.51 | TDN | BWR/6 | 71/ 9 |
| MIHAMA-2 | PWR | 22 | (573.2 KG) * 121 = | 69.352 | TDN | BK80-4 P4 | 71/ 9 |
| TAKAHAMA-2 | PWR | 23 | (646.4 KG) * 157 = | 101.48 | TDN | BK80-4 P4 | 71/ 9 |
| TAKAHAMA-1 | PWR | 25 | (646.4 KG) * 157 = | 101.48 | TDN | BK80-4 P4 | 71/ 9 |
| MIHAMA-3 | PWR | 27 | (646.4 KG) * 157 = | 101.48 | TDN | BK80-4 P4 | 71/ 9 |
| VERMONT YANKEE | BWR | 52 | 309.1 | KG(FLAT) | 306.0 KG(DISH) | A-2 | 70/ 5 |
| DUANE ARNOLD | BWR | 56 | 309.1 | KG(FLAT) | 306.0 KG(DISH) | A-2 P2 | 70/ 7 |
| TURKEY POINT-3,4 | PWR | 72 | (653.5 KG) * 157 = | 102.6 | TDN | BK80-4 P3 | 71/ 9 |
| H.B.ROBINSON-2 | PWR | 73 | (653.5 KG) * 157 = | 102.6 | TDN | BK80-4 P3 | 71/ 9 |
| SURRY-1,-2 | PWR | 74 | (653.5 KG) * 157 = | 102.6 | TDN | BK80-4 P3 | 71/ 9 |
| BEAVER VALLEY | PWR | 75 | (646.4 KG) * 157 = | 101.48 | TDN | BK80-4 P3 | 71/ 9 |
| NORTH ANNA-12 | PWR | 76 | (646.4 KG) * 157 = | 101.48 | TDN | BK80-4 P4 | 71/ 9 |
| JOSEPH M.FARLEY | PWR | 77 | (646.4 KG) * 157 = | 101.48 | TDN | BK80-4 P4 | 71/ 9 |

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| THERMAL CONDUCTIVITY | OF | UO-2 | 732300 | | |
|--|-----|------|---|----------|-------|
| (1) THERMAL CONDUCTIVITY EQUATION OF UO-2 | | | | | |
| EQ1=(38.24/(T(K)+129.4))+6.13E-13*(T(K)**3) W/CM/C | | | | | |
| EQ2=(1./(11.8+0.0238*(T(C))))+8.775E-13*(T(C)**3) W/CM/C | | | | | |
| JPDR-1 | BWR | 1 | K(W/CM.C)=(30.0/(T(K)+10.0))*(R/RD)+2.55E-12*(T**3) | BATES | / |
| JPDR-1 | BWR | 1 | WHERE (R/RD)=PERCENT OF T.D | | / |
| JPDR-2 | BWR | 2 | K(W/CM.C)=(38.2/(T(K)+129.0))+4.79E-13*(T**3) | LYONS | / |
| TSURUGA | BWR | 3 | EQ1 | 8-3-(6) | 75/ 1 |
| DNAGAWA | BWR | 4 | EQ1 | 8-3-(5) | 70/ 5 |
| HANADKA-1 | BWR | 5 | EQ1 | | 70/ 5 |
| FUKUSIMA-2,3 | BWR | 7 | K(W/CM.C)=(38.24/(T(K)+129.4))+6.1256E-13*(T(K)**3) | F2N1 P10 | 71/ 2 |
| SHIWANE | BWR | 8 | EQ1 | | / |
| FUKUSIMA-5 | BWR | 9 | EQ1 | 8-3-(5) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | EQ1 | 8-3-(5) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | EQ1 | 8-3-(5) | 72/ 1 |
| TOOKAI-2 | BWR | 12 | EQ1 | 8-3-(5) | 72/ 1 |
| HANADKA-2 | BWR | 13 | EQ1 | 8-11 | 72/ 9 |
| KASHIWAZAKI | BWR | 15 | EQ1 | 8-3-9 | 75/ 3 |
| MIHAMA-1 | PWR | 21 | K(W/CM.C)=(40.4/(T(C)+464.0))+1.32E-4*EXP(1.88E-3*T(C)) | | / |
| MIHAMA-1 | PWR | 21 | WHERE T(C)= 0 TO 1650 | | / |
| MIHAMA-1 | PWR | 21 | K(W/CM.C)=0.019+1.32E-4*EXP(1.88-3*T(C)) | | / |
| MIHAMA-1 | PWR | 21 | WHERE T(C)=1650 TO 2800 | | / |
| MIHAMA-2 | PWR | 22 | SEE MIHAMA-1 | | / |
| TAKAHAMA-2 | PWR | 23 | SEE MIHAMA-1 | | / |
| GENKAI-1 | PWR | 24 | SEE MIHAMA-1 | | / |
| OOI-1,2 | PWR | 26 | SEE MIHAMA-1 | | 71/ 2 |
| OOI-1,2 | PWR | 26 | EQ2 | 8-14-56 | 75/ 5 |
| IKATA-1 | PWR | 28 | 4*(PI)*INTEG. KDT(753C TO 2800C) = 717 W/CM | 8-21 | 72/11 |
| IKATA-1 | PWR | 28 | 4*(PI)*INTEG. KDT(TO 2800C) = 691 W/CM (112DP) | 8-21 | 72/11 |

| THERMAL CONDUCTIVITY | OF | ZRY | 732320 | | |
|----------------------|-----|-----|--|-------------|-------|
| JPDR-1 | BWR | 1 | K(KCAL/M.HR.C)= 11 | | / |
| JPDR-2 | BWR | 2 | K(KCAL/M.HR.C)= 11 | | / |
| DNAGAWA | BWR | 4 | K(KCAL/M.HR.C)= 13.6 | 68BUKAI A-5 | 70/ 7 |
| FUKUSIMA-2,3 | BWR | 7 | K(KCAL/M.HR.C)= FROM 13.0 TO 14.4 | F2N1 P10 | 71/ 2 |
| GENKAI-1 | PWR | 24 | K(KCAL/M.HR.C.)= 12.009+0.00846T(C) | 6783-5 | 70/10 |
| OOI-1,2 | PWR | 26 | (RTU/FT.HR.F)=7.97+0.00316T(F) | | 71/ 2 |
| OOI-1,2 | PWR | 26 | K(RTU/FT.HR.F)=7.97+0.00316T(F) | | 71/ 2 |
| FUGEN | ATR | 81 | K(KCAL/M.HR.C)= 1.72 (CRUD) | 105-5 P9 | 73/12 |
| FUGEN | ATR | 81 | K(KCAL/M.HR.C)= 1.204 (OXIDE) | 105-5 P9 | 73/12 |
| FUGEN | ATR | 81 | K(W/CM.#)=0.016(7.23+2.41E-3*T(C))+1.3E-6(T(C)**2) | 105-5 P9 | 73/12 |

| FISSION | PRODUCT | GENERATE RATIO | GAS FP | PRESSURE | 732340 | | |
|--------------|---------|----------------|-----------------------|---|----------|-------------|-------|
| | | | FP GAS GENERATE RATIO | RELEASE RATE | PRESSURE | | |
| | | | GRAM MOLES / MWD | VS TEMP. | KG/SQCM | | |
| DNAGAWA | BWR | 4 | 1.35 E-3 | LE 4. P.C AT(CLE 1650.DEG C) | 120. | 8-3-(5) | 70/ 5 |
| DNAGAWA | BWR | 4 | | 100. P.C AT(CLE 1650.DEG C) | (AT FDL) | 8-3-(5) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 1.35 E-3 | SAME AS DNAGAWA | 120. | 8-13 | 70/ 5 |
| FUKUSIMA-2,3 | BWR | 7 | 1.35 E-3 | LE 4. P.C AT(CLE 1650.DEG C) | | F2N1 P12 | 71/ 2 |
| FUKUSIMA-2,3 | BWR | 7 | | 100. P.C AT(CGT 1650.DEG C) | | F2N1 P12 | 71/ 2 |
| FUKUSIMA-2,3 | BWR | 7 | | RELEASE RATE= 18 P.C AT 607 W/CM (TEIKAKU) | | F2N1 P12 | 71/ 2 |
| FUKUSIMA-2,3 | BWR | 7 | | RELEASE RATE= 30 P.C AT 705 W/CM (16 PC OVER POWER) | | F2N1 P12 | 71/ 2 |
| SHIMANE | BWR | 8 | 1.35 E-3 | LE 4. P.C AT(CLE 1650.DEG C) | 120. | 8-3-(9) 7*7 | 75/ 7 |
| SHIMANE | BWR | 8 | 1.35 E-3 | LE 4. P.C AT(CLE 1650.DEG C) | 70. | 8-3-(9) 8*8 | 75/ 7 |
| SHIMANE | BWR | 8 | | 100. P.C AT(CGT 1650.DEG C) | (AT FDL) | 8-3-(9) | 75/ 7 |
| FUKUSIMA-5 | BWR | 9 | 1.35 E-3 | LE 4. P.C AT(CLE 1650.DEG C) | ASSUME | 8-3-(5) | 71/ 2 |
| FUKUSIMA-5 | BWR | 9 | | 100. P.C AT(CGT 1650.DEG C) | ASSUME | 8-3-(5) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 1.35 E-3 | 4. P.C AT(CLE 1650.DEG C) | 118. | 8-3-(5) | 71/ 8 |
| FUKUSIMA-4 | BWR | 10 | | 100. P.C AT(CGT 1650.DEG C) | (AT FDL) | 8-3-(5) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 1.35 E-3 | LE 4. P.C AT(CLE 1650.DEG C) | 118. | 8-3-(5) | 72/ 1 |
| FUKUSIMA-6 | BWR | 11 | | 100. P.C AT(CGT 1650.DEG C) | (AT FDL) | 8-3-(5) | 72/ 1 |
| TOKAI-2 | BWR | 12 | 1.35 E-3 | LE 4. P.C AT(CLE 1650.DEG C) | 118 | 8-3-(5) | 72/ 1 |
| TOKAI-2 | BWR | 12 | | 100. P.C AT(CGT 1650.DEG C) | (AT FDL) | 8-3-(5) | 72/ 1 |
| HAMAOKA-2 | BWR | 13 | 1.35 E-3 | SAME AS HAMAOKA-1 | 120. | 8-11 | 72/ 9 |
| KASHIWAZAKI | BWR | 15 | 1.35 E-3 | LE 4. P.C AT(CLE 1650.DEG C) | 56. | 8-3-11 | 75/ 3 |
| KASHIWAZAKI | BWR | 15 | | 100. P.C AT(CGT 1650.DEG C) | (AT FDL) | 8-3-12 | 75/ 3 |

| THERMAL | EXPANSION | N OF | UD-2 | PELLET | 732350 | | |
|--------------|-----------|------|------|--|--------|----------|-------|
| FUKUSIMA-2,3 | BWR | 7 | | PERCENT DELTA(L)/L=(2.9E-7)*T**2+(5.8E-9)*T-(4.1E-9) | | F2N1 P12 | 71/ 2 |
| FUKUSIMA-2,3 | BWR | 7 | | WHERE T=DEG C | | F2N1 P12 | 71/ 2 |
| FUGEN | ATR | 81 | | ALPHA(UO2)=9.61E-6*(1+1.57E-3*T(C)) (AECL-2143) | | 105-5 P9 | 73/12 |

| THERMAL | EXPANSION | N OF | ZRY | CLADDING | 732360 | | |
|---------|-----------|------|-----|--|--------|----------|-------|
| OUI-1,2 | PWR | 26 | | ALPHA/F=1.937E(-6) + 2.183E(-9)*T(F) | ZRY-4 | | 71/ 2 |
| FUGEN | ATR | 81 | | ALPHACLAD=5.675E-6*(1+1.7E-3*T(C)) (WAPD-2H-9) | | 105-5 P9 | 73/12 |

| UD-2 | PELLET | SOLID | FP | SWELLING RATE | 732380 | | |
|--------------|--------|-------|----|---|--------|-----------|-------|
| FUKUSIMA-2,3 | BWR | 7 | | 0.35 PERCENT DELTA(V)/V /10**20 FISSIONS /CC | | F2N1 P12 | 71/ 2 |
| FUGEN | ATR | 81 | | INITIAL =0.16 PERCENT DELTA(V)/V /10** FISSIONS /CC | | 105-5 P10 | 73/12 |
| FUGEN | ATR | 81 | | FINAL =0.70 PERCENT DELTA(V)/V /10** FISSIONS /CC | | 105-5 P10 | 73/12 |

| FUEL | UD-2 | PELLET | SIZE | DIA AND LENGTH | 732400 | | |
|---|------|--------|--------------|-----------------|-------------------|---------|------------------------|
| (1)PELLET DIA (2)PELLET LENGTH NOM=NOMINAL LENGTH MIN=MINIMUM LENGTH MAX=MAXIMUM LENGTH (3)PELLET MATERIAL *1=SINTERED PELLET (4)DENSITY P.C.T.D=PER CENT THEORETICAL DENSITY *2=UO-2 + G02-D3 *3=URANIA + GADOLINIA *4=1.SP.C.UO2 + NATUNAL U + + NOM.0.8P.C.PUO2 (BOTH SIDES DISHED PELLET) | | | | | | | |
| | | | | | | (1) | (2) |
| | | | | | | MM. | NOM. MIN. MAX. P.C.T.D |
| JPOR-1 | BWR | 1 | 12.5 | | | UD-2 | 95 |
| JPOR-2 | BWR | 2 | 10.66 | | | UD-2 | 95 |
| TSURUGA | BWR | 3 | 12.4 | 22.4 | 18.6 24.8 | UD-2 | 92-97 |
| DNAGAWA | BWR | 4 | 12.4 | | 18.6 24.8 | UD-2 | 94 |
| HAMAOKA-1 | BWR | 5 | 12.4 | | | UD-2 | 94 |
| HAMAOKA-1 | BWR | 5 | 12.4 | | 18.6 24.8 | UD-2 | 94 *2 |
| FUKUSIMA-1 | BWR | 6 | 12.4 | | 18.6 24.8 | UD-2 | |
| FUKUSIMA-1 | BWR | 6 | 10.6 | 11.0(ABOUT) | | UD-2 | *1 95 |
| FUKUSIMA-2,3 | BWR | 7 | 12.4 | | | UD-2 | 93 |
| FUKUSIMA-2,3 | BWR | 7 | 12.4 | | 18.6 24.8 | UD-2 | 93 *2 |
| FUKUSIMA-2,3 | BWR | 7 | 12.37 | | | UD-2 | 91-97 |
| FUKUSIMA-2,3 | BWR | 7 | (+0.03) | | | | |
| SHIMANE | BWR | 8 | 12.4 | | 2.2 (7*7 INITIAL) | UD-2 | 94 |
| SHIMANE | BWR | 8 | 12.1 | | 1.3 (7*7 TOKIKAE) | UD-2 | 95 *2 |
| SHIMANE | BWR | 8 | 10.6 | | 1.1 (8*8) | UD-2 | 95 *2 |
| FUKUSIMA-5 | BWR | 9 | 12.4 | | 18.6 24.8 | UD-2 | 93 *3 |
| FUKUSIMA-6 | BWR | 10 | 12.4 | | 18.6 24.8 | UD-2 | 93 *3 |
| FUKUSIMA-6 | BWR | 11 | 10.6 | | 10. 15. | UD-2 | 95 |
| TOKAI-2 | BWR | 12 | 12.4 | | 18.6 24.8 | UD-2 | 93 *2 |
| HAMAOKA-2 | BWR | 13 | 12.1 | 13.0 | | UD-2 | 94 |
| KASHIWAZAKI | BWR | 15 | 10.6 | 10. 15. | | UD-2 *2 | 95 |
| MIHAMA-1 | PWR | 21 | 9.32 | 15.3/1ST-REGION | | UD-2 *1 | 94.92/1ST,2ND |
| MIHAMA-1 | PWR | 21 | 9.319*15.24H | | | | |
| MIHAMA-1 | PWR | 21 | 9.29 | 10.8/2,3-REGION | | UD-2 *1 | 91 /3RD |
| MIHAMA-2 | PWR | 22 | 9.319 | 15.24 | | UD-2 *1 | 94.93 |
| TAKAHAMA-2 | PWR | 23 | 9.32 | 15.2 | | UD-2 *1 | 94.93 |
| GENKAI-1 | PWR | 24 | 9.319 | 15.24 | | UD-2 | 93 |
| TAKAHAMA-1 | PWR | 25 | 9.319 | 15.24 | | UD-2 *1 | 94.93 |
| TAKAHAMA-1 | PWR | 25 | 9.294 | | | | |
| OUI-1,2 | PWR | 26 | 9.29 | 15.2 | | UD-2 | 93 |
| OUI-1,2 | PWR | 26 | 8.2 | 13.5 | | UD-2 | 95 |
| MIHAMA-3 | PWR | 27 | 9.32 | 15.2 | | UD-2 | 93 |
| IKATA-1 | PWR | 28 | 9.32 | 15.2 | | UD-2 | 93 |
| IKATA-2 | PWR | 30 | 9.29 | 15.2 | | UD-2 *1 | 95. |
| SENDAI | PWR | 31 | 8.19 | 13.5 | | UD-2 | 95. |
| VERMONT YANKEE | BWR | 52 | 12.4 | 12.7 | | UD-2 | 94 |

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| FUEL | UO-2 | PELLET | SIZE | DIA AND LENGTH | | 732400 | (1) MM. | (2) | | | (3) | (4) P.C.T.D | | |
|-----------------|------|--------|------|----------------|-----------|------------|------------|-------|--|--|---------|----------------|------------|-------|
| | | | | NDM. | MIN. | | | MAX. | | | | | | |
| BROWNS FERRY | HWR | 53 | | 12.3952 | | | | 17.78 | | | UO-2 | 93.25 | GSK-19 | 69/ 2 |
| MILLSTON | BWR | 54 | | 12.4 | | | | | | | UO-2 | | R-9 | 66/ 8 |
| DRESDEN-1 | HWR | 55 | | 12.548 | 12.7 | | | | | | UO-2 *1 | | DNR V4 P94 | 62/ |
| DRESDEN-2 | HWR | 56 | | 12.4 | 19.05 | | | | | | UO-2 | | R-9 | 66/ 8 |
| OYSTER CREEK | HWR | 57 | | 12.4 | 19.05 | | | | | | UO-2 | | R-9 | 66/ 8 |
| DUANE ARNOLD | BWR | 58 | | 12.4 | 12.7 | | | | | | UO-2 | 94 | A-2 P2 | 70/ 7 |
| YANKEE | | 69 | | 7.468 | 15.24/150 | PELLET/ROD | | | | | UO-2 *1 | | DNR V4 P36 | 61/ |
| SAXTON | | 70 | | 9.068 | 18.59 | | | | | | UO-2 *1 | | DNR V4 P50 | 61/ |
| BURLINGTON | PWR | 71 | | 9.3193 | 15.24 | | | | | | UO-2 | 93-94 | GSK-19 | 69/ 2 |
| TURKEY POINT-3 | 4PWR | 72 | | 9.319 | 15.24 | | | | | | UO-2 *1 | 94,92,91 | BK80-4 P3 | 71/ 9 |
| H.B.ROBINSON-2 | PWR | 73 | | 9.319 | 15.24 | | | | | | UO-2 *1 | 94,92,91 | BK80-4 P3 | 71/ 9 |
| SURRY-1,-2 | PWR | 74 | | 9.319 | 15.24 | | | | | | UO-2 *1 | 94,92,91 | BK80-4 P3 | 71/ 9 |
| BEAVER VALLEY | PWR | 75 | | 9.319 | 15.24 | | | | | | UO-2 *1 | 94,92,91 | BK80-4 P3 | 71/ 9 |
| NORTH ANNA-12 | PWR | 76 | | 9.319 | 15.24 | | | | | | UO-2 *1 | 94,92,91 | BK80-4 P3 | 71/ 9 |
| FUGEN | ATR | 81 | | 20. | | | | | | | | 10.41 G/MM3 *4 | 105-8-(3) | 73/11 |
| JOSEPH M.FARLEY | PWR | 77 | | 9.319 | 15.24 | | | | | | | | BK80-4 P3 | 71/ 9 |

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| FUEL ROD CLADDING MATERIAL THICK. | D.O. | DIA.GAP | 732440 | | (4) GAP | (5) TYPE | | |
|-----------------------------------|------|---------|---|------------------------|------------|-------------------|---------------|---------|
| | | | (1) MATERIAL | (2) CLADDING THICKNESS | | | | |
| | | | Z2=ZRY-2 | MM. | MM. | MM. | | |
| | | | Z4=ZRY-4 | | | | | |
| | | | Z =ZRY | | | | | |
| | | | S4=30ASS | | | | | |
| | | | S8=348SS | | | | | |
| | | | (5) TYPE | | | | | |
| | | | REF.1=REACTOR TECHNOLOGY VOL.14-1 1971 P82 | | | | | |
| | | | REF.2=GENSHIRYOKU SHIRYOKU NO.19(1969.2) | | | | | |
| | | | *1=A TOTAL OF 109 RODS WITH 449MIL DIA, 12 CORNER RODS WITH 344MIL DIA. | | | | | |
| | | | *2=DRESDEN NUCLEAR PLANT-1 | | | | | |
| | | | *3=GARIGLIANO (SENN) | | | | | |
| | | | *4=HUMBOLDT BAY | | | | | |
| | | | *5=NUCLEAR POWER DEMONSTRATION REACTOR IN CANADA | | | | | |
| | | | 1)=ANNEALED | | | | | |
| | | | 2)=COLD WORKED | | | | | |
| | | | 3)=IN ITALY | | | | | |
| | | | 4)=IN BELGIUM | | | | | |
| | | | 5)=HEAVY-WATER COMPONENTS TEST REACTOR AT SOUTH CAROLINA | | | | | |
| | | | 6)=CURRENT BWR | | | | | |
| | | | 7)=MAX. | | | | | |
| | | | 8)=MIN. | | | | | |
| | | | 9)=HEAVY-WATER COMPONENTS TEST REACTOR AT SOUTH CAROLINA | | | | | |
| | | | 10)=CAROLINAS VIRGINIA TUBE REACTOR AT SOUTH CAROLINA | | | | | |
| | | | (1) MAT | (2) T | (3) OD | (4) GAP | (5) TYPE | |
| | | | MM. | MM. | MM. | MM. | | |
| JPDR-1 | BWR | 1 | Z2 | 0.76 | 14.14 | 0.12 | | 70/ 8 |
| JPDR-2 | BWR | 2 | Z2 | 0.7 | 12.23 | 0.17 | | 70/ 8 |
| TSURUGA | BWR | 3 | Z2 | 0.902 | 14.5 | 0.28 (INITIAL) | 8-3-(4) | 75/ 1 |
| TSURUGA | BWR | 3 | Z2 | 0.81 | 14.3 | 0.31 (1+2BATCH) | 8-3-(4) | 75/ 1 |
| TSURUGA | BWR | 3 | Z2 | 0.94 | 14.3 | 0.31 (3+4+5) | 8-3-(4) | 75/ 1 |
| TSURUGA | BWR | 3 | Z2 | 0.86 | 12.5 | 0.23 (8*8,6) | 8-3-(4) | 75/ 1 |
| ONAGAWA | BWR | 4 | Z2 | 0.81 | 14.3 | 0.31 | 8-3-(5) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | Z2 | 0.81 | 14.3 | 0.31 | 8-13 | 70/ 5 |
| FUKUSIMA-1 | BWR | 6 | (+7.5PC) | | | (+0.076) (+-0.05) | MEMO P18 | 70/ 3 |
| FUKUSIMA-1 | BWR | 6 | Z2 | 0.902 | 14.5 | 0.28 ID=12.67 | MEMO P17 | 70/ 3 |
| FUKUSIMA-1 | BWR | 6 | Z2 | 0.86 | 12.5 | 0.23 | BWR/6 | 74/11 |
| FUKUSIMA-2,3 | BWR | 7 | Z2 | 0.81 | 14.3 | 0.28 | 82-2-3 P8 | 70/ 8 |
| FUKUSIMA-2,3 | BWR | 7 | Z2 (+-0.08) | | 14.3 | 0.31 | F2N1 P8 | 71/ 2 |
| SHINANE | BWR | 8 | Z2 | 0.90 | 14.5 | 0.28 | (7*7 INITIAL) | 8-3-(5) |
| SHINANE | BWR | 8 | Z2 | 0.94 | 14.3 | 0.30 | (7*7 TORIKAE) | 8-3-(5) |
| SHINANE | BWR | 8 | Z2 | 0.86 | 12.5 | 0.23 | (8*8 BWR/6) | 8-3-(5) |
| FUKUSIMA-5 | BWR | 9 | Z2 | 0.81 | 14.3 | 0.28 | 8-3-(6) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | Z2 | 0.81 | 14.3 | 0.28 | 8-3-(6) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | Z2 | 0.86 | 12.5 | 0.23 | 8-1-(6) | 74/ 9 |
| TOOKAI-2 | BWR | 12 | Z2 | 0.81 | 14.3 | 0.31 | 8-3-(5) | 72/ 1 |
| HAMAOKA-2 | BWR | 13 | Z2 | 0.94 | 14.3 | 0.31 | 8-12 | 72/ 9 |
| KASHINAZAKI | BWR | 15 | Z2 | 0.86 | 12.5 | 0.23 | 8-3-77 | 75/ 3 |
| MIHAMA-1 | PWR | 21 | Z4 | 0.617 | 10.718 | 0.165 | 8-15 | 66/11 |
| MIHAMA-1 | PWR | 21 | Z4 | 0.617 | 10.72 | 0.02032 | | / |
| MIHAMA-2 | PWR | 22 | | | 10.72 | | 6783-5 | 70/10 |
| TAKAHAMA-2 | PWR | 23 | Z4 | 0.617 | 10.72 | 0.165 | 8-16 | 70/ 5 |
| GENKAI-1 | PWR | 24 | Z4 | 0.617 | 10.718 | 0.165 | 8-17 | 70/ 5 |
| TAKAHAMA-1 | PWR | 25 | | | 10.72 | | 6783-5 | 70/10 |
| DDI-1,2 | PWR | 26 | Z4 | 0.617 | 10.72 | 0.196 | 8-16 | 71/ 1 |
| DDI-1,2 | PWR | 26 | Z4 | 0.57 | 9.5 | 0.17 | 8-3,2-13 | 75/ 5 |

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FUEL ROD CLADDING MATERIAL THICK. O.D. DIA.GAP 732440

| | | (1) MAT | (2) T MM. | (3) OD MM. | (4) GAP MM. | (5) TYPE | | | |
|-----------------|------|------------|-----------------|------------------|-------------------|-------------|---------|--------------|---------------|
| MIHAMA-3 | PWR | 27 | Z4 | 0.62 | 10.72 | 0.16 | | 8-16 | 71/ 8 |
| IKATA-1 | PWR | 28 | Z4 | 0.62 | 10.72 | 0.16 | | 8-19 | 72/11 |
| IKATA-2 | PWR | 30 | Z4 | 0.62 | 10.72 | 0.19 | (14*14) | 8-3-39 | 75/ 5 |
| SENDAI | PWR | 31 | Z4 | 0.6 | 9.5 | 0.17 | (17*17) | 8-3-45 | 76/ 5 |
| VERMONT YANKEE | BWR | 52 | Z2 | 0.81 | 14.3 | 0.31 | | A-2 | 70/ 5 |
| BROWNS FERRY | BWR | 53 | Z2 | 0.81 | 10.718 | | | GSK-19 P4 | 69/ 2 |
| MILLSTON | BWR | 54 | Z2 | 0.902 | 14.49 | 0.28 | | R-9 | 66/ 8 |
| DRESDEN-1 | BWR | 55 | Z | 0.762 | 14.40 | 0.0762 | TP1 | *2 REF.1 | / |
| DRESDEN-1 | BWR | 55 | Z | 0.889 | 14.217 | 0.191 | TP3R | *2 REF.1 | / |
| DRESDEN-1 | BWR | 55 | Z | 0.889 | 14.333 | 0.254 | TP3F | *2 REF.1 | / |
| DRESDEN-1 | BWR | 55 | Z | 0.889 | 14.333 | 0.254 | TP5 | *2 REF.1 | / |
| DRESDEN-1 | BWR | 55 | Z2 | 0.762 | 14.478 | | | DNR V4 P94 | 62/ |
| DRESDEN-2 | BWR | 56 | Z2 | 0.902 | 14.49 | 0.28 | | R-9 | 66/ 8 |
| DRESDEN-2 | BWR | 56 | Z2 | 0.914 | | | | DNR V7 P192 | 68/ |
| OYSTER CREEK | BWR | 57 | Z2 | 0.902 | 14.49 | 0.28 | | R-9 | 66/ 8 |
| DUANE ARNOLD | BWR | 58 | Z2 | 0.81 | 14.3 | 0.31 | | A-2 P2 | 70/ 7 |
| BURLINGTON | PWR | 71 | Z4 | 0.617 | 14.27 | | | GSK-19 P4 | 69/ 2 |
| TURKEY POINT-3 | PWR | 72 | Z4 | 0.617 | 10.718 | 0.165 | | BK80-4 P3 | 71/ 9 |
| H.B.ROBINSON-2 | PWR | 73 | Z4 | 0.617 | 10.718 | 0.165 | | BK80-4 P3 | 71/ 9 |
| SURRY-1.-2 | PWR | 74 | Z4 | 0.617 | 10.718 | 0.165 | | BK80-4 P3 | 71/ 9 |
| BEAVER VALLEY | PWR | 75 | Z4 | 0.617 | 10.718 | 0.165 | | BK80-4 P3 | 71/ 9 |
| NORTH ANNA-12 | PWR | 76 | Z4 | 0.617 | 10.718 | 0.165 | | BK80-4 P4 | 71/ 9 |
| JOSEPH M.FARLEY | PWR | 77 | Z4 | 0.617 | 10.718 | 0.165 | | BK80-4 P4 | 71/ 9 |
| FUGEN | ATR | 81 | Z2 | 0.84 | 16.46 | 0.31 | | 105-8-(3) | 73/11 |
| MONJU | FAST | 92 | | | 6.5 | | | GAKKAISI P43 | 72/ 5 |
| OTHERS | | -0 | Z | 0.762 | 13.564 | 0.127 | TP1 | *3 REF.1 | / |
| OTHERS | | -0 | Z | 0.94 | 15.062 | 0.279 | TP2 | *3 REF.1 | / |
| OTHERS | | -0 | Z | 0.838 | 14.453 | 0.127 | | KAHL | / |
| OTHERS | | -0 | Z | 0.838 | 12.344 | 0.254 | TP2 | *4 REF.1 | / |
| OTHERS | | -0 | Z | 0.813 | 14.300 | 0.279 | TP3 | *4 REF.1 | / |
| OTHERS | | -0 | Z | 0.889 | 14.333 | 0.254 | | KRH | REF.1 / |
| OTHERS | | -0 | Z | 0.864 | 11.405 | *1 0.203 | | BRP-B | *5 REF.1 / |
| OTHERS | | -0 | Z | 1.016 | 14.333 | 0.279 | | BRP-E | *5 REF.1 / |
| OTHERS | | -0 | Z | 1.016 | 14.333 | 0.279 | | BRP-EG | *5 REF.1 / |
| OTHERS | | -0 | Z | 0.889 | 14.333 | 0.267 | | TARAPUR | REF.1 / |
| OTHERS | | -0 | Z | 0.813 | 14.300 | 0.279 | | | *6 REF.1 / |
| OTHERS | | -0 | S8 | 0.533 | 8.636 | 0.102 | | YANKEE | (PWR) REF.2 / |
| OTHERS | | -0 | S41 | 0.889 | 12.70 | 0.178 | | SAVANNA | (PWR) REF.2 / |
| OTHERS | | -0 | S4 | 0.521 | 7.722 | 0.102 | | IND.P. | (PWR) REF.2 / |
| OTHERS | | -0 | S42 | 0.305 | 8.674 | 0.114 | | IND.P. | (PWR) REF.2 / |
| OTHERS | | -0 | S42 | 0.381 | 9.931 | 0.102 | | SAXTON | (PWR) REF.2 / |
| OTHERS | | -0 | S42 | 0.381 | 9.779 | 0.102 | | SELNI 3) | (PWR) REF.2 / |
| OTHERS | | -0 | S81 | 0.533 | 8.738 | 0.102 | | BR-3 4) | (PWR) REF.2 / |
| OTHERS | | -0 | Z2 | 0.635 | 25.4 | 0.152 | | NPD 5) | HWPWR REF.2 / |
| OTHERS | | -0 | Z2 | 0.381 6) | 15.240 | 0.076 | | NPD | HWPWR REF.2 / |
| OTHERS | | -0 | Z4 | 0.610 | 12.243 | 0.165 | | CVTR 10) | (PWR) REF.2 / |

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FUEL ROD CLADDING MATERIAL THICK. O.D. DIA.GAP 732440

| | | (1) MAT | (2) T MM. | (3) OD MM. | (4) GAP MM. | (5) TYPE | | | |
|--------|--|------------|-----------------|------------------|-------------------|-------------|--|-------------|---------------|
| OTHERS | | -0 | Z4 | 0.584 | 9.931 | 0.165 | | SAXTON | (PWR) REF.2 / |
| OTHERS | | -0 | Z2 | 0.559 | 10.439 | 0.203 | | SHIP.PORT | (PWR) REF.2 / |
| OTHERS | | -0 | Z2 | 0.762 | 64.516 7) | | | HWCTR 9) | HWPWR REF.2 / |
| OTHERS | | -0 | Z4 | 0.432 8) | 12.243 | 0.198 | | CVTR | (PWR) REF.2 / |
| OTHERS | | -0 | Z4 | 0.584 | 9.931 | 0.165 | | SAXTON PU-U | (PWR) REF.2 / |

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| FUEL | ROD | EFFECT. | LENGTH | AND ASSY LENGTH | 732460 | | | | |
|------|----------------|---------|--------|-----------------|--------|------------------------------------|---------|--------------|-------|
| | | | | | | (1) FUEL ROD EFFECTIVE LENGTH | | | |
| | | | | | | (2) ROD LENGTH (INCLUDE END PLUGS) | | | |
| | | | | | | (3) ASSEMBLY TOTAL LENGTH | | | |
| | | | | | | (4) TYPE | | | |
| | | | | | | *1=REACTOR TECHNOLOGY 1971 | | | |
| | | | | | | *2=FUKUSIMA-1 S1RY00 | | | |
| | | | | | | (1) | (2) | (3) | (4) |
| | | | | | | MM. | MM. | MM. | |
| | JPDR-1 | BWR | 1 | 1467. | 1954. | | | | / |
| | JPDR-2 | BWR | 2 | 1467. | 1954. | | | | 70/11 |
| | TSURUGA | BWR | 3 | 3658. | | | | R-9 | 66/ 8 |
| | ONAGAWA | BWR | 4 | 3660. | 4466. | | | 8-3-(5) | 70/ 5 |
| | HAMAOKA-1 | BWR | 5 | 3660. | 4460. | | | 8-11 | 70/ 5 |
| | FUKUSIMA-1 | BWR | 6 | 3660. | 4350. | | | BWR/6 | 74/11 |
| | FUKUSIMA-1 | BWR | 6 | 3660. | | | | BWR/6 | 47/11 |
| | FUKUSIMA-2,3 | BWR | 7 | 3660. | 4467. | | | 82-2-2 | 70/ 8 |
| | FUKUSIMA-2,3 | BWR | 7 | 3657. | | | | F2N1 P8 | 71/ 2 |
| | SHIMANE | BWR | 8 | 3660. | 4350. | | | 8-3-(5) | 75/ 7 |
| | FUKUSIMA-5 | BWR | 9 | 3660. | 4460. | | | 8-3-(6) | 71/ 2 |
| | FUKUSIMA-5 | BWR | 9 | 3658. | 4467. | | | FIG 3,2-2 | 71/ 2 |
| | FUKUSIMA-4 | BWR | 10 | 3660. | 4460. | | | 8-3-(6) | 71/ 8 |
| | FUKUSIMA-6 | BWR | 11 | 3710. | 4460. | | | 8-1-(6) | 74/ 9 |
| | TODKAI-2 | BWR | 12 | 3660. | 4466. | | | 8-3-(6) | 72/ 1 |
| | TODKAI-2 | BWR | 12 | 3708. | 4467. | | | | 75/ 7 |
| | HAMAOKA-2 | BWR | 13 | 3660. | 4460. | | | 8-12 | 72/ 9 |
| | KASHIWARAZAKI | BWR | 15 | 3710. | 4460. | | | 8-3-77 | 75/ 3 |
| | MIHAMA-1 | PWR | 21 | 3048. | | 3214. | | HFF23 P121 | 70/11 |
| | MIHAMA-2 | PWR | 22 | 3660. | | | | 6783-5 | 70/10 |
| | TAKAHAMA-2 | PWR | 23 | 3660. | 3880. | 4170. | | 8-17 | 70/ 5 |
| | GENKAI-1 | PWR | 24 | 3660. | 3810. | 4170. | | 8-18 | 70/10 |
| | TAKAHAMA-1 | PWR | 25 | 3660. | | | | 6783-5 | 70/10 |
| | DDI-1,2 | PWR | 26 | 3660. | 3860. | 4070. | | 8-17 | 71/ 1 |
| | DDI-1,2 | PWR | 26 | 3900. | | 4100.(EXCL. NOZZLE SPRING) | | 8-3,2-13 | 75/ 5 |
| | MIHAMA-3 | PWR | 27 | 3660. | 3800. | 4170. | | 8-17 | 71/ 8 |
| | IKATA-1 | PWR | 28 | 3660. | 3800. | 4170. | | 8-20 | 72/11 |
| | IKATA-2 | PWR | 30 | 3660. | 3860. | 4060. | | 8-3-39 | 75/ 5 |
| | SENDAI | PWR | 31 | 3660. | 3900. | 4100. | | 8-3-46 | 76/ 5 |
| | VERMONT YANKEE | BWR | 52 | | | 4466. | | A-2 | 70/ 5 |
| | BROWNS FERRY | BWR | 53 | 3658. | | | | GSK-19 | 69/ 2 |
| | MILLSTON | BWR | 54 | 3658. | | | | R-9 | 66/ 8 |
| | DRESDEN-1 | BWR | 55 | 2769. | | | DRESDEN | TP38*1 | / |
| | DRESDEN-1 | BWR | 55 | 2705. | | | DRESDEN | TP1 *1 | / |
| | DRESDEN-1 | BWR | 55 | 2750. | | | DRESDEN | TP3F*1 | / |
| | DRESDEN-1 | BWR | 55 | 2750. | | | DRESDEN | TP5 *1 | / |
| | DRESDEN-1 | HWR | 55 | 2692.4 | 2971.8 | 3403.6 | | VOL.14-1 P82 | / |
| | DRESDEN-1 | HWR | 55 | (4SEG./ROD) | | | | DNR V4 P94 | 62/ |
| | DRESDEN-2 | BWR | 56 | 3658. | | | | / | / |
| | OYSTER CREEK | BWR | 57 | 3658. | | | | R-9 | 66/ 8 |
| | YANKEE | | 69 | | 2336.8 | 2825.8 | | R-9 | 66/ 8 |
| | | | | | | | | DNR V4 P36 | 61/ |

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| FUEL | ROD | EFFECT. | LENGTH | AND ASSY LENGTH | 732460 | | | | | |
|------|------------|---------|--------|-----------------|--------|-----|-----|-----|--------------|-------|
| | | | | | | (1) | (2) | (3) | (4) | |
| | | | | | | MM. | MM. | MM. | | |
| | SAXTON | | 70 | 914.4 | | | | | DNR V4 P50 | 61/ |
| | HURLINGTON | PWR | 71 | 3658. | | | | | GSK-19 | 69/ 2 |
| | FUGEN | ATR | 81 | 3700. | 4100. | | | | 105-8-(3) | 73/11 |
| | OTHERS | | -0 | 2685. | | | | | VOL.14-1 P82 | / |
| | OTHERS | | -0 | 2718. | | | | | VOL.14-1 P82 | / |
| | OTHERS | | -0 | 2604. | | | | | MEMO P6 | 70/ 3 |
| | OTHERS | | -0 | 1519. | | | | | VOL.14-1 P82 | / |
| | OTHERS | | -0 | 2007. | | | | | VOL.14-1 P82 | / |
| | OTHERS | | -0 | 2007. | | | | | VOL.14-1 P82 | / |
| | OTHERS | | -0 | 1969. | | | | | MEMO P6 | 70/ 3 |
| | OTHERS | | -0 | 3302. | | | | | VOL.14-1 P82 | / |
| | OTHERS | | -0 | 1778. | | | | | VOL.14-1 P82 | / |
| | OTHERS | | -0 | 1778. | | | | | VOL.14-1 P82 | / |
| | OTHERS | | -0 | 1718. | | | | | MEMO P6 | 70/ 3 |
| | OTHERS | | -0 | 1778. | | | | | VOL.14-1 P82 | / |
| | OTHERS | | -0 | 3658. | | | | | VOL.14-1 P82 | / |
| | OTHERS | | -0 | 3658. | | | | | VOL.14-1 P82 | / |

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FUEL ROD NO. PER ASSY AND ROD PITCH ARRANGE 732480

| | | (1) FUEL ROD NUMBER | | | | | |
|----------------|-----|-------------------------------------|-------|-----------|------------|---------------------|--------------------|
| | | (2) RODS NUMBER PER ASSEMBLY | | | | | |
| | | *1)=SEGMENTS NUMBER PER ASSEMBLY | | | | | |
| | | *2)=RODS NUMBER PER TYPE A ASSEMBLY | | | | | |
| | | *3)=RODS NUMBER PER TYPE B ASSEMBLY | | | | | |
| | | *4)=RODS NUMBER PER STANDARD | | | | | |
| | | *5)=RODS NUMBER PER L-SHAPED | | | | | |
| | | *6)=PINS NUMBER PER ASSEMBLY | | | | | |
| | | (3) ROD PITCH | | | | | |
| | | (4) RODS NUMBER PER CORE | | | | | |
| | | (1) | (2) | (3) | (4) | | |
| | | MM. | | | | | |
| JPOR-1 | BWR | 1 | 6*6 | 72 | *1) 19.56 | (3024/2.7)(504/2.0) | / |
| JPOR-2 | BWR | 2 | 7*7 | 49 | 16.6 | (3024/2.7) | / |
| TSURUGA | BWR | 3 | 7*7 | 49 | | | / |
| TSURUGA | BWR | 3 | 8*8 | 63 | 16.3 | (6TH-BATCH) | 8-3-(12) 75/ 1 |
| ONAGAWA | BWR | 4 | 7*7 | 49 | 18.8 | | 8-14-(5) 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 7*7 | 49 | | | 70/ 5 |
| FUKUSIMA-1 | BWR | 6 | 7*7 | 49 | | | / |
| FUKUSIMA-1 | BWR | 6 | 8*8 | 63 | 16.3 | | BWR/6 74/11 |
| FUKUSIMA-2,3 | BWR | 7 | 7*7 | 49 | 18.75 | | F2N1 P9 71/ 2 |
| SHIWANE | BWR | 8 | 7*7 | 49 | | | / |
| SHIWANE | BWR | 8 | 8*8 | 63 | 16.3 | | 8-3-(5),(13) 75/ 7 |
| FUKUSIMA-5 | BWR | 9 | 7*7 | 49 | | | 8-3-(6) 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 7*7 | 49 | | | 8-3-(6) 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 8*8 | 63 | | | 8-1-(4) 74/ 9 |
| TOOKAI-2 | BWR | 12 | 7*7 | 49 | | | 8-3-(4) 72/ 1 |
| TOOKAI-2 | BWR | 12 | 8*8 | 63 | | | 75/ 7 |
| HAMAOKA-2 | BWR | 13 | 7*7 | 49 | | | 8-10 72/ 9 |
| KASHIWAZAKI | BWR | 15 | 8*8 | 63 | 16.256 | 48132 | 8-3-16 75/ 3 |
| MIHAMA-1 | PWR | 21 | 14*14 | 179 | 14.1 | 21659 | BK80-4 P4 71/ 9 |
| MIHAMA-2 | PWR | 22 | 14*14 | 179 | 14.1 | 21659 | 6783-5 70/10 |
| TAKAHAMA-2 | PWR | 23 | 15*15 | 204 | 14.3 | 32028 | 8-17 70/ 5 |
| GENKAI-1 | PWR | 24 | 14*14 | 179 | 14.1 | 21659 | 8-18 70/ 5 |
| TAKAHAMA-1 | PWR | 25 | 15*15 | 204 | | 32028 | 6783-5 70/10 |
| DDI-1,2 | PWR | 26 | 15*15 | 204 | 14.3 | 39372 | 8-17 71/ 1 |
| DDI-1,2 | PWR | 26 | 17*17 | 264 | 12.6 | 50952 | 8-3-2-13 75/ 5 |
| MIHAMA-3 | PWR | 27 | 15*15 | 204 | 14.3 | 32028 | 8-17 71/ 8 |
| IKATA-1 | PWR | 28 | 14*14 | 179 | 14.1 | 21659 | 8-20 72/11 |
| IKATA-2 | PWR | 30 | 14*14 | 179 | 14.1 | 21659 | 8-3-41 75/ 5 |
| SENDAI | PWR | 31 | 17*17 | 264 | 12.6 | 41448 | 8-3-46 76/ 5 |
| VERMONT YANKEE | BWR | 52 | 7*7 | 49 | | | A-2 / |
| BROWNS FERRY | BWR | 53 | 7*7 | 49 | 18.745 | | GSK-19 69/ 2 |
| MILLSTON | BWR | 54 | 7*7 | 49 | | | / |
| DRESDEN-1 | BWR | 55 | 6*6 | 4* 36 | *1) 18.034 | | DNR V4 P94 62/ / |
| DRESDEN-2 | BWR | 56 | 7*7 | 49 | | | / |
| DYSTER CREEK | BWR | 57 | 7*7 | 49 | | | / |
| DUANE ARNOLD | BWR | 58 | 7*7 | 49 | | | A-2 P2 70/ 7 |
| YANKEE | 69 | 18*18 | 305 | *2) 11.53 | 23142 | | DNR V4 P36 61/ |
| YANKEE | 69 | 18*18 | 304 | *3) | | | DNR V4 P36 61/ |

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FUEL ROD NO. PER ASSY AND ROD PITCH ARRANGE 732480

| | | (1) | (2) | (3) | (4) | | |
|------------------|------|-------|-------|--------|---------|--------------------|------------------|
| | | MM. | | | | | |
| SAXTON | 70 | | | 14.732 | 1953 | DNR V4 P48 | 61/ |
| SAXTON | 70 | 9*9-9 | 72 | *4) | | DNR V4 P50 | 61/ |
| SAXTON | 70 | | 9 | *5) | | DNR V4 P50 | 61/ |
| BURLINGTON | PWR | 71 | 15*15 | 204 | 14.3 | GSK-19 | 69/ 2 |
| TURKEY POINT-3,4 | PWR | 72 | 15*15 | 204 | 14.3 | BK80-4 P3 | 71/ 9 |
| H.B.ROBINSON-2 | PWR | 73 | 15*15 | 204 | 14.3 | BK80-4 P3 | 71/ 9 |
| SURRY-1,2 | PWR | 74 | 15*15 | 204 | 14.3 | BK80-4 P3 | 71/ 9 |
| BEAVER VALLEY | PWR | 75 | 15*15 | 204 | 14.3 | BK80-4 P3 | 71/ 9 |
| NORTH ANNA-12 | PWR | 76 | 15*15 | 204 | 14.3 | BK80-4 P4 | 71/ 9 |
| JOSEPH M.FARLEY | PWR | 77 | 15*15 | 204 | 14.3 | BK80-4 P4 | 71/ 9 |
| FUGEN | ATR | 81 | 28 | 224 | | 105-8-(3) | 73/11 |
| MONJU | FAST | 92 | | 169 | *6) 7.9 | (128/U02)(96/PUD2) | GAKKASIP43 72/ 5 |

FUEL ASSY VERTICALITY CHECK METHOD 732490

MIHAMA-1 PWR 21 TRANSIT IS USUALLY USED. (WITHIN 40 MILLS=1.016 MM) 71/ 9

SPACER ALIGNMENT CHECK METHOD 732500

MIHAMA-1 PWR 21 AIR MICROMETER IS USUALLY USED. /

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| PLENUM | VS FUEL VOLUME | RATIO | OR | LENGTH | 732600 | | |
|--|----------------|--------------|------------------|------------------|--------|------------------|----------------|
| (1) PLENUM VS FUEL VOLUME RATIO | | | | | | | |
| (2) PLENUM LENGTH. | | | | | | | |
| (3) PLENUM VOLUME. | | | | | | | |
| (4) REACTOR TYPE | | | | | | | |
| (A) REACTOR TECHNOLOGY 1971. (B) FUKUSIMA-1 SIRYOD | | | | | | | |
| | | (1) | (2) | (3) | (4) | | |
| | | VOLUME RATIO | PLENUM LENGTH MM | PLENUM VOLUME CC | TYPE | | |
| JPCR-1 | BWR | 1 | | 13. | | | / |
| JPCR-2 | BWR | 2 | | 13. | | | 70/ 8 |
| TSURUGA | BWR | 3 | | 32.8 | | 80-3-3P14 | 70/ 5 |
| DNAGAWA | BWR | 4 | 0.11 | | | 8-3-(5) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 0.11 | | | 95-2-3 P7 | 71/ 9 |
| FUKUSIMA-1 | BWR | 6 | 0.08 | | | MEMO P6 | 70/ 3 |
| FUKUSIMA-2,3 | BWR | 7 | 0.11 | | | 82-2-3 P8 | 70/ 8 |
| FUKUSIMA-2,3 | BWR | 7 | | 44.3 | | F2N1 P8 | 71/ 2 |
| FUKUSIMA-2,3 | BWR | 7 | 0.11 | 406. | 44.3 | F2N1 | / |
| SHIMANE | BWR | 8 | 0.08 | | | 8-3-(13) | 75/ 7 |
| FUKUSIMA-5 | BWR | 9 | 0.11 | 406. | | 8-3-(6) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 0.11 | 406. | | 8-3-(6) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 0.10 | | | 8-1-(6) | 74/ 9 |
| FUKUSIMA-6 | BWR | 11 | 0.096 | 356. | 8*8 | 5006.031P10 | 75/ 8 |
| TOKAI-2 | BWR | 12 | 0.11 | 406. | | 8-3-(6) | 72/ 1 |
| TOKAI-2 | BWR | 12 | 0.096 | 356. | 8*8 | 5006.041P8 | 75/ 8 |
| HAMAOKA-2 | BWR | 13 | 0.11 | | | 8-12 | 72/ 9 |
| KASHIWA7AKI | BWR | 15 | 0.10 | | | 8-3-56 | 75/ 3 |
| MIHAMA-1 | PWR | 21 | | 131. | 13. | REF23.P122 | 70/11 |
| BROWNS FERRY | BWR | 53 | | 406.4 | | GSK-19 | 69/ 2 |
| DRESDEN-1 | BWR | 55 | 0.013 | | | DRESDEN-1 (A) | VOL.14.1 P82 / |
| DRESDEN-1 | BWR | 55 | 0.040 | | | DRESDEN-3B (A) | VOL.14.1 P82 / |
| DRESDEN-1 | BWR | 55 | 0.048 | | | DRESDEN-3F (A) | VOL.14.1 P82 / |
| DRESDEN-1 | BWR | 55 | 0.048 | | | DRESDEN-5 (A) | VOL.14.1 P82 / |
| BURLINGTON | PWR | 71 | | GT.101.6 | | GSK-19 | 69/ 2 |
| FUGEN | ATR | 81 | | 316.(UPPER) | | 105-8-(3) | 73/11 |
| FUGEN | ATR | 81 | | 24.(LOWER) | | 105-8-(3) | 73/11 |
| OTHERS | -0 | 0.031 | | | | GARIGLIANO-1(A) | VOL.14.1 P82 / |
| OTHERS | -0 | 0.030 | | | | GARIGLIANO-2(A) | VOL.14.1 P82 / |
| OTHERS | -0 | 0.060 | | | | GARIGLIANO-2(B) | MEMO P6 70/ 3 |
| OTHERS | -0 | 0.017 | | | | KARL (A) | VOL.14.1 P82 / |
| OTHERS | -0 | 0.043 | | | | HUMBLOTT (A) | VOL.14.1 P82 / |
| OTHERS | -0 | 0.062 | | | | HUMBLOTT (A) | VOL.14.1 P82 / |
| OTHERS | -0 | 0.058 | | | | KRB (A) | VOL.14.1 P82 / |
| OTHERS | -0 | 0.048 | | | | BIG ROCK P-B(A) | VOL.14.1 P82 / |
| OTHERS | -0 | 0.048 | | | | BIG ROCK P-F(A) | VOL.14.1 P82 / |
| OTHERS | -0 | 0.080 | | | | BIG ROCK P-F(A) | MEMO P6 70/ 3 |
| OTHERS | -0 | 0.048 | | | | BIG ROCK P-EG(B) | VOL.14.1 P82 / |
| OTHERS | -0 | 0.059 | | | | TARAPUR (A) | VOL.14.1 P82 / |
| OTHERS | -0 | 0.11 | | | | CURRENT BWR (A) | VOL.14.1 P82 / |

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| FUEL | UO-2 | PELLET | ENRICH | BWR | 732620 | | |
|-------------------------------------|------|--------|--|-------------------------------------|--------|-----|-------------------|
| (1) INITIAL CURE AVERAGE | | | | | | | |
| (2) HEIKOD ROSHIN | | | | | | | |
| (3) TYPE 1 ASSEMBLY MEAN ENRICHMENT | | | | | | | |
| (4) TYPE 2 ASSEMBLY MEAN ENRICHMENT | | | | | | | |
| (11)=7*7 (ENRICHMENT)/(NO. OF RODS) | | | | | | | |
| (12)=8*8 (ENRICHMENT)/(NO. OF RODS) | | | | | | | |
| | | (1) | (2) | (3) | (4) | (5) | |
| | | | | TP-1 | TP-2 | | |
| | | | | AVG | AVG | | |
| JPCR-1 | BWR | 1 | 2.6 | | | | / |
| JPCR-2 | BWR | 2 | 2.6 | | | | 71/ 1 |
| TSURUGA | BWR | 3 | 2.04 | 2.54 | | | 70/ 5 |
| DNAGAWA | BWR | 4 | 2.25 | 2.7 | | | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 2.3 | 2.7 | | | |
| HAMAOKA-1 | BWR | 5 | 2.4 | 2.8 | | | 85-4-2 70/11 |
| HAMAOKA-1 | BWR | 5 | 2.2 | 2.8 | 1.1 | 2.5 | / |
| FUKUSIMA-1 | BWR | 6 | 2.09 | 2.31 | | | 95-2-3 P7 / |
| FUKUSIMA-1 | BWR | 6 | (11)=2.79/28, 2.09/10, 1.80/6, 1.40/1, 2.79+GD203/4 | | | | 7*7 / |
| FUKUSIMA-1 | BWR | 6 | 2.62 | | | | BWR/6 74/11 |
| FUKUSIMA-1 | BWR | 6 | (12)=2.87/40, 2.14/14, 1.87/4, 1.45/1, 2.87+GD203/4, W=ROD/1 | | | | BWR/6 74/11 |
| FUKUSIMA-2,3 | BWR | 7 | 2.2 | 2.69 | | | 82-2-3P8 70/ 8 |
| FUKUSIMA-2,3 | BWR | 7 | 2.2 | | 1.1 | 2.5 | 85-7-2(R-1) 70/12 |
| FUKUSIMA-2,3 | BWR | 7 | (TYPE 1=0.711/1.33), (TYPE 2=(1.33/1.69), (1.94/2.93)) WTPC | | | | F2N1 P8 71/ 2 |
| FUKUSIMA-2,3 | BWR | 7 | (3-GUORO) SAME AS 5-GDU | | | | 69-7-2 71/ 3 |
| SHIMANE | BWR | 8 | 2.09 | 2.31 | | | 70/ 5 |
| SHIMANE | BWR | 8 | 2.09 | 2.50(7*7 REFUEL.AVG), 2.62(8*8 AVG) | | | 8-3-(5) 75/ 7 |
| FUKUSIMA-5 | BWR | 9 | 2.2 | 2.70 | 1.1 | 2.5 | 8-3-(6) 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 2.2 | 2.70 | 1.1 | 2.5 | 8-3-(6) 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 2.2 | 2.70 | 1.1 | 2.5 | 8-3-(6) 72/ 1 |
| TOKAI-2 | BWR | 12 | 2.2 | 2.70 | 1.1 | 2.5 | 8-3-(6) 72/ 1 |
| HAMAOKA-2 | BWR | 13 | 2.2 | 2.70 | 1.1 | 2.5 | 8-12 72/ 9 |
| KASHIWA7AKI | BWR | 15 | 2.2 | 2.70 | | | 8-3-50 75/ 3 |
| VERMONT YANKEE | BWR | 52 | 2.5 | | | | A-2 P2 70/ 7 |
| MILLSTON | BWR | 54 | 2.07 | | | | R-9 66/ 8 |
| DRESDEN-1 | BWR | 55 | 1.5 | | | | DNR V4 P94 62/ |
| DRESDEN-2 | BWR | 56 | 2.00 | 2.36 | | | R-9 66/ 8 |
| OYSTER CREEK | BWR | 57 | 2.10 | | | | R-9 66/ 8 |
| FUGEN | ATR | 81 | 1.5 WTPC + NAT.UO2 + AVG 0.8 WTPC PU02 | | | | 105-8-(3) 73/11 |

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FUEL UO-2 PELLETT ENRICH PWR 732630

(1)1ST REGION(CENTER REGION) FOR INITIAL CORE WT PC
 (2)2ND REGION(MEDIUM REGION) FOR INITIAL CORE WT PC
 (3)3RD REGION(OUTER REGION) FOR INITIAL CORE WT PC
 (4)MEAN ENRICHMENT FOR INITIAL CORE WT PC
 (5) FOR REFUELING WT PC

| -----INITIAL----- | | | | | | | |
|-------------------|--------|------|------|------|------|------|-----------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | |
| | 1ST | 2ND | 3RD | | REF. | | |
| MIHAMA-1 | PWR 21 | 2.36 | 2.51 | 2.81 | 3.07 | | 8-15 66/11 |
| MIHAMA-1 | PWR 21 | 2.3 | 3.0 | 3.4 | 2.89 | 3.1 | REF23 P10 70/11 |
| MIHAMA-2 | PWR 22 | 2.3 | 3.0 | 3.4 | 2.9 | 3.4 | REF23 P7 70/11 |
| TAKAHAMA-2 | PWR 23 | 2.26 | 2.80 | 3.42 | | 3.33 | 8-16 70/ 5 |
| GENKAI-1 | PWR 24 | 2.27 | 3.03 | 3.40 | | 3.40 | 8-17 70/ 5 |
| DOI-1,2 | PWR 26 | 2.04 | 2.58 | 3.20 | | 3.21 | 8-16 71/ 1 |
| MIHAMA-3 | PWR 27 | 2.00 | 2.70 | 3.35 | | 3.33 | 8-16 71/ 8 |
| IKATA-1 | PWR 28 | 2.27 | 3.03 | 3.40 | | 3.40 | 8-19 72/11 |
| IKATA-2 | PWR 30 | 2.27 | 3.03 | 3.40 | | 3.28 | 8-19 75/ 5 |
| SENDAI | PWR 31 | 2.10 | 2.60 | 3.10 | | 3.15 | 8-3-45 76/ 5 |
| YANKEE | 69 | | | | | 3.4 | DNR V4 P36 61/ |
| SAXTON | 70 | | | | | 5.7 | DNR V4 P50 61/ |

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BURN-UP 1ST CORE AVG. FINAL-C. AVG. 1ST ASSY MAX 732640

| | | 1ST CORE AVG | FINAL-C. AVG | 1ST ASSY MAX | | |
|----------------|--------|---------------------------|-----------------------|---------------------|--------|------------------|
| JPDR-1 | BWR 1 | 8800. | | | MWD/TU | / |
| JPDR-2 | BWR 2 | 12000. | | | MWD/TU | 70/11 |
| TSURUGA | BWR 3 | 16500. | 25000. | 28000. | MWD/TU | 80-3-2 70/ 6 |
| ONAGAWA | BWR 4 | 19500. | 27500. | 32000. | MWD/TU | 70/ 5 |
| HAMAOKA-1 | BWR 5 | 20000.* | 27500. | 35000. | MWD/TU | 8-14 70/ 5 |
| HAMAOKA-1 | BWR 5 | 21000. | 27500. | 35000. | MWD/TU | 85-4-2 70/11 |
| FUKUSIMA-1 | BWR 6 | 16500. | 22000. | 26000. | MWD/TU | R-9 70/ 5 |
| FUKUSIMA-1 | BWR 6 | | | 34200. | MWD/TU | BWR/6 74/11 |
| FUKUSIMA-2,3 | BWR 7 | 21000. | 27500. | 35000. | MWD/TU | 82-2-3 P8 70/ 5 |
| SHIMANE | BWR 8 | 16500. | 22000. | 26000. | MWD/TU | 70/ 5 |
| SHIMANE | BWR 8 | 16500. | 25000.(TORIKAE) | | | 8-14-(12) 75/ 7 |
| SHIMANE | BWR 8 | (7*7 INITIAL, ASSY.MAX) | | 26000. | | 8-3-(5) 75/ 7 |
| SHIMANE | BWR 8 | (7*7 TORIKAE, ASSY.MAX) | | 29000. | | 8-3-(5) 75/ 7 |
| SHIMANE | BWR 8 | (8*8 BWR/6, ASSY.MAX) | | 34200. | | 8-3-(5) 75/ 7 |
| FUKUSIMA-5 | BWR 9 | 21000. | 27500. | 35000. | MWD/TU | 8-3-(6) 71/ 2 |
| FUKUSIMA-4 | BWR 10 | 21000. | 27500. | 35000. | MWD/TU | 8-3-(6) 71/ 8 |
| FUKUSIMA-6 | BWR 11 | 21000. | 27500. | 35000. | MWD/TU | 8-3-(6) 72/ 1 |
| TOOKAI-2 | BWR 12 | 21000. | 27500. | 35000. | MWD/TU | 8-3-(6) 72/ 1 |
| HAMAOKA-2 | BWR 13 | 21000. | 27500. | 35000. | MWD/TU | 8-12 72/ 9 |
| KASHIWAZAKI | BWR 15 | 21000. | 27500. | 35000. | MWD/TU | 8-3-50 75/ 3 |
| MIHAMA-1 | PWR 21 | 21800. | 27000. | | | 8-16 66/11 |
| MIHAMA-1 | PWR 21 | 23900. | | 39000. | MWD/TU | REF23 P120 70/11 |
| TAKAHAMA-2 | PWR 23 | 23900. | 31500. | 48000. | MWD/TU | 80-9-1 70/ 5 |
| GENKAI-1 | PWR 24 | 23900. | 31500. | 48000. | MWD/TU | 80-9-1 70/ 5 |
| DOI-1,2 | PWR 26 | 24100. | 33000. | | MWD/MT | 8-17 71/ 1 |
| MIHAMA-3 | PWR 27 | 23900. | 31500. | | MWD/TU | 8-17 71/ 8 |
| IKATA-1 | PWR 28 | 23900. | 31500. | | | 8-20 72/11 |
| IKATA-2 | PWR 30 | 23900. | 31500. | 39000. | MWD/TU | 8-3-38 75/ 5 |
| SENDAI | PWR 31 | 23900. | 30000. | 39000. | MED/TU | 8-3-45 76/ 5 |
| SENDAI | PWR 31 | | PELLET MAX 50000. | | MWD/TU | 8-3-45 76/ 5 |
| VERMONT YANKEE | BWR 52 | 20900. | | | | A-2 P2 70/ 7 |
| BROWNS FERRY | BWR 53 | 20900. | 27500. | | MWD/TU | GSK-19 69/ 2 |
| MILLSTON | BWR 54 | 16500. | 22000. | | MWD/TU | R-9 66/ 8 |
| DRESDEN-1 | BWR 55 | 6700.(MINIMUM) | 12000. | | | DNR V4 P91 62/ |
| DRESDEN-2 | BWR 56 | 16500. | 22000. | | MWD/TU | R-9 66/ 8 |
| DRESDEN-2 | BWR 56 | 15000. | | | | DNR V7 P192 68/ |
| OYSTER CREEK | BWR 57 | 16500. | 22500. | | MWD/TU | R-9 66/ 8 |
| YANKEE | 69 | 7830.(RATED.AV.) | 15000.(RATED MAX.) | | MWD/TU | DNR V4 P33 61/ |
| SAXTON | 70 | 7300.(AVERAGE) | 30000.(MAX.ALLOWABLE) | | MWD/TU | UNR V4 P47 61/ |
| BURLINGTON | PWR 71 | 21800. | 33000. | | MWD/TU | GSK-19 69/ 2 |
| FUGEN | ATR 81 | 12000. | | 20000. | | 105-5 P10 73/12 |
| FUGEN | ATR 81 | 23000.(FUEL ELEMENT MAX.) | | 29000.(PELLET MAX.) | | 105-5 P6 73/12 |

EXPOSURE ACTUAL RESULT MWD/TON BURN-UP 732650

REF.1=REACTOR TECHNOLOGY VOL.14-1 1971 P82
REF.2=GENSIRYOKU SIRYDD NO.19(1969,2)(GENSIRYOKU SANGYDD KATGI) PAGE24
REACTOR NAME ---REFER 73244
*1=NO. 15 NUMBER OF SEGMENTS OR RODS.
1) YANKEE (CORE 1x2x3x4x5)
2) INDIAN POINT 300PPM B(THO2,UD2)
3) CVTR (FOR EXPERIMENT)
11) AN=ANNEALED
12) CW=COLD WORKED

Table with columns: Unit, BWR, Component, MWD/TON, IN CORE YEARS, NO. *1, and Reference. Lists various reactor components and their exposure metrics.

FUEL LINEAR HEAT RATING W/CM 732660

REF.1=REACTOR TECHNOLOGY VOL.14-1 1971 P82
FUK.1=FUKUSIMA-1 SIRYDD
(1)100 PERCENT (W/CM)
(2)112 PERCENT OVER POWER (W/CM)
(3)MEAN (W/CM)
(4)TRANSIENT (W/CM)

Table with columns: Unit, BWR, Rating, W/CM, and Reference. Lists fuel rod performance metrics for various units.

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| FUEL | LINEAR | HEAT | RATING | W/CM | 732660 | | |
|------------------|--------|------|--------|------|--------|--------------------|--------------------|
| | | | | (1) | (2) | (3) | (4) |
| NORTH ANNA-12 | PWR | 76 | 587 | 656 | 220 | | BK80-4 P3 71/ 9 |
| JOSEPH W. FARLEY | PWR | 77 | 617 | 692 | 220 | | BK80-4 P3 71/ 9 |
| FUGEN | ATR | 81 | 574 | 649 | | | 105-8-(3) 73/11 |
| | | FAST | 92 | 462 | | | GAKKAI S143P 72/ 5 |
| OTHERS | | -0 | 336 | | | GARIGLIANO TYPE-1 | REF.1 / |
| OTHERS | | -0 | 479 | | | GARIGLIANO TYPE-2 | REF.1 / |
| OTHERS | | -0 | 427 | | | KAML | REF.1 / |
| OTHERS | | -0 | 397 | | | HUMBOLDT TYPE-2 | REF.1 / |
| OTHERS | | -0 | 551 | | | HUMBOLDT TYPE-3 | REF.1 / |
| OTHERS | | -0 | 518 | | | K&B | REF.1 / |
| OTHERS | | -0 | 492 | | | HIG ROCK P TYPE-E | REF.1 / |
| OTHERS | | -0 | 581 | | | HIG ROCK P TYPE-EG | REF.1 / |
| OTHERS | | -0 | 581 | | | HIG ROCK P TYPE-EG | REF.1 / |
| OTHERS | | -0 | 518 | | | TARAPUR | REF.1 / |
| OTHERS | | -0 | 607 | | | CURRENT BWR | REF.1 / |
| OTHERS | | -0 | 530 | | | GARIGLIANO TYPE-2 | MEMO P6 70/ 3 |
| OTHERS | | -0 | 335 | | | HUMBOLDT | MEMO P6 70/ 3 |
| OTHERS | | -0 | 450 | | | HUMBOLDT | MEMO P6 70/ 3 |

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| FUEL ROD | PELLET | CENTER | TEMP. | MAX C | 732680 | | |
|---------------------|--------|--------|------------------------------|-------------------------------|--------|------------|-------|
| JPDR-1 | BWR | 1 | 1899.(AT 125 OP) DEG C | 1610.(AT 100 NORMAL P) DEG C | | | / |
| JPDR-2 | BWR | 2 | 2540.(AT 125 OP)*DEG C | 1970.(AT 100 NORMAL P)*DEG C | | | 70/ 8 |
| JPDR-2 | BWR | 2 | 2550.(AT 100 NORMAL P) DEGC | | | NAITOO | 71/ 1 |
| TSURUGA | BWR | 3 | 2540.(AT 120 OP)*DEG C | 2350.(AT 100 NORMAL P) DEG C | | 80-3-3 | 70/ 5 |
| TSURUGA | BWR | 3 | 2350.(AT 100 NORMAL P) DEG C | | | KUGE | 71/ 1 |
| ONAGAWA | BWR | 4 | | 2460.(AT 100 NORMAL P) DEG C | | 8- | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | | 2420.(AT 100 NORMAL P) DEG C* | | 8-14 | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | | 2460.(AT 100 NORMAL P) DEG C | | 85-4-2 | 70/11 |
| FUKUSIMA-1 | BWR | 6 | 2480.(AT 120 OP)*DEG C | | | | / |
| FUKUSIMA-1 | BWR | 6 | 2390.(AT 100 NORMAL P) DEG C | | | KUGE | 71/ 1 |
| FUKUSIMA-2,3 | BWR | 7 | | 2420.(AT 100 NORMAL P) DEG C | | 82-2-3 P8 | 70/ 8 |
| FUKUSIMA-2,3 | BWR | 7 | | 2440.(AT 100 NORMAL P) DEG C | | 89-7-2 P15 | 71/ 3 |
| SHIMANE | BWR | 8 | (UO-2) | 1830.(AT 440 W/CM) DEG C | | 8-3-(7) | 75/ 7 |
| SHIMANE | BWR | 8 | (UO-2)+(G02-03) | 1900.(AT 430 W/CM) DEG C | | 8-3-(7) | 75/ 7 |
| FUKUSIMA-5 | BWR | 9 | | 2440.(AT 100 NORMAL P) DEG C | | 8-3-(6) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | (UO-2) | 2440.(AT 100 NORMAL P) DEG C | | 8-3-(6) | 71/ 8 |
| FUKUSIMA-4 | BWR | 10 | (UO-2)+(G02-03) | 2185.(AT 100 NORMAL P) DEG C | | 8-3-(6) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | (UO-2) | 2420.(AT 100 NORMAL P) DEG C | | 8-3-(6) | 72/ 1 |
| FUKUSIMA-6 | BWR | 11 | (UO-2)+(G02-03) | 2200.(AT 100 NORMAL P) DEG C | | 8-3-(6) | 72/ 1 |
| TOOKAI-2 | BWR | 12 | (UO-2) | 2420.(AT 100 NORMAL P) DEG C | | 8-3-(6) | 72/ 1 |
| TOOKAI-2 | BWR | 12 | (UO-2)+(G02-03) | 2200.(AT 100 NORMAL P) DEG C | | 8-3-(6) | 72/ 1 |
| HAMAOKA-2 | BWR | 13 | | 2460.(AT 100 NORMAL P) DEG C | | 8-12 | 72/ 9 |
| KASHIWAZAKI | BWR | 15 | (UO-2) | 1830.(AT 440 W/CM) DEG C | | 8-3-10 | 75/ 3 |
| KASHIWAZAKI | BWR | 15 | (UO-2)+(G02-03) | 1820.(AT 430 W/CM) DEG C | | 8-3-10 | 75/ 3 |
| MIHAMA-1 | PWR | 21 | 2230.(AT 112 OP) DEG C | 2150.(AT 100 NORMAL P) DEG C | | BK80-4 P4 | 71/ 9 |
| MIHAMA-2 | PWR | 22 | 2390.(AT 112 OP) DEG C | 2180.(AT 100 NORMAL P) DEG C | | 6783-5 | 70/10 |
| TAKAHAMA-2 | PWR | 23 | 2570.(AT 112 OP) DEG C | 2360.(AT 100 NORMAL P) DEG C | | 8-16 | 70/ 5 |
| GENKAI-1 | PWR | 24 | 2340.(AT 112 OP) DEG C | 2200.(AT 100 NORMAL P) DEG C | | 8-17 | 70/ 5 |
| GENKAI-1 | PWR | 24 | 2570.(AT 112 OP) DEG C | 2360.(AT 100 NORMAL P) DEG C | | 45/11/6 | 70/11 |
| TAKAHAMA-1 | PWR | 25 | 2570.(AT 112 OP) DEG C | 2360.(AT 100 NORMAL P) DEG C | | 6783-5 | 70/11 |
| QUI-1,2 | PWR | 26 | 2480.(AT 112 OP) DEG C | 2350.(AT 100 NORMAL P) DEG C | | 8-16 | 71/ 1 |
| MIHAMA-3 | PWR | 27 | 2570.(AT 112 OP) DEG C | 2360.(AT 100 NORMAL P) DEG C | | 8-16 | 71/ 8 |
| IKATA-1 | PWR | 28 | 2640.(AT 112 OP) DEG C | 2440.(AT 100 NORMAL P) DEG C | | 8-19 | 72/11 |
| IKATA-2 | PWR | 30 | 2350.(AT 88-TRA) | 2090.(AT 100 NORMAL P) DEG C | | 8-3-40 | 75/ 5 |
| SENDAI | PWR | 31 | 2280.(AT 59.1KW/H) | 1790.(AT 100 NORMAL P) DEG C | | 8-3-45 | 76/ 5 |
| VERMONT YANKEE | BWR | 52 | | 2420.(AT 100 NORMAL P) DEG C | | A-2 P1 | 70/ 7 |
| BROWNS FERRY | BWR | 53 | | 2415.(AT 100 NORMAL P) DEG C | | GSK-19 | 69/ 2 |
| DUANE ARNOLD | BWR | 58 | | 2420.(AT 100 NORMAL P) DEG C | | A-2 P1 | 70/ 7 |
| MILLSTON | BWR | 54 | | 1930.(AT 100 NORMAL P) DEG C | | R-9 | 66/ 8 |
| DRESDEN-1 | BWR | 55 | 2649.(AT 125 OP) DEG C | | | DNR V4 P94 | 62/ |
| DRESDEN-2 | BWR | 56 | | 2050.(AT 100 NORMAL P) DEG C | | R-9 | 66/ 8 |
| OYSTER CREEK | BWR | 57 | 2430.(AT 120 OP) DEG C | | | DNR V4 P36 | 61/ |
| YANKEE | BWR | 59 | | 2155.(AT 100 NORMAL P) DEG C | | GSK-19 | 69/ 2 |
| BURLINGTON | PWR | 71 | | 2260.(AT 100 NORMAL P) DEG C | | BK80-4 P3 | 71/ 9 |
| TURKEY POINT-3,4PWR | PWR | 72 | 2427.(AT 112 OP) DEG C | 2288.(AT 100 NORMAL P) DEG C | | | |
| H.B.ROBINSON-2 | PWR | 73 | 2371.(AT 112 OP) DEG C | 2221.(AT 100 NORMAL P) DEG C | | BK80-4 P3 | 71/ 9 |
| SORRY-1,-2 | PWR | 74 | 2371.(AT 112 OP) DEG C | 2232.(AT 100 NORMAL P) DEG C | | BK80-4 P3 | 71/ 9 |
| BEAVER VALLEY | PWR | 75 | 2360.(AT 112 OP) DEG C | 2193.(AT 100 NORMAL P) DEG C | | BK80-4 P3 | 71/ 9 |

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| FUELRID | PELLET CENTER | TEMP. | MAX C | 732680 | | | |
|---------|-----------------|------------|---|------------------------------|-------------|-------|--|
| | NORTH ANNA-12 | PWR 76 | 2360.(AT 112 OP) DEG C | 2193.(AT 100 NORMAL P) DEG C | BK80-4 P4 | 71/ 9 | |
| | JOSEPH W.FARLEY | PWR 77 | 2482.(AT 112 OP) DEG C | 2316.(AT 100 NORMAL P) DEG C | BK80-4 P4 | 71/ 9 | |
| | FUGEN | ATR 81 | -LE.2790 | | 105-8-3-(5) | 73/11 | |
| | MUNJU | FAST 92 | 2600.(AT TRANGIENT) DEG C | | GAKKAI5143P | 72/ 5 | |
| GAP | CONDUCTANCE | PELLET AND | CLADDING | 732700 | | | |
| | | | RTU/H.SQFT.F | | | | |
| | JPDR-1 | BWR 1 | 1000. | | | / | |
| | JPDR-2 | BWR 2 | 1400. | | | 70/ | |
| | TSURUGA | BWR 3 | 1000. | | KDN-5 P5 | 68/ 8 | |
| | ONAGAWA | BWR 4 | 1000. | | A-5 | 70/ 7 | |
| | HAMAJKA-1 | BWR 5 | 1000. | | | 70/ 5 | |
| | FUKUSIMA-1 | BWR 6 | 1000. | | | / | |
| | FUKUSIMA-2,3 | BWR 7 | 1000. (=4880 KCAL/SQM.H.C) | | F2N1 P10 | 71/ 2 | |
| | SHIMANE | BWR 8 | 1000. | | 8-3-(6) | 75/ 7 | |
| | KASHIWAZAKI | BWR 15 | 1000. | | 8-3-8 | 75/ 3 | |
| | MIHAMA-1 | PWR 21 | 1000. | | | / | |
| | MIHAMA-2 | PWR 22 | 1000. | | 678 3-5 | 70/ 5 | |
| | TAKAHAMA-2 | PWR 23 | 1000. | | | 70/ 5 | |
| | GENKAI-1 | PWR 24 | 2700. (AT 100 PC POWER), 4560. (AT 112 PC POWER), | REV-0 | 678 3-5 | 70/ 5 | |
| | GENKAI-1 | PWR 24 | 1000. | REV-1 | | 70/11 | |
| | TAKAHAMA-1 | PWR 25 | 1000. | | 678 3-5 | 70/ 5 | |
| | DUI-1,2 | PWR 26 | 5400. (AT 112 PC POWER) | | 8-133 | 71/ 1 | |
| | DUI-1,2 | PWR 26 | H(GAP)=0.6P+ K(GAS)/(14.4E-6) AT CONTACT | | | 71/ 2 | |
| | DUI-1,2 | PWR 26 | H(GAP)= K(GAS)/(GAP +14.4E-6) NONE CONTACT | | | 71/ 2 | |
| | DUI-1,2 | PWR 26 | WHERE UNIT P=PSI, K=BTU/HR.FT.F, GAP=INCH(RADIAL) | | | 71/ 2 | |
| | FUGEN | ATR 81 | 1000. | | 105-5 P9 | 73/12 | |

| FUEL | CLADDING MECHANICAL | PROPERTY | 732720 | | | | |
|------|---------------------|----------|-----------------|--------------|--------------|---------|---------------|
| | | UTS | YS | ELONG | BURST | | |
| | | KG/SQMM | KG/SQMM | PERCENT | KG/SQMM | F2N1 P8 | 71 2 |
| | FUKUSIMA-2,3 | BWR 7 | GE 49.2 (AT RT) | 42.2 (AT RT) | 16.PC(AT RT) | 5.4 | F2N1 P8 71/ 2 |
| | FUKUSIMA-2,3 | BWR 7 | GE 28.8 (344 C) | 22.4 (344 C) | | | / |

| FUEL | CLADDING | CRUD DEPOSITE | CORROSION RATE | 732740 | | |
|------|--------------|---------------|----------------|--------|-------------|-------|
| | FUKUSIMA-2,3 | BWR 7 | 0.01 MM/YEAR | | F2N1 P10 | 71/ 2 |
| | FUGEN | ATR 81 | 0.01 MM/YEAR | | 105-8-3-(5) | 73/11 |

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| HEAT | TRANSFER COEF. | CLADDING | WATER | 732760 | | |
|------|----------------|----------|--|--------|---------------|-------|
| | | | DB=DITTMER-BOELTER EQUATION | | | |
| | | | H=0.023*(K/D)*((RE**0.8)*((PR)**0.4) | | | |
| | | | H =HEAT TRANSFER COEFFICIENT | | KCAL/M2/H/C | |
| | | | K =THERMAL CONDUCTIVITY OF COOLANT(WATER) | | KCAL/M/H/C | |
| | | | D =EQUIVALENT HYDRAULIC DIAMETER | | M | |
| | | | RE=REYNOLDS NUMBER | | DIMENSIONLESS | |
| | | | PR=PRANDTLER NUMBER | | DIMENSIONLESS | |
| | | | JL=JENS-LOTTES EQUATION | | | |
| | | | H=Q**(3/4)/(0.82*EXP(-P/63.3)) | | | |
| | | | H =HEAT TRANSFER COEFFICIENT | | KCAL/M2/H/C | |
| | | | Q =HEAT FLUX | | KCAL/M2/H | |
| | | | P =COOLANT PRESSURE | | KG/CM2 | |
| | | | (1)HEAT TRANSFER COEFFICIENT OF SUBCOOL REGION | | KCAL/M2/H/C | |
| | | | (2)HEAT TRANSFER COEFFICIENT OF BOILING REGION | | KCAL/M2/H/C | |
| | | | (1) (2) | | | |
| | TSURUGA | BWR 3 | DR JL | | 8-3-(6) | 75/ 1 |
| | FUKUSIMA-2,3 | BWR 7 | DR JL | | F2N1 P10 | 71/ 2 |
| | SHIMANE | BWR 8 | DR JL | | 8-3-(7) | 75/ 7 |
| | FUKUSIMA-6 | BWR 11 | DR JL | | 8-1-(8) | 75/ 7 |
| | TOKAI-2 | BWR 12 | DR JL | | 8-1-(8) | 75/ 7 |

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| FUEL | CLADDING SURFACE TEMP. | MAX C | 732800 | | |
|------------------|------------------------|-------------------------|--------------------------|---------------------|--------------------|
| JPCR-1 | BWR 1 | ST=298 C (125 D.P) | ST=293 C (100) | | 70/ 8 |
| JPCR-2 | BWR 2 | ST=305*C (125 D.P) | ST=293 C (100) | | 70/ 8 |
| JPCR-2 | BWR 2 | ST=400 (125 D.P INSIDE) | ST=310 (125 D.P OUTSIDE) | NAIT00 | 71/ 1 |
| TSURUGA | BWR 3 | ST=294*C (120 D.P) | ST=292*C (100) | MT=400 C (MAX) | 82-2-3 P8 70/ 8 |
| TSURUGA | BWR 3 | ST=295 (125 D.P) | | | KUGE 70/ 1 |
| ONAGAWA | BWR 4 | | | MT=400 C (MAX)* | 8-3-(6) 70/ 5 |
| ONAGAWA | BWR 4 | ST=300 | | | 87-4-4 70/12 |
| ONAGAWA | BWR 4 | | | MT=300 C (MAX) | 87-4-4 70/12 |
| HAMAOKA-1 | BWR 5 | | | MT=400 C (MAX) | 8-14 70/ 5 |
| HAMAOKA-1 | BWR 5 | | ST=300 C (100) | | 95-2-3 P7 71/ 9 |
| FUKUSIMA-1 | BWR 6 | ST=295 (125 D.P) | | | KUGE 70/ 1 |
| FUKUSIMA-2,3 | BWR 7 | | | MT=400 C (MAX) | 89-7-2 P15 71/ 3 |
| SHIMANE | BWR 8 | | ST=300 C (440W/CM) | (8*8 BWR/6) | 8-3-(7) 75/ 7 |
| FUKUSIMA-5 | BWR 9 | | | MT=400 C (MAX) | 8-3-(6) 71/ 2 |
| FUKUSIMA-4 | BWR 10 | | | MT=400 C (MAX) | 8-3-(6) 71/ 8 |
| FUKUSIMA-6 | BWR 11 | | | MT=400 C (MAX) | 8-3-(6) 72/ 1 |
| TUOKAI-2 | BWR 12 | | | MT=400 C (MAX) | 8-3-(6) 72/ 1 |
| HAMAOKA-2 | BWR 13 | | ST=300 C (100) | | 8-12 72/ 9 |
| KASHIWAZAKI | BWR 15 | | | 380 C (MAX) | 8-3-77 75/ 3 |
| MIHAMA-1 | PWR 21 | ST=350 C (112 D.P) | | | BK80-2 P5 71/ 8 |
| MIHAMA-2 | PWR 22 | ST=348 C (112 D.P) | ST=347 C (100) | | 6783-5 70/10 |
| TAKAHAMA-2 | PWR 23 | ST=348 C (112 D.P) | ST=347 C (100) | | 80-9-1 70/ 6 |
| GENKAI-1 | PWR 24 | ST=347 C (112 D.P) | ST=347 C (100) | | 80-9-1 70/ 6 |
| TAKAHAMA-1 | PWR 25 | ST=348 C (112 D.P) | ST=347 C (100) | | 6783-5 70/10 |
| OUI-1,2 | PWR 26 | ST=347 C (112 D.P) | ST=347 C (100) | | 8-16 71/ 1 |
| MIHAMA-3 | PWR 27 | ST=347 C (112 D.P) | ST=347 C (100) | | 8-16 71/ 8 |
| IKATA-1 | PWR 28 | ST=347 C (112 D.P) | ST=347 C (100) | | 8-19 72/11 |
| IKATA-2 | PWR 30 | ST=350 C (AG-TRA) | ST=350 C (100) | | 8-3-39 75/ 5 |
| SENDAI | PWR 31 | ST=350 C (59.1KW/M) | ST=349 C (100) | | 8-3-46 76/ 5 |
| BROWNS FERRY | BWR 53 | | ST=296 C (100) | | GSK-19 P4 69/ 2 |
| MILLSTON | BWR 54 | | ST=292 C (100) | | R-9 66/ 8 |
| DRESDEN-1 | BWR 55 | ST=294 C (125 D.P) | | | DNR V4 P94 62/ |
| DRESDEN-2 | BWR 56 | | ST=292 C (100) | | DNR V7 P192 68/ |
| YANKEE | 69 | | ST=345 C (100) | | DNR V4 P36 61/ |
| SAXTON | 70 | | ST=338,9 (100) | | DNR V4 P50 61/ |
| BURLINGTON | PWR 71 | | ST=347 C (100) | | GSK-19 P4 69/ 2 |
| TURKEY POINT-3,4 | PWR 72 | | ST=347 C (100) | | BK80-4 P3 71/ 9 |
| H.B.ROBINSON-2 | PWR 73 | | ST=347 C (100) | | BK80-4 P3 71/ 9 |
| SURRY-1,-2 | PWR 74 | | ST=347 C (100) | | BK80-4 P3 71/ 9 |
| BEAVER VALLEY | PWR 75 | | ST=347 C (100) | | BK80-4 P3 71/ 9 |
| NORTH ANNA-12 | PWR 76 | | ST=347 C (100) | | BK80-4 P4 71/ 9 |
| JOSEPH W.FARLEY | PWR 77 | | ST=347 C (100) | | BK80-4 P4 71/ 9 |
| MONJU | FAST 92 | | | MT=700 C (RATED P.) | GAKKRAIS143P 72/ 5 |

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| PELLET | CLADDING TEMP. | FROM | BDL TO | EOL | 732810 | | |
|--------------|----------------|--|--------|-----|--------|----------|-------|
| FUKUSIMA-2,3 | BWR 7 | (NORMAL POWER (607 W/CM)) / (16PC OVER POWER (705 W/CM)) | | | | F2N1 P11 | 71/ 2 |
| FUKUSIMA-2,3 | BWR 7 | CLADDING TEMPERATURE (C) OUTER MEAN INNER | | | | F2N1 P11 | 71/ 2 |
| FUKUSIMA-2,3 | BWR 7 | BDL= 296/297 334/340 372/384 | | | | F2N1 P11 | 71/ 2 |
| FUKUSIMA-2,3 | BWR 7 | EOL= 359/370 390/405 421/441 | | | | F2N1 P11 | 71/ 2 |
| FUKUSIMA-2,3 | BWR 7 | EOL= 394/411 420/440 446/470 | | | | F2N1 P11 | 71/ 2 |
| FUKUSIMA-2,3 | BWR 7 | PELLET TEMPERATURE (C) SURFACE CENTER MEAN | | | | F2N1 P11 | 71/ 2 |
| FUKUSIMA-2,3 | BWR 7 | BDL= 641/692 2464/2809 1507/1738 | | | | F2N1 P11 | 71/ 2 |
| FUKUSIMA-2,3 | BWR 7 | EOL= 647/702 2021/2347 1292/1493 | | | | F2N1 P11 | 71/ 2 |
| FUKUSIMA-2,3 | BWR 7 | EOL= 642/696 1719/2012 1152/1327 | | | | F2N1 P11 | 71/ 2 |

| GUIDE | THIMBLE | FOR CONTROL ROD | CLUSTER | 732820 | | |
|------------|---------|---|--------------------------|----------------------|---------------|-------|
| | | (1)GUIDE THIMBLE MATERIAL (FOR CONTROL ROD CLUSTER) | | | | |
| | | Z4=ZRY-4 | | | | |
| | | (2)NUMBER PER FUEL ASSEMBLY | | | | |
| | | (3)DIAMETER AND THICKNESS (UPPER PART) | | | | |
| | | (4)DIAMETER AND THICKNESS (LOWER PART) | | | | |
| | | (1) (2) | (3)UPPER----- | | (4)LOWER----- | |
| | | NO. | OD / ID / T | OD / ID / T | | |
| | | | MM / MM / MM | MM / MM / MM | | |
| TAKAHAMA-2 | PWR 23 | 24 | 20. 13.61 /12.95 /0.33 | 11.94 /11.32 /0.31 | 8-17 | 70/ 5 |
| GENKAI-1 | PWR 24 | 24 | 16. 13.69 /12.83 /0.43 | 12.20 /11.34 /0.43 | 8-18 | 70/ 5 |
| OUI-1,2 | PWR 26 | 24 | 20. 13.87 / / / | 12.42 / / / | 8-17 | 71/ 1 |
| OUI-1,2 | PWR 26 | 24 | 24. 12.2 /11.38 /0.41 | 10.9 /10.08 /0.41 | 8-3,2-14 | 75/ 5 |
| MIHAMA-3 | PWR 27 | 24 | 20. 13.61 /12.95 /0.33 | 11.94 /11.32 /0.31 | 8-17 | 71/ 8 |
| IKATA-1 | PWR 28 | 24 | 16. 13.69 /12.83 /0.43 | 12.20 /11.34 /0.43 | 8-20 | 72/11 |
| IKATA-2 | PWR 30 | 24 | 16. 13.69 /12.83 /0.43 | 12.20 /11.34 /0.43 | 8-3-39 | 75/ 5 |
| SENDAI | PWR 31 | 24 | 24. 12.2 /11.38 /0.41 | 10.9 /10.08 /0.41 | 8-3-46 | 76/ 5 |
| OTHEMS | -0 | 24 | 24. 12.243/11.43 /0.4064 | 10.897/10.084/0.4064 | TYP.17*17 | / |

| GUIDE | THIMBLE | FOR INSTRUMENTATION | 732830 | | | |
|---------|---------|--|----------------------|--|----------|-------|
| | | (1)GUIDE THIMBLE MATERIAL (FOR INSTRUMENTATION IN FUEL ASSEMBLY) | | | | |
| | | Z4=ZRY-4 | | | | |
| | | (2)NUMBER PER FUEL ASSEMBLY | | | | |
| | | (3)DIAMETER AND THICKNESS | | | | |
| | | (1) (2) | (3)----- | | | |
| | | NO. | OD / ID / T | | | |
| | | | MM / MM / MM | | | |
| OUI-1,2 | PWR 26 | 24 | 1. 12.2 /11.38 /0.41 | | 8-3,2-14 | 75/ 5 |

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CONTROL ROD EFFECT, LENGTH AND STROKE 733220

- (1) CONTROL ROD NUMBER
- (2) FORM
 - CRU.=CRUCIFORM
 - CR.1= CRUCIFORM REGULATING RODS WITH ZRY-2 FOLLOWERS
 - CR.2= FIXED CRUCIFORM SHIM ELEMENTS
 - CR.3= OFFSET CRUCIFORM CONTROL RODS WITH FUEL FOLLOWER CONTAINING FUEL RODS.

