JAERI-M
85-210

# 再冠水解析コードREFLA-1D/MODE4 (REFLA-1D局所出力効果モデル・燃料棒半径方向温度分布モデル組込み版)コード・マニュアル

１９８６年１月

北條　恒行・井口　正・杉本　純*
大久保　努・村尾　良夫

日本原子力研究所
Japan Atomic Energy Research Institute

JAERI-M レポートは，日本原子力研究所が不定期に公刊している研究報告書です。
入手の問合わせは，日本原子力研究所技術情報部情報資料課（〒319-11茨城県那珂郡東海村）あて，お申しこしください。なお，このほかに財団法人原子力弘済会資料センター（〒319-11 茨城県那珂郡東海村日本原子力研究所内）で複写による実費頒布をおこなっております。

JAERI-M reports are issued irregularly.
Inquiries about availability of the reports should be addressed to Information Division Department of Technical Information, Japan Atomic Energy Research Institute, Tokai-mura, Naka-gun, Ibaraki-ken 319-11, Japan.



編集兼発行　日本原子力研究所
印　　刷　いばらき印刷㈱

JAERI－M 85－210

# 再冠水解析コードREFLA－1D／MODE 4（REFLA－1D 局所出力効果モデル・燃料棒半径方向温度分布モデル組込み版）コード・マニュアル

日本原子力研究所東海研究所原子炉安全工学部
北條恒行・井口　正・杉本　純*
大久保努・村尾良夫

（1985年12月6日受理）

REFLA－1D／MODE 3コードに局所出力効果モデルおよび燃料棒半径方向温度分布モデルの組込みを行い，これらの効果を考慮した解析が可能なREFLA－1D／MODE 4コードを作成した。作成したコードでは，炉心内の水平方向出力分布効果を考慮した局所燃料棒温度変化の計算および実燃料棒の模擬等が可能となった。

本報告書には，組込んだモデルの概要，モデル組込みにともなう修正内容および作成したREFLA－1D／MODE 4コード使用上の情報が含まれている。

---

＊　科学技術庁

# User's manual of the REFLA-1D/MODE4 reflood thermo-hydrodynamic analysis code

— Incorporation of local power effect model and fuel temperature profile effect model into REFLA-1D —

Tsuneyuki HOJO, Tadashi IGUCHI, Jun SUGIMOTO*
Tsutomu OKUBO and Yoshio MURAO

Department Reactor Safety Research,
Tokai research establishment, JAERI

(Received December 6, 1985)

REFLA-1D/MODE4 code has been developed by incorporating local power effect model and fuel temperature profile effect model into REFLA-1D/MODE3 code. This code can calculate the temperature transient of local rod by considering radial power profile effect in core and simulate the thermal characteristics of the nuclear fuel rod.

This manual describes the outline of incorporated models, modification of the code with incorporating models and provides application information required to utilize the code.

Keywords; PWR, LOCA, Reflood, Computer Code, Quench, Thermo-hydrodynamics, Heat Transfer, Two-phase Flow, Local Power Effect Model, Fuel Temperature Profile Effect Model

---

* Science and Technology Agency of Japan

# 目　　　次

Contents

List of tables



List of figures

# 1．序

原研では，加圧水型原子炉における大破断冷却材喪失事故時再冠水過程の熱水力挙動の解析を目的として，REFLAコードを開発している。[1],[2]

今回，REFLA－1D／MODE 3コードに局所出力効果モデル[3] および燃料棒半径方向温度分布モデル[4]の組込みを行い，これらの効果を考慮した解析が可能なバージョンREFLA－1D／MODE 4 を作成した。

局所出力効果モデルの特徴は，水平方向に出力分布が存在するような炉心に対しても，水力挙動は平均出力棒に関して1次元的に取扱い，また，熱的挙動は平均出力棒，局所出力棒に関して1次元的に取扱うことによって，1次元コードでも，水平方向出力分布効果を考慮した局所出力棒の被覆管温度変化を平均出力棒のそれと同時に解析できる点にある。

燃料棒半径方向温度分布モデルはMalang によるHETRAP コード[5]の手法を元に開発したものであり，本モデルの特徴は燃料棒半径方向の材質の違いやギャップの存在等が考慮でき，実燃料の模擬も可能な点にある。

本報告書には，局所出力効果モデルおよび燃料棒半径方向温度分布モデルの概要，モデル組込みにともなう修正内容，および作成したREFLA－1D／MODE 4 コード使用上の情報が含まれている。

# 2. 局所出力効果モデルの組込み

## 2.1 局所出力効果モデルの概要

局所出力効果モデルは，原研で実施したCCTF 試験結果から得られた知見に基づいて，以下の様な仮定をしたモデルである。[3]

(1) 炉心内水平方向に出力分布および温度分布が存在しても，蓄水挙動は水平方向に分布がなく，軸方向に1次元的に取扱うことができる。この蓄水挙動は，平均出力，平均温度の燃料棒（以下，平均燃料棒と呼ぶ）に対する計算で予測できる。

この仮定は，各高さで水と蒸気が水平方向に瞬時に混合することを意味しており，局所出力，局所温度の燃料棒（以下，局所燃料棒と呼ぶ）付近の蓄水挙動も平均燃料棒に対する蓄水挙動と同じとなる。

(2) 局所燃料棒各高さの熱伝達率は，平均燃料棒の同じ高さにおける水力条件（ボイド率，蒸気流速，水流速，蒸気温度，水温度等）とその高さの局所燃料棒の熱的条件（被覆管表面温度，出力，クエンチ点からの距離等）から決定される。

(3) クエンチ進行は水平方向に関して1次元的ではない。局所燃料棒のクエンチ進行は，平均燃料棒の水力条件と局所燃料棒の熱的条件から決定される。

局所燃料棒の出力が平均燃料棒の出力より大きい場合の両者の炉心内流動様式を図2.1に示す。上記(1)，(3)の仮定より，クエンチ進行以外の流動様式は両者同一である。平均燃料棒と局所燃料棒のクエンチ進行の違いにより，流動様式は以下に示す3つのタイプに分類できる。

1）タイプ1：平均燃料棒，局所燃料棒ともにクエンチ点の流体は飽和温度に達している場合

両燃料棒とも，クエンチ点下方は液単相流領域（またはサブクール核沸騰領域），飽和二相流領域からなり，クエンチ点上方は遷移流領域，液滴流領域，過熱蒸気流領域からなる。

2）タイプ2：平均燃料棒クエンチ点の流体は飽和温度に達しているが局所燃料棒のそれは飽和温度以下の場合

平均燃料棒の流動様式はタイプ1と同じ。局所燃料棒の流動様式は，クエンチ点下方は液単相流領域（またはサブクール核沸騰領域），クエンチ点上方はサブクール膜沸騰領域，遷移流領域，液滴流領域，過熱蒸気流領域からなる。

3）タイプ3：平均燃料棒，局所燃料棒ともにクエンチ点の流体は飽和温度以下の場合

両燃料棒とも，タイプ2の局所燃料棒と同じ流動様式。

局所出力効果モデルを適用した場合の炉心内熱水力計算手順の概略を図2.2に示す。

## 2.2 局所出力効果モデル組込みにともなう修正

REFLA－1D／MODE3への局所出力効果モデル組込みにともなう主なプログラム修正内容を以下に示す。

1）局所出力効果モデル適用時には，平均燃料棒，局所燃料棒それぞれについて炉心内熱水力計算を行うので，サブルーチンREFLA1のクエンチ計算および炉心内熱水力計算部分をサブルーチンREFLAAとして独立させた。

2）ICALL＝1の時は平均燃料棒，ICALL＝2 の時は局所燃料棒の計算を行うようにした。

3）局所燃料棒のクエンチ点以外の各領域の境界は，平均燃料棒計算で得られた境界点をサブルーチンREFLAAで設定するようにした。

局所燃料棒のクエンチ点については，サブルーチンREFLAAで計算する。

4）各領域の熱水力計算を行うサブルーチンSINGLF，SATTPF，TRNSRM，DISPRMおよびSPHTRMには，局所燃料棒に対しては熱伝達率計算のみ行うロジックを付加えた。

局所出力効果モデル組込みにともなって修正された主なサブルーチンのフローチャートを図2.3～2.8に示す。なお，サブルーチンREFLA1については，燃料棒半径方向温度分布モデルも組込んだ後のフローチャートを図3.3に示す。

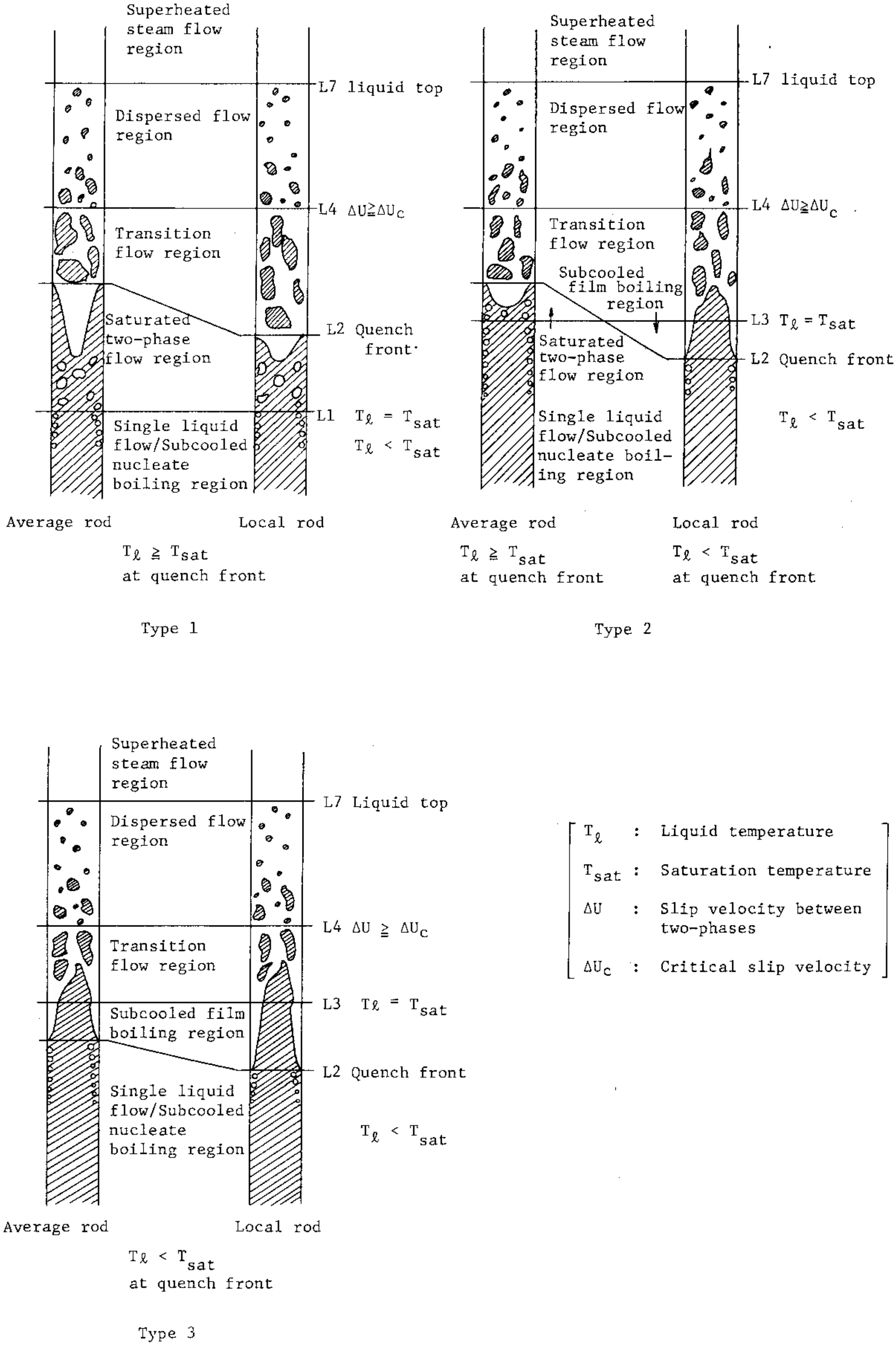



Fig. 2.1　Reflood flow model and definition of flow regime boundaries at average and local rod

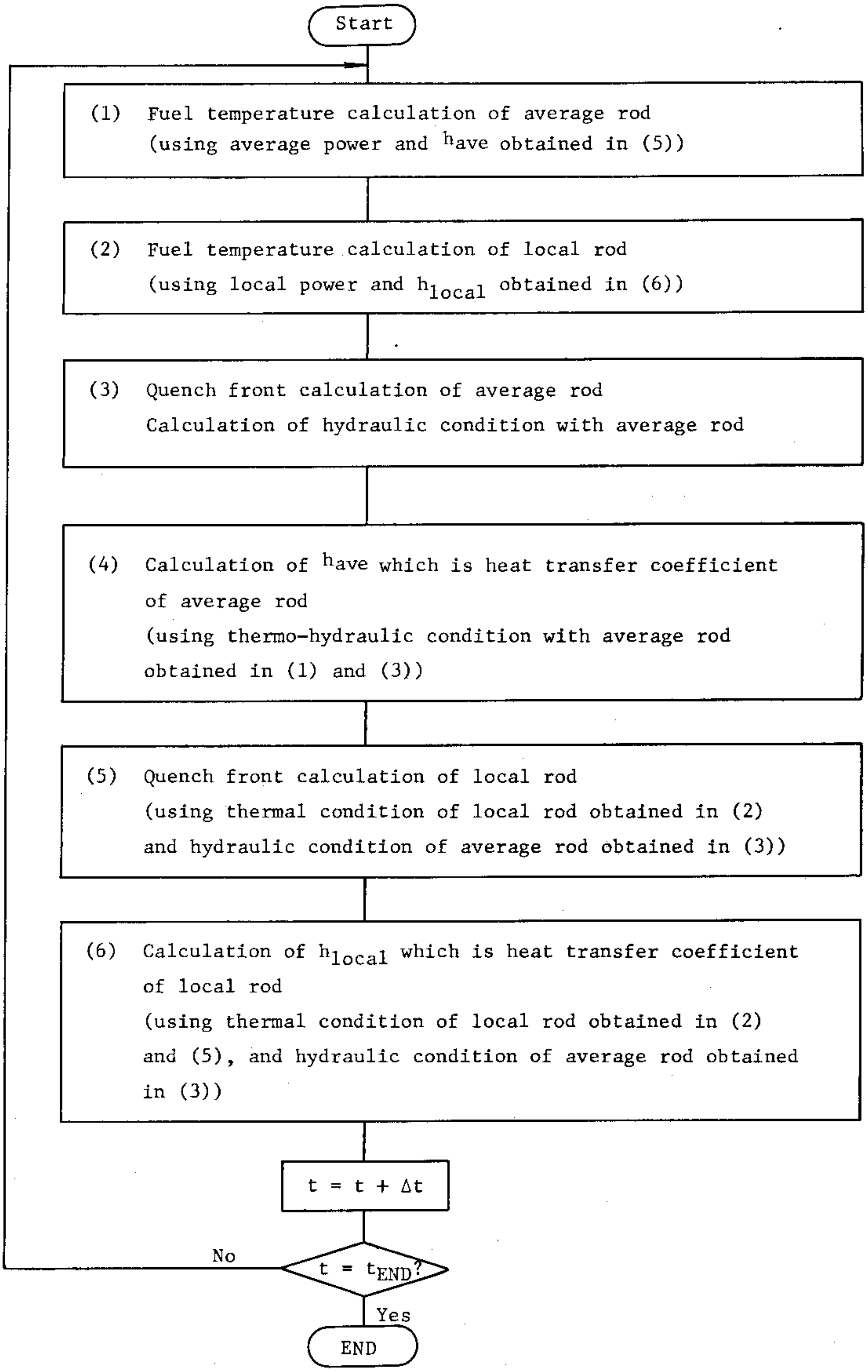



Fig. 2.2 Core thermo-hydraulic calculation procedure in case of using local power effect model

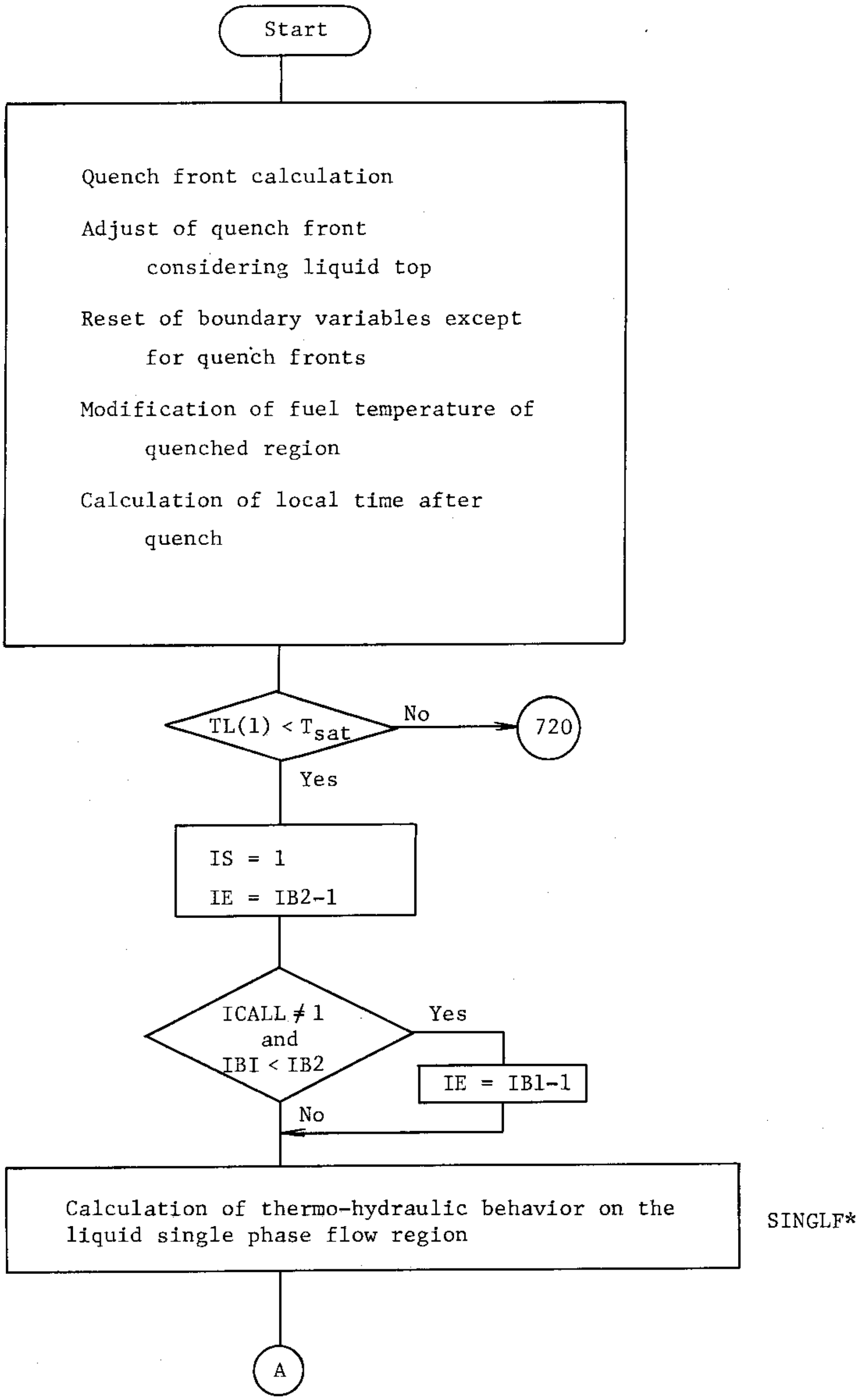



Fig. 2.3 Flow chart of subroutine REFLAA (1/5)

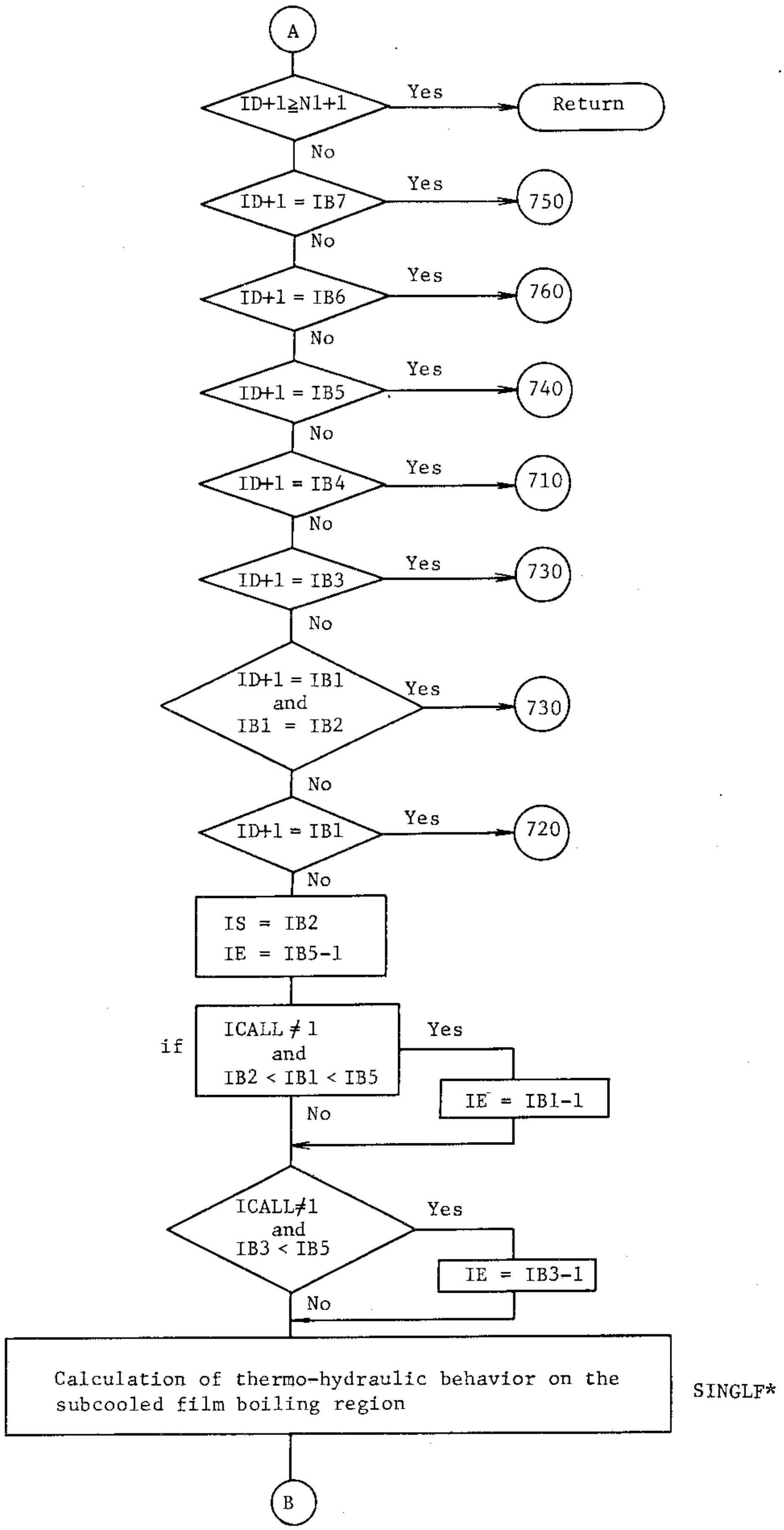



Fig. 2.3 Flow chart of subroutine REFLAA (2/5)

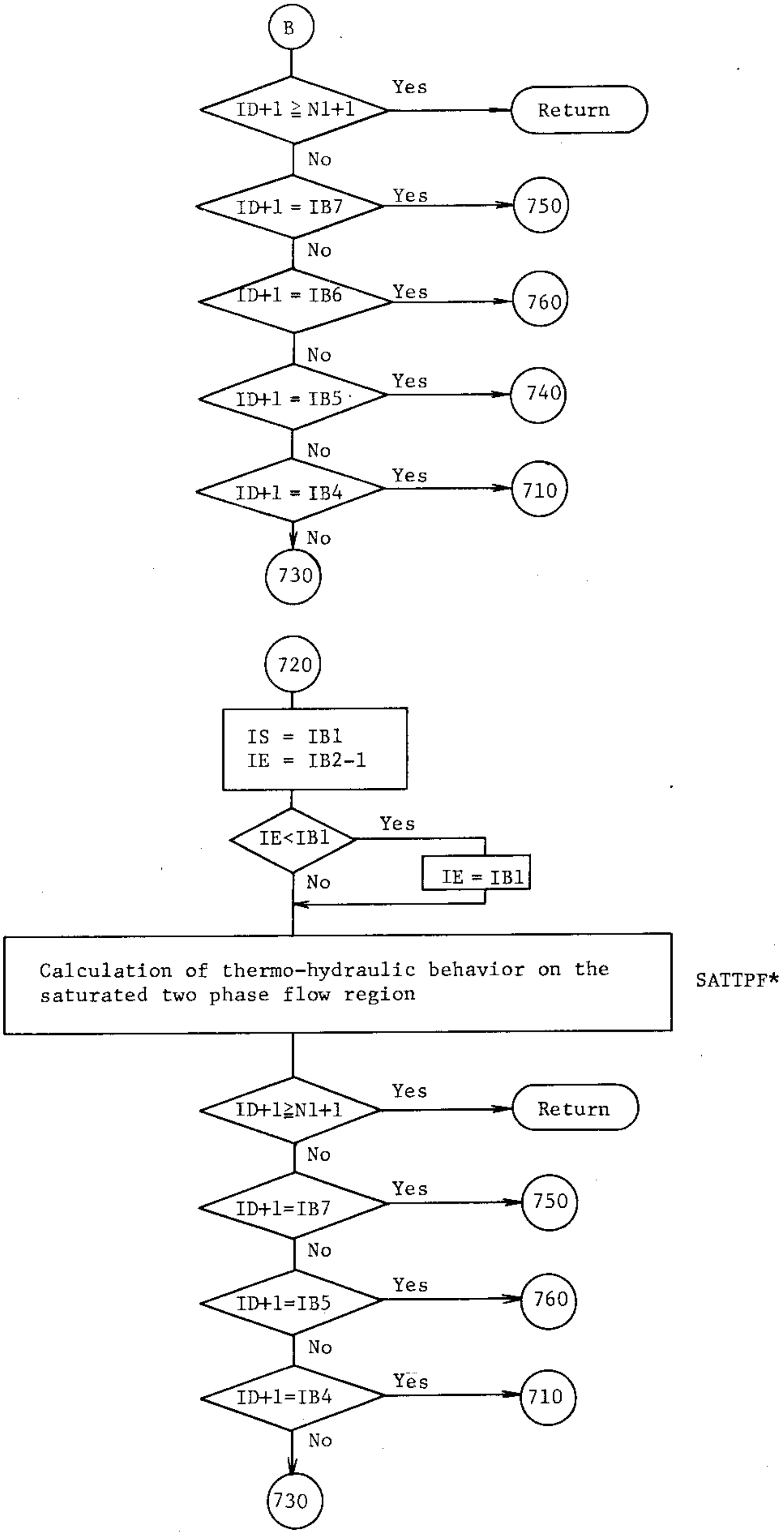



Fig. 2.3 Flow chart of subroutine REFLAA (3/5)

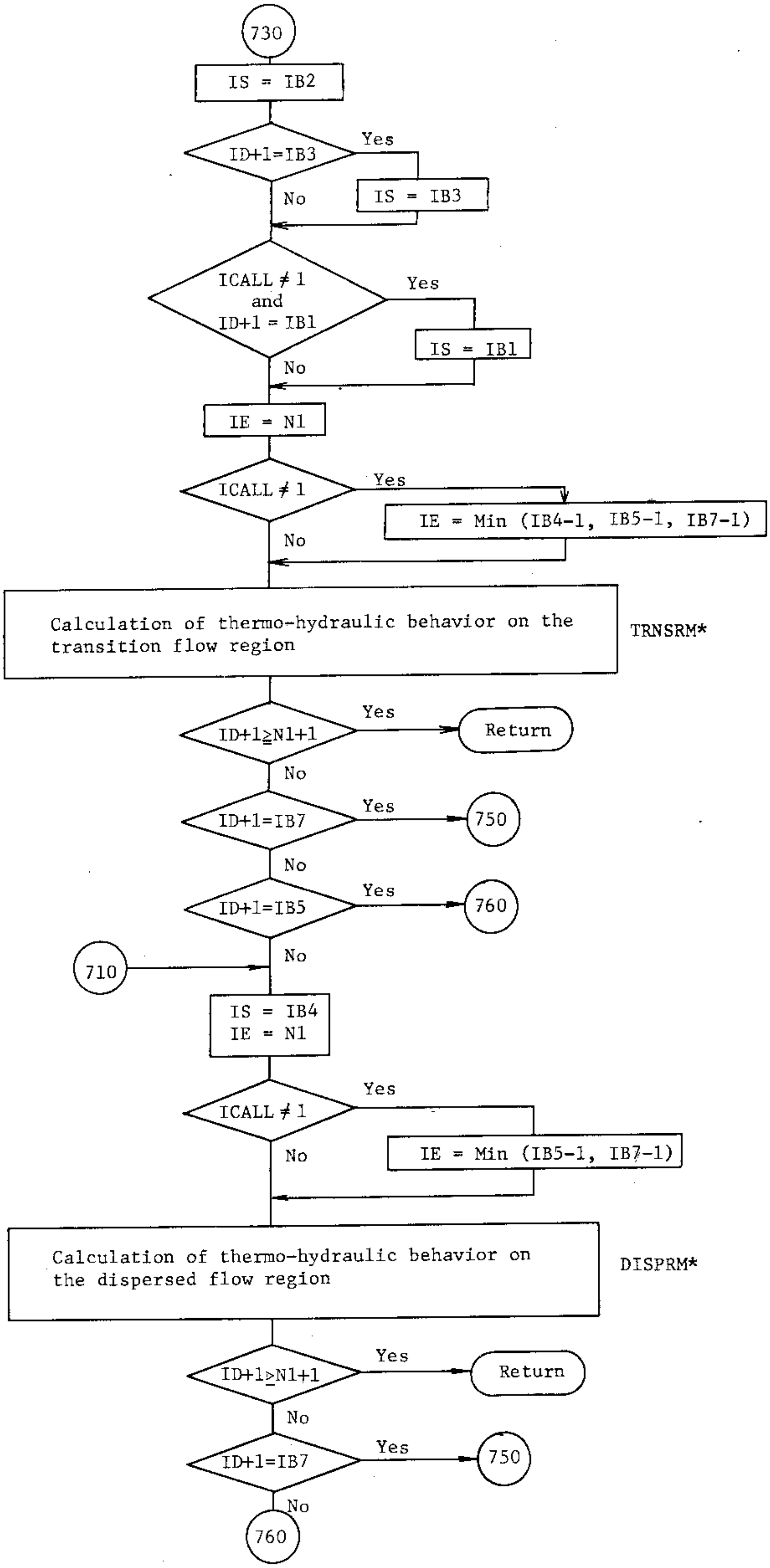



Fig. 2.3 Flow chart of subroutine REFLAA (4/5)

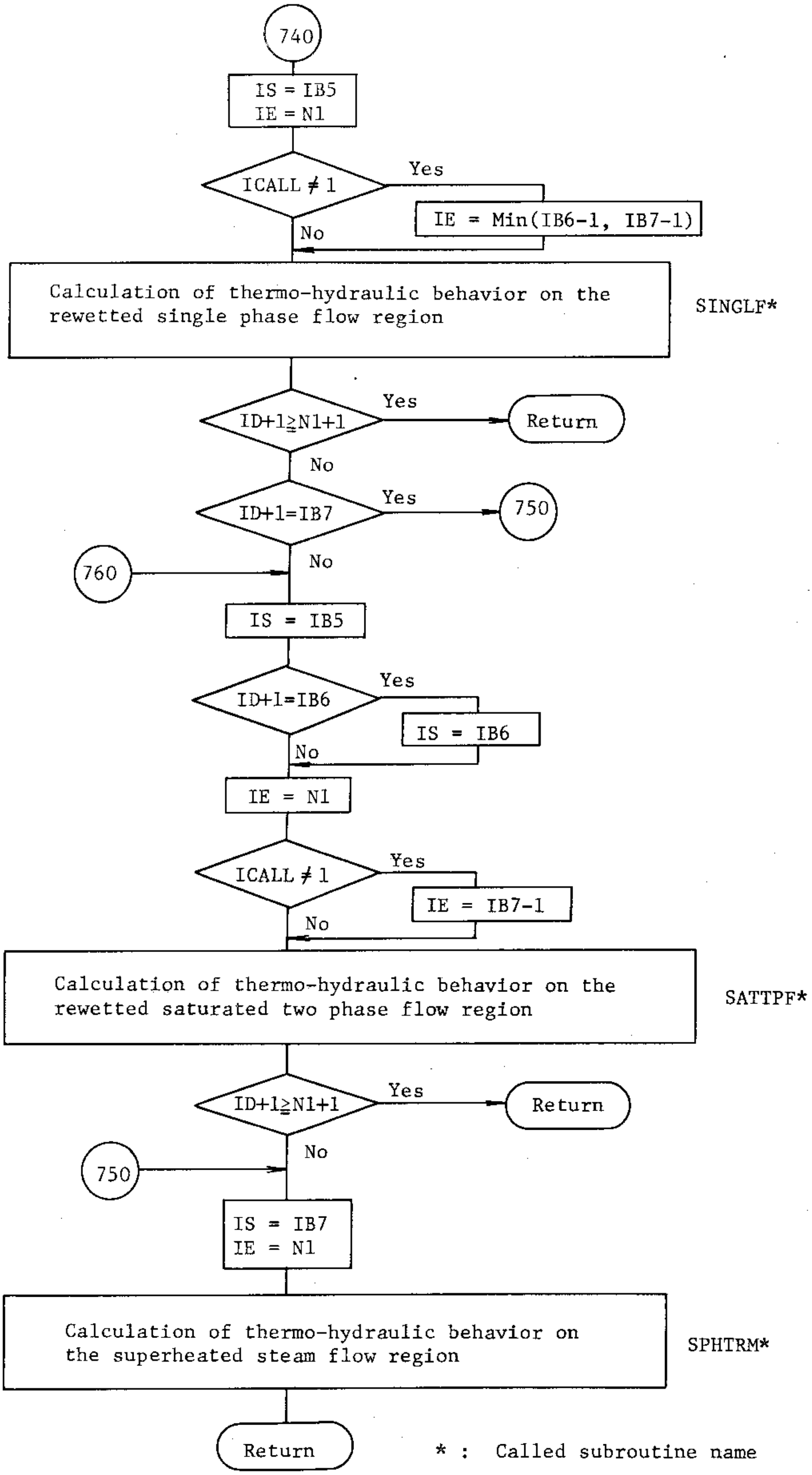



Fig. 2.3 Flow chart of subroutine REFLAA (5/5)

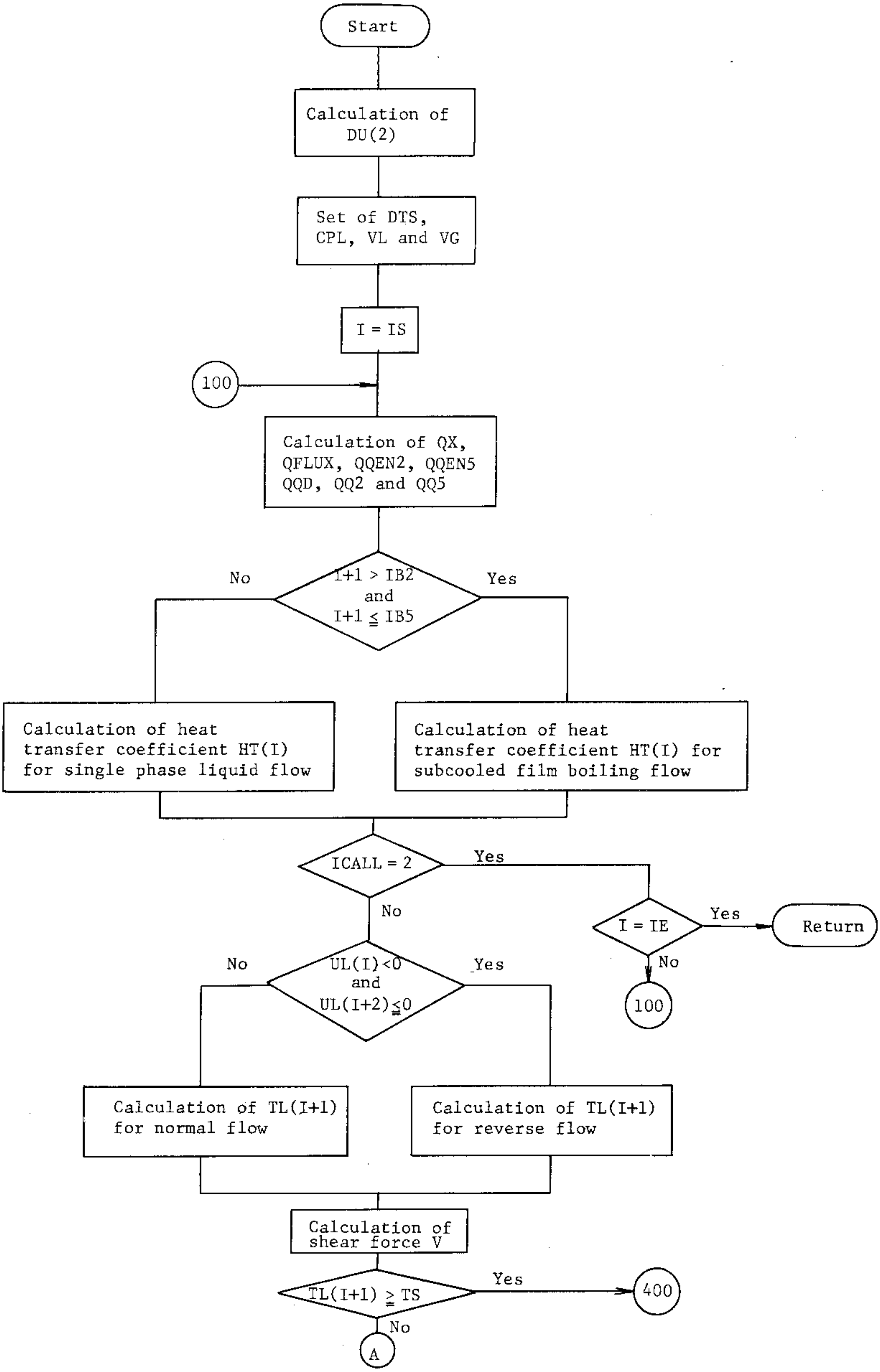



Fig. 2.4 Flow chart of subroutine SINGLF (1/4)

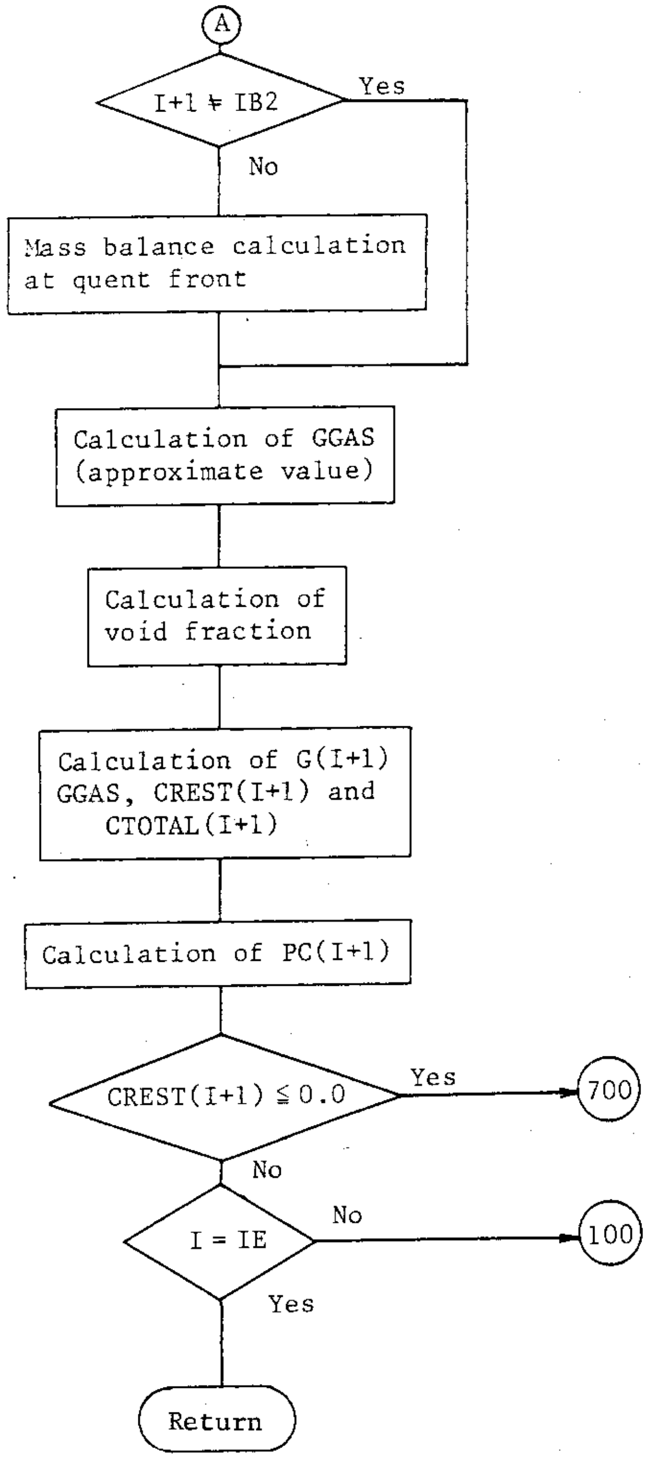



Fig. 2.4 Flow chart of subroutine SINGLF (2/4)

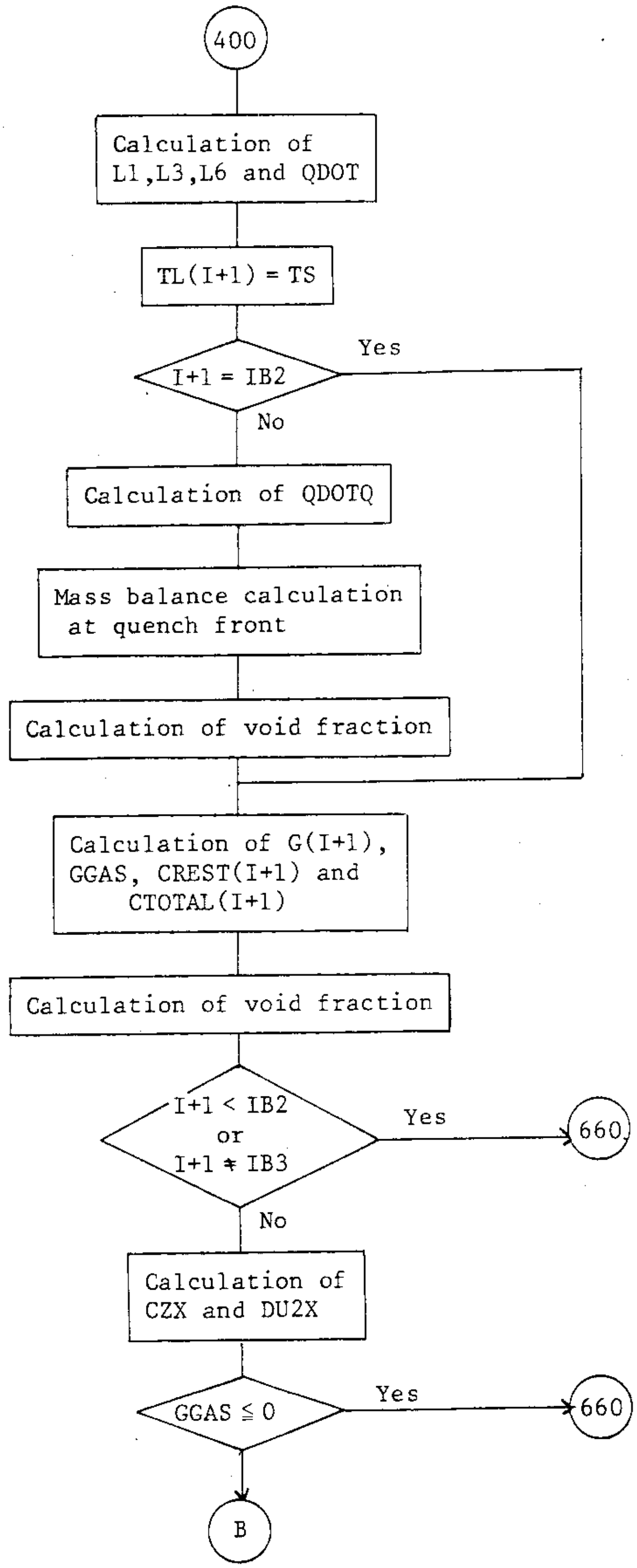



Fig. 2.4 Flow chart of subroutine SINGLF (3/4)

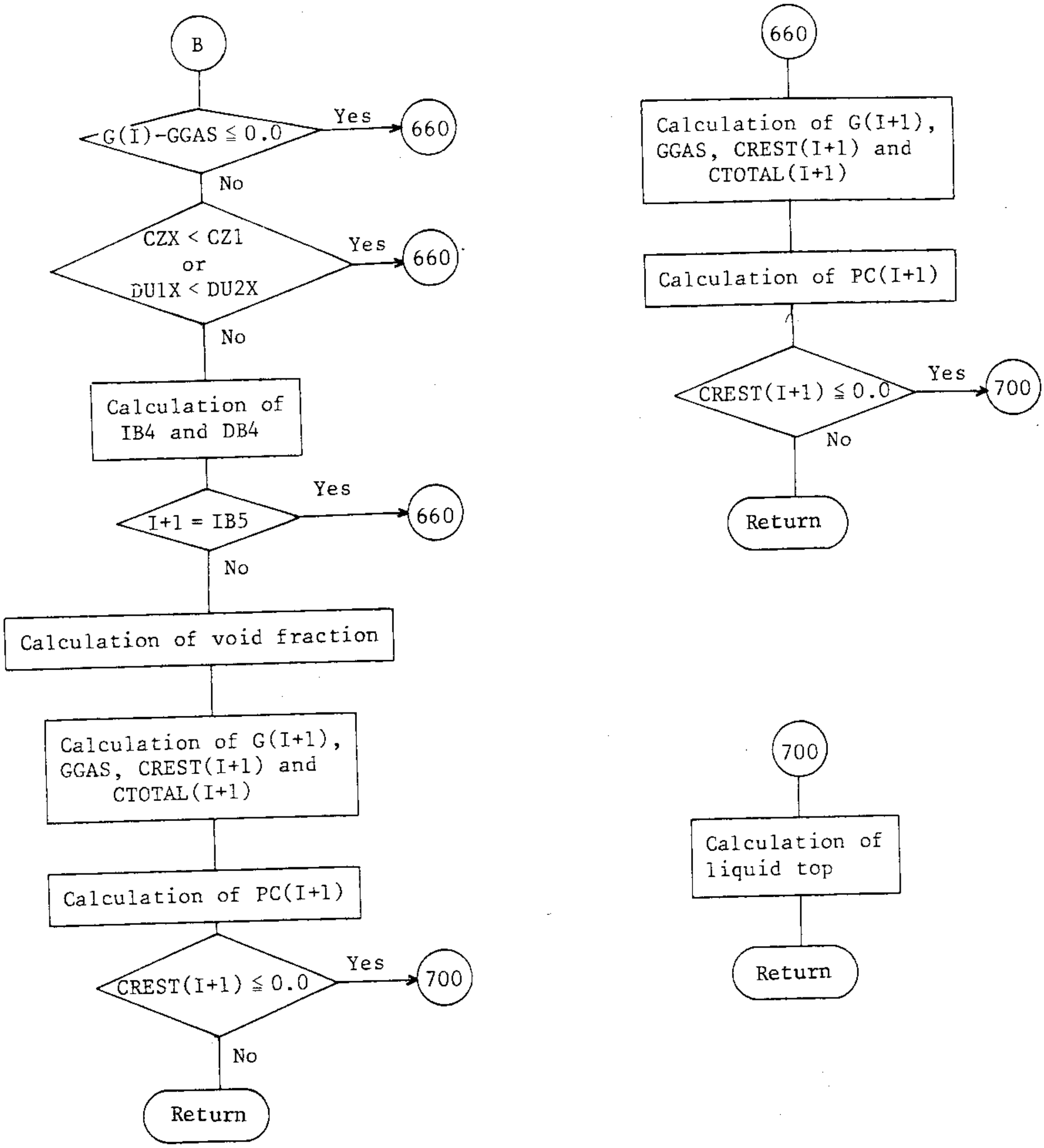



Fig. 2.4  Flow chart of subroutine SINGLF (4/4)

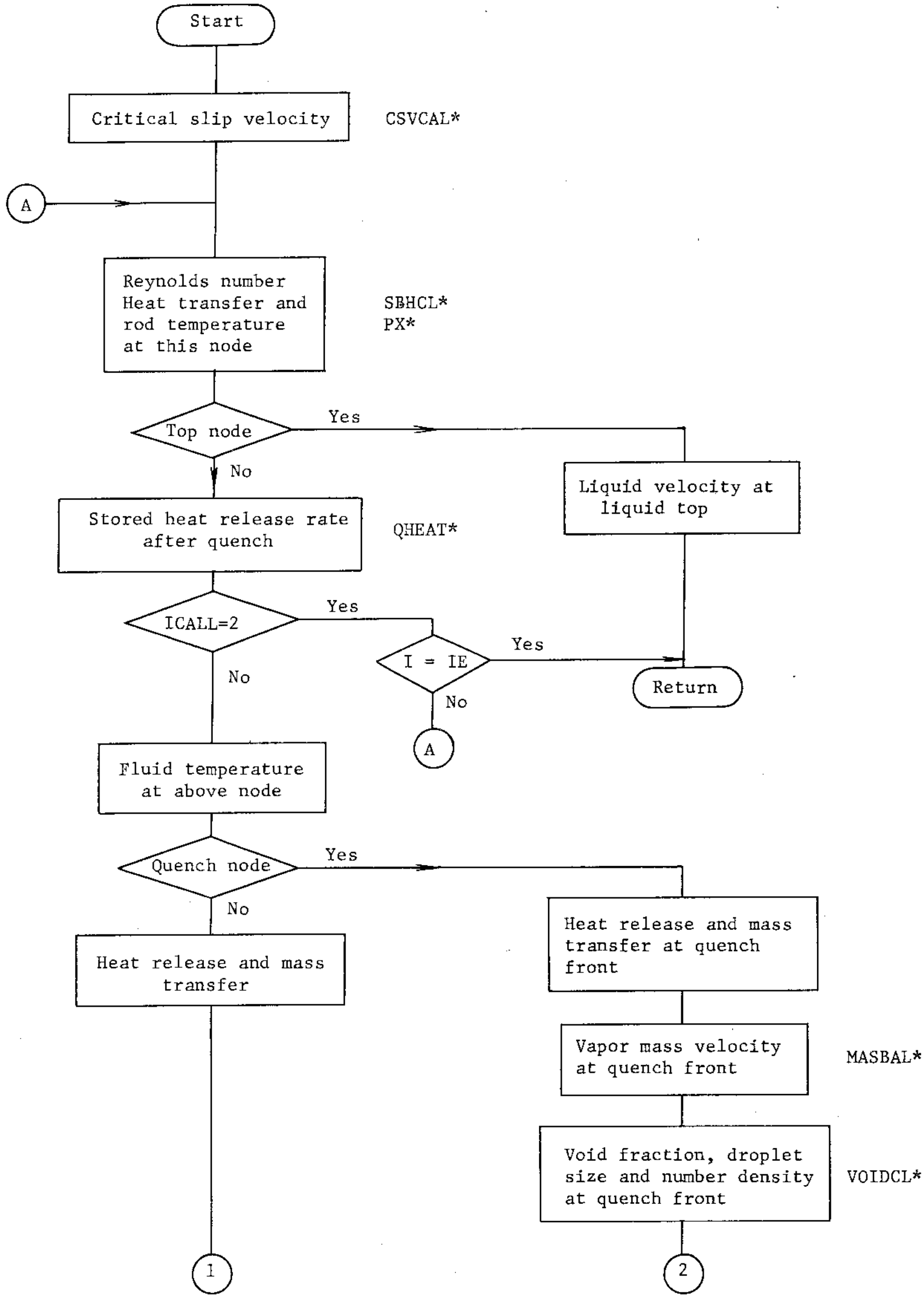



Fig. 2.5 Flow chart of subroutine SATTPF (1/3)