- *1) =ZRY-2 FOLLOWERS
- (3) EFFECTIVE LENGTH (CM)
 - TL=TOTAL LENGTH

- (4) STROKE (CM)
- (5) ABSORBER MATERIAL
 - B4C=B4C POWDER
 - *2)=AG-IN-CD 80-15-5

- (6) DENSITY (PER CENT THEORETICAL DENSITY = P.C.TD)
 - *3)=BEFIRE SWAGED

- (7) WEIGHT (KG)

| | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | | |
|----------------|-----|-----|-------------|---------|-------|-----|----------|------|-------------|-------|
| | | NO. | FORM | CM. | CM. | | P.C.TD | KG. | | |
| JPDR-1 | BWR | 1 | 16 CRU. *1) | 146. | 150. | B4C | 60.-76. | 90.7 | JM-1654 | 64/ 8 |
| JPDR-2 | BWR | 2 | 16 CRU. *1) | | 150. | B4C | 60.-76 | 90.7 | | 70/ 8 |
| TSURUGA | BWR | 3 | 73 CRU. | | | B4C | | | R-9 80-3-3 | 66/ 8 |
| ONAGAWA | BWR | 4 | 89 CRU. | 363. | | B4C | 70. | 107. | 8-3-(6),(7) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 89 CRU. | | | B4C | | | 8-108 | 70/ 5 |
| FUKUSIMA-1 | BWR | 6 | 97 CRU. | | | B4C | | | R-9 | 66/ 8 |
| FUKUSIMA-2,3 | BWR | 7 | 137 CRU. | | | B4C | | | B2-2-3 | 70/ 8 |
| SHIMANE | BWR | 8 | 97 CRU. | 363. | | B4C | 1.75G/CC | 113. | 8-3-(23) | 75/ 7 |
| FUKUSIMA-5 | BWR | 9 | 137 CRU. | 363.2 | | B4C | 70. | | 8-3-(7) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 137 CRU. | 363.2 | | B4C | 70. | | 8-3-(7) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 185 CRU. | 363.2 | | B4C | 70. | 110. | 8-3-(7) | 72/ 1 |
| FUKUSIMA-6 | BWR | 11 | | | | | | 83. | 5006.031 P5 | 75/ 8 |
| TOOKAI-2 | BWR | 12 | 185 CRU. | 363.2 | | B4C | 70. | 110. | 8-3-(7) | 72/ 1 |
| TOOKAI-2 | BWR | 12 | | | | | | 83. | 5006.041 P3 | 75/ 8 |
| HAMAOKA-2 | BWR | 13 | | | | B4C | | | | / |
| KASHIWAZAKI | BWR | 15 | 185 CRU. | 363.2 | | B4C | 70. | | 8-3-26 | 75/ 3 |
| VERMONT YANKEE | BWR | 52 | 89 CRU. | | | B4C | | | 8-96 | 72/ 9 |
| BROWNS FERRY | BWR | 53 | 185 CRU. | 365.8 | 365.8 | B4C | | | GSK-19 P4 | 69/ 2 |
| MILLSTON | BWR | 54 | 145 CRU. | | | | | | R-9 | 66/ 8 |
| DRESDEN-1 | BWR | 55 | 80 CRU. | 259.1 | | B4C | | | DNR V4 P94 | 62/ |
| DRESDEN-2 | BWR | 56 | 177 CRU. | | | B4C | | | R-9 | 66/ 8 |
| DYSTEM CREEK | BWR | 57 | 129 CRU. | | | B4C | | | R-9 | 66/ 8 |
| DUANE ARNOLD | BWR | 58 | 89 CRU. | | | | | | A-2 P2 | 70/ 7 |
| YANKEE | | 69 | 24 CR.1 | | | *2) | | | DNR V4 P36 | 61/ |
| YANKEE | | 69 | 8 CR.2 | | | *2) | | | DNR V4 P36 | 61/ |
| SAXTON | | 70 | 6 CR.3 | 251.5TL | | *2) | | | DNR V4 P50 | 61/ |

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CONTROL ROD CLADDING MATERIAL NUMBER SIZE 733240

- (1) CONTROL ROD CLADDING MATERIAL.
 - SUS=STAINLESS STEEL.
 - MT2=TYPE 304 STAINLESS STEEL
- (2) CLADDING NUMBER. (/ CONTROL ROD)
- (3) CLADDING OUTER DIA.(MM)
- (4) CLADDING INNER DIA.(MM)
- (5) BLADE THICKNESS.(MM)
- (6) BLADE WIDTH.(MM)
- (7) SHEATH THICKNESS.(MM)

- CLADDING

| | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | | |
|--------------|-----|-----|--------|------|------|-------|-------|------|-------------|-------|
| | | NO. | MM | MM | MM | MM | MM | MM | | |
| JPDR-1 | BWR | 1 | SUS 64 | 6.05 | 5.05 | 9.524 | 225.4 | 1.5 | JM-165P14 | / |
| JPDR-2 | BWR | 2 | SUS 64 | 6.05 | 5.05 | 9.524 | 225.4 | 1.5 | | / |
| ONAGAWA | BWR | 4 | SUS 84 | 4.8 | 3.5 | 7.9 | 248. | 1.4 | 8-3-(6),(7) | 70/ 5 |
| SHIMANE | BWR | 8 | SUS 84 | 4.8 | 3.5 | 8. | 248. | 1.4 | 8-3-(23) | 75/ 7 |
| FUKUSIMA-5 | BWR | 9 | SUS 84 | 4.78 | 3.51 | 7.92 | 247.6 | 1.42 | 8-3-(7) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | SUS 84 | 4.78 | 3.51 | 7.92 | 247.6 | 1.42 | 8-3-(7) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | SUS 76 | 4.78 | 3.51 | 6.60 | 247.6 | 0.76 | 8-1-(22) | 74/ 9 |
| TOOKAI-2 | BWR | 12 | SUS 84 | 4.78 | 3.51 | 7.92 | 247.6 | 1.42 | 8-3-(7) | 72/ 1 |
| TOOKAI-2 | BWR | 12 | | 76 | | 6.60 | | 0.76 | 5006.041 P3 | 75/ 8 |
| KASHIWAZAKI | BWR | 15 | SUS 76 | 4.78 | 3.51 | 6.6 | 247.6 | 0.76 | 8-3-26 | 75/ 3 |
| BROWNS FERRY | BWR | 53 | MT2 84 | | | | 247.6 | | GSK-19 P4 | 69/ 2 |
| DRESDEN-1 | BWR | 55 | | | | 9.525 | 165.1 | | DNR V4 P94 | 62/ |
| YANKEE | | 69 | | | | 6.731 | 199.8 | | DNR V4 P34 | 61/ |

CONTROL ROD FOLLOWER MATERIAL WIDTH OTHER 733260

- (1)FOLLOWER MATERIAL
Z2=ZRY-2
*1)=FUEL-FOLLOWER CONTAINING FUEL RODS
- (2)FOLLOWER WIDTH.(MM)
- (3)FOLLOWER THICKNESS. (MM)
- (4)FOLLOWER EFFECTIVE LENGTH.(MM)
- (5)DRIVE MECHANISM NORMAL.
E.M=E.MOTER
HYD=HYDRAULIC
- (6)DRIVE MECHANISM SCRAM.
- (7)DRIVE MECHANISM NORMAL SPEED.(CM/SEC)
- (8)DRIVE MECHANISM SCRAM SPEED.(S/90PC)

| | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | |
|----------------|-----|-----|-----|-------|------|------|-----|-------|----------------|-------------|
| | | MM | MM | MM | | | | CM/S | | |
| JPDR-1 | BWR | 1 | 22 | 114.3 | 6.35 | 1283 | E.M | AIR | 1.26 | 70/ 8 |
| JPDR-2 | BWR | 2 | 22 | 114.3 | 6.35 | 1283 | E.M | AIR | 1.26 | 70/ 8 |
| TSURUGA | BWR | 3 | | | | | | | 7.6 | 5. |
| DNAGAWA | BWR | 4 | | | | | HYD | HYD | 7.6 | 80-3-2 |
| HAMAOKA-1 | BWR | 5 | | | | | HYD | HYD | | 80-3-(8) |
| | | | | | | | | | | 70/ 5 |
| | | | | | | | | | | 70/ 5 |
| FUKUSIMA-2,3 | BWR | 7 | | | | | | | | 5. |
| SHIMANE | BWR | 8 | | | | | | | | 5. |
| FUKUSIMA-6 | BWR | 11 | | | | | HYD | HYD | 0.9/20.2/50.5/ | 8-3-(10) |
| TOKAI-2 | BWR | 12 | | | | | HYD | HYD | 0.9/20.2/50.5/ | 8-3-(10) |
| HAMAOKA-2 | BWR | 13 | | | | | HYD | HYD | 5. | 8-16 |
| | | | | | | | | | | 72/ 9 |
| VERMONT YANKEE | BWR | 52 | | | | | HYD | HYD | | A-2 |
| DRESDEN-1 | BWR | 55 | | | | | HYD | 15.24 | 259.1 CM/SEC | DNR V4 P94 |
| DRESDEN-2 | BWR | 56 | | | | | HYD | 7.5 | 1.6-2.6 | DNR V7 P193 |
| YANKEE | | 69 | Z2 | | | | | | | DNR V4 P36 |
| SAXTON | | 70 | *1) | | | | | | | DNR V4 P50 |

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CONTROL ROD PITCH MM 733280

| JPDR-1 | BWR | 1 | P=273.2 | MM | | | | | 70/ 8 |
|----------------|-----|----|---------|----|----------|--|--|--|------------|
| JPDR-2 | BWR | 2 | P=273.2 | MM | | | | | 70/ 8 |
| TSURUGA | BWR | 3 | P=305. | MM | | | | | R-9,80-3-3 |
| DNAGAWA | BWR | 4 | P=304.8 | MM | | | | | 8-3-(6) |
| HAMAOKA-1 | BWR | 5 | P=304.8 | MM | | | | | 8-113 |
| | | | | | | | | | 70/ 5 |
| FUKUSIMA-2,3 | BWR | 7 | P=304.8 | MM | | | | | 82-2-3 P13 |
| FUKUSIMA-5 | BWR | 9 | P=304.8 | MM | | | | | 8-3-(7) |
| FUKUSIMA-4 | BWR | 10 | P=304.8 | MM | | | | | 71/ 2 |
| FUKUSIMA-6 | BWR | 11 | P=304.8 | MM | | | | | 8-3-(7) |
| TOKAI-2 | BWR | 12 | P=304.8 | MM | | | | | 71/ 8 |
| | | | | | | | | | 8-3-(7) |
| | | | | | | | | | 72/ 1 |
| | | | | | | | | | 8-3-(7) |
| | | | | | | | | | 72/ 1 |
| HAMAOKA-2 | BWR | 13 | P=304.8 | MM | | | | | 8-96 |
| KASHIWAZAKI | BWR | 15 | P=304.8 | MM | WT=83.KG | | | | 8-3-26 |
| VERMONT YANKEE | BWR | 52 | P=304.8 | MM | | | | | 75/ 3 |
| BROWNS FERRY | BWR | 53 | P=304.8 | MM | | | | | A-2 |
| MILLSTON | BWR | 54 | P=304.8 | MM | | | | | GSK-19 |
| | | | | | | | | | 69/ 2 |
| | | | | | | | | | R-9 |
| | | | | | | | | | 66/ 8 |
| DRESDEN-2 | BWR | 56 | P=304.8 | MM | | | | | R-9 |
| OYSTER CREEK | BWR | 57 | P=304.8 | MM | | | | | R-9 |
| DUANE ARNOLD | BWR | 58 | P=304.8 | MM | | | | | 66/ 8 |
| FUGEN | ATR | 81 | P=480. | MM | | | | | A-2 P2 |
| | | | | | | | | | 70/ 7 |
| | | | | | | | | | 105 |

CORE CONTROL CLUSTER NUMBER FORM 733310

- (1)NUMBER OF CONTROL ROD CLUSTER PER CORE
- (2)NUMBER OF PART LENGTH CONTROL ROD CLUSTER PER CORE

| | | (1) | (2) | | |
|------------------|-----|-----|-----|----------|------------|
| MIHAMA-1 | PWR | 21 | 32 | | 8-20 |
| MIHAMA-1 | PWR | 21 | 29 | 4 | 66/11 |
| MIHAMA-2 | PWR | 22 | 29 | 4 | BK80-4 P6 |
| TAKAHAMA-2 | PWR | 23 | 45 | 8 | 71/ 9 |
| GENKAI-1 | PWR | 24 | 29 | 4 | BK80-4 P6 |
| | | | | | 71/ 9 |
| | | | | | 8-20 |
| | | | | | 70/ 5 |
| | | | | | 8-20,8-144 |
| | | | | | 70/ 5 |
| OJI-1,2 | PWR | 26 | 53 | 8 | |
| MIHAMA-3 | PWR | 27 | 48 | 5 | 8-20 |
| IKATA-1 | PWR | 28 | 29 | 4 | 8-20 |
| IKATA-2 | PWR | 30 | 29 | 4 | 71/ 8 |
| BURLINGTON | PWR | 71 | 53 | CLUSTERS | 8-24 |
| | | | | | 72/11 |
| | | | | | 8-3-40 |
| | | | | | 75/ 5 |
| | | | | | GSK-19 P4 |
| | | | | | 69/ 2 |
| TURKEY POINT-3,4 | PWR | 72 | 45 | 8 | |
| H.B.ROBINSON-2 | PWR | 73 | 45 | 8 | BK80-4 P5 |
| SURRY-1,2 | PWR | 74 | 48 | 5 | 71/ 9 |
| BEAVER VALLEY | PWR | 75 | 45 | 8 | BK80-4 P5 |
| NORTH ANNA-12 | PWR | 76 | 45 | 8 | 71/ 9 |
| | | | | | BK80-4 P5 |
| | | | | | 71/ 9 |
| | | | | | BK80-4 P 6 |
| | | | | | 71/ 9 |
| JOSEPH W.FARLEY | PWR | 77 | 45 | 8 | BK80-4 P 6 |
| | | | | | 71/ 9 |

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CONTROL CLUSTER CLADDING MATERIAL NUMBER SIZE 733320

CONTROL CLUSTER CLADDING
 (1) MATERIAL
 34S=304SS
 *1)=COLD WORKED
 SUS=STAINLESS STEEL
 (2) TUBE NUMBER
 *2)=TUBE NO. / CONTROL CLUSTER
 (3) TUBE OUTER DIA.(MM)
 (4) TUBE THICKNESS.(MM)
 (5) CONTROL CLUSTER EFFECTIVE LENGTH.(CM)
 (6) CONTROL CLUSTER STROKE.(CM)
 (7) CONTROL CLUSTER PART LENGTH.(CM)

| | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | | | |
|------------------|-----|-----|----------|-----|------|--------|----------|-------|-----------|-----------|-------|
| | | NO. | NO. | MM. | MM. | CM. | CM | CM | | | |
| MIHAMA-1 | PWR | 21 | 34S | 20 | | | | | BK80-4 P6 | 71/ 9 | |
| MIHAMA-2 | PWR | 22 | 34S | 20 | | | | | BK80-4 P6 | 71/ 9 | |
| TAKAHAMA-2 | PWR | 23 | SUS*1)20 | *2) | 10. | 0.5 | 366. | 90. | 8-20 | 70/ 5 | |
| GENKAI-1 | PWR | 24 | SUS*1)20 | *2) | 9.3 | 0.61 | *3) 360. | | 8-21 | 70/ 5 | |
| GENKAI-1 | PWR | 24 | | | 10.1 | 0.495 | *4) | | 8-22 | 70/ 5 | |
| TAKAHAMA-1 | PWR | 25 | 34S | 20 | | | | | BK80-4 P6 | 71/ 9 | |
| DOI-1,2 | PWR | 26 | SUS | 20 | *2) | 10. | 0.5 | 361. | 8-20 | 71/ 8 | |
| MIHAMA-3 | PWR | 27 | SUS | 20 | *2) | 10. | 0.5 | 366. | 8-20 | 71/ 8 | |
| IKATA-1 | PWR | 28 | SUS | 16 | *2) | 10. | 0.5 | 360. | 8-23 | 72/11 | |
| IKATA-2 | PWR | 30 | SUS | 16 | *2) | 10. | 0.5 | 360. | 8-3-40 | 75/ 5 | |
| SENDAI | PWR | 31 | SUS | 24 | | 0.5 | 360. | 90. | 8-3-47 | 76/ 5 | |
| BURLINGTON | PWR | 71 | 34S | 20 | *2) | 11.176 | 0.483 | 366.4 | 365.8 | GSK-19 P4 | 69/ 2 |
| TURKEY POINT-3,4 | PWR | 72 | 34S*1)20 | | | 0.483 | | | BK80-4 P5 | 71/ 9 | |
| H.B.ROBINSON-2 | PWR | 73 | 34S*1)20 | | | 0.483 | | | BK80-4 P5 | 71/ 9 | |
| SURRY-1,-2 | PWR | 74 | 34S*1)20 | | | 0.495 | | | BK80-4 P5 | 71/ 9 | |
| BEAVER VALLEY | PWR | 75 | 34S*1)20 | | | 0.495 | | | BK80-4 P5 | 71/ 9 | |
| NORTH ANNA-12 | PWR | 76 | 34S*1)20 | | | 0.495 | | | BK80-4 P6 | 71/ 9 | |
| JOSEPH W.FARLEY | PWR | 77 | 34S*1)20 | | | 0.495 | | | BK80-4 P6 | 71/ 9 | |

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CONTROL CLUSTER ABSORBER MATERIAL 733340

| | | | | | | | | | | |
|------------------|-----|----|----------|----------|--|--|--|--|-----------|-------|
| MIHAMA-1 | PWR | 21 | AG-IN-CD | 80-15-5 | | | | | BK80-4 P6 | 71/ 9 |
| MIHAMA-2 | PWR | 22 | AG-IN-CD | 80-15-5 | | | | | BK80-4 P6 | 71/ 9 |
| TAKAHAMA-2 | PWR | 23 | B4C | | | | | | 8-20 | 70/ 5 |
| GENKAI-1 | PWR | 24 | B4C | CD-IN-AG | | | | | 8-21 | 70/ 5 |
| TAKAHAMA-1 | PWR | 25 | B4C | | | | | | BK80-4 P6 | 71/ 9 |
| DOI-1,2 | PWR | 26 | B4C | | | | | | 8-20 | 71/ 1 |
| MIHAMA-3 | PWR | 27 | B4C | | | | | | 8-20 | 71/ 8 |
| IKATA-1 | PWR | 28 | AG-IN-CD | | | | | | 8-24 | 72/11 |
| IKATA-2 | PWR | 30 | AG-IN-CD | | | | | | 8-3-40 | 75/ 5 |
| SENDAI | PWR | 31 | AG-IN-CD | 80-15-5 | | | | | 8-3-47 | 76/ 5 |
| BURLINGTON | PWR | 71 | CD-IN-AG | 5-15-80 | | | | | GSK-19 | 69/ 2 |
| TURKEY POINT-3,4 | PWR | 72 | AG-IN-CD | 80-15-5 | | | | | BK80-4 P5 | 71/ 9 |
| H.B.ROBINSON-2 | PWR | 73 | AG-IN-CD | 80-15-5 | | | | | BK80-4 P5 | 71/ 9 |
| SURRY-1,-2 | PWR | 74 | AG-IN-CD | 80-15-5 | | | | | BK80-4 P5 | 71/ 9 |
| BEAVER VALLEY | PWR | 75 | B4C | | | | | | BK80-4 P5 | 71/ 9 |
| NORTH ANNA-12 | PWR | 76 | B4C | | | | | | BK80-4 P6 | 71/ 9 |
| JOSEPH W.FARLEY | PWR | 77 | B4C | | | | | | BK80-4 P6 | 71/ 9 |

CONTROL CLUSTER PITCH MM 733360

| | | | | | | | | | | |
|------------|-----|----|---------|----|--|--|--|--|--------|-------|
| BURLINGTON | PWR | 71 | P=304.1 | MM | | | | | GSK-19 | 69/ 2 |
|------------|-----|----|---------|----|--|--|--|--|--------|-------|

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CONTROL CLUSTER D.MECH. NUMBER TYPE SPEED 733510

CONTROL CLUSTER DRIVE MECHANISM

- (1)NUMBER
- (2)TYPE(NORMAL)
M.J=MAGNETIC JACK
*1=LATCH TYPE MAGNETIC JACK MECHANISM
*2=BOTTOM-MOUNTED MAGNETIC JACK WITH FRICTION GRIP
- (3)TYPE(SCRAM)
GR.=GRAVITY
- (4)NORMAL SPEED. (MAXIMUM = CM / MINUTE)
- (5)SCRAM TIME.(SEC)
- (6)ONE STEP DISTANCE.(MM)
- (7)POWER SOURCE.(VOLT)

| | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | |
|------------|--------|--------|-----------|---------|--------------------|------------|------------|--------|------------------|
| | | NO. | TP. | TP. | CM/M | SEC | MM. | VOLT | |
| MIHAMA-1 | PWR 21 | NO.=32 | MAG. JACK | GRAVITY | MAX= 38. CM/MINUTE | | | | 8-23 66/11 |
| MIHAMA-1 | PWR 21 | 29 | M.J | GR. | 38. | | | | HK80-2 P20 71/ 8 |
| MIHAMA-2 | PWR 22 | 29 | M.J | GR. | 114. | | | | HK80-2 P20 71/ 8 |
| TAKAHAMA-2 | PWR 23 | 45 | M.J | GR. | 114. | ABOUT 2.0 | ABOUT 16. | DC 125 | 8-23 70/ 5 |
| GENKAI-1 | PWR 24 | 29 | M.J | GR. | 114. | ABOUT 1.7 | ABOUT 15.9 | DC 125 | 8-24 70/ 5 |
| TAKAHAMA-1 | PWR 25 | 45 | M.J | GR. | 114. | | | | HK80-2 P20 71/ 8 |
| DUI-1,2 | PWR 26 | 53 | M.J | GR. | 114. | ABOUT 2.0 | ABOUT 16. | AC 260 | 8-23 71/ 1 |
| MIHAMA-3 | PWR 27 | 48 | M.J | GR. | 114. | ABOUT 2.0 | ABOUT 16. | AC 260 | 8-23 71/ 8 |
| IKATA-1 | PWR 28 | 29 | M.J | GR. | 114. | ABOUT 2.0 | ABOUT 16. | AC 260 | 8-26 72/11 |
| IKATA-2 | PWR 30 | 29 | M.J | GR. | 114. | ABOUT 1.7 | ABOUT 16. | AC 260 | 8-3-43 75/ 5 |
| SENDAI | PWR 31 | 48 | M.J | GR | 114. | 2.2(85P.C) | 16. | AC 260 | 8-3-49 76/ 5 |
| YANKEE | 69 | 24 | *1) | | | LT 2.0 | | | DNR V4 P36 61/ |
| SAXTON | 70 | 6 | *2) | | | LT 1.5 | | | DNR V4 P50 / |

P.U.I.S.T. ADJUSTER D.MECH. NUMBER TYPE 733550

- (1)NUMBER
- (2)DRIVE MECHANISM AT NORMAL OPERATION
DM1=ROLLER NUT
DM2=MAGNETIC JACK
DM3=RATCH TYPE MAGNETIC JACK
- (3)HOLD UP DEVICE AT POWER LOSS
HD1=BRAKE(HOLD)
HD2=LOCKING DEVICE
- (4)NORMAL DRIVE SPEED
CM/MINUTE
- (5)POWER SOURCE FOR DRIVE
PS1=AC 440 VOLT 3-P
PS2=AC 260 VOLT

| | | (1) | (2) | (3) | (4) | (5) | | |
|------------|--------|-----|-----|-----|------|-----|--|------------------|
| | | NO. | TP. | TP. | CM/M | | | |
| MIHAMA-1 | PWR 21 | 4 | DM1 | HD1 | 38 | | | KB80-2 P20 71/ 8 |
| MIHAMA-2 | PWR 22 | 4 | DM1 | HD1 | 38 | | | HK80-2 P20 71/ 8 |
| TAKAHAMA-2 | PWR 23 | 8 | DM1 | HD1 | 38 | PS1 | | 8-23 70/ 5 |
| GENKAI-1 | PWR 24 | 4 | DM1 | HD1 | 38 | PS1 | | 8-24 70/ 5 |
| TAKAHAMA-1 | PWR 25 | 8 | DM1 | HD1 | 38 | | | HK80-2 P20 71/ 8 |
| DUI-1,2 | PWR 26 | 8 | DM1 | HD1 | 38 | PS1 | | 8-25 71/ 1 |
| MIHAMA-3 | PWR 27 | 5 | DM1 | HD1 | 38 | PS1 | | 8-25 71/ 8 |
| IKATA-1 | PWR 28 | 4 | DM1 | HD1 | 38 | PS1 | | 8-28 72/11 |
| IKATA-2 | PWR 30 | 4 | DM1 | HD1 | 38 | PS1 | | 8-3-43 75/ 5 |
| SENDAI | PWR 31 | 5 | DM3 | HD2 | 38 | PS2 | | 8-3-50 76/ 5 |

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BURNABLE POISON MATERIAL

CONTROL WORTH 733730

- (1)CLADDING MATERIAL FOR BURNABLE POISON
CL1=STAINLESS STEEL
- (2)NUMBER OF BURNABLE POISON
M
- (3)EFFECTIVE LENGTH OF BURNABLE POISON
MM
- (4)OUTER DIAMETER OF ABSORBER
MM
- (5)OUTER DIAMETER OF CLADDING
MM
- (6)POISON MATERIAL
BP1=HOKKEISAN GLASS
- (7)CONTROL WORTH AT BUL
DELTA K
- (8)CONTROL WORTH AT EDL
DELTA K

| | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | |
|------------|--------|-----|------|------|-----|---------|------|-------|----------------|
| | | NO. | M | MM | MM | | | | |
| TAKAHAMA-2 | PWR 23 | CL1 | 816 | 3.66 | 10 | BP1 | 0.07 | | 8-25,127 70/ 5 |
| GENKAI-1 | PWR 24 | CL1 | 688 | 3.6 | 10 | BP1 | 0.07 | 0.006 | 8-27,144 70/ 5 |
| DUI-1,2 | PWR 26 | CL1 | 1500 | 3.61 | 10 | BP1 | 0.09 | | 8-25,130 71/ 1 |
| MIHAMA-3 | PWR 27 | CL1 | 816 | 3.66 | 10 | BP1 | 0.07 | | 8-25,127 71/ 8 |
| IKATA-1 | PWR 28 | CL1 | 794 | 3.6 | 10 | BP1 | 0.07 | 0.006 | 8-29,142 72/11 |
| IKATA-2 | PWR 30 | CL1 | 704 | 3.6 | 10 | 11 BP1 | 0.07 | 0.02 | 8-3-4 75/ 5 |
| SENDAI | PWR 31 | CL1 | 1072 | 3.6 | 8.5 | 9.8 BP1 | | | 8-3-48 76/ 5 |
| YANKEE | 69 | | NONE | | | | | | DNR V4 P36 / |
| SAXTON | 70 | | NONE | | | | | | DNR V4 P50 / |

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POISON CURTAIN MATERIAL NUMBER LENGTH WIDTH 734200

POISON CURTAIN
(1) MATERIAL
B.S.=HOKON SUS
*1)=NO POISON CURTAIN
*2)=3-REGION
*3)=SEE REV-1
(2) NUMBER
(3) LENGTH (MM)
(4) WIDTH (MM)
(5) THICK (MM)
(1) PPM

| | | | | | (2) | (3) | (4) | (5) | |
|----------------|-----|----|----------------|-----|-----|---------------------------|-------|-----|-------------------|
| | | | | | NO. | MM. | MM. | MM | |
| JPDR-1 | BWR | 1 | 930-1130 | H.S | 24 | 1667. | 248 | 3.2 | 70/ 8 |
| JPDR-2 | BWR | 2 | 930-1130 | B.S | 24 | 1667. | 248 | 3.2 | 70/ 8 |
| TSURUGA | BWR | 3 | *2) | B.S | 124 | 3454. | 216 | | 66/ 8 |
| TSURUGA | BWR | 3 | | B.S | 140 | | | | 80-3-3 P28 70/ 5 |
| ONAGAWA | BWR | 4 | 5400 | B.S | 156 | 3590. | | | 8-3-(11) 70/ 5 |
| HAMAOKA-1 | BWR | 5 | | B.S | 156 | 3590. | | | 8-20 70/ 5 |
| HAMAOKA-1 | BWR | 5 | *1) | | | | | | 95-2-3 71/ 9 |
| FUKUSIMA-1 | BWR | 6 | | B.S | 196 | 3630. | | | 82-3-3 P3 71/ 8 |
| FUKUSIMA-1 | BWR | 6 | | B.S | 172 | | | | 70/ 9 |
| FUKUSIMA-2,3 | BWR | 7 | *3) | B.S | 248 | | | | REV-0 / |
| FUKUSIMA-2,3 | BWR | 7 | | | 0 | | | | 82-2-3(RV-1) 70/ |
| SHIMANE | BWR | 8 | | B.S | 172 | | | | 89-8-2(R-1) 71/ 3 |
| SHIMANE | BWR | 8 | | | 50 | (AT 1ST REFUEL) | | | 8-14-(2) 75/ 7 |
| SHIMANE | BWR | 8 | | | 0 | (ON AND AFTER 2ND REFUEL) | | | 8-14-(2) 75/ 7 |
| HAMAOKA-2 | BWR | 13 | *1) | | | | | | 72/ 9 |
| KASHIWA7AKI | BWR | 15 | *1) | | | | | | / |
| VERMONT YANKEE | BWR | 52 | | B.S | 156 | | | | A-2 70/ 5 |
| BROWNS FERRY | BWR | 53 | 5700 | B.S | 356 | 3632.2 | 215.9 | 1.6 | GSK-19 P4 69/ 2 |
| BROWNS FERRY | BWR | 53 | *1) | | | | | | 95-2-3 P4 71/ 9 |
| MILLSTON | BWR | 54 | 4200*6500*4200 | B.S | 264 | 3632. | 191. | | R-9 66/ 8 |
| DRESDEN-2 | BWR | 56 | 4200*6500*4200 | B.S | | 3454. | 216. | | R-9 66/ 8 |
| DYSTER CREEK | BWR | 57 | 3000 | B.S | | | | | R-9 66/ 8 |
| DUANE ARNOLD | BWR | 58 | | B.S | 156 | | | | A-2 P3 70/ 7 |

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PRESSURE VESSEL DESIGN-P OPERAT-P DESIGN-T OPERAT-T 736100

---PRESSURE(KG/SQCMG)---
WORKING DESIGN TEST

---TEMPERATURE(DEG C)--
WORKING DESIGN TEST

| JPDR-1 | BWR | 1 | 61.5 | 77.3 | | | | 345. | JM-1654 P23 / |
|------------------|-----|----|-------|------|-------|--|------|------|-----------------|
| JPDR-2 | BWR | 2 | 61.5 | 77.3 | | | | 343. | KDN-6 P3 70/11 |
| TSURUGA | BWR | 3 | 70.3 | 88. | | | | 302. | 80-3-2 70/ 6 |
| ONAGAWA | BWR | 4 | 70.7 | 87.9 | | | 286. | 302. | 8-3-(13) 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 70.7 | 87.9 | | | | 302. | 8-23 70/ 5 |
| FUKUSIMA-1 | BWR | 6 | 70.7 | 87.9 | | | | 302. | / |
| FUKUSIMA-2,3 | BWR | 7 | 70.7 | 87.9 | | | | 302. | / |
| SHIMANE | BWR | 8 | 70.7 | 87.9 | | | | 302. | 8-3-(13) 71/ 2 |
| FUKUSIMA-5 | BWR | 9 | 70.7 | 87.9 | | | 286. | 302. | 8-3-(13) 71/ 8 |
| FUKUSIMA-4 | BWR | 10 | 70.7 | 87.9 | | | | 302. | / |
| FUKUSIMA-6 | BWR | 11 | 71.7 | | | | | 216. | 8-2-(23) 74/ 9 |
| TOKAI-2 | BWR | 12 | 70.7 | 87.9 | | | 286. | 302. | 8-3-(13) 72/ 1 |
| HAMAOKA-2 | BWR | 13 | 70.7 | 87.9 | | | 286. | 302. | 8-19 72/ 9 |
| KASHIWA7AKI | BWR | 15 | 70.7 | 87.9 | | | 286. | 302. | 8-4-12 75/ 3 |
| MIHAMA-1 | PWR | 21 | 158. | 175. | | | | | / |
| MIHAMA-2 | PWR | 22 | . | 175. | | | | | BK80-4 P8 71/ 9 |
| TAKAHAMA-2 | PWR | 23 | 157. | 175. | | | 343. | | / |
| GENKAI-1 | PWR | 24 | 157. | 175. | | | 343. | | 8-30 / |
| TAKAHAMA-1 | PWR | 25 | . | 175. | | | | | 8-28 71/ 1 |
| OOI-1,2 | PWR | 26 | 157. | 175. | | | | | / |
| MIHAMA-3 | PWR | 27 | 157. | 175. | | | | 343. | 8-28 71/ 8 |
| IKATA-1 | PWR | 28 | | 175. | | | | 343. | 8-32 72/11 |
| IKATA-2 | PWR | 30 | 157. | 175. | | | | 343. | 8-4-19 75/ 5 |
| SENDAI | PWR | 31 | 157. | 175. | | | | 343. | 8-4-22 76/ 5 |
| VERMONT YANKEE | BWR | 52 | 70.7 | 87.9 | | | | 302. | A-2 70/ 5 |
| MILLSTON | BWR | 54 | . | 87.9 | | | | 302. | R-9 66/ 8 |
| DRESDEN-1 | BWR | 55 | 71.4 | 87.9 | | | 286. | 302. | DNR V4 P94 62/ |
| DRESDEN-2 | BWR | 56 | 71.4 | 87.9 | | | | 302. | DNR V7 P194 68/ |
| DYSTER CREEK | BWR | 57 | | 87.9 | | | | 302. | R-9 66/ 8 |
| DUANE ARNOLD | BWR | 58 | | 87.9 | | | | 302. | A-2 P3 70/ 7 |
| YANKEE | | 69 | 139.6 | | 262.7 | | | | DNR V4 P36 61/ |
| SAXTON | | 70 | 138.6 | | 263.7 | | | | DNR V4 P50 61/ |
| TURKEY POINT-3,4 | PWR | 72 | | 175. | | | | | BK80-4 P7 71/ 9 |
| H.B.ROBINSON-2 | PWR | 73 | | 175. | | | | | BK80-4 P7 71/ 9 |
| SURRY-1,-2 | PWR | 74 | | 175. | | | | | BK80-4 P7 71/ 9 |
| BEAVER VALLEY | PWR | 75 | | 175. | | | | | BK80-4 P7 71/ 9 |
| NORTH ANNA-12 | PWR | 76 | | 175. | | | | | BK80-4 P8 71/ 9 |
| JOSEPH M.FARLEY | PWR | 77 | | 175. | | | | | BK80-4 P8 71/ 9 |
| FUGEN | ATR | 81 | 72.0 | 82.0 | | | 286. | | 105-5 P6 73/12 |

| MAIN | NOZZLE | OF | PRESSURE VESSEL | 736120 |
|-------------|--------|----|----------------------|---|
| | | | | (1)NUMBER OF RECIRC. OUTLET NOZZLE |
| | | | | (1B)POSITION OF RECIRC. OUTLET NOZZLE |
| | | | | (2)NUMBER OF RECIRC. INLET NOZZLE |
| | | | | (2B)POSITION OF RECIRC. INLET NOZZLE |
| | | | | (3)NUMBER OF STEAM LINE NOZZLE |
| | | | | (3B)POSITION OF STEAM LINE NOZZLE |
| | | | | (4)NUMBER OF FEED WATER INLET NOZZLE |
| | | | | (4B)POSITION OF FEED WATER INLET NOZZLE |
| | | | | LP=LOWER OF PV BODY |
| | | | | MP=MIDDLE OF PV BODY |
| | | | | UP=UPPER OF PV BODY |
| | | | | (1A)(1B) (2A)(2B) (3A)(3B) (4A)(4B) |
| KASHIWAZAKI | BWR | 15 | 2 LP 10 LP 4 UP 6 MP | 9 75/ 3 |

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PRESSURE VESSEL SIZE

736200

| | | | (1) | (2) | (3) | (4) | (5) | |
|------------------|-----|----|-----------|-----------|-----------------------------|---------|-----|------------------|
| | | | METER | METER | MM | MM | MM | |
| | | | | | | | | JM-1654 P23 / |
| JPOR-1 | BWR | 1 | 8.18 | 2.083 | 67+6.4 | | | KDN.6-P3 70/11 |
| JPOR-2 | BWR | 2 | 8.13 | 2.083 | 67+6.4 | | | 80-3-2 70/ 6 |
| TSURUGA | BWR | 3 | 18.060 | 4.343 | 146+5.56 | | | 8-3-(13) 70/ 5 |
| DNAGAWA | BWR | 4 | 21.24 | 4.7 | +3.2 | | | 8-23 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 21.24 | 4.7 | | | | R-9 70/ 5 |
| FUKUSIMA-1 | BWR | 6 | 19.0 | 4.8 | 160+5.56 | | | / |
| FUKUSIMA-1 | BWR | 6 | 18.847 | 4.775 | | | | 70/ 5 |
| FUKUSIMA-2,3 | BWR | 7 | 22.0 | 5.57 | | | | 70/ 5 |
| SHIMANE | BWR | 8 | 19.0 | 4.8 | 120 | | | 8-3-(14) 71/ 2 |
| FUKUSIMA-5 | BWR | 9 | 22.0 | 5.57 | | | | 8-3-(14) 71/ 8 |
| FUKUSIMA-4 | BWR | 10 | 22.0 | 5.538(GT) | | | | 8-3-(13) 72/ 1 |
| FUKUSIMA-6 | BWR | 11 | 23.0 | 6.375 | | | | 8-3-(13) 72/ 1 |
| TODKAI-2 | BWR | 12 | 23.0 | 6.375 | | | | 8-19 72/ 9 |
| HAMAOKA-2 | BWR | 13 | 22.0 | 5.6 | | | | 8-4-12 75/ 3 |
| KASHIWAZAKI | BWR | 15 | 22.0 | 6.4 | 160 | | | / |
| MIHAMA-1 | PWR | 21 | 10.736 | 3.3 | 235+4 | | | BK80-4 P8 71/ 9 |
| MIHAMA-1 | PWR | 21 | | 3.339 | | | | BK80-4 P8 71/ 9 |
| MIHAMA-1 | PWR | 21 | 10.922 | 3.327 | 165 | | | 8-28,8-140 70/ 5 |
| MIHAMA-2 | PWR | 22 | 11.867 | 3.353 | 168 | | | 8-30 70/ 5 |
| TAKAHAMA-2 | PWR | 23 | 13. | 4. | 200 | | | BK80-4 P8 71/ 9 |
| GENKAI-1 | PWR | 24 | 11.467 | 3.353 | | | | 8-28 71/ 1 |
| TAKAHAMA-1 | PWR | 25 | 13. | 4. | 197 | | | 8-28 71/ 8 |
| OUI-1,2 | PWR | 26 | 13. | 4.4 | | | | 8-32 72/11 |
| MIHAMA-3 | PWR | 27 | 13. | 4. | | | | 8-4-19 75/ 5 |
| IKATA-1 | PWR | 28 | 11.5 | 3.3 | | | | 8-4-22 76/ 5 |
| IKATA-2 | PWR | 30 | 11.2(1) | 3.35 | | | | A-2 70/ 5 |
| SENDAI | PWR | 31 | 12.1(1) | 4.0 | | | | R-9 66/ 8 |
| VERMONT YANKEE | BWR | 52 | 19.24 | 5.23 | +3.2 | | | DNR V4 P94 62/ |
| MILLSTON | BWR | 54 | 19.71 | 5.68 | 144+3.2 | | | DNR V4 P94 62/ |
| DRESDEN-1 | BWR | 55 | 12.44 | 3.71 | 140+9.5 | 229+9.5 | | R-9 66/ 8 |
| DRESDEN-1 | BWR | 55 | 10.67 DIA | 21.3 | HIGH(WITH SHIELDING) | | | DNR V4 P94 62/ |
| DRESDEN-2 | BWR | 56 | 20.73 | 6.38 | 162+3.2 | | | R-9 66/ 8 |
| DRESDEN-2 | BWR | 56 | 10.67 DIA | 29. | HIGH(WITH SHIELDING) | | | DNR V7 68/ |
| OYSTER CREEK | BWR | 57 | 18.54 | 5.41 | 187+4.0 | | | R-9 66/ 8 |
| DUANE ARNOLD | BWR | 58 | 20.22 | 4.65 | +3.2 | | | A-2 P3 70/ 7 |
| YANKEE | | 69 | 9.60 | 2.7586 | 200 | | | DNR V4 P36 61/ |
| YANKEE | | 69 | 25.15 DIA | 19.05 | HIGH(WITH BIOLOGICAL SHILD) | | | DNR V4 P36 61/ |
| SAXTON | | 70 | 5.4864 | 1.4732 | 130.175=(114.3+12.7+3.175) | | | DNR V4 P50 61/ |
| TURKEY POINT-3,4 | PWR | 72 | 12.9794 | 3.9497 | | | | BK80-4 P7 71/ 9 |
| H.B.ROBINSON-2 | PWR | 73 | 12.6492 | 3.9497 | | | | BK80-4 P7 71/ 9 |
| SURRY-1,-2 | PWR | 74 | 12.319 | 3.9878 | | | | BK80-4 P7 71/ 9 |
| BEAVER VALLEY | PWR | 75 | 12.9794 | 3.9878 | | | | BK80-4 P7 71/ 9 |

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NORTH ANNA-12 PWR 76 12.319 3.9878
 JOSEPH W. FARLEY PWR 77 12.9794 3.9878

BK80-4 P8 71/ 9
 BK80-4 P8 71/ 9

P.V. NDI INITIAL FINAL HEAT AND COOLING RATE 736300

| | | | | (1) INITIAL NOT DEG C | | FLANGE PART | | | |
|-------------|-----|-------|-------|------------------------|-----|-------------|------------|-------|--|
| | | | | (2) | | OTHER PARTS | | | |
| | | | | (3) FINAL NOT LT DEG C | | | | | |
| | | | | (4) H. AND C. RATE C/H | | | | | |
| | | | | *1)=DESIGN VALUE | | | | | |
| | | (1) | (2) | (3) | (4) | | | | |
| | | DEG C | DEG C | DEG C | C/H | | | | |
| TSURUGA | BWR | 3 | - 12. | + 4. | 96. | 55. | 80-3-3.P20 | 70/ 5 | |
| DNAGAWA | BWR | 4 | - 12. | + 4. | 59. | 55. | 8-3-(14) | 70/ 5 | |
| HAMAOKA-1 | BWR | 5 | - 12. | + 4. | 65. | 55. | 8-23 | 70/ 5 | |
| FUKUSIMA-1 | BWR | 6 | - 12. | + 4. | 55. | 55. | | | |
| FUKUSIMA-5 | BWR | 9 | - 12. | + 4. | 45. | 55. | 8-3-(14) | 71/ 2 | |
| FUKUSIMA-4 | BWR | 10 | - 12. | + 4. | 45. | 55. | 8-3-(14) | 71/ 2 | |
| FUKUSIMA-6 | BWR | 11 | - 12. | + 4. | 32. | 55. | 8-3-(13) | 72/ 1 | |
| TOKAI-2 | BWR | 12 | - 12. | + 4. | 32. | 55. | 8-3-(13) | 72/ 1 | |
| HAMAOKA-2 | BWR | 13 | - 12. | + 4. | 60. | 55. | 8-19 | 72/ 9 | |
| KASHIWA7AKI | BWR | 15 | - 12. | + 4. | 32. | 55. | 8-4-12 | 75/ 3 | |
| TAKAHAMA-2 | PWR | 23 | - 6.7 | *1) | | | 8-29 | 72/ 1 | |
| GENKAI-1 | PWR | 24 | | | | 55. | 8-30 | 70/ 5 | |
| DOI-1+2 | PWR | 26 | - 6.7 | *1) | | | 8-29 | 71/ 1 | |
| MIHAMA-3 | PWR | 27 | - 6.7 | *1) | | | 8-29 | 71/ 8 | |
| IKATA-1 | PWR | 28 | | | | 55. | 8-32 | 72/11 | |
| IKATA-2 | PWR | 30 | - 12. | *1) | | 55. | 8-4-19 | 75/ 5 | |
| SENDAI | PWR | 31 | - 12. | *1) | | 55. | 8-4-22 | 76/ 5 | |

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PRESSURE VESSEL BASE OVERLAY MATERIAL 736400

| | | | | (1) BASE 1 MATERIAL | | | | | | |
|--------------|-----|-----|---|---|----------------|-----|------------|-------|---|--|
| | | | | (2) BASE 2 MATERIAL | | | | | | |
| | | | | (3) OVERLAY MATERIAL | | | | | | |
| | | | | (4) STUD MATERIAL | | | | | | |
| | | | | (5) SKIRT MATERIAL | | | | | | |
| | | | | BS1=GENSIRYOKU HATUDEN-YOO MN.MO.NI.-KODHAN 2-SHU SOOTOOHIN | | | | | | |
| | | | | BS2=GENSIRYOKU HATUDEN-YOO TANKODHIN 2-SHU SOOTOOHIN | | | | | | |
| | | | | BS3=LOW ALLOY STEEL | | | | | | |
| | | | | BS4=MN.MO-STEEL (ASTM A533 GR.B CL.1 SOOTUD | | | | | | |
| | | | | BS5=GENSIRYOKU HATUDEN-YOO TANKODHIN 3-SHU B SOOTOOHIN | | | | | | |
| | | | | OV1=STAINLESS ST. ASTM-371-ER309 KAIRYODGATA SOOTUD | | | | | | |
| | | | | OV2=STAINLESS ST. AND HIGH NI ALLOY | | | | | | |
| | | | | OV3=304SS(COBALT LT 0.2 PERCENT) | | | | | | |
| | | | | OV4=SUS-27 SOOTUD | | | | | | |
| | | | | MT1=GENSIRYOKU HATUDEN-YOO MN.MO.-KODHAN 1-SHU | | | | | | |
| | | | | MT2=NI.CR.MO. STEEL (ASTM A540 R23 SOOTUD) | | | | | | |
| | | | | MT3=ALLOY STEEL | | | | | | |
| | | | | MT4=LOW ALLOY HIGH TENSION STEEL | | | | | | |
| | | | | MT5=LOW ALLOY HIGH TENSION STEEL (ASTM A540 B24 SOOTUD) | | | | | | |
| | | (1) | (2) | (3) | (4) | (5) | | | | |
| JPDR-1 | BWR | 1 | SA-302B | | 308SS,309SS | | | | / | |
| JPDR-2 | BWR | 2 | SA-302B | | 308SS,309SS | | | | / | |
| TSURUGA | BWR | 3 | SA-302B | SA-336 | 308SS,309SS | | R-9 | 66/ 8 | | |
| DNAGAWA | BWR | 4 | SA-533 | SA-508 | | | 8-3-(14) | 70/ 5 | | |
| HAMAOKA-1 | BWR | 5 | SA-533 | SA-508 | | | 8-23 | / | | |
| FUKUSIMA-1 | BWR | 6 | SA-302B | SA-336 | 309SS,ASTM-371 | | R-9 | 70/ 5 | | |
| FUKUSIMA-2,3 | BWR | 7 | SA-533 | SA-508 | | | | 70/ 5 | | |
| SHIMANE | BWR | 8 | SA-533B | SA-508 | | | | 70/ 5 | | |
| FUKUSIMA-5 | BWR | 9 | BS1,BS2 | | OV1 | MT1 | 8-3-(14) | 71/ 2 | | |
| FUKUSIMA-4 | BWR | 10 | BS1,BS2 | | OV1 | MT1 | 8-3-(14) | 71/ 8 | | |
| FUKUSIMA-6 | BWR | 11 | BS1,BS2 | | OV1 | MT1 | 8-3-(13) | 72/ 1 | | |
| TOKAI-2 | BWR | 12 | BS1,BS2 | | OV1 | MT1 | 8-3-(13) | 72/ 1 | | |
| HAMAOKA-2 | BWR | 13 | BS1,BS2 | | OV1 | | 8-19 | 72/ 9 | | |
| KASHIWA7AKI | BWR | 15 | BS1,BS2 | | OV2 | | 8-4-12 | 75/ 3 | | |
| MIHAMA-1 | PWR | 21 | SA-302B | | | | R-9 | 70/ 5 | | |
| TAKAHAMA-2 | PWR | 23 | MN.MO.ST | | SUS | | 8-29 | 70/ 5 | | |
| GENKAI-1 | PWR | 24 | MN.MO.ST | | SUS | | 8-30 | 70/ 5 | | |
| DOI-1+2 | PWR | 26 | RS3 | | OV3 | | 8-29 | 71/ 1 | | |
| MIHAMA-3 | PWR | 27 | BS4(BODY AND LID) | | OV4 | MT2 | 8-29 | 71/ 8 | | |
| IKATA-1 | PWR | 28 | BS4(HOLT AND LID) | | SUS | MT3 | 8-32 | 72/11 | | |
| IKATA-2 | PWR | 30 | BS1,BS5 | | SUS | MT4 | 8-4-19 | 75/ 5 | | |
| SENDAI | PWR | 31 | BS1,BS5 | | 304SS | MT5 | 8-4-20 | 76/ 5 | | |
| WILLSTON | BWR | 54 | SA-302B | | 304SS | | R-9 | 66/ 8 | | |
| DRESDEN-1 | BWR | 55 | CARBON ST WITH MO | | 304SS | | DNR V4 P94 | 62/ | | |
| DRESDEN-2 | BWR | 56 | SA-302B | | 304SS | | R-9 | 66/ 8 | | |
| OYSTER CREEK | BWR | 57 | SA-302B | | 304SS | | R-9 | 66/ 8 | | |
| YANKEE | | 69 | CARBON STEEL | | 304SS | | DNR V4 P36 | 61/ | | |
| SAXTON | | 70 | MULTILAYER DESIGN USING---- | | | | DNR V4 P50 | 61/ | | |
| SAXTON | | 70 | 1PLATES 1/4 IN. THICK ASTM A-212B MODIFIED CARBON STEEL | | | | DNR V4 P50 | 61/ | | |
| SAXTON | | 70 | 1PLATE 1/2 IN. THICK ASTM A-246GR3 CLAD WITH | | | | DNR V4 P50 | 61/ | | |
| SAXTON | | 70 | ASTM A-212B-F89 BACKING MATERIAL | | | | DNR V4 P50 | 61/ | | |

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| PRESSURE VESSEL | BASE | OVERLAY | MATERIAL | 736400 | (1) | (2) | (3) | (4) | (5) | DNR V4 P50 | 61/ |
|-----------------|------|---------|--------------------|---------------------|-----|-----|-----|-----|-----|------------|-----|
| SAXTON | | 70 | 1/8 IN. THICK TYPE | 304 STAINLESS STEEL | | | | | | | |

PRESSURE VESSEL APPLIED STANDARD LIFE AND N.DUSE 736600

- (1)PRESSURE VESSEL APPLIED STANDARD
- ASME.3=ASME SECTION-3
- ASME.8=ASME SECTION-8
- (2)DESIGN LIFE. (YEARS)
- (3)ESTIMATE IRRADIATION DOSE. (* E19 NVT(GT 1MEV))
- (4)PRESSURE VESSEL WEIGHT INCLUDE LID. (W.=TON)
- *1)=INCLUDE LID
- *2)=INCLUDE PV INTERNALS + WATER
- *3)=BODY(280 TON+LID=55 TON+HOLD-DOWN=26 TON+BARREL=113 TON)
- *4)=FUEL(100 TON+CONTROL-CLUSTER AND OTHERS=10 TON)

| (1) | (2) | (3) | (4) | | | |
|--------------|-----|-----|--------|--------|-----------------|-------------------|
| JPDR-1 | BWR | 1 | ASME.8 | 20 | | JM-1654 P23 / |
| JPDR-2 | BWR | 2 | ASME.8 | 20 | | / |
| TSURUGA | BWR | 3 | ASME.8 | 40 | 274.1 | / |
| ONAGAWA | BWR | 4 | ASME.3 | | 1. 340. *1) | 8-3-(13) 70/ 5 |
| HAMAOKA-1 | BWR | 5 | ASME.3 | | 1. 340. *1) | 8-23 70/ 5 |
| FUKUSIMA-1 | BWR | 6 | ASME.8 | 40 | 440. | 70/ 5 |
| FUKUSIMA-2,3 | BWR | 7 | ASME.3 | | 500. | 70/ 5 |
| SHIMANE | BWR | 8 | ASME.3 | | 390. | 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | | 40 | 1. 500. *1) | 8-3-(13),14 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | | 40 | 1. 500. *1) | 8-3-(13),14 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | | | 750. *1) | 8-3-(13) 72/ 1 |
| TODOKAI-2 | BWR | 12 | | | 750 *1) | 8-3-(13) 72/ 1 |
| HAMAOKA-2 | BWR | 13 | | 40 | 1. 550 *1) | 8-18 72/ 9 |
| KASHIWAZAKI | BWR | 15 | | 40 | 0.0362 750. *1) | 8-4-12 75/ 3 |
| MIHAMA-1 | PWR | 21 | | 40(30) | | 8-30 70/ 5 |
| TAKAHAMA-2 | PWR | 23 | | | 700 *2) | 8-19 72/ 9 |
| OOI-1,2 | PWR | 26 | | | 900 *2) | 8-140 70/ 5 |
| MIHAMA-3 | PWR | 27 | | | 700 *2) | 8-142 71/ 1 |
| MIHAMA-3 | PWR | 27 | | | *3 | / |
| MIHAMA-3 | PWR | 27 | | | *4 | 8K80-7 P3 71/ 9 |
| IKATA-2 | PWR | 30 | | 30 | 3. | 8-4-19 75/ 5 |
| MILLSTON | BWR | 54 | ASME.3 | | | R-9 66/ 8 |
| DRESDEN-2 | BWR | 56 | ASME.3 | | | R-9 66/ 8 |
| OYSTER CREEK | BWR | 57 | ASME.8 | | | R-9 66/ 8 |

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| STEAM | SEPARAT. UNIT NO. TYPE | MATERIAL | 737220 | ---FLOW T/H/UNIT--- | | | | |
|-------------|------------------------|----------|----------------------|---------------------|-------|-------|-------|-----------------|
| | | TYPE | UNIT NO. | MATE-RIAL | STEAM | WATER | TOTAL | |
| JPDR-2 | BWR | 2 | CENTRIFUGAL | | | | | KON-6 P2 70/11 |
| ONAGAWA | BWR | 4 | AXIAL FLOW NO.=106 | SUS | 27.8 | 184.2 | 212. | 8-3-(15) 70/ 5 |
| HAMAOKA-1 | BWR | 5 | AXIAL FLOW NO.=108 | SUS | 27. | 184. | 211. | 8-25 70/ 5 |
| FUKUSIMA-1 | BWR | 6 | AXIAL-CENTRIFUG. 109 | SUS27TP | 23.1 | 177.0 | 200.1 | MEMO P113 70/ 3 |
| FUKUSIMA-5 | BWR | 9 | AXIAL FLOW NO.=151 | SUS | 30. | 194. | 224. | 8-3-(16) 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | AXIAL FLOW NO.=151 | SUS | 30. | 194. | 224. | 8-3-(16) 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | AXIAL CENT.F NO.=225 | SUS | 30. | 194. | 224. | 8-3-(15) 72/ 1 |
| TODOKAI-2 | BWR | 12 | AXIAL CENT.F NO.=225 | SUS | 30. | 194. | 224. | 8-3-(15) 72/ 1 |
| HAMAOKA-2 | BWR | 13 | AXIAL FLOW NO.=163 | SUS | 29. | 189. | 218. | 8-21 72/ 9 |
| KASHIWAZAKI | BWR | 15 | AXIAL CENT.F NO.=225 | SUS | 30. | 190. | 220. | 8-3-84 75/ 3 |

| STEAM | SEPARAT. INLET | QUALITY | CARRY | UNDER | 737240 | | |
|------------|----------------|---------------|-----------------|--------------------------------|--------|-----------|-------|
| | | INLET QUALITY | | CARRY UNDER | | | |
| ONAGAWA | BWR | 4 | | LE 0.2 WT.PC (OF SEPARATED.F) | | 8-3-(16) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 13. WT.PC(MEAN) | LE 0.2 WT.PC (OF RECIRC FLOW) | | 8-26 | 70/ 5 |
| FUKUSIMA-1 | BWR | 6 | | LE 0.2 WT.PC (OF RECIRC FLOW) | | MEMO P113 | 70/ 3 |
| FUKUSIMA-5 | BWR | 9 | 13.3WT.PC(MEAN) | LE 0.2 WT.PC (OF RECIRC FLOW) | | 8-3-(15) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 13.3WT.PC(MEAN) | LE 0.2 WT.PC (OF RECIRC FLOW) | | 8-3-(16) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 13.5WT.PC(MEAN) | LE 0.2 WT.PC | | 8-3-(15) | 72/ 1 |
| TODOKAI-2 | BWR | 12 | 13.5WT.PC(MEAN) | LE 0.2 WT.PC | | 8-3-(15) | 72/ 1 |
| HAMAOKA-2 | BWR | 13 | 13.2WT.PC(MEAN) | LE 0.25 WT.PC | | 8-21 | 72/ 9 |

| STEAM | DRYER | NUMBER | CAPACITY | OPERATAB LE | TEMP | 737410 | | |
|------------|-------|--------|--------------|-------------|--------|--------|-----------|-------|
| | | --- | --- | --- | --- | | | |
| FUKUSIMA-1 | BWR | 6 | 14. ELEMENTS | 2520.T/H | 302. C | | MEMO P113 | 70/ 3 |

| STEAM | DRYER | TYPE | INLET | OUTLET | WETNESS | 737420 | | |
|-------------|-------|------|------------------|----------|---------------|----------------------------|-----------|-------|
| | | | TYPE | MATERIAL | INLET WETNESS | OUTLET WETNESS /STEAM FLOW | | |
| JPDR-2 | BWR | 2 | WIRE MESH BAFFLE | | | | KON-6 P2 | 70/11 |
| ONAGAWA | BWR | 4 | DIMPLE PLATE | SUS | | | 8-3-(16) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | DIMPLE PLATE | SUS | LE 10. WT.PC | | 8-26 | 70/ 5 |
| FUKUSIMA-1 | BWR | 6 | DIMPLE PLATE | SUS27TP | LE 11.6 WT.PC | | MEMO P113 | 70/ 3 |
| FUKUSIMA-5 | BWR | 9 | DIMPLE PLATE | SUS | LE 10. WT.PC | | 8-3-(16) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | DIMPLE PLATE | SUS | LE 10. WT.PC | | 8-3-(16) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | DIMPLE PLATE | SUS | LE 10. WT.PC | | 8-3-(15) | 72/ 1 |
| TODOKAI-2 | BWR | 12 | DIMPLE PLATE | SUS | LE 10. WT.PC | | 8-3-(15) | 72/ 1 |
| HAMAOKA-2 | BWR | 13 | DIMPLE PLATE | SUS | LE 10. WT.PC | | 8-22 | 72/ 9 |
| KASHIWAZAKI | BWR | 15 | DIMPLE PLATE | SUS | LE 10. WT.PC | | 8-3-84 | 75/ 3 |

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JET PUMP NUMBER CAPACITY

738200

| | | | NUMBER CAPACITY (A) | TOTAL-HEAD (B) | DRIV.FLOW (C) | DRIV. HEAD (D) | | |
|--------------|-----|----|---------------------|----------------|---------------|----------------|-------------|-------|
| TSURUGA | BWR | 3 | NONE | | | | | / |
| DNAGAWA | BWR | 4 | 16. 1410*16 T/H | 24.3 M | 570.*16 T/H | 131.0 M | 8-3-(17) | 70/ 5 |
| HAMADKA-1 | BWR | 5 | 16. 1430*16 T/H | 24.2 M | 603.*16 T/H | 121. M | 8-27 | 70/ 5 |
| FUKUSIMA-1 | BWR | 6 | 20. 1090*20 T/H | 19.9 M | 545.*20 T/H | 72.3 M | COM-M P124 | 70/ 3 |
| FUKUSIMA-2,3 | BWR | 7 | 20. | | | | | / |
| SHIMANE | BWR | 8 | 20. | | | | | / |
| FUKUSIMA-5 | BWR | 9 | 20. 1690*20 T/H | 25.1 M | 756.*20 T/H | 114.3 M | 8-3-(17) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 20. 1690*20 T/H | 25.1 M | 756.*20 T/H | 114.3 M | 8-3-(17) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 20. 2420*20 T/H | 24.1 M | 805.*20 T/H | 135. M | 8-3-(16) | 72/ 1 |
| TOKKAI-2 | BWR | 12 | 20. 2420*20 T/H | 24.1 M | 805.*20 T/H | 135. M | 8-3-(16) | 72/ 1 |
| HAMADKA-2 | BWR | 13 | 20. 1780*20 T/H | 24.8 M | 785.*20 T/H | 115. M | 8-23 | 72/ 9 |
| KASHIWAZAKI | BWR | 15 | 20. 2458*20 T/H | 25.3 M | 809.*20 T/H | 166. M | 8-3-84 | 75/ 3 |
| DRESDEN-2 | BWR | 56 | 20. | | | | DNR V7 P193 | 687 |
| OYSTER CREEK | BWR | 57 | NONE | | | | R-9 | 66/ 8 |

JET PUMP FLOW AND PRESSURE RATIO AND EFFICIE. 738400

| | | | FLOW RATIO (E)=(A-C)/C | EFFICIENCY (F)=(A-C)/C | PRESSURE RATIO (G)=(B)/(D-B) | JET PUMP EFFICIENCY (H)=(E)*(G) | | |
|-------------|-----|----|------------------------|------------------------|------------------------------|---------------------------------|------------|-------|
| DNAGAWA | BWR | 4 | (E)=1.48 | (F)=0.46 | (G)=0.228 | (H)=0.337 | 8-3-(17) | 70/ 5 |
| HAMADKA-1 | BWR | 5 | (E)=1.37 | (F)=0.473 | (G)=0.249 | (H)=0.342 | 8-27 | / |
| FUKUSIMA-1 | BWR | 6 | (E)=1.00 | (F)=0.348 | (G)=0.348 | (H)=0.348 | COM-M P124 | 70/ 3 |
| FUKUSIMA-5 | BWR | 9 | (E)=1.23 | (F)=0.491 | (G)=0.281 | (H)=0.345 | 8-3-(17) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | (E)=1.23 | (F)=0.491 | (G)=0.281 | (H)=0.345 | 8-3-(17) | 71/ 8 |
| HAMADKA-2 | BWR | 13 | (E)=1.27 | (F)=0.463 | (G)=0.256 | (H)=0.325 | 8-23 | 72/ 9 |
| KASHIWAZAKI | BWR | 15 | (E)=2.04 | (F)=0.463 | (G)=0.176 | (H)=0.359 | 8-3-84 | 75/ 3 |

JET PUMP SIZE AND VELOCITY AT NOZZLE 738600

| | | | NOZZLE DIA | VEL. AT NOZZLE | THROAT DIA | DIFFUSER LENGTH | | |
|-------------|-----|----|------------|----------------|--------------|-----------------|------------|-------|
| DNAGAWA | BWR | 4 | 71.1 MM | 52.5 M/SEC | 154.2 MM | 2362. MM | 8-3-(17) | 70/ 5 |
| HAMADKA-1 | BWR | 5 | 71.1 MM | 55. M/SEC | 155.2 MM | | 8-27 | 70/ 5 |
| FUKUSIMA-1 | BWR | 6 | 78.4 MM | 42.7 M/SEC | 143.0 MM | 1490. MM | COM-M P124 | 70/ 3 |
| FUKUSIMA-5 | BWR | 9 | 86.4 MM | 47.5 M/SEC | 172.7 MM | 2300. MM | 8-3-(17) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 86.4 MM | 47.5 M/SEC | 172.7 MM | 2300. MM | 8-3-(17) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 79.8 MM | 59.2 M/SEC | 207.8 MM | | 8-3-(16) | 72/ 1 |
| TOKKAI-2 | BWR | 12 | 79.8 MM | 59.2 M/SEC | 207.8 MM | | 8-3-(17) | 72/ 1 |
| HAMADKA-2 | BWR | 13 | 86.4 MM | 46.5 M/SEC | 174.2 MM(10) | | 8-23 | 72/ 9 |
| KASHIWAZAKI | BWR | 15 | 33. MM | 69.8 M/SEC | | | 8-3-85 | 75/ 3 |

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RECIRC. SYSTEM MAIN PROPERTY

751120

| | | | P-VESSEL IN/OUT TEMPERATURE C | RECIRC. FLOW | H.AND C. RATE | COOLANT TOT.WEIGHT | | |
|------------|-----|----|-------------------------------|--------------|---------------|--------------------|-------------|-------|
| JPOR-2 | BWR | 2 | | 3.26E6 KG/H | | | KON-6 P3 | 70/11 |
| TSURUGA | BWR | 3 | 276.4 C/277. C | | | 152. CURM | 80-3-3 P20 | 70/ 5 |
| DNAGAWA | BWR | 4 | 275.7 C/275.2 C | 22.5 E6 KG/H | 55. C/H | 163. TON | 8-5-(1) | 70/ 5 |
| HAMADKA-1 | BWR | 5 | 276.1 C/275. C | 22.9 E6 KG/H | 55. C/H | 196. CURM | 8-33 | 70/ 5 |
| FUKUSIMA-1 | BWR | 6 | 276.1 C/276.7 C | | | | | / |
| FUKUSIMA-5 | BWR | 9 | 278.3 C/277.8 C | 33.8 E6 KG/H | 55. C/H | 286. CURM | 8-5-(1) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 276.3 C/275.9 C | 33.8 E6 KG/H | 55. C/H | 286. CURM | 8-5-(1) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 278.9 C/278.3 C | 48.3 E6 KG/H | 55. C/H | 402. CURM | 8-5-(2) | 72/ 1 |
| TOKKAI-2 | BWR | 12 | 278.9 C/278.3 C | 48.3 E6 KG/H | 55. C/H | 402. CURM | 8-5-(2) | 72/ 1 |
| HAMADKA-2 | BWR | 13 | 278. C/278. C | 35.6 E6 KG/H | 55. C/H | 286. CURM | 8-28 | 72/ 9 |
| FUGEN | ATR | 81 | | 7.6 E6 KG/H | | | 105-8-5-(1) | 73/11 |

MAIN STEAM SYSTEM AND FEED WATER TEMP.

751140

| | | | STEAM-P KG/SQCMG | STEAM-T DEG C | STEAM-HUM. P.C. | FEED.W. TEMP DEG C | | |
|------------|-----|----|------------------|---------------|-----------------|--------------------|-------------|-------|
| DNAGAWA | BWR | 4 | 70.7 | 286. C | .LT. 0.1 | 188.8 C | 8-5-(1) | 70/ 5 |
| HAMADKA-1 | BWR | 5 | 70.7 | 286. C | .LT. 0.1 | 188.8 C | 8-33 | 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | 70.7 | 286. C | .LT. 0.1 | 195.8 C | 8-5-(2) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 70.7 | 286. C | .LT. 0.1 | 196.0 C | 8-5-(2) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 70.7 | 286. C | .LT. 0.1 | 215.6 C | 8-5-(2) | 72/ 1 |
| TOKKAI-2 | BWR | 12 | 70.7 | 286. C | .LT. 0.1 | 215.6 C | 8-5-(2) | 72/ 1 |
| HAMADKA-2 | BWR | 13 | 70.7 | 286. C | .LT. 0.1 | 215.6 C | 8-28 | 72/ 9 |
| FUGEN | ATR | 81 | 68. | 284.C | | 182. C | 105-8-5-(1) | 73/11 |

RECIRC. SYSTEM PUMP AND LOOP

DESIGN-P DESIGN-T 751160

| | | | ***NOTE*** DESIGN VALUE (OPERATION VALUE) | | | | | |
|------------|-----|----|---|--------------|--------------|--------------|---------|-------|
| | | | ---PUMP--- | | ---PIPING--- | | | |
| | | | DES /DES P T | DES /DES P T | DES /DES P T | DES /DES P T | | |
| JPOR-2 | BWR | 2 | | | 77.3/293.5 | | 70/11 | |
| DNAGAWA | BWR | 4 | 105.5 | 302 C | 87.9 | 302 C | 8-5-(1) | 70/ 5 |
| DNAGAWA | BWR | 4 | 105.5/302. | 87.9/302. | 98.5/302. | 296 C | 8-5-(1) | 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | 105.5 | 302 C | 84.4 | 296 C | 8-5-(2) | 71/ 2 |
| FUKUSIMA-5 | BWR | 9 | 105.5/302 | 84.4/296 | 96.0/296. | | 8-5-(2) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 105.5 | 302 C | 84.4 | 296 C | 8-5-(2) | 71/ 8 |
| FUKUSIMA-4 | BWR | 10 | 105.5/302 | 84.4/296 | 96.0/296. | | 8-5-(2) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 116. /302 | 87.9/302 | 118.0/302. | 109. /302. | 8-5-(2) | 72/ 1 |
| TOKKAI-2 | BWR | 12 | 116. /302 | 87.9/302 | 116.0/302. | 109. /302. | 8-5-(2) | 72/ 1 |

| PLANT PERFORMANCE DATA | | | | DATE=08/17/76 | | PAGE***D-103*** | |
|------------------------|----------------|---------------|-----------------|--------------------------------|-----|-------------------|-----------------------|
| RECIRC. | SYSTEM | PUMP AND LOOP | TUBE SIZE | 751180 | | | |
| | | | LOOP-PIPING NO. | PV-INLET-PIPE NO. | DD | DD | HEADER OD |
| | JPDR-1 | BWR 1 | NDNE | | | | 70/ 8 |
| | JPDR-2 | BWR 2 | 2 | 406.4/323.85 (SUCTION/DERIVER) | | | 70/11 |
| | TSURUGA | BWR 3 | 3 | 660. MM | | | 66/ 8 |
| | ONAGAWA | BWR 4 | 2 | 560. MM | 8. | 270. MM | 410. MM 8-5-(2) 70/ 5 |
| | HAMADKA-1 | BWR 5 | 2 | 560. MM | 8. | 250. MM | 406. MM 8-33 70/ 5 |
| | FUKUSIMA-1 | BWR 6 | 2 | 610. MM | | | 70/ 5 |
| | FUKUSIMA-2,3 | BWR 7 | 2 | 712. MM | | | 70/ 5 |
| | SHIMANE | BWR 8 | 2 | 610. MM | | | 71/ 2 |
| | FUKUSIMA-5 | BWR 9 | 2 | 712. MM | 10. | 320. MM | 8-5-(2) 71/ 8 |
| | FUKUSIMA-4 | BWR 10 | 2 | 712. MM | 10. | 320. MM | 8-5-(2) 72/ 1 |
| | FUKUSIMA-6 | BWR 11 | 2 | 610. MM | 10. | 320. MM | 8-5-(2) 72/ 1 |
| | TODKAI-2 | BWR 12 | 2 | 610. MM | 10. | 320. MM | 8-28 72/ 9 |
| | HAMADKA-2 | BWR 13 | 2 | 710. MM | 10. | 320. MM | 560. MM 8-4-13 75/ 3 |
| | KASHIWAZAKI | BWR 15 | 2 | 0.56M(OD)*23MM(T), | | 0.28M(OD)*17MM(T) | SUS A-2 P3 70/ 5 |
| | VERMONT YANKEL | BWR 52 | 2 | 711. MM | | | |
| | MILLSTON | BWR 54 | 2 | 711. MM | | | R-9 66/ 8 |
| | DRESDEN-2 | BWR 56 | 2 | 711. MM | | | R-9 66/ 8 |
| | OYSTER CREEK | BWR 57 | 5 | 711. MM | | | R-9 66/ 8 |
| | DUANE ARNOLD | BWR 58 | 2 | 559. MM | | | A-2 P3 70/ 5 |
| | FUGEN | ATR 81 | 2 | | | | 105-8-3-(2) 73/11 |

| PLANT PERFORMANCE DATA | | | | DATE=08/17/76 | | PAGE***U-104*** | |
|------------------------|-------------|--------|-------|--|---------|--|------------------------------|
| RECIRC. | SYSTEM | (PUMP) | VALVE | NUMBER | SIZE | 752220 | |
| | | | | (1)TYPE | | TP1=SIKIRI BEN TP2=MOTOR OPERATED VALVE TP3=MOTOR OPERATED VALVE(SIKIRI) TP4=BALL VALVE | |
| | | | | (2)NUMBER | | | |
| | | | | (3)SIZE | MM | | |
| | | | | (4)MATERIAL OF BODY | | SUS=STAINLESS STEEL | |
| | | | | (5)MATERIAL OF SHEET | | MS1=STERITE | |
| | | | | (6)DESIGN PRESSURE OF INLET-VALVE | | | KG/CM2G |
| | | | | (7)DESIGN PRESSURE OF OUTLET-VALVE | | | KG/CM2G |
| | | | | (8)DESIGN TEMPERATURE INLET AND OUTLET VALVE | | | DEG C |
| | | | | (1) TYPE | (2) NO. | (3) SIZE | (4) BODY |
| | | | | | | MM | --(KG/CM2G)-- C |
| | JPDR-2 | BWR 2 | TP1 | 2*2 | | | 70/11 |
| | ONAGAWA | BWR 4 | TP2 | 2*2 | 560. | SUS MS1 | 84.4 96.0 302. 8-5-(3) 70/ 5 |
| | ONAGAWA | BWR 4 | | | | | 87.9 98.5 302. 70/ 8 |
| | HAMADKA-1 | BWR 5 | TP3 | 2*2 | 560. | SUS MS1 | 8-34 70/ 5 |
| | FUKUSIMA-5 | BWR 9 | TP2 | 2*2 | 712. | SUS MS1 | 96.0 96.0 302. 8-5-(3) 71/ 2 |
| | FUKUSIMA-4 | BWR 10 | TP2 | 2*2 | 712. | SUS MS1 | 96.0 96.0 302. 8-5-(3) 71/ 8 |
| | FUKUSIMA-6 | BWR 11 | TP2 | 2*2 | 610. | SUS MS1 | 87.9 116. 302. 8-5-(3) 72/ 1 |
| | TODKAI-2 | BWR 12 | TP2 | 2*2 | 610. | SUS MS1 | 87.9 116. 302. 8-5-(3) 72/ 1 |
| | HAMADKA-2 | BWR 13 | TP2 | 2*2 | 710. | SUS MS1 | 8-29 72/ 9 |
| | KASHIWAZAKI | BWR 15 | TP4 | 2 | 610. | SUS | 116. 302. 8-4-13 75/ 3 |

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RECIRC. PUMP TYPE NUMBER

752410

(1)TYPE

TP1=TATEGATA UZUMAKI
TP2=TATEZIKU TANDAN KATA-SUIKOMI UZUMAKI
TP3=TATEGATA TANDAN ENSHIN TEIBU SUIKOMI SIKI
TP4=VARIABLE SPEED CENTRIFUGAL PUMP

(2)NUMBER

(3)CAPACITY TON/HOUR (M=M3/H)
(4)DESIGN PRESSURE KG/CM2G
(5)OPERATION PRESSURE KG/CM2G
(6)DESIGN TEMPERATURE DEG C
(7)OPERATION TEMPERATURE DEG C

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | | |
|----------------|--------|----------|-------------|----------|-------|------|-------------|-------|
| TYPE | NO. | CAPACITY | | | | | | |
| | | TUN/H | -(KG/CM2G)- | | | | | |
| JPDR-1 | BWR 1 | --- | NONE | | | | | |
| JPDR-2 | BWR 2 | TP2 | 1*2 | 1630.*2M | | | KON-6 P-4 | 70/11 |
| TSURUGA | BWR 3 | | 3 | 5900.*3 | | | | |
| ONAGAWA | BWR 4 | TP1 | 1*2 | 4650.*2 | 105.5 | 302. | 8-5-(4) | 70/5 |
| HAMAOKA-1 | BWR 5 | TP3 | 2 | 4650.*2 | 71.6 | | 8-35 | 70/5 |
| | | | | | | | | 70/5 |
| FUKUSIMA-1 | BWR 6 | | 2 | 5600.*2 | | | | 70/5 |
| FUKUSIMA-2,3 | BWR 7 | | 2 | 7800.*2 | | | | 70/5 |
| SHIMANE | BWR 8 | | 2 | 5600.*2 | | | | 70/5 |
| FUKUSIMA-5 | BWR 9 | TP1 | 2 | 7800.*2 | | | 8-5-(4) | 71/2 |
| FUKUSIMA-4 | BWR 10 | TP1 | 2 | 7800.*2 | | | 8-5-(4) | 71/8 |
| | | | | | | | | 72/1 |
| FUKUSIMA-6 | BWR 11 | TP1 | 2 | 8100.*2 | | | 8-5-(4) | 72/1 |
| TODOKAI-2 | BWR 12 | TP1 | 2 | 8100.*2 | | | 8-5-(4) | 72/1 |
| HAMAOKA-2 | BWR 13 | TP3 | 2 | 7750.*2 | 71.5 | | 8-30 | 72/9 |
| KASHIWAZAKI | BWR 15 | TP1 | 2 | 8100.*2 | | | 8-4-13 | 75/3 |
| VERMONT YANKEE | BWR 52 | | 2 | 5580.*2 | | | A-2 | 70/5 |
| | | | | | | | | 68/ |
| DRESDEN-2 | BWR 56 | TP4 | 2 | | | | DNR V7 P193 | 68/ |
| DUANE ARNOLD | BWR 58 | | 2 | 4650.*2 | | | A-2 #3 | 70/7 |
| FUGEN | ATR 81 | TP1 | 2 | 1900.*2 | 68.5 | 277. | 105-8-5-(3) | 73/11 |

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RECIRC. PUMP HEAD COOL-P NPSH INPUT-P

752430

(1)TOTAL HEAD OF RECIRC. PUMP
(2)COOLANT-INLET-PRESSURE
(3)NPSH
(4)INPUT POWER
(5)MATERIAL CASING
(6) BLADE
(7) SHAFT

M
KG/CM2G
M
KW*NUMBER

SUS=STAINLESS STEEL

(8)POWER OF PUMP-MOTOR

KW OR HP

(1) (2) (3) (4) (5) (6) (7) (8) (9)
HEAD CIP NPSH KW*NO RPM
M KG/CM2G M KW*NO (HP*NO)

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | | |
|-------------|--------|----------|-------------|------|---------|-------------|----------|-------|-------------|-------|
| TYPE | NO. | CAPACITY | | | | | | | | |
| | | TUN/H | -(KG/CM2G)- | | | | | | | |
| JPDR-2 | BWR 2 | 36. | | | | | 335*2 | | KON-6 P4,18 | 70/11 |
| ONAGAWA | BWR 4 | 164. | 71.5 | 107. | 2380.*2 | SUS SUS SUS | 2380*2 | 1410. | 8-5-(4) | 70/5 |
| HAMAOKA-1 | BWR 5 | 168. | 71.6 | 107. | 2440.*2 | SUS SUS SUS | 2440*2 | 1680. | 8-36 | 70/5 |
| FUKUSIMA-5 | BWR 9 | 152. | 72.6 | | 4100.*2 | SUS SUS SUS | 4100*2 | 1410. | 8-5-(5) | 71/2 |
| FUKUSIMA-4 | BWR 10 | 152. | 72.6 | | | SUS SUS SUS | 4100.*2 | 1410 | 8-5-(5) | 71/8 |
| | | | | | | | | | | 72/1 |
| FUKUSIMA-6 | BWR 11 | 245.4 | 70.7 | | | SUS SUS SUS | (9000*2) | 1485. | 8-5-(4) | 72/1 |
| TODOKAI-2 | BWR 12 | 245.4 | 70.7 | | | SUS SUS SUS | (9000*2) | 1485. | 8-5-(4) | 72/1 |
| HAMAOKA-2 | BWR 13 | 162. | 71.5 | | | SUS SUS SUS | 4220*2 | 1680. | 8-30 | 72/9 |
| KASHIWAZAKI | BWR 15 | 240. | | | | SUS SUS SUS | (9000*2) | 1485. | 8-4-13 | 75/3 |
| DRESDEN-2 | BWR 56 | | | | | | | | DNR V7 P193 | 68/ |
| | | | | | | | | | | 68/ |
| DRESDEN-2 | BWR 56 | | | | | | | | DNR V7 P193 | 68/ |
| DRESDEN-2 | BWR 56 | | | | | | | | DNR V7 P193 | 68/ |

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| M.STEAM TUBE | NUMBER | SIZE AND DESIGN-P | 753220 | | | |
|----------------|--------|-------------------------------|-------------|--|--|-------------------|
| | | (1)NUMBER OF MAIN STEAM TUBES | | | | |
| | | (2)OUTER DIA. OF TUBE | | | | |
| | | (3)DESIGN PRESSURE | | | | |
| | | (TS)=TURBINE SYSTEM | | | | |
| | | (DS)=DUMP CONDENSER SYSTEM | | | | |
| | | (1) (2) (3) | | | | |
| | | NO. 00 DES.P | | | | |
| | | MM KG/CM2G | | | | |
| JPOR-2 | BWR 2 | 219.1 | 77.3(TS) | | | KDN-6 P6 70/11 |
| JPOR-2 | BWR 2 | 216.3 | 77.3(DS) | | | KDN-6 P6 70/11 |
| DNAGAWA | BWR 4 | 510. | 87.9(REV.1) | | | 8-5-(4) 70/ 5 |
| HAMADKA-1 | BWR 5 | 4 510. | 84.4 | | | 8-36 70/ 5 |
| FUKUSIMA-1 | BWR 6 | 4 406. | | | | / |
| FUKUSIMA-2,3 | BWR 7 | 4 610. | | | | / |
| SHIMANE | BWR 8 | 4 406. | | | | / |
| FUKUSIMA-5 | BWR 9 | 4 610. | 84.4 | | | 8-5-(5) 71/ 2 |
| FUKUSIMA-4 | BWR 10 | 4 610. | 84.4 | | | 8-5-(5) 71/ 8 |
| FUKUSIMA-6 | BWR 11 | 4 660. | 87.9 | | | 8-5-(5) 72/ 1 |
| TOKAI-2 | BWR 12 | 4 660. | 87.9 | | | 8-5-(5) 72/ 1 |
| HAMADKA-2 | BWR 13 | 4 610. | 87.9 | | | 8-30 72/ 9 |
| KASHIWAZAKI | BWR 15 | 4 457. | | | | / |
| VERMONT YANKEE | BWR 52 | 4 457. | | | | A-2 70/ 5 |
| DUANE ARNOLD | BWR 58 | 4 508. | | | | A-2 P3 70/ 7 |
| FUGEN | ATR 81 | 2 410. | 82. | | | 105-8-5-(3) 73/11 |

| M.STEAM FLOW LIMITER TYPE NUMBER | 753310 | | | | | |
|----------------------------------|--------|----------|--------|---------------|------------------------|-----------------|
| | | --TYPE-- | NUMBER | FLOW-LIMIT | MAX.OPERATABLE P AND T | |
| DNAGAWA | BWR 4 | VENTURI | | | | 8-5-(4) 70/ 5 |
| HAMADKA-1 | BWR 5 | VENTURI | | | | 8-36 70/ 5 |
| FUKUSIMA-1 | BWR 6 | VENTURI | NO.=4 | 619.T/H*200PC | 84.4 KG/SQCMG 302. C | MEMO P145 70/ 3 |
| FUKUSIMA-5 | BWR 9 | VENTURI | | | | 8-5-(5) 71/ 2 |
| FUKUSIMA-4 | BWR 10 | VENTURI | | | | 8-5-(5) 71/ 8 |
| FUKUSIMA-6 | BWR 11 | NO.=4 | | | | 8-5-(5) 72/ 1 |
| TOKAI-2 | BWR 12 | NO.=4 | | | | 8-5-(5) 72/ 1 |
| HAMADKA-2 | BWR 13 | VENTURI | | | | 8-30 72/ 9 |
| KASHIWAZAKI | BWR 15 | | | *200PC | | 8-4-15 75/ 3 |

| M.STEAM FLOW LIMITER P-LOSS SIZE | 753320 | | | | | |
|----------------------------------|--------|---------------------|-----------------------------|------------------------|---------------------------|-----------------|
| | | FLOW-METER ACCURACY | PRESSURE LOSS AT RATED FLOW | -----SIZE (IN MM)----- | ID(CM.TUBE) THROAT LENGTH | |
| FUKUSIMA-1 | BWR 6 | 2. PC | LE 0.63 KG/SQCM | 363.6 | ID=202.7 712. | MEMO P145 70/ 3 |

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| M.STEAM FLOW LIMITER MATERIAL | 753330 | | | | | |
|-------------------------------|--------|------------------|--------------------|-----------------|--|-----------------|
| | | UP-STREAM NOZZLE | DOWN-STREAM NOZZLE | --WELD-RING---- | | |
| FUKUSIMA-1 | BWR 6 | ASTM A-351 CF-8 | ASTM A-351 CF-8 | ASTM A-105 GR-2 | | MEMO P145 70/ 3 |

| M.STEAM ISOLATE VALVE TYPE AND SIZE | 753400 | | | | | |
|-------------------------------------|--------|---|----------|--|--|-----------------|
| | | TYPE | SIZE | | | |
| FUKUSIMA-1 | BWR 6 | AIR-OPERATED-SPRING TYPE (TAMAGATA BEN) | 16. INCH | | | MEMO P151 70/ 3 |
| KASHIWAZAKI | BWR 15 | TAMAGATA BEN | | | | 8-4-14 75/ 3 |

| M.STEAM ISOLATE VALVE NUMBER DESIGN-P DESIGN-T | 753420 | | | | | |
|--|--------|-----------------------|----------|------------------------|--|------------------|
| | | NUMBER DESIGN-P | DESIGN-T | DRIVER SOURCE | | |
| JPOR-2 | BWR 2 | NO=2(TS)+1(DS) | | | | KDN-6 P6 70/11 |
| DNAGAWA | BWR 4 | NO=2*4 87.9 KG/SQCMG | 302 C | AIR | | 8-5-(5) 70/ 5 |
| HAMADKA-1 | BWR 5 | NO=2*4 87.9 KG/SQCMG | 302 C | AIR | | 8-37 70/ 5 |
| FUKUSIMA-1 | BWR 6 | NO=2*4 87.9 KG/SQCMG | 302 C | AIR AND SPRING | | MEMO P151 70/ 3 |
| FUKUSIMA-2,3 | BWR 7 | NO=2*4 | | | | 70/ 5 |
| SHIMANE | BWR 8 | NO=2*4 | | | | 70/ 5 |
| FUKUSIMA-5 | BWR 9 | NO=2*4 87.9 KG/SQCMG | 302 C | AIR | | 8-5-(6) 71/ 2 |
| FUKUSIMA-4 | BWR 10 | NO.=2*4 87.9 KG/SQCMG | 302 C | AIR | | 8-5-(6) 71/ 8 |
| FUKUSIMA-6 | BWR 11 | NO=2*4 87.9 KG/SQCMG | 302 C | AIR | | 8-5-(6) 72/ 1 |
| TOKAI-2 | BWR 12 | NO=2*4 87.9 KG/SQCMG | 302 C | AIR | | 8-5-(6) 72/ 1 |
| HAMADKA-2 | BWR 13 | NO=2*4 87.9 KG/SQCMG | 302 C | AIR(OUT), NITROGEN(IN) | | 8-31 72/ 9 |
| KASHIWAZAKI | BWR 15 | NO=2*4 87.9 KG/SQCMG | 302 C | N2GAS+DR AIR+SPRING | | 8-4-14 75/ 3 |
| FUGEN | ATR 81 | NO.=4 82. KG/SQCMG | 296 C | AIR | | 105-8-5(6) 73/11 |

| M.STEAM ISOLATE VALVE P-LOSS RATED FLOW | 753430 | | | | | |
|---|--------|-------------------|----------------------------|--|--|-----------------|
| | | --PRESSURE LOSS-- | -----RATED FLOW----- | | | |
| FUKUSIMA-1 | BWR 6 | LE 0.42 KG/SQCM | 608. 1/H(AT 70.4 KG/SQCMG) | | | MEMO P151 70/ 3 |

| M.STEAM ISOLATE VALVE SHUT-OFF TIME SET POINT | 753440 | | | | | |
|---|--------|--------------------------------|----------------------|---------------------|--|-----------------|
| | | SHUT-OFF TIME ADJUSTABLE-WIDTH | SHUT-OFF-SET-POINT | DRIVER-AIR-PRESSURE | | |
| FUKUSIMA-1 | BWR 6 | FROM 3. TO 10. SEC | 120.PC/RATED-CURRENT | 6.3 KG/SQCMG | | MEMO P151 70/ 3 |
| KASHIWAZAKI | BWR 15 | FROM 3. TO 4.5 SEC | | | | 8-4-14 75/ 3 |

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M.STEAM ISOLATE VALVE CONTROL SOURCE 753450
 FUKUSIMA-1 BWR 6 AC AND DC MEMO P151 70/ 3

M.STEAM 3RD VALVE TYPE NO. LEAK RATE 753500
 (1)TYPE
 (2)NUMRFR
 (3)DESIGN PRESSURE T.2/TIME 5
 (4)DESIGN TEMPERATURE
 (5)DRIVE MECHANISM
 (6)SHUT OFF TIME
 (7)LEAK RATE (PERCENT/DAY)
 A=THIS RATE IS DEFINED AS THE VOLUME RATIO,(LEAKED-STEAM-VOLUME)
 VS.(STEAM-PHASE-VOLUME IN PRESSURE VESSEL) PER UNIT TIME.
 LEAK-STEAM-VOLUME IS TO BE SATURATED-STEAM.
 (1) (2) (3) (4) (5) (6) (7)
 NO. KG/SQCMG C MIN. PC/D
 KASHIWAZAKI BWR 15 4 87.9 302. MOTOR 10.(A) 8-4-16 75/ 3

SAFETY VALVE TYPE NUMBER 753620
 (1)TYPE TP1=SPRING
 TP2=SPRING(IF ACT AS SAFETY VALVE)
 TP3=PISTON(IF ACT AS RELIEF VALVE)
 TP4=PISTON(IF ACT AS REVAB)
 TP5=PISTON(IF ACT AS PRT)
 (2)NUMBER
 (1) (2)
 NO.
 JPDR-2 BWR 2 TP1 2 KON-6 P506 /
 DNAGAWA BWR 4 TP1 2 8-5-(5) 70/ 5
 HAMAOKA-1 BWR 5 TP1 2 8-38 70/ 5
 FUKUSIMA-5 BWR 9 TP1 3 8-5-(7) 71/ 2
 FUKUSIMA-4 BWR 10 TP1 3 8-5-(7) 71/ 8
 FUKUSIMA-6 BWR 11 TP2 18 8-5-(6) 72/ 1
 TODKAI-2 BWR 12 TP2 18 8-5-(7) 72/ 1
 HAMAOKA-2 BWR 13 TP2 13 8-32 72/ 9
 KASHIWAZAKI BWR 15 TP2 18 8-4-14 75/ 3
 KASHIWAZAKI BWR 15 TP3 (18) 8-4-14 75/ 3
 KASHIWAZAKI BWR 15 TP4 (16 OF 18) 80.PC 8-4-14 75/ 3
 KASHIWAZAKI BWR 15 TP5 (12 OF 18) 60.PC 8-4-14 75/ 3

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SAFETY VALVE SET PRESSURE CAPACITY 753640
 SET PRESSURE CAPACITY
 JPDR-2 BWR 2 93.442 T/H /
 JPDR-2 BWR 2 91.773 T/H /
 DNAGAWA BWR 4 87.2 KG/SQCMG GE 15 PC 440 T/H/2 8-5-(6) 70/ 5
 HAMAOKA-1 BWR 5 87.2 KG/SQCMG GE 15 PC 8-38 70/ 5
 FUKUSIMA-5 BWR 9 87.2 KG/SQCMG 19.9 PC/TOTAL STEAM FLOW 8-5-(6) 71/ 2
 FUKUSIMA-4 BWR 10 87.2 KG/SQCMG 19.9 PC/TOTAL STEAM FLOW 8-5-(6) 71/ 8
 FUKUSIMA-6 BWR 11 85.1(4),85.8(4),86.5(4),87.2(4),87.9(2) KG/SQCMG(ND.) 8-5-(7) 72/ 1
 TODKAI-2 BWR 12 85.1(4),85.8(4),86.5(4),87.2(4),87.9(2) KG/SQCMG(ND.) 8-5-(7) 72/ 1
 HAMAOKA-2 BWR 13 CAPACITY=80.PC/TOTAL STEAM/(13) 8-32 72/ 9
 KASHIWAZAKI BWR 15 79.4(2),82.6(4),83.3(4),84.0(4),84.7(4) KG/SQCMG(ND.) 8-4-14 75/ 3

SAFETY VALVE FOR PRESSURE PWR 753660
 (1)TYPE TP1=SPRING
 TP2=KANZEN MIPPEI POP TYPE
 (2)NUMBER
 (3)SET PRESSURE KG/CM2G
 (4)CAPACITY TON/H/1
 (1) (2) (3) (4)
 NO.
 TAKAHAMA-2 PWR 23 TP2 8-49 70/ 5
 GENKAI-1 PWR 24 TP1 2 175. 8-55 70/ 5
 ODI-1+2 PWR 26 TP2 8-49 71/ 1
 MIHAMA-3 PWR 27 TP2 8-49 71/ 8
 IKATA-1 PWR 28 TP1 2 175. 8-55 72/11
 IKATA-2 PWR 30 TP1 2 175. 142. 8-4-24 75/ 5
 SENDAI PWR 31 TP1 3 175. 157. 8-4-27 76/ 5

RELIEF VALVE TYPE NUMBER 753820
 DNAGAWA BWR 4 TYPE NO.=6 8-5-(6) 70/ 5
 HAMAOKA-1 BWR 5 TYPE NO.=6 8-38 70/ 5
 FUKUSIMA-5 BWR 9 TYPE=SENKUBEN SIKI NO.=8 8-5-(7) 71/ 2
 FUKUSIMA-4 BWR 10 TYPE=SENKUBEN-SIKI NO.=8 8-5-(7) 71/ 8
 FUKUSIMA-6 BWR 11 AIR PRESSURE OPERATE(IF ACT AS REL.V.) NO=12 8-5-(7) 72/ 1
 TODKAI-2 BWR 12 AIR PRESSURE OPERATE(IF ACT AS REL.V.) NO=12 8-5-(7) 72/ 1
 HAMAOKA-2 BWR 13 NITROGEN 8-32 72/ 9
 KASHIWAZAKI BWR 15 ALL SAFETY VALVES ARE USED AS RELIEF VALVE BY ACTUATOR. 8-4-14 75/ 3

| RELIEF VALVE SET | PRESSURE | 753840 | LOW-PRESSURE | HIGH-PRESSURE | MED.-PRESSURE | | |
|------------------|----------|---|---------------|---------------|---------------|---------|-------|
| ONAGAWA | BWR 4 | 75.9 KG/SQCMG | 77.3 KG/SQCMG | 76.6 KG/SQCMG | | 8-5-(6) | 70/ 5 |
| HAMAOKA-1 | BWR 5 | 75.9 KG/SQCMG | 77.3 KG/SQCMG | 76.6 KG/SQCMG | | 8-38 | 70/ 5 |
| FUKUSIMA-5 | BWR 9 | 75.9 KG/SQCMG | 76.6 KG/SQCMG | 77.4 KG/SQCMG | | 8-5-(7) | 71/ 2 |
| FUKUSIMA-4 | BWR 10 | 78.0 KG/SQCMG | 78.7 KG/SQCMG | 79.5 KG/SQCMG | | 8-5-(7) | 71/ 8 |
| FUKUSIMA-6 | BWR 11 | 78.0(4D) | 78.8(4) | 79.4(3) | | 8-5-(7) | 72/ 1 |
| TODOKAI-2 | BWR 12 | 78.0(4) | 78.8(4) | 79.4(3) | | 8-5-(7) | 72/ 1 |
| HAMAOKA-2 | BWR 13 | 78.0(3) | 78.7(3) | 79.4(3) | | 8-32 | 72/ 9 |
| KASHIWAZAKI | BWR 15 | 75.2(2),75.9(4),76.6(4),77.3(4),78.0(4) | | KG/SQCMG(ND.) | | 8-4-14 | 75/ 3 |

| RELIEF VALVE | CAPACITY | 753860 | | | | | |
|--------------|----------|---|--|--|--|---------|-------|
| ONAGAWA | BWR 4 | CAP.= GE 60PC 1740.T/H | | | | | 70/ 5 |
| HAMAOKA-1 | BWR 5 | CAP.= GE 60PC | | | | | 70/ 5 |
| FUKUSIMA-5 | BWR 9 | CAP.= 65.2 PC (85.1 PC WITH SAFETY VALVE) | | | | 8-5-(6) | 71/ 2 |
| FUKUSIMA-4 | BWR 10 | CAP.= 65.2 PC (85.1 PC WITH SAFETY VALVE) | | | | 8-5-(6) | 71/ 8 |
| FUKUSIMA-6 | BWR 11 | CAP.= 65.2 PC (80. PC WITH SAFETY VALVE) | | | | 8-5-(6) | 72/ 1 |
| TODOKAI-2 | BWR 12 | CAP.= GE 80PC (ACT AS REVAB) (80. PC WITH SAFETY VALVE) | | | | 8-5-(7) | 72/ 1 |
| KASHIWAZAKI | BWR 15 | CAP.= GE 60PC (ACT AS PRT) 12 VALVES AMONG 18 | | | | 8-4-9 | 75/ 3 |
| KASHIWAZAKI | BWR 15 | CAP.= GE 60PC (ACT AS PRT) 12 VALVES AMONG 12 | | | | 8-4-9 | 75/ 3 |

| RELIEF VALVE | FDR | PRESSURE | ZER | PWR | 753880 | | |
|--------------|--------|-----------------|------|-----|------------------------|--------|-------|
| | | (1)TYPE | | | TP1=AIR OPERATED VALVE | | |
| | | (2)NUMBER | | | | | |
| | | (3)SET PRESSURE | | | KG/CM2G | | |
| | | (1) (2) (3) | | | | | |
| | | NO. | | | | | |
| GENKAI-1 | PWR 24 | TP1 2 | 164. | | | 8-55 | 70/ 5 |
| IKATA-1 | PWR 28 | TP1 2 | 164. | | | 8-55 | 72/11 |
| IKATA-2 | PWR 30 | TP1 2 | | | | 8-4-24 | 75/ 5 |
| SENDAI | PWR 31 | TP1 2 | | | | 8-4-27 | 76/ 5 |

| SPRAY VALVE | FDR | PRESSURE | ZER | PWR | 753890 | | |
|-------------|--------|-----------------------|------|------|------------------------|--------|-------|
| | | (1)TYPE | | | TP1=AIR OPERATED VALVE | | |
| | | (2)NUMBER | | | | | |
| | | (3)DESIGN PRESSURE | | | KG/CM2G | | |
| | | (4)DESIGN TEMPERATURE | | | DEG-C | | |
| | | (5)MATERIAL | | | MT1=STAINLESS STEEL | | |
| | | (1) (2) (3) (4) (5) | | | | | |
| | | NO. KG/CM2G C | | | | | |
| IKATA-2 | PWR 30 | TP1 2 | | | | 8-4-24 | 75/ 5 |
| SENDAI | PWR 31 | TP1 2 | 175. | 343. | MT1 | 8-4-27 | 76/ 5 |

| M.STEAM SYSTEM | COMPONENTS | PWR | 755000 | | |
|----------------|-------------------------------|-----|--------|--------|--|
| | (1)MAIN STEAM TUBE | | | 755010 | |
| | (2)MAIN STEAM ISOLATION VALVE | | | 755030 | |
| | (3)MAIN STEAM CHECK VALVE | | | 755050 | |
| | (4)MAIN STEAM DUMP VALVE | | | 755070 | |
| | (5)MAIN STEAM RELIEF VALVE | | | 755090 | |
| | (6)MAIN STEAM SAFETY VALVE | | | 755110 | |

| M.STEAM SYSTEM | MAIN STEAM TUBE | PWR | 755010 | | |
|----------------|-----------------------|------|--------|------------------|-----------|
| | (1)ID OF TUBE | | | MM | |
| | (2)THICKNESS OF TUBE | | | MM | |
| | (3)MATERIAL | | | MT1=CARBON STEEL | |
| | (4)DESIGN PRESSURE | | | KG/CM2G | |
| | (5)DESIGN TEMPERATURE | | | DEG-C | |
| | (1) (2) (3) (4) (5) | | | | |
| | MM MM MAT. KG/CM2G C | | | | |
| IKATA-2 | PWR 30 | 650. | 30. | MT1 | 76.3 291. |
| SENDAI | PWR 31 | 740. | 35. | MT1 | 76.3 291. |

| M.STEAM SYSTEM | M.STEAM ISOLATE VALVE | PWR | 755030 | | |
|----------------|-----------------------|-------|--------|---------------------|-----|
| | (1)TYPE | | | TP1=SWING DISK TYPE | |
| | (2)NUMBER | | | | |
| | (3)DESIGN PRESSURE | | | KG/CM2G | |
| | (4)DESIGN TEMPERATURE | | | DEG-C | |
| | (5)MATERIAL | | | MT1=CARBON STEEL | |
| | (1) (2) (3) (4) (5) | | | | |
| | NO. KG/CM2G C | | | | |
| IKATA-2 | PWR 30 | TP1 2 | 76.3 | 291. | |
| SENDAI | PWR 31 | TP1 3 | 76.3 | 291. | MT1 |

| M.STEAM SYSTEM | M.STEAM CHECK VALVE | PWR | 755050 | | |
|----------------|-----------------------|-------|--------|----------------------|-----|
| | (1)TYPE | | | TP1=SWING CHECK TYPE | |
| | (2)NUMBER | | | | |
| | (3)DESIGN PRESSURE | | | KG/CM2G | |
| | (4)DESIGN TEMPERATURE | | | DEG-C | |
| | (5)MATERIAL | | | MT1=CARBON STEEL | |
| | (1) (2) (3) (4) (5) | | | | |
| | NO. KG/CM2G C | | | | |
| IKATA-2 | PWR 30 | TP1 2 | 76.3 | 291. | |
| SENDAI | PWR 31 | TP1 3 | 76.3 | 291. | MT1 |

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| M.STEAM SYSTEM | M.STEAM DUMP | VALVE | PWR | 755070 | | |
|-----------------------|----------------|--------|-----|---------|-----------------------------|----------------------|
| (1)TYPE | | | | | TP1=AIR OPERATED BALL VALVE | |
| (2)NUMBER | | | | | | |
| (3)DIAMETER | | | | | | |
| (4)DESIGN PRESSURE | | | | | KG/CM2G | |
| (5)DESIGN TEMPERATURE | | | | | DEG-C | |
| | | (1) | (2) | (3) | (4) | (5) |
| | | NO. | | KG/CM2G | | C |
| IKATA-2 | PWR 30 | TP1 8 | 68 | 76.3 | 291 | 8-9-17 75/ 5 |
| SENDAI | PWR 31 | TP1 8 | 88 | | | 8-9-18,19 76/ 5 |
| M.STEAM SYSTEM | M.STEAM RELIEF | VALVE | PWR | 755090 | | |
| (1)TYPE | | | | | TP1=AIR OPERATED BALL VALVE | |
| (2)NUMBER | | | | | | |
| (3)DIAMETER | | | | | | |
| (4)CAPACITY | | | | | TON/H/1 | |
| (5)DESIGN PRESSURE | | | | | KG/CM2G | |
| (6)DESIGN TEMPERATURE | | | | | DEG-C | |
| (7)MATERIAL | | | | | MT1=LOW CARBON STEEL | |
| | | (1) | (2) | (3) | (4) | (5) |
| | | NO. | | T/H/1 | KG/CM2G | C |
| IKATA-2 | PWR 30 | TP1 2 | 68 | 170 | 76.3 | 291 8-9-18 75/ 5 |
| SENDAI | PWR 31 | TP1 3 | 68 | 183 | 76.3 | 291 MT1 8-9-19 76/ 5 |
| M.STEAM SYSTEM | M.STEAM SAFETY | VALVE | PWR | 755110 | | |
| (1)TYPE | | | | | TP1=SPRING | |
| (2)NUMBER | | | | | | |
| (3)DIAMETER | | | | | | |
| (4)CAPACITY | | | | | TON/H/1 | |
| (5)LEAK RATE | | | | | M3/DAY | |
| (6)MATERIAL | | | | | MT1=CARBON STEEL | |
| | | (1) | (2) | (3) | (4) | (5) |
| | | NO. | | T/H/1 | M3/D | |
| GENKAI-1 | PWR 24 | | 12 | | 5 | 8-81 70/11 |
| IKATA-1 | PWR 28 | | 12 | | 5 | 8-81 72/11 |
| IKATA-2 | PWR 30 | TP1 14 | 58 | 240 | | 8-9-18 75/ 5 |
| SENDAI | PWR 31 | TP1 21 | 58 | 260 | MT1 | 8-9-19 76/ 5 |

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STEAM-G. DESIGN-P OPERAT-P

757220

| | | | | | | | | | |
|---|---------|-----------------------------|------------|-----------|------------------|-------|-------|------|-------------------|
| (1)TYPE | | TP1=TATE OKI U-TUBE | | | | | | | |
| | | TP2=INVERTED U-TUBE | | | | | | | |
| | | TP3=YOKOOKI ENTOD GATA DRUM | | | | | | | |
| (2)NUMBER | | | | | | | | | |
| (3)DESIGN PRESSURE | | SHELL SIDE | | KG/SQCMG | | | | | |
| (4)OPERATING PRESSURE (STEAM) AT FULL POWER | | | | KG/SQCMG | | | | | |
| (5)DESIGN PRESSURE | | TUBE SIDE | | KG/SQCMG | | | | | |
| (6)OPERATING PRESSURE | | | | KG/SQCMG | | | | | |
| (7)OPERATING TEMPERATURE | | STEAM OUTLET | | C | | | | | |
| (8)OPERATING TEMPERATURE | | PRIMARY IN | | C | | | | | |
| (9)OPERATING TEMPERATURE | | PRIMARY OUT | | C | | | | | |
| (10)PRIMARY COOLANT FLOW RATE | | | | TON/H/1 | | | | | |
| (11)STEAM GENERATION RATE | | | | TON/H/1 | | | | | |
| W =WETNESS OF OUTLET-STEAM IN WEIGHT PERCENT , LT=LESS THAN | | | | | | | | | |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| TYPE | -STEAM- | (PRIMARY) | STEAM | (PRIMARY) | | | | | |
| | NO. | | | | | | | | |
| | | | KG/SQCMG | | C | C | C | T/H | T/H |
| MIHANA-1 | PWR 21 | TP1 2 | 76.3(57.) | 175 | | | | 1014 | BK80-2 P9 71/ 8 |
| MIHANA-2 | PWR 22 | TP1 2 | 76.3(57.) | 175 | | | | 1429 | BK80-2 P9 71/ 8 |
| TAKAHAMA-2 | PWR 23 | TP1 3 | 76.3 | 175(157) | | | 15000 | 1600 | 8-50 70/ 5 |
| GENKAI-1 | PWR 24 | TP1 2 | 76.3(54.5) | 175 | 269(W=LTO.25WPC) | 15000 | 1620 | | 8-51 70/ 5 |
| TAKAHAMA-1 | PWR 25 | TP1 3 | 76.3(54.) | 175 | | | 1600 | | BK80-2 P9 71/ 8 |
| DDI-1,2 | PWR 26 | TP1 4 | 76.3 | 175(157) | | | 15000 | 1700 | 8-50 71/ 1 |
| MIHANA-3 | PWR 27 | TP1 3 | 76.3 | 175 | | | 15000 | 1600 | 8-50 71/ 8 |
| IKATA-1 | PWR 28 | TP1 2 | 76.3(58.) | 175 | 273(W=LTO.25WPC) | 15000 | 1620 | | 8-51 72/11 |
| IKATA-2 | PWR 30 | TP1 2 | 76.3(58.) | 175 | 273(W=LTO.25WPC) | 15000 | 1620 | | 8-4-20 75/ 5 |
| SENDAI | PWR 31 | TP1 3 | 76.3(54.5) | 175 | 269(W=LTO.25WPC) | 15200 | 1740 | | 8-4-23 76/ 5 |
| YANKEE | 69 | TP2 4 | (34.2) | | 278.3 | 257.8 | 226.8 | | DNR V4 P36 61/ |
| SAXTON | 70 | 1 | | | | | 1270 | | DNR V4 P50 61/ |
| TURKEY POINT-3,4PWR | 72 | | 76.3 | 174.7 | | | | | BK80-4 P7 71/ 9 |
| H.B.ROBINSON-2 | PWR 73 | | 76.3 | 174.7 | | | | | BK80-4 P7 71/ 9 |
| SURRY-1,-2 | PWR 74 | | 76.3 | 174.7 | | | | | BK80-4 P7 71/ 9 |
| BEAVER VALLEY | PWR 75 | | 76.3 | 174.7 | | | | | BK80-4 P7 71/ 9 |
| NORTH ANNA-12 | PWR 76 | | 76.3 | 174.7 | | | | | BK80-4 P8 71/ 9 |
| JOSEPH W.FARLEY | PWR 77 | | 76.3 | 174.7 | | | | | BK80-4 P8 71/ 9 |
| FUGEN | ATR 81 | TP3 2 | 82.3 | | 296 | | | | 105-8-5-(2) 73/11 |

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STEAM-G. CAPACITY WETNESS TUBE

SURFACE AREA 757240

- (1) TOTAL HEIGHT OF SHELL M
- (2) DIAMETER OF SHELL UPPER (OD) M
- (3) LOWER (OD) M
- (4) DIAMETER OF TUBE (OD) MM
- (5) THICKNESS OF TUBE (T) MM
- (6) SURFACE AREA OF TUBE SQM
- (7) MATERIAL BODY

B1=MN-MO-STEEL
 B2=ASTM A533 GRADE A CL1 SODT00
 B3=LOW ALLOY STEEL, LOW ALLOY FORGED STEEL AND CAST STEEL

TUBE T1=INCONEL
 T2=ASTM B163 SODT00

KAN-ITA OVERLAY K1=INCONEL
 K2=ASTM B163 SODT00
 CHANNEL OVERLAY C1=STAINLESS STEEL
 C2=SUS27 SODT00

- (8) TOTAL NO. OF TUBE NO./1
- (1) (2) (3) (4) (5) (6) (7) (8)
- WEIGHT OD OD OD T SQM MATERIAL
- M M M MM MM SQM

| | | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|------------|-----|----|------|-----|-----|------|-----------|--------|---------------|------------------|
| | | | M | M | M | MM | MM | SQM | MATERIAL | |
| MIHAMA-1 | PWR | 21 | 18. | 3.6 | 3.1 | | | | | BK80-2 P10 71/ 8 |
| MIHAMA-2 | PWR | 22 | 20. | 4.3 | 3.3 | | | | | BK80-2 P10 71/ 8 |
| TAKAHAMA-2 | PWR | 23 | 20.3 | 4.4 | 3.4 | | | | | 8-50 70/ 5 |
| GENKAI-1 | PWR | 24 | 21. | 4.4 | 3.4 | 22.2 | | | B1,T1,K1,C1 | 8-51 70/ 5 |
| TAKAHAMA-1 | PWR | 25 | 20. | 4.4 | 3.4 | | | | B1,T1,K1,C1 | BK80-2 P10 71/ 8 |
| DOI-1,2 | PWR | 26 | 20.6 | | | | | | B1,T1,K1,C1 | 8-50 71/ 1 |
| MIHAMA-3 | PWR | 27 | 20.3 | 4.4 | 3.4 | | | | B1,T1,K1,C1 | 8-50 71/ 8 |
| MIHAMA-3 | PWR | 27 | | | | | | | (B2,T2,K2,C2) | 8-50 72/11 |
| IKATA-1 | PWR | 28 | 21. | 4.4 | 3.4 | 22.2 | | | B1,T1,K1,C1 | 8-51 75/ 5 |
| IKATA-2 | PWR | 30 | 21. | 4.5 | 3.4 | 22.2 | 4780. | | B3,T1,K1,C1 | 8-4-20 76/ 5 |
| SENDAI | PWR | 31 | 21. | 4.5 | 3.4 | 22.2 | 1.3 4780. | | B3,K2,K2,C1 | 8-4-23 76/ 5 |
| YANKEE | | 69 | | | | | | 1247.6 | | DNR V4 P36 61/ |
| SAXTON | | 70 | | | | | | 213.7 | | DNR V4 P50 61/ |

PLANT PERFORMANCE DATA

DATE=08/17/76

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PRIMARY COOLING PUMP

TYPE AND MATERIAL

757400

- (1) TYPE TP1=RODEI SEIGYO ZIKU-HUU SIKI TATE-OKI UZUMAKI
 TP2=RODEI SEIGYO ZIKU-HUU SIKI TATE-OKI SYARYUU

- (2) NUMBER
- (3) CAPACITY CUBM/H
- (4) HEAD M
- (5) DESIGN PRESSURE KG/SQCNG
- (6) DESIGN TEMPERATURE C
- (7) SIZE HEIGHT M
- (8) SIZE CASING OD M
- (9) MATERIAL M1= STAINLESS STEEL
- (10) RPM

- (1) (2) (3) (4) (5) (6) (7) (8) (9) (10)
- NO. CURM/H M C M M RPM

| | | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|------------------|-----|----|-------|--------|------|-----|-------|------|------|-----|------|------------------|
| | | | NO. | CURM/H | M | C | M | M | RPM | | | |
| MIHAMA-1 | PWR | 21 | TP1 2 | 15900 | 59.4 | 175 | 343.3 | 7.77 | 2.59 | M1 | 1150 | 8-50 66/11 |
| MIHAMA-2 | PWR | 22 | TP2 2 | 20100 | | | | | | | | BK80-2 P10 71/ 8 |
| TAKAHAMA-2 | PWR | 23 | TP2 3 | 20100 | 80 | 175 | | 8.5 | | M1 | 1150 | 8-50 70/ 5 |
| GENKAI-1 | PWR | 24 | TP2 2 | 20200 | 80 | 175 | | 8.5 | | M1 | 1150 | 8-53 70/ 5 |
| TAKAHAMA-1 | PWR | 25 | TP2 3 | 20100 | | | | | | | | BK80-2 P10 71/ 8 |
| DOI-1,2 | PWR | 26 | TP2 4 | 20100 | 80 | 175 | | 7.8 | | M1 | 1189 | 8-50 71/ 1 |
| MIHAMA-3 | PWR | 27 | TP2 3 | 20100 | 80 | 175 | | 8.5 | | M1 | 1150 | 8-50 71/ 8 |
| IKATA-1 | PWR | 28 | TP2 2 | 20200 | 80 | 175 | 343 | 8.5 | 1.8 | M1 | 1150 | 8-53 72/11 |
| IKATA-2 | PWR | 30 | TP2 2 | 20200 | 80 | 175 | 343 | 8.5 | 1.8 | M1 | 1190 | 8-4-21 75/ 5 |
| SENDAI | PWR | 31 | TP2 3 | 20100 | 80 | 175 | 343 | 8.5 | 1.8 | M1 | 1190 | 8-4-24 76/ 5 |
| TURKEY POINT-3,4 | PWR | 72 | | 20100 | | | | | | | | BK80-4 P7 71/ 9 |
| H.B.ROBINSON-2 | PWR | 73 | | 20100 | | | | | | | | BK80-4 P7 71/ 9 |
| SURRY-1,-2 | PWR | 74 | | 20100 | | | | | | | | BK80-4 P7 71/ 9 |
| BEAVER VALLEY | PWR | 75 | | 20100 | | | | | | | | BK80-4 P7 71/ 9 |
| NORTH ANNA-12 | PWR | 76 | | 20100 | | | | | | | | BK80-4 P8 71/ 9 |
| JOSEPH M.FARLEY | PWR | 77 | | 20100 | | | | | | | | BK80-4 P8 71/ 9 |

PRIMARY COOLING PUMP

MOTOR

TYPE PWR 757410

- (1) TYPE TP1=3P INDUCTION MOTOR

- (2) NUMBER
- (3) VOLTAGE VOLT
- (4) OUTPUT KW/1
- (5) SPEED RPM

- (1) (2) (3) (4) (5)
- NO. VOLT KW/1 RPM

| | | | | | | | | | | |
|----------|-----|----|-------|-------|-------|-------|--|--|--|--------------|
| GENKAI-1 | PWR | 24 | TP1 2 | 6600. | | 1150 | | | | 8-53 70/ 5 |
| IKATA-1 | PWR | 28 | TP1 2 | 6600. | | 1150 | | | | 8-53 72/11 |
| IKATA-2 | PWR | 30 | TP1 2 | 6600. | 4300. | 1190. | | | | 8-4-21 75/ 5 |
| SENDAI | PWR | 31 | TP1 3 | 6600. | 4500. | 1190. | | | | 8-4-24 76/ 5 |

PRIMARY COOLING SYSTEM DESIGN-T DESIGN-P 757430

- (1)NUMBER OF LOOPS
- (2)PRIMARY COOLANT TOTAL FLOW T/H
- (3)OPERATION TEMPERATURE MAX. DEG.C
- (4)OPERATION TEMPERATURE(PRESSURIZER AND SURGE TUBE) DEG.C
- (5)DESIGN PRESSURE MAX KG/CM2G
- (6)PRESSURE OF NORMAL OPERATION KG/CM2G
- (7)PRESSURE VESSEL INLET TEMPERATURE (RATE)
- (8)PRESSURE VESSEL OUTLET TEMPERATURE (RATE)

| | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | | |
|------------|--------|-----|--------|------|------|-------------|------|-------|-------|--------|-------|
| | | NO. | T/H | C | C | --KG/CM2G-- | C | C | | | |
| TAKAHAMA-2 | PWR 23 | 3 | 45000. | 343. | 360. | 175. | | 287. | 322. | 8-49 | 70/ 5 |
| GENKAI-1 | PWR 24 | 2 | 30000. | | | 175. | | 288.1 | 322.7 | 8-56 | 70/ 5 |
| OUI-1,2 | PWR 26 | 4 | 60100. | 343. | 360. | 175. | | 289. | 325. | 8-49 | 71/ 1 |
| MIHAMA-3 | PWR 27 | 3 | 45000. | 343. | 360. | 175. | | 287. | 322. | 8-49 | 71/ 8 |
| IKATA-1 | PWR 28 | 2 | 30000. | 343. | 360. | 175. | | 288. | 322. | 8-50 | 72/11 |
| IKATA-2 | PWR 30 | 2 | 30000. | 343. | 360. | 175. | 157. | 288. | 323. | 8-4-16 | 75/ 5 |

PRIMARY LOOP TUBE SIZE 757450

- ...PRESSURE VESSEL...(3)(4)...STEAM GENERATOR...
- ..(1) (2).....PUMP.....(5)(6).....

- (1) TUBE INNER DIA (FROM PUMP TO PRESSURE VESSEL)
- (2) TUBE THICKNESS (FROM PUMP TO PRESSURE VESSEL)
- (3) TUBE INNER DIA (FROM PRESSURE VESSEL TO STEAM GENERATOR)
- (4) TUBE THICKNESS (FROM PRESSURE VESSEL TO STEAM GENERATOR)
- (5) TUBE INNER DIA (FROM STEAM GENERATOR TO PUMP)
- (6) TUBE THICKNESS (FROM STEAM GENERATOR TO PUMP)

| | | (1) | (2) | (3) | (4) | (5) | (6) | | |
|------------|--------|------|------|------|------|------|------|------------|-------|
| | | ID | T | ID | T | ID | T | | |
| | | (MM) | (MM) | (MM) | (MM) | (MM) | (MM) | | |
| MIHAMA-1 | PWR 21 | 700 | 57.2 | 700 | 57.2 | 737 | 60.4 | 8-53 | 66/11 |
| MIHAMA-2 | PWR 22 | 700 | | 740 | | 790 | | 8K80-2 P10 | 71/ 8 |
| TAKAHAMA-2 | PWR 23 | 700 | 60 | 740 | 64 | 790 | 67 | 8-51 | 70/ 5 |
| GENKAI-1 | PWR 24 | 700 | 65 | 737 | 68 | 787 | 73 | 8-56 | 70/ 5 |
| TAKAHAMA-1 | PWR 25 | 700 | | 740 | | 790 | | 8K80-2 P10 | 71/ 8 |
| OUI-1,2 | PWR 26 | 700 | 65 | 740 | 69 | 790 | 73 | 8-51 | 71/ 1 |
| MIHAMA-3 | PWR 27 | 700 | 60 | 740 | 64 | 790 | 67 | 8-51 | 71/ 8 |
| IKATA-1 | PWR 28 | 700 | 65 | 737 | 68 | 787 | 73 | 8-56 | 72/11 |
| IKATA-2 | PWR 30 | 700 | 69 | 740 | 73 | 790 | 78 | 8-4-23 | 75/ 5 |
| SENDAI | PWR 31 | 700 | 69 | 740 | 73 | 790 | 78 | 8-4-26 | 76/ 5 |

PRESSURIZER TYPE SIZE 757620

- (1)TYPE TP1 =TATE OKI ENTOD ZYDOGE HANKYUU KAGAMI YOOKI
- (2)NUMBER
- (6)DESIGN PRESSURE (KG/SQCMG)
- (8)MATERIAL
- MAT1 = MN.MO.STEEL WITH STAINLESS STEEL LINING
- MAT2 = LHM ALLOY STEEL WITH STAINLESS STEEL LINING

- (1) (2) (3) (4) (5) (6) (7) (8)
- TYPE NO. VOLUME OD HEIGHT DES.P DES.T MAT. (DEG.C)
- (M*3) (M) (M)

| | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | | |
|------------|--------|--|--------------|--------|------------|-------|-------|------|---------|------------|-------|
| | | TYPE NO. | VOLUME (M*3) | OD (M) | HEIGHT (M) | DES.P | DES.T | MAT. | (DEG.C) | | |
| MIHAMA-1 | PWR 21 | TP1 | 1 | 22.6 | 2.01 | 10.97 | 175 | 360. | MAT2 | 8-51 | 66/11 |
| MIHAMA-1 | PWR 21 | TP1 | 1 | | 1.9 | 10.4 | | | | 8K80-2 P10 | 71/ 8 |
| MIHAMA-2 | PWR 22 | TP1 | 1 | | 2.3 | 9.7 | | | | 8K80-2 P10 | 71/ 8 |
| TAKAHAMA-2 | PWR 23 | TP1 | 1 | 40. | 2.3 | 12.8 | | | MAT1 | 8-50 | 70/ 5 |
| GENKAI-1 | PWR 24 | TP1 | 1 | 28.3 | 2.1 | 11. | 175. | 360. | MAT1 | 8-54 | 70/ 5 |
| TAKAHAMA-1 | PWR 25 | TP1 | 1 | | 2.3 | 13. | | | | 8K80-2 P10 | 71/ 8 |
| OUI-1,2 | PWR 26 | TP1 | 1 | 51. | | 16. | | 360. | MAT1 | 8-50 | 71/ 1 |
| MIHAMA-1 | PWR 27 | TP1 | 1 | 40. | | 13. | | 360. | MAT1 | 8-50 | 71/ 8 |
| MIHAMA-3 | PWR 27 | BODY=(ASTM A533 GR.A CL.1 SOUTOD),LINING=(SUS-27 SOUTOD) | 1 | | | | | | | 8-50 | 71/ 8 |
| IKATA-1 | PWR 28 | TP1 | 1 | 28.3 | 2.3 | 9.7 | 175. | 360. | MAT1 | 8-54 | 72/11 |
| IKATA-2 | PWR 30 | TP1 | 1 | 28. | 2.3 | 9.7 | 175. | 360. | MAT2 | 8-4-22 | 75/ 5 |
| SENDAI | PWR 31 | TP1 | 1 | 40. | 2.3 | 12.9 | 175. | 360. | MAT2 | 8-4-25 | 76/ 5 |

PRESSURIZER HEATER TYPE AND CAPACITY 757640

- (1)TYPE TP1 =WATER DIP TYPE TP2 =WATER DIP TYPE (YOKO-OKI ENTOD-GATA)
- (2) =CAPACITY (KW)

- (1) (2) (3)
- TYPE CAP. NO. (KW)

| | | (1) | (2) | (3) | | |
|----------|--------|------|-----------|-----|--------|-------|
| | | TYPE | CAP. (KW) | NO. | | |
| MIHAMA-1 | PWR 21 | TP1 | 800. | | 8-52 | 66/11 |
| GENKAI-1 | PWR 24 | TP1 | 1000. | 1 | 8-55 | 70/ 5 |
| OUI-1,2 | PWR 26 | TP1 | | | 8-49 | 71/ 1 |
| IKATA-1 | PWR 28 | TP1 | 1000. | | 8-55 | 72/11 |
| IKATA-2 | PWR 30 | TP2 | 1000. | | 8-4-22 | 75/ 5 |
| SENDAI | PWR 31 | TP1 | 1400. | | 8-4-25 | 76/ 5 |

| PRESSURE ZER | RELIEF | TANK | DESIGN-P | CAPACITY | 757650 | | | | | | | |
|--------------|--------|------|----------|-------------------------|------------|----------|---------|---------|---------|---------|--------|-------|
| | | | (1) | NUMBER | | | | | | | | |
| | | | (2) | DESIGN PRESSURE (INNER) | KG/SQCMG | | | | | | | |
| | | | (3) | DESIGN PRESSURE (OUTER) | KG/SQCMG | | | | | | | |
| | | | (4) | CAPACITY | CUHM | | | | | | | |
| | | | (5) | OUTER DIAMETER | M | | | | | | | |
| | | | (6) | TOTAL LENGTH | M | | | | | | | |
| | | | (7) | DESIGN TEMPERATURE | DEG-C | | | | | | | |
| | | | (8) | MATERIAL | | | | | | | | |
| | | | (9) | TYPE | | | | | | | | |
| | | | (1) | NO. | (2) DES.-P | (3) CAP. | (4) DD. | (5) T.L | (6) D.T | (7) | (8) | (9) |
| | | | | | KG/SQCMG | CUHM | M | M | M | C | | |
| MIHAMA-1 | PWR | 21 | 1 | 7 | 1 | 17.7 | | | | 8-52 | 66/11 | |
| GENKAI-1 | PWR | 24 | 1 | 7 | 1 | 23 | | | | 8-55 | 70/ 5 | |
| IKATA-1 | PWR | 28 | 1 | 7.1 | 1 | 23 | | | | 8-55 | 72/11 | |
| IKATA-2 | PWR | 30 | 1 | 7 | 1 | 23. | 2.4 | 5.7 | 170 | MT1 | 8-4-22 | 75/ 5 |
| SENDAI | PWR | 31 | 1 | 7. | 1 | 37. | 2.8 | 6.5 | 170. | MT2 TP1 | 8-4-25 | 76/ 5 |

| SURGE | TUBE | FOR PRES SURIZER | PWR | 757660 | | | | | | | | |
|--------|------|------------------|------|--------------------|----------|-----|-----|--|--|--------|-------|--|
| | | | (1) | DESIGN PRESSUR | KG/SQCMG | | | | | | | |
| | | | (2) | DESIGN TEMPERATURE | DEG-C | | | | | | | |
| | | | (3) | TUBE INNER DIA | MM | | | | | | | |
| | | | (4) | TUBE THICKNESS | MM | | | | | | | |
| | | | (5) | MATERIAL | | | | | | | | |
| | | | (1) | (2) | (3) | (4) | (5) | | | | | |
| | | | | KG/CM2G | C | MM | MM | | | | | |
| SENDAI | PWR | 31 | 175. | 360. | 280. | 36. | MT1 | | | 8-4-26 | 76/ 5 | |

| SPRAY | PIPE | LAYING | FOR PRES SURIZER | PWR | 757670 | | | | | | | |
|--------|------|--------|------------------|--------------------|----------|-----|-----|--|--|--------|-------|--|
| | | | (1) | DESIGN PRESSUR | KG/SQCMG | | | | | | | |
| | | | (2) | DESIGN TEMPERATURE | DEG-C | | | | | | | |
| | | | (3) | TUBE INNER DIA | MM | | | | | | | |
| | | | (4) | TUBE THICKNESS | MM | | | | | | | |
| | | | (5) | MATERIAL | | | | | | | | |
| | | | (1) | (2) | (3) | (4) | (5) | | | | | |
| | | | | KG/CM2G | C | MM | MM | | | | | |
| SENDAI | PWR | 31 | 175. | 343. | 90. | 11. | MT1 | | | 8-4-26 | 76/ 5 | |

PLANT PERFORMANCE DATA

| KIND OF REACTOR | AUXILIARY | SYSTEM | BWR | 761000 | | | | | | | | |
|-----------------|-----------|--------|---------------|---|-----------------------------|--------|--|--|--|-----------|-------|--|
| | | | *KIND | | | | | | | | | |
| | | | (1) | FUEL HANDLING AND STORAGE | | | | | | | | |
| | | | (2) | PURIFICATION SYSTEM FOR SPENT-FUEL-POOL-COOLANT (PSSFPC), | 762150 | | | | | | | |
| | | | (3) | REACTOR WATER PURIFICATION SYSTEM(RWPS) | 762200, | 762280 | | | | | | |
| | | | (4) | RESIDUAL HEAT REMOVAL SYSTEM(RHRS) | 764000,764220,764420,764620 | | | | | | | |
| | | | (5) | ISOLATED REACTOR COOLING SYSTEM | 763220,763240,763420 | | | | | | | |
| KASHIWAZAKI | BWR | 15 | FROM(1) TO(5) | | | | | | | 8-6-17-17 | 75/ 3 | |

| KIND OF REACTOR | AUXILIARY | SYSTEM | PWR | 761100 | | | | | | | | |
|-----------------|-----------|--------|-------------------------|---|-----|--|--|--|--|-------|-------|--|
| | | | *KIND | | | | | | | | | |
| | | | (1) | CVCS =CHEMICAL AND VOLUME CONTROL SYSTEM | 762 | | | | | | | |
| | | | (2) | SIS =SAFETY INJECTION SYSTEM | 763 | | | | | | | |
| | | | (3) | RHRS =RESIDUAL HEAT REMOVE SYSTEM | 764 | | | | | | | |
| | | | (4) | CCS =COMPONENT COOLING SYSTEM | 768 | | | | | | | |
| | | | (5) | =SAMPLING SYSTEM | | | | | | | | |
| | | | *FUNCTION(SUMMARY) | | | | | | | | | |
| | | | (1) | = ADJUSTMENT OF PRIMARY-COOLANT-VOLUME, QUALITY AND BORIC-CONCENTRATION. | | | | | | | | |
| | | | (2) | = WATER INJECTION INTO CORE AND COOLING IN THE EVENT OF ACCIDENT (LOSS OF COOLANT). | | | | | | | | |
| | | | (3) | = TO REMOVE RESIDUAL HEAT AFTER REACTOR SHUT DOWN. | | | | | | | | |
| | | | (4) | = FOR COOLING REACTOR-AUXILIARY-COMPONENTS. | | | | | | | | |
| | | | (5) | = TO PICK PRIMARY-COOLANT-SAMPLES. | | | | | | | | |
| | | | (6) | =COMPONENT COOLING SEA WATER SYSTEM | | | | | | | | |
| | | | (7) | =SPENT FUEL PIT WATER PURIFICATION SYSTEM | | | | | | | | |
| | | | (8) | =FUEL HANDLING AND STORAGE SYSTEM | | | | | | | | |
| MIHAMA-1 | PWR | 21 | FROM(1) TO(5) | | | | | | | 8-58 | 66/11 | |
| TAKAHAMA-2 | PWR | 23 | FROM(1) TO(5) | | | | | | | 8-56 | 70/ 5 | |
| GENKAI-1 | PWR | 24 | FROM(1) TO(5) | | | | | | | 8-61 | 70/ 5 | |
| OOI-1,2 | PWR | 26 | FROM(1) TO(5) | | | | | | | 8-56 | 71/ 1 | |
| MIHAMA-3 | PWR | 27 | FROM(1) TO(5) | | | | | | | 8-56 | 71/ 7 | |
| IKATA-1 | PWR | 28 | FROM(1) TO(5) | | | | | | | 8-61 | 72/11 | |
| IKATA-2 | PWR | 30 | FROM(1) TO(8) EXCEPT(2) | | | | | | | 8-6-1 | 75/ 5 | |

FUNCTION OF CVCS PWR

762100

FUNCTION

- (1) TO KEEP THE PRIMARY-COOLANT-VOLUME PROPERLY IN THIS SYSTEM.
- (2) TO ADJUST THE BORIC CONCENTRATION IN THIS SYSTEM FOR REACTIVITY CONTROL.
- (3) TO REMOVE IMPURITY SUCH AS FISSION PRODUCTS AND CORROSION PRODUCTS IN THE PRIMARY COOLANT.
- (4) IN ORDER TO PREVENT CORROSION, ADD CORROSION-INHIBITOR IN COOLANT AND KEEP ITS CONCENTRATION PROPERLY.
- (5) TO SUPPLY SHAFT-SEAL-WATER FOR RECIRCULATING-COOLANT-PUMPS.
- (6) TO FILL THE WATER TO PRIMARY SYSTEM AND TO MAKE WATER-PRESSURE-
- (7) PRIMARY-COOLANT QUALITY CONTROL (SEE 762110) TEST FOR PRIMARY SYSTEM.

| | | | | | |
|------------|-----|----|---------------|-------|-------|
| MIHAMA-1 | PWR | 21 | FROM(1) TO(6) | 8-58 | 66/11 |
| TAKAHAMA-2 | PWR | 23 | FROM(1) TO(6) | 8-56 | 70/ 5 |
| GENKAI-1 | PWR | 24 | FROM(1) TO(6) | 8-61 | 70/ 5 |
| OUI-1,2 | PWR | 26 | FROM(1) TO(6) | 8-56 | 71/ 1 |
| MIHAMA-3 | PWR | 27 | FROM(1) TO(6) | 8-56 | 71/ 7 |
| IKATA-1 | PWR | 28 | FROM(1) TO(6) | 8-61 | 72/11 |
| IKATA-2 | PWR | 30 | FROM(1) TO(7) | 8-6-4 | 75/ 5 |

MAIN COMPONENTS OF CVCS

PWR 762130

**MAIN COMPONENTS OF CHEMICAL-AND-VOLUME-CONTROL-SYSTEM ARE AS FOLLOWS

- (1) REGENERATIVE HEAT EXCHANGER 762260
- (2) NON-REGENERATIVE HEAT EXCHANGER 762280
- (3) YUJOD CHUUSHUTSU HEAT EXCHANGER 762300
- (4) SHAFT SEAL WATER HEAT EXCHANGER 762320
- (5) ION EXCHANGER FOR PRIMARY COOLANT 762340
- (6) ION EXCHANGER FOR REMOVE BORIC ACID 762350
- (7) VOLUME CONTROL TANK 762360
- (8) CHARGE PUMP 762380
- (9) BORIC ACID PUMP 762500
- (10) BORIC ACID TANK 762520

NEW FUEL STORAGE

762142

- (1) CAPACITY OF NEW FUEL STORAGE PC(OFF FRACTION) OF ALL CORE
- (2) EFFECTIVE MULTIPLICATION FACTOR AT NORMAL CONDITION
- (3) EFFECTIVE MULTIPLICATION FACTOR (FILL OF WATER)
- (4) CAPACITY OF FUEL RACK NO. OF ASSEMBLY
- (5) MATERIAL MT1-CARBON STEEL

| | | | (1) | (2) | (3) | (4) | (5) | | |
|-------------|-----|----|-----|-------------------------------|------|-----|-----|---------|-------|
| ONAGAWA | BWR | 4 | 30. | | | | | 8-4-(1) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 30. | | | | | 8-29 | 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | 30. | | | | | 8-4-(1) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 30. | | | | | 8-4-(1) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 30. | | | | | 8-4-(1) | 71/12 |
| TOOKAI-2 | BWR | 12 | 30. | | | | | 8-4-(1) | 71/12 |
| HAMAOKA-2 | BWR | 13 | 30. | | | | | 8-24 | 72/ 9 |
| KASHIWA7AKI | BWR | 15 | 30. | 0.90 | 0.95 | | | 8-6-2 | 75/ 3 |
| TAKAHAMA-2 | PWR | 23 | 1/3 | | | | | 8-43 | 70/ 5 |
| GENKAI-1 | PWR | 24 | 1/3 | | | | | 8-46 | 70/ 5 |
| OUI-1,2 | PWR | 26 | 2/3 | (COMMON WITH UNIT NO.1 AND 2) | | | | 8-43 | 71/ 1 |
| MIHAMA-3 | PWR | 27 | 1/3 | | | | | 8-43 | 71/ 7 |
| IKATA-1 | PWR | 28 | 1/3 | | | | | 8-46 | 72/ 5 |
| IKATA-2 | PWR | 30 | | | | 56 | MT1 | 8-6-39 | 75/ 5 |
| SENDAI | PWR | 31 | 2/3 | | | 110 | MT1 | 8-6-42 | 76/ 5 |

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SPENT FUEL STORAGE POOL

762144

(1)CAPACITY OF SPENT FUEL STORAGE PC(OR FRACTION)
 (2)WATER-DEPTH M
 (3)EFFECTIVE MULTIPLICATION FACTOR AT NDRMAL CONDITION
 (4)EFFECTIVE MULTIPLICATION FACTOR AT ABNORMAL CONDITON
 (5)MAX. WATER TEMPERATURE DEG C
 (6)MATERIAL OF LINING MAT=SUS
 (7)CAPACITY OF FUEL RACK NO. OF ASSEMBLY
 (R1)THIS PIT IS ALSO USED AS STORAGE FOR 2/3 OF INITIAL-CORE FUEL.
 (R2)THIS PIT IS ALSO USED AS STORAGE FOR INITIAL-CORE FUEL(AT DRY).
 (1) (2) (3) (4) (5) (6) (7)
 C.

| | | | | | | | | | | | |
|-------------|-----|----|------|-------------------------------|------|------|-----|-----|-------------|--------|-------|
| ONAGAWA | BWR | 4 | 150. | | | | | | 8-4-(2) | 70/ 5 | |
| HAMAOKA-1 | BWR | 5 | 150. | | | | | | 8-31 | 70/ 5 | |
| FUKUSIMA-5 | BWR | 9 | 150. | | | | | | 8-4-(2) | 71/12 | |
| FUKUSIMA-4 | BWR | 10 | 150. | | | | | | 8-4-(2) | 71/ 8 | |
| FUKUSIMA-6 | BWR | 11 | 130. | | | | | | 8-4-(2) | 71/12 | |
| FUKUSIMA-6 | BWR | 11 | 140. | | | | | | 5006.041 PB | 75/ 8 | |
| TOKAI-2 | BWR | 12 | 130. | | | 52. | | | 8-4-(2) | 71/12 | |
| HAMAOKA-2 | BWR | 13 | 150. | | | 52. | | | 8-25 | 72/ 9 | |
| KASHIWAZAKI | BWR | 15 | 140. | 11.5 | 0.90 | 0.95 | | | 8-6-3 | 75/ 3 | |
| TAKAHAMA-2 | PWR | 23 | 4/3 | | | | | | 8-43 | 70/ 5 | |
| GENKAI-1 | PWR | 24 | 4/3 | | | | | | R1 | 8-46 | 70/ 5 |
| OOI-1-2 | PWR | 26 | 5/3 | (COMMON WITH UNIT NO.1 AND 2) | | | | | R2 | 8-43 | 71/ 1 |
| MIHAMA-3 | PWR | 27 | 4/3 | | | | | | R2 | 8-43 | 71/ 7 |
| IKATA-1 | PWR | 28 | 4/3 | | | | | | R1 | 8-47 | 72/ 5 |
| IKATA-2 | PWR | 30 | 6/3 | | | | MT1 | 240 | | 8-6-39 | 75/ 5 |
| SENDAI | PWR | 31 | 17/3 | | | | MT1 | 900 | | 8-6-42 | 76/ 5 |

PSSFPC DEMINE.

762150

DEMINE. FOR PURIFICATION SYSTEM FOR SPENT-FUEL-POOL-COOLANT
 (1)TYPE TP1=PRESSURE PRECOAT TYPE
 (2)NUMBER
 (3)CAPACITY CUBM/HOUR
 (1) (2) (3)
 TYPE NO. M3/H

| | | | | | | | | | | |
|-------------|-----|----|-----|---|------|--|--|--|--------|-------|
| KASHIWAZAKI | BWR | 15 | TP1 | 2 | 125. | | | | 8-6-14 | 75/ 3 |
|-------------|-----|----|-----|---|------|--|--|--|--------|-------|

PSSFPC H.EXCH.

762160

H.EXCH. FOR PURIFICATION SYSTEM FOR SPENT-FUEL-POOL-COOLANT
 (1)TYPE TP1=YOKO-OKI U-TUBE
 (2)NUMBER
 (1) (2)

| | | | | | | | | | | |
|-------------|-----|----|-----|---|--|--|--|--|--------|-------|
| KASHIWAZAKI | BWR | 15 | TP1 | 2 | | | | | 8-6-14 | 75/ 3 |
|-------------|-----|----|-----|---|--|--|--|--|--------|-------|

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PSSFPC PUMP

762170

PUMP FOR PURIFICATION SYSTEM FOR SPENT-FUEL-POOL-COOLANT
 (1)TYPE TP1=YOKO-GATA UZUMAKI
 (2)NUMBER
 (3)CAPACITY CUBM/H
 (4)HEAD
 (1) (2) (3) (4)
 TYPE NO. M3/H/1 M

| | | | | | | | | | | |
|-------------|-----|----|-----|---|------|-----|--|--|--------|-------|
| KASHIWAZAKI | BWR | 15 | TP1 | 2 | 125. | 90. | | | 8-6-14 | 75/ 3 |
|-------------|-----|----|-----|---|------|-----|--|--|--------|-------|

RWPS REACTOR WATER

PURIFIC. SYSTEM DESIGN-F 762200

(1)NUMBER OF SYSTEM
 (2)DESIGN PRESSURE KG/SQCMG
 (3)DESIGN TEMPERATURE C
 (4)DESIGN FLOW RATE TON/H
 (1) (2) (3) (4)
 NO. DES.P DES.T O.FLOW
 KG/SQCMG C T/H

| | | | | | | | | | | |
|------------|-----|----|---|------|-----|-------|--|--|-------------|-------|
| ONAGAWA | BWR | 4 | 1 | 102 | 302 | 83 | | | 8-6-(3) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 1 | | | 31.8 | | | 8-41 | 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | 1 | 102 | 302 | 45.4 | | | 8-6-(3) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 1 | 102 | 302 | 45.4 | | | 8-6-(3) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 1 | 91.4 | 302 | 120.7 | | | 8-6-(3) | 72/ 1 |
| TOKAI-2 | BWR | 12 | 1 | 91.4 | 302 | 120.7 | | | 8-6-(3) | 72/ 1 |
| HAMAOKA-2 | BWR | 13 | 1 | | | 45.4 | | | 8-35 | 72/ 9 |
| FUGEN | ATR | 81 | | 70 | 296 | 60 | | | 105-8-6-(2) | 73/11 |

RWPS

REACTOR WATER QUALITY

762220

E.COTVTY PH CL-IDN SOLID SILICA BORON
 MICRO MHO/CM (FROM-TO) LT.PPM LT.PPM (S10-2) (80-3)
 LT.PPM LT.PPM LT.PPM

| | | | | | | | | | | | | |
|-------------|-----|----|-----|-----|-----|-----|-----|----|----|----|-------------|-------|
| ONAGAWA | BWR | 4 | LT. | 1.0 | 5.6 | 8.6 | 0.1 | 1. | 1. | 1. | 8-6-(2) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | LT. | 1.0 | 5.6 | 8.6 | 0.2 | 1. | 1. | 1. | 8-40 | 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | LT. | 1.0 | 5.5 | 8.5 | 0.2 | 1. | 1. | 1. | 8-6-(2) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | LT. | 1.0 | 5.5 | 8.5 | 0.2 | 1. | 1. | 1. | 8-6-(2) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | LT. | 1.0 | 5.6 | 8.6 | 0.2 | 1. | 1. | 1. | 8-6-(2) | 72/ 1 |
| TOKAI-2 | BWR | 12 | LT. | 1.0 | 5.6 | 8.6 | 0.2 | 1. | 1. | 1. | 8-6-(2) | 72/ 1 |
| HAMAOKA-2 | BWR | 13 | LT. | 1.0 | 5.6 | 8.6 | 0.2 | 1. | 1. | 1. | 8-34 | 72/ 9 |
| KASHIWAZAKI | BWR | 15 | LT. | 1.0 | 5.6 | 8.6 | 0.1 | 1. | | | 8-6-7 | 75/ 3 |
| FUGEN | ATR | 81 | LT. | 1.0 | 5.5 | 8.5 | 0.2 | 1. | 2. | 2. | 105-8-6-(2) | 73/11 |

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| RWPS | DEMINE. | PUMP | TYPE | NUMBER | CAPACITY | 762230 | |
|-------------|---------|------|-------------|---|----------|--------|----------------|
| | | | (1)TYPE | TP1= YOKO-DKI KATASUIKOMI UZUMAKI TP2= YOKO-GATA UZUMAKI | | | |
| | | | (2)NUMBER | | | | |
| | | | (3)CAPACITY | CURM/H/1 | DR | TON/H | |
| | | | (4)HEAD | M | | | |
| | | | (1) | (2) | (3) | (4) | |
| | | | NO. | CAP. | HEAD | | |
| | | | | CURM/H/1 | M | | |
| JPDR-2 | BWR | 2 | TP1 | 1 | 3.4T/H | 14.4 | KON-6 P4 70/11 |
| FUKUSIMA-5 | BWR | 9 | | 2 | 30.7 | 153 | 8-6-(2) 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | | 2 | 30.7 | 153 | 8-6-(2) 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | | 2 | 81.7 | 153 | 8-6-(2) 72/ 1 |
| TODKAI-2 | BWR | 12 | | 2 | 81.7 | 153 | 8-6-(2) 72/ 1 |
| KASHIWAZAKI | BWR | 15 | TP2 | 2 | 60. | 160 | 8-6-15 75/ 3 |

| RWPS | DEMINE. | NUMBER | AND | CAPACITY | 762240 | |
|-------------|---------|--------|-------------|------------------------------------|--|-------------------|
| | | | | | RWPS DEMINERALIZER NUMBER AND CAPACITY | |
| | | | (1)TYPE | TP1=HISAISEI KONSHOO ION EXCHANGER | | |
| | | | (2)NUMBER | | | |
| | | | (3)CAPACITY | T/H/1 | DR | M=M3/H/1 |
| | | | (1) | (2) | (3) | |
| | | | TYPE | NO. | CAP. | |
| | | | | T/H/1 | | |
| JPDR-2 | BWR | 2 | TP1 | 2 | 3.4 | KON-6 P5 70/11 |
| DNAGAWA | BWR | 4 | | 2 | 41.5 | 8-6-(2) 70/ 5 |
| HAMAOKA-1 | BWR | 5 | | 2 | 16. | 8-41 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | | 2 | 23. | 8-6-(2) 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | | 2 | 23. | 8-6-(2) 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | | 2 | 60.3 | 8-6-(2) 72/ 1 |
| TODKAI-2 | BWR | 12 | | 2 | 60.3 | 8-6-(2) 72/ 1 |
| HAMAOKA-2 | BWR | 13 | | 2 | 23. | 8-34 72/ 9 |
| KASHIWAZAKI | BWR | 15 | | 2 | 60.1M | 8-6-15 75/ 3 |
| FUGEN | ATR | 81 | | 2 | 34. | 105-8-6-(2) 73/11 |

| RWPS | PIPING | DESIGN-P | DESIGN-T | MATERIAL | 762250 | |
|--------|--------|----------|---------------|-------------|----------|--------------------|
| | | | | | DESIGN-P | DESIGN-T |
| | | | | | PIPE OD | MATERIAL |
| JPDR-2 | BWR | 2 | 77.3 KG/SQCMG | 293.5 DEG-C | 48.6 MM | SUS KON-6 P5 70/11 |

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| RWPS | CVCS | REGENE. | H.EXCH. | TYPE | NO. | CAPACITY | 762260 | | | | | |
|-------------|------|---------|---------|-----------------------|---|----------|----------------|----------------|--------|---------|-------------------|---------|
| | | | | (1)TYPE | TP1 =YOKO DKI U-TUBE TP2 =SHELL AND TUBE TP3 =SHELL AND U-TUBE TP4=TADOO YOKO-DKI U-TUBE | | | | | | | |
| | | | | (2)NUMBER | | | | | | | | |
| | | | | (3)CAPACITY | (KCAL/H) | | | | | | | |
| | | | | (4)DESIGN PRESSURE | TUBE | SIDE | (KG/SQCMG) | | | | | |
| | | | | (5)DESIGN PRESSURE | SHELL | SIDE | (KG/SQCMG) | | | | | |
| | | | | (6)DESIGN TEMPERATURE | TUBE | SIDE | (C) | | | | | |
| | | | | (7)DESIGN TEMPERATURE | SHELL | SIDE | (C) | | | | | |
| | | | | (8)MATERIAL | | | | | | | | |
| | | | | 1) TUBE | MT1=STAINLESS STEEL | | | | | | | |
| | | | | 2) SHELL | MT1=STAINLESS STEEL | | | | | | | |
| | | | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | |
| | | | | TYPE | NO. | CAP. | (DESIGN PRES.) | (DESIGN TEMP.) | (TUBE) | (SHELL) | (TUBE) | (SHELL) |
| | | | | | | | --KG/SQCMG-- | ---DEG-C--- | | | 1) | 2) |
| JPDR-2 | BWR | 2 | TP1 | 1 | | | | | | | KON-6 P4 70/11 | |
| DNAGAWA | BWR | 4 | TP2 | 1 | | | | | | | 8-6-(3) 70/ 5 | |
| HAMAOKA-1 | BWR | 5 | TP2 | 1 | | | | | | | 8-41 70/ 5 | |
| FUKUSIMA-5 | BWR | 9 | TP2 | 1 | | | | | | | 8-6-(2) 71/ 2 | |
| FUKUSIMA-4 | BWR | 10 | TP2 | 1 | | | | | | | 8-6-(2) 71/ 8 | |
| FUKUSIMA-6 | BWR | 11 | TP2 | 1 | | | | | | | 8-6-(2) 72/ 1 | |
| TODKAI-2 | BWR | 12 | TP2 | 1 | | | | | | | 8-6-(2) 72/ 1 | |
| HAMAOKA-2 | BWR | 13 | TP2 | 1 | | | | | | | 8-34 72/ 9 | |
| KASHIWAZAKI | BWR | 15 | TP1 | 1 | | | | | | | 8-6-15 75/ 3 | |
| MIHAMA-1 | PWR | 21 | TP2 | 1 | 1.88E6 | 192.3 | 174.7 | 343. | 343. | | 8-60 66/11 | |
| TAKAHAMA-2 | PWR | 23 | TP2 | 1 | 2.2 E6 | | | | | | 8-57 70/ 5 | |
| GENKAI-1 | PWR | 24 | TP2 | 1 | 1.65E6 | 192. | 175. | 343.C | 343.C | | 8-62 70/ 5 | |
| OOI-1,2 | PWR | 26 | TP2 | 1 | 2.6 E6 | | | | | | 8-58 71/ 1 | |
| MIHAMA-3 | PWR | 27 | TP2 | 1 | 2.2 E6 | | | | | | 8-57 71/ 8 | |
| IKATA-1 | PWR | 28 | TP3 | 1 | 1.62E6 | 193. | 175. | 316.C | 343.C | | 8-62 72/11 | |
| IKATA-2 | PWR | 30 | TP3 | 1 | 1.6 E6 | 193. | 175. | 316.C | 343.C | | 8-6-28 75/ 5 | |
| SENDAI | PWR | 31 | TP4 | 1 | 2.1 E6 | 192. | 175. | 343. | 343. | MT1 | 8-6-31 76/ 5 | |
| FUGEN | ATR | 81 | | 1 | | | | | | | 105-8-6-(2) 73/11 | |

RWPS CVCS NON-REG. H.EXCH. TYPE NO. CAPACITY 762280

(1)TYPE
 TP1 =YOKO OKI U-TUBE
 TP2 =SHELL AND TUBE
 TP3 =SHELL AND U-TUBE
 (8)MATERIAL
 1) TUBE MT1=STAINLESS STEEL
 2) SHEEL MT2=CARBON STEEL
 (1) (2) (3) (4) (5) (6) (7) (8)
 TYPE NO. CAP. (DESIGN PRES.) (DESIGN TEMP.)
 (TUBE) (SHELL) (TUBE) (SHELL) 1) 2)
 KCAL/H --KG/SUCMG-- ----DEG-C---

| UNIT | TYPE | NO. | CAP. | (DESIGN PRES.) | (DESIGN TEMP.) | (TUBE) | (SHELL) | (TUBE) | (SHELL) | 1) | 2) |
|-------------|------|-----|------|----------------|----------------|--------|---------|--------|---------|-----|-----|
| JPDR-2 | HWR | 2 | TP1 | 1 | | | | | | | |
| DNAGAWA | HWR | 4 | TP2 | 1 | | | | | | | |
| HAMAOKA-1 | HWR | 5 | TP2 | 1 | | | | | | | |
| FUKUSIMA-5 | HWR | 9 | TP2 | 1 | | | | | | | |
| FUKUSIMA-4 | HWR | 10 | TP2 | 1 | | | | | | | |
| FUKUSIMA-6 | HWR | 11 | TP2 | 1 | | | | | | | |
| TUDKAI-2 | HWR | 12 | TP2 | 1 | | | | | | | |
| HAMAOKA-2 | HWR | 13 | TP2 | 1 | | | | | | | |
| KASHIWA7AKI | HWR | 15 | TP1 | 1 | | | | | | | |
| MIHAMA-1 | PWR | 21 | TP2 | 1 | 2.9 E6 | 35.2 | 10.6 | 204 | 93. | | |
| TAKAHAMA-2 | PWR | 23 | TP2 | 1 | 3.3 E6 | | | | | | |
| GENKAI-1 | PWR | 24 | TP2 | 1 | 2.89E6 | 42. | 10. | 200.C | 107.C | | |
| OOI-1,2 | PWR | 25 | TP2 | 1 | 3.7 E6 | | | | | | |
| MIHAMA-3 | PWR | 27 | TP2 | 1 | 3.6 E6 | | | | | | |
| IKATA-1 | PWR | 28 | TP3 | 1 | 2.89E6 | 42. | 10. | 200.C | 95.C | | |
| IKATA-2 | PWR | 30 | TP3 | 1 | 2.89E6 | 42. | 10. | 200.C | 95.C | | |
| SENDAI | PWR | 31 | TP1 | 1 | 4.1 E6 | 42. | 10. | 200.C | 95.C | MT1 | MT1 |
| FUGEN | ATR | 81 | | 1 | | | | | | | |

CVCS MAIN COMPONENTS 762290

- (1)REGENERATIVE HEAT EXCHANGER 762260
- (2)NON-REGENERATIVE HEAT EXCHANGER 762280
- (3)SURPLUS HEAT EXTRACTION H.EXCH. 762300
- (4)SHAFT SEAL WATER HEAT EXCHANGER 762320
- (5)PRIMARY COOLANT MIXED BED DEMINERALIZER 762340
- (6)BORON REMOVE DEMINERALIZER 762350
- (7)COOLANT POSITIVE ION DEMINERALIZER 762360
- (8)VOLUME CONTROL TANK 762370
- (9)BORIC ACID CHARGE PUMP 762380
- (10)BORIC ACID PUMP 762500
- (11)BORIC ACID TANK 762520
- (12)BORIC ACID SUPPLY TANK 762540
- (13)PRIMARY SYSTEM CHEMICALS TANK 762560
- (14)COOLANT FILTER 762580
- (15)SHAFT SEAL WATER FILTER 762600
- (16)SHAFT SEAL WATER INJECTION FILTER 762620
- (17)BORIC ACID FILTER 762640

CVCS SURPLUS HEAT EXTRACT. H.EXCH. 762300

(1)TYPE
 TP2 =SHELL AND TUBE
 TP3 =SHELL AND U-TUBE
 TP4 =STATE-UKI U-TUBE
 (8)MATERIAL
 1) TUBE MT1=STAINLESS STEEL
 2) SHEEL MT1=CARBON STEEL
 (1) (2) (3) (4) (5) (6) (7) (8)
 TYPE NO. CAP. (DESIGN PRES.) (DESIGN TEMP.)
 (TUBE) (SHELL) (TUBE) (SHELL) 1) 2)
 KCAL/H --KG/SUCMG-- ----DEG-C---

| UNIT | TYPE | NO. | CAP. | (DESIGN PRES.) | (DESIGN TEMP.) | (TUBE) | (SHELL) | (TUBE) | (SHELL) | 1) | 2) |
|----------|------|-----|------|----------------|----------------|--------|---------|--------|---------|-----|-----|
| MIHAMA-1 | PWR | 21 | TP2 | 1 | 4.88E5 | 174.7 | 10.6 | 343.3 | 121.1 | | |
| GENKAI-1 | PWR | 24 | TP2 | 1 | 4.8 E5 | 175. | 10. | 343.C | 120.C | | |
| IKATA-1 | PWR | 28 | TP3 | 1 | 4.77E5 | 175. | 10. | 343.C | 95.C | | |
| IKATA-2 | PWR | 30 | TP3 | 1 | 4.8 E5 | 175. | 10. | 343.C | 95.C | | |
| SENDAI | PWR | 31 | TP4 | 1 | 8.3 E5 | 175. | 10. | 343.C | 95.C | MT1 | MT1 |

CVCS SHAFT SEAL WATER H.EXCH. 762320

(1)TYPE
 TP2 =SHELL AND TUBE
 TP3 =SHELL AND U-TUBE
 TP4 =YOKO-OKI U-TUBE
 (8)MATERIAL
 1) TUBE MT1=STAINLESS STEEL
 2) SHEEL MT1=CARBON STEEL
 (1) (2) (3) (4) (5) (6) (7) (8)
 TYPE NO. CAP. (DESIGN PRES.) (DESIGN TEMP.)
 (TUBE) (SHELL) (TUBE) (SHELL) 1) 2)
 KCAL/H --KG/SUCMG-- ----DEG-C---

| UNIT | TYPE | NO. | CAP. | (DESIGN PRES.) | (DESIGN TEMP.) | (TUBE) | (SHELL) | (TUBE) | (SHELL) | 1) | 2) |
|----------|------|-----|------|----------------|----------------|--------|---------|--------|---------|-----|-----|
| MIHAMA-1 | PWR | 21 | TP2 | 1 | 1.55E5 | 10.6 | 10.6 | 121.1 | 121.1 | | |
| GENKAI-1 | PWR | 24 | TP2 | 1 | 2.89E5 | 10. | 10. | 120.C | 120.C | | |
| IKATA-1 | PWR | 28 | TP3 | 1 | 2.89E5 | 10. | 10. | 95.C | 95.C | | |
| IKATA-2 | PWR | 30 | TP3 | 1 | 2.9 E5 | 10. | 10. | 95.C | 95.C | | |
| SENJAI | PWR | 31 | TP4 | 1 | 2.5 E5 | 10. | 10. | 95.C | 95.C | MT1 | MT1 |

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| CVCS | PRIMARY COOLANT MIXED | HEU | DEMINE. | 762340 | | |
|------------|-----------------------|-----------|---------|--------|-----------------------|---------------------|
| | | | | | (1)NUMBER | |
| | | | | | (2)DESIGN FLOW RATE | CUBM/H/1 |
| | | | | | (3)DESIGN PRESSURE | KG/SQCMG |
| | | | | | (4)DESIGN TEMPERATURE | C |
| | | | | | (5)MATERIAL | MT1=STAINLESS STEEL |
| | | (1) | (2) | (3) | (4) | (5) |
| | | NO. | DES.F | DES.P | DES.T | |
| MIHAMA-1 | PWR 21 | 2 | 20.4 | 10.6 | 121.1 | 8-61 66/11 |
| TAKAHAMA-2 | PWR 23 | SEE 80239 | | | | / |
| GENKAI-1 | PWR 24 | 2 | 20 | 14 | 120 | 8-64 70/ 5 |
| IKATA-1 | PWR 28 | 2 | 20 | 14 | 65 | 8-64 72/11 |
| IKATA-2 | PWR 30 | 2 | 20.4 | 14 | 65 | 8-6-29 75/ 5 |
| SENDAI | PWR 31 | 2 | 27.2 | 14 | 65 | MT1 8-6-33 76/ 5 |

| CVCS | BORON REMOVE | DEMINE. | 762350 | | | |
|------------|--------------|-----------|--------|-------|-----------------------|---------------------|
| | | | | | (1)NUMBER | |
| | | | | | (2)DESIGN FLOW RATE | CUBM/H/1 |
| | | | | | (3)DESIGN PRESSURE | KG/SQCMG |
| | | | | | (4)DESIGN TEMPERATURE | C |
| | | | | | (5)MATERIAL | MT1=STAINLESS STEEL |
| | | (1) | (2) | (3) | (4) | (5) |
| | | NO. | DES.F | DES.P | DES.T | |
| MIHAMA-1 | PWR 21 | 2 | 22.7 | 12.3 | 121.1 | 8-61 66/11 |
| TAKAHAMA-2 | PWR 23 | SEE 80239 | | | | / |
| GENKAI-1 | PWR 24 | 2 | 20 | 14 | 120 | 8-64 70/ 5 |
| IKATA-1 | PWR 28 | 2 | 20.4 | 14 | 65 | 8-64 72/11 |
| IKATA-2 | PWR 30 | 2 | 20.4 | 14 | 65 | 8-6-30 75/ 5 |
| SENDAI | PWR 31 | 2 | 27.2 | 14 | 65 | MT1 8-6-33 76/ 5 |

| CVCS | COOLANT POSITIVE IDN | DEMINE. | 762360 | | | |
|---------|----------------------|---------|--------|---------|--------------------------------|---------------------|
| | | | | | (1)NUMBER | |
| | | | | | (2)DESIGN FLOW RATE | M3/H |
| | | | | | (3)DESIGN PRESSURE (VESSEL) | KG/CM2G |
| | | | | | (4)DESIGN TEMPERATURE (VESSEL) | DEG-C |
| | | | | | (5)MATERIAL | MT1=STAINLESS STEEL |
| | | (1) | (2) | (3) | (4) | (5) |
| | | NO. | M3/H | KG/CM2G | C | |
| IKATA-2 | PWR 30 | 1 | 10.2 | 14 | 65 | 8-6-30 75/ 5 |
| SENDAI | PWR 31 | 1 | 13.6 | 14 | 65 | MT1 8-6-33 76/ 5 |

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| CVCS | VOLUME CONTROL TANK | NUMBER | CAPACITY | 762370 | | | | | | |
|------------|---------------------|--------|-------------|----------------------|----------------------------|---------------------|-------------|-----------|------|---------------------|
| | | | | | (1)NUMBER | | | | | |
| | | | | | (2)TANK VOLUME | CUBIC METER | | | | |
| | | | | | (3)DESIGN PRESSURE (INNER) | KG/SQCMG | | | | |
| | | | | | (4)DESIGN PRESSURE (OUTER) | KG/SQCMG | | | | |
| | | | | | (5)DESIGN TEMPERATURE | C | | | | |
| | | | | | (6)OPERATION PRESSURE | KG/SQCMG | (FROM - TO) | | | |
| | | | | | (7)OPERATION TEMPERATURE | C | | | | |
| | | | | | (8)FLOW RATE OF SPRAY | CUBM/H | | | | |
| | | | | | (9)MATERIAL | MT1=STAINLESS STEEL | | | | |
| | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| | | NO. | VOL. (CUBM) | (DESIGN.P)-KG/SQCMG- | DES.T (C) | OP.P KG/SQCMG | OP.T (C) | SPRAY (C) | | |
| MIHAMA-1 | PWR 21 | 1 | 4.2 | 5.3 | 1.1 | 121.1 | 4.2 | 52.8 | 20.4 | 8-60 66/11 |
| TAKAHAMA-2 | PWR 23 | 1 | 8.5 | | | | | | | 8-58 70/ 5 |
| GENKAI-1 | PWR 24 | 1 | 5.6 | 5.3 | 1.1 | 120 | 0 - 4.2 | 53 | 20 | 8-64 70/ 5 |
| DUI-1,2 | PWR 26 | 1 | 11.3 | | | | | | | 8-58 71/ 1 |
| MIHAMA-3 | PWR 27 | 1 | 8.5 | | | | | | | 8-58 71/ 8 |
| IKATA-1 | PWR 28 | 1 | 5.6 | 5.0 | 1.0 | 95 | 0 - 4.2 | 53 | 20.4 | 8-64 72/11 |
| IKATA-2 | PWR 30 | 1 | 5.6 | 5.0 | 1.0 | 95 | 0 - 4.2 | 53 | 10 | 8-6-30,31 75/ 5 |
| SENDAI | PWR 31 | 1 | 8.5 | 5.0 | | 95 | 0 - 4.2 | 46 | 27 | MT1 8-6-33,34 76/ 5 |