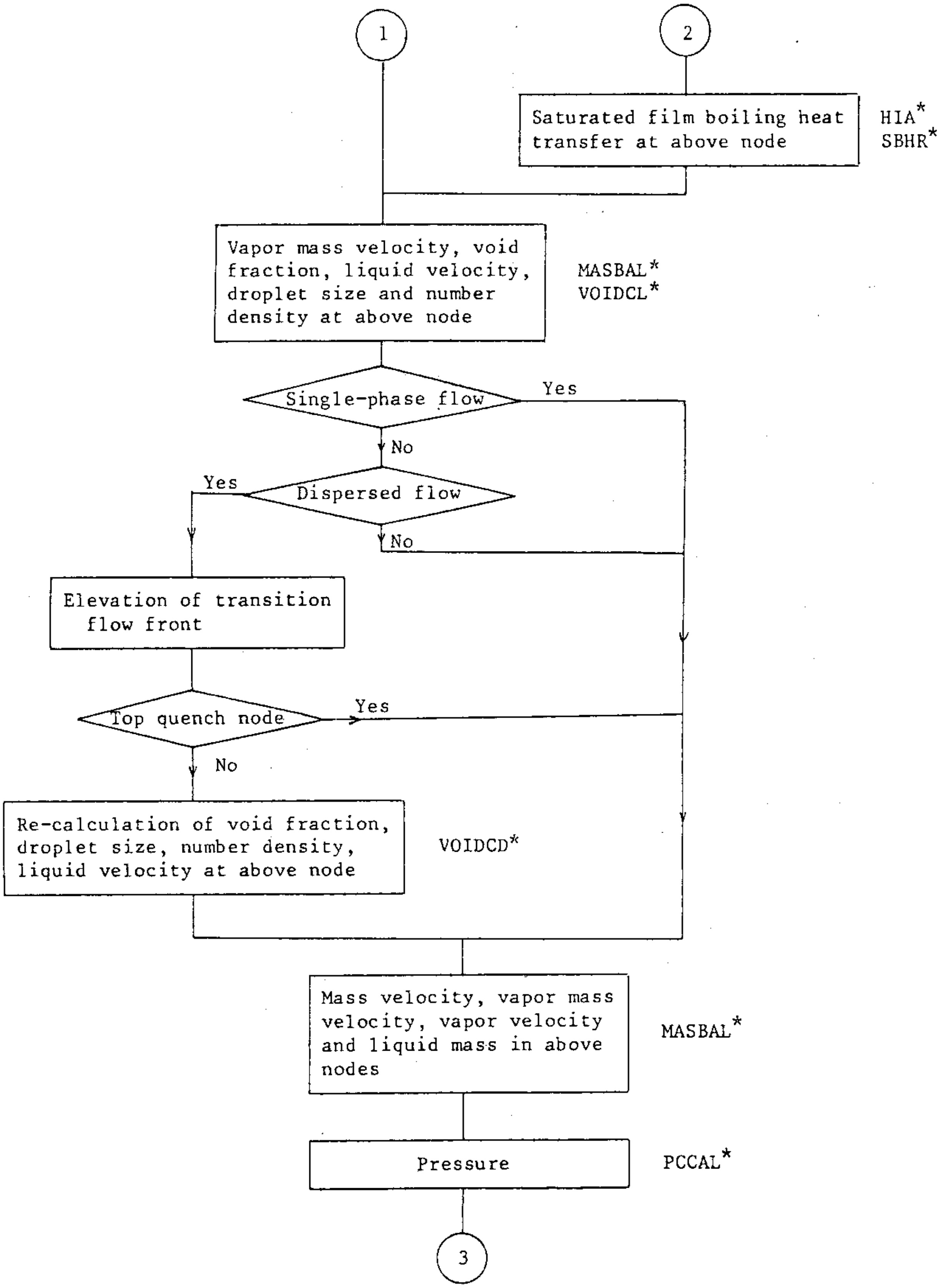



Fig. 2.5 Flow chart of subroutine SATTPF (2/3)

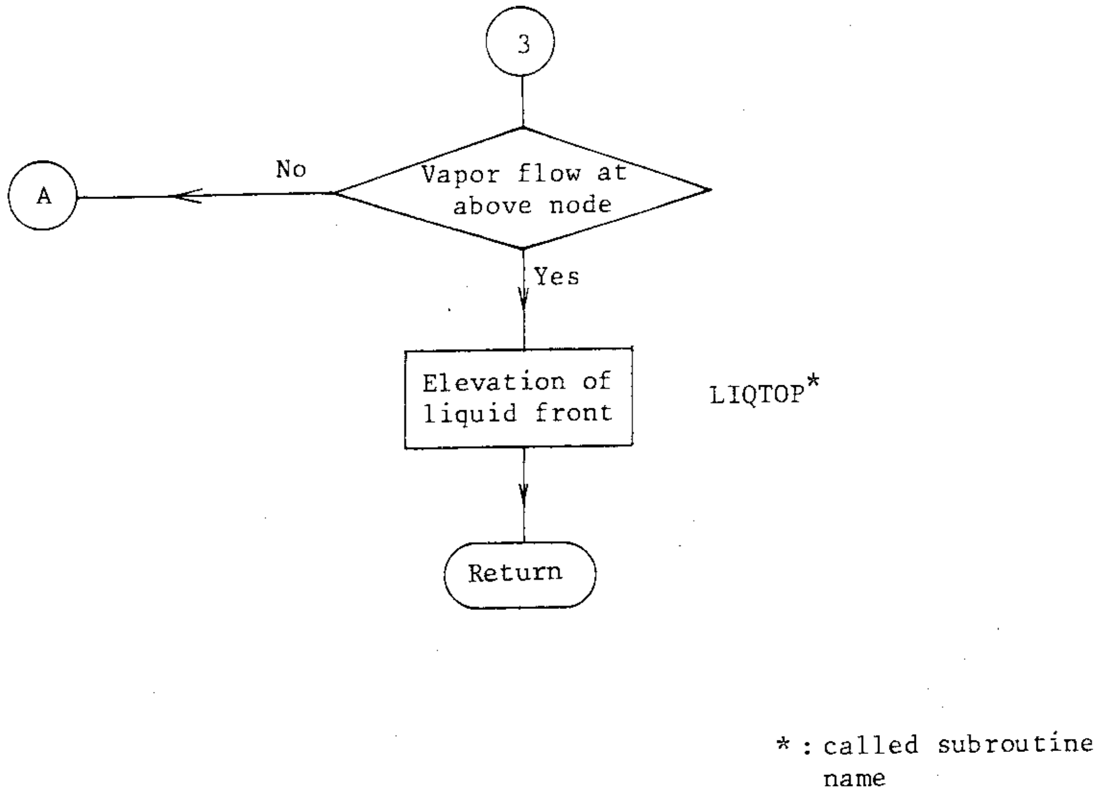



Fig. 2.5 Flow chart of subroutine SATTPF (3/3)

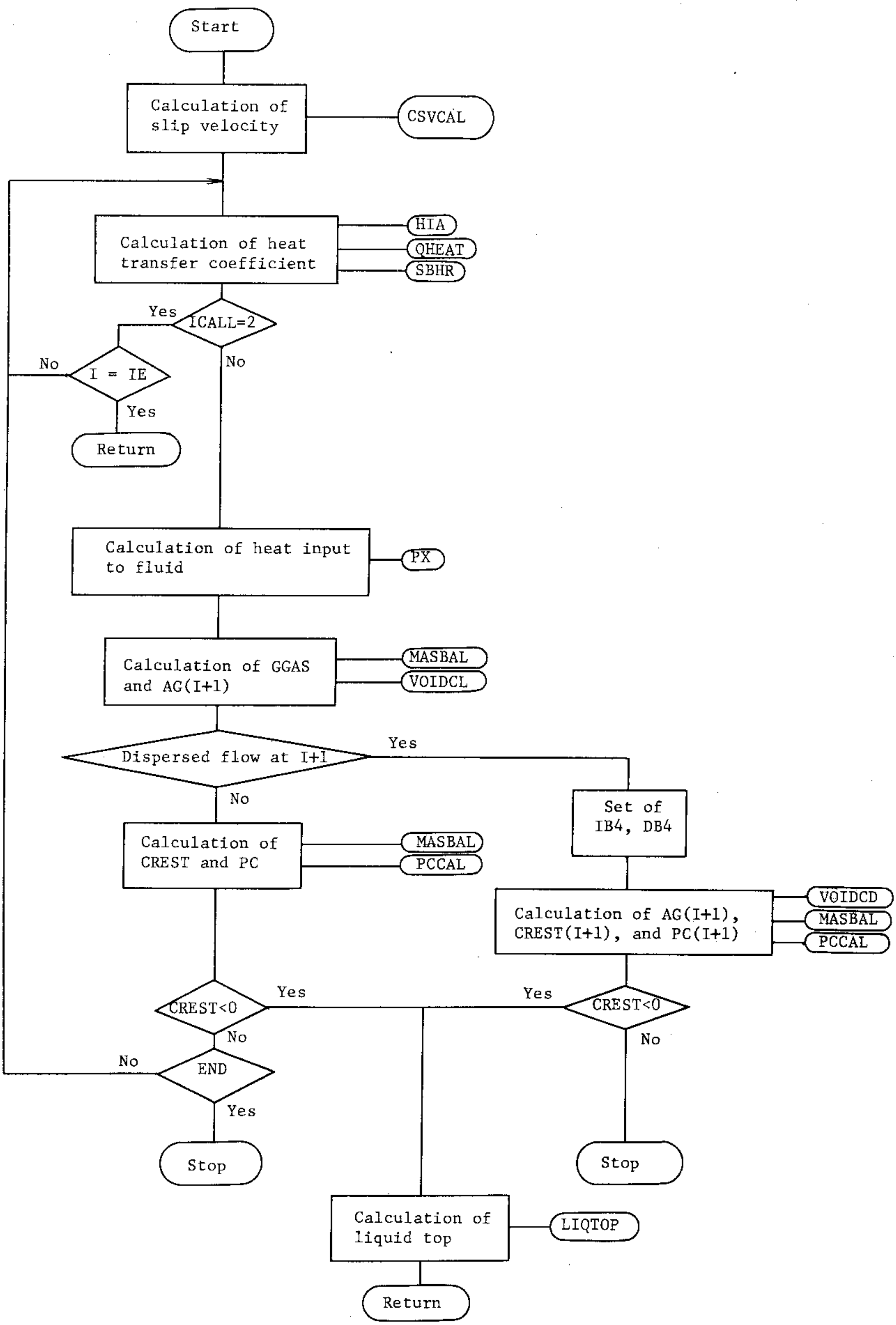



Fig. 2.6 Flow chart of subroutine TRNSRM

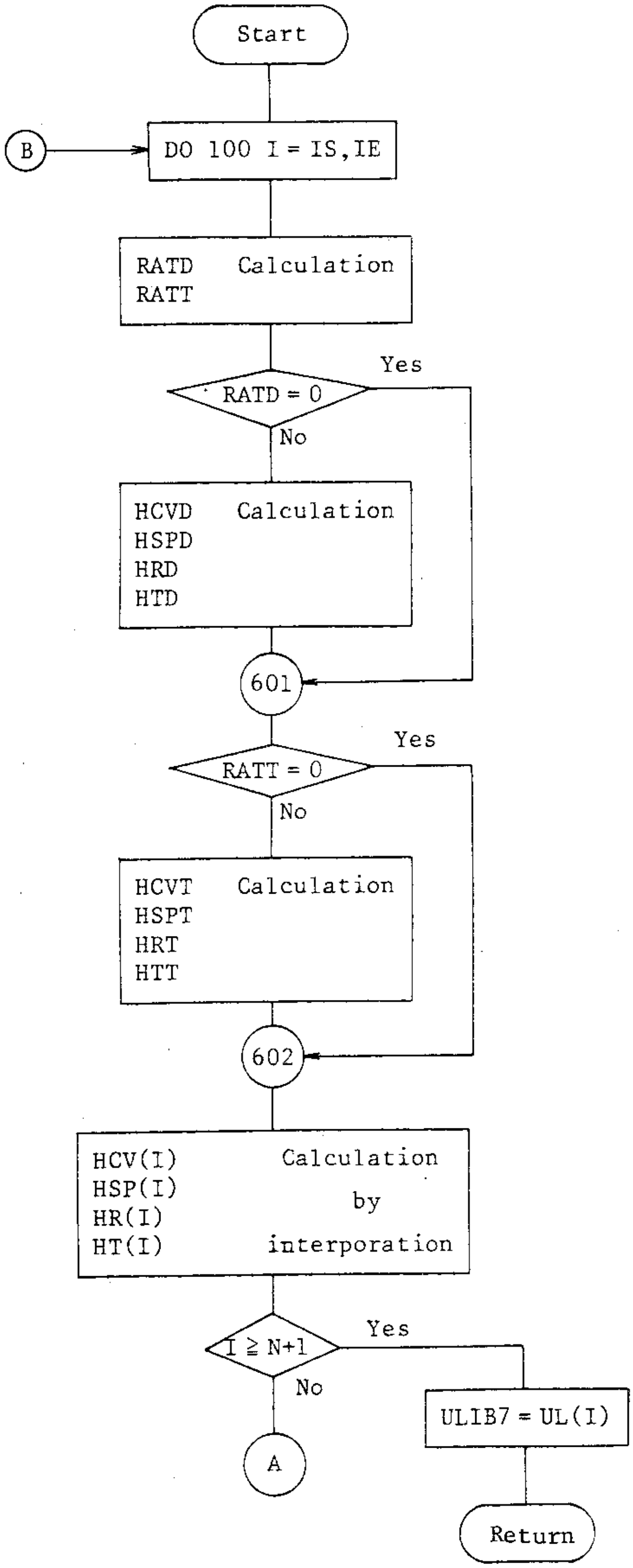



Fig. 2.7 Flow chart of subroutine DISPRM (1/2)

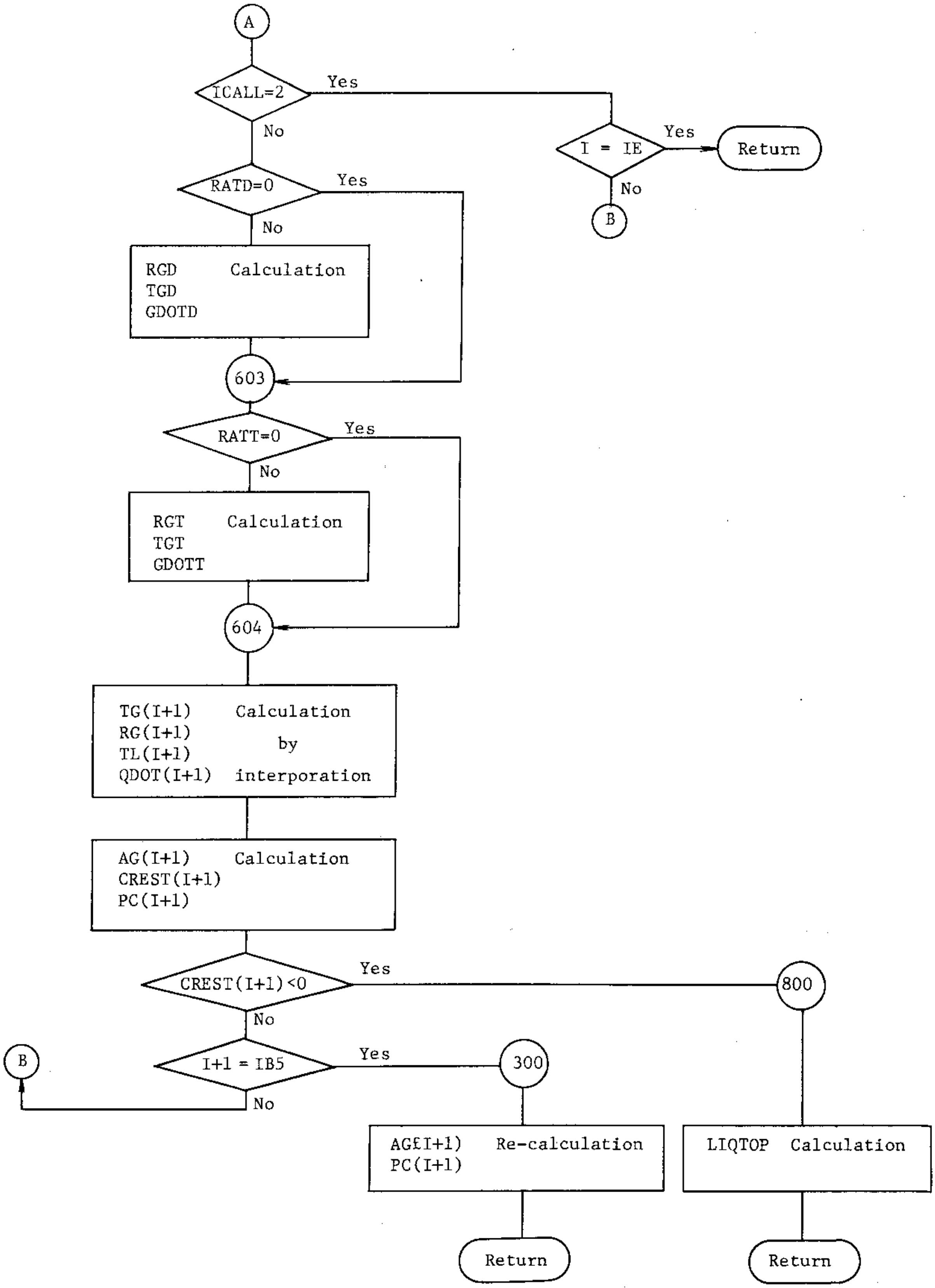



Fig. 2.7 Flow chart of subroutine DISPRM (2/2)

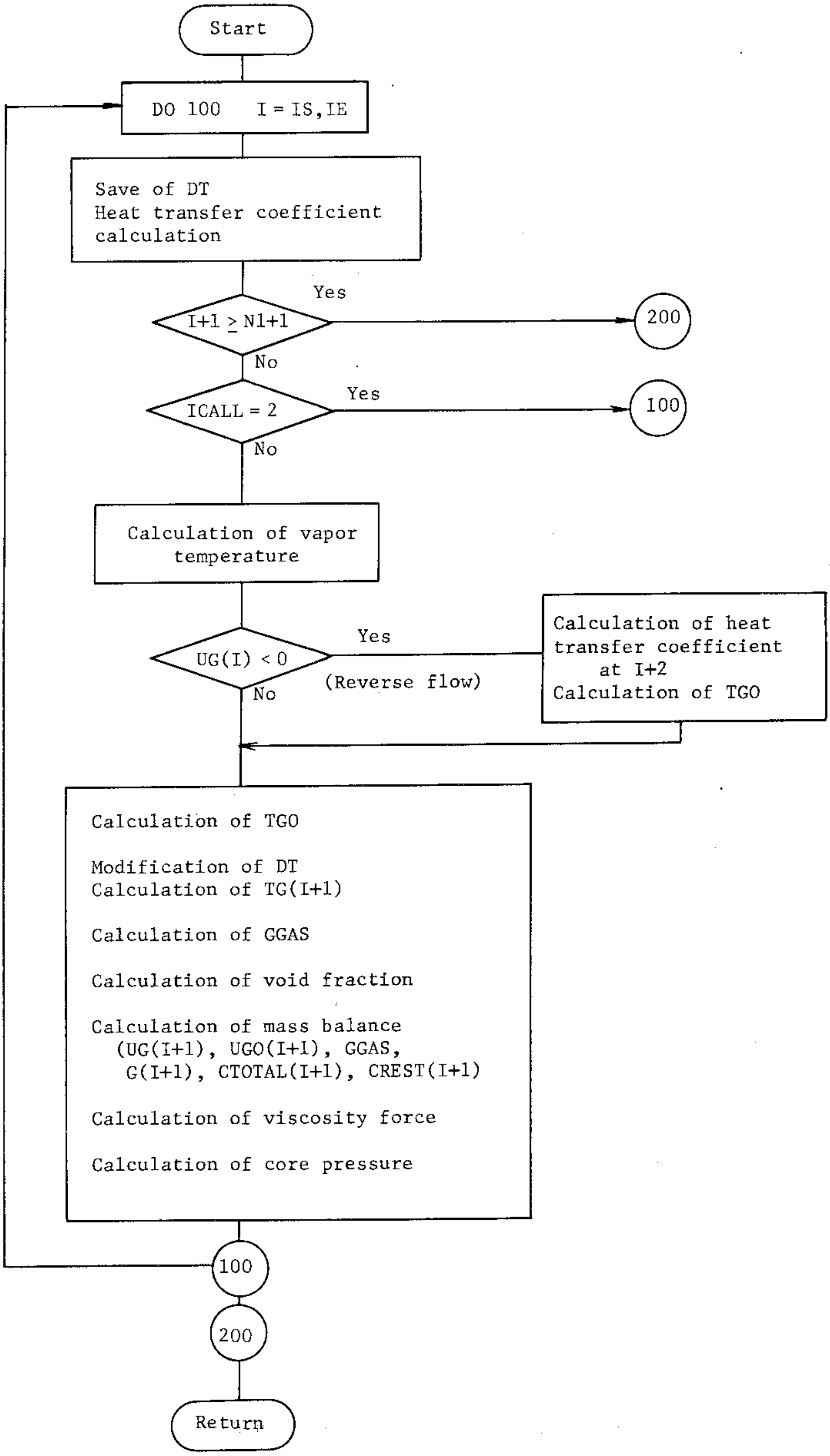



Fig. 2.8 Flow chart of subroutine SPHTRM

# 3. 燃料棒半径方向温度分布モデルの組込み

## 3.1 燃料棒半径方向温度分布計算コードHETRAPとの結合

REFLA－1D／MODE 3 コードの燃料棒モデルでは，燃料棒半径方向の温度分布は平坦で，燃料棒内部の温度は被覆管表面温度で代表されていた。[1] そこで，燃料棒半径方向に温度分布をもたせる機能を追加するために，燃料棒半径方向温度分布計算コードHETRAP[5] をREFLA－1D／MODE 3 コードと結合した。

なお，燃料棒半径方向温度分布計算を行うのはクエンチ点上方についてのみであり，クエンチ点以下では，従来どおり燃料棒半径方向に温度分布はなく，燃料棒内部の温度は Jens ＆ Lottes の式で計算された被覆管表面温度に代表される。

図3.1に燃料棒半径方向温度分布モデル適用時の燃料棒温度計算の概略を示す。

## 3.2 クエンチによる燃料棒から流体への熱放出計算の修正

REFLA－1D／MODE 3 コードでは，クエンチによる燃料棒から流体への熱放出は次のような取扱いをしている。図3.2(a) に示すように，燃料棒内の熱伝導による熱放出の時間遅れを考慮して，クエンチした部分の蓄熱量のうち $A_{st}$ の割合のみ瞬時放出し，残りの $1-A_{st}$ なる割合のものは時定数 $\tau$ で徐々に放出されると仮定している。単位時間，単位長さ当りの瞬時放熱量 $Q_{QF}$，減衰放熱量 $Q_{QD}$ は以下の式で計算される。

$$Q_{QF_i} = F_{Q_i} \cdot A_{st} \cdot (T_q - T_{w_i}^{old}) \cdot \Delta Z_q / (\Delta t \cdot \Delta Z) \tag{1}$$

$$F_{Q_i} = S_F \cdot \{ (C_p \rho)_i^{old} + (C_p \rho)_i^{new} \} / 2 \tag{2}$$

$$Q_{QD_i} = \frac{1-A_{st}}{\tau} \cdot F_{R_i} \cdot \exp(-t_{q_i}/\tau) \tag{3}$$

$$F_{R_i} = S_F \cdot \{ T_{w_i}^{old} \cdot (C_p \rho)_i^{old} - T_{w_i}^{new} \cdot (C_p \rho)_i^{new} \} \tag{4}$$

$T_q$ ：クエンチ温度
$T_w$ ：被覆管表面温度
$\Delta Z_q$ ：1 time step 当りのクエンチ進行距離
$\Delta t$ ： time step 幅
$\Delta Z$ ：軸方向ノード間距離
$S_F$ ：燃料棒断面積
$\rho$ ：燃料棒密度
$C_p$ ：比熱

$t_q$ ：クエンチ後の時間

i ：軸方向ノード番号

old ：旧時刻

new：新時刻

燃料棒半径方向温度分布モデルの組込みに伴い，このモデル適用時のクエンチによる燃料棒から流体への熱放出の取扱いは次のように変更した。図 3.2(b) に示すように，被覆管部分の蓄積熱は瞬時に流体へ放出し，燃料ペレット部分の蓄積熱は時定数$\tau$で徐々に流体へ放出されるようにした。単位時間，単位長さ当りの瞬時放熱量$Q_{QF}$，減衰放熱量$Q_{QD}$は以下の式で計算される。

$$Q_{QF_i} = F_{Q_i} \cdot (T_q - T_{w_i}^{old}) \cdot \Delta Z_q / (\Delta t \cdot \Delta Z) \tag{5}$$

$$F_{Q_i} = \frac{1}{2} \{ \sum_j^{clad} (C_p \rho S)_j^{old} + \sum_j^{clad} (C_p \rho S)_j^{new} \} \tag{6}$$

$$Q_{QD_i} = \frac{F_{R_i}}{\tau} \exp(-t_{qi} / \tau) \tag{7}$$

$$F_{R_i} = \sum_j^{pellet} T_{pj}^{old} \cdot (C_p \rho S)_j^{old} - \sum_j^{pellet} T_{pj}^{new} \cdot (C_p \rho S)_j^{new} \tag{8}$$

$\sum_j^{clad}$ ： 被覆管部分の和

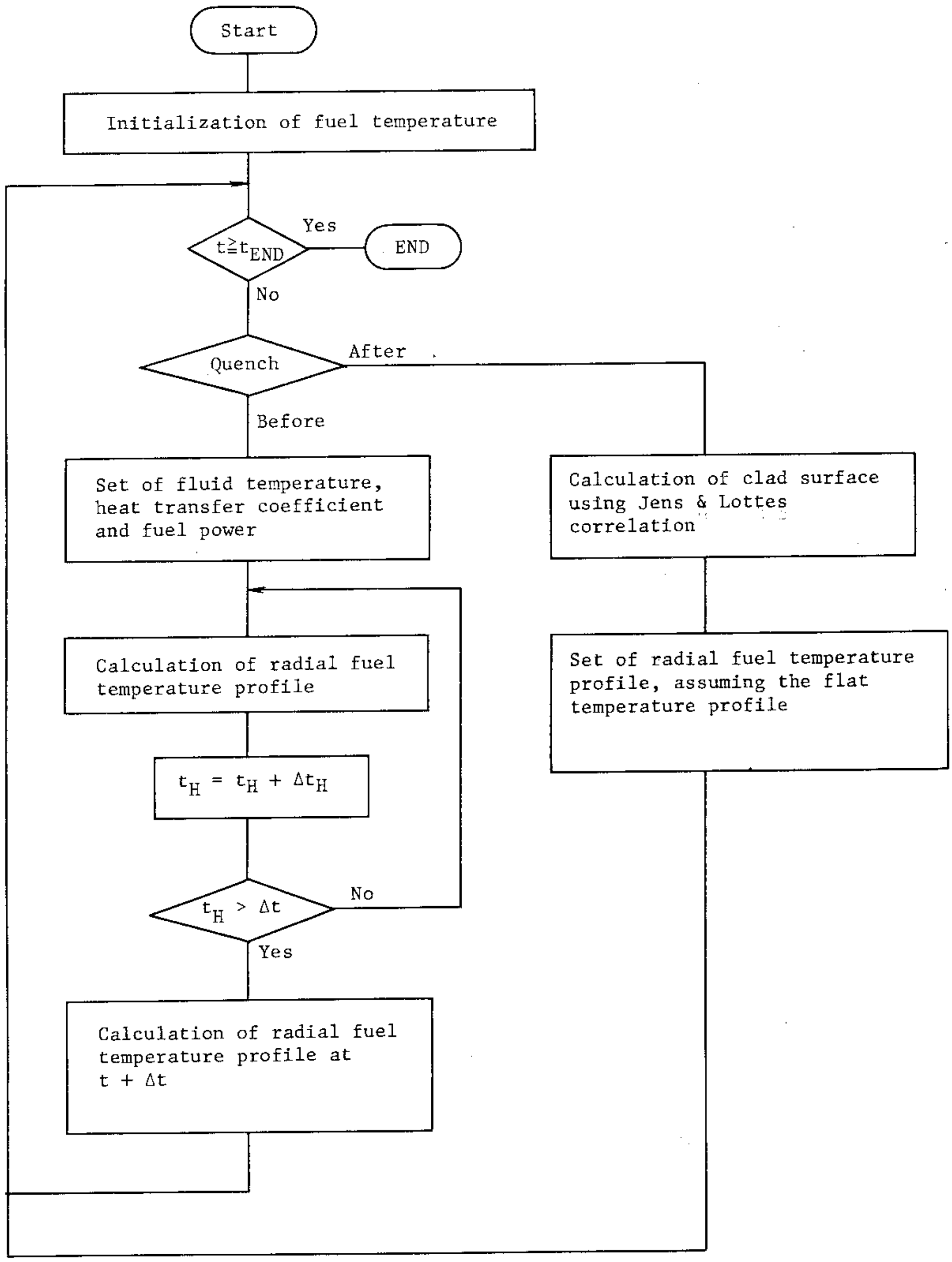
$\sum_j^{pellet}$ ： 燃料ペレット部分の和

j ： 燃料棒半径方向ノード番号

$T_p$ ： 燃料ペレット温度

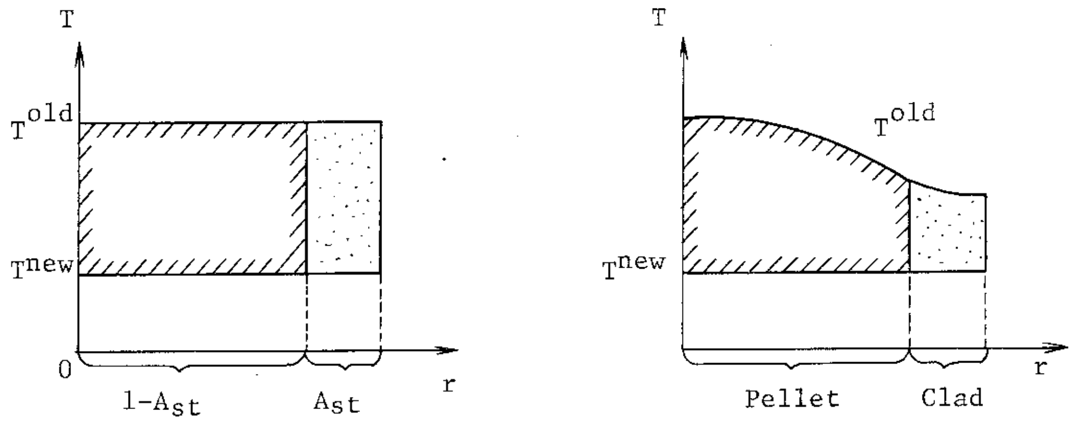
### 3.3 モデル組込み後の炉心内熱水力計算の概略

REFLA－1D／MODE 3 コードに，局所出力効果モデルおよび燃料棒半径方向温度分布モデルを組込んで作成した REFLA－1D／MODE 4 コードの炉心熱水力計算部分（サブルーチン REFLA1）の概略フローチャートを図 3.3 に示す。




$t_H$ : Time used in HETRAP
$t$ : Time used in REFLA
$t_{END}$ : Termination time of calculation
$\Delta t_H$ : Time step size used in HETRAP
$\Delta t$ : Time step size used in REFLA

Fig. 3.1 Fuel temperature calculation procedure in case of using fuel temperature profile effect model




(a) In case of using previous radial fuel temperature model (one point model)

(b) In case of using present fuel temperature profile effect model

[dotted box] : Instantaneous stored energy release

[hatched box] : Gradual stored energy release

$T^{old}$ : Radial fuel temperature profile before quenching

$T^{new}$ : Radial fuel temperature profile after quenching

Fig. 3.2 Calculation method of stored energy release rate due to quenching

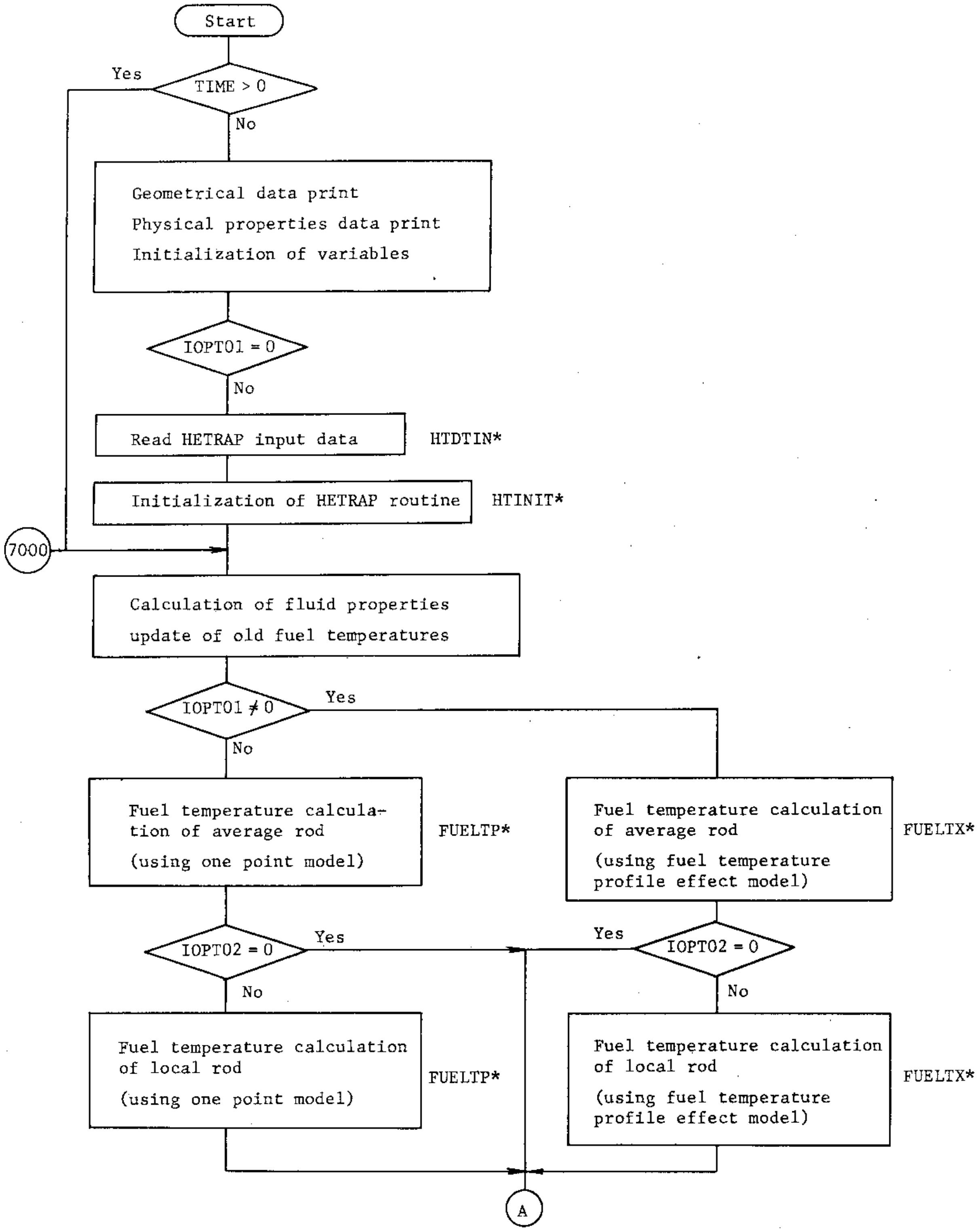



Fig. 3.3 Core thermo-hydraulic calculation procedure in REFLA-1D/MODE4
(Flow chart of subroutine REFLA1) (1/2)

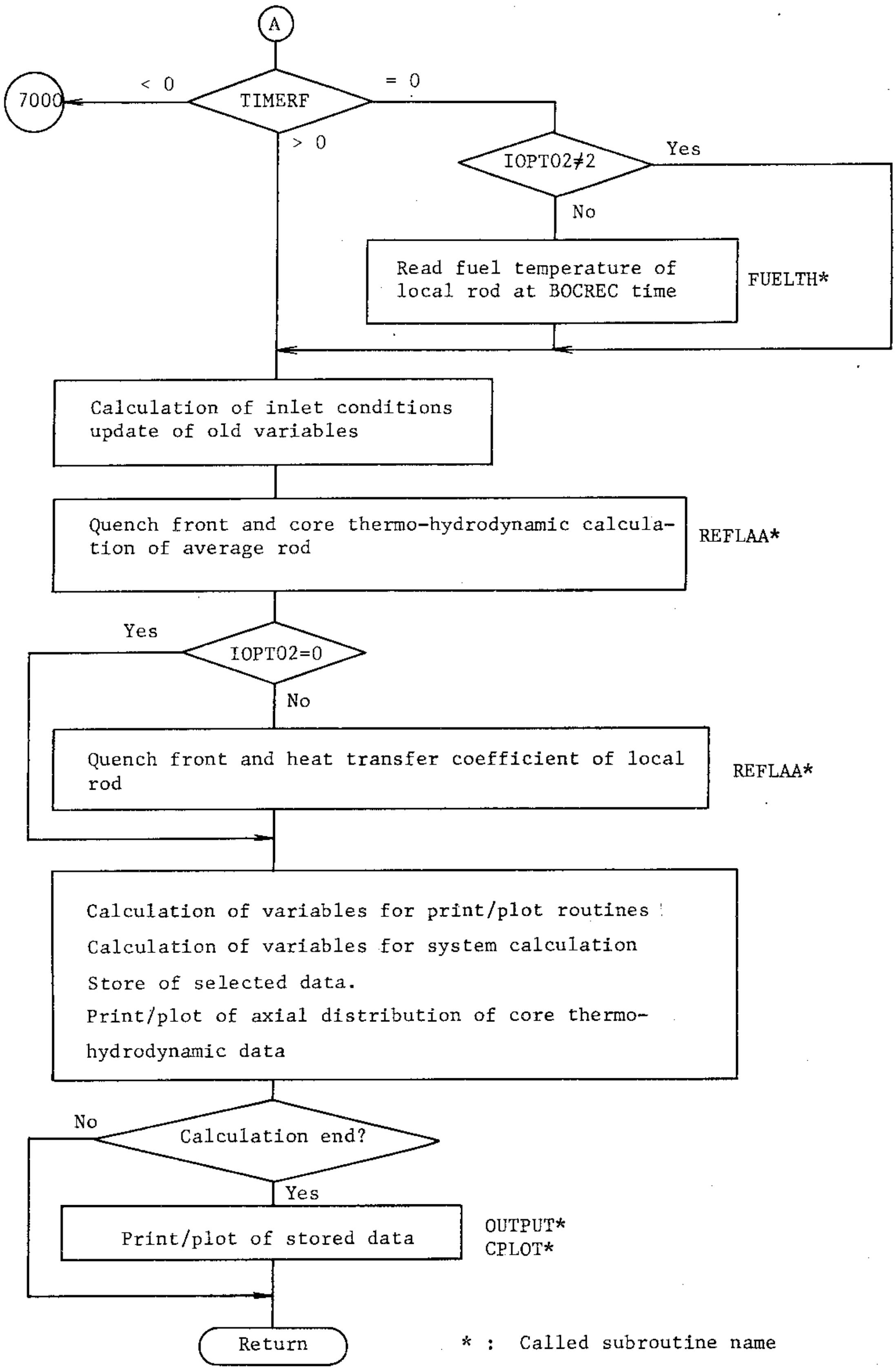



Fig. 3.3 Core thermo-hydraulic calculation procedure in REFLA-1D/MODE4 (Flow chart of subroutine REFLA1) (2/2)

# 4. REFLA-1D/MODE4コード使用上の情報

## 4.1 REFLA入力データ

表4.1に燃料棒半径方向温度分布計算用入力データを除くREFLA－1D／MODE 4の入力データ（REFLA入力データ）形式を示す。REFLA－1D／MODE 3から追加・修正された入力データについて以下に説明する。その他の入力データについては参考文献(1)のREFLA－1D／MODE 3コードマニュアルを参照のこと。

### 4.1.1 REFLA入力データの変更点

(1) Card No.2の追加（Format（2I 3））

1）IOPT01 ＝
- 0：燃料棒半径方向1点近似計算
- 1：燃料棒半径方向温度分布計算

2）IOPT02 ＝
- 0：平均燃料棒のみ計算
- 1：局所燃料棒も同時に計算
  （現在局所燃料棒初期温度の入力データはなく，平均燃料棒初期温度TW(I)と同じ値が設定される。
  再冠水開始時局所燃料棒温度分布は，平均燃料棒同様に，平均燃料棒中心高さの温度がTEMP 2に到達するまで，断熱昇温計算して決定される。）
- 2：局所燃料棒も同時に計算
  （再冠水開始時局所燃料棒被覆管表面温度はTBOC(I)，I＝1，5から内挿して与える。）

(2) Card No.5の変更（Format（G 12.5，F 6.3，5F 6.1））

1）NPLOT ＝
- 0：プロット出力なし
- 1：すべての出力を行う
- 2：時間履歴データのプリント出力なし

（従来どおり必ず必要）

2）NPR ：局所燃料棒の平均燃料棒に対する出力比
（IOPT 02＝1または2のとき必要）

3）TBOC(I)，I＝1，5：再冠水開始時の局所燃料棒被覆管表面温度（℃）
Iは IAXMODに依存してサブルーチン ITELE で決定される高さ1～5に対応（参考文献(1)のTable 4.4参照）
（IOPT02＝2 のときのみ必要）

(3) Card No.18，19の追加（Format（2A4））

炉心入口境界条件を入力で与えて炉心内熱水力計算をする場合（Z＝4.0）に必要なデータ

（炉心入口流速，炉心入口水温，炉心入口圧力）および計算結果と実験結果の比較図を作成するのに必要な実験データを標準ファイルから読込むための入力データを追加した。

Card No.18 （2A4）

1） IRUN ：実験 Run No.

2） CORS ：実験名（ブランクの時は "CCTF" が自動入力される）

Card No.19 （2A4）

1） ITAG 1(I)
2） ITAG 2(I)
} 実験データの Tag－ID

Card No. $19_{-1}$ から $19_{-30}$ に入力する実験データを表4.2に示す。

なお，比較図を作成するのに必要なクエンチ進行データは，Card No.19 で指定した被覆管表面温度データと同じ平均燃料棒および局所燃料棒のクエンチ進行データがサブルーチンQPLOTで温度情報ファイルから自動的に読込まれる。

(4) CCON，ICONの追加

追加したCCON，ICONおよびそれぞれのデフォルト値を以下に示す。

CCON (41) ＝4.0：クエンチ後の燃料棒から流体への減衰熱放出時定数 （sec）

ICON (4) ＝1 ：クエンチ相関式圧力依存性オプション

＝0：圧力依存性なし（ステンレス被覆管）

＝1：圧力依存性あり（ステンレス被覆管）

＝2：圧力依存性あり（ジルカロイ被覆管）

ICON (14) ＝4 ：燃料棒半径方向温度格納データ数 （≦4）

ICON (15) ＝1 ：時間履歴データのプリント出力間隔
（"DTS×ICON(11)×ICON(15)" 秒毎に出力）

ICON (16) ＝1 ：1ページに出力するプロット図の数

## 4.2 燃料棒半径方向温度分布計算用入力データ（HETRAP入力データ）

表4.3に燃料棒半径方向温度分布モデル適用時に必要なHETRAP入力データ形式を示す。さらに，表4.4にHETRAP入力データ変数の説明を示す。

現在，局所燃料棒半径方向初期温度分布の入力データはなく，平均燃料棒の半径方向初期温度分布の入力値と同値が設定される。

また，再冠水開始時の局所燃料棒半径方向温度分布を与える入力データも現在ない。

## 4.3 計算結果格納データ

REFLA－1D／MODE4コードにおける計算結果格納データを表4.5に示す。REFLA－1D／MODE3コードの格納データ[1]に対して若干の修正および配列名ADDGおよびDATTFの格納データが追加されている。

### 4.4 プリント出力データ

プリント出力データは以下に示す4項目とデバッグ出力からなる。REFLA－1D／MODE 4コードでは，REFLA－1D／MODE 3コードから炉心データと時間履歴データに新たな出力データが追加されている。

(1) 入力データ，物性値等の出力

1）入力カードリスト

2）入力データリスト

3）形状データ

4）物理定数および物性値

5）燃料棒の初期状態

(2) 炉心データ（表4.6参照）

1）炉心データ "Inlet and outlet condition"

2）局所燃料棒の情報　　　　　（IOPT02≠0のとき出力）

3）平均燃料棒半径方向温度分布（IOPT01＝1のとき出力）

4）局所燃料棒半径方向温度分布（IOPT01＝1かつIOPT02≠0のとき出力）

2）～4)は新しく追加されたプリント出力データである。

炉心データはDTS×ICON（12）秒毎にプリント出力される。

(3) システムデータ　（表4.7参照）

システムデータはDTS×40秒毎にプリント出力される。

(4) 時間履歴データ　（表4.8参照）

1）コントロールデータ

2）平均燃料棒被覆管表面温度

3）局所燃料棒被覆管表面温度（IOPT02≠0のとき出力）

4）平均燃料棒クエンチデータおよびキャリーオーバー率

5）局所燃料棒クエンチデータ（IOPT02≠0のとき出力）

6）平均燃料棒熱伝達率

7）局所燃料棒熱伝達率（IOPT02≠0のとき出力）

8）ボイド率

9）炉心内流動各領域の境界

10）炉心出口状態

11）平均燃料棒半径方向温度分布（IOPT01＝1のとき出力）

12）局所燃料棒半径方向温度分布（IOPT01＝1かつIOPT02≠0のとき出力）

3)，5)，7）および10）～12）は新しく追加されたプリント出力データである。

時間履歴データは，上記(1)～(3)のプリント出力完了後に，DTS×ICON(11)×ICON(15)秒毎の値がプリント出力される。

## 4.5 プロット出力データ

プロット出力データは以下に示す3項目からなる。表4.9～表4.11に各項目のプロット出力データを示す。

(1) 実験データの図（表4.9参照）
(2) 計算結果の図　（表4.10参照）
(3) 実験データと計算結果の比較図（表4.11参照）

## 4.6 JCL

作成したREFLA－1D／MODE4コード実行のJCL例を表4.12に示す。

Table 4.1 REFLA input data format

| Column / Card No. | 1 ∿ 12 | 13 ∿ 24 | 25 ∿ 36 | 37 ∿ 48 | 49 ∿ 60 | 61 ∿ 72 |
|---|---|---|---|---|---|---|
| 1 | | TITLE(1) ∿ TITLE (18) (18A4) | | | | |
| 2 | IOPT01, IOPT02 (2I3) | | | | | |
| 3 | QMAXO | DTS | AXMOD | TLIN | PIN | POUT |
| 4 | TIME3 | AZ1 | AZ2 | DTC | | Z |
| 5 | NPLOT | NPR, TBOC(1) ∿ TBOC(5) (G12.5,F6.3,5F6.1) | | | | |
| 6 | N | | DIA | PITCH | CLENG | $^{69}$IDECAY |
| 7 | WEC | | | | | |
| 8 | | | | DF | CF | |
| 9 | | CNHEAT | CSAVE | | | |
| 10 | | | | | | |
| 11 | | TEMP2 | | | | |
| 12 | | | | | | |
| 13 | | | | | | |
| 14 | TIME5 | TEMP5 | | | | |
| $15_{-1} \sim 15_{-N+1}$ | TW(1) ∿ TW(N+1) (12F6.1) | | | | | |
| 16 | ITHCON | | | | | |
| $17_{-1} \sim 17_{-ITHCON}$ | NCCON(1), CCCON(1) ∿ NCCON(ITHCON), CCCON(ITHCON) | | | | | |
| 18 | | IRUN, CORS (2A4) | | | | |
| $19_{-1}$ | | ITAG1(1), ITAG2(1) (2A4) | | | | |
| ≀ | | ≀ | | | | |
| $19_{-30}$ | | ITAG1(30), ITAG2(30) (2A4) | | | | |

* Format of input

| | | |
|---|---|---|
| N | : | I 12 |
| IDECAY | : | I 4 |
| ITHCON | : | I 3 |
| NCCON(I) | : | I 6 |
| Others | : | G 12.5 |

Table 4.2 Description of REFLA input card No.19

| Card No. | Unit | Description of Tag-ID |
|---|---|---|
| 19–1 | K | Clad surface temperature at the 1st elevation of average rod |
| ∫ | | ∫ |
| 19–5 | K | 5th |
| 19–6 | MPa | Differential pressure of intact loop |
| 19–7 | MPa | Differential pressure of downcomer |
| 19–8 | MPa | Differential pressure of broken loop |
| 19–9 | MPa | Differential pressure of core |
| 19–10 | – | Average void fraction between bottom and the 1st elevation of core |
| 19–11 | | the 1st and the 2nd |
| ∫ | | ∫ |
| 19–15 | – | the 5th and the 6th |
| 19–16 | m/s | Core inlet water velocity |
| 19–17 | K | Core inlet water temperature |
| 19–18 | MPa | Differential pressure between core inlet and bottom of PV |
| 19–19 | MPa | Pressure at bottom of PV |
| 19–20 | – | Dummy |
| 19–21 | K | Clad surface temperature at 1st elevation of local rod |
| | ∫ | ∫ |
| 19–25 | K | 5th |
| 19–26 | $W/m^2 \cdot K$ | Total heat transfer coefficient at the 1st elevation of average rod |
| | ∫ | ∫ |
| 19–30 | $W/m^2 \cdot K$ | 5th |

Table 4.3 HETRAP input data format

| Column / Card No. | 1～12 | 13～24 | 25～36 | 37～48 | 49～60 | 61～72 | |
|---|---|---|---|---|---|---|---|
| 1 | NDZMAX | | | | | | |
| 2 | NDZ1 | NDZ2 | | | | | *1 |
| 3 | NR1(NDZ1) | | | | | | *1 |
| $4_{-1}$ | R(1,NDZ1) | PF(1,NDZ1) | H(1,NDZ1) | E(1,NDZ1) | IWC(1,NDZ1) | IWP(1,NDZ1) | *1 |
| ∫ | | | | | | | *1 |
| $4_{-NR1}$ | R(NR1,NDZ1) | PF(NR1,NDZ1) | H(NR1,NDZ1) | E(NR1,NDZ1) | IWC(NR1,NDZ1) | IWP(NR1,NDZ1) | *1 |
| 5 | DTA | | | | | | |
| 6 | NTZMAX | | | | | | |
| 7 | NTZ1 | NTZ2 | | | | | *2 |
| 8 | TN(1,NTZ1,1) ～ TN(NR1,NTZ1,1) | | | | | | *2 |

∘ Format of input

NDZMAX, NDZ1, NDZ2, NR1(NDZ1), NTZMAX, NTZ1, NTZ2 : I12

Others : F12.0

∘ Note 1:

*1 Repeat NDZMAX times from Card No.2 to No.4

*2 Repeat NTZMAX times from Card No.7 to No.8

∘ Note 2:

1) Initial values of NR1, R, PF, H, E, IWC and IWP from level NDZ1+1 to NDZ2 are equal to the input values at level NDZ1.