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| CVCS | BURIC | ACID | CHARGE | PUMP | 762380 | | | |
|------------|-------|------|--|------|--------|-------------------------------------|--|------------|
| | | | | | | (1)TYPE | UZU=UZUMAKI TP2=TAISEKI-GATA KAHEN SOKUDO SIKI TP3=OOHUKU KAHEN GATA TP4=YOKO-DKI UZUMAKI | |
| | | | | | | (2)NUMBER | | |
| | | | | | | (3)CAPACITY | CUBM/H/1 | |
| | | | | | | (4)DESIGN PRESSURE | KG/SQCMG | |
| | | | | | | (5)DESIGN TEMPERATURE | C | |
| | | | | | | (6)DELIVERY PRESSURE | KG/SQCMG OR WATER HEAD(M) | |
| | | | | | | (7)OPERATION TEMPERATURE | C | |
| | | | | | | (8)MATERIAL | MT1=STAINLESS STEEL | |
| | | | | | | (1) (2) (3) (4) (5) (6) (7) (8) | | |
| | | | | | | TYPE NO. CAP. DES.P DES.T HEAD OP.T | | |
| MIHAMA-1 | PWR | 21 | TP2 | 2 | 12.5 | 192.3 | 121.1 172. 52.8 | |
| MIHAMA-1 | PWR | 21 | | 3 | 14. | | | |
| MIHAMA-2 | PWR | 22 | | 3 | 14. | | | |
| TAKAHAMA-2 | PWR | 23 | UZU | 3 | 34. | | 175. | |
| GENKAI-1 | PWR | 24 | TP2 | 3 | 14.3 | 212. 120. | 172. 53. | |
| TAKAHAMA-1 | PWR | 25 | | 3 | 34. | | | |
| OUI-1,2 | PWR | 26 | UZU | 2 | 34. | | 177. | |
| OUI-1,2 | PWR | 26 | TP3 | 1 | 22. | | 176. | |
| MIHAMA-3 | PWR | 27 | UZU | 3 | 34. | | 1770(M) | |
| MIHAMA-3 | PWR | 27 | | | (147.) | | (732(M)) | |
| MIHAMA-3 | PWR | 27 | THIS PUMPS ARE COMMONLY USED FOR 76314(HIGH-P INJECTION) | | | | | 8-59 71/ 8 |
| MIHAMA-3 | PWR | 27 | () IS THE PERFORMANCE AS HIGH-P-INJECTION-USE. | | | | | 8-59 71/ 8 |
| MIHAMA-3 | PWR | 28 | TP2 | 3 | 14.3 | 193. 95. | 175. 53. | |
| IKATA-1 | PWR | 30 | TP2 | 3 | 14. | 193. 95. | 172. 53. | |
| IKATA-2 | PWR | 30 | TP2 | 3 | 14. | 193. 95. | 172. 53. | |
| SENDAI | PWR | 31 | TP4 | 3 | 34. | 192. 150. | 1770(M) 53. MT1 | |
| SENDAI | PWR | 31 | | | (147.) | | (732(M)) | |
| | | | | | | | 8-61 66/11 | |
| | | | | | | | 8K80-2 P13 71/ 8 | |
| | | | | | | | 8K80-2 P13 71/ 8 | |
| | | | | | | | 8-58 70/ 5 | |
| | | | | | | | 8-65 70/ 5 | |
| | | | | | | | REF23 P31 70/11 | |
| | | | | | | | 8-58 71/ 1 | |
| | | | | | | | 8-58 71/ 1 | |
| | | | | | | | 8-58 71/ 8 | |
| | | | | | | | 8-59 71/ 8 | |
| | | | | | | | 8-59 71/ 8 | |
| | | | | | | | 8-59 71/ 8 | |
| | | | | | | | 8-64 72/11 | |
| | | | | | | | 8-6-30,31 75/ 5 | |
| | | | | | | | 8-6-34 76/ 5 | |
| | | | | | | | 8-6-34 76/ 5 | |

| CVCS | BURIC | ACID | PUMP | TYPE | NUMBER | 762500 | |
|----------|-------|------|------|------|--------|---------------------------|--|
| | | | | | | (1)TYPE | TP1=YOKO-DKI CANNED UZUMAKI TP2=YOKO-DKI UZUMAKI TP3=UZUMAKI |
| | | | | | | (2)NUMBER | |
| | | | | | | (3)CAPACITY | CUBM/H/1 |
| | | | | | | (4)DESIGN PRESSURE | KG/SQCMG |
| | | | | | | (5)DESIGN TEMPERATURE | C |
| | | | | | | (6)MATERIAL | MT1=STAINLESS STEEL |
| | | | | | | (1) (2) (3) (4) (5) (6) | |
| | | | | | | TYPE NO. CAP. DES.P DES.T | |
| MIHAMA-1 | PWR | 21 | TP3 | 2 | 12.5 | 10.6 | 121.1 |
| GENKAI-1 | PWR | 24 | TP1 | 2 | 10. | 10. | 120. |
| IKATA-1 | PWR | 28 | TP2 | 2 | 10. | 10. | 95. |
| IKATA-2 | PWR | 30 | TP2 | 2 | 10. | 10. | 95. |
| SENDAI | PWR | 31 | TP2 | 2 | 17. | 10. | 95. MT1 |
| | | | | | | | 8-62 66/11 |
| | | | | | | | 8-65 70/ 5 |
| | | | | | | | 8-65 72/11 |
| | | | | | | | 8-6-31 75/ 5 |
| | | | | | | | 8-6-34 76/ 5 |

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| CVCS | BURIC | ACID | TANK | NUMBER | CAPACITY | 762520 | |
|------------|-------|------|------|--------|----------|---------------------------------|------------------------------------|
| | | | | | | (1)NUMBER | |
| | | | | | | (2)VOLUME | |
| | | | | | | (3)DESIGN PRESSURE | KG/SQCMG |
| | | | | | | (4)DESIGN TEMPERATURE | C |
| | | | | | | (5)HEATER TYPE | TP1=EKISHIN GATA TP2=STRIP TYPE |
| | | | | | | (6)HEATER POWER | KW /1 |
| | | | | | | (7)CONCENTRATION OF BURIC ACID | PPM |
| | | | | | | (8)MATERIAL | MT1=STAINLESS STEEL |
| | | | | | | (1) (2) (3) (4) (5) (6) (7) (8) | |
| | | | | | | NO. VOL DES.P DES.T | |
| | | | | | | CUBM (C) KW /1 PPM | |
| TAKAHAMA-2 | PWR | 23 | | 2 | 28. | | |
| GENKAI-1 | PWR | 24 | | 2 | 11.4 | 1.ATM | 95. TP1 4.5*2/1 21000. |
| OUI-1,2 | PWR | 26 | | 3 | 42. | | |
| MIHAMA-3 | PWR | 27 | | 2 | 28. | | |
| IKATA-1 | PWR | 28 | | 2 | 11.4 | 1.ATM | 95. TP1 4.5*2/1 21000. |
| IKATA-2 | PWR | 30 | | 2 | 11. | 1.ATM | 95. TP2 6.0*2/1 21000. |
| SENDAI | PWR | 31 | | 2 | 30. | 1.ATM | 95. TP2 8.1*2/1 21000. MT1 |
| | | | | | | | 8-58 70/ 5 |
| | | | | | | | 8-64 70/ 5 |
| | | | | | | | 8-58 71/ 1 |
| | | | | | | | 8-58 71/ 8 |
| | | | | | | | 8-64 72/11 |
| | | | | | | | 8-6-31 75/ 5 |
| | | | | | | | 8-6-35 76/ 5 |

| CVCS | BURIC | ACID | SUPPLY | TANK | 762540 | | |
|---------|-------|------|--------|------|--------|-----------------------|---------------------|
| | | | | | | (1)NUMBER | |
| | | | | | | (2)CAPACITY | M3 |
| | | | | | | (3)DESIGN PRESSURE | |
| | | | | | | (4)DESIGN TEMPERATURE | DEG-C |
| | | | | | | (5)MATERIAL | MT1=STAINLESS STEEL |
| | | | | | | (1) (2) (3) (4) (5) | |
| | | | | | | NO. M C | |
| IKATA-2 | PWR | 30 | | 1 | 1.5 | 1.ATM | 95. |
| SENDAI | PWR | 31 | | 1 | 1.5 | 1.ATM | 95. MT1 |
| | | | | | | | 8-6-31 75/ 5 |
| | | | | | | | 8-6-35 76/ 5 |

| CVCS | PRIMARY | SYSTEM | CHEMICAL S | TANK | 762560 | | |
|---------|---------|--------|------------|------|--------|-----------------------|---------------------|
| | | | | | | (1)NUMBER | |
| | | | | | | (2)CAPACITY | M3 |
| | | | | | | (3)DESIGN PRESSURE | KG/CM2G |
| | | | | | | (4)DESIGN TEMPERATURE | DEG-C |
| | | | | | | (5)MATERIAL | MT1=STAINLESS STEEL |
| | | | | | | (1) (2) (3) (4) (5) | |
| | | | | | | NO. M C | |
| IKATA-2 | PWR | 30 | | 1 | 0.01 | 10. | 65. |
| SENDAI | PWR | 31 | | 1 | 0.019 | 10. | 65. MT1 |
| | | | | | | | 8-6-31 75/ 5 |
| | | | | | | | 8-6-35 76/ 5 |

| CVCS | | COOLANT FILTER | | 762580 | | | | | | | |
|---------|--------|----------------|---|----------------------------------|------|---------------------|------|-----|-----|--------|-------|
| | | | | (1)TYPE | | TP1=CARTRIDGE | | | | | |
| | | | | (2)NUMBER | | | | | | | |
| | | | | (3)DESIGN FLOW | | M3/H | | | | | |
| | | | | (4)DESIGN PRESSURE | | KG/CM2G | | | | | |
| | | | | (5)DESIGN TEMPERATURE | | DEG-C | | | | | |
| | | | | (6)PRESSURE LOSS(INITIAL) | | KG/CM2G | | | | | |
| | | | | (7)PARTICLE FILTER EFFICIENCY(25 | | MICRON PARTICLE) | | PC | | | |
| | | | | (8)MATERIAL | | MT1=STAINLESS STEEL | | | | | |
| | | | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| | | | | NO. | M3/H | P | C | P | | | |
| IKATA-2 | PWR 30 | TP1 | 1 | 20.4 | 14. | 95. | 0.35 | 98. | | 8-6-32 | 75/ 5 |
| SENDAI | PWR 31 | TP1 | 1 | 34. | 14. | 95. | 0.35 | 98. | MT1 | 8-6-35 | 76/ 5 |

| CVCS | | SHAFT SEAL | | WATER HEATER | | 762600 | | | | | |
|---------|--------|------------|---|----------------------------------|------|---------------------|------|-----|-----|--------|-------|
| | | | | (1)TYPE | | TP1=CARTRIDGE | | | | | |
| | | | | (2)NUMBER | | | | | | | |
| | | | | (3)DESIGN FLOW | | M3/H | | | | | |
| | | | | (4)DESIGN PRESSURE | | KG/CM2G | | | | | |
| | | | | (5)DESIGN TEMPERATURE | | DEG-C | | | | | |
| | | | | (6)PRESSURE LOSS(INITIAL) | | KG/CM2 | | | | | |
| | | | | (7)PARTICLE FILTER EFFICIENCY(25 | | MICRON PARYICLE) | | PC | | | |
| | | | | (8)MATERIAL | | MT1=STAINLESS STEEL | | | | | |
| | | | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| | | | | NO. | M3/H | P | C | P | | | |
| IKATA-2 | PWR 30 | TP1 | 1 | 36.3 | 10. | 95. | 0.35 | 98. | | 8-6-32 | 75/ 5 |
| SENDAI | PWR 31 | TP1 | 1 | 34.1 | 10. | 95. | 0.35 | 98. | MT1 | 8-6-36 | 76/ 5 |

| CVCS | | SHAFT SEAL | | WATER INJECT. FILTER | | 762620 | | | | | |
|---------|--------|------------|---|----------------------------------|--------|---------------------|-----|-----|-----|-----------|-------|
| | | | | (1)TYPE | | TP1=CARTRIDGE | | | | | |
| | | | | (2)NUMBER | | | | | | | |
| | | | | (3)DESIGN FLOW | | M3/H/1 | | | | | |
| | | | | (4)DESIGN PRESSURE | | KG/CM2G | | | | | |
| | | | | (5)DESIGN TEMPERATURE | | DEG-C | | | | | |
| | | | | (6)PRESSURE LOSS(INITIAL) | | KG/CM2 | | | | | |
| | | | | (7)PARTICLE FILTER EFFICIENCY(25 | | MICRON PARTICLE) | | PC | | | |
| | | | | (8)MATERIAL | | MT1=STAINLESS STEEL | | | | | |
| | | | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| | | | | NO. | M3/H/1 | P | C | P | | | |
| IKATA-2 | PWR 30 | TP1 | 2 | 18.2 | 193. | 95. | 0.5 | 98. | | 8-6-32,33 | 75/ 5 |
| SENDAI | PWR 31 | TP1 | 2 | 18.2 | 192. | 95. | 0.5 | 98. | MT1 | 8-6-36 | 76/ 5 |

| CVCS | | BORIC ACID FILTER | | 762640 | | | | | | | |
|---------|--------|-------------------|---|----------------------------------|------|---------------------|------|-----|-----|--------|-------|
| | | | | (1)TYPE | | TP1=CARTRIDGE | | | | | |
| | | | | (2)NUMBER | | | | | | | |
| | | | | (3)DESIGN FLOW | | M3/H | | | | | |
| | | | | (4)DESIGN PRESSURE | | KG/CM2G | | | | | |
| | | | | (5)DESIGN TEMPERATURE | | DEG-C | | | | | |
| | | | | (6)PRESSURE LOSS(INITIAL) | | KG/CM2 | | | | | |
| | | | | (7)PARTICLE FILTER EFFICIENCY(25 | | MICRON PARTICLE) | | PC | | | |
| | | | | (8)MATERIAL | | MT1=STAINLESS STEEL | | | | | |
| | | | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| | | | | NO. | M3/H | P | C | P | | | |
| IKATA-2 | PWR 30 | TP1 | 1 | 20.4 | 10. | 95. | 0.35 | 98. | | 8-6-33 | 75/ 5 |
| SENDAI | PWR 31 | TP1 | 1 | 34.1 | 10. | 95. | 0.35 | 98. | MT1 | 8-6-36 | 76/ 5 |

| MAIN | | COMPONEN TS OF SIS | | PWR | | 763100 | | | | | |
|------|--|--------------------|--|-----------------------------------|--|--------|--|--|--|--|--|
| | | | | (1) BORIC ACID TANK FOR REFUELING | | 763120 | | | | | |
| | | | | (2) HIGH PRESSURE INJECTION PUMP | | 763140 | | | | | |
| | | | | (3) LOW PRESSURE INJECTION PUMP | | 764220 | | | | | |
| | | | | (4) PRESSURIZED BORIC ACID TANK | | 763160 | | | | | |
| | | | | (5) BORIC ACID INJECTION TANK | | 763180 | | | | | |

| SIS | | BORIC ACID TANK FOR REFUEL | | 763120 | | | | | | | |
|------------|--------|----------------------------|---|------------------------|------|-------------------------|-----|------|------|--------|-------|
| | | | | (1)TYPE | | TP1=TATE-OKI ENTOD-GATA | | | | | |
| | | | | (2)NUMBER | | | | | | | |
| | | | | (3)CAPACITY | | M3 | | | | | |
| | | | | (4)WATER VOLUME | | M3 | | | | | |
| | | | | (5)DESIGN PRESSURE | | ATM | | | | | |
| | | | | (6)DESIGN TEMPERATURE | | DEG-C | | | | | |
| | | | | (7)BORON CONCENTRATION | | PPM | | | | | |
| | | | | (8)MATERIAL | | MT1=STAINLESS STEEL | | | | | |
| | | | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| | | | | NO. | M3 | M3 | ATM | C | | | |
| TAKAHAMA-2 | PWR 23 | | 1 | 1500 | | | | | | 8-59 | 70/ 5 |
| GENKAI-1 | PWR 24 | | 1 | 1200 | | | | | 2500 | 8-68 | 70/ 5 |
| OOI-1+2 | PWR 26 | | 1 | 1300 | | | | | | 8-61 | 71/ 1 |
| MIHAMA-3 | PWR 27 | | 1 | 1500 | | | | | | 8-59 | 71/ 8 |
| IKATA-1 | PWR 28 | | 1 | 1200 | | | | | 2000 | 8-67 | 72/11 |
| IKATA-2 | PWR 30 | TP1 | 1 | 1200 | 1150 | 1 | 95. | 2000 | MT1 | 8-5-23 | 75/ 5 |
| SENDAI | PWR 31 | TP1 | 1 | 1720 | | 1 | 95. | 2000 | MT1 | 8-5-23 | 76/ 5 |

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| CVCS | | CHOLANT FILTER | | 762580 | | | | | |
|-------------------|--------|----------------|------|---|-----|-----|------|-----|--------------|
| | | | | (1)TYPE TP1=CARTRIDGE (2)NUMBER (3)DESIGN FLOW M3/H (4)DESIGN PRESSURE KG/CM2G (5)DESIGN TEMPERATURE DEG-C (6)PRESSURE LOSS(INITIAL) KG/CM2 (7)PARTICLE FILTER EFFICIENCY(25 MICRON PARTICLE) PC (8)MATERIAL MT1=STAINLESS STEEL | | | | | |
| | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| | | NO. | M3/H | P | C | P | P | | |
| IKATA-2 SENDAI | PWR 30 | TP1 | 1 | 20.4 | 14. | 95. | 0.35 | 98. | |
| | PWR 31 | TP1 | 1 | 34. | 14. | 95. | 0.35 | 98. | MT1 |
| | | | | | | | | | 8-6-32 75/ 5 |
| | | | | | | | | | 8-6-35 76/ 5 |

| CVCS | | SHAFT SEAL WATER HEATER | | 762600 | | | | | |
|-------------------|--------|-------------------------|------|---|-----|-----|------|-----|--------------|
| | | | | (1)TYPE TP1=CARTRIDGE (2)NUMBER (3)DESIGN FLOW M3/H (4)DESIGN PRESSURE KG/CM2G (5)DESIGN TEMPERATURE DEG-C (6)PRESSURE LOSS(INITIAL) KG/CM2 (7)PARTICLE FILTER EFFICIENCY(25 MICRON PARYICLE) PC (8)MATERIAL MT1=STAINLESS STEEL | | | | | |
| | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| | | NO. | M3/H | P | C | P | P | | |
| IKATA-2 SENDAI | PWR 30 | TP1 | 1 | 36.3 | 10. | 95. | 0.35 | 98. | |
| | PWR 31 | TP1 | 1 | 34.1 | 10. | 95. | 0.35 | 98. | MT1 |
| | | | | | | | | | 8-6-32 75/ 5 |
| | | | | | | | | | 8-6-36 76/ 5 |

| CVCS | | SHAFT SEAL WATER INJECT. FILTER | | 762620 | | | | | |
|-------------------|--------|---------------------------------|--------|---|------|-----|-----|-----|-----------------|
| | | | | (1)TYPE TP1=CARTRIDGE (2)NUMBER (3)DESIGN FLOW M3/H/1 (4)DESIGN PRESSURE KG/CM2G (5)DESIGN TEMPERATURE DEG-C (6)PRESSURE LOSS(INITIAL) KG/CM2 (7)PARTICLE FILTER EFFICIENCY(25 MICRON PARTICLE) PC (8)MATERIAL MT1=STAINLESS STEEL | | | | | |
| | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| | | NO. | M3/H/1 | P | C | P | P | | |
| IKATA-2 SENDAI | PWR 30 | TP1 | 2 | 18.2 | 193. | 95. | 0.5 | 98. | |
| | PWR 31 | TP1 | 2 | 18.2 | 192. | 95. | 0.5 | 98. | MT1 |
| | | | | | | | | | 8-6-32,33 75/ 5 |
| | | | | | | | | | 8-6-36 76/ 5 |

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| CVCS | | BORIC ACID FILTER | | 762640 | | | | | |
|-------------------|--------|-------------------|------|---|-----|-----|------|-----|--------------|
| | | | | (1)TYPE TP1=CARTRIDGE (2)NUMBER (3)DESIGN FLOW M3/H (4)DESIGN PRESSURE KG/CM2G (5)DESIGN TEMPERATURE DEG-C (6)PRESSURE LOSS(INITIAL) KG/CM2 (7)PARTICLE FILTER EFFICIENCY(25 MICRON PARTICLE) PC (8)MATERIAL MT1=STAINLESS STEEL | | | | | |
| | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| | | NO. | M3/H | P | C | P | P | | |
| IKATA-2 SENDAI | PWR 30 | TP1 | 1 | 20.4 | 10. | 95. | 0.35 | 98. | |
| | PWR 31 | TP1 | 1 | 34.1 | 10. | 95. | 0.35 | 98. | MT1 |
| | | | | | | | | | 8-6-33 75/ 5 |
| | | | | | | | | | 8-6-36 76/ 5 |

| MAIN | | COMPONEN TS OF SIS | | PWR 763100 | | | | | |
|------|--|--------------------|--|---|--|--|--|--|--|
| | | | | (1) BORIC ACID TANK FOR REFUELING 763120 (2) HIGH PRESSURE INJECTION PUMP 763140 (3) LOW PRESSURE INJECTION PUMP 764220 (4) PRESSURIZED BORIC ACID TANK 763160 (5) BORIC ACID INJECTION TANK 763180 | | | | | |
| | | | | | | | | | |

| SIS | | BORIC ACID TANK FOR REFUEL | | 763120 | | | | | |
|-------------------|--------|----------------------------|-----|--|------|-----|------|------|--------------|
| | | | | (1)TYPE TP1=TATE-OKI ENTDO-GATA (2)NUMBER (3)CAPACITY M3 (4)WATER VOLUME M3 (5)DESIGN PRESSURE ATM (6)DESIGN TEMPERATURE DEG-C (7)BORON CONCENTRATION PPM (8)MATERIAL MT1=STAINLESS STEEL | | | | | |
| | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| | | NO. | M3 | M3 | ATM | C | PPM | | |
| TAKAHAMA-2 | PWR 23 | | 1 | 1500 | | | | | 8-59 70/ 5 |
| GENKAI-1 | PWR 24 | | 1 | 1200 | | | 2500 | | 8-68 70/ 5 |
| OOI-1,2 | PWR 26 | | 1 | 1300 | | | | | 8-61 71/ 1 |
| MIHAMA-3 | PWR 27 | | 1 | 1500 | | | | | 8-59 71/ 8 |
| IKATA-1 | PWR 28 | | 1 | 1200 | | | 2000 | | 8-67 72/11 |
| IKATA-2 SENDAI | PWR 30 | TP1 | 1 | 1200 | 1150 | 1 | 95. | 2000 | MT1 |
| | PWR 31 | TP1 | 1 | 1720 | | 1 | 95. | 2000 | MT1 |
| | | | | | | | | | 8-5-23 75/ 5 |
| | | | | | | | | | 8-5-23 76/ 5 |

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| SIS | BORIC ACID | HIGH-P | INJECT | PUMP | 763140 | | | |
|----------|------------|--------|---------------------------------|------|--------|----------------------|-----|-----------|
| | | | (1)TYPE | | | TP1=UZUMAKI | | |
| | | | (2)NUMBER | | | TP2=YOKU-OKI UZUMAKI | | |
| | | | (3)CAPACITY | | | M3/H/1 | | |
| | | | (4)DESIGN HEAD | | | M | | |
| | | | (5)DESIGN PRESSURE | | | KG/CM2G | | |
| | | | (6)DESIGN TEMPERATURE | | | DEG-C | | |
| | | | (7)MAX. FLOW RATE | | | M3/H/1 | | |
| | | | (8)MATERIAL | | | MT1=STAINLESS STEEL | | |
| | | | (1) (2) (3) (4) (5) (6) (7) (8) | | | | | |
| | | | NO. CAP M D.P C | | | | | |
| GENKAI-1 | PWR | 24 | TP1 | 2 | 160 | 760 | 116 | 150 |
| MIHAMA-3 | PWR | 27 | | 3 | 125 | 400 | | |
| IKATA-1 | PWR | 28 | TP1 | 2 | 160 | 760 | 116 | 150 |
| IKATA-2 | PWR | 30 | TP2 | 2 | 160 | 760 | 116 | 150 |
| SENDAI | PWR | 31 | TP2 | 3 | 147 | 732 | 192 | 150 |
| | | | | | | | | 250 |
| | | | | | | | | MT1 |
| | | | | | | | | MT1 |
| | | | | | | | | SEE762380 |
| | | | | | | | | 8-68 |
| | | | | | | | | 70/ 5 |
| | | | | | | | | 8-59 |
| | | | | | | | | 71/ 8 |
| | | | | | | | | 8-67 |
| | | | | | | | | 72/11 |
| | | | | | | | | 8-5-22 |
| | | | | | | | | 75/ 5 |
| | | | | | | | | 8-5-23 |
| | | | | | | | | 76/ 5 |

| SIS | BORIC ACID | LOW-P | INJECT | PUMP | PWR | 763150 | | |
|----------|------------|-------|------------------------------------|------|-----|----------------------|----|--------|
| | | | (1)TYPE | | | TP1=YOKU-OKI UZUMAKI | | |
| | | | (2)NUMBER | | | | | |
| | | | (3)CAPACITY | | | M3/H/1 | | |
| | | | (4)DESIGN HEAD | | | M | | |
| | | | (5)DESIGN PRESSURE | | | KG/CM2G | | |
| | | | (6)DESIGN TEMPERATURE | | | DEG-C | | |
| | | | (7)MATERIAL | | | MT1=STAINLESS STEEL | | |
| | | | *1=COMMON WITH PWR PUMP SEE 764220 | | | | | |
| | | | (1) (2) (3) (4) (5) (6) (7) | | | | | |
| | | | TYPE NO. CAP. D.H D.P C MAT. | | | | | |
| MIHAMA-3 | PWR | 27 | TP1 | 2 | 850 | 73 | | |
| IKATA-2 | PWR | 30 | | 2 | 454 | 86 | 42 | 200 |
| | | | | | | | | MT1 |
| | | | | | | | | *1 |
| | | | | | | | | *1 |
| | | | | | | | | 8-60 |
| | | | | | | | | 71/ 8 |
| | | | | | | | | 8-5-22 |
| | | | | | | | | 75/ 5 |

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| SIS | P-RIZED BORIC ACID | TANK | 763160 | | | | | |
|------------|--------------------|------|-------------------------------------|---|------|------------------------------|-----|-----------|
| | | | (1)TYPE | | | TP1=TATE-OKI ENTOD-GATA | | |
| | | | (2)NUMBER | | | | | |
| | | | (3)CAPACITY | | | M3/1 | | |
| | | | (4)DESIGN PRESSURE | | | KG/CM2G | | |
| | | | (5)DESIGN TEMPERATURE | | | DEG-C | | |
| | | | (6)WORKING PRESSURE | | | KG/CM2G | | |
| | | | (7)WORKING TEMPERATURE | | | DEG-C | | |
| | | | (8)BORON CONCENTRATION | | | PPM | | |
| | | | (9)MATERIAL | | | MT1=CARBON STEEL(SUS LINING) | | |
| | | | (1) (2) (3) (4) (5) (6) (7) (8) (9) | | | | | |
| | | | NO. M3/1 D.P C W.P C PPM | | | | | |
| MIHAMA-1 | PWR | 21 | | 2 | 38 | | | |
| MIHAMA-2 | PWR | 22 | | 2 | 57 | | | |
| TAKAHAMA-2 | PWR | 23 | | 3 | 41 | | | |
| GENKAI-1 | PWR | 24 | | 2 | 56.5 | 56 | 150 | |
| TAKAHAMA-1 | PWR | 25 | | 3 | 41. | | | |
| | | | | | | | | REF23 P32 |
| | | | | | | | | 70/11 |
| | | | | | | | | REF23 P32 |
| | | | | | | | | 70/11 |
| | | | | | | | | 8-59 |
| | | | | | | | | 70/ 5 |
| | | | | | | | | 8-68 |
| | | | | | | | | 70/ 5 |
| | | | | | | | | REF23 P32 |
| | | | | | | | | 70/11 |
| | | | | | | | | 8-61 |
| | | | | | | | | 71/ 1 |
| | | | | | | | | 8-59 |
| | | | | | | | | 71/ 8 |
| | | | | | | | | 8-68 |
| | | | | | | | | 72/11 |
| | | | | | | | | 8-5-21 |
| | | | | | | | | 75/ 5 |
| | | | | | | | | 8-5-23 |
| | | | | | | | | 76/ 5 |

| SIS | BORIC ACID | INJECT | TANK | 763180 | | | | |
|----------|------------|--------|--|--------|-----|------------------------------|-----|--------|
| | | | (1)TYPE | | | TP1=TATE-OKU ENTOD-GATA | | |
| | | | (2)NUMBER | | | | | |
| | | | (3)CAPACITY | | | M3/1 | | |
| | | | (4)DESIGN PRESSURE | | | KG/CM2G | | |
| | | | (5)DESIGN TEMPERATURE | | | DEG-C | | |
| | | | (6)BORON CONCENTRATION | | | PPM | | |
| | | | (7)MATERIAL | | | MT1=CARBON STEEL(SUS LINING) | | |
| | | | (8)NUMBER OF HEATER | | | | | |
| | | | (9)TYPE OF HEATER | | | TH1=ELECTRICAL(OUTSIDE) | | |
| | | | (10)CAPACITY OF HEATER | | | KW/1 | | |
| | | | (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) | | | | | |
| | | | NO. M3 P C C PPM MAT. NO. KW/1 | | | | | |
| GENKAI-1 | PWR | 24 | | 1 | 2.5 | | | |
| IKATA-2 | PWR | 30 | TP1 | 1 | 2.5 | 116 | 150 | 21000 |
| SENDAI | PWR | 31 | TP1 | 1 | 3.4 | 192 | 150 | 21000 |
| | | | | | | | | MT1 |
| | | | | | | | | 1 |
| | | | | | | | | TH1 |
| | | | | | | | | 3.35 |
| | | | | | | | | 8-68 |
| | | | | | | | | 70/ 5 |
| | | | | | | | | 8-5-21 |
| | | | | | | | | 75/ 5 |
| | | | | | | | | 8-5-23 |
| | | | | | | | | 76/ 5 |

| SIS | BORIC ACID | CHARGE | PUMP | 763300 | | | | |
|------------|------------|--------|-------------|--------|--|--|--|-------|
| TAKAHAMA-2 | PWR | 23 | SEE (76238) | | | | | 8-68 |
| GENKAI-1 | PWR | 24 | SEE (76238) | | | | | 70/ 5 |
| | | | | | | | | 8- |
| | | | | | | | | 70/ 5 |

RCIC TURBINE

763620

| | | RCIC TURBINE | | TP1=HAIATSU SHIKI | | | |
|-------------|--------|--------------------|-----------|-------------------------|-----------|-----------|---------------|
| | | (1)TYPE | (2)NUMBER | (3)INLET STEAM PRESSURE | FROM / TO | KG/CM2G | |
| | | (4)STEAM FLOW RATE | (5)OUTPUT | (6)SPEED | FROM / TO | T/H | K=KW, P=PS |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| TYPE NO. | NO. | PRESSURE | FLOW.R | OUTPUT | SPEED | | |
| | | KG/CM2G | T/H | KW OR PS | RPM | | |
| ONAGAWA | BWR 4 | TP1 1 | 77.7/ 9.5 | 8. /3. | 343/67K | 4000/2000 | 8-6-(4) 70/ 5 |
| HAMAOKA-1 | BWR 5 | TP1 1 | 77.7/ 9.5 | 9.1/3. | 343/67K | 4000/2000 | 8-42 70/ 5 |
| FUKUSIMA-5 | BWR 9 | TP1 1 | 77. /10.6 | | 460/90P | 4500/2100 | 8-6-(3) 71/ 2 |
| FUKUSIMA-4 | BWR 10 | TP1 1 | 79. /10.6 | | 485/90P | 3600/1960 | 8-6-(3) 71/ 8 |
| FUKUSIMA-6 | BWR 11 | TP1 1 | 79. /10.6 | | 725/130P | 4500/2100 | 8-6-(3) 72/ 1 |
| TODKAI-2 | BWR 12 | TP1 1 | 79. /10.6 | | 725/130P | 4500/2100 | 8-6-(3) 72/ 1 |
| HAMAOKA-2 | BWR 13 | TP1 1 | 77.7/ 9.5 | | | 4500/2100 | 8-35 72/ 9 |
| KASHIWAZAKI | BWR 15 | TP1 1 | 79. /10.6 | | 725/130P | 4500/2100 | 8-6-17 75/ 3 |

RCIC PUMP

763640

| | | (1)TYPE | | TP1= YOKO ZIKU TADAN TURBINEPUMP | | TP2= TADAN SUIHEI ENSIN SIKI | |
|----------------|--------|--------------|---------------------|----------------------------------|-----------|------------------------------|---------------|
| | | (2)NUMBER | (3)REACTOR PRESSURE | FROM / TO | KG/SQCMG | | |
| | | (4)FLOW RATE | (5)TOTAL HEAD | (6)SPEED | FROM / TO | CUBM/H | |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| NO. | NO. | F.R. | HEAD | SPEED | | | |
| | | M / M | M / M | RPM | | | |
| ONAGAWA | BWR 4 | TP1 1 | 79/10.6 | 94.5 | 854/160 | (V) | 8-6-(4) 70/ 5 |
| HAMAOKA-1 | BWR 5 | TP2 1 | | 94.5 | 854/160 | 4500/2100 | 8-42 70/ 5 |
| FUKUSIMA-5 | BWR 9 | TP2 1 | | 91.0 | 854/160 | (V) | 8-6-(3) 71/ 2 |
| FUKUSIMA-4 | BWR 10 | TP2 1 | | 91.0 | 854/160 | (V) | 8-6-(3) 71/ 8 |
| FUKUSIMA-6 | BWR 11 | TP2 1 | | 142.0 | 870/186 | (V) | 8-6-(3) 72/ 1 |
| TODKAI-2 | BWR 12 | TP2 1 | | 142.0 | 870/186 | | 8-6-(4) 72/ 1 |
| HAMAOKA-2 | BWR 13 | TP2 1 | | 96.5 | 854/160 | 4500/2100 | 8-36 72/ 9 |
| KASHIWAZAKI | BWR 15 | TP2 1 | | 140. T/H | 880/180 | | 8-6-17 75/ 3 |
| VERMONT YANKEE | BWR 52 | | | 90.8 | | | / |
| DUANE ARNOLD | BWR 58 | | | 94.5 | | | A-2 P4 70/ 7 |

RHRS

RESIDUAL HEAT

REMOVE S

NUMBER

764000

| | | | |
|------------|--------|--|---------------|
| ONAGAWA | BWR 4 | 2-SYSTEMS (RHR-PUMP=2*2, RHR-S.W.PUMP=2*2, RHR-HX=1*2) | 8-6-(4) 70/ 5 |
| HAMAOKA-1 | BWR 5 | 2-SYSTEMS (RHR-PUMP=2*2, , RHR-HX=1*2) | 8-43 70/ 5 |
| FUKUSIMA-1 | BWR 6 | NONE | / |
| FUKUSIMA-6 | BWR 11 | 2-SYSTEMS (RHR-PUMP=2*2, RHR-S.W.PUMP=2*2, RHR-HX=1*2) | 8-6-(4) 72/ 1 |
| TODKAI-2 | BWR 12 | 2-SYSTEMS (RHR-PUMP=3, RHR-S.W.PUMP=2, RHR-HX=1*2) | 8-6-(5) 72/ 1 |
| FUKUSIMA-5 | BWR 9 | 2-SYSTEMS (RHR-PUMP=2*2, RHR-S.W.PUMP=2*2, RHR-HX=1*2) | 8-6-(4) 71/ 2 |
| FUKUSIMA-4 | BWR 10 | 2-SYSTEMS (RHR-PUMP=2*2, RHR-S.W.PUMP=2*2, RHR-HX=1*2) | 8-6-(3) 71/ 8 |
| HAMAOKA-2 | BWR 13 | 2-SYSTEMS (RHR-PUMP=2*2, , RHR-HX=1*2) | 8-36 72/ 9 |
| TAKAHAMA-2 | PWR 23 | 2 | 8-60 70/ 5 |
| GENKAI-1 | PWR 24 | 2-SYSTEMS (RHR-PUMP=1*2, RHR-HX=1*2) | 8-69 70/ 5 |

RHRS

MAIN

COMPONENTS

FOR PWR

764100

- (1) RESIDUAL HEAT REMOVE HEAT EXCHANGER (RHR COOLER) 76462 ,4
- (2) RESIDUAL HEAT REMOVE PUMP 76422 ,4

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| RHRS | W-PUMP TYPE | NUMBER | CAPACITY | MATERIAL | 764220 | | | | | | | |
|----------------|-------------|--------|--|----------|--------|----------|----|-----|--|--|----------------|--|
| | | | (1)TYPE TP1=YOKO-OKI KATASUIKONI UZUMAKI TP2=UZUMAKI(TATE-GATA) TP3=UZUMAKI TP4=YOKO-OKI UZUMAKI | | | | | | | | | |
| | | | (7)MATERIAL CASING C1=CAST STEEL OR ALLOY STEEL C2=CAST STEEL BLADE B1=BRONZE OR ALLOY STEEL B2=BRONZE OR STAINLESS STEEL B3=STAINLESS STEEL SHAFT S1=ALLOY STEEL S2=STAINLESS STEEL | | | | | | | | | |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | | | | | | |
| TYPE | NO. | CAP. | HEAD | DES.P | DES.T | MATERIAL | | | | | | |
| | | CUM/H | M | KG/SQCM | C | | | | | | | |
| JPDR-2 | BWR | 2 | TP1 | 1 | 91*1 | 30 | | | | | KON-6 PS 70/11 | |
| DNAGAWA | BWR | 4 | TP2 | 2*2 | 1090*4 | 119 | | | | | 8-6-(4) 70/5 | |
| HAMADKA-1 | BWR | 5 | TP2 | 2*2 | 1090*4 | 119 | | | | | 8-43 70/5 | |
| FUKUSIMA-5 | BWR | 9 | TP2 | 2*2 | 1750*4 | 120 | | | | | 8-6-(4) 71/2 | |
| FUKUSIMA-4 | BWR | 10 | TP2 | 2*2 | 1750*4 | 142 | | | | | 8-6-(4) 71/8 | |
| FUKUSIMA-6 | BWR | 11 | TP2 | 1*3 | 1690*3 | 85.3 | | | | | 8-6-(4) 72/1 | |
| TUOKAI-2 | BWR | 12 | TP2 | 1*3 | 1690*3 | 85.3 | | | | | 8-6-(4) 72/1 | |
| HAMADKA-2 | BWR | 13 | TP2 | 2*2 | 1750*4 | 128 | | | | | 8-36 72/9 | |
| KASHIWAZAKI | BWR | 15 | TP2 | 3 | 1690*3 | 85 | | | | | 8-6-16 75/3 | |
| TAKAHANA-2 | PWR | 23 | TP3 | 2 | 850*2 | 82 | | | | | 8-60 70/5 | |
| GENKAI-1 | PWR | 24 | TP3 | 2 | 454*2 | 73 | 42 | 200 | | | 8-69 70/5 | |
| DUI-1,2 | PWR | 26 | TP3 | 2 | 680*2 | 107 | | | | | 8-62 71/1 | |
| MIHAMA-3 | PWR | 27 | TP3 | 2 | 680*2 | 82 | | | | | 8-60 71/8 | |
| IKATA-1 | PWR | 28 | TP3 | 2 | 454*2 | 80 | 42 | 200 | | | 8069 72/11 | |
| IKATA-2 | PWR | 30 | TP4 | 2 | 454*2 | 86 | 42 | 200 | | | 8-6-34 75/5 | |
| SENDAI | PWR | 31 | TP4 | 2 | 481 | 82 | 42 | 200 | | | 8-5-24 76/5 | |
| VERMONT YANKEE | BWR | 52 | | 4 | 1590*4 | | | | | | A-2 70/5 | |
| DUANE ARNOLD | BWR | 58 | | 4 | 1090*4 | | | | | | A-2 P3 70/7 | |

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| RHRS | S.W-PUMP TYPE | NUMBER | CAPACITY | MATERIAL | 764420 | | | | | | |
|----------------|---------------|--------|--|----------|--------|-----|--|--|--|--|--------------|
| | | | (1)TYPE TP1=UZUMAKI(TATE-GATA) | | | | | | | | |
| | | | (5)MATERIAL CASING C1=CAST STEEL OR CAST IRON SHAFT S1=HEAT TREATED HIGH CARBON STEEL OR ALLOY STEEL S2=STAINLESS STEEL BLADE B1=BRONZE B2=STAINLESS STEEL B3=ALLOY STEEL | | | | | | | | |
| (1) | (2) | (3) | (4) | (5) | | | | | | | |
| TYPE | NO. | CAP. | HEAD | MATERIAL | | | | | | | |
| | | CUM/H | (M) | | | | | | | | |
| DNAGAWA | BWR | 4 | TP1 | 2*2 | 545/1 | 239 | | | | | 8-6-(4) 70/5 |
| FUKUSIMA-5 | BWR | 9 | TP1 | 2*2 | 978/1 | 232 | | | | | 8-6-(4) 71/2 |
| FUKUSIMA-4 | BWR | 10 | TP1 | 2*2 | 978/1 | 244 | | | | | 8-6-(4) 71/8 |
| FUKUSIMA-6 | BWR | 11 | TP1 | 1*2 | 1680/1 | | | | | | 8-6-(4) 72/1 |
| TUOKAI-2 | BWR | 12 | TP1 | 1*2 | 1680/1 | | | | | | 8-6-(4) 72/1 |
| VERMONT YANKEE | BWR | 52 | TP1 | 4 | 613/1 | | | | | | A-2 70/5 |
| DUANE ARNOLD | BWR | 58 | TP1 | 4 | 568/1 | | | | | | A-2 P4 70/7 |

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| SAMPLE | H.EXCH. | TYPE | NUMBER | CAPACITY | 765620 | | | | | | | |
|--|---------|------|--------|----------|----------|------|------|------|------|---------|--------|------|
| (1)TYPE TP1=SHELL AND COILED TUBE TP2=DOUBLE TUBE SIKI | | | | | | | | | | | | |
| (8)MATERIAL 1) TUBE MT1=STAINLESS STEEL 2) SHELL MT1=STAINLESS STEEL | | | | | | | | | | | | |
| (1) (2) (3) (4) (5) (6) (7) (8) | | | | | | | | | | | | |
| TYPE NO. CAP. (DESIGN PRES.) (DESIGN TEMP.) 1) 2) | | | | | | | | | | | | |
| (TUBE) (SHELL) (TUBE) (SHELL) | | | | | | | | | | | | |
| KCAL/H --KG/SQCMG-- ----DEG-C--- | | | | | | | | | | | | |
| MIHAMA-1 | PWR | 21 | TP2 | 1 | 5.34E4/1 | 175. | 10.6 | 360. | 177. | 8-66 | 66/11 | |
| GENKAI-1 | PWR | 24 | TP1 | 3 | 5.35E4/1 | 175. | 10. | 360. | 180. | 8-70 | 70/5 | |
| IKATA-1 | PWR | 28 | TP1 | 3 | 5.34E4/1 | 175. | 10. | 360. | 95. | 8-72 | 72/11 | |
| IKATA-2 | PWR | 30 | TP1 | 3 | 5.3 E4/1 | 175. | 10. | 360. | 95. | 8-6-40 | 75/5 | |
| SENDAI | PWR | 31 | TP1 | 3 | 5.3 E4/1 | 175. | 10. | 360. | 95. | MT1 MT1 | 8-6-43 | 76/5 |

| SAMPLE | BOX | CAPACITY | DESIGN-P | DESIGN-T | NUMBER | 765660 | | | | | |
|---------------------------------|-----|----------|----------|-----------|--------|--------|-----|--|--|--------|-------|
| (1)NUMBER | | | | | | | | | | | |
| (2)CAPACITY MILLI LITRE | | | | | | | | | | | |
| (3)DESIGN PRESSURE KG/SQCMG | | | | | | | | | | | |
| (4)DESIGN TEMPERATURE C | | | | | | | | | | | |
| (5)MATERIAL MT1=STAINLESS STEEL | | | | | | | | | | | |
| (1) (2) (3) (4) (5) | | | | | | | | | | | |
| NO. CAP. DES.P DES.T C | | | | | | | | | | | |
| MIHAMA-1 | PWR | 21 | 4 | 10*2.75*2 | 175 | 360 | | | | 8-66 | 66/11 |
| GENKAI-1 | PWR | 24 | 8 | 75 | 175 | 360 | | | | 8-70 | 70/5 |
| IKATA-1 | PWR | 28 | 8 | 75 | 175 | 360 | | | | 8-72 | 72/11 |
| IKATA-2 | PWR | 30 | 8 | 75/1 | 175 | 360 | | | | 8-6-40 | 75/5 |
| SENDAI | PWR | 31 | 3 | 75 | 175 | 360 | MT1 | | | 8-6-43 | 76/5 |

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| HIGH-P. | INJECT. | SYSTEM | DRIVER | TYPE | 766020 | | | | | | |
|---|---------|--------|--------|------|-----------|------------|------------|-----------|--|-----------|------|
| (1)DRIVER TYPE TP1=DIESEL V-TYPE TP2=TURBINE HAIATU-SIKI TP3=SHOBDODD RASEN-RYUU HAIATU-SIKI | | | | | | | | | | | |
| (2)SYSTEM NUMBER | | | | | | | | | | | |
| (3)INLET STEAM PRESSURE FROM / TO KG/CM2G | | | | | | | | | | | |
| (4)STEAM FLOW RATE FROM / TO TON/H | | | | | | | | | | | |
| (5)DRIVER POWER FROM / TO HP OR KW | | | | | | | | | | | |
| (6)DRIVER SPEED FROM / TO RPM | | | | | | | | | | | |
| (1) (2) (3) (4) (5) (6) | | | | | | | | | | | |
| TYPE NO. KG/CM2G TON/H HP OR KW RPM | | | | | | | | | | | |
| TSURUGA | BWR | 3 | TP1 | 1 | | | 3050HP | 900 | | 80-3-3 | 70/5 |
| ONAGAWA | BWR | 4 | TP2 | 1 | 77.7/9.5 | 59 /40.9 | 1985/441KW | 4000/2000 | | 8-6-(7) | 70/5 |
| HAMAOKA-1 | BWR | 5 | TP2 | 1 | 77.7/9.5 | 59 /41. | 2000/450KW | 4000/2000 | | 8-47 | 70/5 |
| FUKUSIMA-1 | BWR | 6 | TP3 | 1 | 78. /10.0 | 50.8/24.00 | 2675/560HP | 3900/2125 | | MEMO P313 | 70/3 |
| FUKUSIMA-5 | BWR | 9 | TP2 | 1 | 79. /10.6 | | 4100/750HP | 4000/2000 | | 8-6-(7) | 71/2 |
| FUKUSIMA-4 | BWR | 10 | TP2 | 1 | 79. /10.6 | | 4100/750HP | 4000/2160 | | 8-6-(7) | 71/8 |
| HAMAOKA-2 | BWR | 13 | TP2 | 1 | 77.7/ 9.5 | | | 4000/2000 | | 8-40 | 72/9 |
| VERMONT YANKEE | BWR | 52 | | 1 | | | | | | A-2 | 70/5 |
| DUANE ARNOLD | BWR | 58 | | 1 | | | | | | A-2 P3 | 70/7 |

| HIGH-P. | INJECT. | SYSTEM | DRIVER | PROPERTY | 766030 | | | | | | |
|--|---------|--------|--------|-----------|--------|---------|-----------|-------|--|-----------|------|
| PROPERTY OF TURBINE | | | | | | | | | | | |
| A=TURBINE INLET STEAM TEMPERATURE FROM(A1)/TO(A2) DEG.C UNIT | | | | | | | | | | | |
| B=BACK PRESSURE (B) KG/SQCMG | | | | | | | | | | | |
| C=START UP TIME (UP TO RATED-FEED-WATER-FLOW) (C) SEC | | | | | | | | | | | |
| D=START UP TIME (FOR SAFETY ANALYSIS) (D) SEC | | | | | | | | | | | |
| E=DANGEROUS SPEED (E1)=TURBINE ONLY,(E2)=WITH PUMP RPM | | | | | | | | | | | |
| F=MAX. SPEED SET POINT (F) RPM | | | | | | | | | | | |
| (A1)/(A2) (B) (C)/(D) (E1)/(E2) (F) | | | | | | | | | | | |
| DEG C KG/SQCMG SEC RPM RPM | | | | | | | | | | | |
| FUKUSIMA-1 | BWR | 6 | | 292./179. | 3.5 | 35./40. | 8500/5070 | 5000. | | MEMO P313 | 70/3 |

| HIGH-P. | INJECT. | SYSTEM | DRIVER | PROPERTY | 766040 | | | | | | | |
|--|---------|--------|--------|----------|--------|------|-----------|-------|------|-------|-----------|------|
| PROPERTY OF TURBINE | | | | | | | | | | | | |
| A=TURBINE HOUSING MAX. INNER DIA(A1)MM. AND THICKNESS(A2)MM. | | | | | | | | | | | | |
| B=NOZZLE DIA (B)MM. | | | | | | | | | | | | |
| C=TURBINE BLADE WIDTH (C)MM | | | | | | | | | | | | |
| D1/D2=BLADE ADDENDUM/DEDDENDUM DIA. MM | | | | | | | | | | | | |
| E=SHAFT TOTAL LENGTH MM | | | | | | | | | | | | |
| F=SHAFT MAX DIA MM | | | | | | | | | | | | |
| G=BEARING SPAN MM | | | | | | | | | | | | |
| (A1)/(A2) (B) (C) (D1)/(D2) (E) (F) (G) | | | | | | | | | | | | |
| ID / T MM MM MM / MM MM MM MM | | | | | | | | | | | | |
| FUKUSIMA-1 | BWR | 6 | | 1380/22. | 24. | 104. | 916./860. | 1830. | 152. | 1042. | MEMO P314 | 70/3 |

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HIGH-P. INJECT. SYSTEM DRIVER MATERIAL 766050
 TURBINE HOUSING/NOZZLE/ BLADE / SHAFT
 FUKUSIMA-1 BWR 6 ASTM A216-WCB/AISI 410/ASTM A294-60TA-5/ASTM A434-60TBC MEMO P314 70/ 3

HIGH-P. INJECT. SYSTEM PUMP PROPERTY 766440

- (1)TYPE TP1=UZUMAKI
- (2)NUMBER
- (3)REACTOR PRESSURE FROM / TO KG/SQCMG
- (4)FLOW RATE FROM / TO CUBM/H/1 OR * T/H/1
- (5)TOTAL HEAD FROM / TO M
- (6)SPEED RPM
- (7)MATERIAL
- CASING C1=CAST STEEL
C2=ALLOY CAST STEEL
- SHAFT S1=STAINLESS STEEL
S2=CARBON STEEL OR ALLOY STEEL
- BLADE B1=STAINLESS STEEL
B2=ALLOY CAST STEEL

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|----------------|-----|-----|----------|-----------------|---------|-----------|----------------------|
| | NO. | | KG/SQCMG | FLOW RATE | HEAD | SPEED | MATERIAL |
| | | | | | M | RPM | |
| TSURUGA | BWR | 3 | 1 | 636 | 914 | 3800 | 80-3-3 70/ 5 |
| ONAGAWA | BWR | 4 | TP1 | 78.8/10.6 681.4 | 854/160 | 4000/2000 | 8-6-(8) 70/ 5 |
| HAMAOKA-1 | BWR | 5 | TP1 | 79 /10.5 681 | 854/160 | 4000/2000 | 8-47 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | TP1 | 79 /10.6 965 * | 854/160 | 4000/2000 | C1S1B1 8-6-(7) 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | TP1 | 79 /10.6 965 * | 854/160 | 4000/2000 | C1S2B2 8-6-(7) 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 1 | 352/1441 | 849/257 | | C1S1B1 8-6-(8) 72/ 1 |
| TODOKAI-2 | BWR | 12 | 1 | 352/1441 | 849/257 | | C1S1B1 8-6-(8) 72/ 1 |
| HAMAOKA-2 | BWR | 13 | TP1 | 79 /10.5 965 | 854/160 | 4000/2000 | C1S1B1 8-39 72/ 9 |
| KASHIWA7AKI | BWR | 15 | TP1 | 1 350/1440 | 860/270 | | 8-5-27 75/ 3 |
| VERMONT YANKEE | BWR | 52 | | 965 | | | A-2 70/ 5 |
| DUANE ARNOLD | BWR | 58 | | 681 | | | A-2 P3 70/ 7 |

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BORON INJECT SYSTEM NUMBER CONTROL WORTH 767220

- (1)SYSTEM NUMBER
- (2)TOTAL CONTROL WORTH
- (3)K EFFECTIVE
- (4)CONTROL SPEED
- (5)SYSTEM MATERIAL
- (6)LIQUID POISON MATERIAL
- (7)BORON CONCENTRATION
- (8)NUMBER OF POISON TANK
- (9)VOLUME OF POISON TANK
- (10)WEIGHT OF BORON
- (11)SPECIFIC WEIGHT(AT 15C)
- DELTA-K
- K EFFECTIVE
- LE
- DELTA-K/MINUTE (MINIMUM)
- MT1=STAINLESS STEEL
- P1 =SODIUM PENTABORATE SOLUTION
- WEIGHT PERCENT
- M2
- KG

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
|-------------|-----|-----|--------|-------|-----|-----|-------|-----|------|-------|-----------------|
| | | | | | | | WT.PC | M3 | KG | | |
| JPCR-2 | BWR | 2 | 0.18 | | | P1 | 13.5 | | | | KDN-6 P18 70/11 |
| ONAGAWA | BWR | 4 | 1 0.17 | 0.001 | MT1 | P1 | 1 | 13 | 234 | 1.102 | 8-6-(8) 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 1 0.17 | 0.001 | MT1 | P1 | 1 | 13 | | | 8-49 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | 1 0.95 | 0.001 | MT1 | P1 | | | 15.3 | | 8-6-(8) 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 1 0.95 | 0.001 | MT1 | P1 | | | 15.3 | | 8-6-(8) 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 1 0.95 | 0.001 | MT1 | P1 | | | 19.5 | | 8-6-(9) 72/ 1 |
| TODOKAI-2 | BWR | 12 | 1 0.95 | 0.001 | MT1 | P1 | | | 19.5 | | 8-6-(9) 72/ 1 |
| HAMAOKA-2 | BWR | 13 | 1 0.17 | 0.001 | MT1 | P1 | 1 | 18. | | | 8-41 72/ 9 |
| KASHIWA7AKI | BWR | 15 | 1 0.95 | 0.001 | MT1 | P1 | | | 20. | | 8-3-87 75/ 3 |
| DRESDEN-1 | BWR | 55 | | | | P1 | | | | | DNR V4 P94 62/ |
| DRESDEN-2 | BWR | 56 | | | | P1 | | | | | DNR V7 P192 68/ |
| BURLINGTON | PWR | 71 | | | | P1 | | | | | GSK-19 69/ 2 |

BORON INJECT SYSTEM PUMP NO. TYPE CAPACITY 767420

- (1)TYPE TP1=PLUNGER TYPE
- (2)NUMBER
- (3)CAPACITY A=M3/H OR B=TUN/H
- (4)DESIGN PRESSURE KG/CM2G
- (5)HEAD M
- (1) (2) (3) (4) (5)
- TYPE NO. CAP. DES.P HEAD
- KG/CM2G M

| | | | | | | | | |
|-------------|-----|----|-----|---|--------|-------|------|----------------|
| ONAGAWA | BWR | 4 | TP1 | 2 | 6.1 A | 105.5 | 1055 | 8-6-(9) 70/ 5 |
| HAMAOKA-1 | BWR | 5 | TP1 | 2 | 6.1 A | 105 | 980 | 8-49 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | TP1 | 2 | 11.7 B | 105 | 980 | 8-6-(9) 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | TP1 | 2 | 11.7 B | 105 | 980 | 8-6-(9) 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | TP1 | | 9.77B | | 858 | 8-6-(9) 72/ 1 |
| TODOKAI-2 | BWR | 12 | TP1 | | 9.77B | | 858 | 8-6-(10) 72/ 1 |
| HAMAOKA-2 | BWR | 13 | TP1 | 2 | 8.7 A | 105 | 980 | 8-41 72/ 9 |
| KASHIWA7AKI | BWR | 15 | TP1 | 2 | 9.8 A | | 860 | 8-3-87 75/ 3 |

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| REACTOR | AUX.COOL SYSTEM | DESIGN-P | DESIGN-T | DESIGN-F | 768000 | DESIGN-P KG/SQCMG | DESIGN-T DEG C | DESIGN-F T/H | HEAT LOAD KCAL/H | SEA-W.TEMP DEG C | | |
|------------|-----------------|----------|----------|------------|--------|----------------------|-------------------|-----------------|---------------------|---------------------|----------|-------|
| ONAGAWA | BWR | 4 | 9.0 | 70. C | 1000. | | | | 12.8E6 | 26 | 8-6-(9) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 12.0 | 70. C | 2300. | | | | 24. E6 | 26 | 8-50 | 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | 8.8 | 65.6/43.3C | | | | | | 26 | 8-6-(9) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 8.8 | 65.6/43.3C | | | | | | 26 | 8-6-(9) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 8.8 | 65.6/43.4C | | | | | | 26 | 8-6-(10) | 72/ 1 |
| TUOKAI-2 | BWR | 12 | 8.8 | 65.6/43.4C | | | | | | 27 | 8-6-(10) | 72/ 1 |
| HAMAOKA-2 | BWR | 13 | 12.0 | 70. C | 5310. | | | | 45. E6 | 27 | 8-42 | 72/ 9 |

MAIN COMPONENTS OF CCS PWR 768100

SUMMARY

*THIS SYSTEM IS USED AS INTERMEDIATE HEAT-TRANSFER(COOLING) MEDIA
HEAT IS REMOVED FROM AUXILIARY-COMPONENTS TO SEA-WATER
THROUGH THIS SYSTEM.

*AND THIS SYSTEM IS MADE UP OF CLOSED CIRCUIT WHICH CONSIST
(1)PUMP, (2)COOLER, (3)WATER-TANK, (4)REACTOR-AUX-COMPONENTS
WHICH ARE COOLED BY THIS SYSTEM, AND (5)PIPING.

*MAIN CCS-COMPONENTS ARE AS FOLLOWS----

- (1) HEAT EXCHANGER FOR CCS 768220
- (2) WATER PUMP FOR CCS 768420
- (3) SEA WATER PUMP FOR CCS 768620
- (4) SURGE TANK FOR CCS
- (5) HEAT EXCHANGER FOR SPENT FUEL PIT 768720
- (6) PUMP FOR SPENT FUEL PIT 768760
- (7) DEMINERALIZER FOR SPENT FUEL PIT 768780

*COMPONENTS WHICH ARE COOLED BY CCS, ARE AS FOLLOWS----

- (A) HEAT-EXCHANGER FOR RHRS 76462
- (B) NON-REG.H.EXCH FOR CVCS 76228
- (C) SAMPLE COOLER 76562
- (D) PIT COOLER 76872
- (E) SHAFT SEAL COOLER 76232
- (F) YOZYOO CHUUSHUTU COOLER 76230
- (G) PRIMARY COOLING PUMP 75740
- (H) CONTAINER SPRAY HEAT EXCHANGER 82545, 47
- (I) CONTAINER SPRAY PUMP 82541, 47
- (J) AUX. MOTOR DRIVE FEED WATER PUMP 77734
- (K) AIR-CON FOR REACTOR CONTAINER

| | | | | | |
|------------|-----|----|-------------------|------|-------|
| MIHAMA-1 | PWR | 21 | FROM(A) TO(G) | 8-67 | 66/11 |
| TAKAHAMA-2 | PWR | 23 | FROM(A) TO(G) ETC | 8-61 | 70/ 5 |
| GENKAI-1 | PWR | 24 | FROM(A) TO(J) | 8-71 | 70/ 5 |
| DDI-1,2 | PWR | 26 | FROM(A) TO(G) ETC | 8-62 | 71/ 1 |
| MIHAMA-3 | PWR | 27 | FROM(A) TO(G) ETC | 8-60 | 71/ 7 |
| IKATA-1 | PWR | 28 | FROM(A) TO(K) ETC | 8-70 | 72/11 |

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REACTOR AUX.COOL SYSTEM H.EXCH. TYPE AND NUMBER 768220

- (1)TYPE TP1=YOKO-DKI HYDROMEN REIKYAKU
TP2=YOKO-DKI STRAIGHT TUBE
TP3= STRAIGHT TUBE
TP4=SHELL AND TUBE

(6)MATERIAL

TUBE MATERIAL T1=AL-BRASS

SHELL MATERIAL S1=CARBON STEEL

- | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|------|-----|------|----------------|----------------|--------|-----------|-----|
| TYPE | NO. | CAP. | (DESIGN PRES.) | (DESIGN TEMP.) | (MAT.) | | |
| | | | UTUBE | (SHELL) | (TUBE) | (SHELL) | |
| | | | KCAL/H | --KG/SQCMG-- | ---- | DEG-C---- | |

| | | | | | | | | | | | |
|-------------|-----|----|-----|---|------|------|--|-----|-----|-----------|-------|
| JPDR-2 | BWR | 2 | TP1 | 1 | | | | | | KON-6 P14 | 70/11 |
| ONAGAWA | BWR | 4 | TP2 | 2 | 12.8 | E6/1 | | | | 8-6-(9) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | TP2 | 2 | 12. | E6*2 | | | | 8-50 | 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | TP2 | 3 | | | | | | 8-6-(9) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | TP2 | 3 | | | | | | 8-6-(9) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | TP2 | 3 | | | | | | 8-6-(10) | 72/ 1 |
| TUOKAI-2 | BWR | 12 | TP2 | 3 | | | | | | 8-6-(10) | 72/ 1 |
| HAMAOKA-2 | BWR | 13 | TP2 | 6 | 7.5 | E6*6 | | | | 8-42 | 72/ 9 |
| KASHIWAZAKI | BWR | 15 | TP2 | 3 | 5.8 | E6/1 | | | | 8-12-25 | 75/ 3 |
| KASHIWAZAKI | BWR | 15 | TP2 | 3 | 9.4 | E6/1 | | | | 8-12-25 | 75/ 3 |
| MIHAMA-1 | PWR | 21 | TP4 | 2 | 3.5 | E6/1 | | 93. | 93. | 8-67 | 66/11 |
| TAKAHAMA-2 | PWR | 23 | TP4 | 3 | 7. | E6/1 | | | | 8-61 | 70/ 5 |
| GENKAI-1 | PWR | 24 | TP3 | 3 | | | | 90. | 90. | 8-72 | 70/11 |
| DDI-1,2 | PWR | 26 | TP4 | 3 | 11. | E6/1 | | | | 8-62 | 71/ 1 |
| MIHAMA-3 | PWR | 27 | TP4 | 3 | 8.6 | E6/1 | | | | 8-61 | 71/ 8 |
| IKATA-1 | PWR | 28 | TP3 | 3 | 10.5 | E6/1 | | 95. | 95. | 8-70 | 72/11 |
| IKATA-2 | PWR | 30 | TP2 | 4 | 10. | E6/1 | | 95. | 95. | 8-6-35 | 75/ 5 |
| SENOAI | PWR | 31 | TP2 | 4 | 6.8 | E6/1 | | 50. | 95. | 8-6-38 | 76/ 5 |

REACTOR AUX.COOL SYSTEM W-PUMP TYPE AND NUMBER 768420

| | | (1)TYPE | | IP1=YOKO-OKI RYDO-SUIKOMI TANDAN UZUMAKI | | IP2=YOKO-GATA RYDO-SUIKOMI ENSHIN SIKI | | IP3=YOKO-GATA UZUMAKI | | IP4=UZUMAKI | | IP5=YOKO-OKI ENSHIN SIKI | |
|-------------|-----|-------------|-----------|--|------|--|-----|-----------------------|-----------|-------------|--|--------------------------|--|
| | | (2)NUMBER | | (SPARE NO.) | | | | | | | | | |
| | | (5)MATERIAL | | MT1=CARBON STEEL | | | | | | | | | |
| | | (1) | (2) | (3) | (4) | (5) | | | | | | | |
| | | TYPE | NO. | CAP. | HEAD | | | | | | | | |
| | | | | CUBM/H | M | | | | | | | | |
| JPDR-2 | BWR | 2 | TP1 1+(1) | 386 | 30.4 | (SPARE NO.) | | | KON-6 P14 | 70/11 | | | |
| ONAGAWA | BWR | 4 | TP2 2+(1) | 500T/H | 46 | | | | 8-6-(10) | 70/5 | | | |
| HAMAOKA-1 | BWR | 5 | TP3 2*2 | 720T/H | 45 | | | | 8-50 | 70/5 | | | |
| FUKUSIMA-5 | BWR | 9 | TP3 3 | | 52 | | | | 8-6-(9) | 71/2 | | | |
| FUKUSIMA-4 | BWR | 10 | TP3 3 | | 52 | | | | 8-6-(9) | 71/8 | | | |
| FUKUSIMA-6 | BWR | 11 | TP3 3 | | 52 | | | | 8-6-(10) | 72/1 | | | |
| TODOKAI-2 | BWR | 12 | TP3 3 | | 52 | | | | 8-6-(11) | 72/1 | | | |
| KASHIWAZAKI | BWR | 15 | TP3 | 300 | 45 | (INTERMEDIATE-1 LOOP) | | | 8-12-25 | 75/3 | | | |
| KASHIWAZAKI | BWR | 15 | TP3 | 960 | 35 | (INTERMEDIATE-2 LOOP) | | | 8-12-25 | 75/3 | | | |
| MIHAMA-1 | PWR | 21 | TP4 3 | 340 | 45.7 | | | | 8-67 | 66/11 | | | |
| TAKAHAMA-2 | PWR | 23 | TP4 3 | 690 | 60 | | | | 8-61 | 70/5 | | | |
| GENKAI-1 | PWR | 24 | TP5 3(RD) | 650 | 48.8 | | | | 8-72 | 70/5 | | | |
| GENKAI-1 | PWR | 24 | TP5 4(RI) | 650 | 48.8 | (REVISE-1) | | | | 70/11 | | | |
| DUI-1+2 | PWR | 26 | TP4 5 | 1045 | 60 | (COMMON 1,2) | | | 8-63 | 71/1 | | | |
| MIHAMA-3 | PWR | 27 | TP4 4 | 1100 | 60 | | | | 8-91 | 71/8 | | | |
| IKATA-1 | PWR | 28 | TP5 4 | 850 | 60 | | | | 8-71 | 72/11 | | | |
| IKATA-2 | PWR | 30 | TP3 4 | 900 | 60 | | | | 8-6-35 | 75/5 | | | |
| SENDAI | PWR | 31 | TP3 4 | 1100 | 55 | | MT1 | | 8-6-38 | 76/5 | | | |
| FUGEN | ATR | 81 | TP3 2 | 1400T/H | 80 | | | | | | | | |

REACTOR AUX.COOL SYSTEM C.WATER SURGE TANK 768440

| | | (1)TYPE | | TP1=YOKO ENTOD GATA(WITH SEPARATION PLATE INSIDE) | | | | | | | | | |
|---------|-----|------------------------------|-------|---|-----|-----|-----|-----|--------|------|--|--|--|
| | | (2)NUMBER | | | | | | | | | | | |
| | | (3)CAPACITY | | M3 | | | | | | | | | |
| | | (4)WATER VOLUME(NORMAL) | | M3 | | | | | | | | | |
| | | (5)DESIGN PRESSURE(INTERNAL) | | KG/CM2G | | | | | | | | | |
| | | (6)DESIGN TEMPERATURE | | DEG-C | | | | | | | | | |
| | | (7)MATERIAL | | MT1=CARBON STEEL | | | | | | | | | |
| | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | | | | | |
| | | | | M3 | M3 | P | | | | | | | |
| IKATA-2 | PWR | 30 | TP1 1 | 8 | 4 | 3.5 | 95. | | 8-6-35 | 75/5 | | | |
| SENDAI | PWR | 31 | TP1 1 | 8 | 4 | 3.5 | 95. | MT1 | 8-6-38 | 76/5 | | | |

REACTOR AUX.COOL SYSTEM S.W-PUMP TYPE NUMBER 768620

| | | (1)TYPE | | TP1=YOKO-OKI TADAN UZUMAKI | | TP2=TATE-GATA TURBINE-TYPE | | TP3=TATE-GATA UZUMAKI | | TP4=TATE-OKI SYARYUU | | TP5=TATE-OKI ENSHIN | |
|-------------|-----|-------------|-----------|----------------------------|------|----------------------------|--|-----------------------|-----------|----------------------|--|---------------------|--|
| | | (5)MATERIAL | | MT1=LOW ALLOY CASTING IRON | | | | | | | | | |
| | | (1) | (2) | (3) | (4) | (5) | | | | | | | |
| | | TYPE | NO. | CAP. | HEAD | | | | | | | | |
| | | | | CUBM/H | (M) | | | | | | | | |
| JPDR-2 | BWR | 2 | TP1 1+(1) | 456 | | | | | KON-6 P15 | 70/11 | | | |
| ONAGAWA | BWR | 4 | TP2 1+(1) | | 46 | | | | 8-6-(10) | 70/5 | | | |
| HAMAOKA-1 | BWR | 5 | TP3 2*2 | | | | | | 8-50 | 70/5 | | | |
| FUKUSIMA-5 | BWR | 9 | TP3 3 | | 55 | | | | 8-6-(9) | 71/2 | | | |
| FUKUSIMA-4 | BWR | 10 | TP3 3 | | 55 | | | | 8-6-(9) | 71/8 | | | |
| FUKUSIMA-6 | BWR | 11 | TP3 3 | | 55 | | | | 8-6-(10) | 72/1 | | | |
| TODOKAI-2 | BWR | 12 | TP3 3 | | 55 | | | | 8-6-(11) | 72/1 | | | |
| HAMAOKA-2 | BWR | 13 | TP3 2*2 | | | | | | 8-43 | 72/9 | | | |
| KASHIWAZAKI | BWR | 15 | TP3 3 | 1200. | 35 | | | | 8-12-25 | 75/3 | | | |
| TAKAHAMA-2 | PWR | 23 | TP4 4 | 3750. | 42 | | | | 8-7- | 70/5 | | | |
| GENKAI-1 | PWR | 24 | TP4 4 | 2200. | 40 | | | | 8-71 | 70/11 | | | |
| DUI-1+2 | PWR | 26 | TP5 8 | 2540. | 40 | | | | 8-73 | 71/1 | | | |
| MIHAMA-3 | PWR | 27 | TP4 4 | 3200. | 45 | | | | 8-70 | 72/1 | | | |
| IKATA-1 | PWR | 28 | TP4 4 | 2400. | 40 | | | | 8-70 | 72/11 | | | |
| IKATA-2 | PWR | 30 | TP4 4 | 2400. | 40 | | | | 8-6-36 | 75/5 | | | |
| SENDAI | PWR | 31 | TP4 4 | 2200. | 40 | MT1 | | | 8-6-39 | 76/5 | | | |

SFP SPENT FUEL PIT H.EXCH. 768720

| | | (1)TYPE | | TP1=SHELL AND TUBE | | TP2=SHELL AND U-TUBE | | TP3=YOKO-OKI U-TUBE | | | | | |
|------------|-----|---------------------|-------|---------------------|----------------|----------------------|--------|---------------------|--------|-------|--|--|--|
| | | (8)DESIGN HEAT LOAD | | KCAL/H/1 | | | | | | | | | |
| | | (9)MATERIAL | | MT1=STAINLESS STEEL | | MT1=CARRON STEEL | | | | | | | |
| | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | | | |
| | | NO. | CAP. | (DESIGN PRES.) | (DESIGN TEMP.) | (SHELL) | (TUBE) | (SHELL) | | | | | |
| | | | | KCAL/H | ---KG/SQCMG--- | ---DEG-C--- | | | | | | | |
| MIHAMA-1 | PWR | 21 | TP1 1 | 0.95E6 | | 93. | 93. | | 8-68 | 66/11 | | | |
| TAKAHAMA-2 | PWR | 23 | TP1 1 | 2.2 E6 | | | | | 8-61 | 70/5 | | | |
| GENKAI-1 | PWR | 24 | TP1 1 | 1.55E6 | | 90. | 90. | | 8-72 | 70/5 | | | |
| DUI-1+2 | PWR | 26 | TP1 2 | 2.3 E6/1 | | | | | 8-63 | 71/1 | | | |
| MIHAMA-3 | PWR | 27 | TP1 1 | 2.5 E6 | | | | | 8-61 | 71/8 | | | |
| IKATA-1 | PWR | 28 | TP2 1 | 1.7 E6 | | 95. | 95. | | 8-71 | 72/11 | | | |
| IKATA-2 | PWR | 30 | TP2 2 | | | 95. | 95. | 0.86E6 | 8-6-37 | 75/5 | | | |
| SENDAI | PWR | 31 | TP3 2 | | | 95. | 95. | 1.76E6 | 8-6-40 | 76/5 | | | |

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| SFP | SPENT | FUEL | PIT | PUMP | 768760 | | |
|----------|-------|------|-----|-------------|--------------------------|------|--------------|
| | | | | (1)TYPE | TP1=YOKO-DKI-ENSHIN GATA | | |
| | | | | | TP2=UZUMAKI | | |
| | | | | | TP3=YOKO-DKI UZUMAKI | | |
| | | | | (4)MATERIAL | MT1=STAINLESS STEEL | | |
| | | | | (1) | (2) | (3) | (4) |
| | | | | TYPE | NO. | CAP. | CUBM/H/1 |
| MIHAMA-1 | PWR | 21 | TP2 | 1 | 114 | | 8-68 66/11 |
| GENKAI-1 | PWR | 24 | TP1 | 1 | 175 | | 8-72 70/ 5 |
| IKATA-1 | PWR | 28 | TP1 | 1 | 220 | | 8-71 72/11 |
| IKATA-2 | PWR | 30 | TP3 | 2 | 120 | | 8-6-37 75/ 5 |
| SENDAI | PWR | 31 | TP3 | 2 | 300 | MT1 | 8-6-40 76/ 5 |

| SFP | SPENT | FUEL | PIT | DEMINE. | 768780 | | |
|----------|-------|------|-----|-----------------------|----------------------------|---------------------|--------------|
| | | | | (1)TYPE | TP1=TATE-ENTOD-FLUSH GATA | | |
| | | | | | TP2=RESIN FLUSH KANOO SIKI | | |
| | | | | (2)NUMBER | | | |
| | | | | (3)DESIGN FLOW RATE | | CUBM/H | |
| | | | | (4)DESIGN PRESSURE | | KG/CM2G | |
| | | | | (5)DESIGN TEMPERATURE | | DEG-C | |
| | | | | (6)RESIN VOLUME | | M3 | |
| | | | | (7)MATERIAL | | MT1=STAINLESS STEEL | |
| | | | | (1) | (2) | (3) | (4) |
| | | | | TYPE | NO. | CURM/H | KG/CM2G |
| | | | | | | (5) | (6) |
| | | | | | | C | CUBM |
| | | | | | | (7) | (8) |
| | | | | | | | |
| MIHAMA-1 | PWR | 21 | TP2 | 1 | 20 | | 8-68 66/11 |
| GENKAI-1 | PWR | 24 | TP1 | 1 | 15.9 | | 8-73 70/ 5 |
| IKATA-1 | PWR | 28 | TP1 | 1 | 20 | | 8-71 72/11 |
| IKATA-2 | PWR | 30 | TP1 | 1 | 20. | 10. | 8-6-37 75/ 5 |
| SENDAI | PWR | 31 | TP1 | 1 | 24. | 10. | 8-6-40 76/ 5 |
| | | | | | | 95. | 0.85 |
| | | | | | | 95. | 0.85 |
| | | | | | | | MT1 |

| SFP | SPENT | FUEL | PIT | FILTER | 768800 | | |
|---------|-------|------|-----|--|-------------------|---------------------|--------------|
| | | | | (1)TYPE | TP1=CARTRIGE TYPE | | |
| | | | | (2)NUMBER | | | |
| | | | | (3)DESIGN FLOW RATE | | CUBM/H | |
| | | | | (4)DESIGN PRESSURE | | KG/CM2G | |
| | | | | (5)DESIGN TEMPERATURE | | DEG-C | |
| | | | | (6)PRESSURE LOSS | | KG/CM2 | |
| | | | | (7)FILTER EFFICIENCY (5 MICRON PARTICLE) | | PC | |
| | | | | (8)MATERIAL | | MT1=STAINLESS STEEL | |
| | | | | (1) | (2) | (3) | (4) |
| | | | | TYPE | NO. | CUBM/H | KG/CM2G |
| | | | | | | (5) | (6) |
| | | | | | | C | KG/CM2 |
| | | | | | | (7) | (8) |
| | | | | | | | |
| IKATA-2 | PWR | 30 | TP1 | 1 | 46. | 10. | 8-6-37 75/ 5 |
| SENDAI | PWR | 31 | TP1 | 2 | 34. | 10. | 8-6-41 76/ 5 |
| | | | | | | 95. | 0.35 |
| | | | | | | 95. | 0.35 |
| | | | | | | | 98. |
| | | | | | | | 98. |
| | | | | | | | MT1 |

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| SFP | SPENT | FUEL | PIT | SKIMMER | PUMP | 768820 | | |
|---------|-------|------|-----|-------------|----------------------|---------------------|--------------|--|
| | | | | (1)TYPE | TP1=YOKO-DKI UZUMAKI | | | |
| | | | | (2)NUMBER | | | | |
| | | | | (3)CAPACITY | | M3/H | | |
| | | | | (4)MATERIAL | | MT1=STAINLESS STEEL | | |
| | | | | (1) | (2) | (3) | (4) | |
| | | | | TYPE | NO. | M3/H | | |
| IKATA-2 | PWR | 30 | TP1 | 1 | 23. | | 8-6-38 75/ 5 | |
| SENDAI | PWR | 31 | TP1 | 1 | 34. | MT1 | 8-6-41 76/ 5 | |

| SFP | SPENT | FUEL | PIT | SKIMMER | FILTER | 768840 | | |
|---------|-------|------|-----|----------------------------|--------------------|---------------------|--------------|--|
| | | | | (1)TYPE | TP1=CARTRIDGE TYPE | | | |
| | | | | (2)NUMBER | | | | |
| | | | | (3)DESIGN FLOW RATE | | M3/H | | |
| | | | | (4)DESIGN PRESSURE | | KG/CM2G | | |
| | | | | (5)DESIGN TEMPERATURE | | DEG C | | |
| | | | | (6)PRESSURE LOSS (INITIAL) | | KG/CM2G | | |
| | | | | (8)MATERIAL | | MT1=STAINLESS STEEL | | |
| | | | | (1) | (2) | (3) | (4) | |
| | | | | | | (5) | (6) | |
| | | | | | | | | |
| IKATA-2 | PWR | 30 | TP1 | 1 | 23. | 10. | 8-6-38 75/ 5 | |
| SENDAI | PWR | 31 | TP1 | 1 | 34. | 10. | 8-6-41 76/ 5 | |
| | | | | | | 95. | 0.35 | |
| | | | | | | 95. | 0.35 | |
| | | | | | | | 98. | |
| | | | | | | | 98. | |
| | | | | | | | MT1 | |

| SFP | SPENT | FUEL | PIT | SKIMMER | STRAINER | 768860 | | |
|---------|-------|------|-----|---------------------|----------|--------|--------------|--|
| | | | | (1)NUMBER | | | | |
| | | | | (2)DESIGN FLOW RATE | | M3/H | | |
| | | | | (1) | (2) | | | |
| | | | | NO. | M3/H | | | |
| IKATA-2 | PWR | 30 | 1 | 23. | | | 8-6-38 75/ 5 | |

| SAMPLE | SAMPLING POINT | PWR | 769100 | | |
|------------|----------------|-----|--|--|--------------|
| | | | (1)=FROM PRIMARY COOLANT LOOP | | |
| | | | (2)=FROM PRESSURIZER | | |
| | | | (3)=FROM VOLUME-CONTROL-TANK (CVCS) | | |
| | | | (4)=FROM ION-EXCHANGER(FOR PRIMARY-COOLANT),FROM BOTH INLET AND OUTLET | | |
| | | | (5)=FROM RHRS | | |
| | | | (6)=FROM ION-EXCHANGER(CHUUSHUTSU-KEI),FROM BOTH INLET AND OUTLET | | |
| | | | (7)=FROM P-RIZED BORIC ACID TANK | | |
| TAKAHAMA-2 | PWR | 23 | FROM(1) TO(5) | | 8-62 70/ 5 |
| GENKAI-1 | PWR | 24 | FROM(1) TO(5) | | 8-70 70/ 5 |
| OUI-1,2 | PWR | 26 | FROM(1) TO(5) | | 8-63 71/ 1 |
| MIHAMA-3 | PWR | 27 | FROM(1) TO(5) | | 8-62 71/ 7 |
| IKATA-1 | PWR | 28 | FROM(1) TO(6) EXCEPT(5) | | 8-71 72/11 |
| IKATA-2 | PWR | 30 | FROM(1) TO(7) EXCEPT(6) | | 8-6-26 75/ 5 |

| MAIN | TURBINE | SYSTEM | COMPONENTS | PWR | 770000 | | | |
|------|--------------|--------|--|--|----------------|-------------|--------|--|
| | | | (1)MAIN STEAM TURBINE | | | 772220 | 772240 | |
| | | | (2)MAIN STEAM VALVE | | | | | |
| | | | MAIN STEAM STOP VALVE | | | 772390 | | |
| | | | REGULATION VALVE | | | 772410 | | |
| | | | HEATED STEAM STOP VALVE | | | 772430 | | |
| | | | INTERCEPT VALVE | | | 772450 | | |
| | | | (3)TURNING DEVICE | | | 772470 | | |
| | | | (4)MOISTURE SEPARATOR HEATER | | | 772490 | | |
| | | | (5)LUBRICATION SYSTEM | | | | | |
| | | | MAIN OIL PUMP | | | 772530 | | |
| | | | BISS. OIL PUMP | | | 772550 | | |
| | | | TURNING-OIL PUMP | | | 772570 | | |
| | | | EMERGENCY OIL PUMP | | | 772590 | | |
| | | | OIL COOLER | | | 772610 | | |
| | | | MAIN OIL TANK | | | 772630 | | |
| MAIN | TURBINE | TYPE | | | | 772220 | | |
| | | | (1)TYPE | | | | | |
| | | | TC456 =KUSIGATA 4-SHASITU 6-BUNRYUU HAIKI SAINETU SAISEI | | | | | |
| | | | TC354 =KUSIGATA 3-SHASITU 4-BUNRYUU HAIKI SAINETU SAISEI | | | | | |
| | JPDR-1 | BWR | 1 | TYPE=TANKITOO YOKO-OKI SHODDOO SIKI CHOKKETSU FUKUSUI-T. | | | | |
| | JPDR-2 | BWR | 2 | TYPE= SAME AS JPDR-1 | | | | |
| | TSURUGA | BWR | 3 | TYPE=KUSIGATA | BLADE=35 INCH | | | |
| | ONAGAWA | BWR | 4 | TYPE=KUSIGATA 4-RYUU HAIKI SIKI | | 8-7-(2) | 70/ 5 | |
| | HAMAOKA-1 | BWR | 5 | TYPE=KUSIGATA 4-RYUU HAIKI FUKUSUI SIKI | | 8-53 | 70/ 5 | |
| | FUKUSIMA-1 | BWR | 6 | TYPE=KUSIGATA | BLADE=35 INCH | | | |
| | FUKUSIMA-2,3 | BWR | 7 | | BLADE=35 INCH | | | |
| | SHIMANE | BWR | 8 | TYPE=KUSIGATA | | | | |
| | FUKUSIMA-5 | BWR | 9 | TYPE=KUSIGATA 6-RYUU HAIKI SIKI | | 8-7-(2) | 71/ 2 | |
| | FUKUSIMA-4 | BWR | 10 | TYPE=KUSIGATA 6-RYUU HAIKI SIKI | | 8-7-(2) | 71/ 8 | |
| | FUKUSIMA-6 | BWR | 11 | TYPE=KUSIGATA 6RYUU HAIKI SIKI | | 8-7-(2) | 72/ 1 | |
| | TIOKAI-2 | BWR | 12 | TYPE=KUSIGATA 6RYUU HAIKI SIKI | | 8-7-(2) | 72/ 1 | |
| | HAMAOKA-2 | BWR | 13 | TYPE=KUSIGATA 6-RYUU HAIKI FUKUSUI SIKI | | 8-46 | 72/ 9 | |
| | KASHIWAZAKI | BWR | 15 | TYPE=KUSIGATA 6-RYUU HAIKI SIKI | | 8-7-7 | 75/ 3 | |
| | MIHAMA-1 | PWR | 21 | TYPE=KUSIGATA 2-SHASITU | SAINETU SAISEI | BK80-2 P11 | 71/ 8 | |
| | MIHAMA-2 | PWR | 22 | TYPE=KUSIGATA 3-SHASITU | SAINETU SAISEI | BK80-2 P11 | 71/ 8 | |
| | TAKAHAMA-2 | PWR | 23 | TC456 | | 8-67 | 70/ 5 | |
| | GENKAI-1 | PWR | 24 | TC354 | | 8-80 | 70/ 5 | |
| | TAKAHAMA-1 | PWR | 25 | TYPE=KUSIGATA 4-SHASITU | SAINETU SAISEI | BK80-2 P11 | 71/ 8 | |
| | DOI-1,2 | PWR | 26 | TC456 | | 8-70 | 71/ 1 | |
| | MIHAMA-3 | PWR | 27 | TC456 | | 8-67 | 71/ 8 | |
| | IKATA-1 | PWR | 28 | TC354 | | 8-80 | 72/11 | |
| | IKATA-2 | PWR | 30 | TC354 | | 8-9-19 | 75/ 5 | |
| | SENDAI | PWR | 31 | TC456 | | 8-9-20 | 76/ 5 | |
| | YANKEE | | 69 | WESTINGHOUSE TANDEM COMPOUND, DOUBLE FLOW TURBINE | | DNR V4 P38 | 61/ | |
| | SAXTON | | 70 | SINGLE-CASING WESTINGHOUSE TURBINE | | DNR V4 P52 | 61/ | |
| | FUGEN | ATR | 81 | TYPE=KUSIGATA SAISEI FUKUSUI SIKI | | 105-8-9-(2) | 73/11 | |

| MAIN | TURBINE | NUMBER | CAPACITY | SPEED | 772240 | | | | | | |
|------|---------------------|--------|--|----------|----------|-------|-------|-------|------|-----------------|----------------------|
| | | | (1)TYPE | | | | | | | | |
| | | | (2)NUMBER | | | | | | | | |
| | | | (3)CAPACITY (GENERATOR OUTPUT) | | | | | | | | |
| | | | (4)SPEED | | | | | | | | |
| | | | (5)STEAM PRESSURE AT MAIN-STEAM-STOP-VALVE | | | | | | | | |
| | | | (6)STEAM TEMPERATURE AT MAIN-STEAM-STOP-VALVE | | | | | | | | |
| | | | (7)WETNESS | | | | | | | | |
| | | | (8)STEAM FLOW RATE SFR (ZENKAI) | | | | | | | | |
| | | | (9)CONDENSER VACUUM CV | | | | | | | | |
| | | | (1) (2) (3) (4) (5) (6) (7) (8) (9) | | | | | | | | |
| | | | TYPE NO. CAP. KW RPM KG/SQCM G PRES. TEMP. NET. SFR PC T/H CV MMHG | | | | | | | | |
| | JPDR-1 | BWR | 1 | 12500 | 3000 | 60.81 | 276 | 0.5 | 722 | | |
| | JPDR-2 | BWR | 2 | 12500 | 3000 | 60.81 | 276 | | 722 | KDN.6 P31 70/11 | |
| | TSURUGA | BWR | 3 | TC2F43 | 1357025 | 1800 | 66.8 | 282.4 | 0.28 | 1920 | 722 80-3-3 P26 66/ 8 |
| | ONAGAWA | BWR | 4 | TC 35 | 1524000 | 1500 | 66.8 | 282.4 | 0.4 | 2910 | 722 8-7-(2) 70/ 5 |
| | HAMAOKA-1 | BWR | 5 | TC | 1540000 | 1800 | 66.8 | 282 | 0.4 | 2900 | 722 8-53 70/ 5 |
| | FUKUSIMA-1 | BWR | 6 | TC4F | 1461567 | 1500 | 66.8 | 282 | 0.28 | 2460 | 722 R-9 66/ 8 |
| | FUKUSIMA-2,3 | BWR | 7 | 35 | 1784000 | 1500 | 66.8 | 282 | 0.4 | 4430 | 722 70/ 8 |
| | SHIMANE | BWR | 8 | TC4F | 1465000 | 1800 | 66.8 | 282 | 0.4 | 2450 | 722 70/ 8 |
| | FUKUSIMA-5 | BWR | 9 | | 1784000 | 1500 | 66.8 | 282 | 0.4 | 4430 | 722 8-7-(2) 71/ 2 |
| | FUKUSIMA-4 | BWR | 10 | | 1784000 | 1500 | 66.8 | 282 | 0.4 | 4430 | 722 8-7-(2) 71/ 8 |
| | FUKUSIMA-6 | BWR | 11 | | 11100000 | 1500 | 66.8 | 282 | 0.3 | 6420 | 722 8-7-(2) 72/ 1 |
| | TIOKAI-2 | BWR | 12 | | 11100000 | 1500 | 66.8 | 282 | 0.3 | 6420 | 722 8-7-(2) 72/ 1 |
| | HAMAOKA-2 | BWR | 13 | | 1840000 | 1800 | 66.8 | 282 | 0.4 | 4740 | 722 8-46 72/ 9 |
| | KASHIWAZAKI | BWR | 15 | | 11100000 | 1500 | 66.8 | 282 | 0.4 | 6420 | 722 8-7-7 75/ 3 |
| | MIHAMA-1 | PWR | 21 | | 1340790 | 1800 | 54.5 | 272.5 | | | 722 BK80-2 P11 71/ 8 |
| | MIHAMA-2 | PWR | 22 | | 1500000 | 1800 | 54.5 | 272.5 | | | 722 BK80-2 P11 71/ 8 |
| | TAKAHAMA-2 | PWR | 23 | TC4F | 1826000 | 1800 | 52 | 266 | | | 722 8-67 70/ 5 |
| | GENKAI-1 | PWR | 24 | TC | 1559260 | 1800 | 51.7 | 266 | | | 722 8-80 70/ 5 |
| | TAKAHAMA-1 | PWR | 25 | | 1826000 | 1800 | 51.5 | 265.8 | | | 722 BK80-2 P11 71/ 8 |
| | DOI-1,2 | PWR | 26 | | 11175908 | 1800 | 56. | 271 | | | 722 8-70 71/ 1 |
| | MIHAMA-3 | PWR | 27 | | 1826000 | 1800 | 52 | 266 | | | 722 8-67 71/ 8 |
| | IKATA-1 | PWR | 28 | | 1566000 | 1800 | 55 | 270 | | | 722 8-80 72/11 |
| | IKATA-2 | PWR | 30 | | 1566500 | 1800 | 55.2 | 270.1 | 0.4 | 3201.01 | 722 8-9-19 75/ 5 |
| | SENDAI | PWR | 31 | | 1890000 | 1800 | 51.7 | 266 | 0.4 | 5196.78 | 722 8-9-20 76/ 5 |
| | SENDAI | PWR | 31 | | | | | | | (5465.0) | 722 8-9-20 76/ 5 |
| | VERMONT YANKEE | BWR | 52 | | 1537000 | | 66.8 | | | 2913 | 703 A-2 70/ 5 |
| | MILLSTON | BWR | 54 | TC4F43 | 1650200 | 1800 | 66.8 | 283 | | 3057 | 722 R-9 66/ 8 |
| | DRESDEN-2 | BWR | 56 | TC6F38 | 1752000 | 1800 | 66.8 | 283 | | 3910 | 722 R-9 66/ 8 |
| | OYSTER CREEK | BWR | 57 | TC6FRH3M | 1540000 | 1800 | 66.8 | 283 | | 2660 | 734.6 R-9 66/ 8 |
| | OYSTER CREEK | BWR | 57 | PWEEK-UP | | | | | | 3450 | DNR V4 P38 61/ |
| | DUANE ARNOLD | BWR | 58 | | | | 66.8 | | | 3094 | 722 A-2 P4 70/ 7 |
| | YANKEE | | 69 | | 1450000 | 1800 | | | | | DNR V4 P38 61/ |
| | SAXTON | | 70 | | 10000 | 1800 | | | | | DNR V4 P52 61/ |
| | TURKEY POINT-3,4PWR | | 72 | | 1728317 | 1800 | 51.38 | 265.6 | | | BK80-4 P7 71/ 9 |
| | H-B.ROBINSON-2 | PWR | 73 | | 1769548 | 1800 | 51.38 | 265.6 | | | BK80-4 P7 71/ 9 |
| | SURRY-1.-2 | PWR | 74 | | 1855408 | 1800 | 51.59 | 265.8 | | | BK80-4 P7 71/ 9 |
| | BEAVER VALLEY | PWR | 75 | | 1923000 | 1800 | 51.73 | 266.0 | | | BK80-4 P7 71/ 9 |
| | NORTH ANNA-12 | PWR | 76 | | 1927070 | 1800 | 53.3 | 266.7 | | | BK80-4 P8 71/ 9 |

| | | | | | | | | | | |
|------|------------------|----------------|-------|------------------------------|---------------------------|----------------------|-----------------|-------|-------------|-------|
| MAIN | TURBINE NUMBER | CAPACITY | SPEED | 772240 | | | | | | |
| | JOSEPH M. FARLEY | PWR 77 | | 1 | 898000 | 1800 | 53.51 | 269.3 | 6K80-4 PB | 71/ 9 |
| | FUGEN | ATR 81 | | 1 | 200000 | 3600 | 63.5 | 279 | 105-8-9-(2) | 73/11 |
| | | | | | | | | 0.5 | 910 | 722 |
| MAIN | TURBINE | MIST SEPARATOR | R | TYPE NUMBER | 772320 | | | | | |
| | | | | TYPE | NUMBER | CAPACITY | | | | |
| | FUKUSIMA-1 | BWR 6 | | DIMPLE PLATE | NO.=4 | 565. T/H | | | | |
| | KASHIWAZAKI | BWR 15 | | DIMPLE PLATE | NO.=2 | | | | | |
| MAIN | TURBINE | MIST SEPARATOR | R | 772330 | -----STEAM CONDITION----- | | | | | |
| | | | | | OPERATABLE MAX/ACTUAL | IN/ACTUAL | OUT | | | |
| | | | | | MOISTURE | CONTENT | | | | |
| | | | | | PRESSURE(KG/SQCMG) | TEMPERATURE(DEG C) | (IN PERCENT) | | | |
| | | | | | MAX. / IN / OUT | MAX. / IN / OUT | IN / OUT | | | |
| | FUKUSIMA-1 | BWR 6 | | | 17.6 / 12.2 / 11.6 | 204. / 187.8 / 185.5 | 13.1 / 2.1 | | | |
| | FUKUSIMA-1 | BWR 6 | | | | | (AT 461567,KWD) | | | |
| MAIN | TURBINE | MIST SEPARATOR | R | SIZE | 772340 | | | | | |
| | | | | ID / HEIGHT / THICKNESS (MM) | | | | | | |
| | FUKUSIMA-1 | BWR 6 | | 2896. / 6182.4 / 22.2 | MEMO P178 | | | | | |
| | | | | | 70/ 3 | | | | | |
| MAIN | TURBINE | MIST SEPARATOR | R | MATERIAL | 772350 | | | | | |
| | | | | ---BODY--- | ---BAFFLE--- | ---VANE--- | | | | |
| | FUKUSIMA-1 | BWR 6 | | SA515-70-FBX | ASTM TP304 SS | ASTM TP430 SS | | | | |
| | | | | | | MEMO P178 | | | | |
| | | | | | | 70/ 3 | | | | |
| MSTS | M-STEAM STOP | VALVE | | 772390 | | | | | | |
| | | | | (1)TYPE | TP1=SWING DISK TYPE | | | | | |
| | | | | (2)NUMBER | TP2=DOUBLE PLUG TYPE | | | | | |
| | | | | (3)DESIGN PRESSURE | KG/CM2G | | | | | |
| | | | | (4)DESIGN TEMPERATURE | DEG-C | | | | | |
| | | | | (5)MATERIAL | MT1=LOW CARBON STEEL | | | | | |
| | | | | (1) (2) (3) (4) (5) | | | | | | |
| | | | | NO. KG/CM2G C | | | | | | |
| | IKATA-2 | PWR 30 | | TP1 2 | 76.3 | 291 | | | | |
| | SENDAI | PWR 31 | | TP2 4 | 76.3 | 291 MT1 | | | | |
| | | | | | | 8-9-19 | | | | |
| | | | | | | 8-9-20 | | | | |
| | | | | | | 75/ 5 | | | | |
| | | | | | | 76/ 5 | | | | |

| | | | | | | | | | | |
|------|---------------------|--------|--|-----------------------|--|----------|--|--|--|--|
| MSTS | REGULATION | VALVE | | 772410 | | | | | | |
| | | | | (1)TYPE | TP1=BALANCED TYPE | | | | | |
| | | | | (2)NUMBER | | | | | | |
| | | | | (3)DESIGN PRESSURE | KG/CM2G | | | | | |
| | | | | (4)DESIGN TEMPERATURE | DEG-C | | | | | |
| | | | | (5)MATERIAL | MT1=CARBON STEEL | | | | | |
| | | | | (1) (2) (3) (4) (5) | | | | | | |
| | | | | NO. KG/CM2G C | | | | | | |
| | IKATA-2 | PWR 30 | | TP1 4 | 76.3 | 291 | | | | |
| | SENDAI | PWR 31 | | TP1 4 | 76.3 | 291 MT1 | | | | |
| | | | | | | 8-9-20 | | | | |
| | | | | | | 8-9-21 | | | | |
| | | | | | | 75/ 5 | | | | |
| | | | | | | 76/ 5 | | | | |
| MSTS | REHEATED STEAM STOP | VALVE | | 772430 | | | | | | |
| | | | | (1)TYPE | TP1=BUTTERFLY VALVE | | | | | |
| | | | | (2)NUMBER | | | | | | |
| | | | | (3)DESIGN PRESSURE | KG/CM2G | | | | | |
| | | | | (5)MATERIAL | MT1=CARBON STEEL | | | | | |
| | | | | (1) (2) (3) (4) (5) | | | | | | |
| | | | | NO. KG/CM2G C | | | | | | |
| | IKATA-2 | PWR 30 | | TP1 4 | 12.6 | 270. | | | | |
| | SENDAI | PWR 31 | | TP1 6 | 14.5 | 270. MT1 | | | | |
| | | | | | | 8-9-20 | | | | |
| | | | | | | 8-9-21 | | | | |
| | | | | | | 75/ 5 | | | | |
| | | | | | | 76/ 5 | | | | |
| MSTS | INTERCEPT | VALVE | | 772450 | | | | | | |
| | | | | (1)TYPE | TP1=BUTTERFLY VALVE | | | | | |
| | | | | (2)NUMBER | | | | | | |
| | | | | (3)DESIGN PRESSURE | KG/CM2G | | | | | |
| | | | | (4)DESIGN TEMPERATURE | DEG-C | | | | | |
| | | | | (5)MATERIAL | MT1=CARBON STEEL | | | | | |
| | | | | (1) (2) (3) (4) (5) | | | | | | |
| | | | | NO. KG/CM2G C | | | | | | |
| | IKATA-2 | PWR 30 | | TP1 4 | 12.6 | 270 | | | | |
| | SENDAI | PWR 31 | | TP1 6 | 14.5 | 270 MT1 | | | | |
| | | | | | | 8-9-20 | | | | |
| | | | | | | 8-9-21 | | | | |
| | | | | | | 75/ 5 | | | | |
| | | | | | | 76/ 5 | | | | |
| MSTS | TURNING DEVICE | | | 772470 | | | | | | |
| | | | | (1)TYPE | TP1=SIDE MOUNT J1900-RIDATU MOTOR STOP | | | | | |
| | | | | (2)NUMBER | | | | | | |
| | | | | (3)SPEED | RPM | | | | | |
| | | | | (4)MOTOR CAPACITY | KW | | | | | |
| | | | | (5)MATERIAL(GEAR) | MT1=ALLOY STEEL | | | | | |
| | | | | U1) (2) (3) (4) (5) | | | | | | |
| | | | | NO. RPM KW | | | | | | |
| | IKATA-2 | PWR 30 | | TP1 1 | 1.5 | 37 | | | | |
| | SENDAI | PWR 31 | | TP1 1 | 1.5 | MT1 | | | | |
| | | | | | | 8-9-20 | | | | |
| | | | | | | 8-9-21 | | | | |
| | | | | | | 75/ 5 | | | | |
| | | | | | | 76/ 5 | | | | |

MSTS MUJSTURF SEPSYAT. HEATER

772490

(1)TYPE TP1=YOKO-DKI #IHE MESH FINNED U-TUBE
 TP2=YOKO-DKI SHEVRON-SHIKI FINNED U-TUBE
 (2)NUMHFR
 (3)INLET STEAM PRESSURE KG/CM2G
 (4)INLET STEAM TEMPERATURE DEG-C
 (5)INLET STEAM WETNESS PERCENT
 (6)INLET STEAM FLOW RATE TON/H
 (7)OUTLET STEAM PRESSURE KG/CM2G
 (8)OUTLET STEAM TEMPERATURE DEG-C
 (9)OUTLET STEAM FLOW RATE TON/H
 (1) (2) (3) (4) (5) (6) (7) (8) (9)
 NO. P C PC T/H P C TON/H

IKATA-2 PWR 30 TP1 4 10.4 184.6 11.1 2398. 9.7 254.6 2132.22 8-9-20,21 75/ 5
 SENDAI PWR 31 TP2 2 12. 180. 11. 4095. 11. 250. 3657. 8-9-22 76/ 5
 SENDAI PWR 31 MATERIAL (DRUM=CARBON STEEL,HEAT TUBE=90-10 CUPRO-NICKEL) 8-9-22 76/ 5

MSTS LUB.SYS. MAIN OIL PUMP

772530

(1)TYPE TP1=TURBINE MAIN SHAFT DRIVEN UZUMAKI
 (2)NUMBER
 (3)DELIVERY PRESSURE KG/CM2G
 (4)DELIVERY FLOW M3/H
 (5)MATERIAL MT1=CARBON STEEL
 (1) (2) (3) (4) (5)
 NO. KG/CM2G M3/H

IKATA-2 PWR 30 TP1 1 24.6 450. 8-9-21 75/ 5
 SENDAI PWR 31 TP1 1 19.3 454. MT1 8-9-22 76/ 5

MSTS LUB.SYS. AUX. OIL PUMP

772550

(1)TYPE TP1=TATE-DKI KUSIGATA UZUMAKI
 (2)NUMBER
 (3)DELIVERY P.(HIGH) KG/CM2G
 (4)DELIVERY P.(LOW) KG/CM2G
 (5)DELIVERY FLOW(HIGH) M3/H
 (6)DELIVERY FLOW(LOW) M3/H
 (7)MATERIAL MT1=CASTING IRON
 (1) (2) (3) (4) (5) (6) (7)
 NO. --KG/CM2G-- --M3/H--

IKATA-2 PWR 30 TP1 1 21.1 2.8 75. 255. 8-9-21 75/ 5
 SENDAI PWR 31 TP1 1 11. 45. MT1 8-9-22,23 76/ 5

MSTS LUB.SYS. TURNING OIL PUMP

772570

(1)TYPE TP1=TATE-DKI UZUMAKI
 (2)NUMBER
 (3)DELIVERY PRESSURE KG/CM2G
 (4)DELIVERY FLOW M3/H
 (5)MATERIAL MT1=CASTING IRON
 (1) (2) (3) (4) (5)
 NO. KG/CM2G M3/H

IKATA-2 PWR 30 TP1 1 2.8 255. 8-9-21 75/ 5
 SENDAI PWR 31 TP1 1 2.8 340. MT1 8-9-23 76/ 5

MSTS LUB.SYS. EMERGENCY OIL PUMP

772590

(1)TYPE TP1=TATE-DKI UZUMAKI
 (2)NUMBER
 (3)DELIVERY PRESSURE KG/CM2G
 (4)DELIVERY FLOW M3/H
 (5)MATERIAL MT1=CASTING IRON
 (1) (2) (3) (4) (5)
 NO. KG/CM2G M3/H

IKATA-2 PWR 30 TP1 1 2.8 255. 8-9-22 75/ 5
 SENDAI PWR 31 TP1 1 2.8 340. MT1 8-9-23 76/ 5

MSTS LUB.SYS. OIL COOLER

772610

(1)TYPE TP1=YOKO-DKI HYDOMEN REIKYAKU SIKI
 (2)NUMBER
 (3)COOLING WATER FLOW RATE M3/H
 (4)MATERIAL
 1) DRUM MT1=LOW CARBON STEEL
 2) WATER ROOM COVER MT1=CASTING IRON
 3) TUBE MT1=ALUMINUM-BRASS
 (1) (2) (3) (4)
 NO. M3/H 1) 2) 3)

IKATA-2 PWR 30 TP1 2 635. 8-9-22 75/ 5
 SENDAI PWR 31 TP1 2 600. MT1 MT1 MT1 8-9-24 76/ 5

MSTS LUB.SYS. MAIN OIL TANK

772630

(1)TYPE TP1=YOKO-DKI ENTDOO-GATA
 (2)NUMBER
 (3)CAPACITY M3
 (4)MATERIAL MT1=LOW CARBON STEEL
 (1) (2) (3) (4)
 NO. M3

IKATA-2 PWR 30 TP1 1 38. 8-9-22 75/ 5
 SENDAI PWR 31 TP1 1 38. MT1 8-9-24 76/ 5

CONDENS. SYSTEM COMPONENTS

773200

- (1) MAIN CONDENSER 773240, 773280
- (2) CONDENSER PUMP 774220
- (3) SEA WATER CIRCULATION PUMP 778220
- (4) AIR EXTRACTOR 775230
- (5) CONDENSER VACUUM PUMP FOR SHUT DOWN 775240

MAIN COND. TYPE NUMBER

773220

(1) TYPE

- TP2=HYDDMEN SESSYOKU TANRYUU 2-KUBUN SIKI
- TP3=HYDDMEN SESSYOKU TANRYUU 3-KUBUN SIKI
- TP4=HYDDMEN SESSYOKU TANRYUU 4-KUBUN SIKI
- TP6=HYDDMEN SESSYOKU TANRYUU 6-KUBUN SIKI
- RF1=RADIAL FLOW TANRYUU SIKI
- RF2=RADIAL FLOW HYDDMEN REIKYAKU 1-SETURYUU HANKUBUN KDBRYUU
- RF3=RADIAL FLOW HYDDMEN REIKYAKU 1-SETURYUU HANKUBUN HEIRYUU

(1) (2) NO.

| COND. | TYPE | NUMBER | NO. | TEMP. | TEMP. |
|--------------|------|--------|--|-------|-------------------|
| JPDR-1 | BWR | 1 | HYDDMEN SESSYOKU TANRYUU HAN-KUBUN SIKI YOKO-DKI | NO=1 | / |
| JPDR-2 | BWR | 2 | HYDDMEN SESSYOKU TANRYUU HAN-KUBUN SIKI YOKO-DKI | NO=1 | KDN.6-P32 70/11 |
| ONAGAWA | BWR | 4 | TP2 1 | | 8-7-(2) 70/5 |
| HAMAOKA-1 | BWR | 5 | TP4 1 | | 8-54 70/5 |
| FUKUSIMA-1 | BWR | 6 | TP2 1 | | 70/5 |
| FUKUSIMA-2,3 | BWR | 7 | TP3 1 | | 70/5 |
| SHIMANE | BWR | 8 | HYDDMEN SESSYOKU TANRYUU FUKUDDO 4-KUBUN SIKI | NO=1 | 70/5 |
| FUKUSIMA-5 | BWR | 9 | TP3 1 | | 8-7-(3) 71/2 |
| FUKUSIMA-4 | BWR | 10 | TP3 1 | | 8-7-(3) 71/8 |
| FUKUSIMA-6 | BWR | 11 | TP3 1 | | 8-7-(2) 72/1 |
| TOOKAI-2 | BWR | 12 | TP3 1 | | 8-7-(2) 72/1 |
| HAMAOKA-2 | BWR | 13 | TP6 1 | | 8-48 72/9 |
| KASHIWAZAKI | BWR | 15 | TP3 1 | | 8-7-8 75/3 |
| MIHAMA-1 | PWR | 21 | TP2 1 | | 8-73 66/11 |
| TAKAHAMA-2 | PWR | 23 | RF1 3 | | 8-67 70/5 |
| GENKAI-1 | PWR | 24 | RF2 2 | NO=2 | 8-80,81 70/5 |
| GENKAI-1 | PWR | 24 | | | 8-81 70/5 |
| DUI-1,2 | PWR | 26 | RF1 3 | | 8-70 71/1 |
| MIHAMA-3 | PWR | 27 | RF1 3 | | 8-67 71/8 |
| IKATA-1 | PWR | 28 | RF1 2 | | 8-80,81 72/11 |
| IKATA-2 | PWR | 30 | RF3 2 | | 8-9-23 75/5 |
| FUGEN | ATR | 81 | SODSIGATA JYUOKI FUKURYU.HAN-KUBUN SIKI | NO=1 | 105-8-9-(2) 73/11 |

PLANT PERFORMANCE DATA

DATE=08/17/76

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MAIN COND. H. TRANS AREA AND EXHAUST FLOW

773240

- (1) HEAT TRANSFER AREA SQM/NO.
- (2) HAIRI RYUURYUU TON/H
- (3) BACK PRESSURE MMHG
- (4) COOLING WATER(SEA WATER) FLOW RATE CUBM/H/NO.
- (5) DESIGN TEMPERATURE C
- (6) TEMPERATURE DIFFERENC BETWEEN INLET AND OUTLET OF SEA WATER

| COND. | TYPE | NUMBER | H.T. AREA SQM/NO. | E.F.L. T/H | B.P. MMHG | C.WATER.F CUBM/H/NO. | DES.T C | DELTA-T DEG-C | TEMP. | TEMP. |
|--------------|------|--------|-------------------|------------|-----------|----------------------|---------|---------------|-------|-------|
| JPDR-2 | BWR | 2 | | | | | | | 20 | / |
| ONAGAWA | BWR | 4 | 1764 | 722 | 81000 | 15 | 12 | 8-7-(2) | 70/5 | |
| HAMAOKA-1 | BWR | 5 | 1800 | 722 | 120000 | 21 | | 8-54 | 70/5 | |
| FUKUSIMA-1 | BWR | 6 | 1530 | 722 | 85140 | 19 | | 70/6/20 | 70/5 | |
| FUKUSIMA-2,3 | BWR | 7 | 2550 | 722 | 151000 | 19 | | 70/6/20 | 70/5 | |
| SHIMANE | BWR | 8 | 1500 | 722 | 96000 | 20 | | 70/6/20 | 70/5 | |
| FUKUSIMA-5 | BWR | 9 | 2550 | 722 | 150600 | 19 | | 8-7-(3) | 71/2 | |
| FUKUSIMA-4 | BWR | 10 | 2500 | 722 | 153500 | 19 | | 8-7-(3) | 71/8 | |
| FUKUSIMA-6 | BWR | 11 | 3480 | 722 | 202000 | 19 | | 8-7-(2) | 72/1 | |
| TOOKAI-2 | BWR | 12 | 3480 | 722 | 202000 | 19 | | 8-7-(3) | 72/1 | |
| HAMAOKA-2 | BWR | 13 | 2600 | 722 | 174000 | 21 | | 8-47 | 72/9 | |
| KASHIWAZAKI | BWR | 15 | 3480 | 722 | 272000 | 19 | | 8-7-8 | 75/3 | |
| TAKAHAMA-2 | PWR | 23 | 74160/3 | | 182000 /3 | 22 | | 8-68 | 70/5 | |
| GENKAI-1 | PWR | 24 | 52500/2 | | 128000 /2 | 22 | | 8-81 | 70/5 | |
| DUI-1,2 | PWR | 26 | 105600/3 | | 257700 /3 | 22 | | 8-71 | 71/1 | |
| MIHAMA-3 | PWR | 27 | 74160/3 | | 182000 /3 | 22 | | 8-68 | 71/8 | |
| IKATA-1 | PWR | 28 | 45000/2 | 722 | 110000/2 | 20 | | 8-80,81 | 72/11 | |
| IKATA-2 | PWR | 30 | 45000/2 | 722 | 109800/2 | 20 | | 8-9-23 | 75/5 | |
| SENDAI | PWR | 31 | 83000/3 | 722 | 224000/3 | 22 | | 8-9-25 | 76/5 | |
| FUGEN | ATR | 81 | | 565 | 35000 | 21 | | / | / | |

| MAIN COND. | TUBE | MATERIAL | 773280 | | | | |
|--|------|----------|-------------------|-------------|-------------|---------|-------|
| (1) MATERIAL | | | | | | | |
| MT1=AL-BRASS | | | | | | | |
| MT2=AL-BRASS + NI PLATE(AIR COOLED AND STEAM INLET PARTS) | | | | | | | |
| AL-BRASS(PART OF STEAM CONDENSATION) | | | | | | | |
| MT3=TITANIUM(AIR COOLED), AL-BRASS+NI PLATE (STEAM INLET PARTS), AL-BRASS (PART OF STEAM CONDENSATION) | | | | | | | |
| (2) NUMBER OF TUBES | | | | | | | |
| --- MATERIAL --- NUMBER OD / T(MM) JOINT METHOD | | | | | | | |
| | (1) | (2) | | | | | |
| | | NO. | | | | | |
| ONAGAWA | BWR | 4 | BSTF | | 8-7-(2) | 70/ 5 | |
| HAMAOKA-1 | BWR | 5 | AL-BRASS | | 8-54 | 70/ 5 | |
| FUKUSIMA-1 | BWR | 6 | AL-BRASS | NO.=29640. | MEMO P195 | 70/ 3 | |
| FUKUSIMA-1 | BWR | 6 | (JIS-H3632 BSTF2) | 25.4/1.245 | MEMO P195 | 70/ 3 | |
| FUKUSIMA-5 | BWR | 9 | AL-BRASS | (BWG.NO.18) | (BOTH ENDS) | 8-7-(3) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | AL-BRASS | | 8-7-(3) | 71/ 8 | |
| FUKUSIMA-6 | BWR | 11 | AL-BRASS | | 8-7-(3) | 72/ 1 | |
| TODOKAI-2 | BWR | 12 | AL-BRASS | | 8-7-(3) | 72/ 1 | |
| HAMAOKA-2 | BWR | 13 | AL-BRASS | | 8-47 | 72/ 9 | |
| KASHIWAZAKI | BWR | 15 | AL-BRASS | | 8-7-8 | 75/ 3 | |
| IKATA-2 | PWR | 30 | MT2 | 37000. | 8-9-23 | 75/ 5 | |
| SENDAI | PWR | 31 | MT3 | 75000. | 8-9-25 | 76/ 5 | |

| DUMP COND. | TYPE | NUMBER | 773600 | | | |
|------------|------|--------|--|--|----------|-------|
| JPDR-2 | BWR | 2 | TYPE=SAISEI DAKKI SIKI, HYDROMEN REIKYAKU SUISITU HANKUBUN | | KDN-6 P8 | 70/11 |
| JPDR-2 | BWR | 2 | NO. =1, COOLING WATER TEMP.=27 DEG-C | | KDN-6 P8 | 70/11 |

| COND. | PUMP | TYPE | NO. | 774220 | | |
|---|------|------|----------|-----------|----------------|----------|
| (1) TYPE TP1=TATE GATA TADAN UZUMAKI | | | | | | |
| TP2=TATE GATA DENDOO UZUMAKI | | | | | | |
| TP3=TATE GATA DENDOO ENSHIN SIKI | | | | | | |
| TP4=TATEZIKU BARREL GATA TADAN SYARYUU | | | | | | |
| (2) NUMBER OF CONDENSER PUMP | | | | | | |
| + () YOBI , (1)=FOR TURBINE SYSTEM (JPDR-2) | | | | | | |
| (D)=FOR DUMP CONDENSER SYSTEM (JPDR-2) | | | | | | |
| (3) CAPACITY A=T/H/1 OR B=M3/H/1 | | | | | | |
| (5) TYPE TP1=YUKO GATA DENDOO UZUMAKI | | | | | | |
| TP12=YUKO GATA DENDOO ENSHIN SIKI | | | | | | |
| TP13=YUKO ZIKU RYOD-SUIKOMI UZUMAKI | | | | | | |
| (6) NUMBER OF CONDENSER-BOOSTER PUMP | | | | | | |
| ...CONDENSER PUMP..... ..CONDENSER BOOSTER PUMP.. | | | | | | |
| | (1) | (2) | (3) | (5) | (6) | (7) |
| | TYPE | NO. | CAPACITY | TYPE | NO. | CAPACITY |
| JPDR-1 | BWR | 1 | TP1 | 1+(1) | | 85.3 A |
| JPDR-2 | BWR | 2 | TP1 | 1+(1)(T) | | 85.3 A |
| JPDR-2 | BWR | 2 | | 1+(1)(D) | | 89.018 |
| ONAGAWA | BWR | 4 | TP2 | 2+(1) | | 1700 A |
| HAMAOKA-1 | BWR | 5 | TP2 | 2+(1) | TP11 2+(1) | 1650 A |
| FUKUSIMA-5 | BWR | 9 | TP2 | 2+(1)(LP) | TP11 2+(1)(HP) | 2450 A |
| FUKUSIMA-4 | BWR | 10 | TP2 | 2+(1) | TP11 2+(1) | 2450 A |
| FUKUSIMA-6 | BWR | 11 | TP2 | 2+(1) | TP11 2+(1) | 3720 A |
| TODOKAI-2 | BWR | 12 | TP3 | 2+(1) | TP12 2+(1) | 3790 A |
| HAMAOKA-2 | BWR | 13 | TP4 | 2+(1) | TP13 2+(1) | 2600 A |
| KASHIWAZAKI | BWR | 15 | TP2 | 2+(1) | TP11 2+(1) | 3720 A |
| VERMONT YANKEL | BWR | 52 | | 3 | | |
| DUANE ARNOLD | BWR | 54 | | 2 | | |

| COND. | PUMP | TYPE | NO. | FDR PWR | 774260 | | |
|--------------------------------------|------|-------|-----|---------|--------|------|-------|
| (1) TYPE TP1=TATE-OKI TADAN PIT TYPE | | | | | | | |
| (2) NUMBER | | | | | | | |
| (3) CAPACITY TON/H/1 | | | | | | | |
| (4) HEAD M | | | | | | | |
| (5) PUMP MOTOR KW | | | | | | | |
| (6) MATERIAL MT1=CARBON STEEL | | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | |
| | NO. | T/H/1 | M | KW | | | |
| IKATA-2 | PWR | 30 | TP1 | 3 | 1000. | 205. | 760 |
| SENDAI | PWR | 31 | TP1 | 3 | 1700. | 75. | 460 |
| | | | | | | | MT1 |
| | | | | | 8-9-23 | | 75/ 5 |
| | | | | | 8-9-25 | | 76/ 5 |

COND. DEMINE. TYPE

775220

(1)TYPE TP1=KONSHOO SIKI SAISEI SODTI BETU OKI GATA
 TP2=MIPPEI ENTOD TATEGATA KONSHOO ION KOOKAN ZYUSI TOO
 TP3=KODBI KONSHOO DATUENKI TUKI ROKA DATUEN SIKI
 TP4=FUNMATU-ZYUSI DATUENKI + KONSHOO DATUENKI
 TP5=GAIBU SAISEI SIKI, KONSHOO ION KOOKAN SYUSI
 TP6=KONSHOO DATUEN SODTI

(2)NUMBER ()=Y081
 (3)CAPACITY A=T/H/NO. B=M3/H/NO.

| | (1) | (2) | (3) | | |
|-------------|-----|-----|-------------|----------|-----------------|
| JPDQ-2 | BWR | 2 | TP1/T 1+(1) | 79.6 B | KDN.6 P13 70/11 |
| JPDR-2 | BWR | 2 | TP2/D 1+(1) | 84.99A | KDN.6 P13 70/11 |
| ONAGAWA | BWR | 4 | TP3 5+(1) | 3100/5 A | 8-7-(3) 70/ 5 |
| HAMAOKA-1 | BWR | 5 | TP4 6+(1) | 3000 A | 8-55 70/ 5 |
| FUKUSIMA-1 | BWR | 6 | TP5 5+(1) | 2500/5 A | MEMO P202 70/ 3 |
| FUKUSIMA-5 | BWR | 9 | TP5 7+(1) | 4900/7 A | 8-7-(3) 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | TP5 7+(1) | 4900/7 A | 8-7-(3) 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | TP5 8+(2) | 7430/8 A | 8-7-(3) 72/ 1 |
| TUOKAI-2 | BWR | 12 | TP5 8+(2) | 7430/8 A | 8-7-(3) 72/ 1 |
| HAMAOKA-2 | BWR | 13 | TP6 7+(1) | 4800/7 A | 8-47 72/ 9 |
| KASHIWA7AKI | BWR | 15 | TP5 9+(1) | 820*10A | 8-7-8 75/ 3 |

CONDENS. SYSTEM AIR

EXTRACTOR

775230

(1)TYPE TP1=2*2STAGE STEAM JET TYPE WITH INTERMEDIATE COOLER

(2)NUMBER
 (3)CAPACITY KG/H(DRIED AIR AT 735MM-HG)
 (1) (2) (3)
 NO. KG/H

| | | | | | |
|---------|-----|----|-------|-----|--------------|
| IKATA-2 | PWR | 30 | TP1 2 | 60. | 8-9-24 75/ 5 |
|---------|-----|----|-------|-----|--------------|

CONDENS. SYSTEM VACUUM

PUMP FOR SHUT DOWN

775240

(1)TYPE TP1=NASH TYPE
 (2)NUMBER
 (3)CAPACITY M3/H(DRIED AIR AT 500MM-HG)
 (1) (2) (3)
 NO. M3/H

| | | | | | |
|---------|-----|----|-------|------|--------------|
| IKATA-2 | PWR | 30 | TP1 1 | 160. | 8-9-24 75/ 5 |
|---------|-----|----|-------|------|--------------|

COND. DEMINE. EXIT

WATER QUANTITY 775260

(1)CONCENTRATION OF -CL ION LESS OR EQUAL=LE PPM,
 (2)CONCENTRATION OF SID-2 LE PPM,
 (3)ELECTRO CONDUCTIVITY LE MICRO MHO/CM
 ***** NOTE *** () IS INLET WATER QUALITY

| | (1) | (2) | (3) | | | |
|-------------|-------------|-----------|---------------------------|---------|------------|-----------------|
| | -CL ION PPM | SID-2 PPM | E. CONDTVITY MICRO MHO/CM | | | |
| ONAGAWA | BWR | 4 | LE 0.01 | LE 0.01 | LE 0.1 | 8-7-(3) 70/ 5 |
| HAMAOKA-1 | BWR | 5 | LE 0.01 | LE 0.01 | LE 0.1 | 8-55 70/ 5 |
| FUKUSIMA-1 | BWR | 6 | LE 0.01 | LE 0.01 | LE 0.1 | MEMO P202 70/ 3 |
| FUKUSIMA-1 | BWR | 6 | (0.03) | (0.03) | (0.3) | MEMO P202 70/ 3 |
| FUKUSIMA-5 | BWR | 9 | LE 0.01 | LE 0.01 | LE 0.1 | 8-7-(3) 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | LE 0.01 | LE 0.01 | LE 0.1 | 8-7-(3) 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | LE 0.01 | LE 0.01 | LE 0.1 25C | 8-7-(3) 72/ 1 |
| TUOKAI-2 | BWR | 12 | LE 0.01 | LE 0.01 | LE 0.1 25C | 8-7-(3) 72/ 1 |
| HAMAOKA-2 | BWR | 13 | LE 0.01 | LE 0.01 | LE 0.1 25C | 8-47 72/ 9 |
| KASHIWA7AKI | BWR | 15 | LE 0.01 | LE 0.01 | LE 0.1 25C | 8-7-8 75/ 3 |

COND. DEMINE. INLET

EXIT

WATER QUANTITY 775270

---CU--- ---FE--- ---NI--- UNIT=PPB OXYGEN
 IN /OUT IN /OUT IN /OUT IN /OUT
 FUKUSIMA-1 BWR 6 10- 50/LES 5- 50/LES 5- 30/LES (DISSOLVED) LE7/LE7 MEMO P202 70/ 3
 FUKUSIMA-1 BWR 6 100-500/LES 50-1000/LES 5-100/LES (NO DISS.) MEMO P202 70/ 3
 FUKUSIMA-1 BWR 6 OXYGEN CONTENT IS APPLIED (GE 1/4 LOAD CONDITION) MEMO P202 70/ 3

COND. DEMINE. ALLOWABL E SEA

WATER LEAK 775280

(1)ALLOWABLE LIMIT OF SEA-WATER-LEAK RATE WHICH LEAKS THROUGH MAIN CONDENSER FROM POINT VIEW OF CAPACITY OF ION EXCHANGER
 UNIT = M3/H OR LITRE/MINUT

| | (1) | | | | |
|-------------|------|-----|---------|-----|-----------------|
| | M3/H | L/M | | | |
| ONAGAWA | BWR | 4 | 0.2 | | 8-7-(3) 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 0.1 | | 8-55 70/ 5 |
| FUKUSIMA-1 | BWR | 6 | 0.11 | | MEMO P203 70/ 3 |
| FUKUSIMA-5 | BWR | 9 | (0.228) | 3.8 | 8-7-(3) 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | (0.228) | 3.8 | 8-7-(3) 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | (0.228) | 3.8 | 8-7-(3) 72/ 1 |
| TUOKAI-2 | BWR | 12 | (0.228) | 3.8 | 8-7-(3) 72/ 1 |
| HAMAOKA-2 | BWR | 13 | 0.1 | | 8-47 72/ 9 |
| KASHIWA7AKI | BWR | 15 | | 3.8 | 8-7-6 75/ 3 |

PLANT PERFORMANCE DATA

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TURBINE BYPASS SYSTEM

775300

- (1)NUMBER OF TURBINE BYPASS SYSTEM
- (2)MATERIAL OF BYPASS TUBE MT1=CARBON STEEL
MT2=STPT 42S
T/H
- (3)CAPACITY OF BYPASS VALVE
- (1) (2) (3)
- NO. T/H

| | | | | | | | | |
|--------------|-----|----|---|-----|--------|-------|----|-------|
| ONAGAWA | BWR | 4 | 1 | MT2 | SD0T00 | 730. | 7 | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 1 | MT1 | | 730. | 9 | 70/ 5 |
| FUKUSIMA-2,3 | BWR | 7 | 1 | MT1 | | 1100. | 9 | 69/ 7 |
| FUKUSIMA-5 | BWR | 9 | 1 | MT2 | SD0T00 | 1100. | 9 | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 1 | MT2 | SD0T00 | 1100. | 9 | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 1 | MT1 | | 1600. | 9 | 71/12 |
| TUDOKAI-2 | BWR | 12 | 1 | MT1 | | 1600. | 8 | 71/12 |
| HAMAOKA-2 | BWR | 13 | 1 | MT1 | | 1200. | 9 | 72/ 9 |
| KASHIWA7AKI | BWR | 15 | 1 | | | 1600. | 13 | 75/ 3 |

FEED.W. SYSTEM COMPONENTS

776200

- (1)GROUND STEAM CONDENSER 776210
- (2)FEED WATER HEATER 776220
- (3)DEAERATOR 776260
- (4)FEED WATER PUMP 777260
- (5)FEED WATER BOOSTER PUMP 777280
- (6)AUX. FEED WATER PUMP 777320
- (7)CHEMICALS INJECTION TANK 777340
- (8)CHEMICALS INJECTION PUMP 777350

FEED.W. SYSTEM

GROUND STEAM CONDENS. 776210

- (1)TYPE TP1=YOKO-OKI HYDROMEN REIKYAKU SIKI
- (2)NUMBER
- (3)STEAM VOLUME CONDENSED KG/H
- (4)VENT FAN M3/MIN * NO.
- (5)MATERIAL
- 1) DRUM MT1=LOW CARBON STEEL
- 2) COOLING TUBE MT1=AL-BRASS
- (1) (2) (3) (4) (5)
- NO. KG/H M3/M 1) 2)

| | | | | | | | | | | |
|---------|-----|----|-----|---|-------|-------|-----|-----|--------|-------|
| IKATA-2 | PWR | 30 | TP1 | 1 | 4000. | 40.*2 | | | 8-9-25 | 75/ 5 |
| SENDAI | PWR | 31 | TP1 | 1 | 3500. | 55.*2 | MT1 | MT1 | 8-9-27 | 76/ 5 |

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FEED.W. HEATER TYPE AND

NUMBER 776220

- (1)TYPE TP1=TATE-OKI U-TURE HYDROMEN KANETU
TP2=YOKOGATA U-TUBE
TP3=SHELL AND TUBE
- (2)DAN*KEIRETU (LOW PRESSURE)
- (3)DAN*KEIRETU (HIGH PRESSURE)
- (4)CAPACITY (LOW PRESSURE) TON/H
- (5)CAPACITY (HIGH PRESSURE) TON/H
- (6)FEED WATER TEMPERATURE C
- (7)MATERIAL
- SHELL TUBE S1=CARBON STEEL
T1=STAINLESS STEEL
- (1) (2) (3) (4) (5) (6) (7)
- TYPE LO HI LO HI F.W.T MAT.
- NO. NO. T/H* T/H* C

| | | | | | | | | | | |
|--------------|-----|----|-----|------|------|--------|--------|-------|-------|-------------------|
| JPDR-2 | BWR | 2 | TP1 | | | | | | | / |
| TSURUGA | BWR | 3 | | | | | | 184 | R-9 | 66/ 8 |
| ONAGAWA | BWR | 4 | TP2 | 302K | 202K | 1450*2 | | 198.8 | S1+T1 | 8-7-(4) 70/ 5 |
| HAMAOKA-1 | BWR | 5 | TP2 | 302K | 202K | 1500*2 | | 188.8 | S1+T1 | 8-55 70/ 5 |
| FUKUSIMA-1 | BWR | 6 | | | | | | 177. | R-9 | 66/ 8 |
| FUKUSIMA-5 | BWR | 9 | TP2 | 503K | | 1550*3 | | 195.8 | S1+T1 | 8-7-(4) 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | TP2 | 503K | | 1550*3 | | 195.8 | S1+T1 | 8-7-(4) 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | TP2 | 603K | | 2240*3 | | 215.6 | S1+T1 | 8-7-(4) 72/ 1 |
| TUDOKAI-2 | BWR | 12 | TP2 | 603K | | 2240*3 | | 215.6 | S1+T1 | 8-7-(4) 72/ 1 |
| HAMAOKA-2 | BWR | 13 | TP2 | 403K | 202K | 1600*3 | 2400*2 | 215.6 | S1+T1 | 8-48 72/ 9 |
| KASHIWA7AKI | BWR | 15 | TP2 | 603K | | 2240*3 | | 276. | S1+T1 | 8-7-8,8-7-6 75/ 3 |
| TAKAHAMA-2 | PWR | 23 | TP3 | 403K | 102K | | | 221. | | 8-68 70/ 5 |
| GENKAI-1 | PWR | 24 | TP3 | 302K | 102K | | | 221.1 | | 8-81 70/ 5 |
| OOI-1,2 | PWR | 26 | TP3 | 503K | 103K | | | 222. | | 8-71 71/ 1 |
| MIHAMA-3 | PWR | 27 | TP3 | 403K | 102K | | | 220. | | 8-68 71/ 8 |
| IKATA-1 | PWR | 28 | TP3 | 302K | 102K | | | 220. | | 8-81 72/11 |
| IKATA-2 | PWR | 30 | TP2 | 302K | 102K | | | 220.6 | | 8-9-25 75/ 5 |
| SENDAI | PWR | 31 | TP2 | 403K | 102K | | | 220. | | 8-9-27 76/ 5 |
| WILLSTON | BWR | 54 | | | | | | 177. | R-9 | 66/ 8 |
| DRESDEN-2 | BWR | 56 | | | | | | 166. | R-9 | 66/ 8 |
| OYSTER CREEK | BWR | 57 | | | | | | 149. | R-9 | 66/ 8 |
| FUGEN | ATR | 81 | TP2 | | | | | | S1+T1 | 105-8-9-(4) 73/11 |

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DEAERATOR TYPE NUMBER STORAGE TANK CAPACITY 776260

| | | (1)TYPE | | TP1=SPRAY TRAY TP2=YUKO-DKI SPRAY TRAY | | | |
|------------|--------|--------------------------|-----|---|---------|---------|--------------|
| | | (2)NUMBER | | M3 | | | |
| | | (3)STORAGE TANK CAPACITY | | CC/LITRE | | | |
| | | (4)OXYGEN CONTENT | | | | | |
| | | (5)MATERIAL | | MT1=CARBON STEEL MT2=STAINLESS STEEL | | | |
| | | 1) DRUM | | | | | |
| | | 2) TRAY | | | | | |
| | | NO. | M3 | CC/L | 1) | 2) | |
| | | (1) | (2) | (3) | (4) | (5) | |
| TAKAHAMA-2 | PWR 23 | TP1 | 1 | 350 | LTO.005 | | 8-68 70/ 5 |
| GENKAI-1 | PWR 24 | TP1 | 1 | 300 | LTO.005 | | 8-81 70/ 5 |
| MIHAMA-3 | PWR 27 | TP1 | 1 | 350 | LTO.005 | | 8-68 71/ 8 |
| IKATA-1 | PWR 26 | TP1 | 1 | 300 | LTO.005 | | 8-81 72/11 |
| IKATA-2 | PWR 30 | TP2 | 1 | 300 | LTO.005 | | 8-9-25 75/ 5 |
| SENDAI | PWR 31 | TP2 | 1 | 350 | LTO.005 | MT1 MT1 | 8-9-27 76/ 5 |

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FEED.W. PUMP TYPE AND NUMBER 777260

| | | (1)(7)TYPE | | TP1=YUKO-DKI TADAN UZUMAKI TP2=YUKOGATA UZUMAKI TP3=UZUMAKI TP4=DOUBLE VOLUTE ENSHIN SIKI TP5=YUKOGATA 1-DAN TURBINE PUMP TP6=YUKO-DKI TANSHASITU DOUBLE VOLUTE UZUMAKI SIKI | | | | | | | |
|----------------|--------|---------------------|------|---|------------|------------|------------|--------|------|----------|-------|
| | | (2)(8)NUMBER | | A= 1+(1 YDBI) B= 2+(1 YDBI) | | | | | | | |
| | | (3)(9)CAPACITY | | TON/H/1 | | | | | | | |
| | | (4)(10)HEAD | | M | | | | | | | |
| | | (5)(11)DRIVER POWER | | HP DR KW | | | | | | | |
| | | (6)(12)RPM | | | | | | | | | |
| | | | | FROM (1) TO (6).....TURBINE DRIVE FROM (7) TO (12).....MOTOR DRIVE | | | | | | | |
| | | | | ----- TURBINE DRIVE ----- MOTOR DRIVE ----- | | | | | | | |
| | | NOTE1 | | TURBINE SYSTEM | | | | | | | |
| | | NOTE2 | | DUMP CONDENSER SYSTEM | | | | | | | |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| NU. | T/H | HEAD | RPM | NO. | T/H | HEAD | RPM | | | | |
| JPDR-2 | BWR 2 | TP1 A | 85.3 | 808(NOTE1) | TP1 A | 89.0 | 810(NOTE2) | | | KON-6 P6 | 70/11 |
| DNAGANA | BWR 4 | | | | TP2 B | 1670 | 950 | 5350KW | | | 70/ 5 |
| HAMAOKA-1 | BWR 5 | | | | TP2 B | 1650 | | 3560 | | | 70/ 5 |
| FUKUSIMA-5 | BWR 9 | TP3 2 | 2450 | 762 8250HP | 5100 | TP3(2)1225 | 762 | 4560HP | | | 71/ 2 |
| FUKUSIMA-4 | BWR 10 | TP3 2 | | 762 8200HP | 5600 | TP3(2)1225 | 762 | 4300HP | | | 71/ 8 |
| FUKUSIMA-6 | BWR 11 | TP3 2 | 3720 | 762 11800HP | 5100 | TP3(2)1860 | 762 | 6700HP | | | 72/ 1 |
| TJDKAI-2 | BWR 12 | TP3 2 | 3530 | 762 11800HP | 5100 | TP3(2)1678 | 812 | 6700HP | | | 72/ 1 |
| HAMAOKA-2 | BWR 13 | TP5 2 | 2600 | 6600KW | 5600 | TP2(2)1300 | | 3600 | | | 72/ 9 |
| KASHIWA7AKI | BWR 15 | TP3 2 | 3720 | 686 5200 | TP3 2 | 1860 | 762 | 7600 | | | 75/ 3 |
| TAKAHAMA-2 | PWR 23 | | | | TP4 3 | 2700 | 650 | 6200KW | | | 70/ 5 |
| GENKAI-1 | PWR 24 | | | | TP4 3 | 1900 | 610 | 4400KW | | | 70/ 5 |
| OUI-1,2 | PWR 26 | TP4 2 | 4250 | 780 10000KW | TP4(1)2130 | 930 | 6400KW | | | | 71/ 1 |
| MIHAMA-3 | PWR 27 | | | | TP4 3 | 2800 | 770 | 3850KW | | | 71/ 8 |
| IKATA-1 | PWR 26 | | | | TP4 3 | 1800 | 670 | 4250KW | | | 72/11 |
| IKATA-2 | PWR 30 | | | | TP6 3 | 1800 | 680 | 4300KW | | | 75/ 5 |
| SENDAI | PWR 31 | TP6 2 | 3300 | 625 | TP6 1 | 3300 | 625 | 6800KW | | | 76/ 5 |
| VERMONT YANKEE | BWR 52 | | | | | 3 | | | | | 70/ 7 |
| DIJANE ARNOLD | BWR 58 | | | | | 2 | | | | | 70/ 7 |

FEED.W. BOOSTER PUMP 777280

| | | (1)TYPE | | TP1=TATE-DKI PIT TYPE | | | |
|---------|--------|---------------|-----|-----------------------|-----|------|--------------|
| | | (2)NUMBER | | | | | |
| | | (3)CAPACITY | | T/H/1 | | | |
| | | (4)HEAD | | M | | | |
| | | (5)PUMP MOTOR | | KW | | | |
| | | (6)MATERIAL | | MT1=CARBON STEEL | | | |
| (1) | (2) | (3) | (4) | (5) | (6) | | |
| NO. | T/H/1 | M | KW | | | | |
| IKATA-2 | PWR 30 | TP1 | 3 | 1800. | 50. | 340 | |
| SENDAI | PWR 31 | TP1 | 3 | 1100. | | 2200 | MT1 |
| | | | | | | | 8-9-26 75/ 5 |
| | | | | | | | 8-9-28 76/ 5 |

AUX. FEED.W. PUMP

777320

| | | (1)(11)TYPE | | | | TP1=YOKO-OKI TADAN TURBINE SIKI TP2=YOKO-OKI TADAN ENSHIN SIKI TP3=YOKO-OKI TADAN UZUMAKI SIKI | | | | | | |
|------------|--------|-----------------|------|-----|-----|--|-------|------|------|------|-----------|-------|
| | | (3)(13)CAPACITY | | | | TON/H | | | | | | |
| | | (4)(14)HEAD | | | | M | | | | | | |
| | | (5)PUMP MOTOR | | | | KW | | | | | | |
| | | TURBINE DRIVEN | | | | MOTOR DRIVEN | | | | | | |
| | | (1) | (2) | (3) | (4) | (11) | (12) | (13) | (14) | (15) | | |
| | | TYPE NO. | CAP. | | | TYPE NO. | CAP. | | M | KW | | |
| | | TYPE NO. | T/H | M | | TYPE NO. | T/H/1 | M | | KW | | |
| TAKAHAMA-2 | PWR 23 | TP1 | 1 | 160 | | TP2 | 2 | 90 | | 8-69 | 70/ 5 | |
| GENKAI-1 | PWR 24 | TP1 | 1 | 110 | | TP2 | 2 | 60 | | 8-82 | 70/ 5 | |
| DOI-1,2 | PWR 26 | TP1 | 1 | 180 | | TP2 | 2 | 90 | | 8-72 | 71/ 1 | |
| MIHAMA-3 | PWR 27 | TP1 | 1 | 130 | | TP2 | 2 | 65 | | 8-69 | 71/ 8 | |
| IKATA-1 | PWR 28 | TP1 | 1 | 110 | | TP2 | 2 | 60 | | 8-83 | 72/11 | |
| IKATA-2 | PWR 30 | TP1 | 1 | 110 | 930 | TP3 | 2 | 60 | 930 | 300 | 8-9-26 | 75/ 5 |
| SENDAI | PWR 31 | TP1 | 1 | 160 | 900 | TP3 | 2 | 80 | 900 | 390 | 8-9-28,29 | 76/ 5 |

FEED.W.S PH AND OXYGEN CONTROL EQUIPMT. TANK 777340

---YAKU-CHUU-TANK---
(1)NUMBER
(2)CAPACITY LITRE/1
(1) (2)
NO. CAP.

| | | | | | | | |
|---------|--------|---|--------------------|--|--|--------|-------|
| IKATA-2 | PWR 30 | 2 | 800L/1*1,1800L/1*1 | | | 8-9-26 | 75/ 5 |
|---------|--------|---|--------------------|--|--|--------|-------|

FEED.W.S PH AND OXYGEN CONTROL EQUIPMT. PUMP 777350

---YAKU-CHUU-PUMP---
(1)TYPE TP1=GANGED PLUNGER TYPE
(2)NUMBER
(3)CAPACITY LITRE/MIN
(1) (2) (3)
NO. CAP.

| | | | | | | | |
|---------|--------|-----|---|-------------------|--|--------|-------|
| IKATA-2 | PWR 30 | TP1 | 2 | 4L/M*1, 0.36L/M*1 | | 8-9-26 | 75/ 5 |
|---------|--------|-----|---|-------------------|--|--------|-------|

2NDARY.S MAKEUP.W SYSTEM CONDENSE D W. TANK 777500

(1)TYPE TP1=TATE-OKI ENTDO GATA
(2)NUMBER
(3)CAPACITY M3
(4)MATERIAL MT1=CARBON STEEL
(1) (2) (3) (4)
NO. M3

| | | | | | | | |
|---------|--------|-----|---|-----|-----|--------|-------|
| IKATA-2 | PWR 30 | TP1 | 1 | 350 | | 8-9-27 | 75/ 5 |
| SENDAI | PWR 31 | TP1 | 1 | 800 | MT1 | 8-9-30 | 76/ 5 |

PLANT PERFORMANCE DATA

2NDARY.S MAKEUP.W SYSTEM

PURE W. TANK 777510

(1)TYPE TP1=TATE-OKI ENTDO GATA
(2)NUMBER
(3)CAPACITY M3
(4)MATERIAL MT1=LOW CARBON STEEL
(1) (2) (3) (4)
NO. M3

| | | | | | | | |
|---------|--------|-----|---|------|-----|--------|-------|
| IKATA-2 | PWR 30 | TP1 | 1 | 1500 | | 8-9-27 | 75/ 5 |
| SENDAI | PWR 31 | TP1 | 2 | 1000 | MT1 | 8-9-30 | 76/ 5 |

2NDARY.S AUX.CCS BEARING COOLANT W.EXCH. 777600

(1)TYPE TP1=YOKO-OKI HYODMEN REIKYAKU SIKI
(2)NUMBER
(3)HEAT TRANSFER AREA M2
(4)PURE WATER FLOW RATE(SHELL-SIDE) M3/H
(5)SEA WATER FLOW RATE(TUBE-SIDE) M3/H
(6)MATERIAL
1) DRUM MT1=LOW CARBON STEEL
2) WATER ROOM COVER MT1=CAST IRON
3) COOLING TUBE MT1=AL-BRASS
(1) (2) (3) (4) (5) (6)
NO. M2 M3/H M3/H 1) 2) 3)

| | | | | | | | | | |
|---------|--------|-----|---|------|------|------|-------------|--------|-------|
| IKATA-2 | PWR 30 | TP1 | 2 | 1000 | 1900 | 2700 | | 8-9-28 | 75/ 5 |
| SENDAI | PWR 31 | TP1 | 3 | 850 | 1550 | 2500 | MT1 MT1 MT1 | 8-9-31 | 76/ 5 |

2NDARY.S AUX.CCS BEARING COOLANT PUMP 777620

(1)TYPE TP1=YOKO-OKI UZUMAKI
(2)NUMBER
(3)CAPACITY M3/H/1
(4)HEAD M
(5)PUMP MOTOR KW
(6)MATERIAL MT1=CAST IRON
(1) (2) (3) (4) (5) (6)
NO. M3/H/1 M KW

| | | | | | | | | | |
|---------|--------|-----|---|------|----|-----|-----|--------|-------|
| IKATA-2 | PWR 30 | TP1 | 3 | 950 | 39 | 150 | | 8-9-28 | 75/ 5 |
| SENDAI | PWR 31 | TP1 | 3 | 1550 | | 325 | MT1 | 8-9-31 | 76/ 5 |

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2NUARY.S AUX.CCS

S.W-PUMP 777640

(1)TYPE TP1=TATE-DKI TANDAN SHARYUU GATA
TP2=TATE-DKI SHARYUU GATA
(2)NUMBER
(3)CAPACITY M3/H/1
(4)HEAD M
(5)PUMP MOTOR KW
(6)MATERIAL MT1=LOW ALLOY CAST IRON
(1) (2) (3) (4) (5) (6)
NO. M3/H/1 M KW

| | | | | | | | | |
|---------|--------|-------|------|----|-----|-----|--------|-------|
| IKATA-2 | PWR 30 | TP1 4 | 2500 | 39 | 380 | | 8-9-28 | 75/ 5 |
| SENDAI | PWR 31 | TP1 3 | 2500 | | | MT1 | 8-9-31 | 76/ 5 |

SEA WATER CIRC. SYSTEM FOR MAIN COND. 778220

(1)TYPE TP1=TATEGATA SYARYUU
TP2=FIXED VANE TATE-DKI OTOSIKUMI GATA
(2)NUMBER
(3)FLOW RATE M3/H/NO.
(4)HEAD M
(5)PUMP MOTOR KW
(6)MATERIAL MT1=CAST IRON
(1) (2) (3) (4) (5) (6)
NO. FLOW RATE HEAD
M3/H/NO. M KW

| | | | | | | | | |
|-------------|--------|-------|----------|--|---------------------------------|------|-----------|-------|
| JPDR-2 | BWR 2 | TP1 2 | 2964/1 | | 15.7 (FOR TURBINE SYSTEM) | | KON.6 P32 | 70/11 |
| JPDR-2 | BWR 2 | TP1 2 | 2730/1 | | 5.5 (FOR DUMP CONDENSER SYSTEM) | | KON.6 P33 | 70/11 |
| DNAGAWA | BWR 4 | TP1 2 | 81000/2 | | | | 8-7-(4) | 70/ 5 |
| HAMAOKA-1 | BWR 5 | TP1 1 | 120000/ | | | | 8-56 | 70/ 5 |
| FUKUSIMA-5 | BWR 9 | TP1 3 | 150600/3 | | | | 8-7-(4) | 71/ 2 |
| FUKUSIMA-4 | BWR 10 | TP1 3 | 153500/3 | | | | 8-7-(4) | 71/ 8 |
| FUKUSIMA-6 | BWR 11 | TP1 3 | 202000/3 | | | | 8-7-(4) | 72/ 1 |
| TOOKAI-2 | BWR 12 | TP1 3 | 202000/3 | | | | 8-7-(5) | 72/ 1 |
| HAMAOKA-2 | BWR 13 | TP1 1 | 180000/ | | | | 8-48 | 72/ 9 |
| KASHIWAZAKI | BWR 15 | TP1 3 | 91000/ | | | | 8-7-9 | 75/ 3 |
| IKATA-2 | PWR 30 | TP2 2 | 64000/1 | | 10.5 | 2400 | 8-9-25 | 75/ 5 |
| SENDAI | PWR 31 | TP2 2 | 114500/1 | | 13 | 5250 | 8-9-25 | 76/ 5 |

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TURBINE AUX. COOL. PUMP

779220

(1)TYPE TP1=YOKO GATA UZUMAKI , LOOP IS CLOSED
TP2=TATE GATA UZUMAKI , SEA WATER PUMP
(2)NUMBER ()=YORI
(3)USED FOR U1=TURBINE OIL COOLER
(4)CAPACITY M3/H
(5)HEAD M
U2=SYONAI AIR COMPRESSOR
U3=COMPRESSOR FOR CONTROL
U4=HYDROGEN COOLER
OT=OTHERS

| | | (1) | (2) | (3) | (4) | (5) | | |
|-------------|--------|------|-------|----------|-------|-----|---------|-------|
| | | TYPE | NO. | USED FOR | M3/H | M | | |
| | | TYPE | NO. | USED FOR | | | | |
| DNAGAWA | BWR 4 | TP1 | 2+(1) | U1,U2,OT | | | 8-7-(4) | 70/ 5 |
| HAMAOKA-1 | BWR 5 | TP1 | 2+(1) | | | | 8-56 | 70/ 5 |
| FUKUSIMA-5 | BWR 9 | TP1 | 3 | U1,U3,OT | | | 8-7-(5) | 71/ 2 |
| FUKUSIMA-4 | BWR 10 | TP1 | 3 | U1,U3,OT | | | 8-7-(5) | 71/ 8 |
| FUKUSIMA-6 | BWR 11 | TP1 | 3 | U1,OT | | | 8-7-(5) | 72/ 1 |
| TOOKAI-2 | BWR 12 | TP1 | 3 | U1,OT | | | 8-7-(5) | 72/ 1 |
| HAMAOKA-2 | BWR 13 | TP1 | 2+(1) | U1,U4,OT | | | 8-49 | 72/ 9 |
| KASHIWAZAKI | BWR 15 | TP1 | 3 | | 1700. | 45. | 8-12-26 | 75/ 3 |
| KASHIWAZAKI | BWR 15 | TP2 | 3 | | 1400. | 35. | 8-12-26 | 75/ 3 |

(SEA WATER PUMP)

TURBINE AUX. COOL. H.EXCH.

TYPE AND NUMBER 779240

(1)TYPE TP1=YOKO GATA STRAIGHT TUBE
(2)NUMBER ()=YORI
(3)CAPACITY KCAL/H
(1) (2) (3)
TYPE NO. KCAL/H

| | | | | | | | | |
|-------------|--------|-----|-------|-------|--|--|---------|-------|
| DNAGAWA | BWR 4 | TP1 | 1+(1) | | | | 8-7-(4) | 70/ 5 |
| HAMAOKA-1 | BWR 5 | TP1 | 1+(1) | | | | 8-56 | 70/ 5 |
| FUKUSIMA-5 | BWR 9 | TP1 | 3 | | | | 8-7-(5) | 71/ 2 |
| FUKUSIMA-4 | BWR 10 | TP1 | 3 | | | | 8-7-(5) | 71/ 8 |
| FUKUSIMA-6 | BWR 11 | TP1 | 3 | | | | 8-7-(5) | 72/ 1 |
| TOOKAI-2 | BWR 12 | TP1 | 3 | | | | 8-7-(5) | 72/ 1 |
| HAMAOKA-2 | BWR 13 | TP1 | 2 | | | | 8-49 | 72/ 9 |
| KASHIWAZAKI | BWR 15 | TP1 | 3 | 9.8E6 | | | 8-12-26 | 75/ 3 |

WDACS WASTE DISPOSAL

AUX. COOLING SYSTEM 779300

KIND OF AUX. COOLING SYSTEM FOR WASTE DISPOSAL
WDACS INTERMEDIATE LOOP CIRCULATION PUMP
WDACS SEA WATER PUMP
WDACS HEAT EXCHANGER

779320
779340
779360

| PLANT PERFORMANCE DATA | | | | DATE=08/17/76 | PAGE***0-173*** |
|--|-------------------|----------------|------|---------------|-----------------|
| WDACS | INTERMEDIATE LOOP | CIRC. | PUMP | 779320 | |
| WDACS INTERMEDIATE LOOP CIRCULATION PUMP | | | | | |
| (1)TYPE TP1=YUKO-GATA UZUMAKI | | | | | |
| (2)NUMBER | | | | | |
| (3)CAPACITY M3/H | | | | | |
| (4)TOTAL HEAD M | | | | | |
| (1) (2) (3) (4) | | | | | |
| TYPE NO. M3/H M | | | | | |
| KASHIWAZAKI | BWR | 15 | TP1 | 2. 1560. 45. | 8-12-26 75/ 3 |
| WDACS | S.W.-PUMP | | | 779340 | |
| WDACS SEA-WATER PUMP | | | | | |
| (1)TYPE TP1=TATE-GATA UZUMAKI | | | | | |
| (2)NUMBER | | | | | |
| (3)CAPACITY M3/H | | | | | |
| (4)TOTAL HEAD M | | | | | |
| (1) (2) (3) (4) | | | | | |
| TYPE NO. M3/H M | | | | | |
| KASHIWAZAKI | BWR | 15 | TP1 | 2. 1560. 40. | 8-12-27 75/ 3 |
| WDACS | H.EXCH. | | | 779360 | |
| WDACS HEAT EXCHANGER | | | | | |
| (1)TYPE TP1=YUKO-GATA STRAIGHT TUBE | | | | | |
| (2)NUMBER | | | | | |
| (3)CAPACITY KCAL/H | | | | | |
| (1) (2) (3) | | | | | |
| TYPE NO. KCAL/H | | | | | |
| KASHIWAZAKI | BWR | 15 | TP1 | 2 1.5E7 | 8-12-7 75/ 3 |
| ECUCS | EMER. COMPONENTS | COOLING SYSTEM | | 779400 | |
| KIND OF ECUCS | | | | | |
| (1)EMERGENCY-DIESEL GENERATOR COOLING SYSTEM | | | | | |
| A INTERMEDIATE LOOP CIRCULATION PUMP | | | | | |
| B SEA WATER PUMP | | | | | |
| C HEAT EXCHANGER | | | | | |
| (2)RHRS-COMPONENTS COOLING SYSTEM | | | | | |
| A INTERMEDIATE LOOP CIRCULATION PUMP | | | | | |
| B SEA WATER PUMP | | | | | |
| C HEAT EXCHANGER | | | | | |
| (3)HPCS-DIESEL GENERATOR COOLING SYSTEM | | | | | |
| A INTERMEDIATE LOOP CIRCULATION PUMP | | | | | |
| B SEA WATER PUMP | | | | | |
| C HEAT EXCHANGER | | | | | |
| EDGCS 779420 | | | | | |
| 779440 | | | | | |
| 779460 | | | | | |
| RHRS-CCS 779520 | | | | | |
| 779540 | | | | | |
| 779560 | | | | | |
| HPCS0GCS 779620 | | | | | |
| 779640 | | | | | |
| 779660 | | | | | |

| PLANT PERFORMANCE DATA | | | | DATE=08/17/76 | PAGE***0-174*** |
|-------------------------------------|----------|-----------|-------|---------------|-----------------|
| ECUCS | EDGCS | I.LOOP | CIRC. | PUMP | 779420 |
| (1)TYPE TP1=YUKO-GATA UZUMAKI | | | | | |
| (2)NUMBER | | | | | |
| (3)CAPACITY M3/H | | | | | |
| (4)TOTAL HEAD M | | | | | |
| (1) (2) (3) (4) | | | | | |
| TYPE NO. M3/H M | | | | | |
| KASHIWAZAKI | BWR | 15 | TP1 | 2 440. 40. | 8-12-28 75/ 3 |
| ECUCS | EDGCS | S.W.-PUMP | | 779440 | |
| (1)TYPE TP1=TATE-GATA UZUMAKI | | | | | |
| (2)NUMBER | | | | | |
| (3)CAPACITY M3/H | | | | | |
| (4)TOTAL HEAD M | | | | | |
| (1) (2) (3) (4) | | | | | |
| TYPE NO. M3/H M | | | | | |
| KASHIWAZAKI | BWR | 15 | TP1 | 2. 440. 35. | 8-12-28 75/ 3 |
| ECUCS | EDGCS | H.EXCH. | | 779460 | |
| (1)TYPE TP1=YUKO-GATA STRAIGHT TUBE | | | | | |
| (2)NUMBER | | | | | |
| (3)CAPACITY KCAL/H | | | | | |
| (1) (2) (3) | | | | | |
| TYPE NO. KCAL/H | | | | | |
| KASHIWAZAKI | BWR | 15 | TP1 | 2. 3.8E6 | 8-12-28 75/ 3 |
| ECUCS | RHRS-CCS | I.LOOP | CIRC. | PUMP | 779520 |
| (1)TYPE TP1=YUKO-GATA UZUMAKI | | | | | |
| (2)NUMBER | | | | | |
| CAPACITY M3/H | | | | | |
| TOTAL HEAD M | | | | | |
| (1) (2) (3) (4) | | | | | |
| TYPE NO. M3/H M | | | | | |
| KASHIWAZAKI | BWR | 15 | TP1 | 2 2200. 50. | 8-12-28 75/ 3 |

| ECUCS | RHRS-CCS S.W-PUMP | | | | | 779540 | | |
|-------------|----------------------------|-----------------|-----------------------------|-------|-----|---------|-------|--|
| | | (1)TYPE | TP1=TATE-GATA UZUMAKI | | | | | |
| | | (2)NUMBER | | | | | | |
| | | (3)CAPACITY | M3/H | | | | | |
| | | (4)TOTAL HEAD | M | | | | | |
| | | (1) (2) (3) (4) | | | | | | |
| | | TYPE NO. | M | | | | | |
| KASHIWAZAKI | BWR 15 | TP1 | 2 | 2200. | 50. | 8-12-29 | 75/ 3 | |
| ECUCS | RHRS-CCS H.EXCH. | | | | | 779560 | | |
| | | (1)TYPE | TP1=YOKO-GATA STRAIGHT TUBE | | | | | |
| | | (2)NUMBER | | | | | | |
| | | (3)CAPACITY | KCAL/H | | | | | |
| | | (1) (2) (3) | | | | | | |
| | | TYPE NO. | KCAL/H | | | | | |
| KASHIWAZAKI | BWR 15 | TP1 | 2. | 2.0E7 | | 8-12-29 | 75/ 3 | |
| ECUCS | HPCSDGCS I.LDUP CIRC. PUMP | | | | | 779620 | | |
| | | (1)TYPE | TP1=YOKO-GAYA UZUMAKI | | | | | |
| | | (2)NUMBER | | | | | | |
| | | (3)CAPACITY | M3/H | | | | | |
| | | (4)TOTAL HEAD | M | | | | | |
| | | (1) (2) (3) (4) | | | | | | |
| | | TYPE NO. | M3/H M | | | | | |
| KASHIWAZAKI | BWR 15 | TP1 | 1. | 300. | 40. | 8-12-29 | 75/ 3 | |
| ECUCS | HPCSDGCS S.W-PUMP | | | | | 779640 | | |
| | | (1)TYPE | TP1=TATE-GATA UZUMAKI | | | | | |
| | | (2)NUMBER | | | | | | |
| | | (3)CAPACITY | M3/H | | | | | |
| | | (4)TOTAL HEAD | M | | | | | |
| | | (1) (2) (3) (4) | | | | | | |
| | | TYPE NO. | M3/H M | | | | | |
| KASHIWAZAKI | BWR 15 | TP1 | 1. | 300. | 35. | 8-12-29 | 75/ 3 | |
| ECUCS | HPCSDGCS H.EXCH. | | | | | 779660 | | |
| | | (1)TYPE | TP1=YOKO-GATA STRAIGHT TUBE | | | | | |
| | | (2)NUMBER | | | | | | |
| | | (3)CAPACITY | KCAL/H | | | | | |
| | | (1) (2) (3) | | | | | | |
| | | TYPE NO. | KCAL/H | | | | | |
| KASHIWAZAKI | BWR 15 | TP1 | 1 | 2.7E6 | | 8-12-29 | 75/ 3 | |

| KIND OF | IN-CORE MONITOR CHANNEL NUMBER | | | | | 781100 | | |
|------------------------------------|--------------------------------|---------------------------------|--|--------|--------|----------|----------|-----------------------|
| | | (1)=SRM | =SOURCE RANGE MONITOR | | | | | |
| | | (2)=IRM | =INTERMEDIATE RANGE MONITOR | | | | | |
| | | (3)=PRM | =POWER RANGE MONITOR | | | | | |
| | | (3-1) | LPRM=LOCAL POWER RANGE MONITOR | | | | | |
| | | (3-2) | APRM=AVERAGE POWER RANGE MONITOR | | | | | |
| | | (3-3) | RBM =ROD BLOCK MONITOR | | | | | |
| | | (3-4) | TIP =TRAVERSING IN-CORE PROBE | | | | | |
| | | (1) (2) (3-1) (3-2) (3-3) (3-4) | | | | | | |
| | | NUMBER | SRM | IRM | LPRM | APRM | RBM | TIP |
| FUKUSIMA-1 | BWR 6 | | 4 | 8 | 88 | 6 | 2 | 3 |
| | | | | | | | | MEMO P42 70/ 3 |
| IN-CORE MONITOR NEUTRON FLUX LEVEL | NV | | | | | 781200 | | |
| | | | SRM | IRM | LPRM | APRM | RBM | TIP |
| FUKUSIMA-1 | BWR 6 | FRDM | 1. E4 | 1. E8 | 1.4E12 | | | 1.0E12 MEMO P42 70/ 3 |
| FUKUSIMA-1 | BWR 6 | TD | 1. E9 | 1.5E13 | 1.4E14 | | | 1.4E14 MEMO P42 70/ 3 |
| NEUTRON SOURCE NUMBER | | | | | 783000 | | | |
| ONAGAWA | BWR 4 | NO.=4 | GT.(3CPS OR 3/1(SN-RATIO)) WITH ALL CRD INSERT | | | 8-8-(10) | 70/ 5 | |
| HAMADKA-1 | BWR 5 | NO.=4 | GT.(3CPS OR 3/1(SN-RATIO)) WITH ALL CRD INSERT | | | 8-73 | 70/ 5 | |
| FUKUSIMA-5 | BWR 9 | NO.=5 | GT.(3CPS OR 3/1(SN-RATIO)) WITH ALL CRD INSERT | | | 8-8-(13) | 71/ 2 | |
| FUKUSIMA-4 | BWR 10 | NO.=5 | GT.(3CPS OR 3/1(SN-RATIO)) WITH ALL CRD INSERT | | | 8-8-(13) | 71/ 8 | |
| FUKUSIMA-6 | BWR 11 | NO.=7 | GT.(3CPS OR 3/1(SN-RATIO)) WITH ALL CRD INSERT | | | 8-8-(14) | 72/ 1 | |
| TODKAI-2 | BWR 12 | NO.=7 | GT.(3CPS OR 3/1(SN-RATIO)) WITH ALL CRD INSERT | | | 8-8-(15) | 72/ 1 | |
| HAMADKA-2 | BWR 13 | NO.=5 | GT.(3CPS OR 3/1(SN-RATIO)) WITH ALL CRD INSERT | | | 8-63 | 72/ 9 | |
| KASHIWAZAKI | BWR 15 | NO.=7 | GT.(3CPS OR 3/1(SN-RATIO)) WITH ALL CRD INSERT | | | 8-8-26 | 75/ 3 | |
| NEUTRON SOURCE | | | | | 783020 | | | |
| | | (1)STAGE | PRI.=PRIMARY, 2ND.=SECONDARY | | | | | |
| | | (2)SOURCE MATERIAL | MT1=PU-BE MT2=CF(CALIFORNIUM) MT3=SB.BE | | | | | |
| | | (3)SOURCE INTENSITY | CI/I | | | | | |
| | | (4)NUMBER | | | | | | |
| | | (5)SOURCE OUTER DIAMETER | MM | | | | | |
| | | (6)LENGTH | MM | | | | | |
| | | (7)CLADDING MATERIAL | MT11=STAINLESS STEEL | | | | | |
| | | (8)CLADDING OUTER DIAMETER | MM | | | | | |
| | | (1) (2) (3) (4) (5) (6) (7) (8) | | | | | | |
| | | CI/I | NO. | MM | MM | MM | MM | |
| IKATA-2 | PWR 30 | PRI. MT1 | 100. | 2 | 10. | 610. | MT11 11. | 8-3-42 75/ 5 |
| IKATA-2 | PWR 30 | PRI. MT2 | 0.1 | 2 | 10. | 38. | MT11 11. | 8-3-42 75/ 5 |
| IKATA-2 | PWR 30 | 2ND. MT3 | | 6 | 10. | 1730. | MT11 11. | 8-3-42 75/ 5 |
| SENDAI | PWR 31 | PRI. MT2 | 0.1 | 2 | 8.4 | 38. | MT11 9.8 | 8-3-51 76/ 5 |
| SENDAI | PWR 31 | 2ND. MT3 | | 8 | 8.4 | 1724. | MT11 9.8 | 8-3-51 76/ 5 |

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| KIND OF REACTOR | SCRAM | SIGNAL | LIMIT | UWR | 783210 | | |
|-----------------|-------|--------|---|-----|--------|---------|--------------|
| | | | (1)=DRY-WELL PRESSURE HIGH | | | | KG/SQCM |
| | | | (2)=REACTOR PRESSURE HIGH | | | | KG/SQCM |
| | | | (3)=REACTOR WATER LEVEL LOW | | | | |
| | | | (4)=NEUTRON FLUX HIGH (POWER AND MEDIUM REGION) | | | | (PC. PC.) |
| | | | (5)=NEUTRON FLUX INDICATION LOW (POWER REGION MONITOR) | | | | |
| | | | (6)=NEUTRON INSTRUMENT MALFUNCTION (POWER AND MEDIUM REGION) | | | | |
| | | | (7)=SCRAM DUMP TANK LEVEL HIGH | | | | |
| | | | (8)=MAIN STEAM TUBE RADIATION LEVEL HIGH | | | | RATIO/NORMAL |
| | | | (9)=CONDENSER VACUUM LOW | | | | MM HG |
| | | | (10)=MAIN STEAM ISOLATION VALVE CLOSE | | | | PC/OPENING |
| | | | (11)=POWER OUTAGE OF MG SET FOR REACTOR-PROTECTION | | | | |
| | | | (12)=EARTHQUAKE | | | | |
| | | | (13)=TURBINE MAIN STEAM STOP VALVE CLOSE | | | | |
| | | | (14)=TURBINE REGULATE VALVE PROMPT CLOSE | | | | |
| | | | (15)=MANUAL SCRAM | | | | |
| | | | (16)=MODE SWITCH (STANDSTILL) | | | | |
| | | | (17)=LOSS OF AIR PRESSURE TO SCRAM VALVE | | | | |
| | | | (18)=EHC OIL PRESSURE LOW | | | | |
| | | | (19)=SCRAM-DISCHARGE-HEADER WATER-LEVEL-HIGH | | | | LITER |
| | | | (20)=TURBINE-BYPASS-VALVE MALFUNCTION DURING SHUT-OFF OF LOAD | | | | |
| ONAGAWA | BWR | 4 | FROM (1) TO (17) EXCEPT (9) | | | 8-8-(7) | 70/ 5 |
| ONAGAWA | BWR | 4 | 1=0.14/2=74.2/3=13M FROM PV-ZERO-LEVEL/4=120PC/RATE,95PC | | | 8-8-(7) | 70/ 5 |
| ONAGAWA | BWR | 4 | /FULL SCALE/5=5PC/RATE/7=CORRESPOND TO 0.09 CUBM(HEADER) | | | 8-8-(7) | 70/ 5 |
| ONAGAWA | BWR | 4 | /8=6TIMES/BACK GROUND/RATED/10=90PC/13=90PC/ | | | 8-8-(7) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | FROM (1) TO (17) EXCEPT (9) | | | 8-64 | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 1=0.14/2=74.2/3=12.85M FROM PV-ZERO-LEVEL/4=120PC/RATE/ | | | 8-64 | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 7=CORRESPOND TO 0.091 CUBM/8=6TIMES/BACK GROUND/RATED/ | | | 8-64 | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 10=90PC/13=90PC/14=0IL PRESSURE LOW/ | | | 8-64 | 70/ 5 |
| SHIMANE | BWR | 8 | FROM (1) TO (20) EXCEPT (7),(14),AND (16) | | | 8-8-(2) | 75/ 7 |
| SHIMANE | BWR | 8 | 1=0.14/2=74.3/3=18 CM ABOVE FROM BOTTOM END OF STEAM- | | | 8-8-(2) | 75/ 7 |
| SHIMANE | BWR | 8 | WATER-SEPARATOR/4=120PC OF RATED POWER, 95PC/FULL SCALE | | | 8-8-(2) | 75/ 7 |
| SHIMANE | BWR | 8 | /5=5PC WITH THE SIGNAL-1 /8=6TIMES/9=584 MM HG/ | | | 8-8-(2) | 75/ 7 |
| SHIMANE | BWR | 8 | 10=90PC OF FULL OPEN/11=POWER OUTAGE OF REACTOR PROTECT. | | | 8-8-(2) | 75/ 7 |
| SHIMANE | BWR | 8 | SYSTEM/12=140 GAL/13=90PC OF FULL OPEN WITH THE SIGNAL-2 | | | 8-8-(2) | 75/ 7 |
| SHIMANE | BWR | 8 | 19=98.5 LITER/20=23PC/SEC OF LOAD CHANGE RATE, LE. 10PC | | | 8-8-(2) | 75/ 7 |
| SHIMANE | BWR | 8 | OF T.BYPASS.V. FULL OPEN, AND WITH THE SIGNAL-2 / | | | 8-8-(2) | 75/ 7 |
| SHIMANE | BWR | 8 | SIGNAL-1=95PC OF FULL SCALE OF NEUTRON FLUX INDICATOR | | | 8-8-(2) | 75/ 7 |
| SHIMANE | BWR | 8 | (MEDIUM REGION) | | | 8-8-(2) | 75/ 7 |
| SHIMANE | BWR | 8 | SIGNAL-2=GT.45PC OF PRESSURE AT 1ST-STAGE OF H.P.TURBINE | | | 8-8-(2) | 75/ 7 |
| FUKUSIMA-5 | BWR | 4 | FROM (1) TO (16) | | | 8-8-(6) | 71/ 2 |
| FUKUSIMA-5 | BWR | 4 | 1=0.14/2=74.2/4=120PC/RATE,95PC/FULL SCALE/7=CORRESPOND | | | 8-8-(6) | 71/ 2 |
| FUKUSIMA-5 | BWR | 4 | TO 0.14 CUBM/8=100TIMES/NORMAL/9=584.2 MM HG/10=90PC/ | | | 8-8-(6) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | FROM (1) TO (16) SAME AS FUKUSIMA-5 | | | 8-8-(6) | 71/ 8 |
| HAMAOKA-2 | BWR | 13 | FROM(1) TO (18) EXCEPT (9) | | | 8-56 | 72/ 9 |
| HAMAOKA-2 | BWR | 13 | 1=0.14/2=74.2/3=13.38 FROM PV-ZERO-LEVEL/4=120PC OF RATE | | | 8-56 | 72/ 9 |
| HAMAOKA-2 | BWR | 13 | 0 POWER, 95PC OF FULL SCALE/7=CORRESPOND TO 0.14CUBM/8=6 | | | 8-56 | 72/ 9 |
| HAMAOKA-2 | BWR | 13 | TIMES OF BACK GROUND OF RATED POWER/10=90PC/12=ADJUSTABL | | | 8-56 | 72/ 9 |
| HAMAOKA-2 | BWR | 13 | E/13=90PC/14=ACT IF WHEN TURBINE BYPASS VALVE DOES NOT | | | 8-56 | 72/ 9 |
| HAMAOKA-2 | BWR | 13 | OPEN WITHIN THE SET TIME/ | | | 8-56 | 72/ 9 |