2) Initial value of TN from level NTZ1+1 to NTZ2 is equal to the input value at level NTZ1.

Table 4.4 Description of HETRAP input variables

| Variable | Unit | Description |
|---|---|---|
| NDZMAX | — | Number of axial divisions of fuel rod |
| NDZ1 | — | Bottom node of axial division of fuel rod |
| NDZ2 | — | Top node of axial division of fuel rod |
| NR1(NDZ1) | — | Number of radial nodes at level NDZ1 |
| R(J,NDZ1) | cm | Distance from center of fuel rod at radial node J and level NDZ1 |
| PF(J,NDZ1) | — | Power factor at radial node J and level NDZ1 |
| H(J,NDZ1) | $W/cm^2\cdot°C$ | Heat transfer coefficient between radial node J and J-1 at level NDZ1 |
| E(J.NNZ1) | — | Emissivity between radial node J and J-1 at level NDZ1 |
| IWC(J,NDZ1) | — | Material number(*1) at radial node J-1 and level NDZ1 |
| IWP(J,NDZ1) | — | Material number(*1) at radial node J and level NDZ1 |
| DTA | S | Time step of HETRAP routine |
| NTZMAX | — | Number of axial divisions to input initial temperature of fuel rod |
| NTZ1 | — | Bottom node of axial division to input initial temperature of fuel rod |
| NTZ2 | — | Top node of axial division to input initial temperature of fuel rod |
| TN(J,NTZ1,1) | °C | Initial temperature at radial node J and level NTZ1 of fuel rod |

Note :

*1

| No. | Material |
|---|---|
| 1 | Zircaloy-4 |
| 2 | $UO_2$ |
| 3 | BN |
| 4 | MgO |
| 5 | Stainless Steel 316 |
| 6 | Inconel 800 |
| 7 | Inconel 600 |
| 8 | Stainless Steel 347 |
| 9 | $Al_2O_3$ |
| 10 | NCH-1 |

Table 4.5 Description of stored output data (1/4)

(1) DATX (J, NPPINT)

| J | Description | Unit |
|---|---|---|
| 1 | Time after reflood | s |
| 2 | Peak liner power of average rod | kW/m |
| 3 | Reflooding flow velocity | cm/s |
| 4 | System pressure | $kg/cm^2a$ |
| 5 | Clad surface temperature at the 1st elevation of average rod | °C |
| ∫ | ∫ | ∫ |
| 10 | 6th | °C |
| 11 | Total heat transfer coefficient at the 1st elevation of average rod | $W/m^2 \cdot K$ |
| ∫ | ∫ | ∫ |
| 16 | 6th | $W/m^2$ K |
| 17 | Average void fraction between bottom and the 1st elevation of core | - |
| 18 | the 1st and the 2nd | - |
| ∫ | ∫ | ∫ |
| 22 | the 5th and the 6th | - |
| 23 | Gas phase temperature at the 1st elevation of core | °C |
| ∫ | ∫ | ∫ |
| 28 | 6th | °C |
| 29 | Coolant subcooling at quench point of average rod | °C |
| 30 | Quench velocity of average rod | cm/s |
| 31 | Entrainment carryover fraction | - |
| 32 | Apparent water level | m |
| 33 | L1 : bulk boiling point | m |
| 34 | L2 : quench point of average rod | m |
| 35 | L3 : start point of transitin flow | m |
| 36 | L4 : start point of dispersed flow | m |
| 37 | L5 : start point of rewetted region | m |

Table 4.5 Description of stored output data (2/4)

| J | Description | Unit |
|---|---|---|
| 38 | L7 : start point of superheated steam flow (liquid top) | m |
| 39 | Differential pressure head of core | m Aq. |
| 40 | Clad surface temperature at level 46 of local rod | °C |
| 41 | Differential pressure head between lower and upper plenum | m Aq. |
| 42 | L6 : start point of bulk boiling in rewetted region | m |
| 43 | Lower quench temperature of average rod | °C |
| 44 | LP2 : quench point of local rod | m |
| 45 | Total heat transfer coefficient at level 46 of local rod | $W/m^2 \cdot K$ |
| 46 | Upper quench node | - |
| 47 | Differential pressure head in downcomer | m Aq. |
| 48 | Differential pressure head across loop | m Aq. |
| 49 | Mass flux of gas at the outlet of core | $kg/m^2 \cdot h$ |
| 50 | Mass flux of liquid at the outlet of core | $kg/m^2 \cdot h$ |

(2) ADDG (J, NPRINT)

| J | Description | Unit |
|---|---|---|
| 1 | Core outlet liquid mass flow rate | kg/s |
| 2 | Core outlet vapor mass flow rate | kg/s |
| 3 | Carryover fraction | - |
| 4 | Clad surface temperature at the 1st elevation of local rod | °C |
| ∫ | ∫ | ∫ |
| 9 | 6th | °C |
| 10 | Peak linear power density of local rod | kW/m |
| 11 | Lower quench temperature of local rod | °C |
| 12 | Total heat transfer coefficient at the 1st elevation of local rod | $W/m^2 \cdot K$ |
| ∫ | ∫ | ∫ |
| 17 | 6th | $W/m^2 \cdot K$ |
| 18 | Coolant subcooling at quench point of local rod | °C |
| 19 | Quench velocity of local rod | cm/s |

Table 4.5 Description of stored output data (3/4)

(3) DATTF (J, NPRINT)

| J | Description | Unit |
|---|---|---|
| 1 | Average rod temperature at the 1st radial point of the 1st elevation | °C |
| ~ | ~ | ~ |
| 4 | 4th | °C |
| 5 | Average rod temperature at the 1st radial point of the 2nd elevation | °C |
| ~ | ~ | ~ |
| 8 | 4th | °C |
| 9 | Average rod temperature at the 1st radial point of the 3rd elevation | °C |
| ~ | ~ | ~ |
| 12 | 4th | °C |
| 13 | Average rod temperature at the 1st radial point of the 4th elevation | °C |
| ~ | ~ | ~ |
| 16 | 4th | °C |
| 17 | Avelage rod temperature at the 1st radial point of the 5th elevation | °C |
| ~ | ~ | ~ |
| 20 | 4th | °C |

Table 4.5 Description of stored output data (4/4)

| J | Description | Unit |
|---|---|---|
| 21 | Local rod temperature at the 1st radial point of the 1st elevation | °C |
| ∫ | ∫ | ∫ |
| 24 | 4th | °C |
| 25 | Local rod temperature at the 1st radial point of the 2nd elevation | °C |
| ∫ | ∫ | ∫ |
| 28 | 4th | °C |
| 29 | Local rod temperature at the 1st radial point of the 3rd elevation | °C |
| ∫ | ∫ | ∫ |
| 32 | 4th | °C |
| 33 | Local rod temperature at the 1st radial point of the 4th elevation | °C |
| ∫ | ∫ | ∫ |
| 36 | 4th | °C |
| 37 | Local rod temperature at the 1st radial point of the 5th elevation | °C |
| ∫ | ∫ | ∫ |
| 40 | 4th | °C |

Table 4.6 Description of core state data (1/3)

(1) Inlet and outlet condition

| Data | Description | Unit |
|---|---|---|
| TQN2 | Quench temperature of bottom quench point of average rod | °C |
| ZB2 | Position of bottom quench point of average rod | m |
| TQN5 | Quench temperature of top quench point of avrage rod | °C |
| ZB5 | Position of top quench point of average rod | m |
| DD(IB4) | Droplet diameter at level IB4 (*1) | mm |
| DD(N1) | Droplet diameter at outlet of core | mm |
| DP | Differential pressure head in core | m Aq. |
| CRATIO | Entrainment carryover fraction | - |
| P | Pressure at core inlet | $kg/m^2$ |
| RL | Density of liquid | $kg{\cdot}h^2/m^4$ |
| RGST | Density of gas at saturation temperature | $kg{\cdot}h^2/m^4$ |
| I | Number of level | - |
| IP | Index of flow pattern at level I of average rod (*2) | - |
| AG(I) | Void fraction at level I | - |
| AGINF(I) | Void fraction for transition flow at level I | - |
| AGDISP(I) | Void fraction for dispersed flow at level I | - |
| TW(I) | Clad surface temperature at level I of average rod | °C |
| TL/TG(I) | Fluid temperature at level I | °C |
| PC(I) | Pressure at level I | $kg/m^2$ |
| HT(I) | Heat transfer coefficient at level I of average rod | $kcal/m^2{\cdot}h{\cdot}°C$ |
| HR(I) | Radiative heat flux at level I of average rod (*3) | $kcal/m^3{\cdot}h$ |
| HCV(I) | Convective heat flux at level I of average rod (*3) | $kcal/m^3{\cdot}h$ |
| G(I) | Mass flux at level I | $kg{\cdot}h/m^3$ |
| GG(I) | Mass flux of gas at level I | $kg{\cdot}h/m^3$ |
| GL(I) | Mass flux of liquid at level I | $kg{\cdot}h/m^3$ |

Table 4.6 Description of core state data (2/3)

(2) Local rod information (print out if IOPT02 ≠ 0)

| Data | Description | Unit |
|---|---|---|
| TPN2 | Quench temperature of bottom quench point of local rod | °C |
| ZP2 | Position of bottom quench point of local rod | m |
| I | Number of level | - |
| IPP | Index of flow pattern at level I of local rod (*2) | - |
| TWP(I) | Clad surface temperature at level I of local rod | °C |
| HTP(I) | Heat transfer coefficient at level I of local rod | $kcal/m^2 \cdot h \cdot °C$ |
| HRP(I) | Radiatine heat flux at level I of local rod (*3) | $kcal/m^3 \cdot h$ |
| HCVP(I) | Convective heat flux at level I of local rod (*3) | $kcal/m^3 \cdot h$ |

Note :

*1

IB4 is the level just above the initiation point of dispersed flow.

*2

Indices of flow pattern are defined as follows :

| Index | Flow regime |
|---|---|
| 1 | Single phase liquid flow or Subcooled nucleate boiling |
| 2 | Subcooled film boiling flow |
| 3 | Saturated two-phase flow |
| 4 | Transition flow |
| 5 | Dispersed flow |
| 6 | Single phase flow in rewetted region |
| 7 | Saturated two-phase flow rewetted region |
| 8 | Superheated steam flow |

*3

This is multiplied heat flux by $(\frac{CL}{SO})$.

Where, CL : wetted perimeter [m]

SO : cross section of flow area $[m^2]$

Table 4.6 Description of core state data (3/3)

(3) Radial temperature distribution of average rod (print out if IOPT01 = 1)

| Data | Description | Unit |
|---|---|---|
| I | Number of level | - |
| TF(1, I) | Average rod temperature at radial node 1 of level I | °C |
| ∫ | ∫ | ∫ |
| TF(12, I) | at radial node 12 of level I | °C |

(4) Radial temperature distribution of local rod (print out if IOPT01 = 1 and IOPT02 ≠ 0)

| Data | Description | Unit |
|---|---|---|
| I | Number of level | - |
| TFP(1,I) | Local rod temperature at radial node 1 of level I | °C |
| ∫ | ∫ | ∫ |
| TFP(12,I) | at radial node 12 of level I | °C |

Table 4.7 Description of system state data

| Data | Description | Unit |
|---|---|---|
| USUP | Supplied ECC water flow rate(*1) | cm/s |
| ULIN | Liquid velocity at core inlet(*1) | cm/s |
| UDUP | Liquid top velocity in downcomer(*1,2) | cm/s |
| UCUP | Liquid top velocity in core(*1,2) | cm/s |
| UGŌUT | Gas velocity at core outlet(*1) | cm/s |
| ULŌUT | Liquid velocity at core outlet(*1) | cm/s |
| UGLŌP | Gas velocity in loop(*1,2) | cm/s |
| CRF | Carryover fraction | — |
| DPDN | Differential pressure between bottom of downcomer and containment(*2) | m Aq.(*3) |
| DPCR | Differential pressure between upper and lower plenum(*2) | m Aq. |
| DPLŌP | Differential pressure between upper plenum and containment(*2) | m Aq. |
| AMCŌIN | Time-integrated mass flux at core inlet(*4) | $kg/m^2$ |
| AMCŌR | Accumulated water in core calculated in REFLA1(*4) | $kg/m^2$ |
| AMGS | Time-integrated mass flux of gas at core outlet(*4) | $kg/m^2$ |
| AMLS | Time-integrated mass flux of liquid at core outlet(*4) | $kg/m^2$ |
| MERRŌR | Error of mass balance(*4) (= AMCOIN-AMCŌR-AMGS-AMLS) | $kg/m^2$ |

Note:

*1

This value is converted into core water state value. Namely, the mass flux is divided by core flow area and core water density.

*2

This value is meaningless unless Z = 2.0.

*3

1 m Aq. = 0.1 $kg/cm^2$

*4

This value is divided by core flow area.

Table 4.8 Description of time history data (1/5)

(1) Control data

| Item | Description | Unit |
|---|---|---|
| MAXPOWER | Maximum linear power density of average rod | kW/m |
| FLOWRATE | Liquid velocity at core inlet | cm/s |
| PRESSURE | Pressure at core inlet | $kg/cm^2$ |
| DPCORE | Differential pressure between upper and lower plenum | m Aq. |
| DPDOWN | Differential pressure between bottom of downcomer and containment | m Aq. |
| DPLOOP | Differential pressure between upper plenum and containment | m Aq. |
| WGOUT | Mass flux of gas at core outlet | $kg/m^2 \cdot h$ |

(2) Temperature profile of average rod

| Item | Description | Unit |
|---|---|---|
| TW1 | Clad surface temperature at elevation 1 of average rod | °C |
| TW2 | Clad surface temperature at elevation 2 of average rod | °C |
| TW3 | Clad surface temperature at elevation 3 of average rod | °C |
| TW4 | Clad surface temperature at elevetion 4 of average rod | °C |
| TW5 | Clad surface temperature at elevation 5 of average rod | °C |
| TW6 | Clad surface temperature at elevation 6 of average rod | °C |
| HT3 | Heat transfer coefficient at elevation 3 of average rod | $W/m^2 \cdot K$ |

(3) Temperature profile of local rod (print out if IOPT02 ≠ 0)

| Item | Description | Unit |
|---|---|---|
| TWP1 | Clad surface temperature at elevation 1 of local rod | °C |
| TWP2 | Clad surface temperature at elevation 2 of local rod | °C |
| TWP3 | Clad surface temperature at elevation 3 of local rod | °C |
| TWP4 | Clad surface temperature at elevation 4 of local rod | °C |
| TWP5 | Clad surface temperature at elevation 5 of local rod | °C |
| TWP6 | Clad surface temperature at elevation 6 of local rod | °C |
| HTP3 | Heat transfer coefficient at elevation 3 of local rod | $W/m^2 \cdot K$ |

Table 4.8 Description of time history data (2/5)

(4) Quench data of average rod and entrainment carryover ratio

| Item | Description | Unit |
|---|---|---|
| LC.SUBCL | Subcooling of liquid at node just above quench point of average rod | °C |
| QUENCHVL | Quench velocity of average rod | cm/s |
| QUENCHPT | Position of quench point of average rod | m |
| CARRYOVR | Entrainment carryover fraction | – |
| QUENCHTP | Quench temperature of average rod | °C |
| TW3 | Clad surface temperature at elevation 3 of average rod | °C |
| HT3 | Heat transfer coefficient at elevation 3 of average rod | $W/m^2 \cdot K$ |

(5) Quench data of local rod (print out if IOPT02 ≠ 0)

| Item | Description | Unit |
|---|---|---|
| LC.SUBCL | Subcooling of liquid at node just above quench point of local rod | °C |
| QUENCHVL | Quench velocity of local rod | cm/s |
| QUENCHPT | Position of quench point of local rod | m |
| QUENCHTP | Quench temperature of local rod | °C |
| MAXPOWER | Maximum linear power density of local rod | kW/m |
| TWP3 | Clad surface temperature at elevation 3 of local rod | °C |
| HTP3 | Heat transfer coefficient at elevation 3 of local rod | $W/m^2 \cdot K$ |

(6) Heat transfer coefficient of average rod

| Item | Description | Unit |
|---|---|---|
| HT1 | Heat transfer coefficient at elevation 1 of average rod | $W/m^2 \cdot K$ |
| HT2 | Heat transfer coefficient at elevation 2 of average rod | $W/m^2 \cdot K$ |
| HT3 | Heat transfer coefficient at elevation 3 of average rod | $W/m^2 \cdot K$ |
| HT4 | Heat transfer coefficient at elevation 4 of average rod | $W/m^2 \cdot K$ |
| HT5 | Heat transfer coefficient at elevation 5 of average rod | $W/m^2 \cdot K$ |
| HT6 | Heat transfer coefficient at elevation 6 of average rod | $W/m^2 \cdot K$ |
| VOID3 | Avrage void fraction between elevation 2 and 3 of core | - |

Table 4.8 Description of time history data (3/5)

(7) Heat transfer coefficient of local rod (print out if IOPT02 ≠ 0)

| Item | Description | Unit |
|---|---|---|
| HTP1 | Heat transfer coefficient at elevation 1 of local rod | $W/m^2 \cdot K$ |
| HTP2 | Heat transfer coefficient at elevation 2 of local rod | $W/m^2 \cdot K$ |
| HTP3 | Heat transfer coefficient at elevation 3 of local rod | $W/m^2 \cdot K$ |
| HTP4 | Heat transfer coefficient at elevation 4 of local rod | $W/m^2 \cdot K$ |
| HTP5 | Heat transfer coefficient at elevation 5 of local rod | $W/m^2 \cdot K$ |
| HTP6 | Heat transfer coefficient at elevation 6 of local rod | $W/m^2 \cdot K$ |
| VOID3 | Average void fraction between elevation 2 and 3 of core | - |

(8) Void fraction

| Item | Description | Unit |
|---|---|---|
| VOID1 | Average void fraction between bottom and the 1st elevation of core | - |
| VOID2 | the 1st and the 2nd | - |
| VOID3 | the 2nd and the 3rd | - |
| VOID4 | the 3rd and the 4th | - |
| VOID5 | the 4th and the 5th | - |
| VOID6 | the 5th and the 6th | - |
| MAXPOWER | Maximum linear power density of average rod | kW/m |

Table 4.8 Description of time history data (4/5)

(12) Radial temperature destribution of local rod (print out IOPT01 = 1 and IOPT02 ≠ 0)

| Item | Description | Unit |
|---|---|---|
| AXIAL NODE | Axial node number | – |
| TFP(R.1) | Local rod temperature at the 1st radial point of the defined axial node | °C |
| TFP(R.2) | Local rod temperature at the 2nd radial point of the defined axial node | °C |
| TFP(R.3) | Local rod temperature at the 3rd radial point of defined axial node | °C |
| TFP(R.4) | Local rod temperature at the 4th radial point of defined axial node | °C |

Table 4.8 Description of time history data (5/5)

(9) Movement of boundaries

| Item | Description | Unit |
|---|---|---|
| LIQ.BOLL | Position of L1 | m |
| QUENCHPT | Position of L2 | m |
| SATURATE | Position of L3 | m |
| TRA-DISP | Position of L4 | m |
| REWETTED | Position of L5 | m |
| LIQ.LEV | Position of L7 | m |
| PRESHEAD | Differential pressure head in core | m Aq. |

(10) Core outlet condition

| Item | Description | Unit |
|---|---|---|
| GLOUT/G(1) | Core outlet liquid mass flow rate | kg/s |
| G(N1)/G(1) | Core outlet vapor mass flow rate | kg/s |
| MDOT/G(1) | Carryover fraction | - |

(11) Radial temperature distribution of average rod (print out if IOPT01 = 1)

| Item | Deacription | Unit |
|---|---|---|
| AXIAL NODE | Axial node number | - |
| TF(R.1) | Average rod temperature at the 1st radial point of the defined axial node | °C |
| TF(R.2) | Average rod temperature at the 2nd radial point of the defined axial node | °C |
| TF(R.3) | Average rod temperature at the 3rd radial point of the defined axial node | °C |
| TF(R.4) | Average rod temperature at the 4th radial point of the defined axial node | °C |

Table 4.9 Description of plotted measured data

| No. | Item | Description |
|---|---|---|
| 1 | UL1/5+6 | Core inlet liquid velocity (cm/s) ÷ 5 + 6 |
| | PC1-PCN1 | Differential pressure between upper and lower plenum |
| | DPDWN | Differential pressure between bottom of downcomer and containment |
| | DPLOOP | Differential pressure between upper plenum and containment |
| 2 | TW(EL.1) | Clad surface temperature at the 1st elevation of average rod |
| | ∫ | ∫ |
| | TW(EL.5) | 5th |
| 3 | TWP(EL1) | Clad surface temperature at the 1st elevation of local rod |
| | ∫ | ∫ |
| | TWP(EL5) | 5th |
| 4 | AG(EL.1) | Average void fraction between bottom and the 1st elevation of core |
| | AG(EL.2) | the 1st and the 2nd |
| | ∫ | ∫ |
| | AG(EL.6) | the 5th and the 6th |

Table 4.10 Description of plotted calculational data (1/4)

| No. | Item | Description |
|---|---|---|
| 1 | 0 SEC<br>$X_1$ SEC<br>∫<br>$X_N$ SEC | Axial clad surface temperature profile of average rod at 0 sec<br>$x_1$ sec(*1)<br>∫<br>$x_N$ sec(*1) |
| No. 2 is plotted if IOPT02 ≠ 0 | | |
| 2 | 0 SEC<br>$X_1$ SEC<br>∫<br>$X_N$ SEC | Axial clad surface temperature profile local rod at 0 sec<br>$X_1$ sec(*1)<br>∫<br>$X_N$ sec(*1) |
| 3 | UL1/5+6<br>PC1-PCN1<br>DPDWN | Core inlet liquid velocity (cm/s) ÷ 5 + 6<br>Differential pressure between upper and lower plenum<br>Differential pressure between bottom of downcomer and containment |
| 4 | TW(EL.1)<br>∫<br>TW(EL.6) | Clad surface temperature at the 1st elevation of average rod<br>∫<br>6th<br>(Y-axis : 0 ∿ 1200 °C) |
| 5 | TW(EL.1)<br>∫<br>TW(EL.6) | Clad surface temperature at the 1st elevation of average rod<br>∫<br>6th<br>(Y-axis : 0 ∿ 2000 °C) |
| No. 6 and 7 are plotted if IOPT02 ≠ 0 | | |
| 6 | TWP(EL1)<br>∫<br>TWP(EL5) | Clad surface temperature at the 1st elevation of local rod<br>∫<br>5th |
| 7 | TWP(46) | Clad surface temperature at level 46 of local rod |
| 8 | TQN2 | Quench temperature of average rod |
| No. 9 is plotted if IOPT02 ≠ 0 | | |
| 9 | TPN2 | Quench temperature of local rod |

Table 4.10 Description of plotted calculational data (2/4)

| No. | Item | Description |
|---|---|---|
| 10 | HT(EL.1) | Heat transfer coefficient at the 1st elevation of average rod |
| | ∫ | ∫ |
| | HT(EL.6) | 6th |
| No. 11 is plotted if IOPT02 ≠ 0 | | |
| 11 | HTP(EL1) | Heat transfer coefficient at the 1st elevation of local rod |
| | ∫ | ∫ |
| | HTP(EL5) | 5th |
| 12 | AG(EL.1) | Average void fraction between bottom and the 1st elevation of core |
| | AG(EL.2) | the 1st and the 2nd |
| | ∫ | ∫ |
| | AG(EL.6) | the 5th and the 6th |
| 13 | L1 | Position of L1 |
| | L2 | Position of L2 |
| | L3 | Position of L3 |
| | L4 | Position of L4 |
| | L5 | Position of L5 |
| | L7 | Position of L7 |
| No. 14 is plotted if IOPT02 ≠ 0 | | |
| 14 | LP2 | Position of bottom quench point of local rod |
| 15 | GLOUT/G1 | Core outlet liquid mass flow rate (kg/s) |
| | GN1/G1 | Core outlet vapor mass flow rate (kg/s) |
| | MCDOT/G1 | Carryover fraction |
| No. 16 to 20 are plotted if IOPT01 = 1 | | |
| 16 | 0 SEC | Radial temperature profile of the 1st elevation of average rod at 0 sec |
| | $X_1$ SEC | $X_1$ sec(*1) |
| | ∫ | ∫ |
| | $X_N$ SEC | $X_N$ sec(*1) |
| ∫ | | |

Table 4.10 Description of plotted calculational data (3/4)

| No. | Item | Description |
|---|---|---|
| 20 | 0 SEC<br>$X_1$ SEC<br>∫<br>$X_N$ SEC | Radial temperature profile of the 5th elevation of average rod at<br>0 sec<br>$X_1$ sec(*1)<br>∫<br>$X_N$ sec(*1) |
| No. 21 to 25 are plotted if IOPT01 = 1 and IOPT02 ≠ 0 | | |
| 21 | 0 SEC<br>$X_1$ SEC<br>∫<br>$X_N$ SEC | Radial temperature profile of the 1st elevation of local rod at<br>0 sec<br>$X_1$ sec(*1)<br>∫<br>$X_N$ sec(*1) |
| ∫ | | |
| 25 | 0 SEC<br>$X_1$ SEC<br>∫<br>$X_N$ SEC | Radial temperature profile of the 5th elevation of local rod at<br>0 sec<br>$X_1$ sec(*1)<br>∫<br>$X_N$ sec(*1) |
| No. 26 to 30 are plotted if IOPT01 = 1 | | |
| 26 | TF(1,1)<br>∫<br>TF(4,1) | Average rod temperature at the 1st radial point of the 1st elevation<br>∫<br>4th |
| ∫ | | |
| 30 | TF(1,5)<br>∫<br>TF(4,5) | Average rod temperature at the 1st radial point of the 5th elevation<br>∫<br>4th |

Table 4.10 Description of plotted calculational data (4/4)

| No. | Item | Description |
|---|---|---|
| No. 31 to 35 are plotted if IOPT01 = 1 and IOPT02 ≠ 0 | | |
| 31 | TFP(1,1)<br>~<br>TFP(4,1) | Local rod temperature at the 1st radial point of the 1st elevation<br>~<br>4th |
| | | |
| 35 | TPF(1,5)<br>~<br>TPF(4,5) | Local rod temperature at the 1st radial point of the 5th elevation<br>~<br>4th |

Note :

*1

$X_i$ = i x DTS x ICON(12)

Maximum number of the profile can be plotted is 9.

Table 4.11 Description of plotted data comparison between measured and calculated

| No. | Item | Description |
|---|---|---|
| 1 | UL1/5+6<br>PC1-PCN1<br>DPDWN | Core inlet liquid velocity (cm/s) ÷ 5 + 6<br>Differential pressure between lower and upper plenum<br>Differential pressure between bottom of downcomer and containment |
| 2 | TW(EL.1)<br>∫<br>TW(EL.6) | Clad surface temperature at the 1st elevation of average rod<br>∫<br>6th<br>(Y-axis : 0 ∿ 1200 °C) |
| 3 | TW(EL.1)<br>∫<br>TW(EL.6) | Clad surface temperature at the 1st elevation of average rod<br>∫<br>6th<br>(Y-axis : 0 ∿ 2000 °C) |
| No. 4 is plotted if IOPT02 ≠ 0 | | |
| 4 | TWP(EL1)<br>∫<br>TWP(EL5) | Clad surface temperature at the 1st elevation of local rod<br>∫<br>5th |
| 5 | HT(EL.1)<br>∫<br>HT(EL.6) | Heat transfer coefficient at the 1st elevation of average rod<br>∫<br>6th |
| 6 | AG(EL.1)<br>AG(EL.2)<br>∫<br>AG(EL.6) | Average void fraction between bottom and the 1st elevation of core<br>the 1st and the 2nd<br>∫<br>the 5th and the 6th |
| 7 | L2 | Position of bottom quench point of average rod |
| No. 8 is plotted if IOPT02 ≠ 0 | | |
| 8 | LP2 | Position of bottom quench point of local rod |

Note :

Calculational data is plotted by line.

Measurement data is plotted by dotted line.

Table 4.12 JCL for REFLA-1D/MODE4 calculation (1/3)

(1) In case of using radial fuel temperature one point model

```
//JCLG JOB
//JCLG EXEC JCLG
//SYSIN  DD DATA,DLM='++'
// JUSER 00919089,TS.HOJO,0957.01
     T.5 W.3 I.4 C.4 GRP SRP
 OPTP PASSWORD=
/*JOBPARM K=0
//***********************************
//*    RUN J9089.REFLAP5.FORT      ***
//***********************************
//FR1 EXEC FORT77,SO='J9089.REFLAP5',A='ELM(*),NOS,LANGLVL(66)',     ...... 1)
//     Q='.FORT',DISP=MOD
//SYSPRINT DD DUMMY
//FR2 EXEC FORT77,SO='J2156.SYSTEMO',A='ELM(*),NOS,LANGLVL(66)',     ....... 2)
//     Q='.FORT',DISP=MOD
//SYSPRINT DD DUMMY
//FR3 EXEC FORT77,SO='J1207.UPLOT2',                                          3)
//     A='ELM(GETTAG,GETTB,PUTDAT),NOS,LANGLVL(66)',Q='.FORT',DISP=MOD..
//SYSPRINT DD DUMMY
//FR4 EXEC FORT77,SO='J3105.SSPLOT',                        ............... 4)
//     A='ELM(*),NOS,LANGLVL(66)',Q='.FORT',DISP=MOD
//SYSPRINT DD DUMMY
//LIK   EXEC LKED77,GRLIB=PNL
//SYSPRINT DD DUMMY
//REFLA EXEC GO
//NLP    EXPAND GRNLP,SYSOUT=N
//FT09F001 DD SYSOUT=*,DCB=(RECFM=FA,BLKSIZE=133)
//FT10F001 DD DSN=J3349.CC1J038.DATA,DISP=SHR,LABEL=(,,,IN) ........... 5)
//FT20F001 DD DSN=J3349.CCTMJ038.DATA,DISP=SHR,LABEL=(,,,IN)........... 6)
//DATA   EXPAND DISKTO,DDN=SYSIN,DSN=J9089.REFLAP5,Q='.DATA(C1R38B17)... 7)
++
//
```

1) Data set name for storing MAIN and core thermo-hydrodynamic calculation routine
2) Data set name for storing system calculation routine
3) Data set name for storing plot calculation routine 1
4) Data set name for storing plot calculation routine 2
5) Data set name for storing measured data 1 to use boundary condition determination and data comparison
6) Data set name for storing measured data 2 to use data comparison
7) Data set name for storing REFLA input data

Table 4.12 JCL for REFLA-1D/MODE4 calculation (2/3)

(2) In case of using fuel temperature profile effect model
(IOPT01=1 and IOPT02=0)

```
//JCLG JOB
//JCLG EXEC JCLG
//SYSIN  DD DATA,DLM='++'
// JUSER 00919089,TS.HOJO,0957.01
      T.8 W.3 I.4 C.4 GRP SRP NGT
 OPTP PASSWORD=
/*JOBPARM K=0
//***********************************
//*    RUN J9089.REFLAP5.FORT       ***
//***********************************
//FR1 EXEC FORT77,SO='J9089.REFLAP5',A='ELM(*),NOS,LANGLVL(66)',
//     Q='.FORT',DISP=MOD                                      ....... 1)
//SYSPRINT DD DUMMY
//FR2 EXEC FORT77,SO='J2156.SYSTEMO',A='ELM(*),NOS,LANGLVL(66)',....... 2)
//     Q='.FORT',DISP=MOD
//SYSPRINT DD DUMMY
//FR3 EXEC FORT77,SO='J1207.UPLOT2',                                ... 3)
//     A='ELM(GETTAG,GETTB,PUTDAT),NOS,LANGLVL(66)',Q='.FORT',DISP=MOD
//SYSPRINT DD DUMMY
//FR4 EXEC FORT77,SO='J3105.SSPLOT',                   .................. 4)
//     A='ELM(*),NOS,LANGLVL(66)',Q='.FORT',DISP=MOD
//SYSPRINT DD DUMMY
//LIK    EXEC LKED77,GRLIB=PNL
//SYSPRINT DD DUMMY
//REFLA EXEC GO
//NLP    EXPAND GRNLP,SYSOUT=N
//FT09F001 DD SYSOUT=*,DCB=(RECFM=FA,BLKSIZE=133)
//FT10F001 DD DSN=J3349.CC1J038.DATA,DISP=SHR,LABEL=(,,,IN)  .......... 5)
//FT20F001 DD DSN=J3349.CCTMJ038.DATA,DISP=SHR,LABEL=(,,,IN) .......... 6)
//FT55F001 DD DSN=J9089.REFLAP5.DATA(HETCCTF),DISP=SHR      ........... 8)
//DATA  EXPAND DISKTO,DDN=SYSIN,DSN=J9089.REFLAP5,Q='.DATA(REFEMI)'.... 7)
++
//
```

1)

≀ Same as (1)

7)

8) Data set name for storing HETRAP input data

Table 4.12 JCL for REFLA-1D/MODE4 calculation (3/3)

(3) In case of using local power effect model and fuel temperature profile effect model (OPPT01=1 and ITPT02=1)

```
//JCLG JOB
//JCLG EXEC JCLG
//SYSIN  DD DATA,DLM='++'
// JUSER 00919089,TS.HOJO,0957.01
      T.9 W.5 I.4 C.4 GRP SRP NGT
 OPTP PASSWORD=
/*JOBPARM K=0
//*********************************
//*    RUN J9089.REFLAP5.FORT       ***
//*********************************
//FR1 EXEC FORT77,SO='J9089.REFLAP5',A='ELM(*),NOS,LANGLVL(66)',
//     Q='.FORT',DISP=MOD                                  ........... 1)
//SYSPRINT DD DUMMY
//FR2 EXEC FORT77,SO='J2156.SYSTEMO',A='ELM(*),NOS,LANGLVL(66)',
//     Q='.FORT',DISP=MOD                                  .......... 2)
//SYSPRINT DD DUMMY
//FR3 EXEC FORT77,SO='J1207.UPLOT2',
//     A='ELM(GETTAG,GETTB,PUTDAT),NOS,LANGLVL(66)',Q='.FORT',DISP=MOD ..... 3)
//SYSPRINT DD DUMMY
//FR4 EXEC FORT77,SO='J3105.SSPLOT',
//     A='ELM(*),NOS,LANGLVL(66)',Q='.FORT',DISP=MOD       ................. 4)
//SYSPRINT DD DUMMY
//LIK   EXEC LKED77,GRLIB=PNL
//SYSPRINT DD DUMMY
//REFLA EXEC GO
//NLP   EXPAND GRNLP,SYSOUT=N
//GDFILE   DD SYSOUT=N,OUTLIM=80000,DEST=LOCAL
//FT09F001 DD SYSOUT=*,DCB=(RECFM=FA,BLKSIZE=133)
//FT10F001 DD DSN=J3349.CC1J038.DATA,DISP=SHR,LABEL=(,,,IN)............... 5)
//FT20F001 DD DSN=J3349.CCTMJ038.DATA,DISP=SHR,LABEL=(,,,IN).............. 6)
//FT55F001 DD DSN=J9089.REFLAP5.DATA(HETCCTF),DISP=SHR ................... 8)
//DATA  EXPAND DISKTO,DDN=SYSIN,DSN=J9089.REFLAP5,Q='.DATA(RZFUELP5)' ..... 7)
++
//
```

1)
≀ Same as (2)
8)

# 5. サンプル計算

作成したREFLA－1D／MODE 4 コードによるサンプル計算を示す。対象とした試験はCCTF試験C 1－19（Run 38）[(6)]で，局所燃料棒としてはバンドル 17 の Y－rod を選定した。なお，この燃料棒の半径方向ピーキング係数は 1.10 である。

## 5.1 CCTF試験C 1－19の試験条件

CCTF 試験 C 1－19 の試験条件を表 5.1 に示す。

## 5.2 入力データ

CCTF 試験 C 1－19計算用入力データを表 5.2 に示す。

## 5.3 プリント出力およびプロット出力

CCTF 試験 C 1－19 計算結果のプリント出力およびプロット出力を付録 C に示す。

Table 5.1 Summary of test conditions for CCTF test C1-19 (Run 38)

1. TEST TYPE : EVALUATION MODEL TEST

2. TEST NUMBER : RUN 038 3. DATE : March 18, 1981

4. POWER : A: TOTAL: 9.28 MW; B:LINEAR: 1.39 KW/M

5. RELATIVE RADIAL POWER SHAPE :

   A: ZONE: A B C

   B: RATIO: 1.299 1.092 0.841

6. AXIAL POWER SHAPE : CHOPPED COSINE

7. PRESSURE ($KG/CM^2A$) :

   A: SYSTEM: 2.03, B: CONTAINMENT 2.03,

   C: STEAM GENERATOR SECONDARY: 53.2

8. TEMPERATURE (DEG.C) :

   A: DOWNCOMER WALL 169, B: VESSEL INTERNALS 115,

   C: PRIMARY PIPING WALL 123, D: LOWER PELNUM LIQUID 114,

   E: ECC LIQUID 38.1, F: STEAM GENERATOR SECONDARY 263,

   G: CORE TEMPERATURE AT ECC INITIATION 844

9. ECC INJECTION TYPE: C

   A: COLD LEG, B: LOWER PLENUM, C: LOWER PLENUM + COLD LEG

10. PUMP K-FACTOR : ∿ 15

11. ECC FLOW RATES AND DURATION :

    A: ACCUMULATOR 372 $M^3/HR$ FROM 0 TO 25.5 SECONDS

    B: LPCI 40.5 $M^3/HR$ FROM 25.5 TO 737 SECONDS

    C: ECC INJECTION TO LOWER PLENUM : FROM 0 TO 14 SECONDS

    (VALVE OPENING AND CLOSING TIMES ARE INCLUDED IN THE INJECTION DURATION)

12. INITIAL WATER LEVEL IN LOWER PLENUM : 0.89 M.

13. POWER CONTROL : ANS x 1.2 + ACTINIDE ( 30 SEC AFTER SCRAM)

14. EXPECTED BOCREC TIME FROM ECC INITIATION 9 SEC

15. EXPECTED PEAK TEMPERATURE AT BOCREC 870 C

Table 5.2 Input data for CCTF test C1-19 (Run 38) (1/2)

(1) REFLA input data

```
** REFLAP5 RUN ( IOPT = 1,1 ) **      CCTF CORE-I ( RUN 38 , BUNDLE 17 )
  1  1
        2.086        0.25          7.0       100.          2.000         2.000
        100.0        8.0           8.0       0.1                    4.0
            1 1.10  375.6 621.3 760.0 672.2 493.3
           90                     10.7        14.3         3.66              1
           .1                                 0.25
                                  10.8      2000.0     0.41318


                     720.0

       1000.0
        480.0       1500.0
  120.0




  5
     2          .10      22           2.0    211           2.0    215    20.0
   212   400.0
38
TE18Z11
TE18Z12
TE18Z13
TE18Z14
TE18Z15
DPLOOP1
DPDOWN5
DPLOOP4
DPCOREA
LT07RQ5V
LT06RQ5V
LT05RQ5V
LT04RQ5V
LT03RQ5V
LT02RQ5V
ULCRI1
TACRIN
LT01RQ5
PT00RN0
TE32X13
TE17Y11
TE17Y12
TE17Y13
TE17Y14
TE17Y15
HTE18Z11
HTE18Z12
HTE18Z13
HTE18Z14
HTE18Z15
```

Table 5.2 Input data for CCTF test C1-19 (Run 38) (2/2)

(2) HETRAP input data

| | | | | | |
|---|---|---|---|---|---|
| 3 | | | | | |
| 1 | 33 | | | | |
| 12 | | | | | |
| 5.35D-1 | 0.0D00 | 0.0D00 | 0.0D00 | 0 | 7 |
| 5.10D-1 | | | | 7 | 7 |
| 4.75D-1 | | | | 7 | 7 |
| 4.35D-1 | | | | 7 | 7 |
| 4.00D-1 | | | | 4 | 4 |
| 3.65D-1 | | | | 4 | 4 |
| 3.30D-1 | 1.0D00 | | | 4 | 10 |
| 2.70D-1 | 1.0D00 | | | 10 | 10 |
| 2.25D-1 | | | | 9 | 9 |
| 1.75D-1 | | | | 9 | 9 |
| 1.00D-1 | | | | 9 | 9 |
| 0.00D00 | | | | 9 | 9 |
| 34 | 58 | | | | |
| 12 | | | | | |
| 5.35D-1 | 0.0D00 | 0.0D00 | 0.0D00 | 0 | 7 |
| 5.10D-1 | | | | 7 | 7 |
| 4.75D-1 | | | | 7 | 7 |
| 4.35D-1 | | | | 7 | 7 |
| 4.00D-1 | | | | 3 | 3 |
| 3.65D-1 | | | | 3 | 3 |
| 3.30D-1 | 1.0D00 | | | 3 | 10 |
| 2.70D-1 | 1.0D00 | | | 10 | 10 |
| 2.25D-1 | | | | 9 | 9 |
| 1.75D-1 | | | | 9 | 9 |
| 1.00D-1 | | | | 9 | 9 |
| 0.00D00 | | | | 9 | 9 |
| 59 | 91 | | | | |
| 12 | | | | | |
| 5.35D-1 | 0.0D00 | 0.0D00 | 0.0D00 | 0 | 7 |
| 5.10D-1 | | | | 7 | 7 |
| 4.75D-1 | | | | 7 | 7 |
| 4.35D-1 | | | | 7 | 7 |
| 4.00D-1 | | | | 4 | 4 |
| 3.65D-1 | | | | 4 | 4 |
| 3.30D-1 | 1.0D00 | | | 4 | 10 |
| 2.70D-1 | 1.0D00 | | | 10 | 10 |
| 2.25D-1 | | | | 9 | 9 |
| 1.75D-1 | | | | 9 | 9 |
| 1.00D-1 | | | | 9 | 9 |
| 0.00D00 | | | | 9 | 9 |
| 0.02 | | | | | |
| 1 | | | | | |
| 1 | 91 | | | | |
| 120. | 120. | 120. | 120. | 120. | 120. |
| 120. | 120. | 120. | 120. | 120. | 120. |

# 6．まとめ

REFLA－1D／MODE 3コードは，強制注水時ならびにFLECHT－SET Phase Aのようなシステムにおけるダウンカマからの重力差による注水時の再冠水過程炉心内熱水力挙動の解析が可能なコードである。このコードに，局所出力効果モデルおよび燃料棒半径方向温度分布モデルの組込みを行い，これらの効果を考慮した解析が可能なREFLA－1D／MODE 4を作成した。

作成したコードでは，水平方向出力分布効果を考慮した局所燃料棒温度変化の計算および実燃料棒の模擬等が可能となった。

今後の改良としては，多ループシステムモデル，グリッドスペーサモデル等の組込みを予定している。

## 謝辞

終りに，本報告書をまとめるに当り御指導をいただいた佐藤一男，平野見明，斯波正誼，の各氏に感謝の意を表します。

また，本プログラムを開発する際に，有益な討論と助力を賜わりました安全工学第2研究室の各位に深謝致します。

# 6. ま と め

REFLA－1D／MODE 3コードは，強制注水時ならびにFLECHT－SET Phase Aのようなシステムにおけるダウンカマからの重力差による注水時の再冠水過程炉心内熱水力挙動の解析が可能なコードである。このコードに，局所出力効果モデルおよび燃料棒半径方向温度分布モデルの組込みを行い，これらの効果を考慮した解析が可能なREFLA－1D／MODE 4を作成した。

作成したコードでは，水平方向出力分布効果を考慮した局所燃料棒温度変化の計算および実燃料棒の模擬等が可能となった。

今後の改良としては，多ループシステムモデル，グリッドスペーサモデル等の組込みを予定している。

## 謝 辞

終りに，本報告書をまとめるに当り御指導をいただいた佐藤一男，平野見明，斯波正誼，の各氏に感謝の意を表します。

また，本プログラムを開発する際に，有益な討論と助力を賜わりました安全工学第2研究室の各位に深謝致します。

## 参考文献


(1) Murao, Y., et al.: REFLA-1D/MODE3: A computer code for reflood thermo-hydrodynamic analysis during PWR-LOCA (User's manual), JAERI-M 84-243, (1985).

(2) Sugimoto, J., Murao, Y.: Investigation of reflood models by coupling REFLA-1D and multi-loop system model, JAERI-M83-147, (1983).

(3) Iguchi, T., et al.: Assessment of REFLA local power effect model with CCTF data, JAERI-M84-246, (1985).

(4) Sugimoto, J., Murao, Y.: Analytical study of thermal response similarity between simulated fuel rods and nuclear fuel rods during reflood phase of a PWR-LOCA, submitted to J. Nucl. Sci. Technol.

(5) Malang, S.; HETRAP: A heat transfer analysis program, ORNL-TM-4555, (1974).

(6) Murao, Y., et al.: Evaluation report on CCTF core-I reflood test C1-19 (Run 38), JAERI-M83-029, (1983)

## 付録A　燃料棒半径方向温度分布モデル組込みにともなう追加・修正 common block および sub program

### A. 1　追加Common block

| COMMON／GUIDE／ | | | | |
|---|---|---|---|---|
| No. | Variable Name | Type | Content. | Unit |
| 1 | TMIN | R・8 | 未使用 | |
| 2 | TMAX | 〃 | 〃 | |
| 3 | TSTART | 〃 | 〃 | |
| 4 | DTA | 〃 | HETRAP最小time step巾 | sec |
| 5 | DTWRIT | 〃 | 未使用 | |
| 6 | KROD | I・4 | 〃 | |

COMMON／HETRAP／

| No. | Variable Name | Type | Content. | Unit |
|---|---|---|---|---|
| 1 | DT | R＊8 | 未使用 | |
| 2 | DTMAX (20) | 〃 | R方向 node 間 $\Delta t$ max | sec |
| 3 | DTM | 〃 | $\Delta t$ (HETRAP) | 〃 |
| 4 | DUMMY | 〃 | 未使用 | |
| 5 | F (20) | 〃 | 〃 | |
| 6 | HCAP (20) | 〃 | $\rho CpV$ | $\frac{W \cdot sec}{cm \cdot ℃}$ |
| 7 | HGAP | 〃 | 未使用 | |
| 8 | HVER (20) | 〃 | $(熱抵抗)^{-1}$ | W/cm℃ |
| 9 | STOR | 〃 | 未使用 | |
| 10 | QVO | 〃 | $Q / \Sigma Pt \cdot V$ Q：rod発熱量 P：Power factor | $W/cm^2$ |
| 11 | QVOL | 〃 | 未使用 | |
| 12 | RMQ | 〃 | $(r_{i-1}^2 - r_i^2) / 2 \cdot \log(r_{i-1}/r_i)$ | $cm^2$ |
| 13 | TIME | 〃 | 未使用 | |
| 14 | S (20, 91) | 〃 | 前 node 半径 | cm |
| 15 | T (20, 91) | 〃 | 燃料棒温度 $^{OLD}$ | ℃ |
| 16 | TN (20, 91, 2) | 〃 | 〃 $^{NEW}$ | ℃ |
| 17 | V (20, 91) | 〃 | R方向 mesh 体積 | $cm^3/cm$ |
| 18 | VER (20, 91) | 〃 | $\log(r_{i-1}/r_i)$ | － |
| 19 | IFCAN | I＊4 | 未使用 | |
| 20 | IFCEN | 〃 | 〃 | |
| 21 | IGAP | 〃 | 〃 | |
| 22 | IFCURR | 〃 | 〃 | |
| 23 | IFH | 〃 | 〃 | |
| 24 | IFQ | 〃 | 〃 | |
| 25 | IFT | 〃 | 〃 | |
| 26 | IFALL | 〃 | node 間熱伝導計算用オプション | |
| 27 | IFP | 〃 | 未使用 | |
| 28 | IZ | 〃 | | |

| COMMON／OPTION／ | | | | |
|---|---|---|---|---|
| No. | Variable Name | Type | Content | Unit |
| 1 | IOPT01 | I＊4 | 燃料棒半径方向温度分布計算オプション | |
| 2 | IOPT02 | 〃 | 局所出力効果モデル使用オプション | |

| COMMON／RHINTR／ | | | | |
|---|---|---|---|---|
| No. | Variable Name | Type | Content | Unit |
| 1 | NZ1 | I＊4 | Z軸方向分割点数 | |
| 2 | NR1 (91) | 〃 | R方向 〃 | |
| 3 | NCLAD (2, 91) | 〃 | R方向 clad 部 node 点 | |
| 4 | NPLET (2, 91) | 〃 | 〃 pellet 部 〃 | |

| COMMON／ROD／ | | | | |
|---|---|---|---|---|
| No. | Variable Name | Type | Content | Unit |
| 1 | R (20, 91) | R＊8 | node 点 R 座標 | cm |
| 2 | PF (20, 91) | 〃 | power factor | − |
| 3 | H (20, 91) | 〃 | node 間熱伝達率 | W/cm²℃ |
| 4 | E (20, 91) | 〃 | 〃 輻射率 | − |
| 5 | IWC (20, 91) | I＊4 | 前 node 物質 No. | − |
| 6 | IWP (20, 91) | 〃 | 現 〃 | − |

A. 2. 1 修正 sub program

(1) Subroutine REFLA1

（修正内容）

本文中の図 3. 3 に示したフローチャート参照

(2) Subroutine REFLAA

（修正内容）

燃料棒半径方向温度分布モデル使用時のクエンチによる燃料棒から流体への熱放出計算部分の修正。

修正部分のフローチャートを図 A．1 に示す。

(3) Subroutine DISPRM, SATTPF, SINGLF, TRNSRM

（修正内容）

クエンチによる燃料棒から流体への熱放出量計算部分の修正

1）瞬時熱放出量

FCPRV = FCPQ(I)・ASTORE （半径方向1点近似計算）

FCPRV = FCPQ(I) （半径方定温度分布計算）

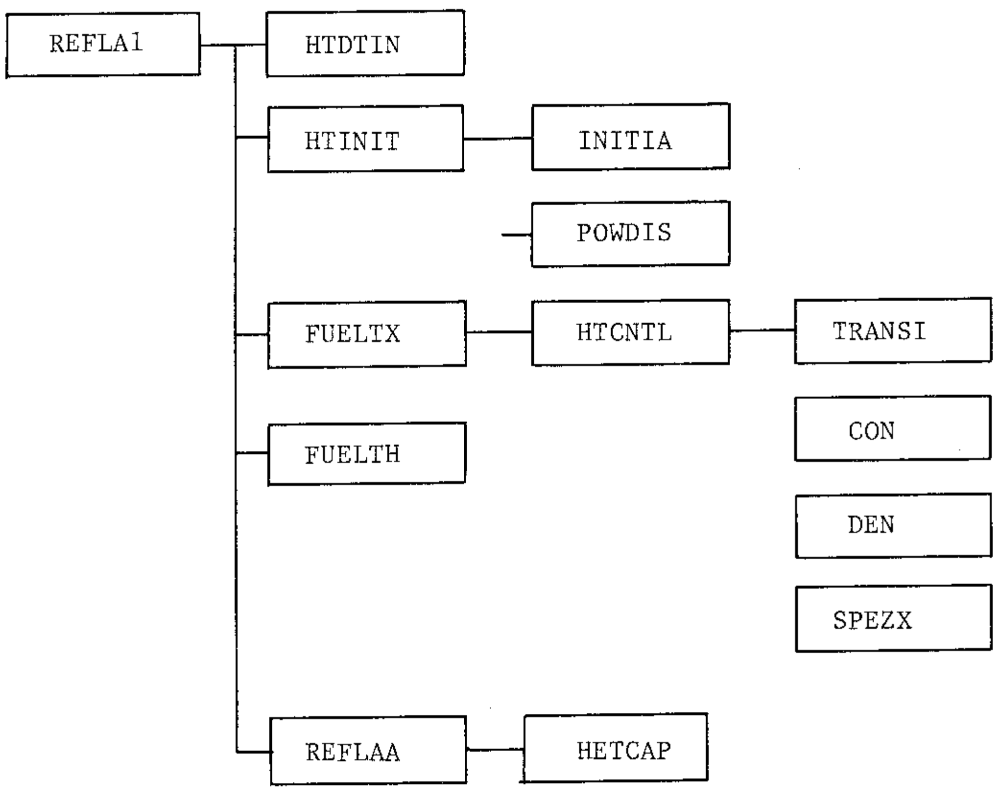
2）減衰熱放出量

QQD＝（1.0－ASTORE）／QTAW＊FCPR(I)
　　　＊EXP（－QTIME(I)／QTAW）　（半径方向1点近似計算）

QQD＝1.0／QTAW＊FCPR(I)＊EXP（－QTIME(I)／QTAW）
　　　（半径方向温度分布計算）

**A.2　追加修正 Sub program**

燃料棒半径方向温度分布モデルの組込みにともなって追加修正した Sub program の構造を以下に示す。



| Module Description Sheet | | Page / | |
|---|---|---|---|
| Module name | HTINIT | Project name | |
| Module type | Subroutine | Coder | |
| Module number | | Date | |

| | |
|---|---|
| Called by | REFLA1 |
| Calls | POWDIS, INITIA |

Argument

無 し

呼び出し形式

CALL HTINIT

機能及び処理

・HETRAP routine initialize

A. 2. 2 追加Sub program

| Module Description Sheet | | Page | / |
|---|---|---|---|
| Module name | HTDTIN | Project name | |
| Module type | Subroutine | Coder | |
| Module number | | Date | |
| Called by | REFLA 1 | | |

Argument

無し

呼び出し形式

CALL HTDTIN

機能及び処理

燃料体温度場計算 routine（HETRAP）入力データの読み込み

入力データ

| | | |
|---|---|---|
| 1° | NDZMAX | ：Z軸方向パラメタ場設定数（一様の時は1） |
| 2° | NDZ 1, NDZ 2 | ：Z軸方向パラメタ設定node点no. |
| 3° | NR 1 | ：R方向node点数 |
| 4° | R | ：R方向node点R座標値 |
| 5° | PF | ：Dower factor |
| 6° | H | ：熱伝達率 |
| 7° | E | ：輻射率 |
| 8° | INC | ：前node 物質 no |
| 9° | IWP | ：現node 〃 |
| 10° | DTA | ：HETRAP Δt |
| 11° | NTZMAZ | ：Z軸方向初期温度分布設定数 |
| 12° | NTZ 1, NTZ 2 | ：Z軸方向パラメタ設定 node 点no. |
| 13° | TN | ：初期温度分布 |

| Module Description Sheet | | Page | / |
|---|---|---|---|
| Module name | POWDIS | Project name | |
| Module type | Subroutine | Coder | |
| Module number | | Date | |
| Called by | HTINIT | | |
| Calls | | | |

Argument

V ： R方向 Mesh 体積

PF ： Power factor

NGES ： R方向 mesh 分割数

呼び出し形式

CALL POWDIS(V, PF, NGES)

機能及び処理

R方向 Power factor の normalize

| Module Description Sheet | | Page | / |
|---|---|---|---|
| Module name | INITIA | Project name | |
| Module type | Subroutine | Coder | |
| Module number | | Date | |
| Called by | HTINIT | | |
| Calls | | | |

Argument

J ： Z 軸方向 node 点 no.