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| KIND OF REACTOR | SCRAM | SIGNAL | LIMIT | PWR | 783230 | | |
|-----------------|-------|--------|---|-----|--------|-------------|-------|
| | | | (1)=NEUTRON FLUX HIGH (NEUTRON SOURCE AND MEDIUM REGION) | | | | |
| | | | (2)=NEUTRON FLUX HIGH (POWER REGION) | | | | |
| | | | (3)=SAFETY INJECTION SYSTEM ACT (BACK UP MORE SCRAM CONDITION) | | | | |
| | | | (4)=PRIMARY COOLANT DELTA T HIGH | | | | |
| | | | (5)=REACTOR PRESSURE HIGH | | | | |
| | | | (6)=REACTOR PRESSURE LOW (TO AVOID BOILING) | | | | |
| | | | (7)=PRESSURIZER WATER LEVEL HIGH (BACK UP OF REACTOR PRESSURE HIGH) | | | | |
| | | | (8)=LOSS OF PRIMARY-COOLANT-FLOW | | | | |
| | | | (9)=TURBINE TRIP (UNDER OPERATION GT 50PC POWER) | | | | |
| | | | (10)=STEAM GENERATOR WATER LEVEL LOW | | | | |
| | | | (11)=EARTHQUAKE | | | | |
| | | | (12)=MANUAL | | | | |
| | | | (13)=STEAM GENERATOR STEAM VS FEED-WATER DELTA FLOW HIGH | | | | |
| | | | (14)=STEAM GENERATOR WATER LEVEL ABNORMALLY HIGH | | | | |
| MIHAMA-1 | PWR | 21 | FROM (1) TO (12) | | | BK80-2 P15 | 71/ 8 |
| MIHAMA-2 | PWR | 22 | FROM (1) TO (12) | | | BK80-2 P15 | 71/ 8 |
| TAKAHAMA-2 | PWR | 23 | FROM (1) TO (12) | | | 8-87 | 70/ 5 |
| GENKAI-1 | PWR | 24 | FROM (1) TO (13) | | | 8-99 | 70/ 5 |
| TAKAHAMA-1 | PWR | 25 | FROM (1) TO (12) | | | BK80-2 P15 | 71/ 8 |
| OOI-1,2 | PWR | 26 | FROM (1) TO (12) | | | 8-90 | 71/ 1 |
| MIHAMA-3 | PWR | 27 | FROM (1) TO (14) EXCEPT (13) | | | 8-87 | 71/ 8 |
| MIHAMA-3 | PWR | 27 | FROM (1) TO (12) | | | 8-87(REV-1) | 71/11 |
| IKATA-1 | PWR | 28 | FROM (1) TO (13) | | | 8-99 | 72/11 |

E.GENER. TYPE AND NUMBER

793220

(1)TYPE TP1=YOKO-DKI ENTDO KAITEN KAIJI 3-500 DOKKI
 TP2=KOHJIEIJI DODOTAI EKITAI REIKYAKU 3-500 DOKKI
 TP3=YOKO-DKI KAITEN KAIJI 3-500 DOKKI
 TP4=YOKO-DKI KAITEN KAIJI 3-500 DOKKI (H2 COOLING)
 TP5=WESTINGHOUSE 3-PHASE GENERATOR

(2)NUMBER
 (3)CAPACITY KVA OR KW
 (4)RIKIRITU PERCENT
 (5)SHORT CIRCUIT RATIO
 (6)VOLTAGE KV
 (7)SPEED RPM
 (8)ANMATURE COOLING SYSTEM COOLANT A=AIR, H=HYDROGEN

(9)
 (10)FIELD COOLING SYSTEM COOLANT PRESSURE KG/CM2G
 COOLANT W=WATER, H=HYDROGEN
 (1) (2) (3) (4) (5) (6) (7) (8) (9) (10)
 NO. KVA KV RPM

| UNIT | TYPE | NO. | KVA | KV | RPM | COOLANT | FIELD COOLING SYSTEM | COOLANT PRESSURE | STATUS |
|---------------------|------|-----|---------|----|------|---------|----------------------|------------------|--------------------|
| JPCR-1 | TP1 | 1 | 14706 | 85 | 13.8 | 3000 | | | / |
| JPCR-2 | TP1 | 1 | 14706 | 85 | 13.8 | 3000 | A | | KDN-6 P34 70/11 |
| ONAGAWA | TP2 | 1 | 545000 | 90 | 0.58 | 22 | 1500 | H | 3.0 WPH 70/11 |
| HAMADKA-1 | TP2 | 1 | 626000 | 90 | 0.58 | 22 | 1800 | H | 3.0 W 8-80 70/5 |
| FUKUSIMA-1 | TP2 | 6 | 525000 | 90 | 0.60 | 18 | 1500 | H | 3.6 W 70/5 |
| FUKUSIMA-2-3 | TP2 | 7 | 911000 | 90 | 0.60 | 17 | 1500 | H | 4.2 W 70/5 |
| SHIMANE | TP2 | 8 | 520000 | 90 | 0.58 | 18 | 1800 | H | 3.0 W / |
| FUKUSIMA-5 | TP2 | 9 | 911000 | 90 | 0.60 | 17 | 1500 | H | 4.2 W 8-9-(2) 71/2 |
| FUKUSIMA-4 | TP2 | 10 | 911000 | 90 | 0.60 | 17 | 1500 | H | 4.2 W 8-9-(2) 71/8 |
| FUKUSIMA-6 | TP3 | 11 | 1300000 | 90 | 0.60 | 19 | 1500 | H | 3.5 W 8-9-(2) 72/1 |
| TOKAI-2 | TP3 | 12 | 1300000 | 90 | 0.60 | 19 | 1500 | H | 3.5 W 8-9-(2) 72/1 |
| HAMADKA-2 | TP2 | 13 | 943000 | 90 | 0.58 | 18 | 1800 | H | 4.2 W 8-70 72/9 |
| KASHINAZAKI | TP1 | 15 | 1300000 | 90 | | 19 | 1500 | H | WPH 8-9-15 75/3 |
| MIHAMA-1 | TP4 | 21 | 400000 | 85 | 0.64 | 17 | 1800 | H | 4.2 W 8-9-15 66/11 |
| MIHAMA-2 | TP4 | 22 | 560000 | 90 | | 17 | 1800 | | BK80-4 P8 71/9 |
| TAKAHAMA-2 | TP3 | 23 | 920000 | 90 | 0.58 | 22 | 1800 | H | 4.0 W 8-95/96 70/5 |
| GENKAI-1 | TP3 | 24 | 625000 | 90 | 0.58 | 19 | 1800 | H | 4.0 W 8-107 70/5 |
| TAKAHAMA-1 | TP2 | 25 | 920000 | 90 | | 22 | 1800 | | BK80-4 P8 71/9 |
| DDI-1-2 | TP3 | 26 | 1300000 | 90 | 0.58 | 24 | 1800 | H | 5.0 W 8-99 71/1 |
| MIHAMA-3 | TP3 | 27 | 920000 | 90 | 0.58 | 22 | 1800 | H | 4.0 W 8-95/96 71/8 |
| IKATA-1 | TP3 | 28 | 630000 | 90 | 0.58 | 19 | 1800 | H | 4.0 W 8-107 72/11 |
| IKATA-2 | TP3 | 30 | 630000 | 90 | 0.58 | 19 | 1800 | | 4.0 W 8-8-14 75/5 |
| SENDAI | TP3 | 31 | 990000 | 90 | | 23 | 1800 | | 8-8-16 76/5 |
| YANKEE | TP5 | 69 | 160000 | 95 | | 18 | 1800 | | ONR V4 P38 61/ |
| SAXTON | TP5 | 70 | 100000 | 80 | | 13.2 | 1800 | | ONR V4 P52 61/ |
| TURKEY POINT-1,4PWR | | 72 | 894042 | | | | 1800 | | BK80-4 P7 71/9 |
| H.B.ROBINSON-2 | | 73 | 854090 | | | | 1800 | | BK80-4 P7 71/9 |
| SURRY-1-1,2 | | 74 | 941700 | | | | 1800 | | BK80-4 P7 71/9 |
| BEAVER VALLEY | | 75 | 1026000 | | | | 1800 | | BK80-4 P7 71/9 |
| NORTH ANNA-12 | | 76 | 1030100 | | | | 1800 | | BK80-4 P8 71/9 |
| JOSEPH W.FARLEY | | 77 | 1097500 | | | | 1800 | | BK80-4 P8 71/9 |
| FUGEN | ATR | 81 | 200000 | 90 | 0.58 | 16 | 3600 | H | / |

E.TRANS. MAIN EMERGENC Y

START-UP FACILITY 793280

MAIN TRANS START-UP TR. SYONAI TRANS YDBI T.(EMER.)
 CAP. V-RATIO CAP. V-RATIO CAP. V-RATIO CAP. V-RATIO
 MVA KV/KV MVA KV/KV MVA KV/KV MVA KV/KV

| UNIT | TYPE | NO. | MVA | KV/KV | START-UP TR. | SYONAI TRANS | YDBI T.(EMER.) | STATUS | |
|-------------|------|-----|--|----------|--------------|--------------|----------------|---------------------------------------|-------------------------|
| ONAGAWA | BWR | 4 | 570 | 21.5/275 | 20/26 | 275/6.9 | 30 | 21.5/6.9 8. 66/6.9 8-9-(3) 70/5 | |
| HAMADKA-1 | BWR | 5 | 600 | 21.5/275 | 25 | 275/6.9 | 22*2 | 21.5/6.9 10. 77/6.9 8-80 70/5 | |
| FUKUSIMA-5 | BWR | 9 | 870 | 16.6/525 | 30*2 | 66/6.9 | 30*2 | 16.6/6.9 8-9-(3) 71/2 | |
| FUKUSIMA-4 | BWR | 10 | 870 | 16.6/525 | 30*2 | 275/6.9 | 30*2 | 16.6/6.9 8-9-(3) 71/8 | |
| FUKUSIMA-4 | BWR | 10 | START-UP TRANS ARE USED COMMON WITH FUKUSIMA-3 | | | | | | 8-9-(3) 71/8 |
| FUKUSIMA-6 | BWR | 11 | | 19.0/525 | | 66/6.9 | | 19.0/6.9 8-9-(1) 72/1 | |
| TOKAI-2 | BWR | 12 | | 19.0/275 | | 275/6.9 | | 19.0/6.9 8-9-(1) 72/1 | |
| HAMADKA-2 | BWR | 13 | 900 | 17.5/275 | 25 | 275/6.9 | 25*2 | 17.5/6.9 10. 77/6.9 8-70 72/9 | |
| KASHINAZAKI | BWR | 15 | | 19.0/525 | | 66/6.9 | | 19.0/6.9 8-9-5 75/3 | |
| TAKAHAMA-2 | PWR | 23 | 860 | 22.0/275 | (60+30) | 275/6.9 | 40+20 | 22. /6.9 (60. 77/6.9) 8-96 70/5 | |
| GENKAI-1 | PWR | 24 | 590 | 19.0/220 | 50 | 220/6.9 | 40 | 19. /6.9 15. 66/6.9 8-107 70/5 | |
| DDI-1-2 | PWR | 26 | 1240 | 24. /500 | (45*2) | 500/6.9 | 30*2 | 24. /6.9 (40. 77/6.9) 8-99 71/1 | |
| DDI-1-2 | PWR | 26 | (COMMON 1,2) | | | | | | (COMMON 1,2) 8-99 71/1 |
| MIHAMA-3 | PWR | 27 | 860 | 22.0/275 | 50 | 275/6.9 | 40+18 | 22. /6.9 30 77/6.9 8-96 71/8 | |
| FUGEN | ATR | 81 | 178 | 16. /275 | 22 | 275/6.9 | 22 | 16. /6.9 4. 77/6.9 105-8-11-(3) 73/11 | |

D.G. ENGINE

794220

(1)TYPE TP1=V-TYPE
 (2)NUMBER EXAMPLE (1COM6) COMMON WITH 6-600 REACTOR
 (3)CAPACITY A=KW/1 OR B=PS/1
 (4)SPEED RPM
 (5)STARTER A=COMPRESSED AIR
 (6)STARTING TIME SEC (LT=LESS THAN)
 (7)FUEL F1=HEAVY OIL , F2=LIGHT OIL
 (8)CAPACITY OF TANK KL
 (1) (2) (3) (4) (5) (6) (7) (8)
 TYPE NO. CAP. SPEED FUEL KL

| UNIT | TYPE | NO. | CAP. | SPEED | STARTER | STARTING TIME | FUEL | TANK CAP. | STATUS |
|-------------|------|-----|----------|-----------|---------|---------------|------|------------------|------------------|
| JPCR-2 | BWR | 2 | 1 | 440A | 750 | A | | | KDN-6 P40 70/11 |
| ONAGAWA | BWR | 4 | TP1 | 2 | 4500A | 429 | A | 9 | 8-9-(3) 70/5 |
| HAMADKA-1 | BWR | 5 | TP1 | 2 | 5000B | 400 | A | LT10 | 8-81 70/5 |
| FUKUSIMA-5 | BWR | 9 | TP1 | 1+(1COM6) | 6500A | 429 | A | 30 | 8-9-(3) 71/8 |
| FUKUSIMA-4 | BWR | 10 | TP1 | 1+(1COM3) | 6500A | 429 | A | 30 | 8-9-(3) 71/8 |
| FUKUSIMA-6 | BWR | 11 | TP1 | 1+(1COM5) | 4000A | 429 | A | LT30 | F2 8-9-(3) 71/12 |
| TOKAI-2 | BWR | 12 | TP1 | 2 | 4000A | 429 | A | LT30 | F2 8-9-(3) 71/12 |
| HAMADKA-2 | BWR | 13 | TP1 | 2 | 7900B | 400 | A | LT10 | 8-70 72/9 |
| KASHINAZAKI | BWR | 15 | 2 | 5000A | | A | 10 | F2 8-9-17 75/3 | |
| MIHAMA-1 | PWR | 21 | 2 | 1650B | | A | | F2 8-100 / | |
| TAKAHAMA-2 | PWR | 23 | 1+(1COM) | 3500A | | A | | 8-96 70/5 | |
| GENKAI-1 | PWR | 24 | 2 | 3000A | | A | F1 | 8-107 70/5 | |
| DDI-1-2 | PWR | 26 | 2+(1COM) | 4500A | | A | | 8-99 71/1 | |
| MIHAMA-3 | PWR | 27 | 2 | 3800B | | A | | 8-96 71/8 | |
| IKATA-1 | PWR | 28 | 2 | 3200A | | A | F1 | 8-108 72/11 | |
| IKATA-2 | PWR | 30 | 2 | 3600A | | A | F1 | 80*2 8-8-19 75/5 | |
| SENDAI | PWR | 31 | 2 | 4650A | | A | F1 | 8-8-21 76/5 | |

PLANT PERFORMANCE DATA

DATE=08/17/76

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| D.G. | GENERATOR | NUMBER | TYPE | CAPACITY | 794240 | | | | | | | |
|-------------|-----------|--------------|---------|--|---------------------------|------|-----|------|-----|-----|-----------|-------|
| | | | (1)TYPE | TP1=3-SDD 000K1 GENERATOR (AIR COOLED) | | | | | | | | |
| | | | | TP2=3-SDD 000K1 GENERATOR | | | | | | | | |
| | | | | TP3=YDKU-OKI KAITEN KAIJI 3-SDD 000K1 | | | | | | | | |
| | | (2)NUMBER | | EXAMPLE (1COM6) | COMMON WITH 6-GDD REACTOR | | | | | | | |
| | | (3)CAPACITY | | KVA | DR | KW | | | | | | |
| | | (4)RIKIRITU | | | | | | | | | | |
| | | (5)VOLTAGE | | KV | | | | | | | | |
| | | (6)FREQUENCY | | HZ | | | | | | | | |
| | | (7)SPEED | | RPM | | | | | | | | |
| | | (1) | (2) | | (3) | (4) | (5) | (6) | (7) | | | |
| | | NO. | NO. | | KVA/1 | KW/1 | KV | HZ | RPM | | | |
| JPDR-2 | BWR | 2 | TP1 | | 500. | | 0.8 | 3.3 | 50 | 750 | KDN-6 P40 | 70/11 |
| ONAGAWA | BWR | 4 | TP2 | 2 | 5625 | | 0.8 | 6.9 | 50 | 429 | 8-9-(4) | 70/5 |
| HAMAOKA-1 | BWR | 5 | TP2 | 2 | 4375 | 3500 | 0.8 | 6.9 | 60 | 400 | 8-81 | 70/5 |
| FUKUSIMA-5 | BWR | 9 | TP2 | 1+(1COM6) | 8125 | | 0.8 | 6.9 | 50 | 429 | 8-9-(3) | 71/8 |
| FUKUSIMA-4 | BWR | 10 | TP2 | 1+(1COM3) | 8125 | | 0.8 | 6.9 | 50 | 429 | 8-9-(3) | 71/8 |
| FUKUSIMA-6 | BWR | 11 | TP2 | 1+(1COM5) | 5000. | | 0.8 | 6.9 | 50 | 429 | 8-9-(3) | 71/12 |
| TOOKAI-2 | BWR | 12 | TP2 | 2 | 5000. | | 0.8 | 6.9 | 50 | 429 | 8-9-(3) | 71/12 |
| HAMAOKA-2 | BWR | 13 | TP2 | 2 | 8125 | 6500 | 0.8 | 6.9 | 60 | 400 | 8-71 | 72/9 |
| KASHIWAZAKI | BWR | 15 | TP3 | 2 | 6250. | | 0.8 | 6.9 | 50 | | 8-9-17 | 75/3 |
| MIHAMA-1 | PWR | 21 | TP3 | 2 | 1550 | | 0.8 | 480V | 60 | | 8-100 | 66/11 |
| TAKAHAMA-2 | PWR | 23 | TP3 | | 4400 | | 0.8 | 6.9 | 60 | | 8-96 | 70/5 |
| GENKAI-1 | PWR | 24 | TP3 | 2 | 3750 | | 0.8 | 6.9 | 60 | | 8-108 | 70/5 |
| QBI-1,2 | PWR | 26 | TP3 | | 5600 | | 0.8 | 6.9 | 60 | | 8-99 | 71/1 |
| MIHAMA-3 | PWR | 27 | TP3 | 2 | 4750 | | 0.8 | 6.9 | 60 | | 8-96 | 71/8 |
| IKATA-1 | PWR | 28 | TP3 | 2 | 4000 | | 0.8 | 6.9 | 60 | | 8-108 | 72/11 |
| IKATA-2 | PWR | 30 | TP3 | 2 | 4500 | | 0.8 | 6.9 | 60 | | 8-8-19 | 75/5 |
| SENDAI | PWR | 31 | TP3 | 2 | 5813 | | 0.8 | 6.9 | 60 | | 8-8-21 | 76/5 |

| HPCS | DIESEL | GENERATOR | ENGINE | 794260 | | | | | | | | |
|-------------|--------|-----------|------------------|------------------|----------------|--------|-----|------|----|--|---------|-------|
| | | | (1)TYPE | TP1=V-TYPE | | | | | | | | |
| | | | (2)NUMBER | | | | | | | | | |
| | | | (3)CAPACITY | A=KW/1 | DR | B=PS/1 | | | | | | |
| | | | (4)SPEED | RPM | | | | | | | | |
| | | | (5)STARTER | A=COMPRESSED AIR | | | | | | | | |
| | | | (6)STARTING TIME | SEC | (LT=LESS THAN) | | | | | | | |
| | | | FUEL | F1=HEAVY OIL | F2=LIGHT OIL | | | | | | | |
| | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | | | | |
| | | TYPE | NO. | CAP. | SPEED | FUEL | | | | | | |
| FUKUSIMA-6 | BWR | 11 | TP1 | 1. | 2500A | 429 | A | LT30 | F2 | | 8-9-(4) | 71/12 |
| TOOKAI-2 | BWR | 12 | TP1 | 1. | 2400A | 429 | A | LT30 | F2 | | 8-9-(4) | 71/12 |
| KASHIWAZAKI | BWR | 15 | | 1. | 2850A | | A | 10 | F2 | | 8-9-17 | 75/3 |

PLANT PERFORMANCE DATA

DATE=08/17/76

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| HPCS | DIESEL | GENERATOR | GENERATOR | 794280 | | | | | | | | |
|-------------|--------|-----------|--------------|---------------------------------------|-------|--------|-----|-----|-----|--|---------|-------|
| | | | (1)TYPE | TP1=3-PHASE SYNCHRONOUS GENERATOR | | | | | | | | |
| | | | | TP2=YDKU-OKI KAITEN KAIJI 3-SDD 000K1 | | | | | | | | |
| | | | (2)NUMBER | | | | | | | | | |
| | | | (3)CAPACITY | A=KVA/1 | DR | B=KW/1 | | | | | | |
| | | | (4)RIKIRITU | | | | | | | | | |
| | | | (5)VOLTAGE | KV | | | | | | | | |
| | | | (6)FREQUENCY | HZ | | | | | | | | |
| | | | (7)SPEED | RPM | | | | | | | | |
| | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | | | | |
| | | NO. | NO. | CAP. | | KV | HZ | RPM | | | | |
| FUKUSIMA-6 | BWR | 11 | TP1 | 1. | 3000A | 0.8 | 6.9 | 50 | 429 | | 8-9-(4) | 71/12 |
| TOOKAI-2 | BWR | 12 | TP1 | 1 | 3000A | 0.8 | 6.9 | 50 | 429 | | 8-9-(4) | 71/12 |
| KASHIWAZAKI | BWR | 15 | TP2 | 1 | 3560A | 0.8 | 6.9 | 50 | | | 8-9-17 | 75/3 |

| D.G.LOAD (1) | 794440 | | | | | | | | | | | |
|--------------|--------|----|-----------------|----------|--------------|-----------------|-------------------|--|--|--|---------|------|
| | | | CORE SPRAY PUMP | RHR PUMP | RHR S.W-PUMP | AUX.COOL W-PUMP | AUX.COOL S.W-PUMP | | | | | |
| ONAGAWA | BWR | 4 | 720*1 KW | 720*2 KW | 670*2 KW | | | | | | 8-9-(4) | 70/5 |
| HAMAOKA-1 | BWR | 5 | 750*1 KW | 1440 KW | | 280. KW | 290. KW | | | | 8-81 | 70/5 |
| FUKUSIMA-5 | BWR | 9 | 1170*1 KW | 2500. KW | 1800 KW | | | | | | 8-9-(4) | 71/2 |
| FUKUSIMA-4 | BWR | 10 | 1170*1 KW | 2500. KW | 1800. KW | | | | | | 8-9-(4) | 71/8 |
| HAMAOKA-2 | BWR | 13 | 1000 KW | 1900 KW | | 500. KW | 700. KW | | | | 8-71 | 72/9 |

| D.G.LOAD (2) | 794460 | | | | | | | | | | | |
|--------------|--------|----|---------------------|----------------|--------------------|--------------------|--|--|--|--|---------|------|
| | | | EMER. AUX. S.W-PUMP | CRD DRIVE PUMP | EMER.GAS DISP. FAN | POISON INJECT PUMP | | | | | | |
| ONAGAWA | BWR | 4 | 230*1 KW | 200*1 KW | 20*1 KW | 5*1 KW | | | | | 8-9-(4) | 70/5 |
| HAMAOKA-1 | BWR | 5 | | | 12 KW | | | | | | 8-81,82 | 70/5 |
| FUKUSIMA-5 | BWR | 9 | | | 10 KW | | | | | | 8-9-(4) | 71/2 |
| FUKUSIMA-4 | BWR | 10 | | | 10 KW | | | | | | 8-9-(4) | 71/8 |
| HAMAOKA-2 | BWR | 13 | | | 20 KW | | | | | | 8-71 | 72/9 |

| D.G.LOAD (3) | 794480 | | | | | | | | | | | |
|--------------|--------|----|-----------------|--|--|---------|----------|--|--|--|---------|------|
| | | | BATTERY CHARGER | | | OTHERS | TOTAL | | | | | |
| ONAGAWA | BWR | 4 | 60*1 KW | | | | | | | | 8-9-(4) | 70/5 |
| HAMAOKA-1 | BWR | 5 | | | | 528. KW | 3300. KW | | | | 8-82 | 70/5 |
| FUKUSIMA-5 | BWR | 9 | | | | 374. KW | 5854. KW | | | | 8-9-(4) | 71/2 |
| FUKUSIMA-4 | BWR | 10 | | | | 374. KW | 5854. KW | | | | 8-9-(4) | 71/8 |

VITAL AC SOURCE FOR INSTRUMENTATION 794620

PROPERTY OF DC-MOTOR/AC-GENERATOR/AC-MOTOR FOR VITAL AC SOURCE

(1)TYPE DM1=DC MOTOR
DM2=YOKO-DKI DC-MOTOR
AG1=TANSOO DOOKI GENERATOR
AM1=3-SOO DOOKI MOTOR
TP1=SEISHI-GATA MUTEIDEN SOOCHI

(2)NUMBER

(3)CAPACITY DC-MOTOR(KW)/AC-GENERATOR(KVA)/AC-MOTOR(KW)

(4)SPEED

(5)OUTPUT VOLTAGE OF AC-GENERATOR VOLT +- PERCENT

(6)FREQUENCY OF AC-GENERATOR HZ +- PERCENT

....(1).... (2) (3) (4) ... (5).... ..(6)...

TYPE NO. CAPACITY KW/ KVA/KW RPM VOLT +-PC HZ+-PC

| | | | | | | | | | | | | | |
|-------------|-----|----|-------------|-------|------------|-----|------|---------|---|----|---|---------|-------|
| DNAGAWA | BWR | 4 | DM1/AG1/AM1 | 1/1/1 | 52/45 | /52 | 1500 | 120/240 | 2 | 50 | 1 | 8-9-(5) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | DM2/AG1/AM1 | 1/1/1 | 33/30 | /33 | 1800 | 120/240 | | 60 | | 8-82 | 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | DM1/AG1/AM1 | 1/1/1 | 30/27.5/33 | | 1500 | 120/240 | 2 | 50 | 1 | 8-9-(4) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | DM1/AG1/AM1 | 1/1/1 | 30/27.5/30 | | 1500 | 120/240 | 2 | 50 | 1 | 8-9-(4) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | DM1/AG1/AM1 | 1/1/1 | 30/27.5/30 | | 1500 | 120/240 | 2 | 50 | 1 | 8-9-(4) | 71/12 |
| TOKAI-2 | BWR | 12 | DM1/AG1/AM1 | 1/1/1 | 30/27.5/30 | | 1500 | 120/240 | 2 | 50 | 1 | 8-9-(4) | 71/12 |
| HAMAOKA-2 | BWR | 13 | DM2/AG1/AM1 | 1/1/1 | 60/50 | /60 | 1800 | 120/240 | | 60 | | 8-71 | 72/ 9 |
| KASHIWAZAKI | BWR | 15 | TP1 | | | | 50. | 120/240 | | | | 8-9-20 | 75/ 3 |

PWR EMERGENCY AC POWER SUPPLY 794650

PROPERTY OF DC-AC INVERTER

(1)TYPE TP1=SEISI-GATA INVERTER

(2)NUMBER

(3)CAPACITY KVA/1

(4)INPUT DC VOLTAGE VOLT+-PERCENT

(5)OUTPUT AC VOLTAGE VOLT+-PERCENT

(6)PHASE OF OUTPUT SP=SINGLE PHASE

(1) (2) (3) (4) (5) (6)

NO. CAP. DC(IN) AC(OUT)

KVA/1 VOLT+-PC VOLT+-PC

| | | | | | | | | | | | | | |
|------------|-----|----|-----|---|-----|--|----------|---------|--|----|--|--------|-------|
| MIHAMA-1 | PWR | 21 | TP1 | 2 | 7.5 | | 125 +-10 | 120 +-2 | | SP | | 8-101 | 66/11 |
| TAKAHAMA-2 | PWR | 23 | TP1 | 4 | 10 | | 125 +-10 | 115 +-5 | | SP | | 8-97 | 70/ 5 |
| GENKAI-1 | PWR | 24 | TP1 | 4 | 10 | | 125 +-10 | 115 +-5 | | SP | | 8-108 | 70/ 5 |
| OUI-1,2 | PWR | 26 | TP1 | 4 | 10 | | 125 +-10 | 115 +-5 | | SP | | 8-100 | 71/ 1 |
| MIHAMA-3 | PWR | 27 | TP1 | 4 | 10 | | 125 +-10 | 115 +-5 | | SP | | 8-97 | 71/ 8 |
| IKATA-1 | PWR | 28 | TP1 | 4 | 10 | | 125 +-10 | 115 +-5 | | SP | | 8-108 | 72/11 |
| IKATA-2 | PWR | 30 | TP1 | 4 | 10 | | | 115 | | | | 8-8-21 | 75/ 5 |
| SENDAI | PWR | 31 | TP1 | 4 | 7.5 | | | 115 | | | | 8-8-23 | 76/ 5 |

POWER SUPPLY FOR PROTECTION SYSTEM 794720

PROPERTY OF AC-MOTOR/AC-GENERATOR FOR HOGOKEI AC-SOURCE

(1)TYPE AM1=3-PHASE SYNCHRONOUS MOTOR

AG1=TANSOO DOOKI GENERATOR

(2)NUMBER

(3)CAPACITY AC-MOTOR(KW) / AC-GENERATOR(KVA)

(4)VOLTAGE AC-MOTOR INPUT VOLT(V)/AC-GENERATOR OUTPUT VOLT(V)

(5)FREQUENCY OF AC-GENERATOR HZ

(1) (2) (3) (4) (5)

TYPE NO. CAPACITY KW / KVA V / V HZ

| | | | | | | | | | | | | | |
|-------------|-----|----|---------|-----|-----------|-------|---------|----|--|--|--|---------|-------|
| DNAGAWA | BWR | 4 | AM1/AG1 | 2/2 | 15 | /12.5 | 460/120 | 50 | | | | 8-9-(5) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | AM1/AG1 | 2/2 | 18 | /15.0 | 440/120 | 60 | | | | 8-83 | 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | AM1/AG1 | /2 | | /12.5 | /120 | 50 | | | | 8-9-(5) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | AM1/AG1 | 2/2 | 18.7/12.5 | | 440/120 | 50 | | | | 8-9-(5) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | AM2/AG1 | 2/2 | 18.7/12.5 | | 440/120 | 60 | | | | 8-9-(5) | 71/12 |
| TOKAI-2 | BWR | 12 | AM2/AG1 | 2/2 | 18.7/12.5 | | 440/120 | 60 | | | | 8-9-(5) | 71/12 |
| HAMAOKA-2 | BWR | 13 | AM1/AG1 | 2/2 | 22 | /18.0 | 440/120 | 60 | | | | 8-72 | 72/ 9 |
| KASHIWAZAKI | BWR | 15 | AM2/AG1 | 2/2 | 30. | /18. | 440/120 | | | | | 8-9-20 | 75/ 3 |

AC POWER SUPPLY FOR INST. AND CONTROL 794750

TRANSFORMER

CAPACITY NUMBER VOLT

| | | | | | | | | | | | | | |
|-----------|-----|----|--------|-------|---------------|--|--|--|--|--|--|---------|-------|
| DNAGAWA | BWR | 4 | 45.KVA | NO.=2 | 460/120-240 V | | | | | | | 8-9-(5) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 45.KVA | NO.=2 | 460/120 V | | | | | | | 8-83 | 70/ 5 |
| HAMAOKA-2 | BWR | 13 | 75.KVA | NO.=2 | 460/120 V | | | | | | | 8-72 | 72/ 9 |

POWER SUPPLY FOR CONTROL CLUSTER DRIVE 794780

ELECTRIC SOURCE FOR CONTROL-CLUSTER-DRIVE

(1)SOURCE S1=MOTOR-GENERATOR-RECTIFIER SET

S2=MOTOR-GENERATOR

(2)NUMBER

(3)TYPE OF DRIVE MOTOR DM1=INDUCTION MOTOR

(4)CAPACITY DRIVE MOTOR(KW/1) / GENERATOR(KW/1)

(5)VOLTAGE INPUT VOLT FOR DRIVE MOTOR(V) / OUTPUT VOLT OF AC.G(V)

(6)PHASE OF DRIVE MOTOR

(1) (2) (3) (4) (5) (6)

NO. CAPACITY KW / KW VOLTAGE AC.V/AC.V PHASE

| | | | | | | | | | | | | | |
|------------|-----|----|----|---|-----|-------------|---------|------|--|--|--|-------|-------|
| MIHAMA-1 | PWR | 21 | S1 | 2 | DM1 | 125HP/ 85HP | 440/125 | 3-P/ | | | | 8-102 | 66/11 |
| TAKAHAMA-2 | PWR | 23 | S1 | 2 | DM1 | 150 / 100 | 440/125 | 3-P/ | | | | 8-97 | 70/ 5 |
| OUI-1,2 | PWR | 26 | S2 | 2 | DM1 | 150 / 100 | 440/260 | 3-P/ | | | | 8-100 | 71/ 1 |
| MIHAMA-3 | PWR | 27 | S2 | 2 | DM1 | 150 / 100 | 440/260 | 3-P/ | | | | 8-97 | 71/ 8 |

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FACILITY BATTERY TYPE NUMBER

794820

(1)TYPE TP1=SEAL
TP2=EBONITE SEAL
TP3=PLASTIC SEAL
TP4=CLAD-SIKI PLASTIC VESSEL

(2)NUMBER
(3)NUMBER OF CELL
(4)VOLTAGE VOLT
(5)CAPACITY AMPERE*H/ H/1

| | | (1) | (2) | (3) | (4) | (5) | (1) | (2) | (3) | (4) | (5) | | | | |
|--------------|-----|-----|------|-----|-----|-----|-----------|--------|-----|-----|-----|---------|-------|------------|-------|
| | | NO. | | V | AH | | NO. | V | AH | | | | | | |
| DNAGAWA | BWR | 4 | TP2 | 2 | 60 | 125 | 2200/10 | *2 | | | | 8-9-(5) | 70/ 5 | | |
| HAMAOKA-1 | BWR | 5 | TP1 | 2 | 60 | 125 | 2000/10 | *2 | | | | 8-83 | 70/ 5 | | |
| FUKUSIMA-2,3 | BWR | 7 | (TP3 | 2 | 60 | 125 | 700 *2 |)+(TP3 | 1 | 120 | 250 | 1000 |) | 82-2-3 P19 | 70/ 8 |
| FUKUSIMA-5 | BWR | 9 | (TP3 | 2 | 60 | 125 | 800+1200 |)+(TP3 | 1 | 120 | 250 | 2000 |) | 8-9-(5) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | (TP3 | 2 | 60 | 125 | 800+1200 |)+(TP3 | 1 | 120 | 250 | 2000 |) | 8-9-(5) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | TP3 | 2 | 60 | 125 | 1000 | *2 | | | | 8-9-(5) | 71/12 | | |
| TODKAI-2 | BWR | 12 | TP3 | 2 | 60 | 125 | 1000 | *2 | | | | 8-9-5 | 71/12 | | |
| HAMAOKA-2 | BWR | 13 | (TP1 | 2 | 60 | 125 | 1000 *2 |)+(TP1 | 2 | 120 | 250 | 1000*2 |) | 8-72 | 72/ 9 |
| KASHIWAZAKI | BWR | 15 | (TP2 | 2 | 60 | 125 | 1200+3000 |)+(TP3 | 1 | 120 | 250 | 2200 |) | 8-9-18 | 75/ 3 |
| MIHAMA-1 | PWR | 21 | | 2 | | 125 | 800/10 | *2 | | | | 8-101 | 66/11 | | |
| TAKAHAMA-2 | PWR | 23 | | 2 | | 125 | 1600/10 | *2 | | | | 8-97 | 70/ 5 | | |
| GENKAI-1 | PWR | 24 | | 2 | | 125 | 1600/10 | *2 | | | | 8-108 | 70/ 5 | | |
| DOI-1,2 | PWR | 26 | | 2 | | 125 | 2200/10 | *2 | | | | 8-100 | 71/ 1 | | |
| MIHAMA-3 | PWR | 27 | | 2 | | 125 | 2000/10 | *2 | | | | 8-97 | 71/ 8 | | |
| IKATA-1 | PWR | 28 | | 2 | | 125 | 1600/10 | *2 | | | | 8-108 | 72/11 | | |
| IKATA-2 | PWR | 30 | TP4 | 2 | | 129 | 1600/10 | *2 | | | | 8-8-20 | 75/ 5 | | |

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BATTERY CHARGER TYPE NUMBER CAPACITY

794840

(1)TYPE TP1=STATIC
TP2=SILICON RECTIFIER
(2)NUMBER ()=YORI
(3)CAPACITY KW/1 OR KVA OR AMPERE
(4)CHARGE HOUSIKI NF=NDRMALLY FLDATING

| | | (1) | (2) | (3) | (4) | (1) | (2) | (3) | (4) | | | | |
|--------------|-----|-----|------|-------|----------|-----|--------|-------|------|---------|-------|------------|-------|
| | | NO. | | Kw | | NO. | | Kw | | | | | |
| DNAGAWA | BWR | 4 | TP1 | 3 | 40*3 | NF | | | | 8-9-(5) | 70/ 5 | | |
| HAMAOKA-1 | BWR | 5 | TP2 | 3 | 35*3 | NF | | | | 8-83 | 70/ 5 | | |
| FUKUSIMA-2,3 | BWR | 7 | (TP1 | 2+(1) | 10*3 | NF |)+(TP1 | 1+(1) | 20*2 | NF |) | 82-2-3 P19 | 70/ 8 |
| FUKUSIMA-5 | BWR | 9 | (TP1 | 3 | 24*3 | NF |)+(TP1 | 2 | 60*2 | NF |) | 8-9-(5) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | (TP1 | 3 | 24*3 | NF |)+(TP1 | 2 | 60*2 | NF |) | 8-9-(5) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | TP2 | 3 | 24 | NF | | | | 8-9-(5) | 71/12 | | |
| TODKAI-2 | BWR | 12 | TP2 | 3 | 24 | NF | | | | 8-9-(5) | 71/12 | | |
| HAMAOKA-2 | BWR | 13 | (TP2 | 3 | 20*3 | NF |)+(TP2 | 3 | 25*3 | NF |) | 8-72 | 72/ 9 |
| KASHIWAZAKI | BWR | 15 | (TP1 | 2+(1) | 21+56 | NF |)+(TP1 | 1+(1) | 72 | NF |) | 8-9-18 | 75/ 3 |
| MIHAMA-1 | PWR | 21 | TP2 | 2 | 10KVA*2 | NF | | | | 8-101 | 66/11 | | |
| TAKAHAMA-2 | PWR | 23 | TP2 | 2 | 80KVA*2 | NF | | | | 8-97 | 70/ 5 | | |
| GENKAI-1 | PWR | 24 | TP2 | 2 | 50KVA*2 | NF | | | | 8-108 | 70/ 5 | | |
| DOI-1,2 | PWR | 26 | TP2 | 2 | 60DAMP*2 | NF | | | | 8-100 | 71/ 1 | | |
| MIHAMA-3 | PWR | 27 | TP2 | 2 | 60DAMP*2 | NF | | | | 8-97 | 71/ 8 | | |
| IKATA-1 | PWR | 28 | TP2 | 2 | 50KVA*2 | NF | | | | 8-108 | 72/11 | | |

BATTERY AND CHARGER FOR HPCS

794850

BATTERY
(1)TYPE TP1=PLASTIC SHIELD TYPE
(2)NUMBER
(3)NUMBER OF CELL
(4)VOLTAGE V
(5)CAPACITY AH
CHARGER
(1)TYPE TP1=STATIC
(2)NUMBER
(3)CAPACITY KW
(4)CHARGE HOUSIKI NF=NDRMALLY FLDATING
(1)(2) (3) (4) (5) (1) (2) (3) (4)
CELL V AH NO. KW

| | | | | | | | | | | | | | |
|-------------|-----|----|-----|---|-----|------|-----|-----|-------|-----|----|-----------|-------|
| KASHIWAZAKI | BWR | 15 | TP1 | 1 | 60. | 125. | 900 | TP1 | 1+(1) | 12. | NF | 8-9-18,19 | 75/ 3 |
|-------------|-----|----|-----|---|-----|------|-----|-----|-------|-----|----|-----------|-------|

| BATTERY AND CHARGER | FOR N.UNIT. | 794860 | | | | | | | | |
|---------------------|-------------|--------|-------------------------|----------|----------|---------|---------|------------|-------|--|
| BATTERY | | | TP1=PLASTIC SHIELD TYPE | | | | | | | |
| (B1)TYPE | | | | | | | | | | |
| (B2)NUMBER | | | | | | | | | | |
| (B3)NUMBER OF CELL | | | | | | | | | | |
| (B4)VOLTAGE | | | V | | | | | | | |
| (B5)CAPACITY | | | AH | | | | | | | |
| CHARGER | | | CH1=STATIC | | | | | | | |
| (C1)TYPE | | | | | | | | | | |
| (C2)NUMBER | | | | | | | | | | |
| (C3)CAPACITY | | | KW | | | | | | | |
| (C4)CHARGE HOOSIKI | | | NF=NORMALLY FLOATING | | | | | | | |
| (B1)(B2) TYP. NO. | (B3) CELL | (B4) V | (B5) AH | (C1) NO. | (C2) NO. | (C3) KW | (C4) NF | | | |
| DNAGAWA | BWR 4 | 2 | +24 | | 2 | | | 8-9-(6) | 70/ 5 | |
| HAMAOKA-1 | BWR 5 | 2 | +24 | CH1 | 4 | | | 8-84 | 70/ 5 | |
| FUKUSIMA-2,3 | BWR 7 | 2 | 4A | | 2 | | | 82-2-3 P20 | 70/ 8 | |
| FUKUSIMA-5 | BWR 9 | 2 | +24 | | 2 | | | 8-9-(5) | 71/ 2 | |
| FUKUSIMA-4 | BWR 10 | 2 | +24 | | 2 | | | 8-9-(5) | 71/ 8 | |
| FUKUSIMA-6 | BWR 11 | 2 | +24 | | 2 | | | 8-9-(6) | 71/12 | |
| TODKAI-2 | BWR 12 | 2 | +24 | | 2 | | | 8-9-(6) | 71/12 | |
| HAMAOKA-2 | BWR 13 | 2 | +24 | CH1 | 4 | | | 8-73 | 72/ 9 | |
| KASHIWA7AKI | BWR 15 | TP1 2 | 24 | 24 | 130 | CH1 2 | 0.7 NF | 8-9-19 | 75/ 3 | |

| OFF GAS PRE HEATER | NUMBER | AND TYPE | 801220 | | | | |
|--------------------|--------|----------|--------|--|--|-----------|-------|
| (1)TYPE | | | | TP1=YDKO-DKI U-TUBE ELECTRIC HEATER TP2=GAIBU KANETSU ELECTRIC HEATER TP3=STEAM HEATER | | | |
| (2)NUMBER | | | | | | | |
| (1) | (2) | | | | | | |
| JPDR-2 | BWR 2 | TP1 | 1+(1) | FOR TURBINE SYSTEM | | KON-6 P26 | 70/11 |
| JPDR-2 | BWR 2 | TP2 | 1+(1) | FOR DUMP CONDENSER SYSTEM | | KON-6 P27 | 70/11 |
| DNAGAWA | BWR 4 | TP3 | 1+(1) | | | 8-10-(1) | 70/ 5 |
| HAMAOKA-1 | BWR 5 | TP3 | 1+(1) | | | 8-86 | 70/ 5 |
| FUKUSIMA-5 | BWR 9 | TP3 | 1+(1) | | | 8-10-(1) | 71/ 2 |
| FUKUSIMA-4 | BWR 10 | TP3 | 1+(1) | | | 8-10-(1) | 71/ 8 |
| FUKUSIMA-6 | BWR 11 | TP3 | 1+(1) | | | 8-10-(1) | 71/12 |
| TODKAI-2 | BWR 12 | TP3 | 1+(1) | | | 8-10-(1) | 71/12 |
| HAMAOKA-2 | BWR 13 | TP3 | 1+(1) | | | 8-75 | 72/ 9 |
| KASHIWA7AKI | BWR 15 | TP3 | 1+(1) | 40 | | 8-10-10 | 75/ 3 |

| OFF GAS RECOMBIN ER | NUMBER | AND TYPE | 801240 | | | | |
|---------------------|--------|----------|--------|---|--|-----------|-------|
| (1)TYPE | | | | TP1=TATE-DKI-ENTOO (CATALYZER IS USED) TP2=CATALYZER IS USED | | | |
| (2)NUMBER | | | | ()=YORI | | | |
| (1) | (2) | | | | | | |
| JPDR-2 | BWR 2 | TP1 | 1+(1) | | | KON-6 P26 | 70/11 |
| JPDR-2 | BWR 2 | TP1 | 1+(1) | | | KON-6 P27 | 70/11 |
| DNAGAWA | BWR 4 | TP2 | 1+(1) | | | 8-10-(1) | 70/ 5 |
| HAMAOKA-1 | BWR 5 | TP2 | 1+(1) | | | 8-87 | 70/ 5 |
| FUKUSIMA-5 | BWR 9 | TP2 | 1+(1) | | | 8-10-(1) | 71/ 2 |
| FUKUSIMA-4 | BWR 10 | TP2 | 1+(1) | | | 8-10-(1) | 71/ 8 |
| FUKUSIMA-6 | BWR 11 | TP2 | 1+(1) | | | 8-10-(1) | 71/12 |
| TODKAI-2 | BWR 12 | TP2 | 1+(1) | | | 8-10-(1) | 71/12 |
| HAMAOKA-2 | BWR 13 | TP2 | 1+(1) | | | 8-75 | 72/ 9 |
| KASHIWA7AKI | BWR 15 | TP2 | 1+(1) | 40 | | | / |

| OFF GAS CONDO. NO. | NUMBER | AND TYPE | 801260 | | | | |
|--------------------|--------|----------|--------|--|--|-----------|-------|
| (1)TYPE | | | | TP1=YDKO-DKI-HYDMEN-REIKYAKU (D.S) TP2=YDKO-DKI-HYDMEN-REIKYAKU (DUREN-DAME)(T.S) | | | |
| (2)NUMBER | | | | ()=YORI | | | |
| (1) | (2) | | | | | | |
| JPDR-2 | BWR 2 | NO.=1 | | | | KON-6 P27 | 70/11 |
| JPDR-2 | BWR 2 | NO.=1 | | | | KON-6 P26 | 70/11 |
| DNAGAWA | BWR 4 | NO.=1 | | | | 8-10-(2) | 70/ 5 |
| HAMAOKA-1 | BWR 5 | NO.=1 | | | | 8-87 | 70/ 5 |
| FUKUSIMA-5 | BWR 9 | NO.=1 | | | | 8-10-(1) | 71/ 2 |
| FUKUSIMA-4 | BWR 10 | NO.=1 | | | | 8-10-(1) | 71/ 8 |
| FUKUSIMA-6 | BWR 11 | 1 | | | | 8-10-(1) | 71/12 |
| TODKAI-2 | BWR 12 | 1 | | | | 8-10-(1) | 71/12 |
| HAMAOKA-2 | BWR 13 | NO.=1 | | | | 8-75 | 72/ 9 |
| KASHIWA7AKI | BWR 15 | TP2 | 1+(1) | 40 | | 8-10-10 | 75/ 3 |

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| OFF GAS COMPRESSOR | NUMBER | TYPE AND PRESSURE | 801280 | | |
|--------------------|---------------------|----------------------------------|-----------------|-----|--------------------|
| | (1)TYPE | TP1=DIAPHRAGM | | | |
| | | TP2=CENTRIFUGAL | | | |
| | | TP3=KAITEN ENSIN WATER SEAL TYPE | | | |
| | (2)NUMBER | (3)YORII | | | |
| | (3)CAPACITY | M3/H | | | |
| | (4)DESIGN PRESSURE | KG/CM2G | | | |
| | (5)MATERIAL | MT1=CAST IRON | | | |
| | (1) (2) (3) (4) (5) | | | | |
| | TYPE NO. | M3/H | KG/CM2G | | |
| JPDR-2 | BWR 2 | TP1 2 | 17=(0.28M3/MIN) | | KDN-6 P26+27 70/11 |
| UNAGAWA | BWR 4 | TP1 1+(1) | 16. | | 8-10-(2) 70/ 5 |
| HAMAOKA-1 | BWR 5 | TP1 1+(1) | 16. | | 8-87 70/ 5 |
| MIHAMA-1 | PWR 21 | TP2 2 | 6.4 | | 8-107 66/11 |
| TAKAHAMA-2 | PWR 23 | TP2 2 | 7.7 | | 8-102 70/ 5 |
| GENKAI-1 | PWR 24 | TP2 2 | 8.0 | | 8-114 70/ 5 |
| DOI-1+2 | PWR 26 | TP2 2(COM1+2) | 7.0 | | 8-105 71/ 1 |
| MIHAMA-3 | PWR 27 | TP2 2 | 7.7 | | 8-102 71/ 8 |
| IKATA-1 | PWR 28 | TP3 2 | 7.7 | | 8-113 72/11 |
| IKATA-2 | PWR 30 | TP3 2 | 68NM3/H/1 7.7 | | 8-10-16 75/ 5 |
| SENDAI | PWR 31 | TP3 2 | 68NM3/H/1 7.7 | MT1 | 8-10-18 76/ 5 |

| OFF GAS CHARCOAL HOLD UP | NUMBER | TYPE | 801320 | | |
|--------------------------|-----------------------------|---------|--------|--|----------------|
| | (1)NUMBER | | | | |
| | (2)HOLD UP TIME FOR XENON | DAY | | | |
| | (3)HOLD UP TIME FOR KRYPTON | HOURL | | | |
| | (1) (2) (3) | | | | |
| | NO. DAY | H | | | |
| FUKUSIMA-5 | BWR 9 | 1 27 40 | | | 8-10-(2) 71/ 2 |
| FUKUSIMA-4 | BWR 10 | 1 27 40 | | | 8-10-(2) 71/ 8 |
| FUKUSIMA-6 | BWR 11 | 1 27 40 | | | 8-10-(1) 71/12 |
| TOOKAI-2 | BWR 12 | 1 27 40 | | | 8-10-(1) 71/12 |
| HAMAOKA-2 | BWR 13 | 1 30 40 | | | 8-75 72/ 9 |
| KASHIWAZAKI | BWR 15 | 1 27 40 | | | 8-10-3 75/ 3 |

| OFF GAS VACUUM PUMP | NUMBER | TYPE | 801340 | | |
|---------------------|-----------|---------------------|--------|--|----------------|
| | (1)NUMBER | | | | |
| | (2)TYPE | TP1=MECHANICAL PUMP | | | |
| | (1) (2) | | | | |
| | NO. TYPE | | | | |
| FUKUSIMA-5 | BWR 9 | 1+(1) TP1 | | | 8-10-(2) 71/ 2 |
| FUKUSIMA-6 | BWR 11 | 1+(1) TP1 | | | 8-10-(2) 71/12 |
| TOOKAI-2 | BWR 12 | 1 TP1 | | | 8-10-(2) 71/12 |
| KASHIWAZAKI | BWR 15 | 1+(1) TP1 | | | 8-10-11 75/ 3 |

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| OFF GAS AIR EJECTOR | NUMBER | TYPE | 801350 | | |
|---------------------|--------|---------------------------|--------|--|----------------|
| FUKUSIMA-4 | BWR 10 | NO.=1+(1 YORII) AIR DRIVE | | | 8-10-(2) 71/ 8 |
| HAMAOKA-2 | BWR 13 | NO.=1+(1 YORII) | | | 8-76 72/ 9 |

| OFF GAS DECAY TANK | NUMBER | CAPACITY | PRESSURE | 801400 | | |
|--------------------|---------------------|-------------------|----------|--------|----------------|--|
| | (1)NUMBER | | | | | |
| | (2)CAPACITY | M3/1 | | | | |
| | (3)HOLD-UP CAPACITY | DAY/AT FULL POWER | | | | |
| | (4)DESIGN PRESSURE | KG/CM2G | | | | |
| | (5)MATERIAL | MT1=CARBON STEEL | | | | |
| | (1) (2) (3) (4) (5) | | | | | |
| | NO. CAPACITY | M3/1 DAY | KG/CM2G | | | |
| UNAGAWA | BWR 4 | 2 | 16 | | 8-10-(2) 70/ 5 | |
| HAMAOKA-1 | BWR 5 | 2 | 28 | 16 | 8-87 70/ 5 | |
| FUKUSIMA-5 | BWR 9 | NONE | | | 8-10-(2) 71/ 2 | |
| FUKUSIMA-4 | BWR 10 | NONE | | | 8-10-(2) 71/ 8 | |
| FUKUSIMA-6 | BWR 11 | NONE | | | / | |
| TOOKAI-2 | BWR 12 | NONE | | | / | |
| HAMAOKA-2 | BWR 13 | NONE | | | / | |
| MIHAMA-1 | PWR 21 | 4 | 2.8 | 7. | 8-107 66/11 | |
| TAKAHAMA-2 | PWR 23 | 4 | 15 | 10.6 | 8-102 70/ 5 | |
| GENKAI-1 | PWR 24 | 4 | 14 | 10 | 8-114 70/ 5 | |
| DOI-1+2 | PWR 26 | 10(COM 1+2) | 17 | 10.5 | 8-105 71/ 1 | |
| MIHAMA-3 | PWR 27 | 4 | 17 | 10. | 8-102 71/ 8 | |
| IKATA-1 | PWR 28 | 6 | 15 | 10. | 8-113 72/11 | |
| IKATA-2 | PWR 30 | 4 | 15 | 10. | 8-10-16 75/ 5 | |
| SENDAI | PWR 31 | 4 | 17 | 10. | 8-10-18 76/ 5 | |

| OFF GAS FILTER FROM AIR EXTRACTOR | NUMBER | TYPE | 801420 | | |
|-----------------------------------|----------------------|---|--------|-------------------|-----------------|
| | (1)NUMBER | | | | |
| | (2)FILTER EFFICIENCY | GT (2)PERCENT FOR (3)MICRON-DIA(PARTICLE) | | | |
| | (1) (2) (3) | | | | |
| | NO. PC. MICRON | | | | |
| JPDR-2 | BWR 2 | 1 | | (ABSOLUTE FILTER) | KDN-6 P26 70/11 |
| UNAGAWA | BWR 4 | 1+(1) 99.9 0.3 | | | 8-10-(2) 70/ 5 |
| HAMAOKA-1 | BWR 5 | 1+(1) 99.97 0.3 | | | 8-87 70/ 5 |
| FUKUSIMA-5 | BWR 9 | 1+(1) 99.97 0.3 | | | 8-10-(2) 71/ 2 |
| FUKUSIMA-6 | BWR 11 | 1+(1) 99.97 0.3 | | | 8-10-(2) 71/12 |
| TOOKAI-2 | BWR 12 | 1+(1) 99.97 0.3 | | | 8-10-(2) 71/12 |
| HAMAOKA-2 | BWR 13 | 1+(1) 99.97 0.3 | | | 8-76 72/ 9 |
| KASHIWAZAKI | BWR 15 | 1+(1) 99.97 0.3 | 40 | | 8-10-10 75/ 3 |

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| OFF GAS FILTER FROM GRAND STEAM | 801430 | | | | |
|---|---------------------------------|------------|-------|--|--|
| DNAGAWA BWR 4 NO.=1 | EFF.=GT 99.9 PC(0.3 MICRON DIA) | 8-10-(2) | 70/ 5 | | |
| DEAERATOR OFF GAS ISOLATE VALVE NUMBER | 801440 | | | | |
| DNAGAWA BWR 4 NO.=1 | | 8-10-(2) | 70/ 5 | | |
| HAMAOKA-1 BWR 5 NO.=1 | | 8-87 | 70/ 5 | | |
| STACK HEIGHT | 801460 | | | | |
| TOTAL HEIGHT(M)=(GROUND LEVEL) + (STACK LENGTH) | | | | | |
| JPDR-2 BWR 2 = | 55. M | KDN.6 | 70/11 | | |
| DNAGAWA BWR 4 175. M = | 50. M + 125. M | 8-10-(2) | 70/ 5 | | |
| HAMAOKA-1 BWR 5 196. M = | 6. M + 190. M | 8-87 | 70/ 5 | | |
| FUKUSIMA-5 BWR 9 133. M = | 13. M + 120. M | 8-10-(2) | 71/ 2 | | |
| FUKUSIMA-4 BWR 10 130. M = | 10. M + 120. M | 8-10-(2) | 71/ 8 | | |
| FUKUSIMA-6 BWR 11 133 = | 13 + 120 | 8-10-(2) | 71/12 | | |
| TODOKAI-2 BWR 12 148 = | 8 + 140 | 8-10-(2) | 71/12 | | |
| HAMAOKA-2 BWR 13 106 = | 6 + 100 (COMMON WITH 1-GDU) | 8-76 | 72/ 9 | | |
| KASHIWA7AKI BWR 15 160. M = | 10. M + 150. M | 8-10-11 | 75/ 3 | | |
| MIHAMA-1 PWR 21 = | + 55. M | BK80-2 P22 | 71/ 8 | | |
| MIHAMA-2 PWR 22 = | + 55. M | BK80-2 P22 | 71/ 8 | | |
| TAKAHAMA-2 PWR 23 89. M = | 85. M | 9-11 | 70/ 5 | | |
| GENKAI-1 PWR 24 54. M = | + 25. M | 6-7 | 70/11 | | |
| TAKAHAMA-1 PWR 25 = | + 85. M | BK80-2 P22 | 71/ 8 | | |
| DUI-1-2 PWR 26 65. M = | | 9-12 | 71/ 1 | | |
| MIHAMA-3 PWR 27 89. M = | + 85. M | BK80-2 P22 | 71/ 8 | | |

| OFF GAS DECAY TUBE SIZE AND HOLD UP TIME | 801480 | | | | |
|--|--------|-------------|---|----|------------------|
| (1) TUBE DIAMETER | CM | | | | |
| (2) TUBE LENGTH | M | | | | |
| (3) HOLD-UP TIME (FROM AIR EXTRACTOR) | | TM1=MINUTES | | | |
| (4) HOLD-UP TIME (FROM GRAND STEAM) | | TM2=MINUTES | | | |
| (5) HOLD-UP TIME | | TM3=MINUTES | | | |
| (1) (2) (3) (4) (5) | | | | | |
| CM M MIN. MIN. MIN. | | | | | |
| DNAGAWA BWR 4 43 250 | | | 2 | | 8-10-(1,2) 70/ 5 |
| HAMAOKA-1 BWR 5 75 100 | | | 2 | | 8-86 70/ 5 |
| FUKUSIMA-5 BWR 9 | | 30 | 2 | | 8-10-(2) 71/ 2 |
| FUKUSIMA-4 BWR 10 | | 30 | 2 | | 8-10-(1,2) 71/ 8 |
| FUKUSIMA-6 BWR 11 | | | | 30 | 8-10-(1) 71/12 |
| TODOKAI-2 BWR 12 | | | | 30 | 8-10-(1) 71/12 |
| HAMAOKA-2 BWR 13 | | | | 30 | 8-75 72/ 9 |
| KASHIWA7AKI BWR 15 | | | | 30 | 8-10-10 75/ 3 |

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| LWDS TANK LIST PWR | 802100 | | | | |
|--|--------|--|--|-----|-------------|
| (1) BORDON NOSHUKU EKI CHORYU TANK | | | | | 80211 |
| (2) HAIKAI CHORYU TANK | | | | | 80212 |
| (3) HAIKAI HOLDUP TANK | | | | | 80213 |
| (4) HAIKAI JYUHATU SODTI FUKUSUI TANK | | | | | 80214 |
| (5) HAIKAI SUMP TANK | | | | | 80215 |
| (6) HOJYO TATEYA SUMP TANK | | | | | 80216 |
| (7) HOLDUP TANK | | | | | 80217 |
| (8) JUSHI SAISEI HAIKAI CHORYU TANK | | | | | 80218 |
| (9) KAGAKU HAIKAI TANK | | | | | 80219 |
| (10) KANSHI TANK | | | | | 80220 |
| (11) MONITOR TANK | | | | | 80221 |
| (12) SENTAKU HATSUI TANK | | | | | 80222 |
| (13) SHONIEKI CHOZOD TANK | | | | | 80223 |
| (14) YAKUEKI DRAIN TANK | | | | | 80224 |
| (15) YUKA DRAIN TANK | | | | | 80225 |
| (16) 1 JI REIKIYAKU ZAI CHOZOD TANK | | | | | 80226 |
| (17) 1 JI REIKIYAKU ZAI DRAIN TANK | | | | | 80227 |
| 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 | | | | | |
| MIHAMA-1 PWR 21 1 3 1 1 1 2 | | | | 1 | 8-108 66/11 |
| TAKAHAMA-2 PWR 23 1 1 3 | | | | | 8-103 70/ 5 |
| GENKAI-1 PWR 24 2 1 3 2 2 2 1 1 3 1 | | | | | 8-116 70/11 |
| DUI-1-2 PWR 26 1 2 | | | | 1 1 | 8-106 71/ 1 |
| MIHAMA-3 PWR 27 2 3 | | | | | 8-103 71/ 7 |
| IKATA-1 PWR 28 2 | | | | 3 | 8-114 72/ 5 |

| LWDS CONDENSE D BORDON STORAGE TANK | 802110 | | | | |
|-------------------------------------|---------------------|--|--|--|-------------|
| (1) NUMBER | | | | | |
| (2) CAPACITY | M3/1 | | | | |
| (3) MATERIAL | MT1=STAINLESS STEEL | | | | |
| (1) (2) (3) (4) (5) | | | | | |
| MIHAMA-1 PWR 21 1 2.7 MT1 | | | | | 8-109 66/11 |

| LWDS LIQUID WASTE STORAGE TANK | 802120 | | | | |
|--------------------------------|---------------------|--|--|--|-------------|
| (1) NUMBER | | | | | |
| (2) CAPACITY | M3/1 | | | | |
| (3) MATERIAL | MT1=STAINLESS STEEL | | | | |
| (1) (2) (3) (4) (5) | | | | | |
| MIHAMA-1 PWR 21 3 99 MT1 | | | | | 8-109 66/11 |
| IKATA-1 PWR 26 2 30+70 MT1 | | | | | 8-115 72/11 |
| GENKAI-1 PWR 24 1 93 MT1 | | | | | 8-115 70/ 5 |

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| LWDS | LIQUID WASTE | HOLD UP TANK | 802130 | | | | | | |
|------------|----------------|----------------------------|---------------------|---------------------|-----|----------------------|-------|-------|--|
| | | | (1)NUMBER | | | | | | |
| | | | (2)CAPACITY | M3/1 | | | | | |
| | | | (3)MATERIAL | MT1=STAINLESS STEEL | | | | | |
| | | | (1) (2) (3) (4) (5) | | | | | | |
| TAKAHAMA-2 | PWR | 23 | 1 | 92 | | | 8-103 | 70/ 5 | |
| OUI-1+2 | PWR | 26 | 1 | 38 | | (COMMON WITH 1+2GDD) | 8-106 | 71/ 1 | |
| MIHAMA-3 | PWR | 27 | 2 | 94 | | | 8-103 | 71/ 7 | |
| LWDS | LIQUID WASTE | EVAPOLAT OR CONDE NSE TANK | 802140 | | | | | | |
| | | | (1)NUMBER | | | | | | |
| | | | (2)CAPACITY | M3/1 | | | | | |
| | | | (3)MATERIAL | MT1=STAINLESS STEEL | | | | | |
| | | | (1) (2) (3) (4) (5) | | | | | | |
| GENKAI-1 | PWR | 24 | 2 | 3.78 | MT1 | | 8-117 | 70/ 5 | |
| LWDS | LIQUID WASTE | SUMP TANK | 802150 | | | | | | |
| | | | (1)NUMBER | | | | | | |
| | | | (2)CAPACITY | M3/1 | | | | | |
| | | | (3)MATERIAL | MT1=STAINLESS STEEL | | | | | |
| | | | (1) (2) (3) (4) (5) | | | | | | |
| MIHAMA-1 | PWR | 21 | 1 | 1.4 | MT1 | | 8-108 | 66/11 | |
| LWDS | AUX. BUT LOING | SUMP TANK | 802160 | | | | | | |
| | | | (1)NUMBER | | | | | | |
| | | | (2)CAPACITY | M3/1 | | | | | |
| | | | (3)MATERIAL | MT1=STAINLESS STEEL | | | | | |
| | | | (1) (2) (3) (4) (5) | | | | | | |
| GENKAI-1 | PWR | 24 | 1 | 3.5 | MT1 | | 8-116 | 70/ 5 | |
| LWDS | HBLDUP | TANK | 802170 | | | | | | |
| | | | (1)NUMBER | | | | | | |
| | | | (2)CAPACITY | M3/1 | | | | | |
| | | | (3)MATERIAL | MT1=STAINLESS STEEL | | | | | |
| | | | (1) (2) (3) (4) (5) | | | | | | |
| TAKAHAMA-2 | PWR | 23 | 3 | 190 | | | 8-103 | 70/ 5 | |
| OUI-1+2 | PWR | 26 | 2 | 425 | | (COMMON WITH 1+2GDD) | 8-106 | 71/ 1 | |
| MIHAMA-3 | PWR | 27 | 3 | 190 | | | 8-103 | 71/ 7 | |

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| LWDS | RESIN RECLAIM LIQUID WASTE | HOLDUP | 802180 | | | | | | |
|----------|----------------------------|------------|------------------------------|--------------------------|-----|----------------------|---------|-------|--|
| | | | (1)NUMBER | | | | | | |
| | | | (2)CAPACITY | M3/1 | | | | | |
| | | | (3)MATERIAL | MT1=CARBON STEEL | | | | | |
| | | | (4)LINING | LG1=MOGO UCHIBARI TSUKI | | | | | |
| | | | (1) (2) (3) (4) (5) | | | | | | |
| MIHAMA-1 | PWR | 21 | 1 | 37 | MT1 | LG1 | 8-108 | 66/11 | |
| LWDS | CHEMICAL S | DRAIN TANK | 802190 | | | | | | |
| | | | (1)NUMBER | | | | | | |
| | | | (2)CAPACITY | M3/1 | | | | | |
| | | | (3)MATERIAL | MT1=STAINLESS STEEL | | | | | |
| | | | (1) (2) (3) (4) (5) | | | | | | |
| MIHAMA-1 | PWR | 21 | 1 | 1.4 | MT1 | | 8-108 | 66/11 | |
| LWDS | WATCH TANK | | 802200 | | | | | | |
| | | | (1)NUMBER | | | | | | |
| | | | (2)CAPACITY | M3/1 | | | | | |
| | | | (3)MATERIAL | MT1=CARBON STEEL | | | | | |
| | | | (4)LINING | LG1=INNER SURFACE LINING | | | | | |
| | | | (1) (2) (3) (4) (5) | | | | | | |
| GENKAI-1 | PWR | 24 | 2 | 28.3 | MT1 | LG1 | 8-116 | 70/ 5 | |
| LWDS | MUNITOR | TANK | 802210 | | | | | | |
| | | | (1)NUMBER | | | | | | |
| | | | (2)CAPACITY | M3/1 | | | | | |
| | | | (3)MATERIAL | MT1=CARBON STEEL | | | | | |
| | | | (4)LINING | MT2=STAINLESS STEEL | | | | | |
| | | | (5) LG1=INNER SURFACE LINING | | | | | | |
| | | | (1) (2) (3) (4) (5) | | | | | | |
| MIHAMA-1 | PWR | 21 | 2 | 14 | MT1 | LG1 | 8-109 | 66/11 | |
| IKATA-2 | PWR | 30 | 2 | 40 | MT2 | | 8-10-17 | 75/ 5 | |
| SENDAI | PWR | 31 | 2 | 41 | MT2 | | 8-10-20 | 76/ 5 | |
| LWDS | WASHING WATER | TANK | 802220 | | | | | | |
| | | | (1)NUMBER | | | | | | |
| | | | (2)CAPACITY | M3/1 | | | | | |
| | | | (3)MATERIAL | MT1=STAINLESS STEEL | | | | | |
| | | | (1) (2) (3) (4) (5) | | | | | | |
| GENKAI-1 | PWR | 24 | 2 | 2.3 | MT1 | | 8-116 | 70/ 5 | |
| OUI-1+2 | PWR | 26 | 1 | 38 | | (COMMON WITH 1+2GDD) | 8-106 | 71/ 1 | |

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| LWDS | LIQUID WASTE | HOLD UP TANK | 802130 | | | | | | |
|------|----------------|----------------------------|-----------|-------------|-----|-----|-----|----------------------|-------|
| | | | (1)NUMBER | (2)CAPACITY | (3) | (4) | (5) | | |
| | | | (1) | (2) | (3) | (4) | (5) | | |
| | TAKAHAMA-2 | PWR 24 | 1 | 92 | | | | 8-103 | 70/ 5 |
| | OUI-1+2 | PWR 26 | 1 | 38 | | | | 8-106 | 71/ 1 |
| | MIHAMA-3 | PWR 27 | 2 | 94 | | | | 8-103 | 71/ 7 |
| | | | | | | | | (COMMON WITH 1+2600) | |
| LWDS | LIQUID WASTE | EVAPOLAT OR CONDE NSE TANK | 802140 | | | | | | |
| | | | (1)NUMBER | (2)CAPACITY | (3) | (4) | (5) | | |
| | | | (1) | (2) | (3) | (4) | (5) | | |
| | GENKAI-1 | PWR 24 | 2 | 3.78 | MT1 | | | 8-117 | 70/ 5 |
| LWDS | LIQUID WASTE | SUMP TANK | 802150 | | | | | | |
| | | | (1)NUMBER | (2)CAPACITY | (3) | (4) | (5) | | |
| | | | (1) | (2) | (3) | (4) | (5) | | |
| | MIHAMA-1 | PWR 21 | 1 | 1.4 | MT1 | | | 8-108 | 66/11 |
| LWDS | AUX. BUJ LOING | SUMP TANK | 802160 | | | | | | |
| | | | (1)NUMBER | (2)CAPACITY | (3) | (4) | (5) | | |
| | | | (1) | (2) | (3) | (4) | (5) | | |
| | GENKAI-1 | PWR 24 | 1 | 3.5 | MT1 | | | 8-116 | 70/ 5 |
| LWDS | HOLDUP | TANK | 802170 | | | | | | |
| | | | (1)NUMBER | (2)CAPACITY | (3) | (4) | (5) | | |
| | | | (1) | (2) | (3) | (4) | (5) | | |
| | TAKAHAMA-2 | PWR 23 | 3 | 190 | | | | 8-103 | 70/ 5 |
| | OUI-1+2 | PWR 26 | 2 | 425 | | | | 8-106 | 71/ 1 |
| | MIHAMA-3 | PWR 27 | 3 | 190 | | | | 8-103 | 71/ 7 |
| | | | | | | | | (COMMON WITH 1+2600) | |

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| LWDS | RESIN RECLAIM LIQUID WASTE | HOLDUP | 802180 | | | | | | |
|------|----------------------------|------------|-----------|-------------|-----|-----|-----|----------------------|-------|
| | | | (1)NUMBER | (2)CAPACITY | (3) | (4) | (5) | | |
| | | | (1) | (2) | (3) | (4) | (5) | | |
| | MIHAMA-1 | PWR 21 | 1 | 37 | MT1 | LG1 | | 8-108 | 66/11 |
| LWDS | CHEMICAL S | DRAIN TANK | 802190 | | | | | | |
| | | | (1)NUMBER | (2)CAPACITY | (3) | (4) | (5) | | |
| | | | (1) | (2) | (3) | (4) | (5) | | |
| | MIHAMA-1 | PWR 21 | 1 | 1.4 | MT1 | | | 8-108 | 66/11 |
| LWDS | WATCH TANK | TANK | 802200 | | | | | | |
| | | | (1)NUMBER | (2)CAPACITY | (3) | (4) | (5) | | |
| | | | (1) | (2) | (3) | (4) | (5) | | |
| | GENKAI-1 | PWR 24 | 2 | 28.3 | MT1 | LG1 | | 8-116 | 70/ 5 |
| LWDS | MUNITOR | TANK | 802210 | | | | | | |
| | | | (1)NUMBER | (2)CAPACITY | (3) | (4) | (5) | | |
| | | | (1) | (2) | (3) | (4) | (5) | | |
| | MIHAMA-1 | PWR 21 | 2 | 14 | MT1 | LG1 | | 8-109 | 66/11 |
| | IKATA-2 | PWR 30 | 2 | 40 | MT2 | | | 8-10-17 | 75/ 5 |
| | SENDAI | PWR 31 | 2 | 41 | MT2 | | | 8-10-20 | 76/ 5 |
| LWDS | WASHING WATER | TANK | 802220 | | | | | | |
| | | | (1)NUMBER | (2)CAPACITY | (3) | (4) | (5) | | |
| | | | (1) | (2) | (3) | (4) | (5) | | |
| | GENKAI-1 | PWR 24 | 2 | 2.3 | MT1 | | | 8-116 | 70/ 5 |
| | OUI-1+2 | PWR 26 | 1 | 38 | | | | 8-106 | 71/ 1 |
| | | | | | | | | (COMMON WITH 1+2600) | |

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|------------------------|-------------------------|--------|--------|-------------|---------------------|-----|-----|-----|----------------------|---------------|-----------------|
| LWDS | PROCESS WATER | HOLDUP | TANK | 802230 | | | | | | | |
| | | | | (1)NUMBER | | | | | | | |
| | | | | (2)CAPACITY | M3/1 | | | | | | |
| | | | | (3)MATERIAL | MT1=STAINLESS STEEL | | | | | | |
| | | | | (1) | (2) | (3) | (4) | (5) | | | |
| | GENKAI-1 | PWR 24 | 1 3.4 | MT1 | | | | | 8-116 | 70/ 5 | |
| LWDS | CHEMICAL FLUID | DRAIN | TANK | 802240 | | | | | | | |
| | | | | (1)NUMBER | | | | | | | |
| | | | | (2)CAPACITY | M3/1 | | | | | | |
| | | | | (3)MATERIAL | MT1=STAINLESS STEEL | | | | | | |
| | | | | (1) | (2) | (3) | (4) | (5) | | | |
| | GENKAI-1 | PWR 24 | 1 1.4 | MT1 | | | | | 8-115 | 70/ 5 | |
| LWDS | FLOOR DRAIN | TANK | 802250 | | | | | | | | |
| | | | | (1)NUMBER | | | | | | | |
| | | | | (2)CAPACITY | M3/1 | | | | | | |
| | | | | (3)MATERIAL | MT1=STAINLESS STEEL | | | | | | |
| | | | | (1) | (2) | (3) | (4) | (5) | | | |
| | 001-1+2 | PWR 26 | 1 38 | | | | | | 8-106 | 71/ 1 | |
| | | | | | | | | | (COMMON WITH 1+2600) | | |
| LWDS | PRIMARY COOLANT STORAGE | TANK | 802260 | | | | | | | | |
| | | | | (1)NUMBER | | | | | | | |
| | | | | (2)CAPACITY | M3/1 | | | | | | |
| | | | | (3)MATERIAL | MT1=STAINLESS STEEL | | | | | | |
| | | | | (1) | (2) | (3) | (4) | (5) | | | |
| | GENKAI-1 | PWR 24 | 3 119 | MT1 | | | | | 8-116 | 70/ 5 | |
| | IKATA-1 | PWR 28 | 3 125 | MT1 | | | | | 8-114 | 72/11 | |
| LWDS | PRIMARY COOLANT STORAGE | TANK | 802270 | | | | | | | | |
| | | | | (1)NUMBER | | | | | | | |
| | | | | (2)CAPACITY | M3/1 | | | | | | |
| | | | | (3)MATERIAL | MT1=STAINLESS STEEL | | | | | | |
| | | | | (1) | (2) | (3) | (4) | (5) | | | |
| | MIHAMA-1 | PWR 21 | 1 0.8 | MT1 | | | | | 8-108 | 66/11 | |
| | GENKAI-1 | PWR 24 | 1 1.3 | MT1 | | | | | 8-116 | 70/ 5 | |

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|------------------------|--------------|-----------------------|-------------|-----------------------|----------------------------|----------|----------|-----|-------|---------------|-----------------|
| LWDS | LIQUID WASTE | EVAPULAT OR | 802290 | | | | | | | | |
| | TAKAHAMA-2 | PWR 23 | NO.=1 | CAPACITY= 0.45 CUBM/H | | | | | 8-103 | 70/ 5 | |
| | GENKAI-1 | PWR 24 | NO.=1 | CAPACITY= 0.45 CUBM/H | MATERIAL=SUS | | | | 8-117 | 70/ 5 | |
| | GENKAI-1 | PWR 24 | FRDM(80211) | 80229 | TD(80237(LIQUID),DR SWDS) | | | | 8-119 | 70/ 5 | |
| | 001-1+2 | PWR 25 | NO.=1 | CAPACITY= 0.19 CUBM/H | COMMON 1+2 | | | | 8-106 | 71/ 1 | |
| | MIHAMA-3 | PWR 27 | NO.=1 | CAPACITY= 0.45 CUBM/H | | | | | 8-103 | 71/ 8 | |
| LWDS | BURIC ACID | RECOVERY SYSTEM | 802300 | | | | | | | | |
| | | | | (1)NUMBER | | | | | | | |
| | | | | (2)CAPACITY | M3/H/1 | | | | | | |
| | | | | (3)MATERIAL | MT1=STAINLESS STEEL | | | | | | |
| | | | | (5)REMARKS | RM1=INCLUDE(DATSU-GAS TOO) | | | | | | |
| | | | | (1) | (2) | (3) | (4) | (5) | | | |
| | MIHAMA-1 | PWR 21 | 1 1.14 | MT1 | | | | | 8-109 | 66/11 | |
| | TAKAHAMA-2 | PWR 23 | 1 2.3 | | RM1 | | | | 8-103 | 70/ 5 | |
| | GENKAI-1 | PWR 24 | 1 2.84 | MT1 | RM1 | | | | 8-116 | 70/ 5 | |
| | 001-1+2 | PWR 26 | 1 0.19 | | RM1 (COMMON WITH 1+2600) | | | | 8-106 | 71/ 1 | |
| | MIHAMA-3 | PWR 27 | 1 3.4 | | RM1 | | | | 8-103 | 71/ 7 | |
| | IKATA-1 | PWR 28 | 1 3.4 | MT1 | RM1 | | | | 8-115 | 72/11 | |
| LWDS | BURIC ACID | PURIFY DEMINE. | 802310 | | | | | | | | |
| | | | | NUMBER | RESIN VOLUME | CAPACITY | MATERIAL | | | | |
| | TAKAHAMA-2 | PWR 23 | SEE 80239 | | | | | | | | |
| | GENKAI-1 | PWR 24 | NO.=3 | 0.34 CUBM/1 | 2.84 CUBM/H | SUS | | | 8-117 | 70/ 5 | |
| | GENKAI-1 | PWR 24 | FRDM(80219) | 80231 | TD(80233) | | | | 8-119 | 70/ 5 | |
| LWDS | BURIC ACID | PURIFY DEMINE. FILTER | 802330 | | | | | | | | |
| | | | | (1)NUMBER | | | | | | | |
| | | | | (2)CAPACITY | M3/H/1 | | | | | | |
| | | | | (3)MATERIAL | MT1=STAINLESS STEEL | | | | | | |
| | | | | (5)REMARKS | RM1=INCLUDE(DATSU-GAS TOO) | | | | | | |
| | | | | (1) | (2) | (3) | (4) | (5) | | | |
| | GENKAI-1 | PWR 24 | NO.=1 | CAPACITY= 2.84 CUBM/H | MATERIAL(VESSEL)=SUS | | | | 8-117 | 70/ 5 | |
| | GENKAI-1 | PWR 24 | FRDM(80231) | 80233 | TD(80227) | | | | 8-119 | 70/ 5 | |
| LWDS | BURIC ACID | EVAP.C.W DEMINERLIZER | 802350 | | | | | | | | |
| | | | | NUMBER | RESIN VOLUME | CAPACITY | MATERIAL | | | | |
| | TAKAHAMA-2 | PWR 23 | SEE 80239 | | | | | | | | |
| | GENKAI-1 | PWR 24 | NO.=2 | 0.34 CUBM/1 | 2.84 CUBM/H | SUS | | | 8-117 | 70/ 5 | |
| | GENKAI-1 | PWR 24 | FRDM(80227) | 80235 | TD(80221) | | | | 8-119 | 70/ 5 | |

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| LWDS | LIQUID WASTE | EVAP. | COND.W | TANK | 802370 | | |
|------|--------------|--------|-------------|---|----------|--------------|-------------|
| | GENKAI-1 | PWR 24 | NO.=2 | CAPACITY= 3.78 | CURM/H*5 | MATERIAL=SUS | 8-117 70/ 5 |
| | GENKAI-1 | PWR 24 | FROM(80229) | 80237 TO(REDISPOSE OR HOUSUIRO AFTER CHECK) | | | 8-119 70/ 5 |

| LWDS | IGN | EXCH. | | 802390 | | | |
|------|------------|--------|-----------------|---------------|-------------|--------|-------------------|
| | TAKAHAMA-2 | PWR 23 | NO.=5 | CAP.=2.3 | CURM/H*5 | | 8-103 -105 70/ 5 |
| | TAKAHAMA-2 | PWR 23 | SEL(76234 76235 | 80231 80235) | | | 8-103 -105 70/ 5 |
| | TAKAHAMA-2 | PWR 23 | NO.=5 | CAP.=2.3 | CURM/H/1 *5 | | 8-103 8-105 70/ 5 |
| | DOI-1+2 | PWR 26 | NO.=5 | CAP.=8 | CURM/H/1 *5 | COMMON | 8-106 71/ 1 |
| | MIHAMA-3 | PWR 27 | NO.=5 | CAP.=6.8 | CURM/H/1 *5 | | 8-103 71/ 8 |

| LWDS | TANK | LIST | | 802400 | | | |
|------|------------|--------|-------------------------------------|--------|-------------|---------|----------------|
| | | | (1)CHUUMA 7AI TENKA TANK | 80241 | | | |
| | | | (2)GYOO SHUKU SUI SAMPLE TANK | 80242 | | | |
| | | | (3)GYOO SHUKU SUI SYUUSHUU TANK | 80243 | | | |
| | | | (4)HAIEKI CHUUMA TANK | 80244 | | | |
| | | | (5)HAIEKI SAMPLE TANK | 80245 | | | |
| | | | (6)HAIEKI SURGE TANK | 80246 | | | |
| | | | (7)HAIEKI SYUUSHUU TANK | 80247 | | | |
| | | | (8)JYONHATSU NOSHUKUKI SURGE TANK | 80248 | | | |
| | | | (9)JYODORYUU SUI SURGE TANK | 80249 | | | |
| | | | (10)KIKI DRAIN HOKASUI TANK | 80250 | | | |
| | | | (11)KIKI DRAIN SAMPLE TANK | 80251 | | | |
| | | | (12)KIKI DRAIN SURGE TANK | 80252 | | | |
| | | | (13)KIKI DRAIN SYUUSHUU TANK | 80253 | | | |
| | | | (14)LAUNDRY DRAIN TANK | 80254 | | | |
| | | | (15)PRECOAT TANK | 80255 | | | |
| | | | (16)HOKA JOZAI TANK | 80256 | | | |
| | | | (17)SAISEI HAIEKI SYUUSHUU TANK | 80257 | | | |
| | | | (18)SENJOO HAIEKI SYUUSHUU TANK | 80258 | | | |
| | | | (19)YUKA DRAIN HOKASUI TANK | 80259 | | | |
| | | | (20)YUKA DRAIN SAMPLE TANK | 80260 | | | |
| | | | (21)YUKA DRAIN SYUUSHUU TANK | 80261 | | | |
| | | | (22)ZATSU HAIEKI SURGE TANK | 80262 | | | |
| | | | 1 2 3 4 5 6 7 8 9 11 13 15 17 19 21 | | | | |
| | | | 10 12 14 16 18 20 22 | | | | |
| | DNAGAWA | BWR 4 | 2 2 1 1 | | 2 | 2 1 | 8-10-(3) 70/ 5 |
| | HAMAOKA-1 | BWR 5 | 2 1 | | 2 1 2 | 2 1 | 8-89 70/ 5 |
| | FUKUSIMA-5 | BWR 9 | 2 2 1 1 | | 2 2 1 | 2 1 | 8-10-(3) 71/ 2 |
| | FUKUSIMA-4 | BWR 10 | 2 2 1 1 | | 2 1 1 | 2 1 | 8-10-(3) 71/ 8 |
| | FUKUSIMA-6 | BWR 11 | 2 2 1 2 2 1 | | 1 1 1 2 1 1 | 1 | 8-10-(3) 71/12 |
| | TOKAI-2 | BWR 12 | 2 1 1 2 2 1 | | 2 1 | 2 1 | 8-10-(3) 71/12 |
| | HAMAOKA-2 | BWR 13 | | | 2 1 1 2 | 2 3 1 1 | 8-77 72/ 9 |

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| LWDS | NEUTRALI ZER | ANNEXING TANK | | 802410 | | | |
|------|--------------|---------------|---------------------|------------------------------|-----|--|----------------|
| | | | (1)NUMBER | | | | |
| | | | (3)MATERIAL | MTI=CARBON STEEL DR ALUMINUM | | | |
| | | | (4)LINING | LGI=RUBBER LINING | | | |
| | | | (5)REMARKS | KAK=KAKUHANKI TSUKI | | | |
| | | | (1) (2) (3) (4) (5) | | | | |
| | | | NO. | | | | |
| | FUKUSIMA-5 | BWR 9 | 2 | LGI | KAK | | 8-10-(3) 71/ 2 |
| | FUKUSIMA-4 | BWR 10 | 2 | LGI | KAK | | 8-10-(3) 71/ 8 |
| | FUKUSIMA-6 | BWR 11 | 2 | MTI | KAK | | 8-10-(3) 71/12 |
| | TOKAI-2 | BWR 12 | 2 | | | | 8-10-(3) 71/12 |

| LWDS | LIQUID WASTE | NEUTRALI ZATION | TANK | 802440 | | | |
|------|--------------|-----------------|---------------------|-------------------------|-----|-----|----------------|
| | | | (1)NUMBER | | | | |
| | | | (2)CAPACITY | M3/1 | | | |
| | | | (3)MATERIAL | MTI=STAINLESS STEEL | | | |
| | | | (5)REMARKS | NOZ=KONGOO NOZZLE TSUKI | | | |
| | | | (1) (2) (3) (4) (5) | | | | |
| | | | NO. | | | | |
| | DNAGAWA | BWR 4 | 2 | 65 | MTI | NOZ | 8-10-(3) 70/ 5 |
| | HAMAOKA-1 | BWR 5 | 2 | 65 | | | 8-89 70/ 5 |
| | FUKUSIMA-5 | BWR 9 | 2 | | | | 8-10-(3) 71/ 2 |
| | FUKUSIMA-4 | BWR 10 | 2 | | | | 8-10-(3) 71/ 8 |
| | TOKAI-2 | BWR 12 | 2 | | | | 8-10-(3) 71/12 |

| LWDS | LIQUID WASTE | SAMPLING TANK | | 802450 | | | |
|------|--------------|---------------|---------------------|-------------------------|-----|-----|----------------|
| | | | (1)NUMBER | | | | |
| | | | (2)CAPACITY | M3/1 | | | |
| | | | (3)MATERIAL | MTI=ALUMINUM | | | |
| | | | (5)REMARKS | NOZ=KONGOO NOZZLE TSUKI | | | |
| | | | (1) (2) (3) (4) (5) | | | | |
| | | | NO. | | | | |
| | DNAGAWA | BWR 4 | 2 | 65 | MTI | NOZ | 8-10-(3) 70/ 5 |
| | FUKUSIMA-5 | BWR 9 | 2 | | | | 8-10-(3) 71/ 2 |
| | FUKUSIMA-4 | BWR 10 | 2 | | | | 8-10-(3) 71/ 8 |
| | FUKUSIMA-6 | BWR 11 | 2 | | MTI | NOZ | 8-10-(3) 71/12 |
| | TOKAI-2 | BWR 12 | 2 | | | NOZ | 8-10-(3) 71/12 |

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| LWDS | LIQUID WASTE | SURGE | TANK | 802460 | |
|------------|--------------|-------|------|---------------------|---|
| | | | | (1)NUMBER | |
| | | | | (2)CAPACITY | M3/1 |
| | | | | (3)MATERIAL | MT1=ALUMINUM , MT2=ALUMINUM OR CARBON STEEL |
| | | | | (5)REMARKS | NOZ=KONGDOO NOZZLE TSUKI |
| | | | | (1) (2) (3) (4) (5) | |
| | | | | NO. | |
| ONAGAWA | BWR | 4 | 1 | 150 | MT1 NOZ |
| HAMAOKA-1 | BWR | 5 | 1 | 150 | |
| FUKUSIMA-5 | BWR | 9 | 1 | | NOZ (WITH HEATER) |
| FUKUSIMA-4 | BWR | 10 | 1 | | NOZ (WITH HEATER) |
| FUKUSIMA-6 | BWR | 11 | 1 | | MT2 NOZ |
| TOKAI-2 | BWR | 12 | 2 | | NOZ |
| | | | | | 8-10-(3) 70/ 5 |
| | | | | | 8-89 70/ 5 |
| | | | | | 8-10-(3) 71/ 2 |
| | | | | | 8-10-(3) 71/ 8 |
| | | | | | 8-10-(3) 71/12 |

| LWDS | LIQUID WASTE | COLLECT | TANK | 802470 | |
|------------|--------------|---------|------|---------------------|-------------------|
| | | | | (1)NUMBER | |
| | | | | (2)CAPACITY | M3/1 |
| | | | | (3)MATERIAL | MT1=CARBON STEEL |
| | | | | (4)LINING | LG1=ROBBER LINING |
| | | | | (5)REMARKS | |
| | | | | (1) (2) (3) (4) (5) | |
| | | | | NO. | |
| ONAGAWA | BWR | 4 | 1 | 110 | MT1 LG1 |
| FUKUSIMA-5 | BWR | 9 | 1 | | LG1 |
| FUKUSIMA-4 | BWR | 10 | 1 | | LG1 |
| TOKAI-2 | BWR | 12 | 1 | | |
| | | | | | 8-10-(3) 70/ 5 |
| | | | | | 8-10-(3) 71/ 2 |
| | | | | | 8-10-(3) 71/ 8 |
| | | | | | 8-10-(3) 71/12 |

| LWDS | EVAPORATOR | SURGE | TANK | 802480 | |
|------------|------------|-------|------|---------------------|--------------------------|
| | | | | (1)NUMBER | |
| | | | | (3)MATERIAL | MT1=STAINLESS STEEL |
| | | | | (5)REMARKS | NOZ=KONGDOO NOZZLE SSUKI |
| | | | | (1) (2) (3) (4) (5) | |
| | | | | NO. | |
| FUKUSIMA-6 | BWR | 11 | 2 | | MT1 NOZ |
| | | | | | 8-10-(3) 71/12 |

| LWDS | DISTILED WATER | SURGE | TANK | 802490 | |
|------------|----------------|-------|------|---------------------|--------------------------|
| | | | | (1)NUMBER | |
| | | | | (3)MATERIAL | MT1=CARBON STEEL |
| | | | | (5)REMARKS | NOZ=KONGDOO NOZZLE TSUKI |
| | | | | (1) (2) (3) (4) (5) | |
| | | | | NO. | |
| FUKUSIMA-6 | BWR | 11 | 2 | | MT1 NOZ |
| | | | | | 8-10-(3) 71/12 |

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| LWDS | SYSTEM DRAIN | FILTRATE | TANK | 802500 | |
|------------|--------------|----------|------|---------------------|--------------------------|
| | | | | (1)NUMBER | |
| | | | | (3)MATERIAL | MT1=CARBON STEEL |
| | | | | (5)REMARKS | NOZ=KONGDOO NOZZLE TSUKI |
| | | | | (1) (2) (3) (4) (5) | |
| | | | | NO. | |
| FUKUSIMA-6 | BWR | 11 | 1 | | MT1 NOZ |
| | | | | | 8-10-(3) 71/12 |

| LWDS | SYSTEM DRAIN | SAMPLING | TANK | 802510 | |
|-----------|--------------|----------|------|---------------------|--------------------------|
| | | | | (1)NUMBER | |
| | | | | (2)CAPACITY | M3/1 |
| | | | | (5)REMARKS | NOZ=KONGDOO NOZZLE TSUKI |
| | | | | (1) (2) (3) (4) (5) | |
| | | | | NO. | |
| HAMAOKA-1 | BWR | 5 | 2 | 65 | |
| HAMAOKA-2 | BWR | 13 | 2 | | NOZ |
| | | | | | 8-89 70/ 5 |
| | | | | | 8-77 72/ 9 |

| LWDS | SYSTEM DRAIN | COLLECT | TANK | 802530 | |
|------------|--------------|---------|------|---------------------|------------------|
| | | | | (1)NUMBER | |
| | | | | (2)CAPACITY | M3/1 |
| | | | | (3)MATERIAL | MT1=CARBON STEEL |
| | | | | (1) (2) (3) (4) (5) | |
| | | | | NO. | |
| HAMAOKA-1 | BWR | 5 | 1 | 115 | |
| FUKUSIMA-6 | BWR | 11 | 1 | | MT1 NOZ |
| | | | | | 8-89 70/ 5 |
| | | | | | 8-10-(3) 71/12 |

| LWDS | LAUNDRY DRAIN | TANK | 802540 | | |
|------------|---------------|------|--------|---------------------|--------------------------|
| | | | | (1)NUMBER | |
| | | | | (2)CAPACITY | M3/1 |
| | | | | (3)MATERIAL | MT1=CARBON STEEL |
| | | | | (5)REMARKS | NOZ=KONGDOO NOZZLE TSUKI |
| | | | | (1) (2) (3) (4) (5) | |
| | | | | NO. | |
| ONAGAWA | BWR | 4 | 2 | 20 | MT1 NOZ |
| HAMAOKA-1 | BWR | 5 | 2 | 30 | |
| FUKUSIMA-5 | BWR | 9 | 2 | | NOZ |
| FUKUSIMA-4 | BWR | 10 | 2 | | NOZ |
| TOKAI-2 | BWR | 12 | 2 | | NOZ |
| | | | | | 8-10-(3) 70/ 5 |
| | | | | | 8-89 70/ 5 |
| | | | | | 8-10-(3) 71/ 2 |
| | | | | | 8-10-(3) 71/ 8 |
| | | | | | 8-10-(3) 71/12 |
| HAMAOKA-2 | BWR | 13 | 2 | (COMMON WITH 1-600) | |
| | | | | | 8-77 72/ 9 |

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| LWDS | PRECOAT | TANK | 802550 | | | | |
|------|------------|----------|-------------|---------------------|-----|-----|----------------|
| | | | (1)NUMBER | | | | |
| | | | (3)MATERIAL | MT1=CARBON STEEL | | | |
| | | | (4)LINING | LG1,RUBBER LINING | | | |
| | | | (5)REMARKS | KAK=KAKUHANKI TSUKI | | | |
| | | | (1) | (2) | (3) | (4) | (5) |
| | FUKUSIMA-5 | BWR 9 2 | | | LG1 | KAK | 8-10-70 / |
| | FUKUSIMA-5 | BWR 9 2 | | | LG1 | KAK | 8-10-(3) 71/ 2 |
| | FUKUSIMA-4 | BWR 10 1 | | | LG1 | KAK | 8-10-(3) 71/ 8 |
| | FUKUSIMA-6 | BWR 11 1 | | MT1 | | KAK | 8-10-(3) 71/12 |
| | TOKKAI-2 | BWR 12 1 | | | | KAK | 8-10-(3) 71/12 |

| LWDS | FILTRAT) ON AUX. AGENT | TANK | 802560 | | | | |
|------|------------------------|----------|-------------|---------------------|-----|-----|----------------|
| | | | (1)NUMBER | | | | |
| | | | (3)MATERIAL | MT1=CARBON STEEL | | | |
| | | | (5)REMARKS | KAK=KAKUHANKI TSUKI | | | |
| | | | (1) | (2) | (3) | (4) | (5) |
| | FUKUSIMA-5 | BWR 9 1 | | | | KAK | 8-10-(3) 71/ 2 |
| | FUKUSIMA-4 | BWR 10 1 | | | | KAK | 8-10-(3) 71/ 8 |
| | FUKUSIMA-6 | BWR 11 1 | | MT1 | | KAK | 8-10-(3) 71/12 |

| LWDS | WASHING WASTE COLLECT | TANK | 802580 | | | | |
|------|-----------------------|----------|-------------|-------------------------|-----|-----|----------------|
| | | | (1)NUMBER | | | | |
| | | | (3)MATERIAL | MT1=CARBON STEEL | | | |
| | | | (5)REMARKS | NOZ=KONGOO NOZZLE TSUKI | | | |
| | | | (1) | (2) | (3) | (4) | (5) |
| | FUKUSIMA-6 | BWR 11 2 | | MT1 | | NOZ | 8-10-(3) 71/12 |

| LWDS | FLOOR DRAIN FILTRATE | TANK | 802590 | | | | |
|------|----------------------|----------|-------------|-------------------------|-----|-----|----------------|
| | | | (1)NUMBER | | | | |
| | | | (3)MATERIAL | MT1=CARBON STEEL | | | |
| | | | (5)REMARKS | NOZ=KONGOO NOZZLE TSUKI | | | |
| | | | (1) | (2) | (3) | (4) | (5) |
| | FUKUSIMA-6 | BWR 11 1 | | MT1 | | NOZ | 8-10-(3) 71/12 |

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| LWDS | FLOOR DRAIN SAMPLING | TANK | 802600 | | | | |
|------|----------------------|----------|-------------|-------------------------|-----|-----|----------------|
| | | | (1)NUMBER | | | | |
| | | | CAPACITY | M3/1 | | | |
| | | | (3)MATERIAL | MT1=CARBON STEEL | | | |
| | | | (4)LINING | | | | |
| | | | (5)REMARKS | NOZ=KONGOO NOZZLE TSUKI | | | |
| | | | (1) | (2) | (3) | (4) | (5) |
| | | | NO. | | | | |
| | DNAGAWA | BWR 4 2 | 65 | MT1 | | NOZ | 8-10-(3) 70/ 5 |
| | HAMAOKA-1 | BWR 5 2 | 65 | | | | 8-89 70/ 5 |
| | FUKUSIMA-5 | BWR 9 2 | | | | NOZ | 8-10-(3) 71/ 2 |
| | FUKUSIMA-4 | BWR 10 2 | | | | NOZ | 8-10-(3) 71/ 8 |
| | TOKKAI-2 | BWR 12 2 | | | | NOZ | 8-10-(3) 71/12 |
| | HAMAOKA-2 | BWR 13 3 | | | | NOZ | 8-77 72/ 9 |

| LWDS | FLOOR DRAIN COLLECT | TANK | 802610 | | | | |
|------|---------------------|----------|-------------|------------------|-----|-----|----------------|
| | | | (1)NUMBER | | | | |
| | | | (3)MATERIAL | MT1=CARBON STEEL | | | |
| | | | (1) | (2) | (3) | (4) | (5) |
| | | | NO. | M3/1 | | | |
| | DNAGAWA | BWR 4 1 | 40 | MT1 | | | 8-10-(3) 70/ 5 |
| | HAMAOKA-1 | BWR 5 1 | 40 | | | | 8-89 70/ 5 |
| | FUKUSIMA-5 | BWR 9 1 | | | | NOZ | 8-10-(3) 71/ 2 |
| | FUKUSIMA-4 | BWR 10 1 | | | | NOZ | 8-10-(3) 71/ 8 |
| | FUKUSIMA-6 | BWR 11 1 | | MT1 | | NOZ | 8-10-(3) 71/12 |
| | TOKKAI-2 | BWR 12 1 | | | | | 8-10-(3) 71/12 |
| | HAMAOKA-2 | BWR 13 1 | | | | | 8-77 72/ 9 |

| LWDS | FILTER TYPE AND NUMBER | 802630 | | | | |
|------|------------------------|--------|---|------|--|----------------|
| | DNAGAWA | BWR 4 | TYPE=PRESSURE PRECOAT TYPE(CELLULOSE BASE FILTER) | NO=3 | | 8-10-(3) 70/ 5 |
| | HAMAOKA-1 | BWR 5 | TYPE=PRESSURE PRECOAT TYPE(CELLULOSE BASE FILTER) | NO=2 | | 8-89 70/ 5 |
| | FUKUSIMA-5 | BWR 9 | TYPE=PRESSURE PRECOAT TYPE(CELLULOSE BASE FILTER) | NO=2 | | 8-10-(3) 71/ 2 |
| | FUKUSIMA-4 | BWR 10 | TYPE=PRESSURE PRECOAT TYPE(CELLULOSE BASE FILTER) | NO=2 | | 8-10-(3) 71/ 8 |
| | HAMAOKA-2 | BWR 13 | TYPE=PRESSURE PRECOAT TYPE(FILTER ZYDZAI SHIYODU) | NO=2 | | 8-77 72/ 9 |

| LWDS | DECODTAM I. FACTOR OF FIL TER | 802640 | | | | |
|------|-------------------------------|--------|---------------|----------------------------|--------|----------------|
| | | | COMPONENTS | FLOOR | ZYDZEN | |
| | | | DRAIN SYSTEM | DRAIN SYSTEM | KEISUU | |
| | DNAGAWA | BWR 4 | 40. CURM/H | 40. CURM/H (YOBIC1)COMMON) | 5. | 8-10-(3) 70/ 5 |
| | HAMAOKA-1 | BWR 5 | 40. CURM/H | 40. CURM/H | 5. | 8-89 70/ 5 |
| | FUKUSIMA-5 | BWR 9 | 45. CURM/H /1 | | 5. | 8-10-(3) 71/ 2 |
| | FUKUSIMA-4 | BWR 10 | 45. CURM/H /1 | | 5. | 8-10-(3) 71/ 8 |
| | HAMAOKA-2 | BWR 13 | 60. CURM/H | 15. CURM/H | 5. | 8-77 72/ 9 |

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| LWDS | DELINE. | TYPE AND NUMBER | 802660 | | | |
|------|------------|-----------------|----------------|-------|-----------|-------|
| | DNAGAWA | BWR 4 | TYPE=MIXED RED | NO.=2 | 8-10-(4) | 70/ 5 |
| | HAMAOKA-1 | BWR 5 | TYPE=MIXED RED | NO.=2 | 8-90 | 70/ 5 |
| | FUKUSIMA-5 | BWR 9 | TYPE=MIXED RED | NO.=1 | 8-10-(13) | 71/ 2 |
| | FUKUSIMA-4 | BWR 10 | TYPE=MIXED RED | NO.=1 | 8-10-(13) | 71/ 8 |
| | HAMAOKA-2 | BWR 13 | TYPE=MIXED RED | NO.=2 | 8-78 | 72/ 9 |

| LWDS | DECONTAM T. FACTOR OF Deline. | 802680 | | | | |
|------|-------------------------------|--------|--------------|--------------|---------------|-----------------|
| | | | COMPONENTS | FLOOR | ZYUSEN KEISUU | |
| | | | DRAIN SYSTEM | DRAIN SYSTEM | | |
| | DNAGAWA | BWR 4 | 40. CURM/H | 40. CURM/H | 100. | 8-10-(4) 70/ 5 |
| | HAMAOKA-1 | BWR 5 | 40. CURM/H | 40. CURM/H | 100. | 8-90 70/ 5 |
| | FUKUSIMA-5 | BWR 9 | 45. CURM/H | 45. CURM/H | 100. | 8-10-(13) 71/ 2 |
| | FUKUSIMA-4 | BWR 10 | 45. CURM/H | 45. CURM/H | 100. | 8-10-(13) 71/ 8 |
| | HAMAOKA-2 | BWR 13 | 60. CURM/H | 15. CURM/H | 100. | 8-78 72/ 9 |

| LWDS | LIQUID WASTE | CONCENTR ATION NO. TYPE | 802820 | | | |
|------|--------------|-------------------------|-------------------------|--------|---------------|----------------|
| | | | TYPE | NUMBER | CAPACITY | |
| | DNAGAWA | BWR 4 | STEAM HEATED NAT. CIRC. | NO.=2 | 3.0 CURM/H /1 | 8-10-(4) 70/ 5 |
| | HAMAOKA-1 | BWR 5 | STEAM HEATED NAT. CIRC. | NO.=2 | 2.4 CURM/H /1 | 8-90 70/ 5 |
| | FUKUSIMA-5 | BWR 9 | STEAM HEATED NAT. CIRC. | NO.=2 | 4.5 CURM/H /1 | 8-10-(4) 71/ 2 |
| | FUKUSIMA-4 | BWR 10 | STEAM HEATED NAT. CIRC. | NO.=2 | 2.3 CURM/H /1 | 8-10-(4) 71/ 8 |
| | HAMAOKA-2 | BWR 13 | STEAM HEATED | NO.=2 | 3.0 CURM/H /1 | 8-78 72/ 9 |
| | TAKAHAMA-2 | PWR 23 | | NO.=1 | 0.45CURM/H /1 | 8-103 70/ 5 |

| LWDS | LIQUID WASTE | CONCENTR ATION | 802840 | | | |
|------|--------------|----------------|--------------------------------------|--|----------|-------|
| | DNAGAWA | BWR 4 | CONCENTRATE UP TO 25 PERCENT (SOLID) | | 8-10-(4) | 70/ 5 |
| | FUKUSIMA-5 | BWR 9 | CONCENTRATE UP TO 25 PERCENT (SOLID) | | 8-10-(4) | 71/ 2 |
| | FUKUSIMA-4 | BWR 10 | CONCENTRATE UP TO 25 PERCENT (SOLID) | | 8-10-(4) | 71/ 8 |

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| SWDS | TANK LIST | BWR | 803400 | | | |
|------|---|--------|----------------------------------|--|---------|----------------|
| | (1)NOOSHUKU HAIKI CHOZDO TANK | | | | 80341 | |
| | (2)SHIYODZUMI JUSHI CHOZDO TANK | | | | 80342 | |
| | (3)PHASE SEPARATOR | | | | 80343 A | |
| | (3)SHIYODZUMI FUNMATU JUSHI CHOZDO TANK | | | | 80343 B | |
| | (3)GENSHIRO-KEIKYAKUZAI ZYOOKA-KEI FUNMATU JUSHI CHOZDO TANK | | | | 80343 C | |
| | (3)GENSHIRO-JYOOKA-KEI CHINKOO RUNRI SOO | | | | 80343 D | |
| | (4)HAI SLUDGE CHOZDO TANK | | | | 80344 | |
| | (5)HAI SLUDGE CHINKOO RUNRI SOO | | | | 80345 | |
| | (6)FILTER SLUDGE CHOZDO SOO | | | | 80346 | |
| | (7)FUKUSUI-KEI FUNMATU JUSHI CHOZDO TANK | | | | 80347 | |
| | (8)GENSHIRO-JYOOKA-KEI FILTER SLUDGE CHOZDO TANK | | | | 80348 | |
| | (9)NENRYO POOL FILTER SLUDGE CHOZDO TANK | | | | 80349 | |
| | (10)KIKI-DRAIN FILTER SLUDGE CHOZDO TANK | | | | 80350 | |
| | (11)FUKUSUI JYDKA-KEI CHINKOO RUNRI SOO | | | | 80351 | |
| | (12)NOOSHUKU HAIKI KEIRYO TANK | | | | 80352 | |
| | (13)TIKA SHIYODZUMI JUSHI CHOZDO TANK | | | | 80353 | |
| | (14)TIKA HAI SLUDGE CHOZDO TANK | | | | 80354 | |
| | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 | | | |
| | DNAGAWA | BWR 4 | 2 2 2(C) 4 | | 2 | 8-10-(5) 70/ 5 |
| | HAMAOKA-1 | BWR 5 | 3 2 2(C) 4 3 | | | 8-91 70/ 5 |
| | FUKUSIMA-2,3 | BWR 7 | 3 1 1(A) 1 | | 1 1 | 22 70/ 8 |
| | FUKUSIMA-5 | BWR 9 | 3 1 2(A) 1 | | | 8-10-(5) 71/ 2 |
| | FUKUSIMA-4 | BWR 10 | 3 1 2(A) 1 | | | 8-10-(5) 71/ 8 |
| | FUKUSIMA-6 | BWR 11 | 1 1 2(O) 1 | | 1 1 2 1 | 8-10-(5) 71/12 |
| | TOKAI-2 | BWR 12 | 3 1 2(R) 3 | | | 8-10-(5) 71/12 |
| | HAMAOKA-2 | BWR 13 | 3 2 2(C) 4 2 | | | 8-79 72/ 9 |
| | MIHAMA-1 | PWR 21 | 1 | | | 8-110 66/11 |
| | GENKAI-1 | PWR 24 | 1 | | | 8-118 70/ 5 |
| | IKATA-1 | PWR 28 | 6 | | | 8-116 72/ 5 |

| SWDS | CONCENTRATED WASTE | STORAGE TANK | 803410 | | | |
|------|---------------------|--------------|-----------|-------------|--------------------|----------------|
| | (1)NUMBER | | | | | |
| | (2)CAPACITY | | | | | |
| | (3)MATERIAL | | | | | |
| | (5)REMARKS | | | | | |
| | (1) (2) (3) (4) (5) | | | | | |
| | DNAGAWA | BWR 4 | 2 55 MT1 | 0.5 YEAR/1 | TOTAL WASTE | 8-10-(5) 70/ 5 |
| | HAMAOKA-1 | BWR 5 | 3 40 | | | 8-91 70/ 5 |
| | FUKUSIMA-2,3 | BWR 7 | 3 MT1 | 0.5 MONTH/1 | TOTAL WASTE | 22 70/ 8 |
| | FUKUSIMA-5 | BWR 9 | 3 MT1 | 0.5 MONTH/1 | (COMMON WITH 6600) | 8-10-(5) 71/ 2 |
| | FUKUSIMA-4 | BWR 10 | 3 MT1 | 0.5 MONTH/1 | TOTAL WASTE | 8-10-(5) 71/ 8 |
| | FUKUSIMA-6 | BWR 11 | 1 MT1 | 0.5 MONTH | TOTAL WASTE | 8-10-(5) 71/12 |
| | TOKAI-2 | BWR 12 | 3 MT1 | 4 MONTH | TOTAL WASTE | 8-10-(5) 71/12 |
| | HAMAOKA-2 | BWR 13 | 3 2 MONTH | | | 8-79 72/ 9 |

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| SWDS | SPENT | RFSIN | STORAGE | TANK | 803420 | | | | |
|--------------|-------|-------|---------|------------|-----------|-------------|-------------|----------------------|--|
| | | | | | (1)NUMBER | (2)CAPACITY | (3)MATERIAL | (4)HOLDUP | (5)ABILITY=YEAR OR MONTH/TOTAL WASTE(NORMAL POWER) |
| | | | | | (1) | (2) | (3) | (4) | (5) |
| DNAGAWA | BWR | 4 | 2 | 10 | MT2 | 1 | YEAR/1 | TOTAL WASTE | 8-10-(5) 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 2 | 50 | | | | | 8-91 70/ 5 |
| FUKUSIMA-2,3 | BWR | 7 | 1 | | MT2 | 0.5 | MONTH/1 | TOTAL WASTE | 22 70/ 8 |
| FUKUSIMA-5 | BWR | 9 | 1 | | MT2 | 0.5 | MONTH | (COMMON WITE 5*6G00) | 8-10-(5) 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 1 | | MT2 | 0.5 | MONTH | TOTAL WASTE | 8-10-(5) 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 1 | | MT1 | 0.5 | MONTH | TOTAL WASTE | 8-10-(5) 71/12 |
| TODKAI-2 | BWR | 12 | 1 | | MT2 | 5 | YEAR | TOTAL WASTE | 8-10-(5) 71/12 |
| HAMAOKA-2 | BWR | 13 | 2 | | | 2 | YEAR/1 | | 8-79 72/ 9 |
| KASHIWAZAKI | BWR | 15 | 4 | 180=2*90=2 | MT2 | | | | 8-10-14 75/ 3 |
| MJHAMA-1 | PWR | 21 | 1 | 8.5 | MT2 | | | | 8-110 66/11 |
| GENKAI-1 | PWR | 24 | 1 | 8.5 | MT2 | | | | 8-118 70/ 5 |
| IKATA-1 | PWR | 26 | 6 | 9 | MT2 | | | | 8-116 72/ 5 |

| SWDS | PHASE | SEPARATO R | TANK | 803430 | | | | | |
|--------------|-------|------------|------|--------|-----------|-------------|-------------|-----------|--|
| | | | | | (1)NUMBER | (2)CAPACITY | (3)MATERIAL | (4)HOLDUP | (5)ABILITY=YEAR OR MONTH/TOTAL WASTE(NORMAL POWER) |
| | | | | | (1) | (2) | (3) | (4) | (5) |
| DNAGAWA | BWR | 4 | 2 | 60 | MT2 | NA4 | 2.5 | YEAR/1 | TOTAL WASTE 8-10-(5) 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 2 | 30 | | NA3 | | | 8-91 70/ 5 |
| FUKUSIMA-2,3 | BWR | 7 | 2 | | | NA1 | 2.5 | YEAR/1 | TOTAL WASTE 22 70/ 8 |
| FUKUSIMA-5 | BWR | 9 | 2 | | MT1 | NA1 | 2.5 | YEAR/1 | TOTAL WASTE 8-10-(5) 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 2 | | MT1 | NA1 | 2.5 | YEAR/1 | TOTAL WASTE 8-10-(5) 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 2 | | MT2 | NA4 | 2.5 | YEAR/1 | TOTAL WASTE 8-10-(5) 71/12 |
| TODKAI-2 | BWR | 12 | 2 | | MT1 | NA2 | 2.5 | YEAR/1 | TOTAL WASTE 8-10-(5) 71/12 |
| HAMAOKA-2 | BWR | 13 | 2 | | | NA3 | 2.5 | YEAR/1 | 8-79 72/ 9 |

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| SWDS | WASTE | SLUDGE | STORAGE | TANK | 803440 | | | | |
|--------------|-------|--------|---------|------|-----------|-------------|-------------|--------------------|--|
| | | | | | (1)NUMBER | (2)CAPACITY | (3)MATERIAL | (4)HOLDUP | (5)ABILITY=YEAR OR MONTH/TOTAL WASTE(NORMAL POWER) |
| | | | | | (1) | (2) | (3) | (4) | (5) |
| FUKUSIMA-2,3 | BWR | 7 | 1 | | MT1 | 1 | DAY/1 | TOTAL WASTE | 22 70/ 8 |
| FUKUSIMA-5 | BWR | 9 | 1 | | MT1 | 1 | DAY | (COMMON WITH 6G00) | 8-10-(5) 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 1 | | MT1 | 1 | DAY | TOTAL WASTE | 8-10-(5) 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 1 | | MT1 | 2 | WEEK | TOTAL WASTE | 8-10 (5) 71/12 |
| TODKAI-2 | BWR | 12 | 3 | | MT1 | 5 | YEAR/3 | TOTAL WASTE | 8-10-(5) 71/12 |

| SWDS | WASTE | SLUDGE | SEPARATE | TANK | 803450 | | | | |
|---------|-------|--------|----------|------|-----------|-------------|-------------|-------------|--|
| | | | | | (1)NUMBER | (2)CAPACITY | (3)MATERIAL | (4)HOLDUP | (5)ABILITY=YEAR OR MONTH/TOTAL WASTE(NORMAL POWER) |
| | | | | | (1) | (2) | (3) | (4) | (5) |
| DNAGAWA | BWR | 4 | 4 | 100 | MT1 | 10 | MONTH/1 | TOTAL WASTE | 8-10-(5) 70/ 5 |

| SWDS | FILTRATE D | SLUDGE | STORAGE | TANK | 803460 | | | | |
|-------------|------------|--------|---------|------|-----------|-------------|-------------|-----------|--|
| | | | | | (1)NUMBER | (2)CAPACITY | (3)MATERIAL | (4)HOLDUP | (5)ABILITY=YEAR OR MONTH/TOTAL WASTE(NORMAL POWER) |
| | | | | | (1) | (2) | (3) | (4) | (5) |
| HAMAOKA-1 | BWR | 5 | 4 | 90 | | | | | 8-91 70/ 5 |
| HAMAOKA-2 | BWR | 13 | 4 | | | | 8 | MONTH/1 | 8-79 72/ 9 |
| KASHIWAZAKI | BWR | 15 | 2 | 150 | MT2 | | | | 8-10-14 75/ 3 |

| SWDS | CONDENSE SYSTEM | RESIN | POWDER | STORAGE | 803470 | | | | |
|-----------|-----------------|-------|--------|---------|-----------|-------------|-------------|-----------|--|
| | | | | | (1)NUMBER | (2)CAPACITY | (3)MATERIAL | (4)HOLDUP | (5)ABILITY=YEAR OR MONTH/TOTAL WASTE(NORMAL POWER) |
| | | | | | (1) | (2) | (3) | (4) | (5) |
| HAMAOKA-1 | BWR | 5 | 3 | 95 | | | | | 8-91 70/ 5 |

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SWDS PURIFY SYSTEM FILT. SLUDGE STORAGE 803480
 (1)NUMBER
 (2)CAPACITY M3/1
 (3)MATERIAL MT1=CARBON STEEL MT2=STAINLESS STEEL
 (5)REMARKS HOLDUP ABILITY=YEAR OR MONTH/TOTAL WASTE(NORMAL POWER)
 (1) (2) (3) (4) (5)
 FUKUSIMA-6 BWR 11 1 MT2 10 YEAR/1 TOTAL WASTE 8-10-(5) 71/12

FUEL POND SLUDGE STORAGE TANK 803490
 (1)NUMBER
 (2)CAPACITY M3/1
 (3)MATERIAL MT1=CARBON STEEL MT2=STAINLESS STEEL
 (5)REMARKS HOLDUP ABILITY=YEAR OR MONTH/TOTAL WASTE(NORMAL POWER)
 (1) (2) (3) (4) (5)
 FUKUSIMA-6 BWR 11 1 MT1 2 WEEK TOTAL WASTE 8-10-(5) 71/12
 HAMADKA-2 BWR 13 2 2 YEAR/1 8-79 72/9

SWDS SYSTEM DRAIN FILTER SLUDGE STORAGE 803500
 (1)NUMBER
 (2)CAPACITY M3/1
 (3)MATERIAL MT1=CARBON STEEL MT2=STAINLESS STEEL
 (5)REMARKS HOLDUP ABILITY=YEAR OR MONTH/TOTAL WASTE(NORMAL POWER)
 (1) (2) (3) (4) (5)
 FUKUSIMA-6 BWR 11 2 MT1 2.5 YEAR/1 TOTAL WASTE 8-10-(5) 71/12

SWDS SINKING TANK OF CONDENSE D WATER PURIFY 803510
 (1)NUMBER
 (2)CAPACITY M3/1
 (3)MATERIAL MT1=CARBON STEEL MT2=STAINLESS STEEL
 (5)REMARKS HOLDUP ABILITY=YEAR OR MONTH/TOTAL WASTE(NORMAL POWER)
 (1) (2) (3) (4) (5)
 DNAGAWA BWR 4 2 50 MT1 45 DAY/1 TOTAL WASTE 8-10-(5) 70/5

SWDS CONCENTRATED LIQUID WASTE WEIGHING 803520
 (1)NUMBER
 (2)CAPACITY M3/1
 (3)MATERIAL MT1=CARBON STEEL MT2=STAINLESS STEEL
 (5)REMARKS HOLDUP ABILITY=YEAR OR MONTH/TOTAL WASTE(NORMAL POWER)
 (1) (2) (3) (4) (5)
 FUKUSIMA-6 BWR 11 1 200 MT1 8-10-(5) 71/12

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SWDS SPENT RESIN STORAGE TANK 803530
 (1)NUMBER
 (2)CAPACITY M3/1
 (3)MATERIAL MT1=CARBON STEEL MT2=STAINLESS STEEL
 (5)REMARKS HOLDUP ABILITY=YEAR OR MONTH/TOTAL WASTE(NORMAL POWER)
 (1) (2) (3) (4) (5)
 FUKUSIMA-2-3 BWR 7 1 MT2 5 YEAR (COMMON WETH 1,2G00) 22 70/8

SWDS WASTE SLUDGE STORAGE TANK UNDERGRO 803540
 (1)NUMBER
 (2)CAPACITY M3/1
 (3)MATERIAL MT1=CARBON STEEL MT2=STAINLESS STEEL
 (5)REMARKS HOLDUP ABILITY=YEAR OR MONTH/TOTAL WASTE(NORMAL POWER)
 (1) (2) (3) (4) (5)
 FUKUSIMA-2-3 BWR 7 1 MT2 5 YEAR (COMMON WETH 1,2G00) 22 70/8

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DRY-WELL TYPE SIZE

822220

- (1)TYPE TP1=PRESSURE SUPPRESSION TYPE
- (2)SHAPE SP1=FLASK
SP2=FRUSTUM CONE
- (3)SIZE OF FLASK
(3A) SPHERE DIAMETER (D)
(3B) CYLINDER DIAMETER (D)
(3C) HEADER DIAMETER
- (4)SIZE OF FRUSTUM CONE
(4A) DIAMETER OF TOP
(4B) DIAMETER OF DIAPHRAGM
(4C) DIAMETER OF CYLINDER
(4D) HEIGHT OF CYLINDER-PART
- (5)TOTAL HEIGHT
(1) (2) (3A)/(3B) / (3C) (5)
TYPE SHAPE (4A)*(4B) *(4C) *(4D) M

| DRY-WELL TYPE | SIZE | TYPE | SHAPE | (4A) | (4B) | (4C) | (4D) | (5) |
|----------------|--------|------|-------|-------|-------|-------|-------|---------------------|
| | | | | M | M | M | M | M |
| JPOX-1 | BWR 1 | NONE | | | | | | / |
| JPOX-2 | BWR 2 | NONE | | | | | | / |
| TSURUGA | BWR 3 | TP1 | SP1 | 18.28 | 8.5 | | | 32.84 R-9 66/ 8 |
| DNAGAWA | BWR 4 | TP1 | SP1 | 19.2 | 9.8 | 1.13 | | 33.1 8-12-(2) 70/ 5 |
| HAMAOKA-1 | BWR 5 | TP1 | SP1 | 19.2 | 9.8 | 1.03 | (D) | 33.1 8-98 70/ 5 |
| FUKUSIMA-1 | BWR 6 | TP1 | SP1 | 17.7 | 9.6 | | | 32. R-9 66/ 8 |
| FUKUSIMA-2,3 | BWR 7 | TP1 | SP1 | 20.0 | 10.9 | | | 34.1 70/ 5 |
| SHIMANE | BWR 8 | TP1 | SP1 | 17.7 | 9.6 | | | 32. 70/ 5 |
| FUKUSIMA-5 | BWR 9 | TP1 | SP1 | 20.0 | 10.9 | 1.46 | | 34.1 8-12-(2) 71/ 2 |
| FUKUSIMA-4 | BWR 10 | TP1 | SP1 | 20.0 | 10.9 | 1.46 | | 34.1 8-12-(2) 71/ 8 |
| FUKUSIMA-6 | BWR 11 | TP1 | SP2 | 9.7 | *24.9 | *25.9 | *16.0 | 48.0 8-12-(2) 71/12 |
| TOOKAI-2 | BWR 12 | TP1 | SP2 | 9.7 | *24.9 | *25.9 | *16.0 | 48.0 8-12-(2) 71/12 |
| HAMAOKA-2 | BWR 13 | TP1 | | | | | | / |
| TOHIOKA | BWR 14 | TP1 | | | | | | / |
| KASHIWAZAKI | BWR 15 | TP1 | SP2 | 9.7 | *24.9 | *26.4 | | 46.5 8-5-22 75/ 3 |
| VERMONT YANKEE | BWR 52 | | SP1 | | | | | 70/ 5 |
| MILLSTON | BWR 54 | | SP1 | 19.5 | 10.4 | | | 33.5 R-9 66/ 8 |
| DRESDEN-2 | BWR 56 | | SP1 | 19.5 | 10.7 | | | R-9 66/ 8 |
| OYSTER CREEK | BWR 57 | | SP1 | 36.6 | 9.8 | | | 32. R-9 66/ 8 |
| DUANE ARNOLD | BWR 58 | | SP1 | | | | | A-2 P4 70/ 7 |

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DRY-WELL FREE VOLUME DESIGN-P DESIGN-T LEAKRATE 822240

- (1)FREE VOLUME OF DRY-WELL M3
- (2)FREE VOLUME OF ((DRY-WELL)+(VENT TUBE)) M3
- (3)DESIGN PRESSURE (INNER)/(OUTER) KG/CM2G
- (4)DESIGN TEMPERATURE DEG C
- (5)DESIGN LEAK RATE(EQUIVALENT AIR AT ROOM-TEMP. AND DESIGN PRESSURE) PERCENT/DAY

| DRY-WELL TYPE | VOLUME | DESIGN-P | DESIGN-T | LEAKRATE | (1) | (2) | (3) | (4) | (5) |
|----------------|--------|----------|----------|----------|-------|-----------|-------------|-----|----------------|
| | | | | | M3 | M3 | INNER/OUTER | C | PC/D |
| TSURUGA | BWR 3 | | | | 4030. | 4.36/ | 138. | | 0.5 R-9 66/ 8 |
| DNAGAWA | BWR 4 | 3490. | | | 3770. | 3.92/0.14 | 138. | 0.5 | 8-12-(2) 70/ 5 |
| HAMAOKA-1 | BWR 5 | | | | 3740. | 3.92/0.14 | 138. | 0.5 | 8-98 70/ 5 |
| FUKUSIMA-1 | BWR 6 | 3000. | | | | 4.35/ | 138. | 0.5 | 70/ 5 |
| FUKUSIMA-2,3 | BWR 7 | | | | 3770. | 3.92/ | | 0.5 | 70/ 5 |
| SHIMANE | BWR 8 | 3000. | | | | 3.94/ | | 0.5 | 70/ 5 |
| FUKUSIMA-5 | BWR 9 | 3770. | | | 4240. | 3.92/0.14 | 138. | 0.5 | 8-12-(2) 71/ 2 |
| FUKUSIMA-4 | BWR 10 | 3770. | | | 4240. | 3.92/0.14 | 138. | 0.5 | 8-12-(2) 71/ 8 |
| FUKUSIMA-6 | BWR 11 | 5400. | | | 5700. | 2.85/0.14 | 142. | 0.5 | 8-12-(2) 71/12 |
| TOOKAI-2 | BWR 12 | 5400. | | | 5700. | 2.85/0.14 | 142. | 0.5 | 8-12-(2) 71/12 |
| HAMAOKA-2 | BWR 13 | | | | 4320. | 3.92/0.14 | 138. | 0.5 | 8-85 72/ 9 |
| KASHIWAZAKI | BWR 15 | | | | 5700. | 2.85/0.14 | 171. | 0.5 | 8-5-22 75/ 3 |
| VERMONT YANKEE | BWR 52 | | | | 3800. | 3.92/0.14 | | | A-2 P4 70/ 5 |
| MILLSTON | BWR 54 | | | | | 4.36 | 138. | | R-9 66/ 8 |
| DRESDEN-2 | BWR 56 | | | | 5100. | 4.36 | 138. | | R-9 66/ 8 |
| OYSTER CREEK | BWR 57 | | | | | 4.36 | | | R-9 66/ 8 |
| DUANE ARNOLD | BWR 58 | | | | 3740. | 3.92/0.14 | 138. | | A-2 P4 70/ 5 |

DRY-WELL DIAPHRAGM FLOOR 822270

- (1)SHAPE SP1=CIRCULAR PLATE
- (2)SIZE DD/ID
- (3)THICKNESS OF SLAB (INCLUDE THERMAL INSULATOR)
- (4)PRESSURE DIFFERENCE FOR DESIGN
- (5)TEMPERATURE DIFFERENCE FOR DESIGN
- (6)STRUCTURE ST1=REINFORCED CONCRETE SUPPORTED BY STEEL-BEAM
- (1) (2) (3) (4) (5) (6)
DD / ID FROM / TO MM KG/CM2.D DEG-C

| | | | | | | | | | |
|-------------|--------|-----|------------|------|------|------|------|-----|--------------|
| KASHIWAZAKI | BWR 15 | SP1 | 24.8 / 9.1 | 530. | 610. | 1.76 | 117. | ST1 | 8-5-23 75/ 3 |
|-------------|--------|-----|------------|------|------|------|------|-----|--------------|

DRY-WELL VACUUM RELIEF DEVICE 822272

- (1)TYPE TP1=YOKO-GATA SWING TYPE
- (2)DIAMETER
- (3)NUMBER
- (1) (2) (3)
TYPE M NO.

| | | | | | | | | | |
|-------------|--------|-----|--------|--|--|--|--|--|--------------|
| KASHIWAZAKI | BWR 15 | TP1 | 0.5 11 | | | | | | 8-5-23 75/ 3 |
|-------------|--------|-----|--------|--|--|--|--|--|--------------|

DRY-WELL FGCS BLOWER 822274
 (1)TYPE TP1=CFNTRIFUGAL BLOWER
 (2)NUMBER
 (3)CAPACITY NORMAL CURIC METER /HOUR =NM3/H
 (1) (2) (3)
 TYPE NO. NM3/H
 KASHIWA7AKI BWR 15 TP1 1+(1) 170/4/1 8-5-24 75/ 3

DRY-WELL FGCS RECOMBINER 822275
 (1)TYPE TP1=KANETSU-SIKI RECOMBINER
 (2)NUMBER
 (3)CAPACITY OF HEATER KW/1
 (4)CAPACITY OF TREATMENT NORMAL CURIC METER /HOUR =NM3/H
 (1) (2) (3) (4)
 TYPE NO. KW/1 NM3/H
 KASHIWA7AKI BWR 15 TP1 1+(1) 60/1 170/M/1 8-5-24 75/ 3

DRY-WELL FGCS COOLER 822276
 (1)TYPE TP1=YDKOGATA STRAIGHT TUBE
 (2)NUMBER
 (1) (2)
 KASHIWA7AKI BWR 15 TP1 1+(1) 8-5-24 75/ 3

DRY-WELL INERT GAS SYSTEM LIN. N2 STORAGE TANK 822278
 (1)TYPE TP1=OUTDOOR TYPE
 (2)NUMBER
 (3)CAPACITY TON/1
 (1) (2) (3)
 KASHIWA7AKI BWR 15 TP1 1. 50.1/1

DRY-WELL SPRAY HEADER 822279
 (01)NUMBER
 (02)FLOW RATE M3/H
 (S1)NUMBER
 (S2)FLOW RATE M3/H
 ----- DRY-WELL SIDE ----- SUPPRESSION CHAMBER SIDE
 (01) (02) (S1) (S2)
 M3/H M3/H
 KASHIWA7AKI BWR 15 2 1600. 1 90. 8-5-25 75/ 3

DRY-WELL S.CHAMB. MATERIAL NOT 822280
 (1)MATERIAL
 MT1=GENSIRYOKU HATSUDENYOD TANSOKOD ATSUEN 4-SHU
 MT2=JIS G3118 CHOU-JOU-ON ATSURYOKU YOOKI-YOD TANSO KODHAN 3-SHU
 MT3=JIS G3115 ATSURYOKU YOOKI-YOD KODHAN 4-SHU
 MT4=ASTM A516 GR.70
 MT5=ASTM A516
 MT6=ASME SA516 GR.60
 MT7=ASME SA516 GR.70
 MT8=CARBON STEEL(GENSIRYOKU HATSUDENYOD TANSOKOD ATSUEN-KODHAN)
 (2)NIL DUCTILITY TRANSITION TEMPERATURE DEG C
 -----(1)----- (2)
 DEG-C
 ONAGAWA BWR 4 MT6 OR MT7 -17. 8-12-(3) 70/ 5
 HAMADKA-1 BWR 5 MT5 DES.T-17. 8-99 70/ 5
 FUKUSIMA-5 BWR 9 MT7 -17. 8-12-(3) 71/ 2
 FUKUSIMA-4 BWR 10 MT7 -17. 8-12-(3) 71/ 8
 FUKUSIMA-6 BWR 11 MT7 SUOTOD -17. 8-12-(3) 71/12
 TUDOKAI-2 BWR 12 MT7 SUOTOD -17. 8-12-(3) 71/12
 HAMADKA-2 BWR 13 MT8 SUOTOD DES.T-17. 8-85 72/ 9
 KASHIWA7AKI BWR 15 MT1 SUOTOD(MT4 OR MT2) 8-5-23 75/ 3

EGSIRC EME.GAS RECI.C. SYST. IN REACTOR CONTAINER 822292
 (1)NUMBER OF SYSTEM
 (2)DESIGN FLOW RATE NORMAL M3/D
 (3)TIMES OF AIR VOLUME IN CONTAINER PER ONE-DAY-RECIRCULATION
 (4)FILTER EFFICIENCY AGAINST IODINE (4A)PC AT (4B)PC OF HUMIDITY
 (1) (2) (3) (4A) (4B)
 NO. NM3/D TIMES PC PC
 KASHIWA7AKI BWR 15 1+(1) 36000. 6. 97. LE 80. 8-5-26 75/ 3

EGSIRC EME.GAS VENT. SYST. IN REACTOR CONTAINER 822294
 (1)NUMBER OF SYSTEM
 (2)DESIGN FLOW RATE NORMAL M3/D
 (3)TIMES OF AIR VOLUME IN CONTAINER PER ONE-DAY-VENTILATION
 (4)FILTER EFFICIENCY AGAINST IODINE (4A)PC AT (4B)PC OF HUMIDITY
 (1) (2) (3) (4A) (4B)
 NO. NM3/D TIMES PC PC
 KASHIWA7AKI BWR 15 1+(1) 6000. 1. 99. LE 70. 8-5-26 75/ 3

PWR REACTOR CONTAINER

TYPE 822310

(1)TYPE TP1=JOOBU-HANKYUU-GATA KABU-SARA-GATA KAGAMI ENTOD-GATA
TP2=JOOBU-HANKYUU-GATA KABU-HANDAEN KAGAMI ENTODKEI
TP3=HYBRID

(2)DESIGN PRESSURE KG/CM2G
(3)DESIGN TEMPERATURE DEG-C
(4)INNER DIAMETER M
(5)TOTAL HEIGHT M
(6)SIDE-WALL THICKNESS MM
(7)DOME-PLATE THICKNESS MM
(8)LEAK RATE PC/DAY

CONDITION(A)=AT ROOM TEMP.+DESIGN-P+AIR
CONDITION(B)=AT DESIGN PRESSURE
CONDITION(C)=AT TEST PRESSURE

(1) (2) (3) (4) (5) (6) (7) (8)
P C M M MM MM PC/D

| | | | | | | | | | | | | |
|------------|-----|----|-----|------|-----|------|------|-------|--------|------------|--------|-------|
| MIHAMA-1 | PWR | 21 | TP1 | 2.4 | 133 | | | | 0.1B | BK80-2 P26 | 71/ 8 | |
| MIHAMA-2 | PWR | 22 | TP1 | 2.5 | 137 | | | | 0.1B | BK80-2 P26 | 71/ 8 | |
| TAKAHAMA-2 | PWR | 23 | TP1 | 2.4 | 122 | 38. | 81. | 38 | 0.1(A) | 8-111 | 70/ 5 | |
| GENKAI-1 | PWR | 24 | TP2 | 2.45 | 141 | 33.4 | 66.5 | 35 | 0.1(A) | 8-126 | 70/ 5 | |
| TAKAHAMA-1 | PWR | 25 | TP1 | 2.4 | 130 | | | | 0.1(C) | BK80-2 P26 | 71/ 8 | |
| DUI-1,2 | PWR | 26 | TP1 | 2.4 | 130 | | | | | | / | |
| DUI-1,2 | PWR | 26 | TP3 | 0.84 | 116 | 37. | 52. | 12/38 | 0.5(A) | 8-113 | 71/ 1 | |
| DUI-1,2 | PWR | 26 | TP3 | 0.84 | 116 | 37. | 52. | 12/38 | 0.5(A) | 8-113 | 71/ 1 | |
| MIHAMA-3 | PWR | 27 | TP1 | 2.4 | 122 | 38. | 81. | 38 | 0.1(A) | 8-111 | 71/ 8 | |
| IKATA-1 | PWR | 28 | TP2 | 2.45 | 141 | 33.4 | 66.5 | 35 | 0.1(A) | 8-123 | 72/11 | |
| IKATA-2 | PWR | 30 | TP1 | 2.45 | 141 | 33. | 67. | 35 | 19 | 0.1(A) | 8-5-24 | 75/ 5 |
| SENDAI | PWR | 31 | TP2 | 2.33 | 128 | 40. | 87. | 38 | | 8-5-25 | 76/ 5 | |

PWR REACTOR CONTAINER

MATERIAL 822350

(1)MATERIAL
(2)TUBE MATERIAL

MT1=CARBON STEEL
MT2=ASTM A516 GR70A 300 S00T00
MT3=GENSIRYOKU HATUDENYUO TANSO KOO ATUEN KOOHAN 4SH1
(JIS-G-3118 SGV 49)
MT4=JIS-G-3460 TEION-HAIKAN-YOO KOOKAN S00T00
(ASME SA-333GR60)

(1) (2)

| | | | | | | | | | | | |
|------------|-----|----|--|--|--|--|--|--|--|------------|-------|
| MIHAMA-1 | PWR | 21 | MT1 | | | | | | | BK80-2 P26 | 71/ 8 |
| MIHAMA-2 | PWR | 22 | MT1 | | | | | | | BK80-2 P26 | 71/ 8 |
| TAKAHAMA-2 | PWR | 23 | MT1 | | | | | | | BK80-2 P26 | 71/ 8 |
| TAKAHAMA-1 | PWR | 25 | MT1 | | | | | | | BK80-2 P26 | 71/ 8 |
| DUI-1,2 | PWR | 26 | UPPER=MT1, LOWER=CONCRETE WITH CARBON STEEL LINING | | | | | | | 8-113 | 71/ 1 |
| MIHAMA-3 | PWR | 27 | MT2 | | | | | | | BK80-2 P26 | 71/ 8 |
| IKATA-1 | PWR | 28 | MT1 | | | | | | | 8-124 | 72/11 |
| IKATA-2 | PWR | 30 | MT3 MT4 | | | | | | | 8-5-24 | 75/ 5 |
| SENDAI | PWR | 31 | MT1 | | | | | | | 8-5-25 | 76/ 5 |

PWR REACTOR CONTAINER

SHIELD BUILDING 822390

(1)TYPE TP1=TATE-OKI ENTOD
TP2=ENTOD JOORU DOME

(2)ID M
(3)HEIGHT FROM GROUND LEVEL M
(4)WALL THICKNESS M
(5)DOME THICKNESS (TOP) M
(6)MATERIAL MT1=FERRU-CONCRETE
(7)ANNULUS VOLUME M3

(1) (2) (3) (4) (5) (6) (7)
--INNER DIA.-- H ---T--- MAT. VOL.
M M M M M3

| | | | | | | | | | | | | |
|------------|-----|----|-----|----------------|-----|-------------|---------|--|--|-----|------------|-------|
| MIHAMA-1 | PWR | 21 | TP1 | 36. | 50. | | | | | MT1 | BK80-2 P26 | 71/ 8 |
| MIHAMA-2 | PWR | 22 | TP1 | 37. | 52. | | | | | MT1 | BK80-2 P26 | 71/ 8 |
| TAKAHAMA-2 | PWR | 23 | TP1 | 42. | 81. | | | | | MT1 | BK80-2 P26 | 71/ 8 |
| GENKAI-1 | PWR | 24 | TP1 | 36.4 | 43. | | | | | MT1 | 8-126 | 70/ 5 |
| TAKAHAMA-1 | PWR | 25 | TP1 | 42. | 80. | | | | | MT1 | BK80-2 P26 | 71/ 8 |
| DUI-1,2 | PWR | 26 | TP2 | 40. | 54. | | | | | MT1 | 8-113 | 71/ 1 |
| MIHAMA-3 | PWR | 27 | TP1 | 42. | 81. | | | | | MT1 | BK80-2 P26 | 71/ 8 |
| IKATA-1 | PWR | 28 | TP1 | 36. | 68. | | | | | MT1 | 8-124 | 72/11 |
| IKATA-2 | PWR | 30 | TP2 | 36.3/36.5/36.7 | 67. | 0.9/0.8/0.7 | 0.6/0.2 | | | MT1 | 8-5-24 | 75/ 5 |

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| S.CHAMB. TYPE | SIZE | VOLUME | DESIGN.P | DESIGN.T | 822420 | | | | | | |
|---------------------------------|------|--------|----------------|----------|-------------|-------|-----------------------------|------------|---------|----------|-------|
| (1)TYPE | | | | | | | ANN=ANNULAR CYL=CYLINDER | | | | |
| (2)ANNULAR-CIRCLE MEAN DIAMETER | | | | | | | M | | | | |
| (3)ANNULAR SECTION DIAMETER | | | | | | | M | | | | |
| (4)FREE VOLUME | | | | | | | M ³ | | | | |
| (5)POOL WATER VOLUME | | | | | | | M ³ | | | | |
| (6)DESIGN PRESSURE | | | | | | | INNER/OUTER | | KG/CM2G | | |
| (7)DESIGN TEMPERATURE | | | | | | | DEG-C | | | | |
| (1) | (2) | (3) | (4) | (5) | ---(6)--- | | (7) | | | | |
| TYPE | M | M | F.LDL | M.VOL | DES.PRESS. | | C | | | | |
| | | | M ³ | | --KG/CM2G-- | | C | | | | |
| TSURUGA | BWR | 3 | ANN | 26.8 | 8.24 | 4490T | 1620. | 4.36 / | | R-9 | 66/ 8 |
| ONAGAWA | BWR | 4 | ANN | 31.4 | 8.1 | 2820. | 1850. | 3.92 /0.14 | 138. | 8-12-(2) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | ANN | 31.7 | 7.6 | 2690. | 1670. | 3.92 /0.14 | 138. | 8-98 | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | ANN | 31.4 | 8.1 | 2798. | 1880. | | | 85-4-2 | 70/11 |
| FUKUSIMA-1 | BWR | 6 | ANN | 29.6 | 8.08 | 2620. | 1800. | 4.36 / | | R-9 | 66/ 8 |
| FUKUSIMA-2,3 | BWR | 7 | ANN | 33.5 | | | | | | | / |
| SHIMANE | BWR | 8 | ANN | 29.6 | | | 1800. | | | 8-12-(3) | 71/ 2 |
| FUKUSIMA-5 | BWR | 9 | ANN | 33.5 | 8.9 | 3160. | 2980. | 3.92 /0.14 | 138. | 8-12-(3) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | ANN | 33.5 | 8.9 | 3160. | 2980. | 3.92 /0.14 | 138. | 8-12-(3) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | CYL | | | 4100. | 3200. | 2.85 /0.14 | 99. | 8-12-(2) | 71/12 |
| TODKAI-2 | BWR | 12 | CYL | | | 4100. | 3200. | 2.85 /0.14 | 99. | 8-12-(2) | 71/12 |
| KASHIMAZAKI | BWR | 15 | CYL | | | 4000. | 3300. | 2.85 /0.14 | 104. | 8-5-22 | 75/ 3 |
| VERMONT YANKEE | BWR | 52 | ANN | | | 3066. | 2208. | 3.92 /0.14 | 138. | A-2 | 70/ 5 |
| MILLSTON | BWR | 54 | ANN | 31.7 | 8.84 | 3110. | 2660. | 4.36 / | | R-9 | 66/ 8 |
| DRESDEN-2 | BWR | 56 | ANN | 29.6 | | 3110. | 3350. | 4.36 / | | R-9 | 66/ 8 |
| OYSTER CREEK | BWR | 57 | ANN | 30.78 | 8.84 | | | | | R-9 | 66/ 8 |
| DUANE ARNOLD | BWR | 58 | ANN | | | 2690. | 1670. | 3.92 /0.14 | 138. | A2 P5 | 70/ 7 |

| S.CHAMB. VENT | TUBE | NUMBER | AND SIZE | 822460 | | | | | | |
|-----------------------|------|--------|-------------|--------|------|-------------------|------|------------|-------|--|
| (1)TYPE | | | | | | TP1=VERTICAL TUBE | | | | |
| (2)NUMBER | | | | | | | | | | |
| (3)DIAMETER | | | | | | I=ID | | | | |
| (4)DESIGN PRESSURE | | | | | | INNER/OUTER | | | | |
| (5)DESIGN TEMPERATURE | | | | | | DEG C | | | | |
| (1) | (2) | (3) | ---(4)--- | | (5) | | | | | |
| TYPE | NO. | DIA. | INNER/OUTER | | C | | | | | |
| | | M | KG/SQCM | | | | | | | |
| DNAGAWA | BWR | 4 | 8 | 1.6 | | | | 8-12-(3) | 70/ 5 | |
| HAMAOKA-1 | BWR | 5 | 8 | 1.45 I | | | | 8-98,99 | 70/ 5 | |
| FUKUSIMA-1 | BWR | 6 | 8 | 1.75 I | | | | | 70/ 5 | |
| FUKUSIMA-2,3 | BWR | 7 | 8 | 2.06 I | | | | | 70/ 5 | |
| SHIMANE | BWR | 8 | 8 | 1.75 I | | | | | 70/ 5 | |
| FUKUSIMA-5 | BWR | 9 | 8 | 2.06 I | | | | 8-12-(3) | 71/ 2 | |
| FUKUSIMA-4 | BWR | 10 | 8 | 2.06 I | | | | 8-12-(3) | 71/ 8 | |
| FUKUSIMA-6 | BWR | 11 | 108 | 0.61 | | | | 8-12-(2,3) | 71/12 | |
| TODKAI-2 | BWR | 12 | 108 | 0.61 | | | | 8-12-(2,3) | 71/12 | |
| KASHIMAZAKI | BWR | 15 | TP1 | 108 | 0.61 | 1.76/0.07 | 171. | 8-5-23 | 75/ 3 | |

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| S.CHAMB. DOWN-C. | TUBE | NUMBER | HEADER | DIA | 822480 | | | | | |
|----------------------------|------|--------|--------|----------|--------|---|--|------------|-------|--|
| (1)NO. OF DOWN-CUMMER TUBE | | | | | | | | | | |
| (2)HEADER DIAMETER | | | | | | M | | | | |
| (1) | (2) | | | | | | | | | |
| NO. | M | | | | | | | | | |
| DNAGAWA | BWR | 4 | 64 | 1.13 | | | | 8-12-(2,3) | 70/ 5 | |
| HAMAOKA-1 | BWR | 5 | 48 | 1.03(10) | | | | 8-99 | 70/ 5 | |
| FUKUSIMA-5 | BWR | 9 | 96 | 1.46 | | | | 8-12-(2,3) | 71/ 2 | |
| FUKUSIMA-4 | BWR | 10 | 96 | 1.46 | | | | 8-12-(2,3) | 71/ 8 | |
| HAMAOKA-2 | BWR | 13 | 80 | 1.37 | | | | 8-84 | 72/ 9 | |

| ICE COND. | SIZE | 825000 | | | | | |
|-----------|------|-----------|-----------|----------------|--------|-------|-------|
| | | INNER DIA | OUTER DIA | ICE BED HEIGHT | | | |
| DUI-1,2 | PWR | 26 | 28.7 M | 36.6 M | 14.6 M | 8-115 | 71/ 1 |

| ICE COND CAPACITY COMPARTM ENT | DOOR OPERAT-P | 825200 | | | | |
|--------------------------------|---------------|----------|---------------|------------------|-------|-------|
| | | CAPACITY | DOOR OPERAT-P | | | |
| DUI-1,2 | PWR | 26 | 1250. TON | 0.0005 KG/SQCM-G | 8-115 | 71/ 1 |

| CONTAINER | SPRAY | PUMP | 825410 | | | | |
|-----------------------|---------------------|------|---------|-----|---|--------|-------|
| (1)TYPE | | | | | TP1=YOKO-DKI ENSHIN MOTOR DRIVE TP2=ENSHIN MOTOR DRIVE TP3=YOKO-DKI UZUMAKI MOTOR DRIVE TP4=YOKO-DKI UZUMAKI | | |
| (2)NUMBER | | | | | | | |
| (3)CAPACITY | | | | | M ³ /H/1 | | |
| (4)HEAD | | | | | M | | |
| (5)DESIGN PRESSURE | | | | | KG/CM2G | | |
| (6)DESIGN TEMPERATURE | | | | | DEG-C | | |
| (7)MATERIAL | | | | | MT1=STAINLESS STEEL | | |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | |
| NO. | M ³ /H/1 | M | KG/CM2G | | C | | |
| TAKAHAMA-2 | PWR | 23 | TP1 | 4 | 396. | 155. | |
| GENKAI-1 | PWR | 24 | TP1 | 2 | 600. | 135. | |
| DUI-1,2 | PWR | 26 | TP2 | 2 | 1000. | 124. | |
| MIHAMA-3 | PWR | 27 | TP1 | 4 | 423. | 124. | |
| IKATA-1 | PWR | 28 | TP1 | 2 | 630. | 140. | |
| IKATA-2 | PWR | 30 | TP3 | 2 | 630. | 135. | |
| SENDAI | PWR | 31 | TP4 | 4 | 470. | 170. | |
| | | | | | 28. | 150. | |
| | | | | | | MT1 | |
| | | | | | | 8-112 | 70/ 5 |
| | | | | | | 8-131 | 70/ 5 |
| | | | | | | 8-115 | 71/ 1 |
| | | | | | | 8-112 | 71/ 8 |
| | | | | | | 8-128 | 72/11 |
| | | | | | | 8-5-25 | 75/ 5 |
| | | | | | | 8-5-26 | 76/ 5 |

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| CONTAINER | SPRAY | H.EXCH. | 825450 | | | | | |
|--------------------|--------|---------|----------------|----------------------|----------------|------|-----|----------------------|
| (1)TYPE | | | | TP1=SHELL AND U-TUBE | | | | |
| (2)NUMBER | | | | TP2=U-TUBE | | | | |
| (3)CAPACITY | | | | TP3=YOKO-OKI U-TUBE | | | | |
| (4)MATERIAL | | | | MT1=STAINLESS STEEL | | | | |
| (5)DESIGN PRESSURE | | | | MT1=CARBON STEEL | | | | |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | |
| TYPE | NO. | CAP. | (DESIGN PRES.) | (DESIGN TEMP.) | 1) | 2) | | |
| | | | | (TUBE) (SHELL) | (TUBE) (SHELL) | | | |
| KCAL/H | | | | --KG/SQCMG-- | ---DEG-C--- | | | |
| GENKAI-1 | PWR 24 | TP1 2 | 1,64E7/1 | 28. | 10. | 150. | 95. | 8-131 70/ 5 |
| IKATA-1 | PWR 28 | TP1 2 | 1,57E7/1 | 28. | 10. | 150. | 95. | 8-127 72/11 |
| IKATA-2 | PWR 30 | TP2 2 | 1,3 E7/1 | 28. | 10. | 150. | 95. | MT1 MT1 8-5-25 75/ 5 |
| SENDAI | PWR 31 | TP3 2 | 2,3 E7/1 | 28. | 10. | 150. | 95. | MT1 MT1 8-5-26 76/ 5 |

| CONTAINER | IODINE | REMOVE CHEMICAL TANK | 825490 | | | | | |
|--------------------|--------|----------------------|--------|-------------------------|-----|-----|--|--------------|
| (1)TYPE | | | | TP1=YOKO-OKI ENTOD GATA | | | | |
| (2)NUMBER | | | | M3 | | | | |
| (3)CAPACITY | | | | | | | | |
| (4)FLUID | | | | | | | | |
| (5)DESIGN PRESSURE | | | | KG/CM2G | | | | |
| (6)MATERIAL | | | | MT1=STAINLESS STEEL | | | | |
| (1) | (2) | (3) | (4) | (5) | (6) | | | |
| NO. | M3 | | | KG/CM2G | | | | |
| GENKAI-1 | PWR 24 | 1 | 26 | NADH | | | | 8-130 70/11 |
| IKATA-1 | PWR 28 | 1 | 26 | NADH | | | | 8-128 72/11 |
| IKATA-2 | PWR 30 | TP1 1 | 26 | NADH(30WT/0) | 1. | | | 8-5-25 75/ 5 |
| SENDAI | PWR 31 | TP1 1 | 15 | NADH(30WT/0) | 0.7 | MT1 | | 8-5-26 76/ 5 |

| CONTAINER | SPRAY | NOZZLE | 825500 | | | | | |
|--|--------|---------|--------|----------------------|--|--|--|--------------|
| (1)TYPE | | | | TP1=BULLOW CONE TYPE | | | | |
| (2)NUMBER | | | | | | | | |
| (3)INORGANIC IODINE WASH OUT EFFICIENCY (EQUIVALENT HALF LIFE) | | | | SEC | | | | |
| (4)MATERIAL | | | | MT1=STAINLESS STEEL | | | | |
| (1) | (2) | (3) | (4) | | | | | |
| NO. | SEC | | | | | | | |
| IKATA-2 | PWR 30 | TP1 350 | L1100 | | | | | 8-5-25 75/ 5 |
| SENDAI | PWR 31 | TP1 520 | L1100 | MT1 | | | | 8-5-26 76/ 5 |

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| CONTAINER | ANNULUS AIR | RECIRC. FAN | 825700 | | | | | |
|-------------|-------------|-------------|--------|--------|--|--|--|-------------|
| (1)TYPE | | | | | | | | |
| (2)NUMBER | | | | | | | | |
| (3)CAPACITY | | | | M3/H/1 | | | | |
| (1) | (2) | (3) | | | | | | |
| NO. | M3/H/1 | | | | | | | |
| TAKAHAMA-2 | PWR 23 | 2. | 20400. | | | | | 8-113 70/ 5 |
| GENKAI-1 | PWR 24 | 2. | 6000. | | | | | 8-130 70/ 5 |
| ODI-1,2 | PWR 26 | 2. | 36600. | | | | | 8-115 71/ 1 |
| MIHAMA-3 | PWR 27 | 2. | 6800. | | | | | 8-113 71/ 8 |

| CONTAINER | ANNULUS AIR VENT FILTER | UNIT | 825720 | | | | | |
|-------------------------------|-------------------------|-------|--------|---|-----|----|--|--------------|
| (1)TYPE | | | | TP1=ROUGH FILTER,PARTICLE-FILTER,AND IODINE FILTER BUILT IN | | | | |
| (2)NUMBER | | | | TP2=PRI-FILTER,PARTICLE-FILTER BUILT IN | | | | |
| (3)CAPACITY | | | | M3/MIN/1 | | | | |
| (4)CHARCOAL THICKNESS | | | | MM | | | | |
| (5)IODINE FILTER EFFICIENCY | | | | PC (TEMP=100 C,RELATIVE HUMIDITY=80PC) | | | | |
| (6)PARTICLE FILTER EFFICIENCY | | | | PC (0.7MICRON PARTICLE) | | | | |
| (1) | (2) | (3) | (4) | (5) | (6) | | | |
| NO. | M3/M/1 | MM | PC | PC | PC | | | |
| IKATA-2 | PWR 30 | TP1 2 | 100 | 50 | 95 | 99 | | 8-5-26 75/ 5 |
| SENDAI | PWR 31 | TP1 2 | 226 | | | 99 | | 8-5-27 76/ 5 |

| CONTAINER | ANNULUS AIR VENT IODINE | FILTER | 825730 | | | | | |
|-------------------------------------|-------------------------|--------|--------|--|-----|-----|--|--------------|
| (1)TYPE | | | | TP1=IODINE FILTER AND PARTICLE-FILTER BUILT IN | | | | |
| (2)NUMBER | | | | | | | | |
| (3)CAPACITY | | | | M3/MIN/1 | | | | |
| (4)ACTIVATED CARBON LAYER THICKNESS | | | | (MM) | | | | |
| (5)IODINE FILTER EFFICIENCY | | | | PC (TEMP=100 C,RELATIVE HUMIDITY=80PC) | | | | |
| (6)PARTICLE FILTER EFFICIENCY | | | | PC (0.7 MICRON PARTICLE) | | | | |
| (1) | (2) | (3) | (4) | (5) | (6) | | | |
| | M3/M/1 | MM | PC | PC | | | | |
| SENDAI | PWR 31 | TP1 2 | 226. | 50. | 95. | 99. | | 8-5-27 76/ 5 |

| CONTAINER | ANNULUS AIR VENT FAN | 825740 | | | | | | |
|-------------|----------------------|--------|------------|----------------|--|--|--|--------------|
| (1)NUMBER | | | | | | | | |
| (2)CAPACITY | | | | M3/MIN/1* MMAQ | | | | |
| (1) | (2) | | | | | | | |
| NO. | M3/M/1 | MMAQ | | | | | | |
| IKATA-2 | PWR 30 | 2 | 100. * 250 | | | | | 8-5-26 75/ 5 |
| SENDAI | PWR 31 | 2 | 226 | | | | | 8-5-27 76/ 5 |

REACTOR BUILDING SIZE

827200

| | R.BUILD SIZE M | BASE SIZE | HEIGHT | | |
|-------------|-----------------------|-----------|----------------|-----------|-------|
| ONAGAWA | BWR 4 43*43*65(H) M | | 65=48.3+16.7 | 8-12-(6) | 70/ 5 |
| HAMAOKA-1 | BWR 5 42*42*61(H) M | 65*65 M | 61=46. +15. | 8-102-125 | 70/ 5 |
| FUKUSIMA-5 | BWR 9 46*46*62.5(H)M | | 62.5=46. +16.5 | 8-12-(7) | 71/ 2 |
| FUKUSIMA-4 | BWR 10 46*46*62.5(H)M | | 62.5=46. +16.5 | 8-12-(7) | 71/ 8 |
| FUKUSIMA-6 | BWR 11 41.1*41.1*67 M | | 67. =55. +12. | 8-12-(6) | 71/12 |
| TOKAI-2 | BWR 12 41.1*41.1*67 M | | 67. =54.8+12.2 | 8-12-(6) | 71/12 |
| KASHIWA7AKI | BWR 15 48*48*66(H) M | 94*94 | 66. =29. +37. | 8-2-4 | 75/ 3 |

REACTOR BUILDING DESIGN LEAK RATE

827400

| | LEAK RATE | LT (A) PC/DAY AT (A2) MM NEGATIVE WATER HEAD | (B)DESIGN INNER PRESSURE XG/CM2G | | |
|-------------|-------------------------|--|----------------------------------|----------|-------|
| | (A1) (A2) PC MM KG/CM2G | (B) (B) XG/CM2G | | | |
| ONAGAWA | BWR 4 100. 6.4 | | 0.018 | 8-12-(6) | 70/ 5 |
| HAMAOKA-1 | BWR 5 100. 6.4 | | | 8-102 | 70/ 5 |
| FUKUSIMA-5 | BWR 9 100. 6.4 | | | 8-12-(7) | 71/ 2 |
| FUKUSIMA-4 | BWR 10 100. 6.4 | | | 8-12-(7) | 71/ 8 |
| FUKUSIMA-6 | BWR 11 100. 6.4 | | | 8-12-(6) | 71/12 |
| KASHIWA7AKI | BWR 15 100. 6.4 | | | 8-5-12 | 75/ 3 |

MAKE-UP WATER DEMINE. CAPACITY WATER QUALITY

831220

| | DEMINE. CAPACITY WATER QUALITY | T/H OR T/DAY | | |
|------------|--|--|---|----------------|
| | (A)CAPACITY OF DEMINERALIZER (B)MIXED BED OUTLET WATER QUALITY | | | |
| | SOLID IMPURITY SILICA ELECTRO CONDUCTIVITY -CL ION | LE (B1) PPM LE (B2) PPM LE (B3) MICRO MHQ/CM AT (B4) DEG C LE (B5) PPM | | |
| | (A) (B1) (B2) (B3/B4) (B5) | | | |
| | CAPACITY *SYSTEM PPM | SOLID SI PPM | % | PPM |
| | 94 35T/H*2 0.1 0.01 1.0/25 0.05 | | | 8-13-(1) 70/ 5 |
| HAMAOKA-1 | BWR 5 35T/H*2 0.1 0.01 1.0/25 0.01 | | | 8-105 70/ 5 |
| FUKUSIMA-5 | BWR 9 500T/D*2 0.1 0.01 1.0/25 0.01 | | | 8-13-(1) 71/ 2 |
| FUKUSIMA-4 | BWR 10 500T/D*2 0.1 0.01 1.0/25 0.01 | | | 8-13-(1) 71/ 8 |
| FUKUSIMA-6 | BWR 11 600T/D*2 0.1 0.01 1.0/25 0.01 | | | 8-13-(1) 71/12 |
| TOKAI-2 | BWR 12 500T/D*2 0.1 0.01 1.0/25 0.01 | | | 8-13-(1) 71/12 |
| TAKAHAMA-2 | PWR 23 COMMON WITH TAKAHAMA UNIT NO.1 | | | |

MAKE-UP WATER

831260

| | MAKE-UP WATER DESALINATION | TP1=MULTI STAGE FLASH TYPE | | |
|-------------|--|----------------------------|--|---------------|
| | (1)TYPE (2)NUMBER (3)CAPACITY (4)SEAWATER (5)RECIRCULATION WATER (6)QUALITY OF WATER (6A) SOLID STATE IMPURITY (6B) CL-ION | | | |
| | (1) (2) (3) (4) (5) (6A) (6B) | | | |
| | M3/DAY M3/DAY M3/DAY M3/DAY M3/DAY SOLID CL-ION | | | |
| KASHIWA7AKI | BWR 15 TP1 1 1000. 11000. 7500. LT 20. LT 10. | | | 8-12-23 75/ 3 |

AIR COMPRES. SYSTEM AIR-COMP FOR CONTROL

834220

| | AIR COMPRES. SYSTEM | AIR-COMP FOR CONTROL | | |
|------------|---|--|--|-----------------|
| | (1)TYPE (2)NUMBER (3)CAPACITY (4)DELIV. PRESSURE (1) (2) (3) (4) CAP. P NM3/M KG/CM2G | TP1=TATE-GATA WATER COOL OIL FREE TP2=TATE-GATA CARBON RING OIL FREE TP3=RECIPROCAL OIL FREE | | |
| | TYPE NO. NM3/M KG/CM2G | | | |
| JPDR-2 | BWR 2 TP1 1+(1) 1.59 7.0 |TURBINE CYATEM | | KON-6 P19 70/11 |
| JPDR-2 | BWR 2 TP2 1 2.31 7.0 |DUMP CONDENSER SYSTEM | | KON-6 P20 70/11 |
| ONAGAWA | BWR 4 TP3 1+(1) 5.6 7.0 | | | 8-13-(3) 70/ 5 |
| HAMAOKA-1 | BWR 5 1+(1) | | | 8-106 70/ 5 |
| TAKAHAMA-2 | PWR 23 2 | | | 8-118 70/ 5 |
| GENKAI-1 | PWR 24 2 | | | 8-134 70/ 5 |

AIR COMPRES. SYSTEM AIR-COMP FOR FACILITY

834260

| | AIR COMPRES. SYSTEM | AIR-COMP FOR FACILITY | | |
|------------|---|--|--|-----------------|
| | (1)TYPE (2)NUMBER (3)CAPACITY (4)DELIVERY PRESSURE (R1)=THIS COMPRESSOR IS ALSO TO BE USED AS BACK-UP FOR CONTROL. (1) (2) (3) (4) CAP. P NM3/M KG/CM2G | TP1=TATE-GATA WATER COOL. OIL FREE DOUBLE CONTROL TP2=RECIPROCAL | | |
| | TYPE NO. NM3/M KG/CM2G | | | |
| JPDR-2 | BWR 2 TP1 1 2.84 | | | KON-6 P40 70/11 |
| ONAGAWA | BWR 4 TP2 1 12.8 | | | 8-13-(3) 70/ 5 |
| HAMAOKA-1 | BWR 5 (R1) 2 | | | 8-106 70/ 5 |
| TAKAHAMA-2 | PWR 23 2 | | | 8-118 70/ 5 |
| GENKAI-1 | PWR 24 2 | | | 8-118 70/ 5 |
| GENKAI-1 | PWR 24 2 | | | 8-134 70/ 5 |

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| AUX. | STEAM | SYSTEM | COMPONENTS | 835000 |
|------|-------|--------|------------------------|--|
| | | | (1) AUX. STEAM SYSTEM | AUX. BOILER 835030 |
| | | | (2) AUX. STEAM SYSTEM | STEAM CONVERTER 835050 |
| | | | (3) AUX. STEAM SYSTEM | DRAIN PUMP 835070 |
| | | | (4) AUX. STEAM SYSTEM | STEAM DRAIN TANK 835090 |
| AUX. | STEAM | SYSTEM | AUX. BOILER | 835030 |
| | | | (1) TYPE | TP1=2-DRUM WATER-TUBE NATURAL CIRCULATION BOILER |
| | | | (2) CAPACITY | TON/H |
| | | | (3) NUMBER | |
| | | | (4) STEAM CONDITION | PRESSURE KG/CM2G |
| | | | (5) STEAM CONDITION | TEMPERATURE DEG-C |
| | | | (6) FUEL | H=HEAVY OIL, L=LIGHT OIL, K=KEROSENE |
| | | | (7) FUEL TANK CAPACITY | KL |
| | | | (8) MATERIAL | 1) DRUM MT1=CARBON STEEL |
| | | | | 2) TUBE MT1=LOW CARBON STEEL |
| | | | (1) T/H | (2) NO. |
| | | | (3) P | (4) C |
| | | | (5) FUEL | (6) KL |
| | | | (7) 1) | (8) 2) |
| | | | DNAGAWA | BWR 4 10. 2 8-13-(3) 70/ 5 |
| | | | FUKUSHIMA-5 | BWR 9 12. 2 8-13-(3) 71/ 2 |
| | | | FUKUSHIMA-4 | BWR 10 10. 2 8-13-(2) 71/ 8 |
| | | | FUKUSHIMA-6 | BWR 11 10. 2 8-13-(3) 71/12 |
| | | | FUDOKAI-2 | BWR 12 10. 2 8-13-(2) 71/12 |
| | | | HAMADKA-2 | BWR 13 13. 2 |
| | | | KASHIMAZAKI | BWR 15 30. 2 9.8 |
| | | | IKATA-2 | PWR 30 TP1 13. 2(CW1) 8. 175. H.L.K 360. 8-12-30 75/ 3 |
| | | | SENDAI | PWR 31 TP1 16. 2 8. 175. H 300. MT1 MT1 8-12-30 75/ 5 |

| AUX. | STEAM | SYSTEM | STEAM CONVERTER | 835050 |
|------|-------|--------|-----------------------------|---|
| | | | (1) TYPE | TP1=PACKAGE OUTDOOR TYPE |
| | | | (2) CAPACITY | TON/H |
| | | | (3) NUMBER | |
| | | | (4) STEAM CONDITION(HEATER) | PRESSURE KG/CM2G |
| | | | (5) STEAM CONDITION(HEATER) | TEMPERATURE DEG-C |
| | | | (6) STEAM CONDITION | PRESSURE KG/CM2G |
| | | | (8) MATERIAL | MT1=CARBON STEEL |
| | | | (1) T/H | (2) (3) P |
| | | | (4) C | (5) P |
| | | | (6) FUEL | (7) KL |
| | | | (8) 1) | (8) 2) |
| | | | IKATA-2 | PWR 30 TP1 20. 1 25. 221.8 7. 170. 8-12-30 75/ 5 |
| | | | SENDAI | PWR 31 TP1 12. 1 25. 222. 8. 175. MT1 8-12-29 76/ 5 |

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| AUX. | STEAM | SYSTEM | DRAIN PUMP | 835070 |
|------|-------|--------|------------------------|----------------------------------|
| | | | (1) NUMBER | |
| | | | (2) DESIGN PRESSURE | KG/CM2G |
| | | | (3) DESIGN TEMPERATURE | DEG-C |
| | | | (4) CAPACITY | M3/H |
| | | | (1) NO. | (2) P |
| | | | (3) C | (4) M3/H |
| | | | IKATA-2 | PWR 30 2 5. 100 20 8-12-30 75/ 5 |

| AUX. | STEAM | SYSTEM | STEAM DRAIN TANK | 835090 |
|------|-------|--------|------------------------|--|
| | | | (1) TYPE | TP1=SQUARE TANK |
| | | | (2) DESIGN PRESSURE | DEG-C |
| | | | (3) DESIGN TEMPERATURE | M3 |
| | | | (4) CAPACITY | |
| | | | (5) NUMBER | |
| | | | (1) P | (2) C |
| | | | (3) M3 | (4) NO. |
| | | | IKATA-2 | PWR 30 TP1 14TM 100 10 1 8-12-30 75/ 5 |

| FIRE | PROTECT. | PUMP | 836100 |
|------|----------|------|---|
| | | | (1) NUMBER |
| | | | (2) CAPACITY |
| | | | (3) HEAD |
| | | | (4) MOTOR OUTPUT |
| | | | (5) TYPE |
| | | | (6) MATERIAL |
| | | | (7) DIESEL ENGINE CAPACITY |
| | | | (8) DIESEL ENGINE FUEL |
| | | | (1) NO. |
| | | | (2) M3/M/1 |
| | | | (3) M |
| | | | (4) KW |
| | | | (5) (6) (7) (8) |
| | | | IKATA-2 |
| | | | SENDAI |
| | | | PWR 30 2 8.4 75. 160 8-12-31 75/ 5 |
| | | | PWR 31 2 9.5 110. 250 TP1 MT1 360 L 8-12-30 76/ 5 |

| FIRE | PROTECT. | BACKUP COMPONENTS | 836120 |
|------|----------|-------------------|-------------------------------------|
| | | | (1) WATER TANK CAPACITY |
| | | | (2) MOTOR OPERATED VALVE CAPACITY |
| | | | (3) STATICAL WATER HEAD |
| | | | (1) M3 |
| | | | (2) M3/M |
| | | | (3) M |
| | | | IKATA-2 |
| | | | PWR 30 10000. 8.4 100 8-12-31 75/ 5 |