呼び出し形式

CALL INITIA(J)

機能及び処理

HETRAP routine 初期値設定

VER(i,j) ： $\log(r_{i-1}/r_i)$

RMQ(i,j) ： $(r_{i-1}^2 - r_i^2)/2 \cdot \log(r_{i-1}/r_i)$

V (i,j) ： Mesh 体積

$IFALL_{ij}$ ： node 間熱伝導計算用 flag

$NCLAD_j$ ： clad 部分 node 点 no.

$NPLET_j$ ： pellet 部分 node 点 no.

| Module Description Sheet | | | Page / |
|---|---|---|---|
| Module name | FUELTX | Project name | |
| Module type | Subroutine | Coder | |
| Module number | | Date | |
| Called by | REFLA1 | | |
| Calls | PX, HTCNTL | | |

Argument

DTX ： REFLA time step 巾 (sec)

呼び出し形式

CALL FUELTX (DTX)

機能及び処理

燃料棒温度分布の設定

図A. 2にフローチャートを示す。

| Module Description Sheet | | | Page / |
|---|---|---|---|
| Module name | HTCNTL | Project name | |
| Module type | Subroutine | Coder | |
| Module number | | Date | |
| Called by | FUELTX | | |
| Calls | TRANSI | | |

Argument

$QMAX_j$ ： rod 出力 (kcal／m・h)

$TCOOL_j$ ： Coolant 温度 (℃)

$HCOOL_j$ ： 熱伝達率 (kcal／m²・h・℃)

TFIN ： REFLA time step 巾 (sec)

$TFUEL_{ij}$ ： 燃料棒温度分布 (℃)

呼び出し形式

CALL HTCNTL (QMAX, TCOOL, HCOOL, TFIN, TFUEL)

機能及び処理

燃料棒温度分布計算 routine "TRANSI" を制御し, "REFLA" の次期 time step の温度分布を設定する。

図A. 3にフローチャートを示す。

| Module Description Sheet | | | Page / |
|---|---|---|---|
| Module name | TRANSI | Project name | |
| Module type | Subroutine | Coder | |
| Module number | | Date | |
| Called by | HTCNTL | | |
| Calls | DEN CON SPEZX | | |

Argument

| | | | |
|---|---|---|---|
| J | : | Z 軸方向 node no. | ( IN ) |
| RODPOW | : | rod 出力 (W／cm) | ( 〃 ) |
| TCOOL | : | coolant 温度 (℃) | ( 〃 ) |
| HCOOL | : | 熱伝達率 (W／cm²・℃) | ( 〃 ) |
| $DTFUEL_i$ | : | 燃料棒温度変化量 (℃／sec) | (out) |
| DTIME | : | time step 巾 (sec) | (out) |

呼び出し形式

CALL TRANSI ( J , PODPOW, TCOOL , HCOOL , DTFUEL , DTIME)

機能及び処理

Rod 出力, Coolant 温度及び熱伝達率から, 燃料棒における $\dot{T}$ を計算する。

図 A. 4 にフローチャートを示す。

| Module Description Sheet | | | Page / |
|---|---|---|---|
| Module name | SPEZX | Project name | |
| Module type | Function | Coder | |
| Module number | | Date | |
| Called by | TRANSI , HETCAP | | |
| Calls | | | |

Argument

IW : 物質 no.

TW : 温度 (℃)

呼び出し形式

A = SPEZX( IW, TW)

機能及び処理

物質 no. IW, 温度 TWにおける比熱 ( W・sec／g・℃) を計算

| Module Description Sheet | | | Page / |
|---|---|---|---|
| Module name | DEN | Project name | |
| Module type | Function | Coder | |
| Module number | | Date | |
| Called by | TRANSI , HETCAP | | |

Argument

IW： 物質no.

TW： 温度（℃）

呼び出し形式

A ＝DEN（IW, TW）

機能及び処理

物質no. IW, 温度TWにおける密度（g／$cm^3$）を計算

| IW | 物質 |
|---|---|
| 1 | Zircaloy－4 |
| 2 | $UO_2$ |
| 3 | BN |
| 4 | MgO |
| 5 | Stainless Steel 316 |
| 6 | Inconel 800 |
| 7 | Inconel 600 |
| 8 | Stainless Steel 347 |
| 9 | $Al_2O_3$ |
| 10 | NCH－1 |

| Module Description Sheet | | Page | / |
|---|---|---|---|
| Module name | CON | Project name | |
| Module type | Function | Coder | |
| Module number | | Date | |
| Called by | TRANSI | | |

Argument

IW ： 物質 no.

TP1 ： 温度 $T_1$ （℃）

TP2 ： 〃 $T_2$

呼び出し形式

A ＝CON（IW, TP1, TP2）

機能及び処理

物質 no. IW, 温度 $T_1$, $T_2$ 間の熱伝導率（W／cm・℃）を求める。

| Module Description Sheet | | Page | / |
|---|---|---|---|
| Module name | HETCAP | Project name | |
| Module type | Subroutine | Coder | |
| Module number | | Date | |
| Called by | REFLAA | | |
| Calls | DEN, SPEZX | | |

Argument

J ： Z軸方向 nod no. （IN）

TFUEL ： R方向温度分布 （IN）

FCF ： $\rho$Cp V （out）

呼び出し形式

CALL HETCAP （J, TFUEL, FCF）

機能及び処理

燃料棒R方向温度分布から，各 node 点における $\rho$Cp V（kcal／m）を計算する。

subroutine FUELTH

再冠水開始時の Local Rod 軸方向被覆管表面温度実験データ TBOC(I), I＝1, 5 と再冠水開始時 Ave. Rod 軸方向被覆管表面温度分布の計算値 TW(J), J＝1, 91 を用いて，再冠水開始時 Local Rod 軸方向被覆管表面温度 TWP(J), J＝1, 91 を内挿する Subroutine.

TWP(J) の計算式

$$TWP(J) = (TW(J) - T_{sat}) \times A(J) + T_{sat} \qquad (J = 1, 91)$$

$$\begin{cases} ① \quad A(J) = AI(1) \quad : (J \leqq II(1)) \\ ② \quad A(J) = AI(K) \times \dfrac{J - II(K-1)}{II(K) - II(K-1)} + AI(K-1) \times \dfrac{II(K) - J}{II(K) - II(K-1)} \\ \qquad\qquad : (II(K-1) < J \leqq II(K),\ K = 2, 5) \\ ③ \quad A(J) = AI(5) \quad : (J > II(5)) \end{cases}$$

$$AI(I) = \frac{TBOC(I) - T_{sat}}{TW(II(I)) - T_{sat}} \qquad (I = 1, 5)$$

TWP(J) ： ノードJの Local Rod 被覆管表面温度

TW(J) ： 〃 Ave. Rod 〃

$T_{sat}$ ： 飽和温度

TBOC(I) ： 測定点Iの再冠水開始時 Local Rod 被覆管表面温度

II(I) ： 測定点Iに対応する軸方向のノード番号

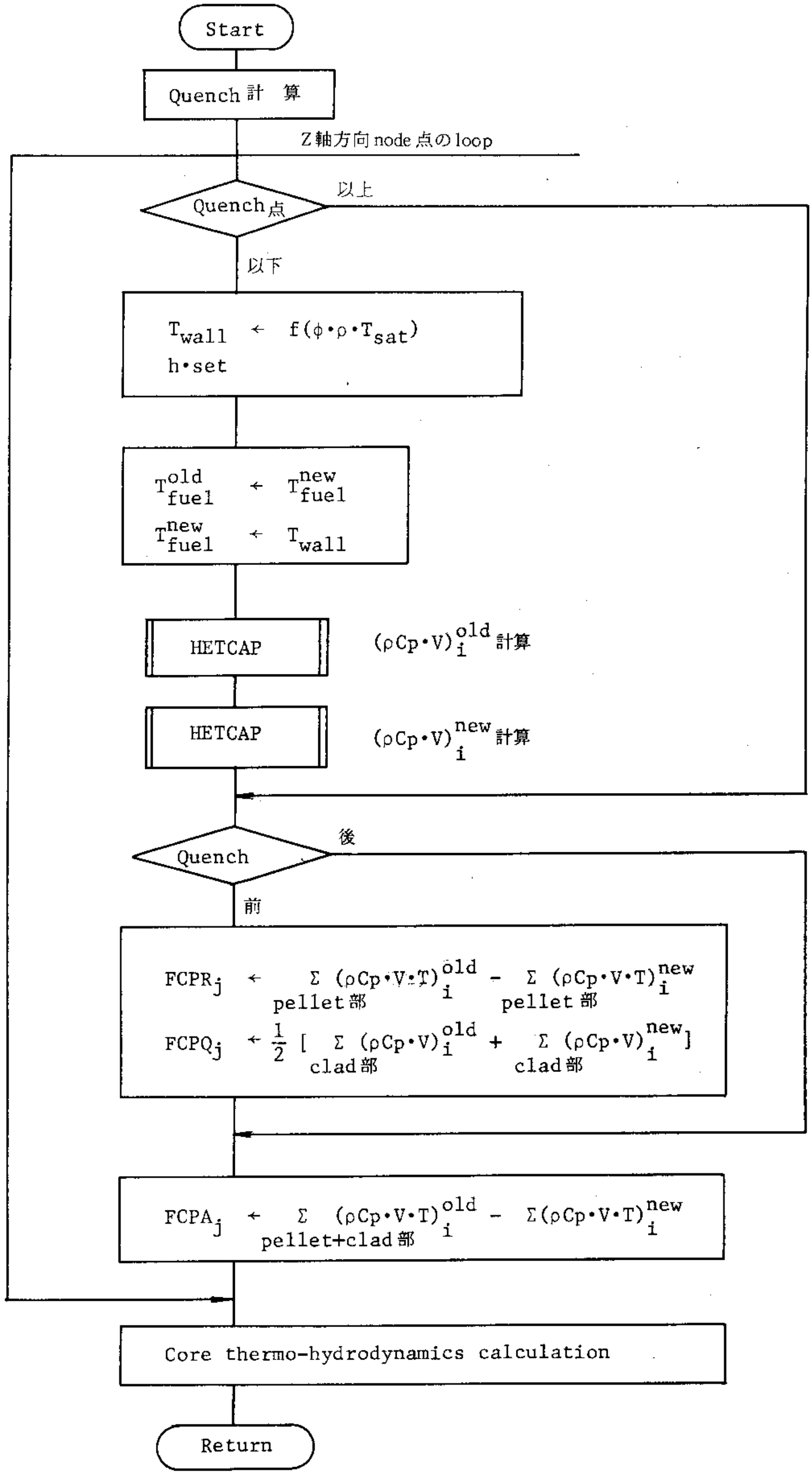



Fig. A.1 Revised part of flow chart of subroutine REFLAA with incorporating fuel temperature profile effect model

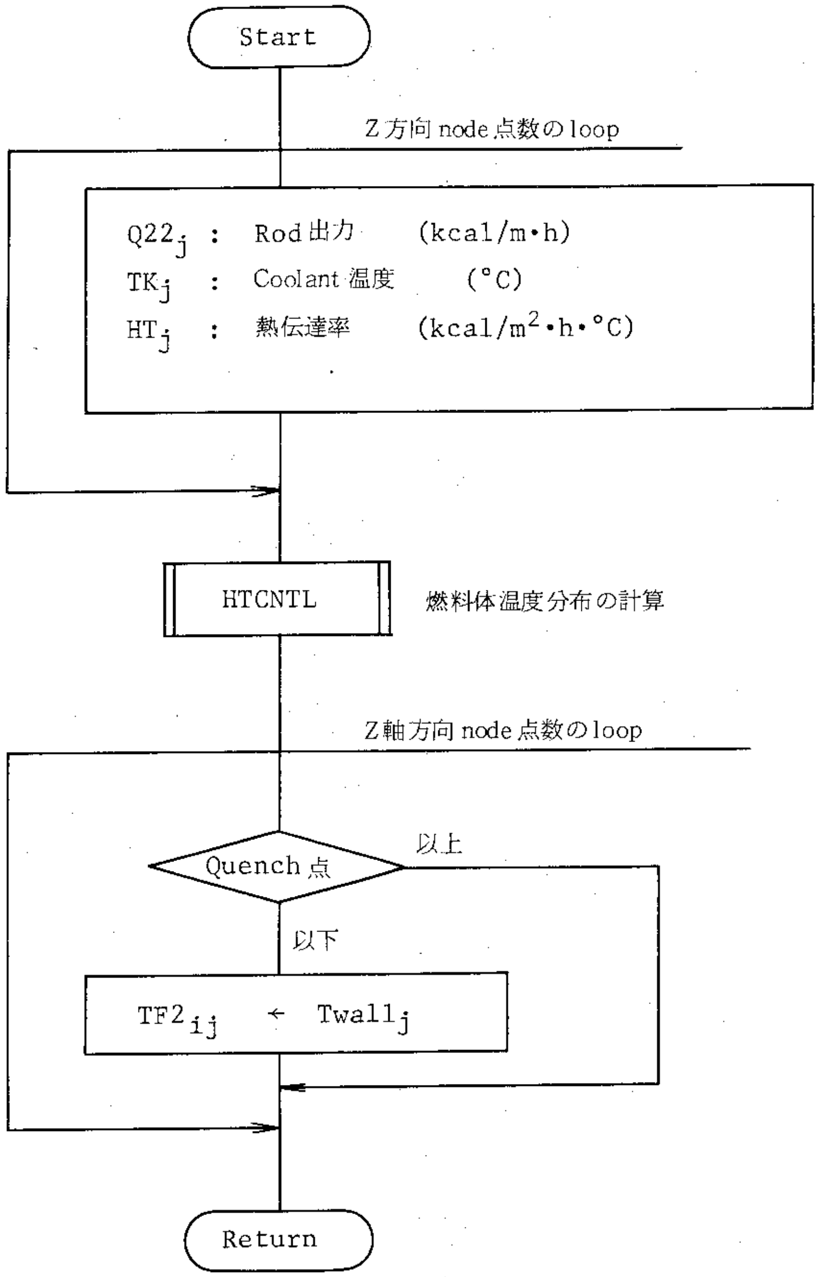



Fig. A.2 Flow chart of subroutine FUELTX

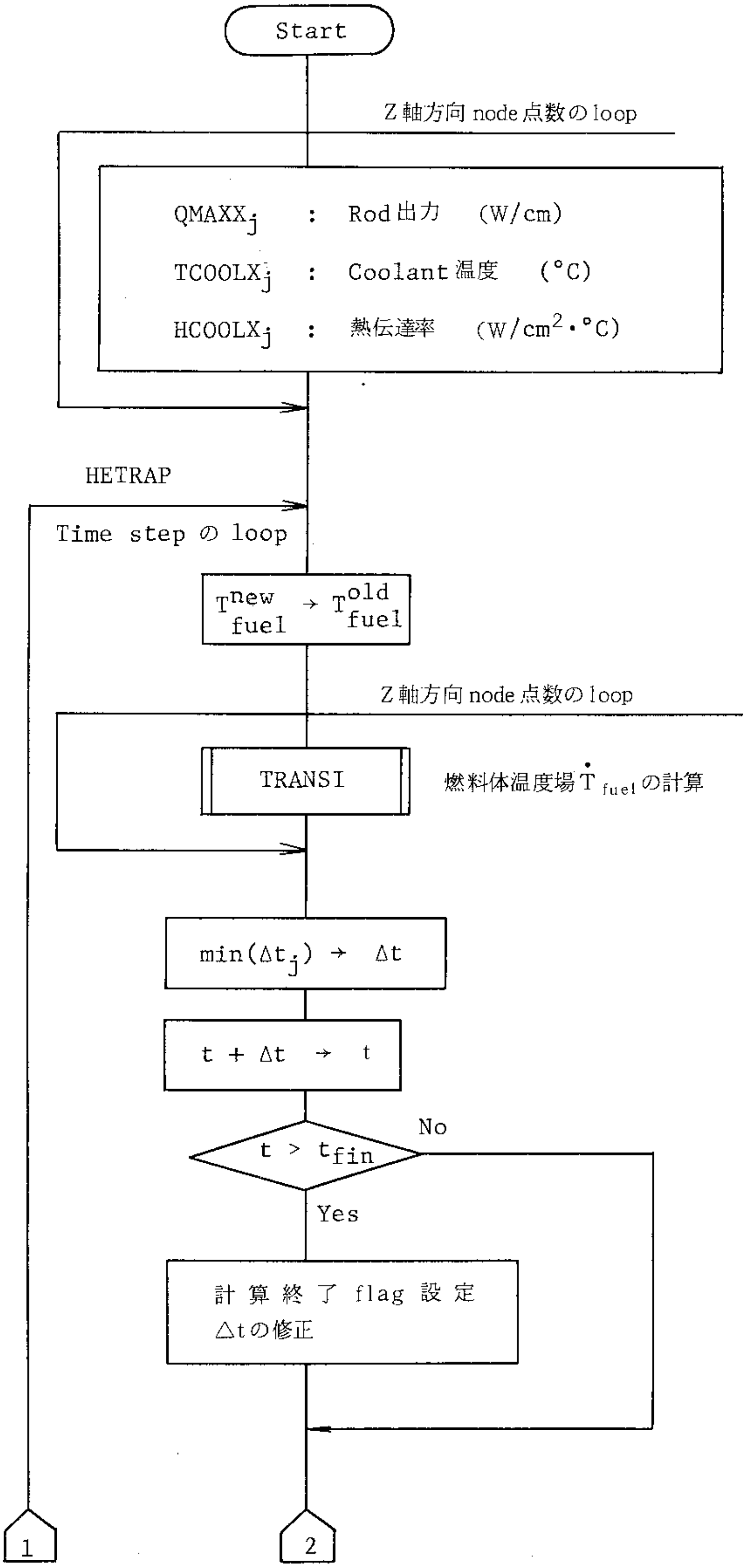



Fig. A.3 Flow chart of subroutine HTCNTL (1/2)

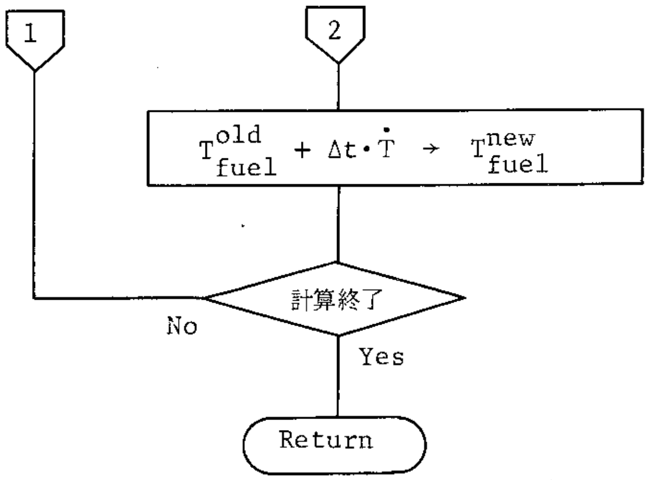



Fig. A.3  Flow chart of subroutine HTCNTL (2/2)

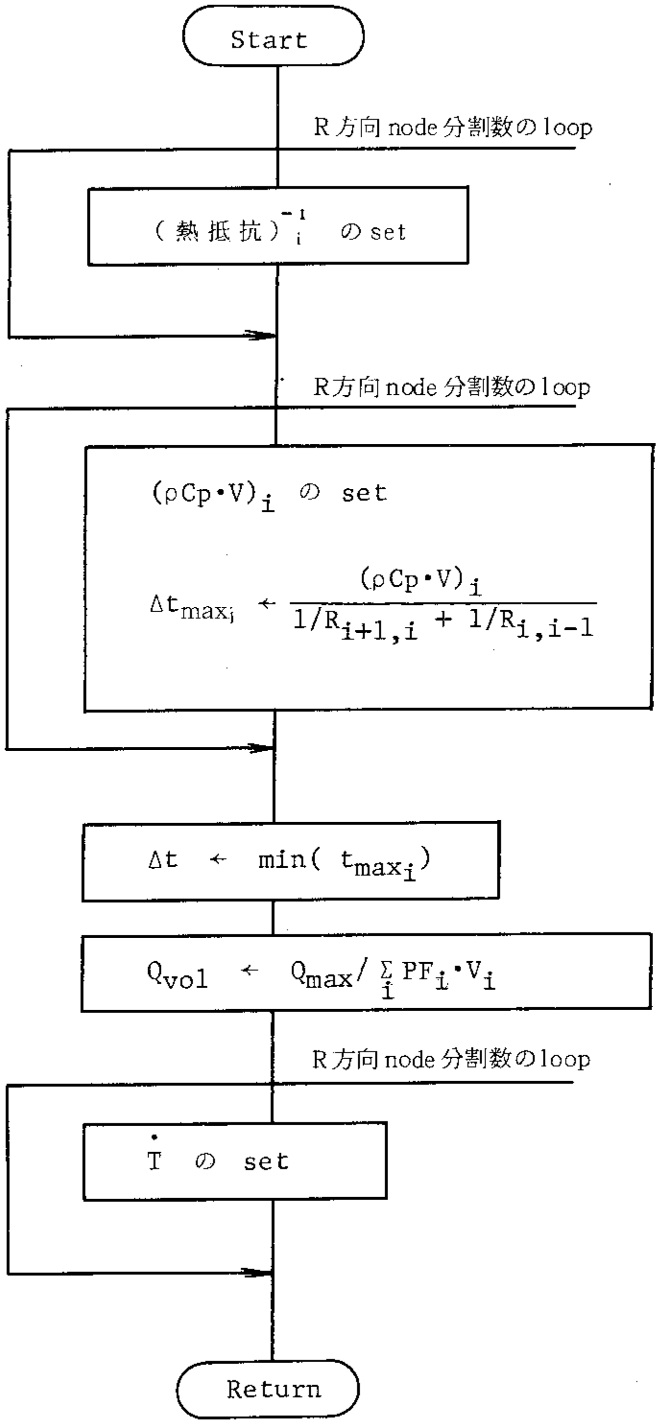



Fig. A.4 Flow chart of subroutine TRANSI

## 付録B　REFLA コードのバグの修正

REFLA－1D／MODE 4 コードの作成は，まずREFLA－1D／MODE 3 コードに局所出力効果モデルを組込んだ中間バージョンを作成し，これに，燃料棒半径方向温度分布モデルを組込む手順で行った。この中間バージョンからREFLA－1D／MODE 4 コードを作成する作業中にいくつかのバグを発見し，その修正を行ったので，以下に概略修正内容を記す。

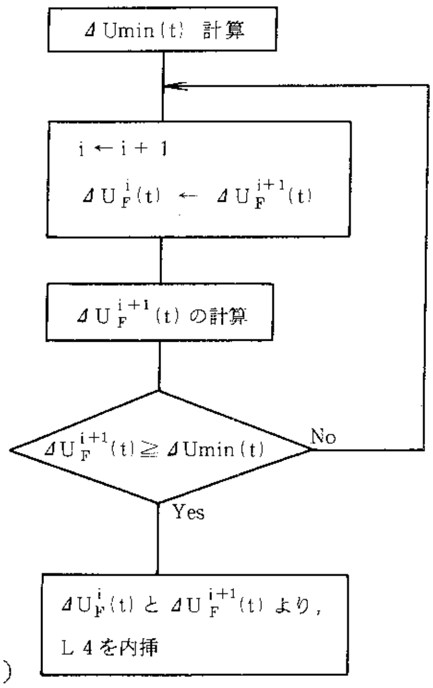
### B.1　Froth Level（L 4）決定に関する修正

REFLA コードでは，

$$\varDelta U_F \geqq \varDelta U_{min}$$

$$\left( \begin{array}{l} \varDelta U_F = U_{go} - \dfrac{U_{\ell o}}{1-0.98} \\ \varDelta U_{min} = a \times \varDelta U_{crit}, \quad a = 0.1 \end{array} \right)$$

となるとDispersed Flow Regime になり，$\varDelta U_F = \varDelta U_{min}$ の位置をFroth Level（L4）とする。計算手順は概略右フローチャートのとおり。




（t：時　間
i：Z 軸方向ノード）

局所出力効果モデルを組込んだ中間バージョンでは，Froth level 以下で Flow Pattern の変化が生じたとき（例えば，飽和二相流から遷移流へ），下の regime で計算された $\varDelta U_F^{i+1}(t)$ が，上の regime を計算する subroutine へ引渡されていなかったので，$\varDelta U_F^{i+1}(t)$ を引数として引渡すように修正した。

また，

$$\varDelta U_F \leqq 0 \quad のとき \quad \varDelta U_F = 0$$

とするLogic もつけ加えた。

### B.2　Local Rod クエンチ計算の修正

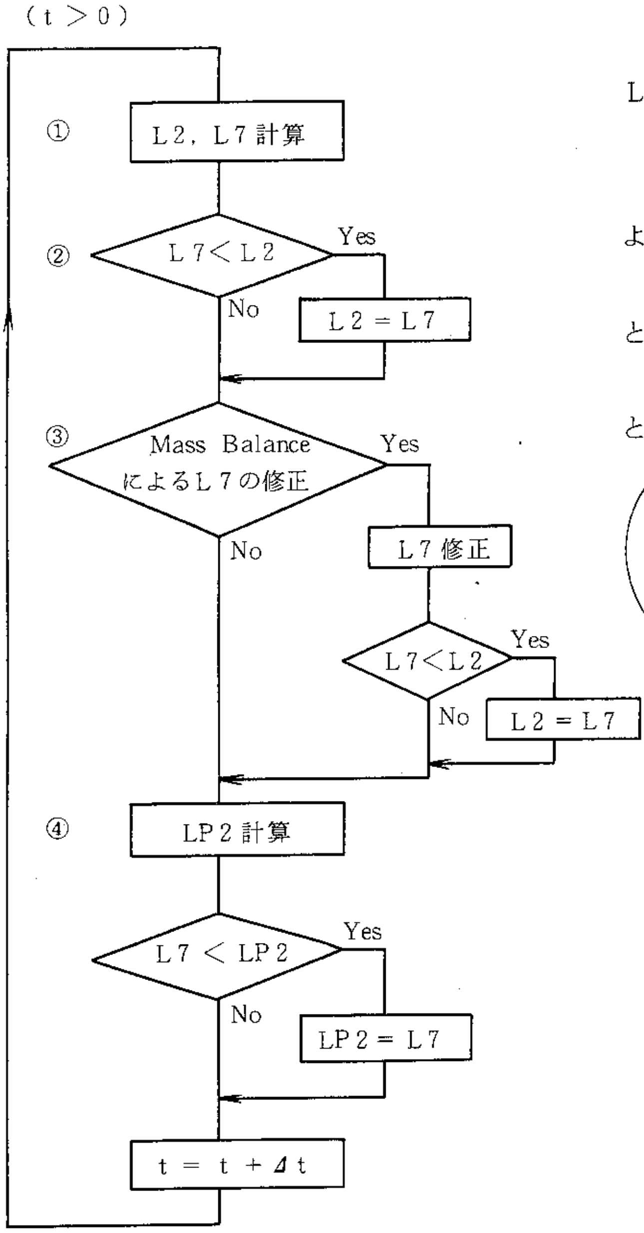
1）Local Rod クエンチ点直下の液体温度 TLPN 2を正しく与えるように修正

（修正前）：IF（IB02･GT･1）TLPN 2＝TL（IB02－1）

⇓

（修正後）：IF（IP02･LE･1）TLPN 2＝TL（1）
　　　　　　IF（IP02･GT･1）TLPN 2＝TL（IP02－1）

2）"Liquid Top を考慮したクエンチ点の修正" を次ページフローチャートのように修正した。また，このLogic だと，t＝0のときLP 2≠0 となってしまうので，t＝0 のときLP 2＝0 となるような修正も付加えた。




左のLogicのままだと，t＝0のとき
LP2≠0　となる理由を以下に示す。

t＝0のとき，①で

L2＞0，　L7＝0

よって，②でL2＝L7＝0　となる。

しかし，③でL7＞0，④でLP2＞0
となるので，

t＝0のときLP2≠0

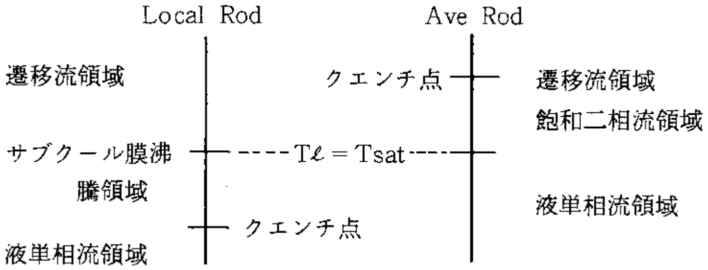
となってしまう。

（③でL7＞0となる理由は，現在未調査。正確にはt＝0のL7＝0とすることによって，LP2＝0とするべきか？）

B.3　Local　Rod クエンチ点上方のFlow Pattern 判定文の修正

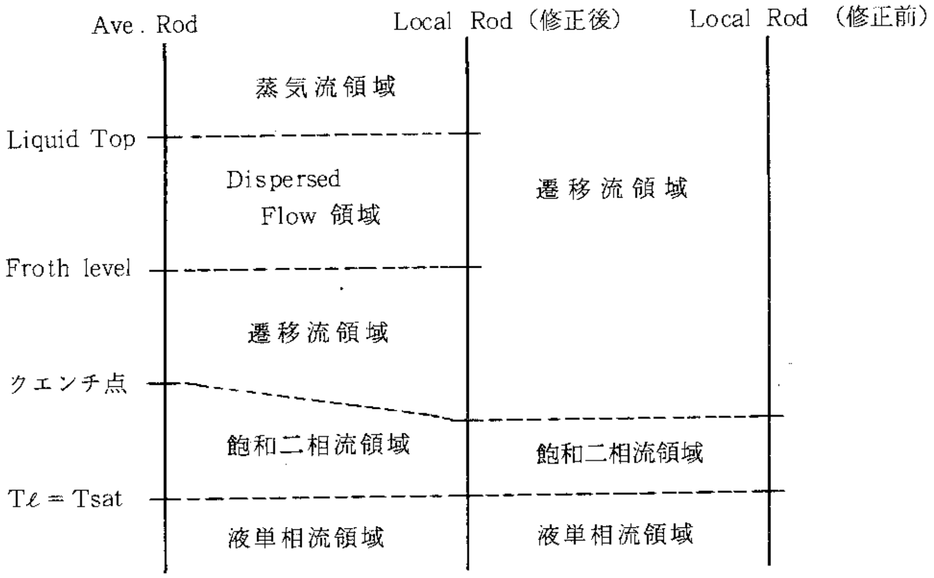
REFLA－1D／MODE4コードでは，“Local　Rod のFlow Patternは，クエンチ進行以外はAve．Rodのそれと基本的に同じである。

ただし，右図のように，Local　Rod でのみサブクール膜沸騰領域が存在するような場合も考慮する。”
としている。




しかし，局所出力効果モデルを組込んだ中間バージョンのLocal　Rod 計算では，クエンチ点（サブクール膜沸騰領域が存在する場合には飽和点）直上のノードのFlow　Regimeが炉心上端まで広がっているような計算をしていた。（次ページの図のLocal　Rod（修正前）参照）

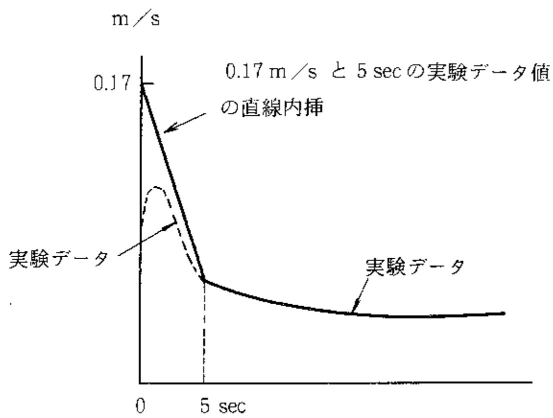
そこで，クエンチ点（サブクール膜沸騰領域が存在する場合は飽和点）上方でも，上記定義のとおり，Ave. Rod と同じ Flow Pattern になるように修正した。（下図の Local Rod（修正後）参照）




B. 4　炉心入口流量の修正

局所出力効果モデルを組込んだ中間バージョンでは，CCTF 炉心計算をする場合，炉心入口流量は右下図の実線のように与えられていた。

REFLA－1D／MODE 4 コードでは，0～5 sec も実験データ値（点線部分）を用いるように修正した。




B. 5　Jens & Lottes の式の係数の修正

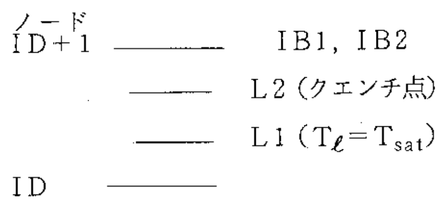
液単相流領域および飽和二相流領域の被覆管表面温度は Jens & Lottes の式から求められるが，式の係数が違っていたので下記のように訂正した。

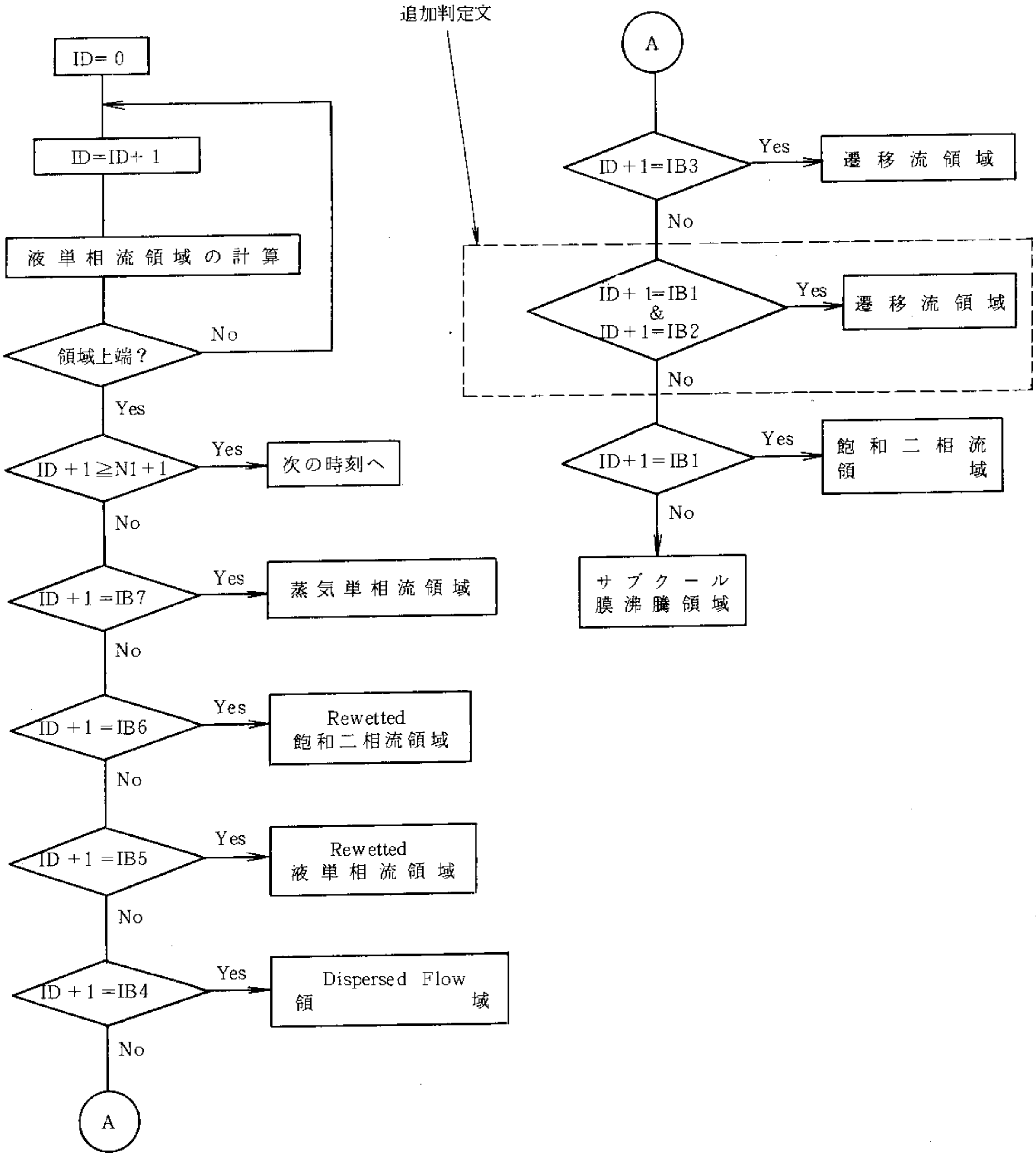
$$T_w = \left[ \frac{\mathrm{QFLUX}}{2.197 \times \exp\left(6.321 \times 10^{-6} \cdot P\right)} \right]^{0.25} + \mathrm{Tsat}$$

B. 6　Flow Pattern 判定文の追加

右図のような場合，ノード ID＋1 は遷移流領域になるべきだが，今までは飽和二相流領域となっていた。

これを，正しい Logic になるように判定文を追加した。






B.7　CCTF Core－Ⅱ用 Flow area の修正

CCTF Core－Ⅱの計算する場合，Flow area が違っていたので，正しい Flow area を用いるように修正した。

（修正前）　IF（IAXMOD. EQ. 7）　SO＝1.244＊SO

⇓

（修正後）　IF（IAXMOD. EQ. 7. OR. IAXMOD. EQ. 11）　SO＝1.244＊SO

## 付録C　サンプル試験結果－1

```
                    J E S    J O B  L O G  --  S Y S T E M  S Y S C  --  N O D E  S U N

11.59.56 JOB 1400  .M2:SEND '    1400 F9089406    JOB   ACCEPTED                          ',USER=(J9089),LOGON
02.04.19 JOB 1400  KDS70001I J9089     LAST ACCESS AT 16:28:01 ON 85.311
02.04.19 JOB 1400  JEM373I F9089406 STARTED - INIT  4 - CLASS H - SYS SYSC
02.04.19 JOB 1400  ACT1400              JOB  (F9089406) START. TIME=02:04:19
02.05.09 JOB 1400  ACT1401 CODE=0004  STEP (FORT77  ) END.   PGM =JZK@FORT
02.05.17 JOB 1400  ACT1401 CODE=0000  STEP (FORT77  ) END.   PGM =JZK@FORT
02.05.23 JOB 1400  ACT1401 CODE=0000  STEP (FORT77  ) END.   PGM =JZK@FORT
02.05.34 JOB 1400  ACT1401 CODE=0000  STEP (FORT77  ) END.   PGM =JZK@FORT
02.06.19 JOB 1400  ACT1401 CODE=0000  STEP (LINK    ) END.   PGM =JOAL
04.42.01 JOB 1400  ACT1401 CODE=0000  STEP (RUN     ) END.   PGM =TEMPNAME
04.42.01 JOB 1400  ACT1402 CODE=0000  JOB  (F9089406) END.   TIME=04:42:01 << TS.HOJO      >>
04.42.01 JOB 1400  JEM395I F9089406 ENDED

------ JES JOB STATISTICS ------

 08 NOV 85 JOB EXECUTION DATE

         60 CARDS READ

      3,901 SYSOUT PRINT RECORDS

          0 SYSOUT PUNCH RECORDS

     157.70 MINUTES EXECUTION TIME


          E20   V10L20    <<<  JCL STATEMENTS LIST  >>>    DATE  11/07/85    TIME  11:59

    1     //F9089406 JOB ('009190890957.01                    ',                   JOB 1400
          //              'T.09W.05C.04I.04E.00','SRPGRPNGT                  '),
          //              'TS.HOJO      ',CLASS=H,PRTY=00,TIME=(0045,00),
          //              MSGCLASS=O,MSGLEVEL=(2,0,1),
          //              USER=J9089,GROUP=G0957,PASSWORD=
          ***JOBPARM       S=ANY,R=9089,L=0012,C=0000000
          ***********************************************************************
          ***                         LIST OF PRIVATE PROC                      *
          ***********************************************************************
          ***********************************************************************
          ***                         LIST OF USER JCL                          *
          ***********************************************************************
          ***JOBPARM K=0                                                          0007000
          ************************************                                 00080000
          ***   RUN J9089.REFLAPS.FORT      ***                                00090001
          ************************************                                 00100000
    2     //FR1 EXEC FORT77,
          // SO='J9089.REFLAPS',
          // A='ELM(*),NOS,LANGLVL(66)',
          // Q='.FORT',
          // DISP=MOD
    6     //SYSPRINT DD DUMMY                                                  00160004
   10     //FR2 EXEC FORT77,
          // SO='J2156.SYSTEMO',

          // A='ELM(*),NOS,LANGLVL(66)',
          // Q='.FORT',
          // DISP=MOD
   14     //SYSPRINT DD DUMMY                                                  00190004
   18     //FR3 EXEC FORT77,
          // SO='J1207.UPLOT2',
          // A='ELM(GETTAG,GETTB,PUTDAT),NOS,LANGLVL(66)',
          // Q='.FORT',
          // DISP=MOD
   22     //SYSPRINT DD DUMMY                                                  00220004
   26     //FR4 EXEC FORT77,
          // SO='J3105.SSPLOT',
          // A='ELM(*),NOS,LANGLVL(66)',
          // Q='.FORT',
          // DISP=MOD
   30     //SYSPRINT DD DUMMY                                                  00250004
   34     //LIK EXEC LKED77,
          // GRLIB=PNL
   45     //SYSPRINT DD DUMMY                                                  00270001
   51     //REFLA EXEC GO
   59     //NLP EXPAND GRNLP,
          // SYSOUT=N
   62     //GDFILE   DD SYSOUT=N,OUTLIM=80000,DEST=LOCAL                       00300000
   63     //FT09F001 DD SYSOUT=*,DCB=(RECFM=FA,BLKSIZE=133)                    00310000
   64     //FT10F001 DD DSN=J3349.CC1J038.DATA,DISP=SHR,LABEL=(,,,IN)          00320002
   65     //FT20F001 DD DSN=J3349.CCTMJ038.DATA,DISP=SHR,LABEL=(,,,IN)         00330002
   66     //FT55F001 DD DSN=J9089.REFLAPS.DATA(HETCCTF),DISP=SHR               00340000
   67     //DATA EXPAND DISKTO,
          // DDN=SYSIN,
          // DSN='J9089.REFLAPS',
          // Q='.DATA(RZFUELPS)'
          //


                         <<<  SYSTEM MESSAGES LIST  >>>

   51      JDJ686I DDNAME REFERRED TO ON DDNAME KEYWORD IN PRIOR STEP WAS NOT RESOLVED                        ** WRN **
KDS70001I J9089     LAST ACCESS AT 16:28:01 ON 85.311
JDJ142I F9089406 FORT77 FR1 - STEP WAS EXECUTED - COND CODE 0004
JDJ373I STEP/FORT77  / START  85312.0204
JDJ374I STEP/FORT77  / STOP   85312.0205 CPU      0MIN 08.00SEC  SRB      0MIN 00.08SEC VIRT  1024K
ACT0611        SYSTEM  ( SYSC M-380  )    EXCP           572TIMES
JDJ142I F9089406 FORT77 FR2 - STEP WAS EXECUTED - COND CODE 0000
JDJ373I STEP/FORT77  / START  85312.0205
JDJ374I STEP/FORT77  / STOP   85312.0205 CPU      0MIN 00.31SEC  SRB      0MIN 00.01SEC VIRT  1024K
ACT0611        SYSTEM  ( SYSC M-380  )    EXCP            66TIMES
JDJ142I F9089406 FORT77 FR3 - STEP WAS EXECUTED - COND CODE 0000
JDJ373I STEP/FORT77  / START  85312.0205
JDJ374I STEP/FORT77  / STOP   85312.0205 CPU      0MIN 00.34SEC  SRB      0MIN 00.01SEC VIRT  1024K
ACT0611        SYSTEM  ( SYSC M-380  )    EXCP            22TIMES
JDJ142I F9089406 FORT77 FR4 - STEP WAS EXECUTED - COND CODE 0000
JDJ373I STEP/FORT77  / START  85312.0205
JDJ374I STEP/FORT77  / STOP   85312.0205 CPU      0MIN 00.97SEC  SRB      0MIN 00.02SEC VIRT  1024K
ACT0611        SYSTEM  ( SYSC M-380  )    EXCP           145TIMES
JDJ142I F9089406 LINK LIK - STEP WAS EXECUTED - COND CODE 0000
JDJ373I STEP/LINK    / START  85312.0205
JDJ374I STEP/LINK    / STOP   85312.0206 CPU      0MIN 02.04SEC  SRB      0MIN 00.16SEC VIRT   512K
ACT0611        SYSTEM  ( SYSC M-380  )    EXCP          1456TIMES
JDJ142I F9089406 RUN REFLA - STEP WAS EXECUTED - COND CODE 0000
JDJ373I STEP/RUN     / START  85312.0206
```

```
JDJ374I STEP/RUN     / STOP   85312.0442 CPU     36MIN 34.23SEC  SRB      0MIN 00.89SEC VIRT  3324K
ACT0611        SYSTEM  ( SYSC M-380  )    EXCP            385TIMES
JDJ375I  JOB/F9089406/ START  85312.0204
JDJ376I  JOB/F9089406/ STOP   85312.0442 CPU     36MIN 45.89SEC  SRB      0MIN 01.17SEC

***********************************************************************
***  USER  NAME  <<TS.HOJO      >>       SECTION   NO  <<     G0957     >>   ***
***********************************************************************
***  JOB   NUMBER      ...         1400    RUNNING   DATE   ...   1985/11/07  ***
***  JOB   NAME        ...     F9089406    USER-ID              ...      J9089  ***
***  JOB   CLASS       ...            H    JOB  PRIORITY     ...            00  ***
***  TOTAL JOB STEPS   ...            6    COMPLETION  CODE ...           0004  ***
*** -------------------------------------------------------------------- ***
***  CPU           TIME ...  0H36M45S89 I  I/O     ACCESS      FILES   ACCESS  ***
***  SRB           TIME ...  0H 0M 1S17 I            DISK ...      29     2646  ***
***  JOB   START   DATE ... 1985/11/08  I            TAPE ...       0        0  ***
***                TIME ...   2H 4M19S75 I          TOTAL ........          3670  ***
***  JOB     END   DATE ... 1985/11/08  I  VIO   PAGE  IN ...                300  ***
***                TIME ...   4H42M 1S19 I  VIO   PAGE OUT ...               301  ***
***  ELAPSED       TIME ...  2H37M41S44 I                                         ***
*** -------------------------------------------------------------------- ***
***  PAGE          IN    ...           30    STORAGE REQ'D(MAX) ...   4160  KB  ***
***  PAGE         OUT    ...          125    STORAGE USED (MAX) ...   3324  KB  ***
***********************************************************************
***  ROOM-LIMIT-CPU     ROOM-USED-CPU     USER-LIMIT-CPU    USER-USED-CPU     ***
***       XH XM XSXX        XH XM XSXX          XH XM XSXX        XH XM XSXX    ***
***********************************************************************
```

```
==========================================================================================

                              * * * *  INPUT  CARDS  LIST  * * * *

NO.        .....1.....2.....3.....4.....5.....6.....7.....8.....9....10....11....12 ....13..

  1        (** REFLAPS RUN ( IOPT = 1,1 ) **     CCTF CORE-I ( RUN 38 , BUNDLE 17 ) )00010000
  2        (  1  1                                                                )00020002
  3        (       2.086       0.25         7.0      100.         2.000        2.000)00030000
  4        (       100.0      8.0           8.0      0.1                   4.0      )00040000
  5        (           1 1.10  375.6 621.3 760.0 672.2 493.3                        )00050004

  6        (           90                  10.7       14.3        3.66             1)00060000
  7        (           .1                              0.25                         )00070000
  8        (                               10.8     2000.0      0.41318             )00080000
  9        (                                                                        )00090000
 10        (                                                                        )00100000

 11        (                  720.0                                                 )00110000
 12        (                                                                        )00120000
 13        (      1000.0                                                            )00130000
 14        (       480.0      1500.0                                                )00140006
 15        ( 120.0                                                                  )00150000

 16        (                                                                        )00160000
 17        (                                                                        )00170000
 18        (                                                                        )00180000
 19        (                                                                        )00190000
 20        (                                                                        )00200000

NO.        .....1.....2.....3.....4.....5.....6.....7.....8.....9....10....11....12 ....13..

 21        (                                                                        )00210000
 22        (                                                                        )00220000
 23        (  5                                                                     )00230006
 24        (     2         .10     22          2.0   211          2.0   215   20.0  )00240006
 25        (    212  400.0                                                          )00241006

 26        (38                                                                      )00250000
 27        (TE18Z11                                                                 )00260000
 28        (TE18Z12                                                                 )00270000
 29        (TE18Z13                                                                 )00280000
 30        (TE18Z14                                                                 )00290000

 31        (TE18Z15                                                                 )00300000
 32        (DPLOOP1                                                                 )00310000
 33        (DPDOWN5                                                                 )00320000
 34        (DPLOOP4                                                                 )00330000
 35        (DPCOREA                                                                 )00340000

 36        (LT07RQ5V                                                                )00350000
 37        (LT06RQ5V                                                                )00360000
 38        (LT05RQ5V                                                                )00370000
 39        (LT04RQ5V                                                                )00380000
 40        (LT03RQ5V                                                                )00390000
```

```
NO.        .....1.....2.....3.....4.....5.....6.....7.....8.....9....10....11....12 ....13..

 41        (LT02RQ5V                                                             )00400000
 42        (ULCRI1                                                               )00410000
 43        (TACRIN                                                               )00420000
 44        (LT01RQ5                                                              )00430000
 45        (PTOORNO                                                              )00440000

 46        (TE32X13                                                              )00450000
 47        (TE17Y11                                                              )00460000
 48        (TE17Y12                                                              )00470000
 49        (TE17Y13                                                              )00480000
 50        (TE17Y14                                                              )00490000

 51        (TE17Y15                                                              )00500000
 52        (HTE18Z11                                                             )00510006
 53        (HTE18Z12                                                             )00520006
 54        (HTE18Z13                                                             )00530006
 55        (HTE18Z14                                                             )00540006

 56        (HTE18Z15                                                             )00550006

=============================================================================================
```

```
** REFLAP5 RUN ( IOPT = 1,1 ) **      CCTF CORE-I ( RUN 38 , BUNDLE 17 )

IOPT01 =            1
IOPT02 =            1

QMAX0 =    2.086      DTS   =  0.2500      AXMOD =    7.000
TLIN  =    100.0      PIN   =   2.000      POUT  =    2.000
TIME3 =    100.0      AZ1   =   8.000      AZ2   =    8.000
DTC   =   0.1000      AK3   =  0.0          Z    =    4.000

NPLOT  =            1
RPF    =  1.1000

NRSTRT =            0
DTRST  = 0.0
CPEND  = 0.0

N      =           90
IFBMOD =            0
DIA    =  10.700
PITCH  =  14.300
CLENG  =  3.6600

RUN1  =        RUN2  =        RUN3  =        IRUN  =            0

WEC    = 0.10000
WEC1   = 0.0
YYY    = 0.0
TPRINT = 0.25000
VOL    = 0.0
SW3    = 0.0

NS     =            0
RC     = 0.0
CKF    =  10.800
DF     =  2000.0
CF     = 0.41318

IAXMOD =            7  ( CCTF CORE I AXIAL POWER PROFILE )

IDECAY =            1  ( ANS*1.2 + ACTINIDES*1.1 ( 30 S AFTER SCRAM )

CNHEAT = 0.0
CSAVE  = 0.0

TIME1= 0.0           TEMP1= 0.0           QMAX1= 0.0      ULIN1= 0.0      PSYS1= 0.0      TLIN1= 0.0
TIME2= 0.0           XXXX2=  720.00       QMAX2= 0.0      ULIN2= 0.0      PSYS2= 0.0      TLIN2= 0.0
TEMP2=  720.00       TEMP4= 0.0           QMAX4= 0.0      ULIN3= 0.0      PSYS4= 0.0      TLIN4= 0.0
TIMES=  480.00       TEMP5=  1500.0       QMAX5= 0.0      ULIN5= 0.0      PSYS5= 0.0      TLIN5= 0.0
```

*** INITIAL CONDITION FOR AXIAL TEMPERATURE DISTRIBUTION (DEGC) ***

| I | TW(I) | I | TW(I) | I | TW(I) | I | TW(I) | I | TW(I) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 120.00 | 2 | 120.00 | 3 | 120.00 | 4 | 120.00 | 5 | 120.00 |
| 6 | 120.00 | 7 | 120.00 | 8 | 120.00 | 9 | 120.00 | 10 | 120.00 |
| 11 | 120.00 | 12 | 120.00 | 13 | 120.00 | 14 | 120.00 | 15 | 120.00 |
| 16 | 120.00 | 17 | 120.00 | 18 | 120.00 | 19 | 120.00 | 20 | 120.00 |
| 21 | 120.00 | 22 | 120.00 | 23 | 120.00 | 24 | 120.00 | 25 | 120.00 |
| 26 | 120.00 | 27 | 120.00 | 28 | 120.00 | 29 | 120.00 | 30 | 120.00 |
| 31 | 120.00 | 32 | 120.00 | 33 | 120.00 | 34 | 120.00 | 35 | 120.00 |
| 36 | 120.00 | 37 | 120.00 | 38 | 120.00 | 39 | 120.00 | 40 | 120.00 |
| 41 | 120.00 | 42 | 120.00 | 43 | 120.00 | 44 | 120.00 | 45 | 120.00 |
| 46 | 120.00 | 47 | 120.00 | 48 | 120.00 | 49 | 120.00 | 50 | 120.00 |
| 51 | 120.00 | 52 | 120.00 | 53 | 120.00 | 54 | 120.00 | 55 | 120.00 |
| 56 | 120.00 | 57 | 120.00 | 58 | 120.00 | 59 | 120.00 | 60 | 120.00 |
| 61 | 120.00 | 62 | 120.00 | 63 | 120.00 | 64 | 120.00 | 65 | 120.00 |
| 66 | 120.00 | 67 | 120.00 | 68 | 120.00 | 69 | 120.00 | 70 | 120.00 |
| 71 | 120.00 | 72 | 120.00 | 73 | 120.00 | 74 | 120.00 | 75 | 120.00 |
| 76 | 120.00 | 77 | 120.00 | 78 | 120.00 | 79 | 120.00 | 80 | 120.00 |
| 81 | 120.00 | 82 | 120.00 | 83 | 120.00 | 84 | 120.00 | 85 | 120.00 |
| 86 | 120.00 | 87 | 120.00 | 88 | 120.00 | 89 | 120.00 | 90 | 120.00 |
| 91 | 120.00 | | | | | | | | |

*** LIST OF CONTROL VARIABLES CCON AND ICON ***

```
CCON( 1)=   0.10000
CCON( 2)=   0.10000
CCON(21)=   0.30000
CCON(22)=   2.00000
CCON(23)=   0.30000
CCON(24)=   0.0
CCON(25)=   0.10000
CCON(26)=   1.10000
CCON(27)=   0.60000
CCON(28)=   0.00070
CCON(29)=  -1.00000
CCON(30)=   0.0
CCON(31)=   0.0
CCON(32)=   0.0
CCON(33)=  15.80000
CCON(34)=  15.80000
CCON(40)=   0.0
CCON(41)=   4.00000

ICON( 1)=     0
ICON( 2)=     0
ICON( 3)=     0
ICON( 4)=     1
ICON(11)=     2
ICON(12)=   400
ICON(13)=     5
ICON(14)=     4
ICON(15)=    20
ICON(16)=     1
```

```
READ IRUN=38
READ ITAG1-ITAG
  1   TE18Z11
  2   TE18Z12
  3   TE18Z13
  4   TE18Z14
  5   TE18Z15
  6   DPLOOP1
  7   DPDOWN5
  8   DPLOOP4
  9   DPCOREA
 10   LT07RQ5V
 11   LT06RQ5V
 12   LT05RQ5V
 13   LT04RQ5V
 14   LT03RQ5V
 15   LT02RQ5V
 16   ULCRI1
 17   TACRIN
 18   LT01RQ5
 19   PTDORNO
 20   TE32X13
 21   TE17Y11
 22   TE17Y12
 23   TE17Y13
 24   TE17Y14
 25   TE17Y15
 26   HTE18Z11
 27   HTE18Z12
 28   HTE18Z13
 29   HTE18Z14
 30   HTE18Z15
```

*** RETURN CODE OF GETTAG IS GOOD ***

| TIME(SEC) | ULIN(M/SEC) | TLIN(K) | DPIN(MPA) | PLP(MPA) | PIN(MPA) |
|---|---|---|---|---|---|
| 0.0 | 0.49933E-01 | 394.97 | 0.18546E-01 | 0.22285 | 0.20430 |
| 25.000 | 0.37087E-01 | 386.29 | 0.20254E-01 | 0.30011 | 0.27986 |
| 50.000 | 0.28992E-01 | 376.49 | 0.19831E-01 | 0.31887 | 0.29904 |
| 75.000 | 0.24247E-01 | 372.45 | 0.19848E-01 | 0.30864 | 0.28879 |
| 100.00 | 0.23612E-01 | 371.87 | 0.19875E-01 | 0.30114 | 0.28127 |
| 125.00 | 0.20695E-01 | 373.97 | 0.19781E-01 | 0.29607 | 0.27629 |
| 150.00 | 0.24670E-01 | 376.72 | 0.19782E-01 | 0.29084 | 0.27106 |
| 175.00 | 0.16926E-01 | 381.18 | 0.19699E-01 | 0.28981 | 0.27011 |
| 200.00 | 0.20809E-01 | 384.75 | 0.19845E-01 | 0.29210 | 0.27225 |
| 225.00 | 0.15255E-01 | 388.09 | 0.19534E-01 | 0.28710 | 0.26756 |
| 250.00 | 0.27787E-01 | 389.89 | 0.19563E-01 | 0.28592 | 0.26636 |
| 275.00 | 0.23357E-01 | 391.72 | 0.19594E-01 | 0.29004 | 0.27044 |
| 300.00 | 0.23922E-01 | 393.14 | 0.19658E-01 | 0.29195 | 0.27229 |
| 325.00 | 0.20098E-01 | 395.22 | 0.19714E-01 | 0.29349 | 0.27378 |
| 350.00 | 0.24508E-01 | 396.00 | 0.19523E-01 | 0.29269 | 0.27316 |
| 375.00 | 0.22926E-01 | 397.05 | 0.19568E-01 | 0.28967 | 0.27010 |
| 400.00 | 0.26380E-01 | 397.98 | 0.19560E-01 | 0.29033 | 0.27077 |
| 425.00 | 0.20979E-01 | 398.26 | 0.19413E-01 | 0.28548 | 0.26607 |
| 450.00 | 0.20083E-01 | 397.85 | 0.19757E-01 | 0.28305 | 0.26329 |
| 475.00 | 0.10219E-01 | 398.44 | 0.19800E-01 | 0.28055 | 0.26074 |

ITMAX= 996

```
===================
SYSTEM PARAMETERS
*******************
```

| | | |
|---|---|---|
| CORE FLOW AREA | 0.2500000 | ( M**2 ) |
| DOWNCOMER FLOW AREA | 0.1970000 | ( M**2 ) |
| FLOW AREA OF CO-DO CONNECTED | 0.7905000 | ( M**2 ) |
| LOOP FLOW AREA | 0.0757000 | ( M**2 ) |
| UPPER PLENUM VOLUM | 1.8950005 | ( M**3 ) |
| CORE HEATED LENGTH | 3.660 | ( M ) |
| DOWNCOMER LENGTH | 4.849 | ( M ) |
| LENGTH OF CO-DO CONNECTED | 2.100 | ( M ) |
| INLET RESISTANCE COEFFCIENT | 20.000 | ( - ) |
| IN-CORE RESISTANCE COE. | 20.000 | ( - ) |
| IN-DOWNCOMER RESISTANCE COE. | 10.000 | ( - ) |
| LOOP RESISTANCE COEFFICIENT. | 25.000 | ( - ) |

FLOW CHANNEL GEOMETRY

| | | |
|---|---|---|
| PIN DIA | 10.7000 | MM |
| PITCH | 14.3000 | MM |
| CROSS SECTION | 1.42525 | CM**2 |
| WETTED PERIMETER | 33.6150 | MM |
| EQUIVALENT DIA | 13.6332 | MM |
| CORE LENGTH | 3660.00 | MM |
| AXIAL INCREMENT | 40.6667 | MM |

CONSTANTS + PHYSICAL PROPERTIES

| | | |
|---|---|---|
| PAI | 3.14159 | - |
| GRAVITATIONAL AC | 0.127100E+09 | M/H**2 |
| STEFAN BOLTZ.CON | 0.488000E-07 | KC/M2K4H |
| SATURATION TEMP. | 120.733 | DEG.C |
| DENSITY OF WATER | 0.741522E-05 | KG*H2/M4 |
| DENSITY OF VAPOR | 0.906317E-08 | KG*H2/M4 |
| LATENT HEAT | 525.345 | KCAL/KG |
| VISCOSITY OF WAT | 0.886757E-03 | KG*H/M2 |
| VISCOSITY OF VAP | 0.414661E-01 | KG*H/M2 |
| PRANDTL NO. WAT | 1.43304 | - |
| PRANDTL NO. VAP | 1.11073 | - |
| HEAT CONDUCT WAT | 0.588963 | KCAL/MHC |
| HEAT CONDUCT VAP | 0.223696E-01 | KCAL/MHC |
| SPECIFIC HT WAT | 1.00000 | KCAL/KG |
| SPECIFIC HT VAP | 0.500000 | KCAL/KG |
| SURFACE TENS WAT | 0.553352E-02 | KG/M |

CASE NUMBER = 1
INITIAL CONDITION

| DISTANCE ( MM ) | NM.POWER ( - ) | INIT.TW ( DC ) | INIT.TG ( DC ) |
|---|---|---|---|
| 0.0 | 0.184000 | 120.000 | 120.000 |
| 40.6667 | 0.184000 | 120.000 | 120.000 |
| 81.3333 | 0.184000 | 120.000 | 120.000 |
| 122.000 | 0.184000 | 120.000 | 120.000 |
| 162.667 | 0.184000 | 120.000 | 120.000 |
| 203.333 | 0.184000 | 120.000 | 120.000 |
| 244.000 | 0.184000 | 120.000 | 120.000 |
| 284.667 | 0.381000 | 120.000 | 120.000 |
| 325.333 | 0.381000 | 120.000 | 120.000 |
| 366.000 | 0.381000 | 120.000 | 120.000 |
| 406.667 | 0.381000 | 120.000 | 120.000 |
| 447.333 | 0.381000 | 120.000 | 120.000 |
| 488.000 | 0.381000 | 120.000 | 120.000 |
| 528.667 | 0.546000 | 120.000 | 120.000 |
| 569.333 | 0.546000 | 120.000 | 120.000 |
| 610.000 | 0.546000 | 120.000 | 120.000 |
| 650.667 | 0.546000 | 120.000 | 120.000 |
| 691.333 | 0.546000 | 120.000 | 120.000 |
| 732.000 | 0.678000 | 120.000 | 120.000 |
| 772.667 | 0.678000 | 120.000 | 120.000 |
| 813.333 | 0.678000 | 120.000 | 120.000 |
| 854.000 | 0.678000 | 120.000 | 120.000 |
| 894.667 | 0.678000 | 120.000 | 120.000 |
| 935.333 | 0.788000 | 120.000 | 120.000 |
| 976.000 | 0.788000 | 120.000 | 120.000 |
| 1016.67 | 0.788000 | 120.000 | 120.000 |
| 1057.33 | 0.788000 | 120.000 | 120.000 |
| 1098.00 | 0.788000 | 120.000 | 120.000 |
| 1138.67 | 0.879000 | 120.000 | 120.000 |
| 1179.33 | 0.879000 | 120.000 | 120.000 |
| 1220.00 | 0.879000 | 120.000 | 120.000 |
| 1260.67 | 0.879000 | 120.000 | 120.000 |
| 1301.33 | 0.879000 | 120.000 | 120.000 |
| 1342.00 | 0.946000 | 120.000 | 120.000 |
| 1382.67 | 0.946000 | 120.000 | 120.000 |
| 1423.33 | 0.946000 | 120.000 | 120.000 |
| 1464.00 | 0.946000 | 120.000 | 120.000 |
| 1504.67 | 0.946000 | 120.000 | 120.000 |
| 1545.33 | 0.986000 | 120.000 | 120.000 |
| 1586.00 | 0.986000 | 120.000 | 120.000 |
| 1626.67 | 0.986000 | 120.000 | 120.000 |
| 1667.33 | 0.986000 | 120.000 | 120.000 |
| 1708.00 | 0.986000 | 120.000 | 120.000 |
| 1748.67 | 1.00000 | 120.000 | 120.000 |
| 1789.33 | 1.00000 | 120.000 | 120.000 |
| 1830.00 | 1.00000 | 120.000 | 120.000 |
| 1870.67 | 1.00000 | 120.000 | 120.000 |
| 1911.33 | 1.00000 | 120.000 | 120.000 |
| 1952.00 | 0.986000 | 120.000 | 120.000 |
| 1992.67 | 0.986000 | 120.000 | 120.000 |

INITIAL CONDITION (CONTINUED)

| DISTANCE ( MM ) | NM.POWER ( - ) | INIT.TW ( DC ) | INIT.TG ( DC ) |
|---|---|---|---|
| 2033.33 | 0.986000 | 120.000 | 120.000 |
| 2074.00 | 0.986000 | 120.000 | 120.000 |
| 2114.67 | 0.986000 | 120.000 | 120.000 |
| 2155.33 | 0.946000 | 120.000 | 120.000 |
| 2196.00 | 0.946000 | 120.000 | 120.000 |
| 2236.67 | 0.946000 | 120.000 | 120.000 |
| 2277.33 | 0.946000 | 120.000 | 120.000 |
| 2318.00 | 0.946000 | 120.000 | 120.000 |
| 2358.67 | 0.879000 | 120.000 | 120.000 |
| 2399.33 | 0.879000 | 120.000 | 120.000 |
| 2440.00 | 0.879000 | 120.000 | 120.000 |
| 2480.67 | 0.879000 | 120.000 | 120.000 |
| 2521.33 | 0.879000 | 120.000 | 120.000 |
| 2562.00 | 0.788000 | 120.000 | 120.000 |
| 2602.67 | 0.788000 | 120.000 | 120.000 |
| 2643.33 | 0.788000 | 120.000 | 120.000 |
| 2684.00 | 0.788000 | 120.000 | 120.000 |
| 2724.67 | 0.788000 | 120.000 | 120.000 |
| 2765.33 | 0.678000 | 120.000 | 120.000 |
| 2806.00 | 0.678000 | 120.000 | 120.000 |
| 2846.67 | 0.678000 | 120.000 | 120.000 |
| 2887.33 | 0.678000 | 120.000 | 120.000 |
| 2928.00 | 0.678000 | 120.000 | 120.000 |
| 2968.67 | 0.546000 | 120.000 | 120.000 |
| 3009.33 | 0.546000 | 120.000 | 120.000 |
| 3050.00 | 0.546000 | 120.000 | 120.000 |
| 3090.67 | 0.546000 | 120.000 | 120.000 |
| 3131.33 | 0.546000 | 120.000 | 120.000 |
| 3172.00 | 0.381000 | 120.000 | 120.000 |
| 3212.67 | 0.381000 | 120.000 | 120.000 |
| 3253.33 | 0.381000 | 120.000 | 120.000 |
| 3294.00 | 0.381000 | 120.000 | 120.000 |
| 3334.67 | 0.381000 | 120.000 | 120.000 |
| 3375.33 | 0.381000 | 120.000 | 120.000 |
| 3416.00 | 0.184000 | 120.000 | 120.000 |
| 3456.67 | 0.184000 | 120.000 | 120.000 |
| 3497.33 | 0.184000 | 120.000 | 120.000 |
| 3538.00 | 0.184000 | 120.000 | 120.000 |
| 3578.67 | 0.184000 | 120.000 | 120.000 |
| 3619.33 | 0.184000 | 120.000 | 120.000 |
| 3660.00 | 0.184000 | 120.000 | 120.000 |

*** PARAMETER LIST FOR CALCULATION OF TEMPERATURE FIELD OF FUEL ROD

Z-NODE FROM 1 TO 33

| I | R | PF | H | E | IWC | IWP |
|---|---|---|---|---|---|---|
| 1 | 0.5350 | 0.0 | 0.0 | 0.0 | 0 | 7 |
| 2 | 0.5100 | 0.0 | 0.0 | 0.0 | 7 | 7 |
| 3 | 0.4750 | 0.0 | 0.0 | 0.0 | 7 | 7 |
| 4 | 0.4350 | 0.0 | 0.0 | 0.0 | 7 | 7 |
| 5 | 0.4000 | 0.0 | 0.0 | 0.0 | 4 | 4 |
| 6 | 0.3650 | 0.0 | 0.0 | 0.0 | 4 | 4 |
| 7 | 0.3300 | 1.0000 | 0.0 | 0.0 | 4 | 10 |
| 8 | 0.2700 | 1.0000 | 0.0 | 0.0 | 10 | 10 |
| 9 | 0.2250 | 0.0 | 0.0 | 0.0 | 9 | 9 |
| 10 | 0.1750 | 0.0 | 0.0 | 0.0 | 9 | 9 |
| 11 | 0.1000 | 0.0 | 0.0 | 0.0 | 9 | 9 |
| 12 | 0.0 | 0.0 | 0.0 | 0.0 | 9 | 9 |

Z-NODE FROM 34 TO 58

| I | R | PF | H | E | IWC | IWP |
|---|---|---|---|---|---|---|
| 1 | 0.5350 | 0.0 | 0.0 | 0.0 | 0 | 7 |
| 2 | 0.5100 | 0.0 | 0.0 | 0.0 | 7 | 7 |
| 3 | 0.4750 | 0.0 | 0.0 | 0.0 | 7 | 7 |
| 4 | 0.4350 | 0.0 | 0.0 | 0.0 | 7 | 7 |
| 5 | 0.4000 | 0.0 | 0.0 | 0.0 | 3 | 3 |
| 6 | 0.3650 | 0.0 | 0.0 | 0.0 | 3 | 3 |
| 7 | 0.3300 | 1.0000 | 0.0 | 0.0 | 3 | 10 |
| 8 | 0.2700 | 1.0000 | 0.0 | 0.0 | 10 | 10 |
| 9 | 0.2250 | 0.0 | 0.0 | 0.0 | 9 | 9 |
| 10 | 0.1750 | 0.0 | 0.0 | 0.0 | 9 | 9 |
| 11 | 0.1000 | 0.0 | 0.0 | 0.0 | 9 | 9 |
| 12 | 0.0 | 0.0 | 0.0 | 0.0 | 9 | 9 |

Z-NODE FROM 59 TO 91

| I | R | PF | H | E | IWC | IWP |
|---|---|---|---|---|---|---|
| 1 | 0.5350 | 0.0 | 0.0 | 0.0 | 0 | 7 |
| 2 | 0.5100 | 0.0 | 0.0 | 0.0 | 7 | 7 |
| 3 | 0.4750 | 0.0 | 0.0 | 0.0 | 7 | 7 |
| 4 | 0.4350 | 0.0 | 0.0 | 0.0 | 7 | 7 |
| 5 | 0.4000 | 0.0 | 0.0 | 0.0 | 4 | 4 |
| 6 | 0.3650 | 0.0 | 0.0 | 0.0 | 4 | 4 |
| 7 | 0.3300 | 1.0000 | 0.0 | 0.0 | 4 | 10 |
| 8 | 0.2700 | 1.0000 | 0.0 | 0.0 | 10 | 10 |
| 9 | 0.2250 | 0.0 | 0.0 | 0.0 | 9 | 9 |
| 10 | 0.1750 | 0.0 | 0.0 | 0.0 | 9 | 9 |
| 11 | 0.1000 | 0.0 | 0.0 | 0.0 | 9 | 9 |
| 12 | 0.0 | 0.0 | 0.0 | 0.0 | 9 | 9 |

DTA = 2.0000-02

*** INITIAL TEMPERATURE FIELD OF FUEL ROD

Z-NODE FROM 1 TO 91

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|
| 120.0000 | 120.0000 | 120.0000 | 120.0000 | 120.0000 | 120.0000 | 120.0000 | 120.0000 | 120.0000 | 120.0000 |

| 11 | 12 |
|---|---|
| 120.0000 | 120.0000 |

```
***   ICO=       407          TIMERF=          0.0       ***

                 ***  LOPASS  ***           DT = 0.25000E+00    TAW = 0.25000E+01
TIMES 0.0      NPROS,IB1-7  0 92  1 92 92 92 92 92 ID = 1 D1-7 0.0     0.0     0.0      0.0      0.0      0.0      0.0    ULIN= 4.993E+00
        WEC,DU1,DU2,DU3        0.10000            13903.              9397.8
        WEC,DU1,DU2,DU3         12061.
        DU(2),CCON(40)        9397.8           0.0
TIMES 0.0      NPROS,IB1-7  1 92  1 92 92 92 92  2 ID = 1 D1-7 0.0     0.0     0.0      0.0      0.0      0.0     0.0407ULIN= 4.993E+00
      TIMES DMASS G(1) G(N1) GGAS        0.0              0.85277E-03          0.13329E-02          0.13370E-03          0.13370E-03
TIMES 0.0      NPROS,IB1-7  8 92  1 92 92 92 92  2 ID =91 D1-7 0.0     0.0     0.0      0.0      0.0      0.0     0.0407ULIN= 4.993E+00
                                     ***    SPHT    INFORMATION    ***
      G(I),I=1,91
   1.33295E-03  1.33296E-03  1.33308E-03  1.33332E-03  1.33357E-03  1.33381E-03  1.33406E-03  1.33430E-03  1.33466E-03  1.33514E-03
   1.33563E-03  1.33611E-03  1.33660E-03  1.33709E-03  1.33767E-03  1.33834E-03  1.33902E-03  1.33970E-03  1.34038E-03  1.34112E-03
   1.34194E-03  1.34277E-03  1.34360E-03  1.34443E-03  1.34531E-03  1.34625E-03  1.34720E-03  1.34815E-03  1.34910E-03  1.35009E-03
   1.35113E-03  1.35217E-03  1.35322E-03  1.35427E-03  1.35537E-03  1.35653E-03  1.35771E-03  1.35889E-03  1.36007E-03  1.36127E-03
   1.36249E-03  1.36371E-03  1.36493E-03  1.36615E-03  1.36738E-03  1.36862E-03  1.36986E-03  1.37109E-03  1.37233E-03  1.37356E-03
   1.37479E-03  1.37601E-03  1.37774E-03  1.38021E-03  1.38298E-03  1.38587E-03  1.38881E-03  1.39180E-03  1.39481E-03  1.39775E-03
   1.40062E-03  1.40347E-03  1.40633E-03  1.40921E-03  1.41203E-03  1.41478E-03  1.41752E-03  1.42028E-03  1.42304E-03  1.42571E-03
   1.42829E-03  1.43085E-03  1.43342E-03  1.43599E-03  1.43844E-03  1.44074E-03  1.44301E-03  1.44529E-03  1.44757E-03  1.44965E-03
   1.45148E-03  1.45327E-03  1.45506E-03  1.45685E-03  1.45864E-03  1.46008E-03  1.46112E-03  1.46210E-03  1.46307E-03  1.46404E-03
   1.33701E-04
      GG(I),I=1,91
   1.62918E-06  1.63907E-06  1.76194E-06  2.00237E-06  2.24755E-06  2.49294E-06  2.73834E-06  2.98374E-06  3.34115E-06  3.81954E-06
   4.30765E-06  4.79655E-06  5.28553E-06  5.77451E-06  6.34902E-06  7.01866E-06  7.69898E-06  8.38054E-06  9.06224E-06  9.80798E-06
   1.06265E-05  1.14550E-05  1.22850E-05  1.31151E-05  1.39959E-05  1.49353E-05  1.58839E-05  1.68340E-05  1.77843E-05  1.87747E-05
   1.98121E-05  2.08576E-05  2.19045E-05  2.29518E-05  2.40528E-05  2.52180E-05  2.63956E-05  2.75757E-05  2.87564E-05  2.99540E-05
   3.11719E-05  3.23940E-05  3.36170E-05  3.48401E-05  3.60691E-05  3.73052E-05  3.85427E-05  3.97805E-05  4.10184E-05  4.22505E-05
   4.34755E-05  4.46990E-05  4.64305E-05  4.88958E-05  5.16657E-05  5.45532E-05  5.75012E-05  6.04851E-05  6.34938E-05  6.64410E-05
   6.93042E-05  7.21585E-05  7.50213E-05  7.78959E-05  8.07162E-05  8.34679E-05  8.62133E-05  8.89652E-05  9.17254E-05  9.44022E-05
   9.69779E-05  9.95411E-05  1.02108E-04  1.04682E-04  1.07130E-04  1.09428E-04  1.11704E-04  1.13981E-04  1.16264E-04  1.18341E-04
   1.20172E-04  1.21962E-04  1.23748E-04  1.25538E-04  1.27333E-04  1.28775E-04  1.29809E-04  1.30786E-04  1.31756E-04  1.32727E-04
   1.33701E-04
      GL(I),I=1,91
   1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03
   1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03
   1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03
   1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03
   1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03
   1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03
   1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03
   1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03
   1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03
   1.45519E-11
                 ***  LOPASS  ***           DT = 0.25000E+00    TAW = 0.25000E+01
TIMES 0.0       NPROS,IB1-7  0 92  1 92 92 92 92  2 ID =91 D1-7 0.0     0.0     0.0      0.0      0.0      0.0     0.0407ULIN= 4.993E+00
TIMES 0.0       NPROS,IB1-7  1 92  1 92 92 92 92  2 ID = 1 D1-7 0.0     0.0     0.0      0.0      0.0      0.0     0.0407ULIN= 4.993E+00
TIMES 0.0       NPROS,IB1-7  8 92  1 92 92 92 92  2 ID =91 01-7 0.0     0.0     0.0      0.0      0.0      0.0     0.0407ULIN= 4.993E+00
                                     ***    SPHT    INFORMATION    ***
      G(I),I=1,91
   1.33295E-03  1.33296E-03  1.33308E-03  1.33332E-03  1.33357E-03  1.33381E-03  1.33406E-03  1.33430E-03  1.33466E-03  1.33514E-03
   1.33563E-03  1.33611E-03  1.33660E-03  1.33709E-03  1.33767E-03  1.33834E-03  1.33902E-03  1.33970E-03  1.34038E-03  1.34112E-03
   1.34194E-03  1.34277E-03  1.34360E-03  1.34443E-03  1.34531E-03  1.34625E-03  1.34720E-03  1.34815E-03  1.34910E-03  1.35009E-03
   1.35113E-03  1.35217E-03  1.35322E-03  1.35427E-03  1.35537E-03  1.35653E-03  1.35771E-03  1.35889E-03  1.36007E-03  1.36127E-03
   1.36249E-03  1.36371E-03  1.36493E-03  1.36615E-03  1.36738E-03  1.36862E-03  1.36986E-03  1.37109E-03  1.37233E-03  1.37356E-03
   1.37479E-03  1.37601E-03  1.37774E-03  1.38021E-03  1.38298E-03  1.38587E-03  1.38881E-03  1.39180E-03  1.39481E-03  1.39775E-03




   1.40062E-03  1.40347E-03  1.40633E-03  1.40921E-03  1.41203E-03  1.41478E-03  1.41752E-03  1.42028E-03  1.42304E-03  1.42571E-03
   1.42829E-03  1.43085E-03  1.43342E-03  1.43599E-03  1.43844E-03  1.44074E-03  1.44301E-03  1.44529E-03  1.44757E-03  1.44965E-03
   1.45148E-03  1.45327E-03  1.45506E-03  1.45685E-03  1.45864E-03  1.46008E-03  1.46112E-03  1.46210E-03  1.46307E-03  1.46404E-03
   1.33701E-04
      GG(I),I=1,91
   1.62918E-06  1.63907E-06  1.76194E-06  2.00237E-06  2.24755E-06  2.49294E-06  2.73834E-06  2.98374E-06  3.34115E-06  3.81954E-06
   4.30765E-06  4.79655E-06  5.28553E-06  5.77451E-06  6.34902E-06  7.01866E-06  7.69898E-06  8.38054E-06  9.06224E-06  9.80798E-06
   1.06265E-05  1.14550E-05  1.22850E-05  1.31151E-05  1.39959E-05  1.49353E-05  1.58839E-05  1.68340E-05  1.77843E-05  1.87747E-05
   1.98121E-05  2.08576E-05  2.19045E-05  2.29518E-05  2.40528E-05  2.52180E-05  2.63956E-05  2.75757E-05  2.87564E-05  2.99540E-05
   3.11719E-05  3.23940E-05  3.36170E-05  3.48401E-05  3.60691E-05  3.73052E-05  3.85427E-05  3.97805E-05  4.10184E-05  4.22505E-05
   4.34755E-05  4.46990E-05  4.64305E-05  4.88958E-05  5.16657E-05  5.45532E-05  5.75012E-05  6.04851E-05  6.34938E-05  6.64410E-05
   6.93042E-05  7.21585E-05  7.50213E-05  7.78959E-05  8.07162E-05  8.34679E-05  8.62133E-05  8.89652E-05  9.17254E-05  9.44022E-05
   9.69779E-05  9.95411E-05  1.02108E-04  1.04682E-04  1.07130E-04  1.09428E-04  1.11704E-04  1.13981E-04  1.16264E-04  1.18341E-04
   1.20172E-04  1.21962E-04  1.23748E-04  1.25538E-04  1.27333E-04  1.28775E-04  1.29809E-04  1.30786E-04  1.31756E-04  1.32727E-04
   1.33701E-04
      GL(I),I=1,91
   1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03
   1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03
   1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03
   1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33132E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03
   1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03
   1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03
   1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03
   1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03
   1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03  1.33131E-03
   1.45519E-11
```

*** TIME = 0.0 ( SEC ) **** INLET AND OUTLET CONDITION ****

| TQN2(C) | ZB2(M) | TQN5(C) | ZB5(M) | DD(I84)(MM) | DD(N1)(MM) | DP(M) | CRATIO |
|---|---|---|---|---|---|---|---|
| 236.25 | 0.0 | 0.0 | 3.6600 | 0.0 | 0.0 | 0.01022 | 0.00000 |

P, RL, RGST 2.0839E+04 7.4152E-06 9.0632E-09

| I | IP | AG(I) | AGINF(I) | AGDISP(I) | TW(I) | TL/TG(I) | PC(I) | HT(I) | HR(I) | HCV(I) | G(I) | GG(I) | GL(I) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 0.0 | 0.0 | 0.0 | 236.53 | 118.73 | 2.084E+04 | 1119. | 3.248E+05 | 3.022E+07 | 1.333E-03 | 1.629E-06 | 1.331E-03 |
| 2 | 8 | 1.0000 | 0.0 | 0.0 | 236.53 | 120.73 | 2.084E+04 | 6.027 | 0.0 | 1.646E+05 | 1.333E-03 | 1.639E-06 | 1.331E-03 |
| 3 | 8 | 1.0000 | 0.0 | 0.0 | 236.53 | 138.25 | 2.084E+04 | 6.027 | 0.0 | 1.646E+05 | 1.333E-03 | 1.762E-06 | 1.331E-03 |
| 4 | 8 | 1.0000 | 0.0 | 0.0 | 236.53 | 138.99 | 2.084E+04 | 6.027 | 0.0 | 1.646E+05 | 1.333E-03 | 2.002E-06 | 1.331E-03 |
| 5 | 8 | 1.0000 | 0.0 | 0.0 | 236.53 | 139.02 | 2.084E+04 | 6.027 | 0.0 | 1.646E+05 | 1.334E-03 | 2.248E-06 | 1.331E-03 |
| 6 | 8 | 1.0000 | 0.0 | 0.0 | 236.53 | 139.02 | 2.084E+04 | 6.027 | 0.0 | 1.646E+05 | 1.334E-03 | 2.493E-06 | 1.331E-03 |
| 7 | 8 | 1.0000 | 0.0 | 0.0 | 236.53 | 139.02 | 2.084E+04 | 6.027 | 0.0 | 1.646E+05 | 1.334E-03 | 2.738E-06 | 1.331E-03 |
| 8 | 8 | 1.0000 | 0.0 | 0.0 | 353.22 | 139.02 | 2.084E+04 | 6.008 | 0.0 | 3.294E+05 | 1.334E-03 | 2.984E-06 | 1.331E-03 |
| 9 | 8 | 1.0000 | 0.0 | 0.0 | 353.22 | 158.07 | 2.084E+04 | 6.008 | 0.0 | 3.294E+05 | 1.335E-03 | 3.341E-06 | 1.331E-03 |
| 10 | 8 | 1.0000 | 0.0 | 0.0 | 353.22 | 159.67 | 2.084E+04 | 6.008 | 0.0 | 3.294E+05 | 1.335E-03 | 3.820E-06 | 1.331E-03 |
| 11 | 8 | 1.0000 | 0.0 | 0.0 | 353.22 | 159.80 | 2.084E+04 | 6.008 | 0.0 | 3.294E+05 | 1.336E-03 | 4.308E-06 | 1.331E-03 |
| 12 | 8 | 1.0000 | 0.0 | 0.0 | 353.22 | 159.82 | 2.084E+04 | 6.008 | 0.0 | 3.294E+05 | 1.336E-03 | 4.797E-06 | 1.331E-03 |
| 13 | 8 | 1.0000 | 0.0 | 0.0 | 353.22 | 159.82 | 2.084E+04 | 6.008 | 0.0 | 3.294E+05 | 1.337E-03 | 5.286E-06 | 1.331E-03 |
| 14 | 8 | 1.0000 | 0.0 | 0.0 | 446.37 | 159.82 | 2.084E+04 | 6.002 | 0.0 | 4.610E+05 | 1.337E-03 | 5.775E-06 | 1.331E-03 |
| 15 | 8 | 1.0000 | 0.0 | 0.0 | 446.37 | 175.72 | 2.084E+04 | 6.002 | 0.0 | 4.610E+05 | 1.338E-03 | 6.349E-06 | 1.331E-03 |
| 16 | 8 | 1.0000 | 0.0 | 0.0 | 446.37 | 177.58 | 2.084E+04 | 6.002 | 0.0 | 4.610E+05 | 1.338E-03 | 7.019E-06 | 1.331E-03 |
| 17 | 8 | 1.0000 | 0.0 | 0.0 | 446.37 | 177.79 | 2.084E+04 | 6.002 | 0.0 | 4.610E+05 | 1.339E-03 | 7.699E-06 | 1.331E-03 |
| 18 | 8 | 1.0000 | 0.0 | 0.0 | 446.37 | 177.82 | 2.084E+04 | 6.002 | 0.0 | 4.610E+05 | 1.340E-03 | 8.381E-06 | 1.331E-03 |
| 19 | 8 | 1.0000 | 0.0 | 0.0 | 518.68 | 177.82 | 2.084E+04 | 6.000 | 0.0 | 5.631E+05 | 1.340E-03 | 9.062E-06 | 1.331E-03 |
| 20 | 8 | 1.0000 | 0.0 | 0.0 | 518.68 | 190.63 | 2.084E+04 | 6.000 | 0.0 | 5.631E+05 | 1.341E-03 | 9.808E-06 | 1.331E-03 |
| 21 | 8 | 1.0000 | 0.0 | 0.0 | 518.68 | 192.44 | 2.084E+04 | 6.000 | 0.0 | 5.631E+05 | 1.342E-03 | 1.063E-05 | 1.331E-03 |
| 22 | 8 | 1.0000 | 0.0 | 0.0 | 518.68 | 192.70 | 2.084E+04 | 6.000 | 0.0 | 5.631E+05 | 1.343E-03 | 1.146E-05 | 1.331E-03 |
| 23 | 8 | 1.0000 | 0.0 | 0.0 | 518.68 | 192.73 | 2.084E+04 | 6.000 | 0.0 | 5.631E+05 | 1.344E-03 | 1.228E-05 | 1.331E-03 |
| 24 | 8 | 1.0000 | 0.0 | 0.0 | 577.64 | 192.74 | 2.084E+04 | 5.999 | 0.0 | 6.464E+05 | 1.344E-03 | 1.312E-05 | 1.331E-03 |
| 25 | 8 | 1.0000 | 0.0 | 0.0 | 577.64 | 203.50 | 2.084E+04 | 5.999 | 0.0 | 6.464E+05 | 1.345E-03 | 1.400E-05 | 1.331E-03 |
| 26 | 8 | 1.0000 | 0.0 | 0.0 | 577.64 | 205.23 | 2.084E+04 | 5.999 | 0.0 | 6.464E+05 | 1.346E-03 | 1.494E-05 | 1.331E-03 |
| 27 | 8 | 1.0000 | 0.0 | 0.0 | 577.64 | 205.51 | 2.084E+04 | 5.999 | 0.0 | 6.464E+05 | 1.347E-03 | 1.588E-05 | 1.331E-03 |
| 28 | 8 | 1.0000 | 0.0 | 0.0 | 577.64 | 205.56 | 2.084E+04 | 5.999 | 0.0 | 6.464E+05 | 1.348E-03 | 1.683E-05 | 1.331E-03 |
| 29 | 8 | 1.0000 | 0.0 | 0.0 | 625.44 | 205.57 | 2.084E+04 | 5.998 | 0.0 | 7.140E+05 | 1.349E-03 | 1.778E-05 | 1.331E-03 |
| 30 | 8 | 1.0000 | 0.0 | 0.0 | 625.44 | 214.50 | 2.084E+04 | 5.998 | 0.0 | 7.140E+05 | 1.350E-03 | 1.877E-05 | 1.331E-03 |
| 31 | 8 | 1.0000 | 0.0 | 0.0 | 625.44 | 216.09 | 2.084E+04 | 5.998 | 0.0 | 7.140E+05 | 1.351E-03 | 1.981E-05 | 1.331E-03 |
| 32 | 8 | 1.0000 | 0.0 | 0.0 | 625.44 | 216.37 | 2.084E+04 | 5.998 | 0.0 | 7.140E+05 | 1.352E-03 | 2.086E-05 | 1.331E-03 |
| 33 | 8 | 1.0000 | 0.0 | 0.0 | 625.44 | 216.42 | 2.084E+04 | 5.998 | 0.0 | 7.140E+05 | 1.353E-03 | 2.190E-05 | 1.331E-03 |
| 34 | 8 | 1.0000 | 0.0 | 0.0 | 691.73 | 216.43 | 2.084E+04 | 5.997 | 0.0 | 8.076E+05 | 1.354E-03 | 2.295E-05 | 1.331E-03 |
| 35 | 8 | 1.0000 | 0.0 | 0.0 | 691.73 | 229.08 | 2.084E+04 | 5.997 | 0.0 | 8.076E+05 | 1.355E-03 | 2.405E-05 | 1.331E-03 |
| 36 | 8 | 1.0000 | 0.0 | 0.0 | 691.73 | 231.60 | 2.084E+04 | 5.997 | 0.0 | 8.076E+05 | 1.357E-03 | 2.522E-05 | 1.331E-03 |
| 37 | 8 | 1.0000 | 0.0 | 0.0 | 691.73 | 232.10 | 2.084E+04 | 5.997 | 0.0 | 8.076E+05 | 1.358E-03 | 2.640E-05 | 1.331E-03 |
| 38 | 8 | 1.0000 | 0.0 | 0.0 | 691.73 | 232.20 | 2.084E+04 | 5.997 | 0.0 | 8.076E+05 | 1.359E-03 | 2.758E-05 | 1.331E-03 |
| 39 | 8 | 1.0000 | 0.0 | 0.0 | 712.93 | 232.22 | 2.084E+04 | 5.996 | 0.0 | 8.375E+05 | 1.360E-03 | 2.876E-05 | 1.331E-03 |
| 40 | 8 | 1.0000 | 0.0 | 0.0 | 712.93 | 236.39 | 2.084E+04 | 5.996 | 0.0 | 8.375E+05 | 1.361E-03 | 2.995E-05 | 1.331E-03 |
| 41 | 8 | 1.0000 | 0.0 | 0.0 | 712.93 | 237.24 | 2.084E+04 | 5.996 | 0.0 | 8.375E+05 | 1.362E-03 | 3.117E-05 | 1.331E-03 |
| 42 | 8 | 1.0000 | 0.0 | 0.0 | 712.93 | 237.42 | 2.084E+04 | 5.996 | 0.0 | 8.375E+05 | 1.364E-03 | 3.239E-05 | 1.331E-03 |
| 43 | 8 | 1.0000 | 0.0 | 0.0 | 712.93 | 237.46 | 2.084E+04 | 5.996 | 0.0 | 8.375E+05 | 1.365E-03 | 3.362E-05 | 1.331E-03 |
| 44 | 8 | 1.0000 | 0.0 | 0.0 | 720.31 | 237.46 | 2.084E+04 | 5.996 | 0.0 | 8.480E+05 | 1.366E-03 | 3.484E-05 | 1.331E-03 |
| 45 | 8 | 1.0000 | 0.0 | 0.0 | 720.31 | 238.93 | 2.084E+04 | 5.996 | 0.0 | 8.480E+05 | 1.367E-03 | 3.607E-05 | 1.331E-03 |
| 46 | 8 | 1.0000 | 0.0 | 0.0 | 720.31 | 239.23 | 2.084E+04 | 5.996 | 0.0 | 8.480E+05 | 1.369E-03 | 3.731E-05 | 1.331E-03 |
| 47 | 8 | 1.0000 | 0.0 | 0.0 | 720.31 | 239.29 | 2.084E+04 | 5.996 | 0.0 | 8.480E+05 | 1.370E-03 | 3.854E-05 | 1.331E-03 |
| 48 | 8 | 1.0000 | 0.0 | 0.0 | 720.31 | 239.31 | 2.084E+04 | 5.996 | 0.0 | 8.480E+05 | 1.371E-03 | 3.978E-05 | 1.331E-03 |
| 49 | 8 | 1.0000 | 0.0 | 0.0 | 712.93 | 239.31 | 2.084E+04 | 5.996 | 0.0 | 8.375E+05 | 1.372E-03 | 4.102E-05 | 1.331E-03 |
| 50 | 8 | 1.0000 | 0.0 | 0.0 | 712.93 | 237.84 | 2.084E+04 | 5.996 | 0.0 | 8.375E+05 | 1.374E-03 | 4.225E-05 | 1.331E-03 |
| 51 | 8 | 1.0000 | 0.0 | 0.0 | 712.93 | 237.54 | 2.084E+04 | 5.996 | 0.0 | 8.375E+05 | 1.375E-03 | 4.348E-05 | 1.331E-03 |
| 52 | 8 | 1.0000 | 0.0 | 0.0 | 712.93 | 237.48 | 2.084E+04 | 17.89 | 0.0 | 2.499E+06 | 1.376E-03 | 4.470E-05 | 1.331E-03 |
| 53 | 8 | 1.0000 | 0.0 | 0.0 | 712.93 | 406.11 | 2.084E+04 | 23.23 | 0.0 | 3.245E+06 | 1.378E-03 | 4.643E-05 | 1.331E-03 |
| 54 | 8 | 1.0000 | 0.0 | 0.0 | 691.73 | 522.88 | 2.084E+04 | 27.49 | 0.0 | 3.702E+06 | 1.380E-03 | 4.890E-05 | 1.331E-03 |
| 55 | 8 | 1.0000 | 0.0 | 0.0 | 691.73 | 573.70 | 2.084E+04 | 30.19 | 0.0 | 4.065E+06 | 1.383E-03 | 5.167E-05 | 1.331E-03 |
| 56 | 8 | 1.0000 | 0.0 | 0.0 | 691.73 | 601.22 | 2.084E+04 | 32.34 | 0.0 | 4.356E+06 | 1.386E-03 | 5.455E-05 | 1.331E-03 |
| 57 | 8 | 1.0000 | 0.0 | 0.0 | 691.73 | 617.33 | 2.084E+04 | 34.23 | 0.0 | 4.610E+06 | 1.389E-03 | 5.750E-05 | 1.331E-03 |
| 58 | 8 | 1.0000 | 0.0 | 0.0 | 691.73 | 628.25 | 2.084E+04 | 36.00 | 0.0 | 4.848E+06 | 1.392E-03 | 6.049E-05 | 1.331E-03 |
| 59 | 8 | 1.0000 | 0.0 | 0.0 | 625.44 | 636.63 | 2.084E+04 | 37.70 | 0.0 | 4.488E+06 | 1.395E-03 | 6.349E-05 | 1.331E-03 |
| 60 | 8 | 1.0000 | 0.0 | 0.0 | 625.44 | 582.82 | 2.084E+04 | 37.24 | 0.0 | 4.433E+06 | 1.398E-03 | 6.644E-05 | 1.331E-03 |
| 61 | 8 | 1.0000 | 0.0 | 0.0 | 625.44 | 574.66 | 2.083E+04 | 38.22 | 0.0 | 4.550E+06 | 1.401E-03 | 6.930E-05 | 1.331E-03 |
| 62 | 8 | 1.0000 | 0.0 | 0.0 | 625.44 | 576.57 | 2.083E+04 | 39.55 | 0.0 | 4.708E+06 | 1.403E-03 | 7.216E-05 | 1.331E-03 |
| 63 | 8 | 1.0000 | 0.0 | 0.0 | 625.44 | 580.61 | 2.083E+04 | 40.95 | 0.0 | 4.875E+06 | 1.406E-03 | 7.502E-05 | 1.331E-03 |
| 64 | 8 | 1.0000 | 0.0 | 0.0 | 577.64 | 584.80 | 2.083E+04 | 42.38 | 0.0 | 4.567E+06 | 1.409E-03 | 7.790E-05 | 1.331E-03 |
| 65 | 8 | 1.0000 | 0.0 | 0.0 | 577.64 | 544.34 | 2.083E+04 | 41.95 | 0.0 | 4.520E+06 | 1.412E-03 | 8.072E-05 | 1.331E-03 |
| 66 | 8 | 1.0000 | 0.0 | 0.0 | 577.64 | 539.00 | 2.083E+04 | 42.86 | 0.0 | 4.619E+06 | 1.415E-03 | 8.347E-05 | 1.331E-03 |
| 67 | 8 | 1.0000 | 0.0 | 0.0 | 577.64 | 540.41 | 2.083E+04 | 44.05 | 0.0 | 4.747E+06 | 1.418E-03 | 8.621E-05 | 1.331E-03 |
| 68 | 8 | 1.0000 | 0.0 | 0.0 | 577.64 | 543.07 | 2.083E+04 | 45.28 | 0.0 | 4.880E+06 | 1.420E-03 | 8.897E-05 | 1.331E-03 |
| 69 | 8 | 1.0000 | 0.0 | 0.0 | 518.68 | 545.77 | 2.083E+04 | 46.54 | 0.0 | 4.368E+06 | 1.423E-03 | 9.173E-05 | 1.331E-03 |
| 70 | 8 | 1.0000 | 0.0 | 0.0 | 518.68 | 493.10 | 2.083E+04 | 45.16 | 0.0 | 4.238E+06 | 1.426E-03 | 9.440E-05 | 1.331E-03 |
| 71 | 8 | 1.0000 | 0.0 | 0.0 | 518.68 | 485.74 | 2.083E+04 | 45.78 | 0.0 | 4.297E+06 | 1.428E-03 | 9.698E-05 | 1.331E-03 |
| 72 | 8 | 1.0000 | 0.0 | 0.0 | 518.68 | 486.08 | 2.083E+04 | 46.77 | 0.0 | 4.389E+06 | 1.431E-03 | 9.954E-05 | 1.331E-03 |
| 73 | 8 | 1.0000 | 0.0 | 0.0 | 518.68 | 487.82 | 2.083E+04 | 47.82 | 0.0 | 4.488E+06 | 1.433E-03 | 1.021E-04 | 1.331E-03 |
| 74 | 8 | 1.0000 | 0.0 | 0.0 | 446.37 | 489.71 | 2.083E+04 | 48.89 | 0.0 | 3.755E+06 | 1.436E-03 | 1.047E-04 | 1.331E-03 |
| 75 | 8 | 1.0000 | 0.0 | 0.0 | 446.37 | 424.15 | 2.083E+04 | 46.35 | 0.0 | 3.560E+06 | 1.438E-03 | 1.071E-04 | 1.331E-03 |
| 76 | 8 | 1.0000 | 0.0 | 0.0 | 446.37 | 414.56 | 2.083E+04 | 46.63 | 0.0 | 3.581E+06 | 1.441E-03 | 1.094E-04 | 1.331E-03 |
| 77 | 8 | 1.0000 | 0.0 | 0.0 | 446.37 | 413.97 | 2.083E+04 | 47.37 | 0.0 | 3.638E+06 | 1.443E-03 | 1.117E-04 | 1.331E-03 |
| 78 | 8 | 1.0000 | 0.0 | 0.0 | 446.37 | 415.08 | 2.083E+04 | 48.20 | 0.0 | 3.702E+06 | 1.445E-03 | 1.140E-04 | 1.331E-03 |
| 79 | 8 | 1.0000 | 0.0 | 0.0 | 353.22 | 416.45 | 2.083E+04 | 49.10 | 0.0 | 2.692E+06 | 1.448E-03 | 1.163E-04 | 1.331E-03 |
| 80 | 8 | 1.0000 | 0.0 | 0.0 | 353.22 | 332.82 | 2.083E+04 | 44.90 | 0.0 | 2.462E+06 | 1.450E-03 | 1.183E-04 | 1.331E-03 |
| 81 | 8 | 1.0000 | 0.0 | 0.0 | 353.22 | 320.31 | 2.083E+04 | 44.71 | 0.0 | 2.451E+06 | 1.451E-03 | 1.202E-04 | 1.331E-03 |
| 82 | 8 | 1.0000 | 0.0 | 0.0 | 353.22 | 318.66 | 2.083E+04 | 45.14 | 0.0 | 2.475E+06 | 1.453E-03 | 1.220E-04 | 1.331E-03 |
| 83 | 8 | 1.0000 | 0.0 | 0.0 | 353.22 | 319.11 | 2.083E+04 | 45.69 | 0.0 | 2.505E+06 | 1.455E-03 | 1.237E-04 | 1.331E-03 |
| 84 | 8 | 1.0000 | 0.0 | 0.0 | 353.22 | 319.96 | 2.083E+04 | 46.27 | 0.0 | 2.537E+06 | 1.457E-03 | 1.255E-04 | 1.331E-03 |
| 85 | 8 | 1.0000 | 0.0 | 0.0 | 236.53 | 320.86 | 2.083E+04 | 47.01 | 0.0 | 1.284E+06 | 1.459E-03 | 1.273E-04 | 1.331E-03 |
| 86 | 8 | 1.0000 | 0.0 | 0.0 | 236.53 | 220.81 | 2.083E+04 | 40.93 | 0.0 | 1.118E+06 | 1.460E-03 | 1.288E-04 | 1.331E-03 |
| 87 | 8 | 1.0000 | 0.0 | 0.0 | 236.53 | 209.21 | 2.083E+04 | 40.41 | 0.0 | 1.104E+06 | 1.461E-03 | 1.298E-04 | 1.331E-03 |
| 88 | 8 | 1.0000 | 0.0 | 0.0 | 236.53 | 207.75 | 2.083E+04 | 40.56 | 0.0 | 1.108E+06 | 1.462E-03 | 1.308E-04 | 1.331E-03 |
| 89 | 8 | 1.0000 | 0.0 | 0.0 | 236.53 | 207.78 | 2.083E+04 | 40.80 | 0.0 | 1.114E+06 | 1.463E-03 | 1.318E-04 | 1.331E-03 |
| 90 | 8 | 1.0000 | 0.0 | 0.0 | 236.53 | 208.02 | 2.083E+04 | 41.06 | 0.0 | 1.121E+06 | 1.464E-03 | 1.327E-04 | 1.331E-03 |
| 91 | 8 | 1.0000 | 0.0 | 0.0 | 236.53 | 208.29 | 2.083E+04 | 41.32 | 0.0 | 1.128E+06 | 1.337E-04 | 1.337E-04 | 1.455E-11 |