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N. DATA K-EFF SHUT-DOWN MARGINE CONTROL WORTH 842220

| | | | (1)K-EFFECTIVE(TOTAL) | (2)SHUT-DOWN MARGINE | (3)CONTROL TOTAL WORTH | (4)CONTROL ROD WORTH | (5)POISON CERTAIN WORTH | (6)BURNABLE POISON | (7)INITIAL | (8)FINAL | | |
|--------------|-----|----|---------------------------------|----------------------|------------------------|----------------------|-------------------------|--------------------|------------|----------|-------------|-------|
| | | | (1)=(2)+(3)+(4)+(5)+(6)+(7)+(8) | (2) | (3) | (4) | (5) | (6) | | | | |
| JPDR-1 | BWR | 1 | 27. | 4. | 31. | 20. | 11. | | | | | 70/ 8 |
| JPDR-2 | BWR | 2 | 21. | 8.2 | 29.2 | 21.9 | 7.3 | | | | | 70/ 8 |
| TSURUGA | BWR | 2 | 29.2 | 8.2 | 29.2 | 21.9 | 7.3 | | | | | 71/ 1 |
| TSURUGA | BWR | 3 | 24. | 4. | 28. | 18. | 10. | | | | R-9 | 66/ 8 |
| TSURUGA | BWR | 3 | 15. | 3. | 18. | 18. | 10. | | | | 8-14-(1) | 75/ 1 |
| DNAGAWA | BWR | 4 | 25.(1) 13.(F) | 5. | 30. | 18. | 12. | | | | 8-14-(2,4) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 25.(1) 13.(F) | 4. | 29. | 17. | 12. | | | | 8-112 | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 25.(1) 13.(F) | 4. | 30. | 18. | 12. | | | | 85-4-2 | 70/11 |
| HAMAOKA-1 | BWR | 5 | 12. | 5. | 17. | 17. | 10. | | | | 95-2-3 P9 | 71/ 9 |
| FUKUSIMA-1 | BWR | 6 | 24. | 4. | 28. | 18. | 10. | | | | | 70/ 5 |
| FUKUSIMA-2,3 | BWR | 7 | 25. | 4. | 29. | 17. | 12. | | | | 70/6/20 | / |
| FUKUSIMA-2,3 | BWR | 7 | 12. | 5. | 17. | 17. | 10. | | | | 82-2-3 P12 | 70/ 8 |
| SHIMANE | BWR | 8 | 24. | 4. | 28. | 18. | 10. | | | | | 70/ 5 |
| FUKUSIMA-6 | BWR | 11 | 13.(1)(8*8) | | | | | | | | 5006.031 P4 | 75/ 8 |
| TUOKAI-2 | BWR | 12 | 13.(1)(8*8) | | | | | | | | 5006.041 P2 | 75/ 8 |
| TAKAHAMA-2 | BWR | 23 | 20.7 | | | | | | | | 8-127 | 70/ 5 |
| GENKAI-1 | BWR | 24 | 28. | | | | | | | | 80-9-1 | 70/ 5 |
| OUI-1,2 | BWR | 26 | 19.9 | | | | | | | | 8-129 | 71/ 1 |
| MIHAMA-3 | BWR | 27 | 19.4 | | | | | | | | 8-126 | 71/ 8 |
| BROWNS FERRY | BWR | 53 | 25. | | | | | | | | GSK-19 | 69/ 2 |
| MILLSTON | BWR | 54 | 26. | | | | | | | | R-9 | 66/ 8 |
| DRESDEN-1 | BWR | 55 | 12.(1) | | | 15. | | | | | DNR V4 P91 | 62/ |
| DRESDEN-2 | BWR | 56 | 25.(1) | | | 18. | | | | | DNR V7 | 68/ |
| OYSTER CREEK | BWR | 57 | 27. | | | | | | | | R-9 | 66/ 8 |
| BURLINGTON | BWR | 71 | 29.3 | | | | | | | | GSK-19 | 69/ 2 |

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N. DATA K-EFF SHUT-DOWN MARGINE CONTROL WORTH 842230

| | | | (A)=EXCESS REACTIVITY (COLD CLEAN) | (B)=SHUT-DOWN MARGINE | (C)=TOTAL CONTROL WORTH | (F)=BURNABLE POISON (SEE 73372,73373) | | | | | | | |
|------------|-----|----|------------------------------------|-----------------------|-------------------------|---------------------------------------|-----------------------------|---------------------|-----------------|--------------------------------|--|------------|-------|
| | | | (A) | (B) | (C) | (F) | (E)=BURNABLE POISON CHOOSE1 | (D)=CONTROL CLUSTER | (G)=BORON WOODD | (H)=BURNABLE POISON (HOL)(EOL) | | | |
| TAKAHAMA-2 | BWR | 23 | K=20.7 | | C=22.0 | D= 6.0 | GE 16.0 | F=7 | | | | 8-127 | 70/ 5 |
| GENKAI-1 | BWR | 24 | K=24.0 | | C=25.0 | D= 5.0 | GE 20.0 | F=7 | 0.6 | | | 80-9-1 | 70/ 5 |
| OUI-1,2 | BWR | 26 | K=19.9 | | C=21.0 | D= 6.0 | GE 15.0 | F=9 | | | | 8-129 | 71/ 1 |
| MIHAMA-3 | BWR | 27 | K=19.4 | | C=21.0 | D= 6.0 | GE 15.0 | F=7 | | | | 8-127 | 71/ 8 |
| YANKEE | BWR | 69 | K=15.7 | R=5.0 | | D=15.4 | | | | | | DNR V4 P36 | 61/ |
| SAXTON | BWR | 70 | K=25.0 | | | D=24.0 | | | | | | DNR V4 P50 | 61/ |
| BURLINGTON | BWR | 71 | K=29.3 | | | | | | | | | GSK-19 | 69/ 2 |

N. DATA CORE COOLANT VS FUEL VOLUME RATIO 842240

| JPDR-1 | BWR | 1 | 2.7 | | | | | | | | | / | |
|----------------|-----|----|---|--|--|--|--|--|--|--|--|-------------|-------|
| JPDR-2 | BWR | 2 | 2.68 | | | | | | | | | 70/ 8 | |
| TSURUGA | BWR | 3 | 2.38 | | | | | | | | | R-9,80-3-3 | 70/ 5 |
| DNAGAWA | BWR | 4 | 2.41 | | | | | | | | | 8-14-(5) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 2.41 | | | | | | | | | 8-108,8-113 | 70/ 5 |
| FUKUSIMA-1 | BWR | 6 | 2.38 | | | | | | | | | R-9 | 66/ 8 |
| FUKUSIMA-2,3 | BWR | 7 | 2.41 | | | | | | | | | 82-2-3 P13 | 70/ 8 |
| SHIMANE | BWR | 8 | 2.38(7*7 I)+2.54(7*7 TORIKAE)+2.60(8*8 BWR/6) | | | | | | | | | 8-14-(11) | 75/ 7 |
| FUKUSIMA-5 | BWR | 9 | 2.41 | | | | | | | | | 8-14-(5) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 2.41 | | | | | | | | | 8-14-(5) | 71/ 8 |
| FUKUSIMA-6 | BWR | 11 | 2.41 | | | | | | | | | 8-14-(5) | 71/12 |
| TUOKAI-2 | BWR | 12 | 2.41 | | | | | | | | | 8-14-(5) | 71/12 |
| KASHIWAJAKI | BWR | 15 | 2.60 | | | | | | | | | 8-3-36 | 75/ 3 |
| TAKAHAMA-2 | BWR | 23 | 3.48 | | | | | | | | | 8-126 | 70/ 5 |
| GENKAI-1 | BWR | 24 | 3.32 | | | | | | | | | 8-143 | 70/ 5 |
| OUI-1,2 | BWR | 26 | 3.59 | | | | | | | | | 8-129 | 71/ 1 |
| MIHAMA-3 | BWR | 27 | 3.48 | | | | | | | | | 8-126 | 71/ 8 |
| IKATA-2 | BWR | 30 | 3.32 | | | | | | | | | 8-3-44 | 75/ 5 |
| SENDAI | BWR | 31 | 3.43 | | | | | | | | | 8-3-52 | 76/ 5 |
| VERMONT YANKEE | BWR | 52 | 2.41 | | | | | | | | | A-2 | / |
| BROWNS FERRY | BWR | 53 | 2.41 | | | | | | | | | GSK-19 | 69/ 2 |
| MILLSTON | BWR | 54 | 2.38 | | | | | | | | | R-9 | 66/ 8 |
| DRESDEN-2 | BWR | 56 | 2.38 | | | | | | | | | R-9 | 66/ 8 |
| OYSTER CREEK | BWR | 57 | 2.38 | | | | | | | | | R-9 | 66/ 8 |
| DUANE ARNOLD | BWR | 58 | 2.41 | | | | | | | | | A-2 P1 | 70/ 7 |
| BURLINGTON | BWR | 71 | 1.66 | | | | | | | | | GSK-19 | 69/ 2 |

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| N.DATA | REFLECT. THICK. | RADIAL | AXIAL | 842260 | | | |
|---------------------|-----------------|--------|----------|------------------------------------|----------|------------|-------|
| | | | | (1) REFLECTIION THICKNESS (RADIAL) | | | |
| | | | | (2) REFLECTIION THICKNESS (AXIAL) | | | |
| | | | | NOTE *10 WATER | | | |
| *20 WATER+STEEL | | | | | | | |
| (1) | | (2) | | | | | |
| | | UPPER | | LOWER | | | |
| | | M | M | M | M | | |
| ONASAWA | BWR | 4 | 0.6 | 1.8 | | 8-14-(5) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 0.6 | 1.8 | | 8-113 | 70/ 5 |
| SHIMANE | BWR | 8 | 0.6 | 1.8 | | 8-14-(11) | 75/ 7 |
| MIHAMA-1 | PWR | 21 | 0.381 *2 | 0.254 *2 | 0.254 *2 | BK80-4 P6 | 71/ 9 |
| MIHAMA-2 | PWR | 22 | 0.381 *2 | 0.254 *2 | 0.254 *2 | BK80-4 P6 | 71/ 9 |
| TAKAHAMA-2 | PWR | 23 | 0.38 | 0.25 | | 8-126 | 70/ 5 |
| GENKAI-1 | PWR | 24 | 0.38 | 0.25 | | 8-143 | 70/ 5 |
| TAKAHAMA-1 | PWR | 25 | 0.381 *2 | 0.254 *2 | 0.254 *2 | BK80-4 P6 | 71/ 9 |
| ODI-1,2 | PWR | 26 | 0.38 | 0.25 | | 8-129 | 71/ 1 |
| MIHAMA-3 | PWR | 27 | 0.38 | 0.25 | | 8-126 | 71/ 8 |
| IKATA-2 | PWR | 30 | 0.38 | 0.25 | | 8-3-44 | 75/ 5 |
| SENDAI | PWR | 31 | 0.380 | 0.25 | | 8-3-52 | 76/ 5 |
| YANKEE | | 69 | 0.203 *1 | | | DNR V4 P36 | 61/ |
| SAXTON | | 70 | 0.254 *1 | | | DNR V4 P52 | 61/ |
| TURKEY POINT-3,4PWR | | 72 | 0.381 *2 | 0.254 *2 | 0.254 *2 | BK80-4 P5 | 71/ 9 |
| H.B.ROBINSON-2 | PWR | 73 | 0.381 *2 | 0.254 *2 | 0.254 *2 | BK80-4 P5 | 71/ 9 |
| SURRY-1,-2 | PWR | 74 | 0.381 *2 | 0.254 *2 | 0.254 *2 | BK80-4 P5 | 71/ 9 |
| BEAVER VALLEY | PWR | 75 | 0.381 *2 | 0.254 *2 | 0.254 *2 | BK80-4 P5 | 71/ 9 |
| NORTH ANNA-12 | PWR | 76 | 0.381 *2 | 0.254 *2 | 0.254 *2 | BK80-4 P6 | 71/ 9 |
| JOSEPH W.FARLEY | PWR | 77 | 0.381 *2 | 0.254 *2 | 0.254 *2 | BK80-4 P6 | 71/ 9 |

| N.DATA | EFFECTI. | MULTIPLICATION | CONST.OF INITIAL | 842280 | | | | | |
|---------------------|----------|----------------|------------------|-----------|----------------------|-----------------------------------|------------------------------------|-------|--|
| | | | | COLD CLEN | HIGH TEMP ZERO POWER | HIGH TEMP FUEL POWER (NON POISON) | HIGH TEMP FUEL POWER (XESM HEIKOO) | | |
| MIHAMA-1 | PWR | 21 | 1.211 | 1.167 | | 1.114 | BK80-4 P6 | 71/ 9 | |
| MIHAMA-2 | PWR | 22 | 1.22 | 1.17 | | 1.10 | BK80-4 P6 | 71/ 9 | |
| TAKAHAMA-2 | PWR | 23 | 1.207 | 1.163 | 1.137 | 1.094 | 8-126 | 70/ 5 | |
| GENKAI-1 | PWR | 24 | 1.23 | 1.17 | 1.14 | 1.10 | 8-143 | 70/ 5 | |
| TAKAHAMA-1 | PWR | 25 | *1.207 | *1.163 | | *1.094 | BK80-4 P6 | 71/ 9 | |
| ODI-1,2 | PWR | 26 | 1.199 | 1.158 | 1.132 | 1.091 | 8-129 | 71/ 1 | |
| MIHAMA-3 | PWR | 27 | 1.194 | 1.150 | 1.124 | 1.082 | 8-126 | 71/ 8 | |
| IKATA-1 | PWR | 28 | 1.23 | 1.17 | 1.14 | 1.10 | 8-142 | 72/11 | |
| IKATA-2 | PWR | 30 | 1.23 | 1.17 | 1.14 | 1.10 | 8-3-45 | 75/ 5 | |
| TURKEY POINT-3,4PWR | | 72 | 1.180 | 1.138 | | 1.077 | BK80-4 P5 | 71/ 9 | |
| H.B.ROBINSON-2 | PWR | 73 | 1.180 | 1.138 | | 1.077 | BK80-4 P5 | 71/ 9 | |
| SURRY-1,-2 | PWR | 74 | 1.176 | 1.145 | | 1.090 | BK80-4 P5 | 71/ 9 | |
| BEAVER VALLEY | PWR | 75 | 1.207 | 1.163 | | 1.094 | BK80-4 P5 | 71/ 9 | |
| NORTH ANNA-12 | PWR | 76 | 1.190 | 1.148 | | 1.085 | BK80-4 P5 | 71/ 9 | |
| JOSEPH W.FARLEY | PWR | 77 | 1.207 | 1.163 | | 1.094 | BK80-4 P5 | 71/ 9 | |

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| N.DATA | BORON | CONCENTRATION | INITIAL | CORE | 842300 | | | | |
|------------|-------|---------------|---------|-------|---|-------|-------|--------|-------|
| | | | | | (1) HIGH TEMPERATURE CONDITION (ALL CONTROL ROD CLUSTERS WITHDRAWN) | | | | |
| | | | | | (2) LOW TEMPERATURE CONDITION (ALL CONTROL ROD CLUSTERS INSERT) | | | | |
| | | | | | 2-2 EFFECTIVE MULTIPLICATION FACTOR | | | | |
| (1) | | (2) | | | | | | | |
| | | 1-1 | 1-2 | 1-3 | 2-1 | 2-2 | | | |
| | | PPM | PPM | PPM | PPM | KEFF | | | |
| TAKAHAMA-2 | PWR | 23 | 1300. | 1100. | 2000. | 0.9 | 8-127 | 70/ 5 | |
| GENKAI-1 | PWR | 24 | 1300. | 1100. | 2000. | 0.9 | 8-144 | 70/ 5 | |
| ODI-1,2 | PWR | 26 | 1200. | | 1725. | 0.9 | 8-130 | 71/ 1 | |
| MIHAMA-3 | PWR | 27 | 1200. | | 2000. | 0.9 | 8-127 | 71/ 8 | |
| IKATA-1 | PWR | 28 | 1300. | 1100. | 2000. | 0.9 | 8-142 | 72/11 | |
| IKATA-2 | PWR | 30 | 1300. | 1400. | 10. | 2000. | 0.9 | 8-3-45 | 75/ 5 |

| N.DATA | OF REACTIVITY | TEMP. | DOPPLER VOID | 842320 | | | | | |
|------------|---------------|-------|--------------|----------------|------------|---------------|----------------|-------|--|
| | | | | MODERATOR TEMP | DOPPLER | VOID | PRESSURE | | |
| | | | | DK/K/DEG.C | DK/K/DEG.C | DK/K/VOID(PC) | DK/K/(KG/SQCM) | | |
| TAKAHAMA-2 | PWR | 23 | FROM 0.5E-4 | -1.8E-5 | +0.5E-3 | -0.4E-6* | 8-127(R-0) | 70/ 5 | |
| TAKAHAMA-2 | PWR | 23 | TO -6.3E-4 | -2.3E-5* | -2.5E-3 | +5.0E-6* | 8-127(R-0) | 70/ 5 | |
| TAKAHAMA-2 | PWR | 23 | FROM 0.5E-4 | -1.8E-5 | +0.5E-3 | -0.4E-5 | 8-127(R-1) | 70/10 | |
| TAKAHAMA-2 | PWR | 23 | TO -6.3E-4 | -2.9E-5 | -2.5E-3 | +5.0E-5 | 8-127(R-1) | 70/10 | |
| GENKAI-1 | PWR | 24 | FROM 0.5E-4 | -1.8E-5 | +0.5E-3 | -0.5E-5 | 8-144 | 70/ 5 | |
| GENKAI-1 | PWR | 24 | TO -6.5E-4 | -2.9E-5 | -2.5E-3 | +5.0E-5 | 8-144 | 70/ 5 | |
| ODI-1,2 | PWR | 26 | FROM 0E-4 | -2.2E-5 | +0.5E-3 | +1.6E-6 | 8-130 | 71/ 1 | |
| ODI-1,2 | PWR | 26 | TO -5.4E-4 | -2.9E-5 | -2.5E-3 | +6.9E-6 | 8-130 | 71/ 1 | |
| IKATA-1 | PWR | 28 | FROM 0.5E-4 | -1.8E-5 | +0.5E-3 | -0.5E-5 | 8-143 | 72/11 | |
| IKATA-1 | PWR | 28 | TO -6.5E-4 | -2.9E-5 | -2.5E-3 | +5.0E-5 | 8-143 | 72/11 | |
| IKATA-2 | PWR | 30 | FROM 0.5E-4 | -1.8E-5 | +0.5E-3 | +7.3E-5 | 8-3-45 | 75/ 5 | |
| IKATA-2 | PWR | 30 | TO -8.5E-4 | -3.5E-5 | -2.5E-3 | -0.5E-5 | 8-3-45 | 75/ 5 | |
| SENDAI | PWR | 31 | FROM 0.4E-4 | -2.3E-5 | +0.6E-3 | +7.2E-5 | 8-3-53 | 76/ 5 | |
| SENDAI | PWR | 31 | TO -7.8E-4 | -5.6E-5 | -2.5E-3 | -0.7E-5 | 8-3-53 | 76/ 5 | |

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| N.DATA | NEUTRON FLUX | FAST | EPI-TH | THERMAL | 842420 | | |
|--------------|--------------|------|---------|---------|-------------|-----|----------|
| | | | FAST | EPI-TH | THERMAL | E13 | N/SQCM/S |
| JPDR-1 | HWR | 1 | | | T=1.42 | E13 | N/SQCM/S |
| JPDR-2 | HWR | 2 | F= 8.6 | E=4.1 | T=3.5 | E13 | N/SQCM/S |
| TSURUGA | HWR | 3 | F= 3.7* | | T=2.8* | E13 | N/SQCM/S |
| TSURUGA | HWR | 3 | F= 3.73 | | T=3.57 | E13 | N/SQCM/S |
| DNAGAWA | HWR | 4 | F=15. | | T=4.3 | E13 | N/SQCM/S |
| HAMAOKA-1 | HWR | 5 | F=15. | | T=4.0 | E13 | N/SQCM/S |
| HAMAOKA-1 | HWR | 5 | F=15. | | T=4.7 | E13 | N/SQCM/S |
| FUKUSIMA-1 | HWR | 6 | | | T=2.8* | E13 | N/SQCM/S |
| FUKUSIMA-1 | HWR | 6 | | | T=3.5 | E13 | N/SQCM/S |
| FUKUSIMA-2+3 | HWR | 7 | F=13. | | T=4.3 | E13 | N/SQCM/S |
| SHIMANE | HWR | 8 | F= 3.6 | | T=3.5 | E13 | N/SQCM/S |
| FUKUSIMA-5 | HWR | 9 | F=13. | | T=4.3 | E13 | N/SQCM/S |
| FUKUSIMA-4 | HWR | 10 | F=13. | | T=4.3 | E13 | N/SQCM/S |
| TOOKAI-2 | HWR | 12 | F=13. | | T=4.3 | E13 | N/SQCM/S |
| KASHIWA7AKI | HWR | 15 | F=13. | | T=4.6 | E13 | N/SQCM/S |
| YANKEE | | 69 | F=28.8 | | T=2.5(11.9) | E13 | N/SQCM/S |
| SAXTON | | 70 | F=10. | | T=1.5(4.9) | E13 | N/SQCM/S |

| |
|-------------|
| 70/ 8 |
| 70/ 8 |
| 66/ 8 |
| 70/ 5 |
| 70/ 5 |
| 8-113 |
| 70/ 5 |
| 95-2-3 P11 |
| 71/ 9 |
| R-9 |
| 66/ 8 |
| KUGE |
| 71/ 1 |
| 82-2-3 P13 |
| 70/ 8 |
| 8-14-(12) |
| 75/ 7 |
| 8-14-(5) |
| 71/ 2 |
| 8-14-(5) |
| 71/ 8 |
| 8-14-(5)(6) |
| 71/12 |
| 8-3-50 |
| 75/ 3 |
| DNR V4 P33 |
| 61/ |
| DNR V4 P47 |
| 61/ |

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H.TRANS. HEAT FLUX MAX MEAN 843220

REF.1=REACTOR TECHNOLOGY VOL.14-1 1971 P82

REACTOR NAME ---REFER 73244

(1)100 PERCENT POWER

MEAN

KCAL/SQCM/H

MAX.

KCAL/SQCM/H

(2)112 PERCENT POWER

MEAN

KCAL/SQCM/H

MAX.

KCAL/SQCM/H

(3)125 PERCENT POWER

MEAN

KCAL/SQCM/H

MAX.

KCAL/SQCM/H

*1 7*7 574 W/CM

*2 BEFORE POWER UP

*3 AFTER POWER UP

(1) (2) (3)

---100 PC--- ---112 PC--- ---125 PC---

MEAN MAX. MEAN MAX. MEAN MAX.

| | | | | | | | |
|----------------|-----|----|---------|----------|----------|----------|------------|
| JPDR-1 | HWR | 1 | 226100. | | | 1030200. | 70/ 8 |
| JPDR-2 | HWR | 2 | 381000. | 1080000. | | 1350000. | 70/ 8 |
| JPDR-2 | HWR | 2 | 381000. | 1080000. | | 1349000. | KUGE |
| TSURUGA | HWR | 3 | 318000. | 1053000. | | | 80-3-3 |
| TSURUGA | HWR | 3 | 351000. | | | | 80-3-3 P38 |
| DNAGAWA | HWR | 4 | 445000. | 1162000. | | | 8-14-(9) |
| HAMAOKA-1 | HWR | 5 | 445000. | 1160000. | | | 8-118 |
| FUKUSIMA-1 | HWR | 6 | 307000. | 1107000. | | | R-9 |
| FUKUSIMA-1 | HWR | 6 | 352000. | 1085000. | | | KUGE |
| FUKUSIMA-1 | HWR | 6 | | 960402. | | | HWR/6 |
| SHIMANE | HWR | 8 | 352000. | 1090000. | | | *1 |
| SHIMANE | HWR | 8 | 356000. | 1100000. | | | *1 |
| SHIMANE | HWR | 8 | 316000. | 960000. | | | *2 |
| FUKUSIMA-5 | HWR | 9 | 446000. | 1160000. | | | 8-14-(20) |
| FUKUSIMA-4 | HWR | 10 | 446000. | 1160000. | | | 8-14-(10) |
| TOOKAI-2 | HWR | 12 | 446000. | 1160000. | | | 8-14-(10) |
| KASHIWA7AKI | HWR | 15 | 387000. | 960000. | | | 8-3-63 |
| MIHAMA-1 | PWR | 21 | 388000. | 1264000. | | | 8K80-4 P4 |
| MIHAMA-2 | PWR | 22 | 457000. | 1288000. | | | 8K80-4 P4 |
| TAKAHAMA-2 | PWR | 23 | 518000. | | 1625000. | | 8-16 |
| TAKAHAMA-2 | PWR | 23 | 518000. | 1450000. | | 1625000. | 8-16 |
| GENKAI-1 | PWR | 24 | 518000. | 1450000. | | 1624000. | 8-17 |
| TAKAHAMA-1 | PWR | 25 | 518183. | 1451500. | | 1625000. | 8K80-4 P4 |
| DUI-1+2 | PWR | 26 | 589000. | 1573000. | | 1762000. | 8-16 |
| MIHAMA-3 | PWR | 27 | 518000. | 1450000. | | 1625000. | 8-16 |
| IKATA-1 | PWR | 28 | 518000. | 1383000. | | 1549000. | 8-146 |
| IKATA-2 | PWR | 30 | 521000. | 1349000. | | | 8-3-46 |
| SENDAI | PWR | 31 | 492000. | 1186000. | | | 8-3-55 |
| VERMONT YANKEE | HWR | 52 | 445000. | 1160000. | | | A-2 |
| BOWENS FERRY | HWR | 53 | 442800. | 1153000. | | | GSK-19 |
| HILLSTON | HWR | 54 | 302000. | 905000. | | | R-9 |
| DRESDEN-1 | HWR | 55 | 255500. | | | 938500. | GSK-19 |
| DRESDEN-2 | HWR | 56 | 314000. | 947000. | | | R-9 |
| DYSTER CREEK | HWR | 57 | 293000. | 1080000. | | | R-9 |

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| HEAT TRANS. FLUX | MAX | MEAN | | 843220 | | # | R-9 | | | |
|------------------|-----|--------|-------------|-----------------|-------------------|---|------------|-------|------|------|
| | | (1) | | (2) | | | | | (3) | |
| | | 100 PC | 112 PC | 117 PC | 125 PC | | | | MEAN | MAX. |
| BYSTER CREEK | RWR | 57 | 355000. | 1310000. | | | | 66/ 8 | | |
| DIANE ANNED | RWR | 58 | 445000. | 1160000. | | | A-2 P1 | 70/ 7 | | |
| YANKEE | | 69 | 289750. | 1210000. | | | DNR V4 P36 | 61/ | | |
| SAXTON | | 70 | 371880. | 1204572. | | | DNR V4 P50 | 61/ | | |
| BURLINGTON | PWR | 71 | 552600. | 1502000. | | | GSK-19 | 69/ 2 | | |
| TURKEY POINT-3,4 | PWR | 72 | 465600. | 1503500. | | | BK80-4 P3 | 71/ 9 | | |
| H.B. ROHTNSON-2 | PWR | 73 | 465600. | 1503500. | | | BK80-4 P3 | 71/ 9 | | |
| SURRY-1,-2 | PWR | 74 | 518500. | 1499000. | | | BK80-4 P3 | 71/ 9 | | |
| BEAVER VALLEY | PWR | 75 | 563200. | 1503800. | | | BK80-4 P3 | 71/ 9 | | |
| NORTH ANNA-12 | PWR | 76 | 563200. | 1503800. | | | BK80-4 P4 | 71/ 9 | | |
| JOSEPH W. FARLEY | PWR | 77 | 563200. | 1572400. | | | BK80-4 P4 | 71/ 9 | | |
| OTHERS | | -0 | DNPI TP1 | 950000=100,MAX | | | REF.1 | / | | |
| OTHERS | | -0 | DNPI TP3H | 976500=100,MAX | | | REF.1 | / | | |
| OTHERS | | -0 | DNPI TP1F | 976500=100,MAX | | | REF.1 | / | | |
| OTHERS | | -0 | DNPI TP5 | 976500=100,MAX | | | REF.1 | / | | |
| OTHERS | | -0 | GAR. TP1 | 684000=100,MAX | | | REF.1 | / | | |
| OTHERS | | -0 | GAR. TP2 | 868000=100,MAX | | | REF.1 | / | | |
| OTHERS | | -0 | GAR. TP2 | 950000=100,MAX | FUKUSIMA-1 SIRY00 | | MEMU P6 | 70/ 3 | | |
| OTHERS | | -0 | KAHL | 800000=100,MAX | | | REF.1 | / | | |
| OTHERS | | -0 | HUMR. TP2 | 880000=100,MAX | | | | / | | |
| OTHERS | | -0 | HUMR. TP2 | 750000=100,MAX | FUKUSIMA-1 SIRY00 | | MEMU P6 | 70/ 3 | | |
| OTHERS | | -0 | HUMR. TP3 | 1050000=100,MAX | | | | / | | |
| OTHERS | | -0 | HUMR. TP1 | 870000=100,MAX | FUKUSIMA-1 SIRY00 | | MEMU P6 | 70/ 3 | | |
| OTHERS | | -0 | KRH | 1000000=100,MAX | | | REF.1 | / | | |
| OTHERS | | -0 | BRP-B | 1180000=100,MAX | | | REF.1 | / | | |
| OTHERS | | -0 | HRP-E | 1110000=100,MAX | | | REF.1 | / | | |
| OTHERS | | -0 | HRP-EG | 1110000=100,MAX | | | REF.1 | / | | |
| OTHERS | | -0 | TANAPUR | 1000000=100,MAX | | | REF.1 | / | | |
| OTHERS | | -0 | CURRENT RWR | 1160000=100,MAX | | | REF.1 | / | | |

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| FUEL | HEAT TRANS. | AREA AND | FLOW AREA | | 843240 | | | | |
|------------------|-------------|----------|----------------------------|--------|---|-----------|--|-------------|-------|
| | | | (1) HEAT TRANSFER AREA | | (2) EFFECTIVE FLOW SECTION AREA FOR HEAT TRANSFER | | | | |
| | | | SQM | SWFT | SQM | SWFT | | | |
| JPDR-1 | RWR | 1 | 166. | | | | | / | |
| JPDR-2 | RWR | 2 | 196. | | | | | 70/ 8 | |
| TSURUGA | RWR | 3 | 2510. | | | 80-3-3 | | 70/ 5 | |
| ONAGAWA | RWR | 4 | 2958. | | | 8-14-(9) | | 70/ 5 | |
| HAMAOKA-1 | RWR | 5 | 2958. | | | 8-11a | | 70/ 5 | |
| FUKUSIMA-1 | RWR | 6 | 9055. | | | RWR/6 | | 70/ 5 | |
| SHIWANE | RWR | 8 | 8.14 SQM/ASSY(7#7 INITIAL) | | | 8-14-(20) | | 75/ 7 | |
| SHIWANE | RWR | 8 | 8.04 SQM/ASSY(7#7 TURIKAF) | | | 8-14-(20) | | 75/ 7 | |
| SHIWANE | RWR | 8 | 9.06 SQM/ASSY(8#8 RWR/6) | | | 8-14-(20) | | 75/ 7 | |
| FUKUSIMA-5 | RWR | 9 | 4404. | | | 8-14-(10) | | 71/ 2 | |
| FUKUSIMA-4 | RWR | 10 | 4404. | | | 8-14-(10) | | 71/ 8 | |
| TODOKAI-2 | RWR | 12 | 6150. | | | 8-14-(6) | | 71/12 | |
| KASAIWAZAKI | RWR | 15 | 7020. | | | 8-3-63 | | 75/ 3 | |
| MIHAMA-1 | PWR | 21 | 2223. | 23929. | 2.3411 | 25.2 | | BK80-4 P2,4 | 71/ 9 |
| MIHAMA-2 | PWR | 22 | 2668. | 28714. | 2.3597 | 25.4 | | BK80-4 P2,4 | 71/ 9 |
| TAKAHAMA-2 | PWR | 23 | 3945. | 42460. | 3.6232 | 39. | | BK80-4 P2,4 | 71/ 9 |
| GENKAI-1 | PWR | 24 | 2668. | 28714. | | | | 70/ 5 | |
| TAKAHAMA-1 | PWR | 25 | 3945. | 42460. | 3.6232 | 39. | | BK80-4 P2,4 | 71/ 9 |
| MIHAMA-3 | PWR | 27 | 3945. | 42460. | 3.8833 | 41.8 | | BK80-4 P2,4 | 71/ 9 |
| IKATA-1 | PWR | 28 | 2668. | 28714. | | | | 8-146 | 71/11 |
| IKATA-2 | PWR | 30 | 2654. | | | | | 8-3-46 | 75/ 5 |
| SENDAI | PWR | 31 | 4515. | | | | | 8-3-55 | 76/ 5 |
| RODENS FERRY | RWR | 53 | 6040. | | | | | GSK-19 | 69/ 2 |
| DRESDEN-1 | RWR | 55 | 2002. | 21550. | 2.7161 | | | DNR V4 P94 | 62/ |
| DRESDEN-2 | RWR | 56 | | 63527. | | | | DNR V7 P192 | 68/ |
| YANKEE | | 69 | 1440. | 15500. | 1.4310 | 15.4 | | DNR V4 P36 | 61/ |
| SAXTON | | 70 | 46.3 | 498. | 0.2555 | 2.75 | | DNR V4 P50 | 61/ |
| BURLINGTON | PWR | 71 | 4849. | | | | | GSK-19 | 69/ 2 |
| TURKEY POINT-3,4 | PWR | 72 | 3944.7 | 42460. | 3.8833 | 41.8 | | BK80-4 P1,3 | 71/ 9 |
| H.B. ROHTNSON-2 | PWR | 73 | 3944.7 | 42460. | 3.8833 | 41.8 | | BK80-4 P1,3 | 71/ 9 |
| SURRY-1,-2 | PWR | 74 | 3944.7 | 42460. | 3.8833 | 41.8 | | BK80-4 P1,3 | 71/ 9 |
| BEAVER VALLEY | PWR | 75 | 3944.7 | 42460. | 3.8833 | 41.8 | | BK80-4 P1,3 | 71/ 9 |
| NORTH ANNA-12 | PWR | 76 | 3944.7 | 42460. | 3.8833 | 41.8 | | BK80-4 P2,4 | 71/ 9 |
| JOSEPH W. FARLEY | PWR | 77 | 3944.7 | 42460. | 3.8833 | 41.8 | | BK80-4 P2,4 | 71/ 9 |

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| CORE | POWER | DENSITY | MEAN | KW/H | KW/KGUD2 | 843420 | (1) FUEL POWER DENSITY MEAN | | KW/L | (2) FUEL POWER DENSITY MEAN | KW/KGUD2 | (3) FUEL POWER DENSITY MEAN | KW/KGU |
|----------------|-------|---------|-------|-------|----------|--------|-----------------------------|-----|------|-----------------------------|----------|-----------------------------|-------------------|
| | | | | | | | (1) | (2) | | | | | |
| | | | | | | | KW/L | | | | | | |
| JPDR-1 | BWR | 1 | 22.5 | 9.4 | | | | | | | | | / |
| JPDR-2 | BWR | 2 | 45.5 | 18.8 | | | | | | | | | 70/ 8 |
| TSURUGA | BWR | 3 | 37.07 | 14.1 | | | | | | | | | 80-3-3-R-9 70/ 5 |
| TSURUGA | BWR | 3 | 40.6 | 15.5 | | | | | | | | | KUGE 71/ 1 |
| ONAGAWA | BWR | 4 | 50.9 | | | | | | | | | | 8-14-(9) 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 51. | | | | | | | | | | 2-2 70/ 5 |
| FUKUSIMA-1 | BWR | 6 | 40.6 | 13.6 | | | | | | | | | R-9 66/ 8 |
| FUKUSIMA-1 | BWR | 6 | | 15.5 | | | | | | | | | KUGE 71/ 1 |
| FUKUSIMA-2,3 | BWR | 7 | 51.2 | | | | | | | | | | / |
| SHIMANE | BWR | 8 | 40.6 | | | | | | | | | | / |
| FUKUSIMA-5 | BWR | 9 | 51.2 | | | | | | | | | | 8-14-(10) 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 51.2 | | | | | | | | | | 8-14-(10) 71/ 8 |
| IIOKAI-2 | BWR | 12 | 51.2 | | | | | | | | | | 8-14-(10) 71/12 |
| KASHIWA7AKI | BWR | 15 | 50.0 | | | | | | | | | | 8-3-63 75/ 3 |
| TAKAHAMA-2 | PWR | 23 | 92. | | | | | | | | | | 80-9-1 70/ 5 |
| GENKAI-1 | PWR | 24 | 95. | | | | | | | | | | 80-9-1 70/ 5 |
| IKATA-1 | PWR | 28 | 95. | | | | | | | | | | 8-147 72/11 |
| IKATA-2 | PWR | 30 | 95. | | | | | | | | | | 8-3-46 75/ 5 |
| SENDAI | PWR | 31 | 100. | | | | | | | | | | 8-3-55 76/ 5 |
| VERMONT YANKEE | BWR | 52 | 50.9 | | | | | | | | | | A-2 / |
| BROWNS FERRY | BWR | 53 | 50.8 | | | 22. | | | | | | | GSK-19 69/ 2 |
| MILLSTON | BWR | 54 | 35.03 | 13.3 | | | | | | | | | R-9 66/ 8 |
| DRESDEN-1 | BWR | 55 | 31.2 | 10.9 | | | | | | | | | DNR V4 P91 62/ |
| DRESDEN-2 | BWR | 56 | 36.7 | 13.9 | | | | | | | | | R-9 66/ 8 |
| DRESDEN-2 | BWR | 56 | | 16.13 | | | | | | | | | DNR V7 P192 68/ |
| DYSTER CREEK | BWR | 57 | 35.4 | | | | | | | | | | R-9 65/ 8 |
| DUANE ARNOLD | BWR | 58 | 50.9 | | | | | | | | | | A-2 P1 70/ 7 |
| YANKEE | | 69 | 72. | | | 23.23 | | | | | | | DNR V4 P33 61/ |
| SAXTON | | 70 | 54. | 20. | | | | | | | | | DNR V4 P47 61/ |
| BURLINGTON | PWR | 71 | 93.1 | | | 34.8 | | | | | | | GSK-19 69/ 2 |
| MONJU | FAST | 92 | 292. | | | | | | | | | | GAKKAISI43P 72/ 5 |

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| CORE | FUEL | POWER | DENSITY | KW/KGUD2 | KW/KGU | 843440 | (1) FUEL POWER DENSITY MEAN | | KW/L | (2) FUEL POWER DENSITY MEAN | KW/KGUD2 | (3) FUEL POWER DENSITY MEAN | KW/KGU |
|--------------|------|-------|---------|-----------------|--------|--------------|-----------------------------|-----|------|-----------------------------|----------|-----------------------------|-----------------|
| | | | | | | | (1) | (2) | | | | | |
| JPDR-1 | BWR | 1 | 9.4 | KW/KGUD2(MEAN) | | | | | | | | | / |
| JPDR-2 | BWR | 2 | 18.8 | KW/KGUD2(MEAN) | | | | | | | | | 70/ 8 |
| TSURUGA | BWR | 3 | 14.1 | *KW/KGUD2(MEAN) | | | | | | | | | R-9 66/ 8 |
| TSURUGA | BWR | 3 | 15.5 | *KW/KGUD2(MEAN) | | | | | | | | | KUGE 71/ 1 |
| FUKUSIMA-1 | BWR | 6 | 13.6 | *KW/KGUD2(MEAN) | | | | | | | | | R-9 66/ 8 |
| FUKUSIMA-1 | BWR | 6 | 15.5 | KW/KGUD2(MEAN) | | | | | | | | | KUGE 71/ 1 |
| BROWNS FERRY | BWR | 53 | | | 22.0 | KW/KGU(MEAN) | | | | | | | GSK-19 69/ 2 |
| MILLSTON | BWR | 54 | 13.3 | KW/KGUD2(MEAN) | | | | | | | | | R-9 66/ 8 |
| DRESDEN-1 | BWR | 55 | 10.9 | KW/KGUD2(MEAN) | | | | | | | | | DNR V4 P91 62/ |
| DRESDEN-2 | BWR | 56 | 13.9 | KW/KGUD2(MEAN) | | | | | | | | | R-9 66/ 8 |
| DRESDEN-2 | BWR | 56 | 16.13 | KW/KGUD2(MEAN) | | | | | | | | | DNR V7 P192 68/ |
| YANKEE | | 69 | | | 23.23 | KW/KGU(MEAN) | | | | | | | DNR V4 P33 61/ |
| SAXTON | | 70 | 20. | KW/KGUD2(MEAN) | | | | | | | | | DNR V4 P47 61/ |
| BURLINGTON | PWR | 71 | | | 34.8 | KW/KGU(MEAN) | | | | | | | GSK-19 69/ 2 |

PEAKING FACTOR TOTAL CHANNEL AXIAL LOCAL 843620

| CORE | FUEL | POWER | DENSITY | KW/KGUD2 | KW/KGU | 843620 | TOTAL CHANNEL AXIAL LOCAL | | GROSS | RADIAL | AZIMUTH | OVER-P |
|----------------|------|-------|---|----------|--------|--------|---------------------------|---------------------|-----------------|--------|---------|-------------------|
| | | | | | | | TOTAL | CHANNEL AXIAL LOCAL | | | | |
| JPDR-1 | BWR | 1 | T=4.56 | | | | | L=1.46 | | | AZ= | U=1.25 / |
| JPDR-2 | BWR | 2 | T=3.29 | | | | X=1.75 | L=1.22 | G=2.2 | R=1.21 | AZ=1.03 | U=1.25 / |
| JPDR-2 | BWR | 2 | T=3.54 | | | | X=1.75 | L=1.30 | G=2.18 | R=1.21 | AZ=1.03 | U=1.25 70/11 |
| JPDR-2 | BWR | 2 | T=G*L*UP | | | | | | G=X*R*AZ | | | 70/ 8 |
| TSURUGA | BWR | 3 | T=3.60 | C=---- | X=1.57 | | L=1.30 | | G=2.31 | R=1.27 | AZ=1.16 | U=1.20(R-9) 66/ 8 |
| TSURUGA | BWR | 3 | T=3.00 | C=1.47 | A=1.57 | | L=1.30 | | (1970/5)REVISED | | | 80-3-3 P38. 70/ 5 |
| ONAGAWA | BWR | 4 | T=2.61 | C=1.405 | A=1.50 | | L=1.24 | | | | | 8-14-(9) 70/ 5 |
| HAMAOKA-1 | BWR | 5 | T=2.61 | C=1.405 | A=1.50 | | L=1.24 | | | | | 8-118 70/ 5 |
| HAMAOKA-1 | BWR | 5 | DEFINITION OF PEAKING FACTOR HAS BEEN REVISED --- | | | | | | | | | |
| HAMAOKA-1 | BWR | 5 | I.E. UNIT CELL OF RADIAL AND LOCAL IS 4-ASSY-CELL(196 | | | | | | | | | |
| HAMAOKA-1 | BWR | 5 | RODS) INSTEAD OF 1-ASSY-CELL(49 RODS) | | | | | | | | | |
| FUKUSIMA-1 | BWR | 6 | T=2.82 | | X=1.57 | | L=1.22 | | | R=1.47 | | 95-2-3 P11 71/ 9 |
| FUKUSIMA-1 | BWR | 6 | T=3.0 | C=1.47 | A=1.57 | | L=1.30 | | | | | BWR/6 7 47/11 |
| FUKUSIMA-2,3 | BWR | 7 | T=2.60 | | | | L=1.24 | | | | | U=1.20(R-9) 66/ 8 |
| FUKUSIMA-2,3 | BWR | 7 | DEFINITION OF PEAKING FACTOR HAS BEEN REVISED --- | | | | | | | | | |
| FUKUSIMA-2,3 | BWR | 7 | REVISION IS SAME AS HAMAOKA(FROM 1 ASSY TO 4 ASSY) | | | | | | | | | |
| SHIMANE | BWR | 8 | T=3.00 | | X=1.57 | | L=1.30 | | | R=1.47 | | 89-7-3 P19 71/ 3 |
| SHIMANE | BWR | 8 | T=2.82 | | X=1.57 | | L=1.22 | | | R=1.47 | | 8-14-(10) 75/ 7 |
| IIOKAI-2 | BWR | 12 | | | X=1.50 | | | | | R=1.40 | | 8-14-(10) 75/ 7 |
| KASHIWA7AKI | BWR | 15 | | | X=1.40 | | L=1.24 | | | R=1.40 | | 8-14-9 71/12 |
| VERMONT YANKEE | BWR | 52 | T=2.61 | C=1.405 | A=1.50 | | L=1.24 | | | | | 8-3-46 75/ 3 |
| BROWNS FERRY | BWR | 53 | T=2.60 | | A=1.74 | | | | | | | 70/ 5 |
| MILLSTON | BWR | 54 | T=3.60 | C=1.47 | A=1.57 | | L=1.30 | | | R=1.30 | | GSK-19 69/ 2 |
| DRESDEN-1 | BWR | 55 | T=3.60 | | X=1.6 | | L=1.4 | | | | | U=1.20(R-9) 66/ 8 |
| DRESDEN-2 | BWR | 56 | T=3.0 | C=1.47 | A=1.57 | | L=1.30 | | | | | U=1.25 DNR 62/ |
| DRESDEN-2 | BWR | 56 | | | | | | | | | | U=1.20(R-9) 66/ 8 |
| DYSTER CREEK | BWR | 57 | T=3.70 | | A=1.57 | | L=1.30 | | | R=1.30 | AZ=1.16 | U=1.20(R-9) 66/ 8 |
| DUANE ARNOLD | BWR | 58 | T=2.61 | C=1.405 | A=1.50 | | L=1.24 | | | | | A-2 P1 70/ 7 |
| BURLINGTON | PWR | 71 | T=2.62 | | A=1.70 | | | | | | | GSK-19 69/ 2 |

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| HOT | CHANNEL | FACTOR | N.DATA | THEMAL DATA | 443640 | | |
|-----|------------------|--------|--------|-------------|--------|--|-------------------|
| | | | | | | (1) THERMAL HOT CHANNEL FACTOR (HEAT FLUX) | |
| | | | | | | (2) NUCLFAR HOT CHANNEL FACTOR (HEAT FLUX) | |
| | | | | | | (3) THERMAL HOT CHANNEL FACTOR (ENTHALPY RISE) | |
| | | | | | | (4) NUCLFAR HOT CHANNEL FACTOR (ENTHALPY RISE) | |
| | | | | | | * FILM-TEMPERATURE-ORIP | |
| | | | | | | ** CHILANT-TEMPERATURE-RISE | |
| | | | | | | (1) (2) (3) (4) | |
| | MIHAMA-1 | PWR | 21 | 3.25 | | 1.88 | BK80-4 P2 71/ 9 |
| | MIHAMA-2 | PWR | 22 | 2.82 | | 1.70 | BK80-4 P2 71/ 9 |
| | TAKAHAMA-2 | PWR | 23 | 2.82 | 2.71 | 1.58 | 8-126,8-130 70/ 5 |
| | GENKAI-1 | PWR | 24 | 2.80 | 2.72 | 1.60 | 8-143,8-148 70/ 5 |
| | IKATA-1 | PWR | 25 | 2.67 | 2.54 | 1.51 | 8-141,8-147 72/11 |
| | JKATA-2 | PWR | 30 | 2.54 | 2.51 | 1.52 | 8-3-44,46 75/ 5 |
| | SENDAI | PWR | 31 | 2.41 | 2.34 | 1.55 | 8-3-52 76/ 5 |
| | YANKEE | | 69 | 4.14 | | **2.56 | DNR V4 P36 61/ |
| | YANKEE | | 69 | 85.32 | | | DNR V4 P36 61/ |
| | SAXTON | | 70 | 3.24 | | 2.30 | DNR V4 P50 61/ |
| | TURKEY POINT-3,4 | PWR | 72 | 3.23 | | 1.77 | BK80-4 P1 71/ 9 |
| | H.B.ROBINSON-2 | PWR | 73 | 3.23 | | 1.77 | BK80-4 P1 71/ 9 |
| | SURRY-1,-2 | PWR | 74 | 2.80 | | 1.60 | BK80-4 P1 71/ 9 |

MCHFR

843820

| | | | | | | (1) 100 PERCENT POWER | |
|--|----------------|-----|----|-----|------|----------------------------|-----------------|
| | | | | | | (2) 125 PERCENT OVER POWER | |
| | | | | | | (1) (2) | |
| | | | | | | 100PC 125PC | |
| | JPDR-1 | BWR | 1 | 1.7 | | | / |
| | JPDR-2 | BWR | 2 | 2.4 | 1.94 | | 70/ 8 |
| | JPDR-2 | BWR | 2 | | 1.5 | | KUGE 71/ 1 |
| | TSURUGA | BWR | 3 | 1.9 | | | 81-3-2 70/ 6 |
| | ONAGAWA | BWR | 4 | 1.9 | | | 8-14-(9) 70/ 5 |
| | HAMAOKA-1 | BWR | 5 | 1.9 | | | 8-155 70/ 5 |
| | FUKUSIMA-1 | BWR | 6 | 1.9 | | | 70/ 5 |
| | FUKUSIMA-2,3 | BWR | 7 | 1.9 | | | 85-7-2 70/ 5 |
| | SHIMANE | BWR | 8 | 1.9 | | | 70/ 5 |
| | FUKUSIMA-5 | BWR | 9 | 1.9 | | | 8-14-(10) 71/ 2 |
| | FUKUSIMA-4 | BWR | 10 | 1.9 | | | 8-14-(10) 71/ 8 |
| | FUKUAI-2 | BWR | 12 | 1.9 | | | 8-14-(10) 71/12 |
| | KASHIWAZAKI | BWR | 15 | 2.3 | | | 8-3-64 75/ 5 |
| | VERMONT YANKEE | BWR | 52 | 1.9 | | | A-2 / |
| | BROWNS FERRY | BWR | 53 | 1.9 | | | GSK-19 69/ 2 |
| | DUANE ARNOLD | BWR | 58 | 1.9 | | | A-2 P1 70/ 7 |

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DNBR

843830

| | | | | | | (1) 100 PERCENT POWER | |
|--|------------------|-----|----|------|-----|----------------------------|-----------------|
| | | | | | | (2) 112 PERCENT OVER POWER | |
| | | | | | | (1) (2) | |
| | | | | | | 100PC 112PC | |
| | MIHAMA-1 | PWR | 21 | | 1.3 | | BK80-4 P2 71/ 9 |
| | MIHAMA-2 | PWR | 22 | | 1.3 | | BK80-4 P2 71/ 9 |
| | TAKAHAMA-2 | PWR | 23 | | 1.3 | | 80-9-1 70/ 6 |
| | GENKAI-1 | PWR | 24 | 1.80 | 1.3 | | 80-9-1 70/ 6 |
| | TAKAHAMA-1 | PWR | 25 | | 1.3 | | BK80-4 P2 71/ 9 |
| | DDI-1,2 | PWR | 26 | | 1.3 | | 80-18 71/ 1 |
| | MIHAMA-3 | PWR | 27 | | 1.3 | | 8-131 71/ 1 |
| | IKATA-1 | PWR | 28 | 1.80 | 1.3 | | 8-147 72/11 |
| | IKATA-2 | PWR | 30 | 1.8 | 1.3 | | 8-3-46 75/ 5 |
| | SENDAI | PWR | 31 | 1.8 | 1.3 | | 8-3-55 76/ 5 |
| | BURLINGTON | PWR | 71 | 1.8 | | | GSK-19 69/ 2 |
| | TURKEY POINT-3,4 | PWR | 72 | | 1.3 | | BK80-4 P2 71/ 9 |
| | H.B.ROBINSON-2 | PWR | 73 | | 1.3 | | BK80-4 P2 71/ 9 |
| | SURRY-1,-2 | PWR | 74 | | 1.3 | | BK80-4 P1 71/ 9 |
| | BEAVER VALLEY | PWR | 75 | | 1.3 | | BK80-4 P1 71/ 9 |
| | NORTH ANNA-12 | PWR | 76 | | 1.3 | | BK80-4 P1 71/ 9 |
| | JOSEPH M.FARLEY | PWR | 77 | | 1.3 | | BK80-4 P1 71/ 9 |

HEAT

843840

| | GENERATE RATIO | FUEL VS TOTAL | | | | | |
|--|------------------|---------------|----|------|--|-------------------------|-----------------|
| | | | | | | (1) HEAT GENERATE RATIO | PC |
| | | | | | | (1) | |
| | | | | | | PC | |
| | JPDR-2 | BWR | 2 | 96.0 | | | 70/11 |
| | MIHAMA-2 | PWR | 22 | 97.4 | | | 6783-5 70/10 |
| | TAKAHAMA-2 | PWR | 23 | 97.4 | | | 8-130 70/ 5 |
| | GENKAI-1 | PWR | 24 | 97.4 | | | 6783-5 70/10 |
| | TAKAHAMA-1 | PWR | 25 | 97.4 | | | 6783-5 70/10 |
| | DDI-1,2 | PWR | 26 | 97.4 | | | 8-133 71/ 1 |
| | MIHAMA-3 | PWR | 27 | 97.4 | | | 8-130 71/ 8 |
| | IKATA-1 | PWR | 28 | 97.4 | | | 8-147 72/11 |
| | IKATA-2 | PWR | 30 | 97.4 | | | 8-3-46 75/ 5 |
| | SENDAI | PWR | 31 | 97.4 | | | 8-3-55 76/ 5 |
| | BROWNS FERRY | BWR | 53 | 96.0 | | | GSK-19 69/ 2 |
| | BURLINGTON | PWR | 71 | 97.4 | | | GSK-19 69/ 2 |
| | TURKEY POINT-3,4 | PWR | 72 | 97.4 | | | BK80-4 P1 71/ 9 |
| | H.B.ROBINSON-2 | PWR | 73 | 97.4 | | | BK80-4 P1 71/ 9 |
| | SURRY-1,-2 | PWR | 74 | 97.4 | | | BK80-4 P1 71/ 9 |
| | BEAVER VALLEY | PWR | 75 | 97.4 | | | BK80-4 P1 71/ 9 |
| | NORTH ANNA-12 | PWR | 76 | 97.4 | | | BK80-4 P2 71/ 9 |
| | JOSEPH M.FARLEY | PWR | 77 | 97.4 | | | BK80-4 P2 71/ 9 |

EARTHQUAKE KE-PROOF DESIGN GAL

853400

(NDIF) (C=EL CLNTRA, GG=GOLDEN GATE, TF=TAFT, ST=SITF, DC=DESIGN CURVE

| REACTOR | DESIGN-P | WGT | HEIGHT | DESIGN | LEAK RATE | PERCENT/DAY |
|------------|----------|-----|------------|----------|-----------|-------------|
| TSURUGA | BWR | 3 | 250. (375) | EC+GG | 8K80-2 P6 | 71/ 9 |
| ONAGAWA | BWR | 4 | 250. (375) | EC,TF,ST | 8K80-2 P6 | 71/ 9 |
| HAMAOKA-1 | BWR | 5 | 300. (450) | EC,TF,ST | 8K80-2 P6 | 71/ 9 |
| SHIMANE | BWR | 8 | 200. (300) | EC,TF,ST | 8K80-2 P6 | 71/ 9 |
| MIHAMA-1 | PWR | 21 | 300. (400) | DC | 8K80-2 P6 | 71/ 9 |
| MIHAMA-2 | PWR | 22 | 300. (400) | DC | 8K80-2 P6 | 71/ 9 |
| TAKAHAMA-2 | PWR | 23 | 270. (360) | DC | 8K80-2 P6 | 71/ 9 |
| GENKAI-1 | PWR | 24 | 180. (270) | EC,GG,ST | 8K80-2 P6 | 71/ 9 |
| TAKAHAMA-1 | PWR | 25 | 270. (360) | DC | 8K80-2 P6 | 71/ 9 |
| OUI-1,2 | PWR | 26 | 270. (405) | DC | 8K80-2 P6 | 71/ 9 |
| MIHAMA-3 | PWR | 27 | 270. (405) | DC | 8K80-2 P6 | 71/ 9 |

REACTION OF BED. ROCK FOR REACTOR BUILDING WEIGHT 854200

| REACTOR | DESIGN-P | WGT | HEIGHT | DESIGN | LEAK RATE | PERCENT/DAY |
|-------------|----------|-----|------------|--------|-----------------------------|----------------|
| ONAGAWA | BWR | 4 | 100000 TON | 50. | 100. PC (AT -6.0MM-WATER-H) | 8-15-(3) 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 140000 TON | 33. | 100. PC (AT -6.0MM-WATER-H) | 8-126 70/ 5 |
| FUKUSIMA-5 | BWR | 7 | 110000 TON | 41. | 100. PC (AT -6.0MM-WATER-H) | 8-15-(3) 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 110000 TON | 41. | 100. PC (AT -6.0MM-WATER-H) | 8-15-(3) 71/ 8 |
| TOKAI-2 | BWR | 12 | 270000 TON | 60. | 100. PC (AT -6.0MM-WATER-H) | 8-5-(3) 71/12 |
| KASHIWAZAKI | BWR | 15 | | | 100. PC (AT -6.0MM-WATER-H) | 30 75/ 3 |

REACTOR BUILDING DESIGN-P (INNER)

854400

DESIGN-P (INNER)
KG/SQCM

| REACTOR | DESIGN-P | WGT | HEIGHT | DESIGN | LEAK RATE | PERCENT/DAY |
|-----------|----------|-----|---------------|--------|-----------|-------------|
| HAMAOKA-1 | BWR | 5 | 0.015 KG/SQCM | | 8-102 | 70/ 5 |

TURBINE BUILDING SIZE

EARTHQUAKE KE-PROOF GRADE 856300

| REACTOR | DESIGN-P | WGT | (1)*(2) PLANE | | M*M | (FROM BASE BOTTOM) |
|-------------|----------|-----|--------------------------|------------|---------|--------------------|
| | | | (3) HEIGHT | (4) HEIGHT | | |
| REACTOR | DESIGN-P | WGT | (1) (2) EARTHQUAKE GRADE | | (3) (4) | (5) |
| | | | M | M | | |
| ONAGAWA | BWR | 4 | 52. | 93. | 38. | (A) |
| HAMAOKA-1 | BWR | 5 | 50. | 110. | 36. | (B) |
| FUKUSIMA-5 | BWR | 9 | 67. | 110. | 37. | (A) |
| FUKUSIMA-4 | BWR | 10 | 67. | 105. | 37. | (B) |
| FUKUSIMA-6 | BWR | 11 | 70. | 104. | 42. | (B) |
| TOKAI-2 | BWR | 12 | 70. | 105. | 47. | (B) |
| HAMAOKA-2 | BWR | 13 | 50. | 120. | 40. | (B) |
| KASHIWAZAKI | BWR | 15 | 78. | 148. | 45. | (B) |
| TAKAHAMA-2 | PWR | 23 | 40. | 95. | 31. | (C) |
| GENKAI-1 | PWR | 24 | 34. | 88.5 | 27. | (C) |
| MIHAMA-3 | PWR | 27 | 40. | 103. | 33. | (C) |

RAD.

SHIELD REGION STANDARD

920000

REG-A REG-B REG-C REG-D REG-E REG-F
 UNIT (LE.HOUR/WEEK) / (LE. MILLI-REM/HOUR)
 NOTE S.T=VERY SHORT TIME, QL=OFF LIMIT

| REACTOR | DESIGN-P | WGT | HEIGHT | REG-A | REG-B | REG-C | REG-D | REG-E | REG-F | LEAK RATE | PERCENT/DAY |
|-------------|----------|-----|--------------------|--------|--------|--------|----------|------------|---------|-----------|-------------|
| ONAGAWA | BWR | 4 | FREE/0.6 | 48/1.0 | 10/6.0 | 5/12. | S.T/50 | DL/GT 50. | 9-2-(1) | 70/ 5 | |
| HAMAOKA-1 | BWR | 5 | FREE/0.5 | 48/1.0 | 10/6.0 | 5/12. | S.T/50 | DL/GT 50. | 9-2 | 70/ 5 | |
| FUKUSIMA-5 | BWR | 9 | FREE/0.6 | 48/1.0 | 10/6.0 | 5/12. | S.T/50 | DL/GT 50. | 9-2-(1) | 71/ 2 | |
| FUKUSIMA-4 | BWR | 10 | SAME AS FUKUSIMA-5 | | | | | | 9-2-(1) | 71/ 8 | |
| KASHIWAZAKI | BWR | 15 | | 48/1.0 | 10/5.0 | 2/25.0 | S.T/100. | UL/GT 100. | 9-2-3 | 75/ 3 | |
| TAKAHAMA-2 | PWR | 23 | FREE/0.625 | 48/1.0 | | /15. | | /GT 15 | 9-7 | 70/ 5 | |
| GENKAI-1 | PWR | 24 | FREE/0.625 | 48/1.0 | | /15. | | DL/GT 15 | 9-5 | 70/ 5 | |
| OUI-1,2 | PWR | 26 | FREE/0.625 | 48/1.0 | | /15. | | /GT 15 | 9-6 | 71/ 1 | |
| MIHAMA-3 | PWR | 27 | FREE/0.625 | 48/1.0 | | /15. | | /GT 15 | 9-7 | 71/ 8 | |

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| RAD. | LEVEL | NORMAL | WASTE | GAS | | | DISPOSAL | | 942000 | | MICRO CI/SEC | |
|------------|-------|--------|--------------------|----------------|--------|------------------|----------|-----------------|---------|-------|--------------|--|
| | | | | FROM DEAERATOR | | TURBINE COND. | | -----TOTAL----- | | | | |
| | | | | 30-MINUT | 24HR | 2-MINUT | RECY | (A+C) | (B+C) | | | |
| | | | | (A) | (B) | (C) | (D) | (A+C) | (B+C) | | | |
| | | | | (N-13+AR-41) | | (N-15+D-17+N-13) | | | | | | |
| DNAGAWA | BWR | 4 | 213+2 | 0 | 1+21+2 | 239. | 24. | 9-4-(2) | 70/ 5 | | | |
| HAMAOKA-1 | BWR | 5 | 213+2 | 0 | 1+21+2 | 239. | 24. | 9-5 | 70/ 5 | | | |
| FUKUSIMA-1 | BWR | 5 | N-17= 1 | 0 | 1 | 2 | 1 | MEMO-P291 | 70/ 5 | | | |
| FUKUSIMA-1 | BWR | 5 | N-16= 1 | 0 | 1 | 2 | 1 | MEMO-P291 | 70/ 5 | | | |
| FUKUSIMA-1 | BWR | 5 | D-19= 1 | 0 | 1 | 2 | 1 | MEMO-P291 | 70/ 5 | | | |
| FUKUSIMA-1 | BWR | 6 | N-13=170 | 0 | 1 | 171 | 1 | MEMO-P291 | 70/ 5 | | | |
| FUKUSIMA-1 | BWR | 6 | AR-41= 7 | 9E-4 | 0 | 5 | 0 | MEMO-P291 | 70/ 5 | | | |
| FUKUSIMA-1 | BWR | 6 | AR-37=2E-4 | 2E-4 | 0 | 0 | 0 | MEMO-P291 | 70/ 5 | | | |
| FUKUSIMA-1 | BWR | 5 | H-3= 1 | 1 | 0 | 1 | 1 | MEMO-P291 | 70/ 5 | | | |
| FUKUSIMA-1 | BWR | 6 | TOTAL=181. | 1. | 4. | 184. | 5. | MEMO-P291 | 70/ 5 | | | |
| FUKUSIMA-5 | BWR | 9 | | CHARCOAL | | | | 9-4-(2) | 71/ 2 | | | |
| FUKUSIMA-5 | BWR | 9 | | HOLD UP | | | | 9-4-(2) | 71/ 2 | | | |
| FUKUSIMA-5 | BWR | 9 | N-17 = 1 | 0 | 1 | 2 | 1 | 9-4-(2) | 71/ 2 | | | |
| FUKUSIMA-5 | BWR | 9 | N-16 = 1 | 0 | 1 | 2 | 1 | 9-4-(2) | 71/ 2 | | | |
| FUKUSIMA-5 | BWR | 9 | D-19 = 1 | 0 | 1 | 2 | 1 | 9-4-(2) | 71/ 2 | | | |
| FUKUSIMA-5 | BWR | 9 | N-13 = 250 | 0 | 2 | 252 | 2 | 9-4-(2) | 71/ 2 | | | |
| FUKUSIMA-5 | BWR | 9 | AR-41 = 6 | 4 | 0 | 6 | 4 | 9-4-(2) | 71/ 2 | | | |
| FUKUSIMA-5 | BWR | 9 | AR-37 = 0 | 0 | 0 | 0 | 0 | 9-4-(2) | 71/ 2 | | | |
| FUKUSIMA-5 | BWR | 9 | H-3 = 1 | 1 | 0 | 1 | 1 | 9-4-(2) | 71/ 2 | | | |
| FUKUSIMA-5 | BWR | 9 | TOTAL = 260 | 5 | 5 | 265 | 10 | 9-4-(2) | 71/ 2 | | | |
| FUKUSIMA-4 | BWR | 10 | SAME AS FUKUSIMA-5 | | | | | | 9-4-(2) | 71/ 8 | | |

| MAX RAD. | LEVEL | FP TOTAL | IN | REACTOR WATER | | 943220 | MICRO CI/CC | |
|--------------|-------|----------|-------------------|-----------------------------------|-----------|--------|-------------|-------|
| | | | | I-131 | I-132 | | | |
| DNAGAWA | BWR | 4 | 1+RR+TC+MD = 33.8 | CDRR.PRODUCT | TOT=7*E-2 | 2 | 9-4-(6) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 1+RR+TC+MD = 40.0 | CDRR.PRODUCT | TOT=7*E-2 | 2 | 9-10(REV-0) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 1+RR+TC+MD = 45.0 | CDRR.PRODUCT | TOT=7*E-2 | 2 | 9-10(REV-1) | 70/11 |
| FUKUSIMA-2,3 | BWR | 7 | FUKUSIMA-2 REVISE | SAME AS FUKUSIMA-5 (9-4-(7) 71/2) | | | SHK(89-7-2) | 71/ 3 |
| FUKUSIMA-5 | BWR | 9 | 1+RR+TC+MD = 64.0 | CDRR.PRODUCT | TOT=7*E-2 | 2 | 9-4-(7) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 1+RR+TC+MD = 64.0 | CDRR.PRODUCT | TOT=7*E-2 | 2 | 9-4-(7) | 71/ 8 |

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| MAX RAD. | LEVEL | IODINE | IN | REACTOR WATER | | | | | | | | | 943240 | MICRO CI/CC | |
|--------------|-------|--------|-------------------|---------------|-------|-------|-------|-------|-------|-------|-------------|-----------------------------------|--------|-------------|-------|
| | | | | I-131 | I-132 | I-133 | I-134 | I-135 | I-136 | I-137 | I-138 | | | | |
| | | | | DNAGAWA | BWR | 4 | 0.5 | 4.6 | 3.3 | 8.9 | 4.9 | 1.0 | | | |
| HAMAOKA-1 | BWR | 5 | 0.94 | 5.16 | 5.72 | 7.76 | 7.20 | 0.75 | 0.58 | 0.22 | 9-10(REV-0) | 70/ 5 | | | |
| HAMAOKA-1 | BWR | 5 | 1.0 | 6.0 | 6.0 | 9.2 | 7.8 | 0.8 | 0.6 | 0.2 | 9-10(REV-1) | 70/11 | | | |
| FUKUSIMA-2,3 | BWR | 7 | FUKUSIMA-2 REVISE | | | | | | | | | SAME AS FUKUSIMA-5 (9-4-(7) 71/2) | | SHK(89-7-2) | 71/ 3 |
| FUKUSIMA-5 | BWR | 9 | 1.4 | 8.4 | 8.8 | 12.9 | 11.3 | 1.1 | 0.5 | 0.2 | 9-4-(7) | 71/ 2 | | | |
| FUKUSIMA-4 | BWR | 10 | 1.4 | 8.4 | 8.8 | 12.9 | 11.3 | 1.1 | 0.5 | 0.2 | 9-4-(7) | 71/ 8 | | | |
| TOKAI-2 | BWR | 12 | 0.5 | 3.7 | 3.0 | 5.9 | 4.1 | 0.6 | 0.5 | 0.2 | 9-4-(2) | 71/12 | | | |
| HAMAOKA-2 | BWR | 13 | 1.1 | 6.6 | 6.4 | 9.8 | 8.2 | 0.8 | 0.7 | 0.2 | 9-10 | 73/ 5 | | | |
| KASHIWA7AKI | BWR | 15 | 0.5 | 3.7 | 3.3 | 5.9 | 4.1 | 0.6 | 0.5 | 0.2 | 9-4-12 | 75/ 3 | | | |

| MAX RAD. | LEVEL | BR+TC+MD | IN | REACTOR WATER | | | | | | | | 943260 | MICRO CI/CC | |
|--------------|-------|----------|-------------------|---------------|-------|-------|-------|-------|--------|-------------|-----------------------------------|--------|-------------|-------|
| | | | | BR-83 | BR-84 | BR-85 | BR-87 | BR-88 | TC-99M | MD-99 | | | | |
| DNAGAWA | BWR | 4 | 0.5 | 1.0 | 0.6 | 0.7 | 0.4 | 4.5 | 1.8 | 9-4-(6) | 70/ 5 | | | |
| HAMAOKA-1 | BWR | 5 | 0.65 | 0.79 | 0.39 | 0.49 | 0.31 | 6.42 | 2.63 | 9-10(REV-0) | 70/ 5 | | | |
| HAMAOKA-1 | BWR | 5 | 0.7 | 1.0 | 0.5 | 0.5 | 0.3 | 7.0 | 3.4 | 9-10(REV-1) | 70/11 | | | |
| FUKUSIMA-2,3 | BWR | 7 | FUKUSIMA-2 REVISE | | | | | | | | SAME AS FUKUSIMA-5 (9-4-(7) 71/2) | | SHK(89-7-2) | 71/ 3 |
| FUKUSIMA-5 | BWR | 9 | 1.0 | 1.3 | 0.7 | 0.6 | 0.4 | 10.1 | 5.0 | 9-4-(7) | 71/ 2 | | | |
| FUKUSIMA-4 | BWR | 10 | 1.0 | 1.3 | 0.7 | 0.6 | 0.4 | 10.1 | 5.0 | 9-4-(7) | 71/ 8 | | | |
| TOKAI-2 | BWR | 12 | 0.5 | 0.8 | 0.4 | 0.4 | 0.2 | 0.4 | 1.7 | 9-4-(7) | 71/12 | | | |
| HAMAOKA-2 | BWR | 13 | 0.7 | 1.2 | 0.6 | 0.6 | 0.3 | 0.8 | 3.7 | 9-10 | 73/ 5 | | | |
| KASHIWA7AKI | BWR | 15 | 0.4 | 0.8 | 0.4 | 0.4 | 0.2 | 0.4 | 1.7 | 9-4-12 | 75/ 3 | | | |

| MAX RAD. | LEVEL | CORR-P. (1) | IN | REACTOR WATER | | | | | | | | | 943280 | MICRO CI/CC | |
|--------------|-------|-------------|-------------------|---------------|-------|-------|-------|-------|--------|-------|---------|-----------------------------------|--------|-------------|-------|
| | | | | F-18 | MN-54 | MN-56 | NI-65 | ZN-65 | ZN-69M | NA-24 | N-187 | | | | |
| DNAGAWA | BWR | 4 | 4*E-3 | 4*E-5 | 5*E-2 | 3*E-4 | 2*E-6 | 3*E-5 | 2*E-3 | 3*E-3 | 9-4-(6) | 70/ 5 | | | |
| HAMAOKA-1 | BWR | 5 | 4*E-3 | 4*E-5 | 5*E-2 | 3*E-4 | 2*E-6 | 3*E-5 | 2*E-3 | 3*E-3 | 9-10 | 70/ 5 | | | |
| FUKUSIMA-2,3 | BWR | 7 | FUKUSIMA-2 REVISE | | | | | | | | | SAME AS FUKUSIMA-5 (9-4-(7) 71/2) | | SHK(89-7-2) | 71/ 3 |
| FUKUSIMA-5 | BWR | 9 | 4*E-3 | 4*E-5 | 5*E-2 | 3*E-4 | 2*E-6 | 3*E-5 | 2*E-3 | 2*E-4 | 9-4-(7) | 71/ 2 | | | |
| FUKUSIMA-4 | BWR | 10 | 4*E-3 | 4*E-5 | 5*E-2 | 3*E-4 | 2*E-6 | 3*E-5 | 2*E-3 | 2*E-4 | 9-4-(7) | 71/ 8 | | | |
| TOKAI-2 | BWR | 12 | 4*E-3 | 4*E-5 | 5*E-2 | 3*E-4 | 2*E-6 | 3*E-5 | 2*E-3 | 2*E-4 | 9-4-(7) | 71/12 | | | |
| KASHIWA7AKI | BWR | 15 | 4*E-3 | 4*E-5 | 5*E-2 | 3*E-4 | 2*E-6 | 3*E-5 | 2*E-3 | 2*E-4 | 9-4-12 | 75/ 3 | | | |

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| MAX RAD. LEVEL | CORR-P. (2) IN | REACTOR WATER | 943400 | | | | | | | |
|----------------|----------------|---------------|------------|---------|--------------------|----------------|---------|-------|-------------|-------|
| | | CD-58 | CD-60 | FE-59 | P-32 | CR-51 | AS-110M | | MICRO CI/CC | |
| ONAGAWA | BWR | 4 | 5*E-3 | 5*E-4 | 8*E-5 | 2*E-5 | 3*E-4 | 6*E-5 | 9-4-(6) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 5*E-3 | 5*E-4 | 8*E-5 | 2*E-5 | 5*E-4 | 6*E-5 | 9-10 | 70/ 5 |
| FUKUSIMA-2,3 | BWR | 7 | FUKUSIMA-2 | PELVISE | SAME AS FUKUSIMA-5 | (9-4-(7) 71/2) | | | SHK(A9-7-2) | 71/ 3 |
| FUKUSIMA-5 | BWR | 9 | 5*E-3 | 5*E-4 | 8*E-5 | 2*E-5 | 5*E-4 | 6*E-5 | 9-4-(7) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 5*E-3 | 5*E-4 | 8*E-5 | 2*E-5 | 5*E-4 | 6*E-5 | 9-4-(7) | 71/ 8 |
| TUDOKAI-2 | BWR | 12 | 5*E-3 | 5*E-4 | 8*E-5 | 2*E-5 | 5*E-4 | 6*E-5 | 9-4-(7) | 71/12 |
| KASHIWA7AKI | BWR | 15 | 5*E-3 | 5*E-4 | 8*E-5 | 2*E-5 | 5*E-4 | 6*E-5 | 9-4-12 | 75/ 3 |

| SWD USED RESIN | PRODUCTI ON | RATE | 944220 | | | | | | | |
|----------------|-------------|------|-------------|--|---|--|---|--|---------|-------|
| | | | | (A)=(A1) T/YEAR FROM REACTOR COOLANT PURIFICATION FILTER DEMINERALIZER | (B)=(B1) T/YEAR FROM CONDENSER FILTER DEMINERALIZER | (C)=(C1) T/YEAR FROM CONDENSER DEMINERALIZER | (D)=(D1) T/YEAR FROM FUEL POOL FILTER DEMINERALIZER | (E)=(E1) T/YEAR FROM WASTE DISPOSAL SYSTEM DEMINERALIZER | | |
| | | | | * SPECIFIC WEIGHT=0.34 GR/CC (ASSUMPTION) | UNIT---MC/CC=MICRO CURIE/CC, MC/G =MICRO CURIE/GRAM | (A1) | (B1) | (C1) | (D1) | (E1) |
| ONAGAWA | BWR | 4 | 2.3 T/Y | 8.3 T/Y | 1.1 T/Y | 0.7 T/Y | 1.2 T/Y | | 9-4-(7) | 70/ 5 |
| ONAGAWA | BWR | 4 | 100. MC/G | 20. MC/G | 140. MC/G | | 140. MC/G | | 9-4-(7) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | | | 6.0 CUBM/Y | | 6.0 CUBM/Y | | 9-11 | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | | | 0.02 MC/CC | | 0.01MC/CC | | 9-11 | 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | *4. CUBM/Y | | 15.0 CUBM/Y | *16. CUBM/Y | 3.0 CUBM/Y | | 9-4-(8) | 71/ 2 |
| FUKUSIMA-5 | BWR | 9 | 2000. MC/CC | | 2. MC/CC | | 500. MC/CC | | 9-4-(8) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | *4. CUBM/Y | | 15.0 CUBM/Y | *16. CUBM/Y | 3.0 CUBM/Y | | 9-4-(8) | 71/ 8 |
| FUKUSIMA-4 | BWR | 10 | 2000. MC/CC | | 2. MC/CC | | 500. MC/CC | | 9-4-(8) | 71/ 8 |
| TUDOKAI-2 | BWR | 12 | 15. CUBM/Y | | 23.0 CUBM/Y | 10. CUBM/Y | 10. CUBM/Y | | 9-4-(8) | 71/12 |
| TUDOKAI-2 | BWR | 12 | 2000. MC/CC | | 2. MC/CC | 500. MC/CC | | | 9-4-(8) | 71/12 |

| SWD USED POWDER RESIN | PRODUCTI ON | RATE ACTIVITY | 944240 | | | | | | | |
|-----------------------|-------------|---------------|------------|---|--|--|------|--|------|-------|
| | | | | (A)=(A1) CURM/YEAR FROM REACTOR COOLANT PURIFICATION PRE-COAT DEMINE. | (B)=(B1) CURM/YEAR FROM CONDENSER PRE-COAT DEMINE. | (C)=(C1) CURM/YEAR FROM FUEL POOL PRE-COAT DEMINE. | | | | |
| | | | | UNIT---MC/CC=MICRO CURIE/CC, MC/G =MICRO CURIE/GRAM | (A1) | (B1) | (C1) | | | |
| HAMAOKA-1 | BWR | 5 | 2.5 CUBM/Y | 21. CUBM/Y | 2. CUBM/Y | | | | 9-12 | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 45. MC/CC | 0.5 MC/CC | | | | | 9-12 | 70/ 5 |

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| SWD | FILTER | SLUDGE | PRODUCTI ON | RATE ACTIVITY | 944260 | | | | |
|------------|--------|--------|-------------|---------------|-------------|--|---|---------|-------|
| | | | | | | (A)=(A1) CURM/YEAR FROM WASTE DISPOSAL SYSTEM FILTER | (B)=(B1) MAXIMUM RADIATION LEVEL IN MICRO CURIE/CC, OR MICRO CURIE/GRAM | | |
| | | | | | | (A1) | (B) | | |
| ONAGAWA | BWR | 4 | 5.8 T/Y | | 0.9 MC/G | | | 9-4-(8) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 40. CUBM/Y | | 0.06 MC/CC | | | 9-12 | 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | 45. CUBM/Y | | 5000. MC/CC | | | 9-4-(8) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 45. CUBM/Y | | 5000. MC/CC | | | 9-4-(8) | 71/ 8 |
| TUDOKAI-2 | BWR | 12 | 70. CUBM/Y | | 5000. MC/CC | | | 9-4-(8) | 71/12 |

| SWD FROM CONCENTR ATOR | PRODUCTI ON | RATE ACTIVITY | 944280 | | | | | | |
|------------------------|-------------|---------------|-------------|---|---|------|-----|---------|-------|
| | | | | (A)=(A1) CURM/YEAR FROM EVAPORATE CONCENTRATED WASTE DISPOSAL | (B)=(B1) MAXIMUM RADIATION LEVEL IN MICRO CURIE/CC, OR MICRO CURIE/GRAM | (A1) | (B) | | |
| ONAGAWA | BWR | 4 | 0.2*365 T/Y | L1 1.0 MC/G | | | | 9-4-(8) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 120. CUBM/Y | 0.07 MC/CC | | | | 9-12 | 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | 720. CUBM/Y | 0.002MC/CC | | | | 9-4-(9) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | 720. CUBM/Y | 0.002MC/CC | | | | 9-4-(9) | 71/ 8 |
| TUDOKAI-2 | BWR | 12 | 260. CUBM/Y | 0.002MC/CC | | | | 9-4-(8) | 71/12 |

| SWD | CONTROL ROD | CHANNEL | BOX | CURTAIN | 944320 | | | | |
|-------------|-------------|---------|----------|---------|-----------------|----------------|-----------------------------|-----------------------------|-------|
| | | | | | | POISON CURTAIN | CONTROL ROD AFTER () YEARS | CHANNEL BOX AFTER () YEARS | |
| ONAGAWA | BWR | 4 | 156. HDN | | 9. HDN/YEAR(5) | 90. /YEAR(5) | | 9-4-(8) | 70/ 5 |
| HAMAOKA-1 | BWR | 5 | 156. HDN | | 9. HDN/YEAR(5) | 90. /YEAR(5) | | 9-12 | 70/ 5 |
| FUKUSIMA-5 | BWR | 9 | ----- | | 14. HDN/YEAR(5) | 140. /YEAR(5) | | 9-4-(9) | 71/ 2 |
| FUKUSIMA-4 | BWR | 10 | ----- | | 14. HDN/YEAR(5) | 140. /YEAR(5) | | 9-4-(9) | 71/ 8 |
| TUDOKAI-2 | BWR | 12 | ----- | | 19. HDN/YEAR(5) | 200. /YEAR(5) | | 9-4-(9) | 71/12 |
| HAMAOKA-2 | BWR | 13 | ----- | | 14. HDN/YEAR(5) | 140. /YEAR(5) | | 9-12 | 73/ 5 |
| KASHIWA7AKI | BWR | 15 | ----- | | 19. HDN/YEAR(5) | 200. /YEAR(5) | | 9-4-15 | 75/ 3 |

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LWD (LIQUID WASTE DISPOSAL) QUANTITY 954100

- (1)EXTRACTED WATER FROM BORIC ACID CUBM/YEAR
 - (2)DRAIN FROM PRIMARY SYSTEM CUBM/YEAR, A=LITRE/DAY
 - (3)FROM CONTAINER SUMP CUBM/YEAR
 - (4)FLOOR DRAIN CUBM/YEAR
 - (5)FROM CLEAN-UP CUBM/YEAR
 - (6)LAUNDRY DRAIN CUBM/YEAR
 - (7)DISPOSAL FROM SAMPLING CUBM/YEAR, A=LITRE/DAY
 - (8)FROM RESIN CUBM/YEAR
- NOTE R=(REVISED)

| | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | | |
|------------|--------|-------|------|-----|-----|-----|------|-----|-----|------|-------|
| TAKAHAMA-2 | PWR 23 | 2300 | 300A | | | | | 40A | | 9-12 | 70/ 5 |
| GENKAI-1 | PWR 24 | 1300 | 700A | | | | | 10A | | 9-9 | 70/ 5 |
| OUI-1+2 | PWR 26 | 2300 | 1300 | 400 | 400 | 200 | 2700 | 300 | | 9-13 | 71/ 1 |
| MIHAMA-3 | PWR 27 | 4300K | 300 | 300 | | 100 | 1500 | 150 | 300 | 9-13 | 71/11 |
| IKATA-1 | PWR 28 | 1300 | 300 | 300 | | 100 | 2000 | 150 | 200 | 9-9 | 72/11 |

KIND OF SWD DRUM QUANTITY 954100

- (1)=USED RESIN ***UNIT*** = DRUM(CHN)/YEAR
- (2)=USED POWDER RESIN
- (3)=FILTER SLUDGE
- (4)=CONC. LIQUID WASTE DISPOSAL
- (5)=MISCELLANEOUS SOLID WASTE DISPOSAL
- (6)=SOLID WASTE DISPOSAL FROM CONCENTRATED LIQUID WASTE DISPOSAL
- (7)=SAMPLING WASTE DISPOSAL

| | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | TOTAL | | |
|-------------|--------|------------|------|-------|-------|------|------|------|-------|---------|-------|
| ONAGAWA | BWR 4 | 60. | 130. | 240. | 500. | 600. | | | 1530. | 9-4-(9) | 70/ 5 |
| HAMAOKA-1 | BWR 5 | 170. | 220. | 290. | 1000. | 250. | | | 1930. | 9-13 | 70/ 5 |
| FUKUSIMA-5 | BWR 9 | 500. | | 450. | 5200. | 600. | | | 6750. | 9-4-(9) | 71/ 2 |
| TSUKAI-2 | BWR 12 | 700. | | 2400. | 2600. | 600. | | | 6300. | 9-4-(9) | 71/12 |
| KASHINAZAKI | BWR 15 | 600. | | 200. | 4100. | 600. | | | 5500. | 9-4-15 | 75/ 3 |
| TAKAHAMA-2 | PWR 23 | 310. | | | | 190. | 140. | | 640. | 9-13 | 70/ 5 |
| GENKAI-1 | PWR 24 | 130. | | | | 140. | 70. | | 340. | 9-9 | 70/ 5 |
| OUI-1+2 | PWR 26 | 540. | | | | 500. | 180. | 190. | 1410. | 9-14 | 71/ 1 |
| MIHAMA-3 | PWR 27 | 310. | | | | 190. | 140. | | | 9-14 | 71/ 8 |
| IKATA-1 | PWR 28 | 5CUBM/YEAR | | | | 200. | 500. | | | 9-11 | 72/11 |