*** TIME = 0.0 ( SEC ) **** HOT ROD INFORMATION ****

| TPN2(C) | ZP2(M) |
|---|---|
| 247.42 | 0.0 |

| I | IPP | TWP(I) | HTP(I) | HRP(I) | HCVP(I) |
|---|---|---|---|---|---|
| 1 | 1 | 247.73 | 1119. | 3.707E+05 | 3.315E+07 |
| 2 | 8 | 247.73 | 6.024 | 0.0 | 1.804E+05 |
| 3 | 8 | 247.73 | 6.024 | 0.0 | 1.804E+05 |
| 4 | 8 | 247.73 | 6.024 | 0.0 | 1.804E+05 |
| 5 | 8 | 247.73 | 6.024 | 0.0 | 1.804E+05 |
| 6 | 8 | 247.73 | 6.024 | 0.0 | 1.804E+05 |
| 7 | 8 | 247.73 | 6.024 | 0.0 | 1.804E+05 |
| 8 | 8 | 375.05 | 6.006 | 0.0 | 3.603E+05 |
| 9 | 8 | 375.05 | 6.006 | 0.0 | 3.603E+05 |
| 10 | 8 | 375.05 | 6.006 | 0.0 | 3.603E+05 |
| 11 | 8 | 375.05 | 6.006 | 0.0 | 3.603E+05 |
| 12 | 8 | 375.05 | 6.006 | 0.0 | 3.603E+05 |
| 13 | 8 | 375.05 | 6.006 | 0.0 | 3.603E+05 |
| 14 | 8 | 476.49 | 6.001 | 0.0 | 5.036E+05 |
| 15 | 8 | 476.49 | 6.001 | 0.0 | 5.036E+05 |
| 16 | 8 | 476.49 | 6.001 | 0.0 | 5.036E+05 |
| 17 | 8 | 476.49 | 6.001 | 0.0 | 5.036E+05 |
| 18 | 8 | 476.49 | 6.001 | 0.0 | 5.036E+05 |
| 19 | 8 | 555.17 | 5.999 | 0.0 | 6.147E+05 |
| 20 | 8 | 555.17 | 5.999 | 0.0 | 6.147E+05 |
| 21 | 8 | 555.17 | 5.999 | 0.0 | 6.147E+05 |
| 22 | 8 | 555.17 | 5.999 | 0.0 | 6.147E+05 |
| 23 | 8 | 555.17 | 5.999 | 0.0 | 6.147E+05 |
| 24 | 8 | 619.09 | 5.998 | 0.0 | 7.050E+05 |
| 25 | 8 | 619.09 | 5.998 | 0.0 | 7.050E+05 |
| 26 | 8 | 619.09 | 5.998 | 0.0 | 7.050E+05 |
| 27 | 8 | 619.09 | 5.998 | 0.0 | 7.050E+05 |
| 28 | 8 | 619.09 | 5.998 | 0.0 | 7.050E+05 |
| 29 | 8 | 670.76 | 5.997 | 0.0 | 7.780E+05 |
| 30 | 8 | 670.76 | 5.997 | 0.0 | 7.780E+05 |
| 31 | 8 | 670.76 | 5.997 | 0.0 | 7.780E+05 |
| 32 | 8 | 670.76 | 5.997 | 0.0 | 7.780E+05 |
| 33 | 8 | 670.76 | 5.997 | 0.0 | 7.780E+05 |
| 34 | 8 | 741.56 | 5.996 | 0.0 | 8.780E+05 |
| 35 | 8 | 741.56 | 5.996 | 0.0 | 8.780E+05 |
| 36 | 8 | 741.56 | 5.996 | 0.0 | 8.780E+05 |
| 37 | 8 | 741.56 | 5.996 | 0.0 | 8.780E+05 |
| 38 | 8 | 741.56 | 5.996 | 0.0 | 8.780E+05 |
| 39 | 8 | 764.38 | 5.996 | 0.0 | 9.102E+05 |
| 40 | 8 | 764.38 | 5.996 | 0.0 | 9.102E+05 |
| 41 | 8 | 764.38 | 5.996 | 0.0 | 9.102E+05 |
| 42 | 8 | 764.38 | 5.996 | 0.0 | 9.102E+05 |
| 43 | 8 | 764.38 | 5.996 | 0.0 | 9.102E+05 |
| 44 | 8 | 772.31 | 5.996 | 0.0 | 9.214E+05 |
| 45 | 8 | 772.31 | 5.996 | 0.0 | 9.214E+05 |
| 46 | 8 | 772.31 | 5.996 | 0.0 | 9.214E+05 |
| 47 | 8 | 772.31 | 5.996 | 0.0 | 9.214E+05 |
| 48 | 8 | 772.31 | 5.996 | 0.0 | 9.214E+05 |
| 49 | 8 | 764.38 | 5.996 | 0.0 | 9.102E+05 |
| 50 | 8 | 764.38 | 5.996 | 0.0 | 9.102E+05 |
| 51 | 8 | 764.38 | 5.996 | 0.0 | 9.102E+05 |
| 52 | 8 | 764.38 | 17.89 | 0.0 | 2.716E+06 |
| 53 | 8 | 764.38 | 23.23 | 0.0 | 3.526E+06 |
| 54 | 8 | 741.56 | 27.49 | 0.0 | 4.025E+06 |
| 55 | 8 | 741.56 | 30.18 | 0.0 | 4.419E+06 |
| 56 | 8 | 741.56 | 32.34 | 0.0 | 4.736E+06 |
| 57 | 8 | 741.56 | 34.23 | 0.0 | 5.012E+06 |
| 58 | 8 | 741.56 | 35.99 | 0.0 | 5.270E+06 |
| 59 | 8 | 670.76 | 37.70 | 0.0 | 4.891E+06 |
| 60 | 8 | 670.76 | 37.23 | 0.0 | 4.830E+06 |
| 61 | 8 | 670.76 | 38.22 | 0.0 | 4.958E+06 |
| 62 | 8 | 670.76 | 39.54 | 0.0 | 5.130E+06 |
| 63 | 8 | 670.76 | 40.95 | 0.0 | 5.312E+06 |
| 64 | 8 | 619.09 | 42.37 | 0.0 | 4.980E+06 |
| 65 | 8 | 619.09 | 41.94 | 0.0 | 4.930E+06 |
| 66 | 8 | 619.09 | 42.85 | 0.0 | 5.037E+06 |
| 67 | 8 | 619.09 | 44.04 | 0.0 | 5.176E+06 |
| 68 | 8 | 619.09 | 45.28 | 0.0 | 5.322E+06 |
| 69 | 8 | 555.17 | 46.53 | 0.0 | 4.768E+06 |
| 70 | 8 | 555.17 | 45.15 | 0.0 | 4.626E+06 |
| 71 | 8 | 555.17 | 45.78 | 0.0 | 4.690E+06 |
| 72 | 8 | 555.17 | 46.76 | 0.0 | 4.791E+06 |
| 73 | 8 | 555.17 | 47.81 | 0.0 | 4.899E+06 |
| 74 | 8 | 476.49 | 48.89 | 0.0 | 4.102E+06 |
| 75 | 8 | 476.49 | 46.34 | 0.0 | 3.889E+06 |
| 76 | 8 | 476.49 | 46.62 | 0.0 | 3.912E+06 |
| 77 | 8 | 476.49 | 47.36 | 0.0 | 3.974E+06 |
| 78 | 8 | 476.49 | 48.19 | 0.0 | 4.044E+06 |
| 79 | 8 | 375.05 | 49.08 | 0.0 | 2.944E+06 |
| 80 | 8 | 375.05 | 44.89 | 0.0 | 2.693E+06 |
| 81 | 8 | 375.05 | 44.69 | 0.0 | 2.681E+06 |
| 82 | 8 | 375.05 | 45.12 | 0.0 | 2.707E+06 |
| 83 | 8 | 375.05 | 45.68 | 0.0 | 2.740E+06 |
| 84 | 8 | 375.05 | 46.26 | 0.0 | 2.775E+06 |
| 85 | 8 | 247.73 | 46.98 | 0.0 | 1.407E+06 |
| 86 | 8 | 247.73 | 40.90 | 0.0 | 1.225E+06 |
| 87 | 8 | 247.73 | 40.39 | 0.0 | 1.210E+06 |
| 88 | 8 | 247.73 | 40.53 | 0.0 | 1.214E+06 |
| 89 | 8 | 247.73 | 40.78 | 0.0 | 1.221E+06 |
| 90 | 8 | 247.73 | 41.03 | 0.0 | 1.229E+06 |
| 91 | 8 | 247.73 | 41.29 | 0.0 | 1.237E+06 |

FUEL TEMPERATURE ( TIME = 0.0 ( SEC ) )

| J | TF( 1,J) | TF( 2,J) | TF( 3,J) | TF( 4,J) | TF( 5,J) | TF( 6,J) | TF( 7,J) | TF( 8,J) | TF( 9,J) | TF(10,J) | TF(11,J) | TF(12,J) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 236.53 | 236.53 | 236.58 | 236.67 | 238.05 | 240.03 | 242.68 | 242.81 | 242.66 | 242.55 | 242.44 | 242.38 |
| 2 | 236.53 | 236.53 | 236.58 | 236.67 | 238.05 | 240.03 | 242.68 | 242.81 | 242.66 | 242.55 | 242.44 | 242.38 |
| 3 | 236.53 | 236.53 | 236.58 | 236.67 | 238.05 | 240.03 | 242.68 | 242.81 | 242.66 | 242.55 | 242.44 | 242.38 |
| 4 | 236.53 | 236.53 | 236.58 | 236.67 | 238.05 | 240.03 | 242.68 | 242.81 | 242.66 | 242.55 | 242.44 | 242.38 |
| 5 | 236.53 | 236.53 | 236.58 | 236.67 | 238.05 | 240.03 | 242.68 | 242.81 | 242.66 | 242.55 | 242.44 | 242.38 |
| 6 | 236.53 | 236.53 | 236.58 | 236.67 | 238.05 | 240.03 | 242.68 | 242.81 | 242.66 | 242.55 | 242.44 | 242.38 |
| 7 | 236.53 | 236.53 | 236.58 | 236.67 | 238.05 | 240.03 | 242.68 | 242.81 | 242.66 | 242.55 | 242.44 | 242.38 |
| 8 | 353.22 | 353.22 | 353.30 | 353.48 | 356.49 | 360.83 | 366.63 | 366.85 | 366.42 | 366.09 | 365.76 | 365.60 |
| 9 | 353.22 | 353.22 | 353.30 | 353.48 | 356.49 | 360.83 | 366.63 | 366.85 | 366.42 | 366.09 | 365.76 | 365.60 |
| 10 | 353.22 | 353.22 | 353.30 | 353.48 | 356.49 | 360.83 | 366.63 | 366.85 | 366.42 | 366.09 | 365.76 | 365.60 |
| 11 | 353.22 | 353.22 | 353.30 | 353.48 | 356.49 | 360.83 | 366.63 | 366.85 | 366.42 | 366.09 | 365.76 | 365.60 |
| 12 | 353.22 | 353.22 | 353.30 | 353.48 | 356.49 | 360.83 | 366.63 | 366.85 | 366.42 | 366.09 | 365.76 | 365.60 |
| 13 | 353.22 | 353.22 | 353.30 | 353.48 | 356.49 | 360.83 | 366.63 | 366.85 | 366.42 | 366.09 | 365.76 | 365.60 |
| 14 | 446.37 | 446.37 | 446.48 | 446.73 | 451.21 | 457.69 | 466.35 | 466.63 | 465.84 | 465.25 | 464.65 | 464.36 |
| 15 | 446.37 | 446.37 | 446.48 | 446.73 | 451.21 | 457.69 | 466.35 | 466.63 | 465.84 | 465.25 | 464.65 | 464.36 |
| 16 | 446.37 | 446.37 | 446.48 | 446.73 | 451.21 | 457.69 | 466.35 | 466.63 | 465.84 | 465.25 | 464.65 | 464.36 |
| 17 | 446.37 | 446.37 | 446.48 | 446.73 | 451.21 | 457.69 | 466.35 | 466.63 | 465.84 | 465.25 | 464.65 | 464.36 |
| 18 | 446.37 | 446.37 | 446.48 | 446.73 | 451.21 | 457.69 | 466.35 | 466.63 | 465.84 | 465.25 | 464.65 | 464.36 |
| 19 | 518.68 | 518.68 | 518.81 | 519.11 | 524.84 | 533.10 | 544.13 | 544.45 | 543.32 | 542.47 | 541.59 | 541.17 |
| 20 | 518.68 | 518.68 | 518.81 | 519.11 | 524.84 | 533.10 | 544.13 | 544.45 | 543.32 | 542.47 | 541.59 | 541.17 |
| 21 | 518.68 | 518.68 | 518.81 | 519.11 | 524.84 | 533.10 | 544.13 | 544.45 | 543.32 | 542.47 | 541.59 | 541.17 |
| 22 | 518.68 | 518.68 | 518.81 | 519.11 | 524.84 | 533.10 | 544.13 | 544.45 | 543.32 | 542.47 | 541.59 | 541.17 |
| 23 | 518.68 | 518.68 | 518.81 | 519.11 | 524.84 | 533.10 | 544.13 | 544.45 | 543.32 | 542.47 | 541.59 | 541.17 |
| 24 | 577.64 | 577.64 | 577.79 | 578.13 | 584.89 | 594.62 | 607.60 | 607.95 | 606.44 | 605.30 | 604.13 | 603.57 |
| 25 | 577.64 | 577.64 | 577.79 | 578.13 | 584.89 | 594.62 | 607.60 | 607.95 | 606.44 | 605.30 | 604.13 | 603.57 |
| 26 | 577.64 | 577.64 | 577.79 | 578.13 | 584.89 | 594.62 | 607.60 | 607.95 | 606.44 | 605.30 | 604.13 | 603.57 |
| 27 | 577.64 | 577.64 | 577.79 | 578.13 | 584.89 | 594.62 | 607.60 | 607.95 | 606.44 | 605.30 | 604.13 | 603.57 |
| 28 | 577.64 | 577.64 | 577.79 | 578.13 | 584.89 | 594.62 | 607.60 | 607.95 | 606.44 | 605.30 | 604.13 | 603.57 |
| 29 | 625.44 | 625.44 | 625.61 | 625.98 | 633.61 | 644.57 | 659.17 | 659.54 | 657.75 | 656.41 | 655.03 | 654.37 |
| 30 | 625.44 | 625.44 | 625.61 | 625.98 | 633.61 | 644.57 | 659.17 | 659.54 | 657.75 | 656.41 | 655.03 | 654.37 |
| 31 | 625.44 | 625.44 | 625.61 | 625.98 | 633.61 | 644.57 | 659.17 | 659.54 | 657.75 | 656.41 | 655.03 | 654.37 |
| 32 | 625.44 | 625.44 | 625.61 | 625.98 | 633.61 | 644.57 | 659.17 | 659.54 | 657.75 | 656.41 | 655.03 | 654.37 |
| 33 | 625.44 | 625.44 | 625.61 | 625.98 | 633.61 | 644.57 | 659.17 | 659.54 | 657.75 | 656.41 | 655.03 | 654.37 |
| 34 | 691.73 | 691.73 | 691.91 | 692.31 | 693.52 | 695.24 | 697.51 | 697.89 | 695.88 | 694.38 | 692.84 | 692.09 |
| 35 | 691.73 | 691.73 | 691.91 | 692.31 | 693.52 | 695.24 | 697.51 | 697.89 | 695.88 | 694.38 | 692.84 | 692.09 |
| 36 | 691.73 | 691.73 | 691.91 | 692.31 | 693.52 | 695.24 | 697.51 | 697.89 | 695.88 | 694.38 | 692.84 | 692.09 |
| 37 | 691.73 | 691.73 | 691.91 | 692.31 | 693.52 | 695.24 | 697.51 | 697.89 | 695.88 | 694.38 | 692.84 | 692.09 |
| 38 | 691.73 | 691.73 | 691.91 | 692.31 | 693.52 | 695.24 | 697.51 | 697.89 | 695.88 | 694.38 | 692.84 | 692.09 |
| 39 | 712.93 | 712.93 | 713.12 | 713.53 | 714.80 | 716.58 | 718.93 | 719.33 | 717.19 | 715.59 | 713.94 | 713.15 |
| 40 | 712.93 | 712.93 | 713.12 | 713.53 | 714.80 | 716.58 | 718.93 | 719.33 | 717.19 | 715.59 | 713.94 | 713.15 |
| 41 | 712.93 | 712.93 | 713.12 | 713.53 | 714.80 | 716.58 | 718.93 | 719.33 | 717.19 | 715.59 | 713.94 | 713.15 |
| 42 | 712.93 | 712.93 | 713.12 | 713.53 | 714.80 | 716.58 | 718.93 | 719.33 | 717.19 | 715.59 | 713.94 | 713.15 |
| 43 | 712.93 | 712.93 | 713.12 | 713.53 | 714.80 | 716.58 | 718.93 | 719.33 | 717.19 | 715.59 | 713.94 | 713.15 |
| 44 | 720.31 | 720.31 | 720.49 | 720.91 | 722.20 | 724.01 | 726.39 | 726.79 | 724.60 | 722.96 | 721.28 | 720.47 |
| 45 | 720.31 | 720.31 | 720.49 | 720.91 | 722.20 | 724.01 | 726.39 | 726.79 | 724.60 | 722.96 | 721.28 | 720.47 |
| 46 | 720.31 | 720.31 | 720.49 | 720.91 | 722.20 | 724.01 | 726.39 | 726.79 | 724.60 | 722.96 | 721.28 | 720.47 |
| 47 | 720.31 | 720.31 | 720.49 | 720.91 | 722.20 | 724.01 | 726.39 | 726.79 | 724.60 | 722.96 | 721.28 | 720.47 |
| 48 | 720.31 | 720.31 | 720.49 | 720.91 | 722.20 | 724.01 | 726.39 | 726.79 | 724.60 | 722.96 | 721.28 | 720.47 |
| 49 | 712.93 | 712.93 | 713.12 | 713.53 | 714.80 | 716.58 | 718.93 | 719.33 | 717.19 | 715.59 | 713.94 | 713.15 |
| 50 | 712.93 | 712.93 | 713.12 | 713.53 | 714.80 | 716.58 | 718.93 | 719.33 | 717.19 | 715.59 | 713.94 | 713.15 |
| 51 | 712.93 | 712.93 | 713.12 | 713.53 | 714.80 | 716.58 | 718.93 | 719.33 | 717.19 | 715.59 | 713.94 | 713.15 |
| 52 | 712.93 | 712.93 | 713.12 | 713.53 | 714.80 | 716.58 | 718.93 | 719.33 | 717.19 | 715.59 | 713.94 | 713.15 |
| 53 | 712.93 | 712.93 | 713.12 | 713.53 | 714.80 | 716.58 | 718.93 | 719.33 | 717.19 | 715.59 | 713.94 | 713.15 |
| 54 | 691.73 | 691.73 | 691.91 | 692.31 | 693.52 | 695.24 | 697.51 | 697.89 | 695.88 | 694.38 | 692.84 | 692.09 |
| 55 | 691.73 | 691.73 | 691.91 | 692.31 | 693.52 | 695.24 | 697.51 | 697.89 | 695.88 | 694.38 | 692.84 | 692.09 |
| 56 | 691.73 | 691.73 | 691.91 | 692.31 | 693.52 | 695.24 | 697.51 | 697.89 | 695.88 | 694.38 | 692.84 | 692.09 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 57 | 691.73 | 691.73 | 691.91 | 692.31 | 693.52 | 695.24 | 697.51 | 697.89 | 695.88 | 694.38 | 692.84 | 692.09 |
| 58 | 691.73 | 691.73 | 691.91 | 692.31 | 693.52 | 695.24 | 697.51 | 697.89 | 695.88 | 694.38 | 692.84 | 692.09 |
| 59 | 625.44 | 625.44 | 625.61 | 625.98 | 633.61 | 644.57 | 659.17 | 659.54 | 657.75 | 656.41 | 655.03 | 654.37 |
| 60 | 625.44 | 625.44 | 625.61 | 625.98 | 633.61 | 644.57 | 659.17 | 659.54 | 657.75 | 656.41 | 655.03 | 654.37 |
| 61 | 625.44 | 625.44 | 625.61 | 625.98 | 633.61 | 644.57 | 659.17 | 659.54 | 657.75 | 656.41 | 655.03 | 654.37 |
| 62 | 625.44 | 625.44 | 625.61 | 625.98 | 633.61 | 644.57 | 659.17 | 659.54 | 657.75 | 656.41 | 655.03 | 654.37 |
| 63 | 625.44 | 625.44 | 625.61 | 625.98 | 633.61 | 644.57 | 659.17 | 659.54 | 657.75 | 656.41 | 655.03 | 654.37 |
| 64 | 577.64 | 577.64 | 577.79 | 578.13 | 584.89 | 594.62 | 607.60 | 607.95 | 606.44 | 605.30 | 604.13 | 603.57 |
| 65 | 577.64 | 577.64 | 577.79 | 578.13 | 584.89 | 594.62 | 607.60 | 607.95 | 606.44 | 605.30 | 604.13 | 603.57 |
| 66 | 577.64 | 577.64 | 577.79 | 578.13 | 584.89 | 594.62 | 607.60 | 607.95 | 606.44 | 605.30 | 604.13 | 603.57 |
| 67 | 577.64 | 577.64 | 577.79 | 578.13 | 584.89 | 594.62 | 607.60 | 607.95 | 606.44 | 605.30 | 604.13 | 603.57 |
| 68 | 577.64 | 577.64 | 577.79 | 578.13 | 584.89 | 594.62 | 607.60 | 607.95 | 606.44 | 605.30 | 604.13 | 603.57 |
| 69 | 518.68 | 518.68 | 518.81 | 519.11 | 524.84 | 533.10 | 544.13 | 544.45 | 543.32 | 542.47 | 541.59 | 541.17 |
| 70 | 518.68 | 518.68 | 518.81 | 519.11 | 524.84 | 533.10 | 544.13 | 544.45 | 543.32 | 542.47 | 541.59 | 541.17 |
| 71 | 518.68 | 518.68 | 518.81 | 519.11 | 524.84 | 533.10 | 544.13 | 544.45 | 543.32 | 542.47 | 541.59 | 541.17 |
| 72 | 518.68 | 518.68 | 518.81 | 519.11 | 524.84 | 533.10 | 544.13 | 544.45 | 543.32 | 542.47 | 541.59 | 541.17 |
| 73 | 518.68 | 518.68 | 518.81 | 519.11 | 524.84 | 533.10 | 544.13 | 544.45 | 543.32 | 542.47 | 541.59 | 541.17 |
| 74 | 446.37 | 446.37 | 446.48 | 446.73 | 451.21 | 457.69 | 466.35 | 466.63 | 465.84 | 465.25 | 464.65 | 464.36 |
| 75 | 446.37 | 446.37 | 446.48 | 446.73 | 451.21 | 457.69 | 466.35 | 466.63 | 465.84 | 465.25 | 464.65 | 464.36 |
| 76 | 446.37 | 446.37 | 446.48 | 446.73 | 451.21 | 457.69 | 466.35 | 466.63 | 465.84 | 465.25 | 464.65 | 464.36 |
| 77 | 446.37 | 446.37 | 446.48 | 446.73 | 451.21 | 457.69 | 466.35 | 466.63 | 465.84 | 465.25 | 464.65 | 464.36 |
| 78 | 446.37 | 446.37 | 446.48 | 446.73 | 451.21 | 457.69 | 466.35 | 466.63 | 465.84 | 465.25 | 464.65 | 464.36 |
| 79 | 353.22 | 353.22 | 353.30 | 353.48 | 356.49 | 360.83 | 366.63 | 366.85 | 366.42 | 366.09 | 365.76 | 365.60 |
| 80 | 353.22 | 353.22 | 353.30 | 353.48 | 356.49 | 360.83 | 366.63 | 366.85 | 366.42 | 366.09 | 365.76 | 365.60 |
| 81 | 353.22 | 353.22 | 353.30 | 353.48 | 356.49 | 360.83 | 366.63 | 366.85 | 366.42 | 366.09 | 365.76 | 365.60 |
| 82 | 353.22 | 353.22 | 353.30 | 353.48 | 356.49 | 360.83 | 366.63 | 366.85 | 366.42 | 366.09 | 365.76 | 365.60 |
| 83 | 353.22 | 353.22 | 353.30 | 353.48 | 356.49 | 360.83 | 366.63 | 366.85 | 366.42 | 366.09 | 365.76 | 365.60 |
| 84 | 353.22 | 353.22 | 353.30 | 353.48 | 356.49 | 360.83 | 366.63 | 366.85 | 366.42 | 366.09 | 365.76 | 365.60 |
| 85 | 236.53 | 236.53 | 236.58 | 236.67 | 238.05 | 240.03 | 242.68 | 242.81 | 242.66 | 242.55 | 242.44 | 242.38 |
| 86 | 236.53 | 236.53 | 236.58 | 236.67 | 238.05 | 240.03 | 242.68 | 242.81 | 242.66 | 242.55 | 242.44 | 242.38 |
| 87 | 236.53 | 236.53 | 236.58 | 236.67 | 238.05 | 240.03 | 242.68 | 242.81 | 242.66 | 242.55 | 242.44 | 242.38 |
| 88 | 236.53 | 236.53 | 236.58 | 236.67 | 238.05 | 240.03 | 242.68 | 242.81 | 242.66 | 242.55 | 242.44 | 242.38 |
| 89 | 236.53 | 236.53 | 236.58 | 236.67 | 238.05 | 240.03 | 242.68 | 242.81 | 242.66 | 242.55 | 242.44 | 242.38 |
| 90 | 236.53 | 236.53 | 236.58 | 236.67 | 238.05 | 240.03 | 242.68 | 242.81 | 242.66 | 242.55 | 242.44 | 242.38 |
| 91 | 236.53 | 236.53 | 236.58 | 236.67 | 238.05 | 240.03 | 242.68 | 242.81 | 242.66 | 242.55 | 242.44 | 242.38 |

FUEL TEMPERATURE ( TIME = 0.0 ( SEC ) )

| J | TFP( 1,J) | TFP( 2,J) | TFP( 3,J) | TFP( 4,J) | TFP( 5,J) | TFP( 6,J) | TFP( 7,J) | TFP( 8,J) | TFP( 9,J) | TFP(10,J) | TFP(11,J) | TFP(12,J) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 247.73 | 247.73 | 247.77 | 247.88 | 249.40 | 251.59 | 254.52 | 254.67 | 254.50 | 254.37 | 254.24 | 254.18 |
| 2 | 247.73 | 247.73 | 247.77 | 247.88 | 249.40 | 251.59 | 254.52 | 254.67 | 254.50 | 254.37 | 254.24 | 254.18 |
| 3 | 247.73 | 247.73 | 247.77 | 247.88 | 249.40 | 251.59 | 254.52 | 254.67 | 254.50 | 254.37 | 254.24 | 254.18 |
| 4 | 247.73 | 247.73 | 247.77 | 247.88 | 249.40 | 251.59 | 254.52 | 254.67 | 254.50 | 254.37 | 254.24 | 254.18 |
| 5 | 247.73 | 247.73 | 247.77 | 247.88 | 249.40 | 251.59 | 254.52 | 254.67 | 254.50 | 254.37 | 254.24 | 254.18 |
| 6 | 247.73 | 247.73 | 247.77 | 247.88 | 249.40 | 251.59 | 254.52 | 254.67 | 254.50 | 254.37 | 254.24 | 254.18 |
| 7 | 247.73 | 247.73 | 247.77 | 247.88 | 249.40 | 251.59 | 254.52 | 254.67 | 254.50 | 254.37 | 254.24 | 254.18 |
| 8 | 375.05 | 375.05 | 375.14 | 375.34 | 378.67 | 383.49 | 389.94 | 390.17 | 389.66 | 389.27 | 388.88 | 388.69 |
| 9 | 375.05 | 375.05 | 375.14 | 375.34 | 378.67 | 383.49 | 389.94 | 390.17 | 389.66 | 389.27 | 388.88 | 388.69 |
| 10 | 375.05 | 375.05 | 375.14 | 375.34 | 378.67 | 383.49 | 389.94 | 390.17 | 389.66 | 389.27 | 388.88 | 388.69 |
| 11 | 375.05 | 375.05 | 375.14 | 375.34 | 378.67 | 383.49 | 389.94 | 390.17 | 389.66 | 389.27 | 388.88 | 388.69 |
| 12 | 375.05 | 375.05 | 375.14 | 375.34 | 378.67 | 383.49 | 389.94 | 390.17 | 389.66 | 389.27 | 388.88 | 388.69 |
| 13 | 375.05 | 375.05 | 375.14 | 375.34 | 378.67 | 383.49 | 389.94 | 390.17 | 389.66 | 389.27 | 388.88 | 388.69 |
| 14 | 476.49 | 476.49 | 476.61 | 476.88 | 481.87 | 489.09 | 498.74 | 499.04 | 498.12 | 497.43 | 496.73 | 496.39 |
| 15 | 476.49 | 476.49 | 476.61 | 476.88 | 481.87 | 489.09 | 498.74 | 499.04 | 498.12 | 497.43 | 496.73 | 496.39 |
| 16 | 476.49 | 476.49 | 476.61 | 476.88 | 481.87 | 489.09 | 498.74 | 499.04 | 498.12 | 497.43 | 496.73 | 496.39 |
| 17 | 476.49 | 476.49 | 476.61 | 476.88 | 481.87 | 489.09 | 498.74 | 499.04 | 498.12 | 497.43 | 496.73 | 496.39 |
| 18 | 476.49 | 476.49 | 476.61 | 476.88 | 481.87 | 489.09 | 498.74 | 499.04 | 498.12 | 497.43 | 496.73 | 496.39 |
| 19 | 555.17 | 555.17 | 555.31 | 555.64 | 562.00 | 571.16 | 583.39 | 583.73 | 582.37 | 581.34 | 580.29 | 579.79 |
| 20 | 555.17 | 555.17 | 555.31 | 555.64 | 562.00 | 571.16 | 583.39 | 583.73 | 582.37 | 581.34 | 580.29 | 579.79 |
| 21 | 555.17 | 555.17 | 555.31 | 555.64 | 562.00 | 571.16 | 583.39 | 583.73 | 582.37 | 581.34 | 580.29 | 579.79 |
| 22 | 555.17 | 555.17 | 555.31 | 555.64 | 562.00 | 571.16 | 583.39 | 583.73 | 582.37 | 581.34 | 580.29 | 579.79 |
| 23 | 555.17 | 555.17 | 555.31 | 555.64 | 562.00 | 571.16 | 583.39 | 583.73 | 582.37 | 581.34 | 580.29 | 579.79 |
| 24 | 619.09 | 619.09 | 619.25 | 619.61 | 627.13 | 637.92 | 652.30 | 652.67 | 650.92 | 649.61 | 648.26 | 647.61 |
| 25 | 619.09 | 619.09 | 619.25 | 619.61 | 627.13 | 637.92 | 652.30 | 652.67 | 650.92 | 649.61 | 648.26 | 647.61 |
| 26 | 619.09 | 619.09 | 619.25 | 619.61 | 627.13 | 637.92 | 652.30 | 652.67 | 650.92 | 649.61 | 648.26 | 647.61 |
| 27 | 619.09 | 619.09 | 619.25 | 619.61 | 627.13 | 637.92 | 652.30 | 652.67 | 650.92 | 649.61 | 648.26 | 647.61 |
| 28 | 619.09 | 619.09 | 619.25 | 619.61 | 627.13 | 637.92 | 652.30 | 652.67 | 650.92 | 649.61 | 648.26 | 647.61 |
| 29 | 670.76 | 670.76 | 670.94 | 671.34 | 679.84 | 692.01 | 708.22 | 708.60 | 706.52 | 704.97 | 703.36 | 702.60 |
| 30 | 670.76 | 670.76 | 670.94 | 671.34 | 679.84 | 692.01 | 708.22 | 708.60 | 706.52 | 704.97 | 703.36 | 702.60 |
| 31 | 670.76 | 670.76 | 670.94 | 671.34 | 679.84 | 692.01 | 708.22 | 708.60 | 706.52 | 704.97 | 703.36 | 702.60 |
| 32 | 670.76 | 670.76 | 670.94 | 671.34 | 679.84 | 692.01 | 708.22 | 708.60 | 706.52 | 704.97 | 703.36 | 702.60 |
| 33 | 670.76 | 670.76 | 670.94 | 671.34 | 679.84 | 692.01 | 708.22 | 708.60 | 706.52 | 704.97 | 703.36 | 702.60 |
| 34 | 741.56 | 741.56 | 741.76 | 742.19 | 743.53 | 745.41 | 747.88 | 748.29 | 745.96 | 744.21 | 742.42 | 741.56 |
| 35 | 741.56 | 741.56 | 741.76 | 742.19 | 743.53 | 745.41 | 747.88 | 748.29 | 745.96 | 744.21 | 742.42 | 741.56 |
| 36 | 741.56 | 741.56 | 741.76 | 742.19 | 743.53 | 745.41 | 747.88 | 748.29 | 745.96 | 744.21 | 742.42 | 741.56 |
| 37 | 741.56 | 741.56 | 741.76 | 742.19 | 743.53 | 745.41 | 747.88 | 748.29 | 745.96 | 744.21 | 742.42 | 741.56 |
| 38 | 741.56 | 741.56 | 741.76 | 742.19 | 743.53 | 745.41 | 747.88 | 748.29 | 745.96 | 744.21 | 742.42 | 741.56 |
| 39 | 764.38 | 764.38 | 764.58 | 765.03 | 766.42 | 768.37 | 770.94 | 771.36 | 768.87 | 767.01 | 765.09 | 764.17 |
| 40 | 764.38 | 764.38 | 764.58 | 765.03 | 766.42 | 768.37 | 770.94 | 771.36 | 768.87 | 767.01 | 765.09 | 764.17 |
| 41 | 764.38 | 764.38 | 764.58 | 765.03 | 766.42 | 768.37 | 770.94 | 771.36 | 768.87 | 767.01 | 765.09 | 764.17 |
| 42 | 764.38 | 764.38 | 764.58 | 765.03 | 766.42 | 768.37 | 770.94 | 771.36 | 768.87 | 767.01 | 765.09 | 764.17 |
| 43 | 764.38 | 764.38 | 764.58 | 765.03 | 766.42 | 768.37 | 770.94 | 771.36 | 768.87 | 767.01 | 765.09 | 764.17 |
| 44 | 772.31 | 772.31 | 772.51 | 772.96 | 774.38 | 776.36 | 778.96 | 779.38 | 776.84 | 774.93 | 772.97 | 772.03 |
| 45 | 772.31 | 772.31 | 772.51 | 772.96 | 774.38 | 776.36 | 778.96 | 779.38 | 776.84 | 774.93 | 772.97 | 772.03 |
| 46 | 772.31 | 772.31 | 772.51 | 772.96 | 774.38 | 776.36 | 778.96 | 779.38 | 776.84 | 774.93 | 772.97 | 772.03 |
| 47 | 772.31 | 772.31 | 772.51 | 772.96 | 774.38 | 776.36 | 778.96 | 779.38 | 776.84 | 774.93 | 772.97 | 772.03 |
| 48 | 772.31 | 772.31 | 772.51 | 772.96 | 774.38 | 776.36 | 778.96 | 779.38 | 776.84 | 774.93 | 772.97 | 772.03 |
| 49 | 764.38 | 764.38 | 764.58 | 765.03 | 766.42 | 768.37 | 770.94 | 771.36 | 768.87 | 767.01 | 765.09 | 764.17 |
| 50 | 764.38 | 764.38 | 764.58 | 765.03 | 766.42 | 768.37 | 770.94 | 771.36 | 768.87 | 767.01 | 765.09 | 764.17 |
| 51 | 764.38 | 764.38 | 764.58 | 765.03 | 766.42 | 768.37 | 770.94 | 771.36 | 768.87 | 767.01 | 765.09 | 764.17 |
| 52 | 764.38 | 764.38 | 764.58 | 765.03 | 766.42 | 768.37 | 770.94 | 771.36 | 768.87 | 767.01 | 765.09 | 764.17 |
| 53 | 764.38 | 764.38 | 764.58 | 765.03 | 766.42 | 768.37 | 770.94 | 771.36 | 768.87 | 767.01 | 765.09 | 764.17 |
| 54 | 741.56 | 741.56 | 741.76 | 742.19 | 743.53 | 745.41 | 747.88 | 748.29 | 745.96 | 744.21 | 742.42 | 741.56 |
| 55 | 741.56 | 741.56 | 741.76 | 742.19 | 743.53 | 745.41 | 747.88 | 748.29 | 745.96 | 744.21 | 742.42 | 741.56 |
| 56 | 741.56 | 741.56 | 741.76 | 742.19 | 743.53 | 745.41 | 747.88 | 748.29 | 745.96 | 744.21 | 742.42 | 741.56 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 57 | 741.56 | 741.56 | 741.76 | 742.19 | 743.53 | 745.41 | 747.88 | 748.29 | 745.96 | 744.21 | 742.42 | 741.56 |
| 58 | 741.56 | 741.56 | 741.76 | 742.19 | 743.53 | 745.41 | 747.88 | 748.29 | 745.96 | 744.21 | 742.42 | 741.56 |
| 59 | 670.76 | 670.76 | 670.94 | 671.34 | 679.84 | 692.01 | 708.22 | 708.60 | 706.52 | 704.97 | 703.36 | 702.60 |
| 60 | 670.76 | 670.76 | 670.94 | 671.34 | 679.84 | 692.01 | 708.22 | 708.60 | 706.52 | 704.97 | 703.36 | 702.60 |
| 61 | 670.76 | 670.76 | 670.94 | 671.34 | 679.84 | 692.01 | 708.22 | 708.60 | 706.52 | 704.97 | 703.36 | 702.60 |
| 62 | 670.76 | 670.76 | 670.94 | 671.34 | 679.84 | 692.01 | 708.22 | 708.60 | 706.52 | 704.97 | 703.36 | 702.60 |
| 63 | 670.76 | 670.76 | 670.94 | 671.34 | 679.84 | 692.01 | 708.22 | 708.60 | 706.52 | 704.97 | 703.36 | 702.60 |
| 64 | 619.09 | 619.09 | 619.25 | 619.61 | 627.13 | 637.92 | 652.30 | 652.67 | 650.92 | 649.61 | 648.26 | 647.61 |
| 65 | 619.09 | 619.09 | 619.25 | 619.61 | 627.13 | 637.92 | 652.30 | 652.67 | 650.92 | 649.61 | 648.26 | 647.61 |
| 66 | 619.09 | 619.09 | 619.25 | 619.61 | 627.13 | 637.92 | 652.30 | 652.67 | 650.92 | 649.61 | 648.26 | 647.61 |
| 67 | 619.09 | 619.09 | 619.25 | 619.61 | 627.13 | 637.92 | 652.30 | 652.67 | 650.92 | 649.61 | 648.26 | 647.61 |
| 68 | 619.09 | 619.09 | 619.25 | 619.61 | 627.13 | 637.92 | 652.30 | 652.67 | 650.92 | 649.61 | 648.26 | 647.61 |
| 69 | 555.17 | 555.17 | 555.31 | 555.64 | 562.00 | 571.16 | 583.39 | 583.73 | 582.37 | 581.34 | 580.29 | 579.79 |
| 70 | 555.17 | 555.17 | 555.31 | 555.64 | 562.00 | 571.16 | 583.39 | 583.73 | 582.37 | 581.34 | 580.29 | 579.79 |
| 71 | 555.17 | 555.17 | 555.31 | 555.64 | 562.00 | 571.16 | 583.39 | 583.73 | 582.37 | 581.34 | 580.29 | 579.79 |
| 72 | 555.17 | 555.17 | 555.31 | 555.64 | 562.00 | 571.16 | 583.39 | 583.73 | 582.37 | 581.34 | 580.29 | 579.79 |
| 73 | 555.17 | 555.17 | 555.31 | 555.64 | 562.00 | 571.16 | 583.39 | 583.73 | 582.37 | 581.34 | 580.29 | 579.79 |
| 74 | 476.49 | 476.49 | 476.61 | 476.88 | 481.87 | 489.09 | 498.74 | 499.04 | 498.12 | 497.43 | 496.73 | 496.39 |
| 75 | 476.49 | 476.49 | 476.61 | 476.88 | 481.87 | 489.09 | 498.74 | 499.04 | 498.12 | 497.43 | 496.73 | 496.39 |
| 76 | 476.49 | 476.49 | 476.61 | 476.88 | 481.87 | 489.09 | 498.74 | 499.04 | 498.12 | 497.43 | 496.73 | 496.39 |
| 77 | 476.49 | 476.49 | 476.61 | 476.88 | 481.87 | 489.09 | 498.74 | 499.04 | 498.12 | 497.43 | 496.73 | 496.39 |
| 78 | 476.49 | 476.49 | 476.61 | 476.88 | 481.87 | 489.09 | 498.74 | 499.04 | 498.12 | 497.43 | 496.73 | 496.39 |
| 79 | 375.05 | 375.05 | 375.14 | 375.34 | 378.67 | 383.49 | 389.94 | 390.17 | 389.66 | 389.27 | 388.88 | 388.69 |
| 80 | 375.05 | 375.05 | 375.14 | 375.34 | 378.67 | 383.49 | 389.94 | 390.17 | 389.66 | 389.27 | 388.88 | 388.69 |
| 81 | 375.05 | 375.05 | 375.14 | 375.34 | 378.67 | 383.49 | 389.94 | 390.17 | 389.66 | 389.27 | 388.88 | 388.69 |
| 82 | 375.05 | 375.05 | 375.14 | 375.34 | 378.67 | 383.49 | 389.94 | 390.17 | 389.66 | 389.27 | 388.88 | 388.69 |
| 83 | 375.05 | 375.05 | 375.14 | 375.34 | 378.67 | 383.49 | 389.94 | 390.17 | 389.66 | 389.27 | 388.88 | 388.69 |
| 84 | 375.05 | 375.05 | 375.14 | 375.34 | 378.67 | 383.49 | 389.94 | 390.17 | 389.66 | 389.27 | 388.88 | 388.69 |
| 85 | 247.73 | 247.73 | 247.77 | 247.88 | 249.40 | 251.59 | 254.52 | 254.67 | 254.50 | 254.37 | 254.24 | 254.18 |
| 86 | 247.73 | 247.73 | 247.77 | 247.88 | 249.40 | 251.59 | 254.52 | 254.67 | 254.50 | 254.37 | 254.24 | 254.18 |
| 87 | 247.73 | 247.73 | 247.77 | 247.88 | 249.40 | 251.59 | 254.52 | 254.67 | 254.50 | 254.37 | 254.24 | 254.18 |
| 88 | 247.73 | 247.73 | 247.77 | 247.88 | 249.40 | 251.59 | 254.52 | 254.67 | 254.50 | 254.37 | 254.24 | 254.18 |
| 89 | 247.73 | 247.73 | 247.77 | 247.88 | 249.40 | 251.59 | 254.52 | 254.67 | 254.50 | 254.37 | 254.24 | 254.18 |
| 90 | 247.73 | 247.73 | 247.77 | 247.88 | 249.40 | 251.59 | 254.52 | 254.67 | 254.50 | 254.37 | 254.24 | 254.18 |
| 91 | 247.73 | 247.73 | 247.77 | 247.88 | 249.40 | 251.59 | 254.52 | 254.67 | 254.50 | 254.37 | 254.24 | 254.18 |

```
NAME(1)=   0

      TIMES DMASS G(1) G(N1) GGAS       0.25000         -0.41772E-05     0.13329E-02     0.37220E-04     0.37220E-04

 TIME   USUP     ULIN     UDUP     UCUP     UGOUT   ULOUT     UGLOP     CRF      DPDN     DPCR    DPLOP  AMCOIN  AMCOR   AMGS    AMLS  MERROR
       <------   ( CM/SEC )  AT CORE WATER STATE             ------>        <---      ( M.AQ )     ---->  <---  (  KG/M**2 ) AT CORE FLOW --->

10.00   4.788    4.788    3.526    4.474    1.305   0.981     0.0      0.206     0.0      4.52     0.0    526.5  406.8   89.3   32.1     1.3
        TIMES DMASS G(1) G(N1) GGAS        20.000            0.27707E-06      0.97705E-03     0.22939E-03     0.22939E-03
20.00   3.693    3.693    3.526    4.474    0.859   0.0       0.0      0.0       0.0      8.11     0.0    918.5  632.1  192.0   93.4     4.1
30.00   3.638    3.638    3.526    4.474    1.128   0.744     0.0      0.207     0.0      8.78     0.0   1267.2  804.9  300.1  158.1     7.2
        TIMES DMASS G(1) G(N1) GGAS        40.000           -0.16391E-06      0.77644E-03     0.43591E-03     0.33853E-03
40.00   2.941    2.941    3.526    4.474    1.268   0.365     0.0      0.125     0.0      9.92     0.0   1566.9  939.1  411.0  209.6    10.3
50.00   2.899    2.899    3.526    4.474    1.410   0.481     0.0      0.168     0.0     10.25     0.0   1841.3 1043.7  539.4  248.0    13.4
        TIMES DMASS G(1) G(N1) GGAS        60.000            0.34721E-07      0.75513E-03     0.54341E-03     0.41395E-03
 TIME   USUP     ULIN     UDUP     UCUP     UGOUT   ULOUT     UGLOP     CRF      DPDN     DPCR    DPLOP  AMCOIN  AMCOR   AMGS    AMLS  MERROR
       <------   ( CM/SEC )  AT CORE WATER STATE             ------>        <---      ( M.AQ )     ---->  <---  (  KG/M**2 ) AT CORE FLOW --->

60.00   2.860    2.860    3.526    4.474    1.551   0.485     0.0      0.171     0.0      9.98     0.0   2111.4 1124.7  680.1  293.3    16.3
70.00   2.638    2.638    3.526    4.474    1.606   0.643     0.0      0.246     0.0      9.41     0.0   2376.0 1178.6  828.5  352.8    19.1
        TIMES DMASS G(1) G(N1) GGAS        80.000            0.14890E-06      0.62036E-03     0.55009E-03     0.41564E-03


80.00   2.347    2.347    3.526    4.474    1.557   0.504     0.0      0.217     0.0      8.99     0.0   2607.1 1202.2  982.0  404.6    21.5
90.00   2.280    2.280    3.526    4.474    1.542   0.493     0.0      0.218     0.0      8.61     0.0   2826.4 1226.6 1128.9  450.4    23.6
        TIMES DMASS G(1) G(N1) GGAS        100.00           -0.22002E-07      0.62454E-03     0.55675E-03     0.41433E-03
```

*** TIME = 100.00 ( SEC ) **** INLET AND OUTLET CONDITION ****

| TQN2(C) | ZB2(M) | TQN5(C) | ZB5(M) | DD(IB4)(MM) | DD(N1)(MM) | DP(M) | CRATIO |
|---|---|---|---|---|---|---|---|
| 424.78 | 1.0289 | 0.0 | 3.6600 | 0.67225 | 0.67313 | 1.36392 | 0.22803 |

P, RL, RGST 2.8689E+04 7.3473E-06 1.2231E-08

| I | IP | AG(I) | AGINF(I) | AGDISP(I) | TW(I) | TL/TG(I) | PC(I) | HT(I) | HR(I) | HCV(I) | G(I) | GG(I) | GL(I) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 0.0 | 0.0 | 0.0 | 138.49 | 98.72 | 2.869E+04 | 1044. | 0.0 | 1.809E+06 | 6.245E-04 | 0.0 | 6.245E-04 |
| 2 | 1 | 0.0 | 0.0 | 0.0 | 138.49 | 99.73 | 2.865E+04 | 1044. | 0.0 | 1.809E+06 | 6.245E-04 | 0.0 | 6.245E-04 |
| 3 | 1 | 0.0 | 0.0 | 0.0 | 138.49 | 100.65 | 2.861E+04 | 1044. | 0.0 | 1.809E+06 | 6.244E-04 | 0.0 | 6.244E-04 |
| 4 | 1 | 0.0 | 0.0 | 0.0 | 138.49 | 101.60 | 2.858E+04 | 1044. | 0.0 | 1.809E+06 | 6.243E-04 | 0.0 | 6.243E-04 |
| 5 | 1 | 0.0 | 0.0 | 0.0 | 138.49 | 102.60 | 2.854E+04 | 1044. | 0.0 | 1.809E+06 | 6.242E-04 | 0.0 | 6.242E-04 |
| 6 | 1 | 0.0 | 0.0 | 0.0 | 138.49 | 103.62 | 2.850E+04 | 1044. | 0.0 | 1.809E+06 | 6.241E-04 | 0.0 | 6.241E-04 |
| 7 | 1 | 0.0 | 0.0 | 0.0 | 138.49 | 104.66 | 2.846E+04 | 1044. | 0.0 | 1.809E+06 | 6.240E-04 | 0.0 | 6.240E-04 |
| 8 | 1 | 0.0 | 0.0 | 0.0 | 139.95 | 105.71 | 2.842E+04 | 1802. | 0.0 | 3.745E+06 | 6.239E-04 | 0.0 | 6.239E-04 |
| 9 | 1 | 0.0 | 0.0 | 0.0 | 139.95 | 107.76 | 2.839E+04 | 1802. | 0.0 | 3.745E+06 | 6.238E-04 | 0.0 | 6.238E-04 |
| 10 | 1 | 0.0 | 0.0 | 0.0 | 139.95 | 109.83 | 2.835E+04 | 1802. | 0.0 | 3.745E+06 | 6.237E-04 | 0.0 | 6.237E-04 |
| 11 | 1 | 0.0 | 0.0 | 0.0 | 139.95 | 111.92 | 2.831E+04 | 1802. | 0.0 | 3.745E+06 | 6.237E-04 | 0.0 | 6.237E-04 |
| 12 | 1 | 0.0 | 0.0 | 0.0 | 139.95 | 114.04 | 2.827E+04 | 1802. | 0.0 | 3.745E+06 | 6.236E-04 | 0.0 | 6.236E-04 |
| 13 | 1 | 0.0 | 0.0 | 0.0 | 139.95 | 116.17 | 2.823E+04 | 1802. | 0.0 | 3.745E+06 | 6.235E-04 | 0.0 | 6.235E-04 |
| 14 | 1 | 0.0 | 0.0 | 0.0 | 140.78 | 118.32 | 2.820E+04 | 2360. | 0.0 | 5.367E+06 | 6.234E-04 | 0.0 | 6.234E-04 |
| 15 | 1 | 0.0 | 0.0 | 0.0 | 140.78 | 121.31 | 2.816E+04 | 2360. | 0.0 | 5.367E+06 | 6.233E-04 | 0.0 | 6.233E-04 |
| 16 | 1 | 0.0 | 0.0 | 0.0 | 140.78 | 124.31 | 2.812E+04 | 2360. | 0.0 | 5.367E+06 | 6.232E-04 | 0.0 | 6.232E-04 |
| 17 | 1 | 0.0 | 0.0 | 0.0 | 140.78 | 127.32 | 2.808E+04 | 2360. | 0.0 | 5.367E+06 | 6.231E-04 | 0.0 | 6.231E-04 |
| 18 | 1 | 0.0 | 0.0 | 0.0 | 140.78 | 130.34 | 2.804E+04 | 2360. | 0.0 | 5.367E+06 | 6.230E-04 | 0.0 | 6.230E-04 |
| 19 | 3 | 0.0396 | 0.0 | 0.0 | 141.32 | 131.14 | 2.801E+04 | 2777. | 0.0 | 6.665E+06 | 6.229E-04 | 9.777E-07 | 6.220E-04 |
| 20 | 3 | 0.1216 | 0.0 | 0.0 | 141.32 | 131.14 | 2.797E+04 | 2777. | 0.0 | 6.665E+06 | 6.234E-04 | 5.092E-06 | 6.183E-04 |
| 21 | 3 | 0.1814 | 0.0 | 0.0 | 141.32 | 131.14 | 2.794E+04 | 2777. | 0.0 | 6.665E+06 | 6.236E-04 | 9.208E-06 | 6.144E-04 |
| 22 | 3 | 0.2214 | 0.0 | 0.0 | 141.32 | 131.14 | 2.790E+04 | 2777. | 0.0 | 6.665E+06 | 6.231E-04 | 1.333E-05 | 6.098E-04 |
| 23 | 3 | 0.2520 | 0.0 | 0.0 | 141.32 | 131.14 | 2.787E+04 | 2777. | 0.0 | 6.665E+06 | 6.225E-04 | 1.747E-05 | 6.050E-04 |
| 24 | 3 | 0.2795 | 0.0 | 0.0 | 141.71 | 131.14 | 2.785E+04 | 3108. | 0.0 | 7.746E+06 | 6.218E-04 | 2.170E-05 | 6.001E-04 |
| 25 | 3 | 0.3116 | 0.0 | 0.0 | 141.71 | 131.14 | 2.782E+04 | 3108. | 0.0 | 7.746E+06 | 6.209E-04 | 2.725E-05 | 5.936E-04 |
| 26 | 3 | 0.3631 | 0.0 | 0.0 | 141.71 | 131.14 | 2.779E+04 | 3108. | 0.0 | 7.746E+06 | 6.189E-04 | 3.759E-05 | 5.813E-04 |
| 27 | 5 | 0.5461 | 0.5120 | 0.7587 | 456.42 | 131.14 | 2.777E+04 | 223.3 | 1.293E+06 | 1.584E+07 | 5.916E-04 | 7.777E-05 | 5.138E-04 |
| 28 | 5 | 0.5717 | 0.5410 | 0.8393 | 482.58 | 131.14 | 2.775E+04 | 179.4 | 1.466E+06 | 1.341E+07 | 5.892E-04 | 8.720E-05 | 5.020E-04 |
| 29 | 5 | 0.5952 | 0.5658 | 0.8985 | 538.84 | 131.14 | 2.773E+04 | 160.7 | 1.942E+06 | 1.351E+07 | 5.870E-04 | 9.589E-05 | 4.911E-04 |
| 30 | 5 | 0.6183 | 0.5908 | 0.9396 | 554.51 | 131.14 | 2.772E+04 | 148.1 | 2.046E+06 | 1.274E+07 | 5.850E-04 | 1.051E-04 | 4.799E-04 |
| 31 | 5 | 0.6387 | 0.6138 | 0.9610 | 567.81 | 131.14 | 2.770E+04 | 139.0 | 2.129E+06 | 1.219E+07 | 5.830E-04 | 1.140E-04 | 4.690E-04 |
| 32 | 5 | 0.6577 | 0.6354 | 0.9724 | 579.24 | 131.14 | 2.769E+04 | 131.9 | 2.194E+06 | 1.174E+07 | 5.813E-04 | 1.227E-04 | 4.586E-04 |
| 33 | 5 | 0.6752 | 0.6556 | 0.9790 | 589.60 | 131.14 | 2.768E+04 | 122.3 | 2.302E+06 | 1.092E+07 | 5.797E-04 | 1.311E-04 | 4.486E-04 |
| 34 | 5 | 0.6912 | 0.6739 | 0.9830 | 639.74 | 134.43 | 2.766E+04 | 119.8 | 2.800E+06 | 1.157E+07 | 5.783E-04 | 1.390E-04 | 4.393E-04 |
| 35 | 5 | 0.7088 | 0.6932 | 0.9861 | 648.08 | 135.36 | 2.765E+04 | 115.4 | 2.796E+06 | 1.127E+07 | 5.771E-04 | 1.476E-04 | 4.295E-04 |
| 36 | 5 | 0.7256 | 0.7115 | 0.9883 | 655.54 | 136.14 | 2.764E+04 | 111.5 | 2.788E+06 | 1.100E+07 | 5.760E-04 | 1.561E-04 | 4.199E-04 |
| 37 | 5 | 0.7416 | 0.7289 | 0.9900 | 662.38 | 136.87 | 2.763E+04 | 107.9 | 2.777E+06 | 1.074E+07 | 5.750E-04 | 1.644E-04 | 4.107E-04 |
| 38 | 5 | 0.7569 | 0.7455 | 0.9912 | 668.38 | 137.52 | 2.762E+04 | 104.5 | 2.758E+06 | 1.049E+07 | 5.741E-04 | 1.725E-04 | 4.016E-04 |
| 39 | 5 | 0.7717 | 0.7613 | 0.9922 | 692.06 | 138.06 | 2.761E+04 | 102.3 | 2.955E+06 | 1.058E+07 | 5.733E-04 | 1.805E-04 | 3.929E-04 |
| 40 | 5 | 0.7870 | 0.7771 | 0.9931 | 698.70 | 138.89 | 2.760E+04 | 99.07 | 2.928E+06 | 1.033E+07 | 5.726E-04 | 1.886E-04, | 3.840E-04 |
| 41 | 5 | 0.8015 | 0.7921 | 0.9938 | 705.67 | 139.92 | 2.759E+04 | 96.08 | 2.905E+06 | 1.011E+07 | 5.719E-04 | 1.965E-04 | 3.753E-04 |
| 42 | 5 | 0.8153 | 0.8064 | 0.9944 | 712.51 | 140.89 | 2.758E+04 | 93.25 | 2.879E+06 | 9.907E+06 | 5.712E-04 | 2.043E-04 | 3.669E-04 |
| 43 | 5 | 0.8284 | 0.8202 | 0.9949 | 719.71 | 141.77 | 2.758E+04 | 90.57 | 2.856E+06 | 9.716E+06 | 5.706E-04 | 2.120E-04 | 3.586E-04 |
| 44 | 5 | 0.8408 | 0.8334 | 0.9953 | 732.89 | 142.53 | 2.757E+04 | 88.29 | 2.902E+06 | 9.629E+06 | 5.700E-04 | 2.195E-04 | 3.505E-04 |
| 45 | 5 | 0.8525 | 0.8462 | 0.9957 | 739.43 | 143.23 | 2.756E+04 | 85.86 | 2.872E+06 | 9.446E+06 | 5.695E-04 | 2.270E-04 | 3.425E-04 |
| 46 | 5 | 0.8631 | 0.8585 | 0.9960 | 744.30 | 142.95 | 2.756E+04 | 83.61 | 2.836E+06 | 9.256E+06 | 5.690E-04 | 2.344E-04 | 3.346E-04 |
| 47 | 5 | 0.8746 | 0.8703 | 0.9963 | 749.77 | 140.92 | 2.755E+04 | 80.93 | 2.771E+06 | 9.037E+06 | 5.687E-04 | 2.416E-04 | 3.270E-04 |
| 48 | 5 | 0.8815 | 0.8808 | 0.9966 | 753.81 | 141.72 | 2.755E+04 | 79.48 | 2.786E+06 | 8.887E+06 | 5.684E-04 | 2.487E-04 | 3.197E-04 |
| 49 | 5 | 0.8863 | 0.8841 | 0.9968 | 751.16 | 133.09 | 2.754E+04 | 77.55 | 2.676E+06 | 8.664E+06 | 5.683E-04 | 2.559E-04 | 3.125E-04 |
| 50 | 5 | 0.8907 | 0.8873 | 0.9970 | 754.65 | 137.45 | 2.754E+04 | 76.07 | 2.639E+06 | 8.548E+06 | 5.682E-04 | 2.628E-04 | 3.054E-04 |
| 51 | 5 | 0.8944 | 0.8902 | 0.9972 | 758.59 | 141.78 | 2.753E+04 | 74.83 | 2.618E+06 | 8.457E+06 | 5.680E-04 | 2.695E-04 | 2.985E-04 |
| 52 | 5 | 0.8974 | 0.8931 | 0.9973 | 762.43 | 145.14 | 2.753E+04 | 73.83 | 2.614E+06 | 8.380E+06 | 5.677E-04 | 2.761E-04 | 2.916E-04 |
| 53 | 5 | 0.9002 | 0.8958 | 0.9975 | 766.13 | 146.46 | 2.752E+04 | 72.92 | 2.614E+06 | 8.307E+06 | 5.674E-04 | 2.826E-04 | 2.848E-04 |
| 54 | 5 | 0.9028 | 0.8985 | 0.9976 | 750.23 | 147.28 | 2.752E+04 | 71.24 | 2.418E+06 | 7.985E+06 | 5.671E-04 | 2.891E-04 | 2.780E-04 |
| 55 | 5 | 0.9053 | 0.9010 | 0.9978 | 752.12 | 147.53 | 2.752E+04 | 70.36 | 2.403E+06 | 7.903E+06 | 5.668E-04 | 2.953E-04 | 2.715E-04 |
| 56 | 5 | 0.9077 | 0.9035 | 0.9979 | 754.98 | 148.20 | 2.751E+04 | 69.55 | 2.397E+06 | 7.837E+06 | 5.665E-04 | 3.014E-04 | 2.651E-04 |
| 57 | 5 | 0.9100 | 0.9058 | 0.9980 | 757.89 | 148.90 | 2.751E+04 | 68.76 | 2.391E+06 | 7.774E+06 | 5.662E-04 | 3.074E-04 | 2.588E-04 |
| 58 | 5 | 0.9123 | 0.9081 | 0.9981 | 760.73 | 149.61 | 2.750E+04 | 68.00 | 2.385E+06 | 7.714E+06 | 5.659E-04 | 3.134E-04 | 2.525E-04 |
| 59 | 5 | 0.9146 | 0.9104 | 0.9982 | 711.83 | 150.43 | 2.750E+04 | 65.39 | 1.925E+06 | 7.032E+06 | 5.657E-04 | 3.193E-04 | 2.463E-04 |
| 60 | 5 | 0.9166 | 0.9123 | 0.9983 | 709.66 | 149.91 | 2.750E+04 | 64.57 | 1.882E+06 | 6.929E+06 | 5.654E-04 | 3.246E-04 | 2.408E-04 |
| 61 | 5 | 0.9185 | 0.9142 | 0.9984 | 711.25 | 150.67 | 2.749E+04 | 63.90 | 1.870E+06 | 6.874E+06 | 5.651E-04 | 3.297E-04 | 2.354E-04 |
| 62 | 5 | 0.9204 | 0.9161 | 0.9984 | 713.28 | 151.47 | 2.749E+04 | 63.27 | 1.862E+06 | 6.826E+06 | 5.648E-04 | 3.348E-04 | 2.300E-04 |
| 63 | 5 | 0.9222 | 0.9179 | 0.9985 | 715.43 | 152.22 | 2.749E+04 | 62.66 | 1.855E+06 | 6.782E+06 | 5.645E-04 | 3.398E-04 | 2.247E-04 |
| 64 | 5 | 0.9240 | 0.9197 | 0.9986 | 670.01 | 153.05 | 2.748E+04 | 60.62 | 1.508E+06 | 6.199E+06 | 5.642E-04 | 3.448E-04 | 2.194E-04 |
| 65 | 5 | 0.9256 | 0.9213 | 0.9986 | 668.13 | 152.12 | 2.748E+04 | 59.98 | 1.477E+06 | 6.122E+06 | 5.639E-04 | 3.493E-04 | 2.146E-04 |
| 66 | 5 | 0.9271 | 0.9228 | 0.9987 | 669.48 | 152.72 | 2.748E+04 | 59.45 | 1.469E+06 | 6.082E+06 | 5.637E-04 | 3.537E-04 | 2.100E-04 |
| 67 | 5 | 0.9287 | 0.9243 | 0.9987 | 671.04 | 153.47 | 2.747E+04 | 58.94 | 1.461E+06 | 6.046E+06 | 5.634E-04 | 3.580E-04 | 2.054E-04 |
| 68 | 5 | 0.9302 | 0.9258 | 0.9988 | 672.72 | 154.23 | 2.747E+04 | 58.44 | 1.455E+06 | 6.013E+06 | 5.631E-04 | 3.623E-04 | 2.008E-04 |
| 69 | 5 | 0.9316 | 0.9273 | 0.9988 | 613.58 | 154.99 | 2.747E+04 | 56.44 | 1.099E+06 | 5.325E+06 | 5.628E-04 | 3.665E-04 | 1.963E-04 |
| 70 | 5 | 0.9329 | 0.9285 | 0.9989 | 609.95 | 152.98 | 2.747E+04 | 55.91 | 1.069E+06 | 5.247E+06 | 5.625E-04 | 3.702E-04 | 1.923E-04 |
| 71 | 5 | 0.9341 | 0.9297 | 0.9989 | 610.24 | 153.26 | 2.746E+04 | 55.46 | 1.060E+06 | 5.209E+06 | 5.622E-04 | 3.738E-04 | 1.885E-04 |
| 72 | 5 | 0.9353 | 0.9310 | 0.9989 | 611.15 | 153.70 | 2.746E+04 | 55.04 | 1.054E+06 | 5.180E+06 | 5.619E-04 | 3.773E-04 | 1.846E-04 |
| 73 | 5 | 0.9364 | 0.9322 | 0.9990 | 612.29 | 154.17 | 2.746E+04 | 54.63 | 1.049E+06 | 5.153E+06 | 5.617E-04 | 3.808E-04 | 1.809E-04 |
| 74 | 5 | 0.9376 | 0.9333 | 0.9990 | 535.74 | 154.66 | 2.745E+04 | 52.80 | 7.090E+05 | 4.332E+06 | 5.614E-04 | 3.843E-04 | 1.771E-04 |
| 75 | 5 | 0.9385 | 0.9343 | 0.9990 | 529.77 | 151.28 | 2.745E+04 | 52.38 | 6.814E+05 | 4.246E+06 | 5.611E-04 | 3.871E-04 | 1.740E-04 |
| 76 | 5 | 0.9395 | 0.9352 | 0.9991 | 529.68 | 151.20 | 2.745E+04 | 52.04 | 6.747E+05 | 4.219E+06 | 5.608E-04 | 3.899E-04 | 1.710E-04 |
| 77 | 5 | 0.9404 | 0.9362 | 0.9991 | 530.56 | 151.72 | 2.745E+04 | 51.72 | 6.712E+05 | 4.204E+06 | 5.606E-04 | 3.926E-04 | 1.680E-04 |
| 78 | 5 | 0.9414 | 0.9371 | 0.9991 | 531.36 | 152.37 | 2.744E+04 | 51.40 | 6.678E+05 | 4.187E+06 | 5.603E-04 | 3.953E-04 | 1.650E-04 |
| 79 | 5 | 0.9423 | 0.9380 | 0.9991 | 427.59 | 152.96 | 2.744E+04 | 50.16 | 3.617E+05 | 3.148E+06 | 5.600E-04 | 3.980E-04 | 1.620E-04 |
| 80 | 5 | 0.9429 | 0.9386 | 0.9992 | 419.21 | 147.66 | 2.744E+04 | 49.95 | 3.406E+05 | 3.055E+06 | 5.597E-04 | 3.999E-04 | 1.598E-04 |
| 81 | 5 | 0.9436 | 0.9393 | 0.9992 | 418.54 | 147.28 | 2.744E+04 | 49.67 | 3.372E+05 | 3.031E+06 | 5.594E-04 | 4.018E-04 | 1.577E-04 |
| 82 | 5 | 0.9442 | 0.9399 | 0.9992 | 418.85 | 147.30 | 2.743E+04 | 49.38 | 3.360E+05 | 3.017E+06 | 5.591E-04 | 4.036E-04 | 1.555E-04 |
| 83 | 5 | 0.9447 | 0.9406 | 0.9992 | 419.42 | 147.37 | 2.743E+04 | 49.11 | 3.354E+05 | 3.006E+06 | 5.589E-04 | 4.055E-04 | 1.534E-04 |
| 84 | 5 | 0.9453 | 0.9412 | 0.9992 | 420.00 | 147.47 | 2.743E+04 | 48.84 | 3.347E+05 | 2.995E+06 | 5.586E-04 | 4.073E-04 | 1.513E-04 |
| 85 | 5 | 0.9459 | 0.9418 | 0.9992 | 284.02 | 147.59 | 2.743E+04 | 46.66 | 1.136E+05 | 1.571E+06 | 5.583E-04 | 4.091E-04 | 1.492E-04 |
| 86 | 5 | 0.9462 | 0.9422 | 0.9992 | 275.52 | 139.89 | 2.743E+04 | 46.59 | 1.040E+05 | 1.484E+06 | 5.581E-04 | 4.100E-04 | 1.480E-04 |
| 87 | 5 | 0.9465 | 0.9425 | 0.9993 | 275.01 | 139.32 | 2.742E+04 | 46.37 | 1.032E+05 | 1.471E+06 | 5.578E-04 | 4.109E-04 | 1.469E-04 |
| 88 | 5 | 0.9467 | 0.9428 | 0.9993 | 275.16 | 139.20 | 2.742E+04 | 46.15 | 1.032E+05 | 1.466E+06 | 5.575E-04 | 4.118E-04 | 1.458E-04 |
| 89 | 5 | 0.9470 | 0.9432 | 0.9993 | 275.42 | 139.13 | 2.742E+04 | 45.93 | 1.033E+05 | 1.461E+06 | 5.573E-04 | 4.126E-04 | 1.446E-04 |
| 90 | 5 | 0.9473 | 0.9435 | 0.9993 | 275.82 | 139.06 | 2.742E+04 | 45.71 | 1.036E+05 | 1.457E+06 | 5.570E-04 | 4.135E-04 | 1.435E-04 |
| 91 | 5 | 0.9475 | 0.9438 | 0.9993 | 276.04 | 138.98 | 2.742E+04 | 45.49 | 1.037E+05 | 1.452E+06 | 5.567E-04 | 4.143E-04 | 1.424E-04 |

*** TIME = 100.00 ( SEC ) **** HOT ROD INFORMATION ****

| TPN2(C) | ZP2(M) |
|---|---|
| 419.13 | 0.9807 |

| I | IPP | TWP(I) | HTP(I) | HRP(I) | HCVP(I) | I | IPP | TWP(I) | HTP(I) | HRP(I) | HCVP(I) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 138.66 | 1121. | 0.0 | 1.990E+06 | 46 | 5 | 791.57 | 85.05 | 3.415E+06 | 9.832E+06 |
| 2 | 1 | 138.66 | 1121. | 0.0 | 1.990E+06 | 47 | 5 | 797.25 | 82.37 | 3.336E+06 | 9.605E+06 |
| 3 | 1 | 138.66 | 1121. | 0.0 | 1.990E+06 | 48 | 5 | 801.40 | 80.96 | 3.353E+06 | 9.446E+06 |
| 4 | 1 | 138.66 | 1121. | 0.0 | 1.990E+06 | 49 | 5 | 798.46 | 78.99 | 3.219E+06 | 9.214E+06 |
| 5 | 1 | 138.66 | 1121. | 0.0 | 1.990E+06 | 50 | 5 | 802.10 | 77.53 | 3.174E+06 | 9.095E+06 |
| 6 | 1 | 138.66 | 1121. | 0.0 | 1.990E+06 | 51 | 5 | 806.16 | 76.31 | 3.148E+06 | 9.002E+06 |
| 7 | 1 | 138.66 | 1121. | 0.0 | 1.990E+06 | 52 | 5 | 810.11 | 75.34 | 3.143E+06 | 8.922E+06 |
| 8 | 1 | 140.17 | 1936. | 0.0 | 4.120E+06 | 53 | 5 | 813.92 | 74.44 | 3.141E+06 | 8.847E+06 |
| 9 | 1 | 140.17 | 1936. | 0.0 | 4.120E+06 | 54 | 5 | 797.00 | 72.66 | 2.903E+06 | 8.508E+06 |
| 10 | 1 | 140.17 | 1936. | 0.0 | 4.120E+06 | 55 | 5 | 799.07 | 71.79 | 2.886E+06 | 8.424E+06 |
| 11 | 1 | 140.17 | 1936. | 0.0 | 4.120E+06 | 56 | 5 | 802.00 | 70.99 | 2.878E+06 | 8.355E+06 |
| 12 | 1 | 140.17 | 1936. | 0.0 | 4.120E+06 | 57 | 5 | 804.97 | 70.21 | 2.870E+06 | 8.289E+06 |
| 13 | 1 | 140.17 | 1936. | 0.0 | 4.120E+06 | 58 | 5 | 807.87 | 69.46 | 2.861E+06 | 8.226E+06 |
| 14 | 1 | 141.02 | 2535. | 0.0 | 5.904E+06 | 59 | 5 | 756.51 | 66.56 | 2.310E+06 | 7.509E+06 |
| 15 | 1 | 141.02 | 2535. | 0.0 | 5.904E+06 | 60 | 5 | 754.59 | 65.74 | 2.262E+06 | 7.407E+06 |
| 16 | 1 | 141.02 | 2535. | 0.0 | 5.904E+06 | 61 | 5 | 756.29 | 65.08 | 2.248E+06 | 7.350E+06 |
| 17 | 1 | 141.02 | 2535. | 0.0 | 5.904E+06 | 62 | 5 | 758.38 | 64.46 | 2.238E+06 | 7.299E+06 |
| 18 | 1 | 141.02 | 2535. | 0.0 | 5.904E+06 | 63 | 5 | 760.59 | 63.85 | 2.228E+06 | 7.253E+06 |
| 19 | 3 | 141.56 | 2982. | 0.0 | 7.332E+06 | 64 | 5 | 712.25 | 61.55 | 1.807E+06 | 6.632E+06 |
| 20 | 3 | 141.56 | 2982. | 0.0 | 7.332E+06 | 65 | 5 | 710.56 | 60.92 | 1.772E+06 | 6.554E+06 |
| 21 | 3 | 141.56 | 2982. | 0.0 | 7.332E+06 | 66 | 5 | 711.98 | 60.39 | 1.762E+06 | 6.513E+06 |
| 22 | 3 | 141.56 | 2982. | 0.0 | 7.332E+06 | 67 | 5 | 713.60 | 59.88 | 1.753E+06 | 6.475E+06 |
| 23 | 3 | 141.56 | 2982. | 0.0 | 7.332E+06 | 68 | 5 | 715.31 | 59.39 | 1.744E+06 | 6.440E+06 |
| 24 | 3 | 141.96 | 3338. | 0.0 | 8.521E+06 | 69 | 5 | 652.19 | 57.08 | 1.312E+06 | 5.705E+06 |
| 25 | 3 | 141.96 | 3338. | 0.0 | 8.521E+06 | 70 | 5 | 648.70 | 56.55 | 1.279E+06 | 5.626E+06 |
| 26 | 4 | 480.25 | 231.8 | 1.764E+06 | 1.732E+07 | 71 | 5 | 649.07 | 56.10 | 1.268E+06 | 5.588E+06 |
| 27 | 5 | 507.31 | 178.6 | 1.736E+06 | 1.411E+07 | 72 | 5 | 650.04 | 55.69 | 1.261E+06 | 5.556E+06 |
| 28 | 5 | 526.96 | 160.5 | 1.876E+06 | 1.311E+07 | 73 | 5 | 651.22 | 55.28 | 1.255E+06 | 5.529E+06 |
| 29 | 5 | 582.94 | 150.3 | 2.430E+06 | 1.358E+07 | 74 | 5 | 569.13 | 53.11 | 8.418E+05 | 4.647E+06 |
| 30 | 5 | 597.09 | 141.5 | 2.528E+06 | 1.302E+07 | 75 | 5 | 563.20 | 52.67 | 8.104E+05 | 4.559E+06 |
| 31 | 5 | 609.75 | 134.5 | 2.612E+06 | 1.258E+07 | 76 | 5 | 563.17 | 52.33 | 8.027E+05 | 4.532E+06 |
| 32 | 5 | 620.95 | 128.8 | 2.681E+06 | 1.220E+07 | 77 | 5 | 564.07 | 52.02 | 7.986E+05 | 4.516E+06 |
| 33 | 5 | 631.25 | 120.5 | 2.804E+06 | 1.141E+07 | 78 | 5 | 564.90 | 51.71 | 7.943E+05 | 4.499E+06 |
| 34 | 5 | 683.30 | 119.0 | 3.397E+06 | 1.210E+07 | 79 | 5 | 452.89 | 50.06 | 4.237E+05 | 3.378E+06 |
| 35 | 5 | 691.74 | 115.1 | 3.387E+06 | 1.183E+07 | 80 | 5 | 444.06 | 49.81 | 3.989E+05 | 3.279E+06 |
| 36 | 5 | 699.37 | 111.5 | 3.374E+06 | 1.157E+07 | 81 | 5 | 443.44 | 49.53 | 3.952E+05 | 3.255E+06 |
| 37 | 5 | 706.40 | 108.2 | 3.358E+06 | 1.132E+07 | 82 | 5 | 443.78 | 49.26 | 3.938E+05 | 3.240E+06 |
| 38 | 5 | 712.50 | 105.0 | 3.332E+06 | 1.107E+07 | 83 | 5 | 444.36 | 48.99 | 3.931E+05 | 3.228E+06 |
| 39 | 5 | 737.27 | 103.1 | 3.567E+06 | 1.118E+07 | 84 | 5 | 444.95 | 48.72 | 3.922E+05 | 3.216E+06 |
| 40 | 5 | 744.02 | 100.1 | 3.532E+06 | 1.093E+07 | 85 | 5 | 298.24 | 46.68 | 1.302E+05 | 1.712E+06 |
| 41 | 5 | 751.35 | 97.18 | 3.504E+06 | 1.071E+07 | 86 | 5 | 288.51 | 46.58 | 1.184E+05 | 1.611E+06 |
| 42 | 5 | 758.46 | 94.43 | 3.471E+06 | 1.050E+07 | 87 | 5 | 288.02 | 46.36 | 1.177E+05 | 1.599E+06 |
| 43 | 5 | 765.94 | 91.83 | 3.442E+06 | 1.031E+07 | 88 | 5 | 288.19 | 46.14 | 1.177E+05 | 1.592E+06 |
| 44 | 5 | 779.75 | 89.66 | 3.497E+06 | 1.022E+07 | 89 | 5 | 288.43 | 45.92 | 1.177E+05 | 1.587E+06 |
| 45 | 5 | 786.55 | 87.27 | 3.460E+06 | 1.003E+07 | 90 | 5 | 288.83 | 45.71 | 1.180E+05 | 1.583E+06 |
| | | | | | | 91 | 5 | 289.06 | 45.49 | 1.181E+05 | 1.577E+06 |

FUEL TEMPERATURE ( TIME = 100.00 ( SEC ) )

| J | TF( 1,J) | TF( 2,J) | TF( 3,J) | TF( 4,J) | TF( 5,J) | TF( 6,J) | TF( 7,J) | TF( 8,J) | TF( 9,J) | TF(10,J) | TF(11,J) | TF(12,J) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 |
| 2 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 |
| 3 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 |
| 4 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 |
| 5 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 |
| 6 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 |
| 7 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 |
| 8 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 |
| 9 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 |
| 10 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 |
| 11 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 |
| 12 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 |
| 13 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 | 139.95 |
| 14 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 |
| 15 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 |
| 16 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 |
| 17 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 |
| 18 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 | 140.78 |
| 19 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 |
| 20 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 |
| 21 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 |
| 22 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 |
| 23 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 | 141.32 |
| 24 | 141.71 | 141.71 | 141.71 | 141.71 | 141.71 | 141.71 | 141.71 | 141.71 | 141.71 | 141.71 | 141.71 | 141.71 |
| 25 | 141.71 | 141.71 | 141.71 | 141.71 | 141.71 | 141.71 | 141.71 | 141.71 | 141.71 | 141.71 | 141.71 | 141.71 |
| 26 | 141.71 | 141.71 | 141.71 | 141.71 | 141.71 | 141.71 | 141.71 | 141.71 | 141.71 | 141.71 | 141.71 | 141.71 |
| 27 | 456.42 | 457.51 | 458.98 | 460.62 | 484.15 | 507.92 | 532.25 | 534.05 | 535.15 | 535.98 | 536.83 | 537.24 |
| 28 | 482.58 | 483.53 | 484.81 | 486.29 | 508.09 | 530.36 | 553.45 | 555.07 | 556.02 | 556.73 | 557.46 | 557.81 |
| 29 | 538.84 | 539.79 | 541.11 | 542.63 | 566.15 | 590.39 | 615.71 | 617.34 | 618.38 | 619.17 | 619.98 | 620.37 |
| 30 | 554.51 | 555.41 | 556.67 | 558.13 | 581.04 | 604.75 | 629.61 | 631.17 | 632.14 | 632.87 | 633.63 | 633.99 |
| 31 | 567.81 | 568.68 | 569.89 | 571.31 | 593.77 | 617.09 | 641.61 | 643.12 | 644.03 | 644.72 | 645.43 | 645.77 |
| 32 | 579.24 | 580.09 | 581.26 | 582.64 | 604.66 | 627.58 | 651.73 | 653.18 | 654.03 | 654.67 | 655.33 | 655.64 |
| 33 | 589.60 | 590.40 | 591.52 | 592.82 | 614.00 | 636.14 | 659.60 | 660.97 | 661.70 | 662.25 | 662.81 | 663.08 |
| 34 | 639.74 | 640.59 | 641.78 | 643.17 | 646.54 | 650.04 | 653.74 | 655.24 | 656.05 | 656.66 | 657.28 | 657.58 |
| 35 | 648.08 | 648.91 | 650.07 | 651.43 | 654.74 | 658.20 | 661.85 | 663.32 | 664.08 | 664.66 | 665.24 | 665.53 |
| 36 | 655.54 | 656.35 | 657.49 | 658.82 | 662.08 | 665.49 | 669.10 | 670.53 | 671.25 | 671.80 | 672.35 | 672.62 |
| 37 | 662.38 | 663.18 | 664.29 | 665.61 | 668.82 | 672.18 | 675.74 | 677.15 | 677.83 | 678.34 | 678.87 | 679.12 |
| 38 | 668.38 | 669.15 | 670.25 | 671.54 | 674.70 | 678.02 | 681.54 | 682.92 | 683.56 | 684.04 | 684.53 | 684.77 |
| 39 | 692.06 | 692.85 | 693.96 | 695.28 | 698.51 | 701.91 | 705.53 | 706.92 | 707.55 | 708.03 | 708.52 | 708.75 |
| 40 | 698.70 | 699.47 | 700.56 | 701.85 | 705.03 | 708.39 | 711.97 | 713.32 | 713.92 | 714.36 | 714.82 | 715.03 |
| 41 | 705.67 | 706.42 | 707.49 | 708.76 | 711.90 | 715.22 | 718.76 | 720.09 | 720.64 | 721.06 | 721.48 | 721.68 |
| 42 | 712.51 | 713.25 | 714.30 | 715.55 | 718.64 | 721.92 | 725.43 | 726.73 | 727.25 | 727.63 | 728.03 | 728.21 |
| 43 | 719.71 | 720.43 | 721.46 | 722.70 | 725.75 | 728.99 | 732.47 | 733.74 | 734.23 | 734.59 | 734.95 | 735.13 |
| 44 | 732.89 | 733.61 | 734.63 | 735.86 | 738.92 | 742.16 | 745.65 | 746.91 | 747.37 | 747.71 | 748.05 | 748.22 |
| 45 | 739.43 | 740.14 | 741.15 | 742.36 | 745.37 | 748.58 | 752.04 | 753.28 | 753.70 | 754.01 | 754.33 | 754.48 |
| 46 | 744.30 | 744.99 | 745.98 | 747.17 | 750.15 | 753.32 | 756.74 | 757.96 | 758.34 | 758.63 | 758.92 | 759.05 |
| 47 | 749.77 | 750.44 | 751.41 | 752.58 | 755.51 | 758.63 | 762.02 | 763.21 | 763.54 | 763.79 | 764.04 | 764.16 |
| 48 | 753.81 | 754.48 | 755.44 | 756.60 | 759.50 | 762.61 | 765.98 | 767.16 | 767.47 | 767.71 | 767.95 | 768.06 |
| 49 | 751.16 | 751.81 | 752.75 | 753.88 | 756.72 | 759.77 | 763.07 | 764.23 | 764.52 | 764.74 | 764.96 | 765.06 |
| 50 | 754.65 | 755.29 | 756.21 | 757.33 | 760.15 | 763.17 | 766.46 | 767.60 | 767.87 | 768.07 | 768.28 | 768.37 |
| 51 | 758.59 | 759.22 | 760.13 | 761.24 | 764.04 | 767.04 | 770.31 | 771.44 | 771.69 | 771.88 | 772.07 | 772.17 |
| 52 | 762.43 | 763.05 | 763.96 | 765.07 | 767.85 | 770.84 | 774.09 | 775.21 | 775.45 | 775.63 | 775.81 | 775.90 |
| 53 | 766.13 | 766.75 | 767.65 | 768.75 | 771.51 | 774.49 | 777.73 | 778.85 | 779.07 | 779.24 | 779.42 | 779.50 |
| 54 | 750.23 | 750.83 | 751.69 | 752.75 | 755.40 | 758.25 | 761.36 | 762.44 | 762.64 | 762.79 | 762.94 | 763.01 |
| 55 | 752.12 | 752.70 | 753.56 | 754.61 | 757.24 | 760.08 | 763.18 | 764.24 | 764.43 | 764.56 | 764.70 | 764.77 |
| 56 | 754.98 | 755.56 | 756.41 | 757.45 | 760.07 | 762.90 | 765.98 | 767.04 | 767.21 | 767.33 | 767.46 | 767.53 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 57 | 757.89 | 758.46 | 759.31 | 760.34 | 762.95 | 765.77 | 768.84 | 769.89 | 770.05 | 770.16 | 770.28 | 770.34 |
| 58 | 760.73 | 761.30 | 762.14 | 763.17 | 765.76 | 768.57 | 771.63 | 772.68 | 772.82 | 772.93 | 773.04 | 773.09 |
| 59 | 711.83 | 712.35 | 713.11 | 714.05 | 730.75 | 748.98 | 769.07 | 770.01 | 770.06 | 770.10 | 770.14 | 770.16 |
| 60 | 709.66 | 710.17 | 710.92 | 711.85 | 728.37 | 746.43 | 766.36 | 767.29 | 767.32 | 767.33 | 767.35 | 767.36 |
| 61 | 711.25 | 711.76 | 712.51 | 713.43 | 729.87 | 747.86 | 767.72 | 768.65 | 768.66 | 768.67 | 768.68 | 768.68 |
| 62 | 713.28 | 713.78 | 714.52 | 715.44 | 731.82 | 749.75 | 769.56 | 770.48 | 770.48 | 770.48 | 770.48 | 770.48 |
| 63 | 715.43 | 715.93 | 716.67 | 717.58 | 733.90 | 751.78 | 771.55 | 772.46 | 772.45 | 772.44 | 772.43 | 772.43 |
| 64 | 670.01 | 670.46 | 671.13 | 671.96 | 686.39 | 702.21 | 719.70 | 720.55 | 720.53 | 720.52 | 720.51 | 720.50 |
| 65 | 668.13 | 668.57 | 669.23 | 670.05 | 684.35 | 700.04 | 717.42 | 718.26 | 718.22 | 718.20 | 718.17 | 718.15 |
| 66 | 669.48 | 669.92 | 670.58 | 671.40 | 685.64 | 701.28 | 718.61 | 719.44 | 719.40 | 719.36 | 719.32 | 719.31 |
| 67 | 671.04 | 671.48 | 672.14 | 672.95 | 687.14 | 702.73 | 720.02 | 720.85 | 720.80 | 720.76 | 720.71 | 720.69 |
| 68 | 672.72 | 673.15 | 673.81 | 674.62 | 688.76 | 704.31 | 721.56 | 722.39 | 722.32 | 722.28 | 722.23 | 722.20 |
| 69 | 613.58 | 613.97 | 614.54 | 615.25 | 627.26 | 640.46 | 655.09 | 655.84 | 655.79 | 655.75 | 655.71 | 655.69 |
| 70 | 609.95 | 610.33 | 610.89 | 611.59 | 623.46 | 636.53 | 651.05 | 651.79 | 651.72 | 651.67 | 651.62 | 651.59 |
| 71 | 610.24 | 610.62 | 611.18 | 611.88 | 623.69 | 636.70 | 651.17 | 651.91 | 651.84 | 651.78 | 651.71 | 651.69 |
| 72 | 611.15 | 611.53 | 612.08 | 612.78 | 624.55 | 637.52 | 651.96 | 652.69 | 652.61 | 652.54 | 652.48 | 652.45 |
| 73 | 612.29 | 612.66 | 613.21 | 613.91 | 625.63 | 638.58 | 652.98 | 653.71 | 653.62 | 653.55 | 653.48 | 653.45 |
| 74 | 535.74 | 536.05 | 536.51 | 537.10 | 546.42 | 556.69 | 568.11 | 568.75 | 568.70 | 568.65 | 568.61 | 568.58 |
| 75 | 529.77 | 530.08 | 530.54 | 531.11 | 540.28 | 550.42 | 561.72 | 562.35 | 562.28 | 562.23 | 562.17 | 562.14 |
| 76 | 529.68 | 529.98 | 530.43 | 531.01 | 540.14 | 550.24 | 561.50 | 562.13 | 562.05 | 561.99 | 561.93 | 561.90 |
| 77 | 530.56 | 530.86 | 531.31 | 531.88 | 540.99 | 551.07 | 562.31 | 562.94 | 562.86 | 562.79 | 562.73 | 562.70 |
| 78 | 531.36 | 531.66 | 532.11 | 532.68 | 541.76 | 551.82 | 563.04 | 563.67 | 563.58 | 563.52 | 563.45 | 563.42 |
| 79 | 427.59 | 427.82 | 428.16 | 428.59 | 434.80 | 441.65 | 449.28 | 449.78 | 449.75 | 449.72 | 449.70 | 449.68 |
| 80 | 419.21 | 419.44 | 419.77 | 420.19 | 426.25 | 432.96 | 440.46 | 440.96 | 440.91 | 440.87 | 440.84 | 440.82 |
| 81 | 418.54 | 418.76 | 419.09 | 419.51 | 425.54 | 432.22 | 439.69 | 440.18 | 440.13 | 440.09 | 440.06 | 440.04 |
| 82 | 418.85 | 419.07 | 419.40 | 419.82 | 425.83 | 432.50 | 439.96 | 440.45 | 440.40 | 440.36 | 440.32 | 440.30 |
| 83 | 419.42 | 419.64 | 419.97 | 420.39 | 426.39 | 433.04 | 440.49 | 440.98 | 440.92 | 440.88 | 440.84 | 440.82 |
| 84 | 420.00 | 420.22 | 420.54 | 420.96 | 426.94 | 433.59 | 441.03 | 441.51 | 441.46 | 441.42 | 441.38 | 441.36 |
| 85 | 284.02 | 284.14 | 284.32 | 284.54 | 287.31 | 290.36 | 293.76 | 294.04 | 294.03 | 294.02 | 294.01 | 294.01 |
| 86 | 275.52 | 275.63 | 275.80 | 276.02 | 278.68 | 281.63 | 284.93 | 285.21 | 285.19 | 285.18 | 285.16 | 285.15 |
| 87 | 275.01 | 275.12 | 275.29 | 275.50 | 278.14 | 281.08 | 284.37 | 284.65 | 284.63 | 284.61 | 284.60 | 284.59 |
| 88 | 275.16 | 275.27 | 275.44 | 275.65 | 278.29 | 281.22 | 284.51 | 284.79 | 284.77 | 284.75 | 284.74 | 284.73 |
| 89 | 275.42 | 275.53 | 275.70 | 275.91 | 278.54 | 281.47 | 284.76 | 285.03 | 285.01 | 285.00 | 284.98 | 284.97 |
| 90 | 275.82 | 275.93 | 276.09 | 276.31 | 278.94 | 281.86 | 285.15 | 285.42 | 285.40 | 285.38 | 285.37 | 285.36 |
| 91 | 276.04 | 276.15 | 276.32 | 276.53 | 279.15 | 282.08 | 285.36 | 285.63 | 285.61 | 285.59 | 285.58 | 285.57 |

FUEL TEMPERATURE ( TIME = 100.00 ( SEC ) )

| J | TFP( 1,J) | TFP( 2,J) | TFP( 3,J) | TFP( 4,J) | TFP( 5,J) | TFP( 6,J) | TFP( 7,J) | TFP( 8,J) | TFP( 9,J) | TFP(10,J) | TFP(11,J) | TFP(12,J) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 |
| 2 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 |
| 3 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 |
| 4 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 |
| 5 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 |
| 6 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 |
| 7 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 | 138.66 |
| 8 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 |
| 9 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 |
| 10 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 |
| 11 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 |
| 12 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 |
| 13 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 | 140.17 |
| 14 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 |
| 15 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 |
| 16 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 |
| 17 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 |
| 18 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 | 141.02 |
| 19 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 |
| 20 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 |
| 21 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 |
| 22 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 |
| 23 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 | 141.56 |
| 24 | 141.96 | 141.96 | 141.96 | 141.96 | 141.96 | 141.96 | 141.96 | 141.96 | 141.96 | 141.96 | 141.96 | 141.96 |
| 25 | 141.96 | 141.96 | 141.96 | 141.96 | 141.96 | 141.96 | 141.96 | 141.96 | 141.96 | 141.96 | 141.96 | 141.96 |
| 26 | 480.25 | 481.46 | 483.06 | 484.86 | 511.07 | 537.33 | 564.15 | 566.05 | 567.32 | 568.27 | 569.25 | 569.72 |
| 27 | 507.31 | 508.31 | 509.66 | 511.23 | 534.83 | 559.04 | 584.22 | 585.92 | 586.97 | 587.76 | 588.58 | 588.97 |
| 28 | 526.96 | 527.89 | 529.17 | 530.66 | 553.51 | 577.08 | 601.75 | 603.35 | 604.33 | 605.07 | 605.83 | 606.20 |
| 29 | 582.94 | 583.91 | 585.25 | 586.81 | 611.92 | 637.96 | 665.31 | 666.95 | 668.02 | 668.83 | 669.67 | 670.07 |
| 30 | 597.09 | 598.02 | 599.32 | 600.84 | 625.50 | 651.15 | 678.17 | 679.76 | 680.78 | 681.55 | 682.34 | 682.72 |
| 31 | 609.75 | 610.66 | 611.93 | 613.41 | 637.73 | 663.08 | 689.85 | 691.40 | 692.37 | 693.11 | 693.86 | 694.23 |
| 32 | 620.95 | 621.84 | 623.08 | 624.53 | 648.47 | 673.48 | 699.94 | 701.44 | 702.35 | 703.04 | 703.75 | 704.09 |
| 33 | 631.25 | 632.09 | 633.27 | 634.67 | 657.81 | 682.08 | 707.89 | 709.32 | 710.12 | 710.71 | 711.33 | 711.63 |
| 34 | 683.30 | 684.20 | 685.46 | 686.95 | 690.57 | 694.35 | 698.34 | 699.91 | 700.79 | 701.45 | 702.13 | 702.46 |
| 35 | 691.74 | 692.63 | 693.87 | 695.33 | 698.90 | 702.63 | 706.57 | 708.11 | 708.95 | 709.58 | 710.23 | 710.54 |
| 36 | 699.37 | 700.23 | 701.45 | 702.88 | 706.40 | 710.09 | 713.99 | 715.49 | 716.29 | 716.89 | 717.50 | 717.80 |
| 37 | 706.40 | 707.25 | 708.44 | 709.86 | 713.32 | 716.96 | 720.83 | 722.30 | 723.06 | 723.62 | 724.21 | 724.48 |
| 38 | 712.50 | 713.33 | 714.51 | 715.89 | 719.31 | 722.91 | 726.73 | 728.17 | 728.89 | 729.42 | 729.97 | 730.23 |
| 39 | 737.27 | 738.12 | 739.31 | 740.73 | 744.23 | 747.92 | 751.85 | 753.30 | 754.02 | 754.55 | 755.10 | 755.36 |
| 40 | 744.02 | 744.85 | 746.02 | 747.41 | 750.86 | 754.50 | 758.39 | 759.81 | 760.48 | 760.98 | 761.49 | 761.73 |
| 41 | 751.35 | 752.16 | 753.31 | 754.68 | 758.08 | 761.68 | 765.53 | 766.93 | 767.55 | 768.02 | 768.50 | 768.72 |
| 42 | 758.46 | 759.25 | 760.39 | 761.73 | 765.09 | 768.65 | 772.46 | 773.83 | 774.42 | 774.85 | 775.30 | 775.51 |
| 43 | 765.94 | 766.71 | 767.83 | 769.16 | 772.47 | 775.99 | 779.77 | 781.12 | 781.66 | 782.07 | 782.48 | 782.68 |
| 44 | 779.75 | 780.53 | 781.63 | 782.96 | 786.27 | 789.80 | 793.59 | 794.93 | 795.44 | 795.83 | 796.22 | 796.41 |
| 45 | 786.55 | 787.31 | 788.40 | 789.71 | 792.98 | 796.47 | 800.23 | 801.54 | 802.02 | 802.37 | 802.73 | 802.90 |
| 46 | 791.57 | 792.31 | 793.38 | 794.67 | 797.90 | 801.35 | 805.08 | 806.37 | 806.80 | 807.12 | 807.45 | 807.60 |
| 47 | 797.25 | 797.98 | 799.03 | 800.29 | 803.47 | 806.88 | 810.56 | 811.82 | 812.20 | 812.48 | 812.76 | 812.89 |
| 48 | 801.40 | 802.12 | 803.16 | 804.41 | 807.57 | 810.96 | 814.62 | 815.88 | 816.24 | 816.50 | 816.77 | 816.89 |
| 49 | 798.46 | 799.16 | 800.17 | 801.39 | 804.48 | 807.80 | 811.40 | 812.63 | 812.96 | 813.20 | 813.45 | 813.57 |
| 50 | 802.10 | 802.79 | 803.79 | 805.00 | 808.06 | 811.36 | 814.94 | 816.15 | 816.46 | 816.68 | 816.92 | 817.03 |
| 51 | 806.16 | 806.84 | 807.83 | 809.03 | 812.07 | 815.35 | 818.91 | 820.12 | 820.40 | 820.61 | 820.83 | 820.94 |
| 52 | 810.11 | 810.78 | 811.76 | 812.95 | 815.98 | 819.25 | 822.80 | 824.00 | 824.27 | 824.47 | 824.67 | 824.77 |
| 53 | 813.92 | 814.59 | 815.56 | 816.74 | 819.76 | 823.01 | 826.55 | 827.74 | 828.00 | 828.19 | 828.38 | 828.47 |
| 54 | 797.00 | 797.64 | 798.58 | 799.72 | 802.60 | 805.71 | 809.10 | 810.24 | 810.47 | 810.64 | 810.81 | 810.89 |
| 55 | 799.07 | 799.70 | 800.63 | 801.76 | 804.63 | 807.72 | 811.10 | 812.23 | 812.44 | 812.59 | 812.75 | 812.82 |
| 56 | 802.00 | 802.63 | 803.55 | 804.67 | 807.53 | 810.61 | 813.97 | 815.10 | 815.29 | 815.43 | 815.58 | 815.65 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 57 | 804.97 | 805.59 | 806.51 | 807.62 | 810.46 | 813.54 | 816.89 | 818.01 | 818.19 | 818.32 | 818.45 | 818.52 |
| 58 | 807.87 | 808.49 | 809.40 | 810.51 | 813.34 | 816.40 | 819.74 | 820.86 | 821.02 | 821.14 | 821.27 | 821.32 |
| 59 | 756.51 | 757.07 | 757.89 | 758.91 | 777.42 | 797.65 | 819.91 | 820.91 | 820.96 | 821.00 | 821.05 | 821.07 |
| 60 | 754.59 | 755.14 | 755.95 | 756.96 | 775.28 | 795.33 | 817.43 | 818.42 | 818.45 | 818.47 | 818.48 | 818.49 |
| 61 | 756.29 | 756.83 | 757.64 | 758.64 | 776.88 | 796.85 | 818.89 | 819.87 | 819.88 | 819.89 | 819.89 | 819.89 |
| 62 | 758.38 | 758.92 | 759.73 | 760.72 | 778.89 | 798.80 | 820.77 | 821.75 | 821.74 | 821.74 | 821.74 | 821.73 |
| 63 | 760.59 | 761.13 | 761.93 | 762.91 | 781.02 | 800.88 | 822.79 | 823.76 | 823.74 | 823.73 | 823.72 | 823.71 |
| 64 | 712.25 | 712.74 | 713.47 | 714.36 | 730.34 | 747.87 | 767.26 | 768.16 | 768.13 | 768.11 | 768.09 | 768.08 |
| 65 | 710.56 | 711.04 | 711.75 | 712.64 | 728.48 | 745.87 | 765.15 | 766.04 | 765.99 | 765.95 | 765.91 | 765.89 |
| 66 | 711.98 | 712.46 | 713.17 | 714.05 | 729.83 | 747.17 | 766.39 | 767.27 | 767.22 | 767.17 | 767.12 | 767.10 |
| 67 | 713.60 | 714.07 | 714.78 | 715.66 | 731.38 | 748.67 | 767.85 | 768.72 | 768.66 | 768.60 | 768.55 | 768.52 |
| 68 | 715.31 | 715.79 | 716.49 | 717.37 | 733.03 | 750.28 | 769.42 | 770.29 | 770.21 | 770.15 | 770.09 | 770.06 |
| 69 | 652.19 | 652.60 | 653.22 | 653.98 | 667.24 | 681.84 | 698.03 | 698.82 | 698.75 | 698.70 | 698.65 | 698.62 |
| 70 | 648.70 | 649.10 | 649.71 | 650.47 | 663.59 | 678.04 | 694.11 | 694.90 | 694.81 | 694.74 | 694.67 | 694.64 |
| 71 | 649.07 | 649.47 | 650.08 | 650.83 | 663.89 | 678.28 | 694.30 | 695.09 | 694.99 | 694.91 | 694.84 | 694.80 |
| 72 | 650.04 | 650.44 | 651.04 | 651.79 | 664.80 | 679.15 | 695.13 | 695.91 | 695.81 | 695.73 | 695.64 | 695.60 |
| 73 | 651.22 | 651.62 | 652.22 | 652.97 | 665.93 | 680.25 | 696.19 | 696.97 | 696.86 | 696.77 | 696.68 | 696.64 |
| 74 | 569.13 | 569.46 | 569.96 | 570.59 | 580.86 | 592.20 | 604.83 | 605.50 | 605.43 | 605.37 | 605.31 | 605.28 |
| 75 | 563.20 | 563.53 | 564.02 | 564.64 | 574.75 | 585.95 | 598.44 | 599.11 | 599.01 | 598.94 | 598.86 | 598.83 |
| 76 | 563.17 | 563.50 | 563.99 | 564.60 | 574.68 | 585.83 | 598.29 | 598.95 | 598.85 | 598.77 | 598.69 | 598.65 |
| 77 | 564.07 | 564.40 | 564.89 | 565.50 | 575.55 | 586.68 | 599.11 | 599.78 | 599.67 | 599.59 | 599.50 | 599.46 |
| 78 | 564.90 | 565.23 | 565.71 | 566.32 | 576.34 | 587.45 | 599.86 | 600.52 | 600.41 | 600.33 | 600.24 | 600.20 |
| 79 | 452.89 | 453.14 | 453.51 | 453.97 | 460.81 | 468.39 | 476.84 | 477.37 | 477.32 | 477.28 | 477.25 | 477.23 |
| 80 | 444.06 | 444.30 | 444.66 | 445.11 | 451.79 | 459.21 | 467.51 | 468.03 | 467.97 | 467.93 | 467.88 | 467.86 |
| 81 | 443.44 | 443.67 | 444.03 | 444.48 | 451.13 | 458.51 | 466.79 | 467.31 | 467.24 | 467.19 | 467.14 | 467.12 |
| 82 | 443.78 | 444.01 | 444.37 | 444.82 | 451.45 | 458.82 | 467.08 | 467.59 | 467.53 | 467.48 | 467.43 | 467.40 |
| 83 | 444.36 | 444.60 | 444.95 | 445.40 | 452.01 | 459.37 | 467.62 | 468.14 | 468.07 | 468.02 | 467.96 | 467.94 |
| 84 | 444.95 | 445.18 | 445.54 | 445.98 | 452.58 | 459.93 | 468.17 | 468.68 | 468.61 | 468.56 | 468.51 | 468.48 |
| 85 | 298.24 | 298.37 | 298.56 | 298.80 | 301.86 | 305.24 | 309.00 | 309.30 | 309.29 | 309.28 | 309.27 | 309.26 |
| 86 | 288.51 | 288.64 | 288.82 | 289.05 | 291.98 | 295.24 | 298.89 | 299.18 | 299.16 | 299.15 | 299.13 | 299.12 |
| 87 | 288.02 | 288.14 | 288.32 | 288.55 | 291.47 | 294.71 | 298.35 | 298.64 | 298.62 | 298.60 | 298.58 | 298.58 |
| 88 | 288.19 | 288.31 | 288.49 | 288.72 | 291.63 | 294.86 | 298.50 | 298.79 | 298.77 | 298.75 | 298.73 | 298.72 |
| 89 | 288.43 | 288.55 | 288.74 | 288.97 | 291.87 | 295.10 | 298.73 | 299.03 | 299.00 | 298.98 | 298.96 | 298.95 |
| 90 | 288.83 | 288.95 | 289.14 | 289.37 | 292.26 | 295.50 | 299.12 | 299.42 | 299.39 | 299.37 | 299.35 | 299.35 |
| 91 | 289.06 | 289.18 | 289.36 | 289.59 | 292.48 | 295.71 | 299.33 | 299.62 | 299.60 | 299.58 | 299.56 | 299.55 |

```
 NAME(1)= 100

 TIME   USUP     ULIN     UDUP     UCUP     UGOUT   ULOUT    UGLOP      CRF       DPDN      DPCR    DPLOP  AMCOIN  AMCOR    AMGS     AMLS  MERROR
       <------    ( CM/SEC )   AT CORE WATER STATE          ------->          <---      ( M.AQ )    ---->  <---   (  KG/M**2 ) AT CORE FLOW --->


100.00  2.361    2.361    3.526    4.474    1.552    0.533    0.0      0.228     0.0       8.33     0.0  3045.5 1253.5 1274.8  494.7    25.6
110.00  2.259    2.259    3.526    4.474    1.553    0.487    0.0      0.218     0.0       8.07     0.0  3261.1 1277.0 1419.3  540.3    27.6
        TIMES DMASS G(1) G(N1) GGAS          120.00           0.23050E-07     0.62503E-03      0.55428E-03      0.39045E-03
120.00  2.362    2.362    3.526    4.474    1.463    0.614    0.0      0.262     0.0       7.79     0.0  3482.3 1302.0 1560.7  593.3    29.5
130.00  1.944    1.944    3.526    4.474    1.476    0.487    0.0      0.253     0.0       7.69     0.0  3680.3 1307.7 1701.5  642.9    31.2
        TIMES DMASS G(1) G(N1) GGAS          140.00           0.86380E-07     0.60407E-03      0.54102E-03      0.38018E-03
140.00  2.281    2.281    3.526    4.474    1.424    0.602    0.0      0.266     0.0       7.38     0.0  3878.0 1314.7 1839.9  693.7    32.8
 TIME   USUP     ULIN     UDUP     UCUP     UGOUT   ULOUT    UGLOP      CRF       DPDN      DPCR    DPLOP  AMCOIN  AMCOR    AMGS     AMLS  MERROR
       <-------   ( CM/SEC )   AT CORE WATER STATE          ------->          <---      ( M.AQ )    ---->  <---   (  KG/M**2 ) AT CORE FLOW --->


150.00  2.467    2.467    3.526    4.474    1.394    0.688    0.0      0.281     0.0       7.22     0.0  4104.8 1340.8 1974.6  757.8    34.6
        TIMES DMASS G(1) G(N1) GGAS          160.00           0.55879E-08     0.52825E-03      0.55884E-03      0.39482E-03
160.00  1.995    1.995    3.526    4.474    1.479    0.614    0.0      0.311     0.0       7.24     0.0  4311.4 1347.8 2112.2  818.2    36.2
170.00  1.876    1.876    3.526    4.474    1.426    0.350    0.0      0.188     0.0       7.16     0.0  4500.8 1346.2 2247.5  872.3    37.7
        TIMES DMASS G(1) G(N1) GGAS          180.00          -0.12049E-07     0.57422E-03      0.53438E-03      0.37029E-03



180.00  2.168    2.168    3.526    4.474    1.387    0.615    0.0      0.286     0.0       7.06     0.0  4670.5 1332.5 2379.9  922.2    39.0
190.00  1.852    1.852    3.526    4.474    1.427    0.575    0.0      0.313     0.0       7.33     0.0  4889.2 1361.7 2508.6  981.2    40.7
        TIMES DMASS G(1) G(N1) GGAS          200.00          -0.68452E-07     0.55099E-03      0.12187E-03      0.35734E-03
        TIMES DMASS G(1) G(N1) GGAS          200.00           0.11224E-05     0.55099E-03      0.35608E-03      0.35608E-03
```

*** TIME = 200.00 ( SEC ) **** INLET AND OUTLET CONDITION ****

| TQN2(C) | ZB2(M) | TQN5(C) | ZB5(M) | DD(IB4)(MM) | DD(N1)(MM) | DP(M) | CRATIO |
|---|---|---|---|---|---|---|---|
| 431.33 | 1.4729 | 0.0 | 3.6600 | 0.0 | 0.0 | 1.47387 | 0.00000 |

P, RL, RGST 2.7770E+04 7.3553E-06 1.1860E-08

| I | IP | AG(I) | AGINF(I) | AGDISP(I) | TW(I) | TL/TG(I) | PC(I) | HT(I) | HR(I) | HCV(I) | G(I) | GG(I) | GL(I) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 0.0 | 0.0 | 0.0 | 137.06 | 111.60 | 2.777E+04 | 952.8 | 0.0 | 1.604E+06 | 5.510E-04 | 0.0 | 5.510E-04 |
| 2 | 1 | 0.0 | 0.0 | 0.0 | 137.06 | 111.98 | 2.773E+04 | 952.8 | 0.0 | 1.604E+06 | 5.515E-04 | 0.0 | 5.515E-04 |
| 3 | 1 | 0.0 | 0.0 | 0.0 | 137.06 | 112.57 | 2.769E+04 | 952.8 | 0.0 | 1.604E+06 | 5.520E-04 | 0.0 | 5.520E-04 |
| 4 | 1 | 0.0 | 0.0 | 0.0 | 137.06 | 113.26 | 2.766E+04 | 952.8 | 0.0 | 1.604E+06 | 5.525E-04 | 0.0 | 5.525E-04 |
| 5 | 1 | 0.0 | 0.0 | 0.0 | 137.06 | 113.98 | 2.762E+04 | 952.8 | 0.0 | 1.604E+06 | 5.530E-04 | 0.0 | 5.530E-04 |
| 6 | 1 | 0.0 | 0.0 | 0.0 | 137.06 | 114.70 | 2.758E+04 | 952.8 | 0.0 | 1.604E+06 | 5.535E-04 | 0.0 | 5.535E-04 |
| 7 | 1 | 0.0 | 0.0 | 0.0 | 137.06 | 115.38 | 2.754E+04 | 952.8 | 0.0 | 1.604E+06 | 5.540E-04 | 0.0 | 5.540E-04 |
| 8 | 1 | 0.0 | 0.0 | 0.0 | 138.49 | 116.02 | 2.750E+04 | 1645. | 0.0 | 3.322E+06 | 5.545E-04 | 0.0 | 5.545E-04 |
| 9 | 1 | 0.0 | 0.0 | 0.0 | 138.49 | 117.58 | 2.747E+04 | 1645. | 0.0 | 3.322E+06 | 5.550E-04 | 0.0 | 5.550E-04 |
| 10 | 1 | 0.0 | 0.0 | 0.0 | 138.49 | 119.13 | 2.743E+04 | 1645. | 0.0 | 3.322E+06 | 5.555E-04 | 0.0 | 5.555E-04 |
| 11 | 1 | 0.0 | 0.0 | 0.0 | 138.49 | 120.73 | 2.739E+04 | 1645. | 0.0 | 3.322E+06 | 5.560E-04 | 0.0 | 5.560E-04 |
| 12 | 1 | 0.0 | 0.0 | 0.0 | 138.49 | 122.36 | 2.735E+04 | 1645. | 0.0 | 3.322E+06 | 5.565E-04 | 0.0 | 5.565E-04 |
| 13 | 1 | 0.0 | 0.0 | 0.0 | 138.49 | 124.01 | 2.731E+04 | 1645. | 0.0 | 3.322E+06 | 5.570E-04 | 0.0 | 5.570E-04 |
| 14 | 1 | 0.0 | 0.0 | 0.0 | 139.29 | 125.66 | 2.728E+04 | 2154. | 0.0 | 4.761E+06 | 5.575E-04 | 0.0 | 5.575E-04 |
| 15 | 1 | 0.0 | 0.0 | 0.0 | 139.29 | 128.09 | 2.724E+04 | 2154. | 0.0 | 4.761E+06 | 5.581E-04 | 0.0 | 5.581E-04 |
| 16 | 1 | 0.0 | 0.0 | 0.0 | 139.29 | 129.85 | 2.720E+04 | 2154. | 0.0 | 4.761E+06 | 5.586E-04 | 0.0 | 5.586E-04 |
| 17 | 3 | 0.0530 | 0.0 | 0.0 | 139.29 | 129.92 | 2.716E+04 | 2154. | 0.0 | 4.761E+06 | 5.200E-04 | 1.527E-06 | 5.185E-04 |
| 18 | 3 | 0.1129 | 0.0 | 0.0 | 139.29 | 129.92 | 2.713E+04 | 2154. | 0.0 | 4.761E+06 | 3.731E-04 | 4.697E-06 | 3.684E-04 |
| 19 | 3 | 0.1625 | 0.0 | 0.0 | 139.81 | 129.92 | 2.709E+04 | 2534. | 0.0 | 5.912E+06 | 2.708E-04 | 7.795E-06 | 2.630E-04 |
| 20 | 3 | 0.2080 | 0.0 | 0.0 | 139.81 | 129.92 | 2.706E+04 | 2534. | 0.0 | 5.912E+06 | 2.129E-04 | 1.153E-05 | 2.013E-04 |
| 21 | 3 | 0.2382 | 0.0 | 0.0 | 139.81 | 129.92 | 2.703E+04 | 2534. | 0.0 | 5.912E+06 | 1.914E-04 | 1.520E-05 | 1.762E-04 |
| 22 | 3 | 0.2642 | 0.0 | 0.0 | 139.81 | 129.92 | 2.700E+04 | 2534. | 0.0 | 5.912E+06 | 1.794E-04 | 1.886E-05 | 1.606E-04 |
| 23 | 3 | 0.2875 | 0.0 | 0.0 | 139.81 | 129.92 | 2.697E+04 | 2534. | 0.0 | 5.912E+06 | 1.709E-04 | 2.251E-05 | 1.484E-04 |
| 24 | 3 | 0.3088 | 0.0 | 0.0 | 140.19 | 129.92 | 2.695E+04 | 2837. | 0.0 | 6.871E+06 | 1.642E-04 | 2.616E-05 | 1.381E-04 |
| 25 | 3 | 0.3316 | 0.0 | 0.0 | 140.19 | 129.92 | 2.692E+04 | 2837. | 0.0 | 6.871E+06 | 1.587E-04 | 3.040E-05 | 1.283E-04 |
| 26 | 3 | 0.3528 | 0.0 | 0.0 | 140.19 | 129.92 | 2.689E+04 | 2837. | 0.0 | 6.871E+06 | 1.540E-04 | 3.463E-05 | 1.194E-04 |
| 27 | 3 | 0.3727 | 0.0 | 0.0 | 140.19 | 129.92 | 2.687E+04 | 2837. | 0.0 | 6.871E+06 | 1.499E-04 | 3.887E-05 | 1.111E-04 |
| 28 | 3 | 0.3914 | 0.0 | 0.0 | 140.19 | 129.92 | 2.684E+04 | 2837. | 0.0 | 6.871E+06 | 1.463E-04 | 4.310E-05 | 1.032E-04 |
| 29 | 3 | 0.4092 | 0.0 | 0.0 | 140.48 | 129.92 | 2.682E+04 | 3079. | 0.0 | 7.665E+06 | 1.429E-04 | 4.733E-05 | 9.562E-05 |
| 30 | 3 | 0.4280 | 0.0 | 0.0 | 140.48 | 129.92 | 2.680E+04 | 3079. | 0.0 | 7.665E+06 | 1.399E-04 | 5.205E-05 | 8.781E-05 |
| 31 | 3 | 0.4460 | 0.0 | 0.0 | 140.48 | 129.92 | 2.678E+04 | 3079. | 0.0 | 7.665E+06 | 1.370E-04 | 5.677E-05 | 8.022E-05 |
| 32 | 3 | 0.4632 | 0.0 | 0.0 | 140.48 | 129.92 | 2.676E+04 | 3079. | 0.0 | 7.665E+06 | 1.343E-04 | 6.149E-05 | 7.279E-05 |
| 33 | 3 | 0.4797 | 0.0 | 0.0 | 140.48 | 129.92 | 2.674E+04 | 3079. | 0.0 | 7.665E+06 | 1.317E-04 | 6.621E-05 | 6.551E-05 |
| 34 | 3 | 0.4955 | 0.0 | 0.0 | 140.67 | 129.92 | 2.672E+04 | 3253. | 0.0 | 8.249E+06 | 1.293E-04 | 7.093E-05 | 5.833E-05 |
| 35 | 3 | 0.5121 | 0.0 | 0.0 | 140.67 | 129.92 | 2.670E+04 | 3253. | 0.0 | 8.249E+06 | 1.269E-04 | 7.603E-05 | 5.084E-05 |
| 36 | 3 | 0.5291 | 0.0 | 0.0 | 140.67 | 129.92 | 2.668E+04 | 3253. | 0.0 | 8.249E+06 | 1.246E-04 | 8.146E-05 | 4.312E-05 |
| 37 | 3 | 0.5567 | 0.0 | 0.0 | 140.67 | 129.92 | 2.666E+04 | 3253. | 0.0 | 8.249E+06 | 1.221E-04 | 9.074E-05 | 3.135E-05 |
| 38 | 4 | 0.6483 | 0.0 | 0.0 | 466.74 | 129.92 | 2.664E+04 | 201.3 | 1.213E+06 | 1.478E+07 | 3.356E-05 | 1.256E-04 | 0.0 |
| 39 | 4 | 0.6703 | 0.0 | 0.0 | 506.16 | 129.92 | 2.663E+04 | 164.1 | 1.471E+06 | 1.309E+07 | 3.269E-05 | 1.344E-04 | 0.0 |
| 40 | 4 | 0.6901 | 0.0 | 0.0 | 527.66 | 129.92 | 2.662E+04 | 146.5 | 1.603E+06 | 1.214E+07 | 3.091E-05 | 1.429E-04 | 0.0 |
| 41 | 4 | 0.7084 | 0.0 | 0.0 | 546.86 | 129.92 | 2.660E+04 | 135.2 | 1.720E+06 | 1.157E+07 | 2.807E-05 | 1.511E-04 | 0.0 |
| 42 | 4 | 0.7258 | 0.0 | 0.0 | 564.29 | 129.92 | 2.659E+04 | 126.8 | 1.823E+06 | 1.117E+07 | 2.443E-05 | 1.590E-04 | 0.0 |
| 43 | 4 | 0.7425 | 0.0 | 0.0 | 580.78 | 129.92 | 2.658E+04 | 120.2 | 1.919E+06 | 1.086E+07 | 2.013E-05 | 1.669E-04 | 0.0 |
| 44 | 4 | 0.7585 | 0.0 | 0.0 | 601.17 | 129.92 | 2.657E+04 | 114.9 | 2.051E+06 | 1.072E+07 | 1.525E-05 | 1.746E-04 | 0.0 |
| 45 | 4 | 0.7742 | 0.0 | 0.0 | 615.14 | 129.92 | 2.656E+04 | 110.0 | 2.119E+06 | 1.047E+07 | 9.890E-06 | 1.823E-04 | 0.0 |
| 46 | 4 | 0.7894 | 0.0 | 0.0 | 628.16 | 129.92 | 2.655E+04 | 105.7 | 2.175E+06 | 1.024E+07 | 4.136E-06 | 1.900E-04 | 0.0 |
| 47 | 4 | 0.8039 | 0.0 | 0.0 | 641.27 | 129.92 | 2.654E+04 | 101.7 | 2.229E+06 | 1.004E+07 | -1.798E-06 | 1.975E-04 | 0.0 |
| 48 | 4 | 0.8180 | 0.0 | 0.0 | 653.54 | 129.92 | 2.654E+04 | 98.09 | 2.269E+06 | 9.844E+06 | -7.713E-06 | 2.049E-04 | 0.0 |
| 49 | 4 | 0.8317 | 0.0 | 0.0 | 659.30 | 129.92 | 2.653E+04 | 94.38 | 2.240E+06 | 9.544E+06 | -1.352E-05 | 2.123E-04 | 0.0 |
| 50 | 4 | 0.8446 | 0.0 | 0.0 | 670.07 | 129.92 | 2.652E+04 | 91.09 | 2.256E+06 | 9.348E+06 | -1.915E-05 | 2.194E-04 | 0.0 |
| 51 | 4 | 0.8571 | 0.0 | 0.0 | 679.90 | 129.92 | 2.652E+04 | 87.90 | 2.259E+06 | 9.144E+06 | -2.453E-05 | 2.264E-04 | 0.0 |
| 52 | 4 | 0.8691 | 0.0 | 0.0 | 689.51 | 129.92 | 2.651E+04 | 84.81 | 2.253E+06 | 8.941E+06 | -2.965E-05 | 2.333E-04 | 0.0 |
| 53 | 4 | 0.8806 | 0.0 | 0.0 | 697.93 | 129.92 | 2.651E+04 | 81.76 | 2.230E+06 | 8.723E+06 | -3.446E-05 | 2.400E-04 | 0.0 |
| 54 | 4 | 0.8916 | 0.0 | 0.0 | 688.45 | 129.92 | 2.650E+04 | 78.10 | 2.041E+06 | 8.247E+06 | -3.893E-05 | 2.466E-04 | 0.0 |
| 55 | 4 | 0.9017 | 0.0 | 0.0 | 694.40 | 129.92 | 2.650E+04 | 75.19 | 1.994E+06 | 8.017E+06 | -4.307E-05 | 2.527E-04 | 0.0 |
| 56 | 4 | 0.9111 | 0.0 | 0.0 | 700.21 | 129.92 | 2.649E+04 | 72.36 | 1.943E+06 | 7.789E+06 | -4.686E-05 | 2.586E-04 | 0.0 |
| 57 | 4 | 0.9198 | 0.0 | 0.0 | 705.81 | 129.92 | 2.649E+04 | 69.62 | 1.890E+06 | 7.566E+06 | -4.974E-05 | 2.642E-04 | 0.0 |
| 58 | 4 | 0.9276 | 0.0 | 0.0 | 710.90 | 129.92 | 2.649E+04 | 67.02 | 1.835E+06 | 7.349E+06 | -5.094E-05 | 2.695E-04 | 0.0 |
| 59 | 4 | 0.9300 | 0.0 | 0.0 | 677.89 | 129.92 | 2.648E+04 | 64.72 | 1.567E+06 | 6.798E+06 | -4.990E-05 | 2.743E-04 | 0.0 |
| 60 | 4 | 0.9272 | 0.0 | 0.0 | 679.70 | 129.92 | 2.648E+04 | 64.95 | 1.611E+06 | 6.811E+06 | -3.809E-05 | 2.784E-04 | 0.0 |
| 61 | 4 | 0.9244 | 0.0 | 0.0 | 683.16 | 129.92 | 2.648E+04 | 65.21 | 1.666E+06 | 6.843E+06 | -1.354E-05 | 2.827E-04 | 0.0 |
| 62 | 4 | 0.9223 | 0.0 | 0.0 | 686.79 | 129.92 | 2.647E+04 | 65.33 | 1.716E+06 | 6.864E+06 | 1.778E-05 | 2.870E-04 | 0.0 |
| 63 | 4 | 0.9208 | 0.0 | 0.0 | 690.47 | 129.92 | 2.647E+04 | 65.29 | 1.759E+06 | 6.873E+06 | 4.873E-05 | 2.915E-04 | 0.0 |
| 64 | 4 | 0.9195 | 0.0 | 0.0 | 648.06 | 129.92 | 2.647E+04 | 63.84 | 1.472E+06 | 6.329E+06 | 7.522E-05 | 2.961E-04 | 0.0 |
| 65 | 4 | 0.9191 | 0.0 | 0.0 | 649.33 | 129.92 | 2.646E+04 | 63.49 | 1.484E+06 | 6.294E+06 | 8.247E-05 | 3.001E-04 | 0.0 |
| 66 | 4 | 0.9196 | 0.0 | 0.0 | 652.21 | 129.92 | 2.646E+04 | 63.01 | 1.499E+06 | 6.262E+06 | 8.468E-05 | 3.041E-04 | 0.0 |
| 67 | 4 | 0.9205 | 0.0 | 0.0 | 655.17 | 129.92 | 2.646E+04 | 62.45 | 1.511E+06 | 6.226E+06 | 8.729E-05 | 3.081E-04 | 0.0 |
| 68 | 4 | 0.9215 | 0.0 | 0.0 | 658.15 | 129.92 | 2.645E+04 | 61.89 | 1.521E+06 | 6.190E+06 | 9.114E-05 | 3.121E-04 | 0.0 |
| 69 | 4 | 0.9226 | 0.0 | 0.0 | 600.82 | 129.92 | 2.645E+04 | 59.75 | 1.160E+06 | 5.476E+06 | 9.564E-05 | 3.161E-04 | 0.0 |
| 70 | 4 | 0.9235 | 0.0 | 0.0 | 600.52 | 129.92 | 2.645E+04 | 59.16 | 1.151E+06 | 5.415E+06 | 1.001E-04 | 3.194E-04 | 0.0 |
| 71 | 4 | 0.9244 | 0.0 | 0.0 | 602.36 | 129.92 | 2.644E+04 | 58.63 | 1.154E+06 | 5.378E+06 | 1.041E-04 | 3.227E-04 | 0.0 |
| 72 | 4 | 0.9254 | 0.0 | 0.0 | 604.51 | 129.92 | 2.644E+04 | 58.10 | 1.159E+06 | 5.345E+06 | 1.073E-04 | 3.260E-04 | 0.0 |
| 73 | 4 | 0.9264 | 0.0 | 0.0 | 606.76 | 129.92 | 2.644E+04 | 57.58 | 1.163E+06 | 5.313E+06 | 1.098E-04 | 3.292E-04 | 0.0 |
| 74 | 4 | 0.9275 | 0.0 | 0.0 | 529.93 | 129.92 | 2.643E+04 | 55.51 | 7.848E+05 | 4.452E+06 | 1.117E-04 | 3.324E-04 | 0.0 |
| 75 | 4 | 0.9283 | 0.0 | 0.0 | 527.64 | 129.92 | 2.643E+04 | 54.98 | 7.708E+05 | 4.386E+06 | 1.132E-04 | 3.349E-04 | 0.0 |
| 76 | 4 | 0.9292 | 0.0 | 0.0 | 528.79 | 129.92 | 2.643E+04 | 54.50 | 7.709E+05 | 4.356E+06 | 1.143E-04 | 3.374E-04 | 0.0 |
| 77 | 4 | 0.9300 | 0.0 | 0.0 | 530.47 | 129.92 | 2.643E+04 | 54.04 | 7.731E+05 | 4.332E+06 | 1.153E-04 | 3.398E-04 | 0.0 |
| 78 | 4 | 0.9309 | 0.0 | 0.0 | 532.11 | 129.92 | 2.642E+04 | 53.58 | 7.748E+05 | 4.308E+06 | 1.161E-04 | 3.422E-04 | 0.0 |
| 79 | 4 | 0.9318 | 0.0 | 0.0 | 424.35 | 129.92 | 2.642E+04 | 52.18 | 4.107E+05 | 3.213E+06 | 1.167E-04 | 3.446E-04 | 0.0 |
| 80 | 4 | 0.9325 | 0.0 | 0.0 | 419.80 | 129.92 | 2.642E+04 | 51.77 | 3.970E+05 | 3.142E+06 | 1.172E-04 | 3.461E-04 | 0.0 |
| 81 | 4 | 0.9331 | 0.0 | 0.0 | 420.15 | 129.92 | 2.641E+04 | 51.37 | 3.960E+05 | 3.120E+06 | 1.176E-04 | 3.477E-04 | 0.0 |
| 82 | 4 | 0.9337 | 0.0 | 0.0 | 421.09 | 129.92 | 2.641E+04 | 50.98 | 3.965E+05 | 3.104E+06 | 1.179E-04 | 3.492E-04 | 0.0 |
| 83 | 4 | 0.9344 | 0.0 | 0.0 | 422.17 | 129.92 | 2.641E+04 | 50.59 | 3.974E+05 | 3.090E+06 | 1.181E-04 | 3.507E-04 | 0.0 |
| 84 | 4 | 0.9350 | 0.0 | 0.0 | 423.25 | 129.92 | 2.641E+04 | 50.22 | 3.983E+05 | 3.076E+06 | 1.183E-04 | 3.523E-04 | 0.0 |
| 85 | 4 | 0.9356 | 0.0 | 0.0 | 282.56 | 129.92 | 2.640E+04 | 48.43 | 1.309E+05 | 1.613E+06 | 1.186E-04 | 3.537E-04 | 0.0 |
| 86 | 4 | 0.9359 | 0.0 | 0.0 | 277.34 | 129.92 | 2.640E+04 | 48.08 | 1.240E+05 | 1.548E+06 | 1.190E-04 | 3.543E-04 | 0.0 |
| 87 | 4 | 0.9362 | 0.0 | 0.0 | 277.32 | 129.92 | 2.640E+04 | 47.81 | 1.237E+05 | 1.538E+06 | 1.195E-04 | 3.549E-04 | 0.0 |
| 88 | 4 | 0.9364 | 0.0 | 0.0 | 277.70 | 129.92 | 2.640E+04 | 47.54 | 1.239E+05 | 1.533E+06 | 1.200E-04 | 3.555E-04 | 0.0 |
| 89 | 4 | 0.9367 | 0.0 | 0.0 | 278.15 | 129.92 | 2.639E+04 | 47.27 | 1.242E+05 | 1.528E+06 | 1.206E-04 | 3.561E-04 | 0.0 |
| 90 | 4 | 0.9370 | 0.0 | 0.0 | 278.68 | 129.92 | 2.639E+04 | 47.01 | 1.245E+05 | 1.525E+06 | 1.213E-04 | 3.567E-04 | 0.0 |
| 91 | 8 | 1.0000 | 0.0 | 0.0 | 279.10 | 129.92 | 2.639E+04 | 62.05 | 0.0 | 2.183E+06 | 3.561E-04 | 3,561E-04 | 2.328E-10 |

*** TIME = 200.00 ( SEC ) **** HOT ROD INFORMATION ****

| TPN2(C) | ZP2(M) |
|---|---|
| 441.68 | 1.4144 |

| I | IPP | TWP(I) | HTP(I) | HRP(I) | HCVP(I) | I | IPP | TWP(I) | HTP(I) | HRP(I) | HCVP(I) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 137.23 | 1023. | 0.0 | 1.765E+06 | 46 | 4 | 672.21 | 104.5 | 2.652E+06 | 1.071E+07 |
| 2 | 1 | 137.23 | 1023. | 0.0 | 1.765E+06 | 47 | 4 | 685.49 | 101.0 | 2.710E+06 | 1.052E+07 |
| 3 | 1 | 137.23 | 1023. | 0.0 | 1.765E+06 | 48 | 4 | 697.99 | 97.69 | 2.754E+06 | 1.033E+07 |
| 4 | 1 | 137.23 | 1023. | 0.0 | 1.765E+06 | 49 | 4 | 703.71 | 94.22 | 2.714E+06 | 1.004E+07 |
| 5 | 1 | 137.23 | 1023. | 0.0 | 1.765E+06 | 50 | 4 | 714.79 | 91.17 | 2.732E+06 | 9.844E+06 |
| 6 | 1 | 137.23 | 1023. | 0.0 | 1.765E+06 | 51 | 4 | 724.88 | 88.16 | 2.731E+06 | 9.640E+06 |
| 7 | 1 | 137.23 | 1023. | 0.0 | 1.765E+06 | 52 | 4 | 734.76 | 85.22 | 2.722E+06 | 9.435E+06 |
| 8 | 1 | 138.69 | 1767. | 0.0 | 3.654E+06 | 53 | 4 | 743.42 | 82.28 | 2.692E+06 | 9.213E+06 |
| 9 | 1 | 138.69 | 1767. | 0.0 | 3.654E+06 | 54 | 4 | 733.34 | 78.59 | 2.462E+06 | 8.722E+06 |
| 10 | 1 | 138.69 | 1767. | 0.0 | 3.654E+06 | 55 | 4 | 739.50 | 75.75 | 2.405E+06 | 8.485E+06 |
| 11 | 1 | 138.69 | 1767. | 0.0 | 3.654E+06 | 56 | 4 | 745.43 | 72.96 | 2.342E+06 | 8.249E+06 |
| 12 | 1 | 138.69 | 1767. | 0.0 | 3.654E+06 | 57 | 4 | 751.14 | 70.25 | 2.276E+06 | 8.017E+06 |
| 13 | 1 | 138.69 | 1767. | 0.0 | 3.654E+06 | 58 | 4 | 756.31 | 67.68 | 2.208E+06 | 7.790E+06 |
| 14 | 1 | 139.52 | 2314. | 0.0 | 5.237E+06 | 59 | 4 | 721.98 | 65.24 | 1.889E+06 | 7.221E+06 |
| 15 | 1 | 139.52 | 2314. | 0.0 | 5.237E+06 | 60 | 4 | 724.00 | 65.54 | 1.943E+06 | 7.241E+06 |
| 16 | 1 | 139.52 | 2314. | 0.0 | 5.237E+06 | 61 | 4 | 727.56 | 65.88 | 2.008E+06 | 7.278E+06 |
| 17 | 3 | 139.52 | 2314. | 0.0 | 5.237E+06 | 62 | 4 | 731.28 | 66.07 | 2.068E+06 | 7.303E+06 |
| 18 | 3 | 139.52 | 2314. | 0.0 | 5.237E+06 | 63 | 4 | 735.04 | 66.10 | 2.119E+06 | 7.314E+06 |
| 19 | 3 | 140.05 | 2722. | 0.0 | 6.503E+06 | 64 | 4 | 690.32 | 64.44 | 1.773E+06 | 6.745E+06 |
| 20 | 3 | 140.05 | 2722. | 0.0 | 6.503E+06 | 65 | 4 | 691.78 | 64.14 | 1.788E+06 | 6.712E+06 |
| 21 | 3 | 140.05 | 2722. | 0.0 | 6.503E+06 | 66 | 4 | 694.75 | 63.69 | 1.805E+06 | 6.680E+06 |
| 22 | 3 | 140.05 | 2722. | 0.0 | 6.503E+06 | 67 | 4 | 697.80 | 63.18 | 1.819E+06 | 6.643E+06 |
| 23 | 3 | 140.05 | 2722. | 0.0 | 6.503E+06 | 68 | 4 | 700.88 | 62.65 | 1.831E+06 | 6.605E+06 |
| 24 | 3 | 140.44 | 3047. | 0.0 | 7.558E+06 | 69 | 4 | 640.18 | 60.20 | 1.394E+06 | 5.852E+06 |
| 25 | 3 | 140.44 | 3047. | 0.0 | 7.558E+06 | 70 | 4 | 640.06 | 59.64 | 1.385E+06 | 5.791E+06 |
| 26 | 3 | 140.44 | 3047. | 0.0 | 7.558E+06 | 71 | 4 | 642.02 | 59.13 | 1.389E+06 | 5.753E+06 |
| 27 | 3 | 140.44 | 3047. | 0.0 | 7.558E+06 | 72 | 4 | 644.26 | 58.63 | 1.394E+06 | 5.718E+06 |
| 28 | 3 | 140.44 | 3047. | 0.0 | 7.558E+06 | 73 | 4 | 646.59 | 58.13 | 1.399E+06 | 5.684E+06 |
| 29 | 3 | 140.73 | 3307. | 0.0 | 8.431E+06 | 74 | 4 | 564.76 | 55.67 | 9.400E+05 | 4.769E+06 |
| 30 | 3 | 140.73 | 3307. | 0.0 | 8.431E+06 | 75 | 4 | 562.61 | 55.14 | 9.244E+05 | 4.703E+06 |
| 31 | 3 | 140.73 | 3307. | 0.0 | 8.431E+06 | 76 | 4 | 563.86 | 54.68 | 9.247E+05 | 4.672E+06 |
| 32 | 3 | 140.73 | 3307. | 0.0 | 8.431E+06 | 77 | 4 | 565.60 | 54.24 | 9.271E+05 | 4.646E+06 |
| 33 | 3 | 140.73 | 3307. | 0.0 | 8.431E+06 | 78 | 4 | 567.31 | 53.80 | 9.291E+05 | 4.621E+06 |
| 34 | 3 | 140.93 | 3494. | 0.0 | 9.074E+06 | 79 | 4 | 451.48 | 51.87 | 4.870E+05 | 3.447E+06 |
| 35 | 3 | 140.93 | 3494. | 0.0 | 9.074E+06 | 80 | 4 | 446.76 | 51.45 | 4.709E+05 | 3.374E+06 |
| 36 | 4 | 454.08 | 292.7 | 1.301E+06 | 2.107E+07 | 81 | 4 | 447.18 | 51.07 | 4.699E+05 | 3.352E+06 |
| 37 | 4 | 496.16 | 193.7 | 1.613E+06 | 1.512E+07 | 82 | 4 | 448.17 | 50.69 | 4.705E+05 | 3.335E+06 |
| 38 | 4 | 521.72 | 159.4 | 1.654E+06 | 1.308E+07 | 83 | 4 | 449.30 | 50.33 | 4.715E+05 | 3.319E+06 |
| 39 | 4 | 555.88 | 145.3 | 1.916E+06 | 1.268E+07 | 84 | 4 | 450.42 | 49.97 | 4.725E+05 | 3.305E+06 |
| 40 | 4 | 574.50 | 135.3 | 2.040E+06 | 1.215E+07 | 85 | 4 | 297.08 | 48.29 | 1.506E+05 | 1.753E+06 |
| 41 | 4 | 592.21 | 127.8 | 2.159E+06 | 1.177E+07 | 86 | 4 | 291.19 | 47.93 | 1.421E+05 | 1.681E+06 |
| 42 | 4 | 608.75 | 121.7 | 2.266E+06 | 1.148E+07 | 87 | 4 | 291.20 | 47.66 | 1.419E+05 | 1.671E+06 |
| 43 | 4 | 624.76 | 116.6 | 2.368E+06 | 1.124E+07 | 88 | 4 | 291.61 | 47.40 | 1.421E+05 | 1.666E+06 |
| 44 | 4 | 645.20 | 112.3 | 2.518E+06 | 1.113E+07 | 89 | 4 | 292.08 | 47.15 | 1.424E+05 | 1.661E+06 |
| 45 | 4 | 659.12 | 108.2 | 2.591E+06 | 1.092E+07 | 90 | 4 | 292.62 | 46.89 | 1.428E+05 | 1.657E+06 |
| | | | | | | 91 | 8 | 293.07 | 63.42 | 0.0 | 2.440E+06 |

FUEL TEMPERATURE ( TIME = 200.00 ( SEC ) )

| J | TF( 1,J) | TF( 2,J) | TF( 3,J) | TF( 4,J) | TF( 5,J) | TF( 6,J) | TF( 7,J) | TF( 8,J) | TF( 9,J) | TF(10,J) | TF(11,J) | TF(12,J) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 |
| 2 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 |
| 3 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 |
| 4 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 |
| 5 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 |
| 6 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 |
| 7 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 | 137.06 |
| 8 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 |
| 9 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 |
| 10 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 |
| 11 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 |
| 12 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 |
| 13 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 |
| 14 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 |
| 15 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 |
| 16 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 |
| 17 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 |
| 18 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 | 139.29 |
| 19 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 |
| 20 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 |
| 21 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 |
| 22 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 |
| 23 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 | 139.81 |
| 24 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 |
| 25 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 |
| 26 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 |
| 27 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 |
| 28 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 |
| 29 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 |
| 30 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 |
| 31 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 |
| 32 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 |
| 33 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 |
| 34 | 140.67 | 140.67 | 140.67 | 140.67 | 140.67 | 140.67 | 140.67 | 140.67 | 140.67 | 140.67 | 140.67 | 140.67 |
| 35 | 140.67 | 140.67 | 140.67 | 140.67 | 140.67 | 140.67 | 140.67 | 140.67 | 140.67 | 140.67 | 140.67 | 140.67 |
| 36 | 140.67 | 140.67 | 140.67 | 140.67 | 140.67 | 140.67 | 140.67 | 140.67 | 140.67 | 140.67 | 140.67 | 140.67 |
| 37 | 140.67 | 140.67 | 140.67 | 140.67 | 140.67 | 140.67 | 140.67 | 140.67 | 140.67 | 140.67 | 140.67 | 140.67 |
| 38 | 466.74 | 467.76 | 469.14 | 470.72 | 474.40 | 478.16 | 482.03 | 483.89 | 484.76 | 485.41 | 486.09 | 486.41 |
| 39 | 506.16 | 507.07 | 508.33 | 509.79 | 513.24 | 516.80 | 520.52 | 522.21 | 522.95 | 523.51 | 524.09 | 524.36 |
| 40 | 527.66 | 528.51 | 529.70 | 531.08 | 534.37 | 537.78 | 541.37 | 542.95 | 543.62 | 544.13 | 544.66 | 544.91 |
| 41 | 546.86 | 547.68 | 548.82 | 550.16 | 553.35 | 556.67 | 560.17 | 561.69 | 562.33 | 562.82 | 563.31 | 563.55 |
| 42 | 564.29 | 565.08 | 566.19 | 567.49 | 570.61 | 573.87 | 577.31 | 578.77 | 579.40 | 579.87 | 580.36 | 580.59 |
| 43 | 580.78 | 581.56 | 582.64 | 583.92 | 586.99 | 590.19 | 593.58 | 595.01 | 595.63 | 596.10 | 596.58 | 596.81 |
| 44 | 601.17 | 601.92 | 602.99 | 604.25 | 607.28 | 610.46 | 613.83 | 615.22 | 615.80 | 616.23 | 616.67 | 616.88 |
| 45 | 615.14 | 615.88 | 616.93 | 618.16 | 621.16 | 624.31 | 627.64 | 629.00 | 629.56 | 629.98 | 630.41 | 630.62 |
| 46 | 628.16 | 628.89 | 629.92 | 631.14 | 634.10 | 637.21 | 640.52 | 641.84 | 642.39 | 642.80 | 643.22 | 643.42 |
| 47 | 641.27 | 641.99 | 643.00 | 644.20 | 647.13 | 650.22 | 653.50 | 654.80 | 655.33 | 655.73 | 656.14 | 656.33 |
| 48 | 653.54 | 654.25 | 655.25 | 656.43 | 659.33 | 662.38 | 665.64 | 666.91 | 667.43 | 667.82 | 668.21 | 668.40 |
| 49 | 659.30 | 659.98 | 660.95 | 662.10 | 664.93 | 667.92 | 671.11 | 672.34 | 672.83 | 673.20 | 673.58 | 673.76 |
| 50 | 670.07 | 670.74 | 671.69 | 672.83 | 675.62 | 678.58 | 681.74 | 682.95 | 683.42 | 683.78 | 684.14 | 684.31 |
| 51 | 679.90 | 680.56 | 681.49 | 682.61 | 685.37 | 688.29 | 691.42 | 692.61 | 693.06 | 693.39 | 693.73 | 693.89 |
| 52 | 689.51 | 690.15 | 691.06 | 692.16 | 694.88 | 697.77 | 700.87 | 702.03 | 702.46 | 702.77 | 703.09 | 703.25 |
| 53 | 697.93 | 698.56 | 699.45 | 700.53 | 703.21 | 706.06 | 709.13 | 710.26 | 710.65 | 710.95 | 711.24 | 711.39 |
| 54 | 688.45 | 689.04 | 689.89 | 690.92 | 693.46 | 696.17 | 699.10 | 700.19 | 700.54 | 700.81 | 701.08 | 701.20 |
| 55 | 694.40 | 694.98 | 695.81 | 696.82 | 699.32 | 702.00 | 704.91 | 705.98 | 706.30 | 706.55 | 706.81 | 706.93 |
| 56 | 700.21 | 700.77 | 701.57 | 702.56 | 705.03 | 707.68 | 710.56 | 711.61 | 711.92 | 712.16 | 712.40 | 712.52 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 57 | 705.81 | 706.35 | 707.14 | 708.11 | 710.54 | 713.16 | 716.01 | 717.06 | 717.35 | 717.57 | 717.81 | 717.93 |
| 58 | 710.90 | 711.42 | 712.19 | 713.15 | 715.55 | 718.14 | 720.98 | 722.01 | 722.28 | 722.50 | 722.73 | 722.84 |
| 59 | 677.89 | 678.38 | 679.10 | 680.01 | 695.88 | 713.12 | 731.89 | 732.84 | 733.10 | 733.29 | 733.49 | 733.58 |
| 60 | 679.70 | 680.20 | 680.93 | 681.84 | 697.69 | 714.87 | 733.58 | 734.52 | 734.76 | 734.94 | 735.13 | 735.22 |
| 61 | 683.16 | 683.66 | 684.41 | 685.32 | 701.21 | 718.37 | 737.07 | 738.00 | 738.24 | 738.41 | 738.60 | 738.68 |
| 62 | 686.79 | 687.31 | 688.05 | 688.97 | 704.87 | 722.03 | 740.72 | 741.65 | 741.88 | 742.05 | 742.23 | 742.32 |
| 63 | 690.47 | 690.98 | 691.73 | 692.65 | 708.55 | 725.71 | 744.38 | 745.31 | 745.54 | 745.71 | 745.88 | 745.97 |
| 64 | 648.06 | 648.53 | 649.21 | 650.04 | 664.16 | 679.39 | 695.95 | 696.82 | 697.01 | 697.16 | 697.30 | 697.38 |
| 65 | 649.33 | 649.79 | 650.47 | 651.30 | 665.36 | 680.53 | 697.05 | 697.91 | 698.09 | 698.23 | 698.37 | 698.44 |
| 66 | 652.21 | 652.67 | 653.35 | 654.18 | 668.23 | 683.38 | 699.88 | 700.74 | 700.92 | 701.05 | 701.19 | 701.26 |
| 67 | 655.17 | 655.64 | 656.31 | 657.14 | 671.17 | 686.31 | 702.80 | 703.65 | 703.82 | 703.95 | 704.09 | 704.15 |
| 68 | 658.15 | 658.62 | 659.30 | 660.12 | 674.14 | 689.26 | 705.74 | 706.59 | 706.76 | 706.89 | 707.02 | 707.08 |
| 69 | 600.82 | 601.23 | 601.83 | 602.55 | 614.48 | 627.34 | 641.33 | 642.10 | 642.24 | 642.35 | 642.45 | 642.51 |
| 70 | 600.52 | 600.93 | 601.52 | 602.24 | 614.11 | 626.90 | 640.84 | 641.60 | 641.73 | 641.83 | 641.93 | 641.98 |
| 71 | 602.36 | 602.77 | 603.37 | 604.08 | 615.93 | 628.69 | 642.61 | 643.37 | 643.50 | 643.59 | 643.68 | 643.73 |
| 72 | 604.51 | 604.92 | 605.52 | 606.23 | 618.05 | 630.80 | 644.70 | 645.46 | 645.58 | 645.67 | 645.77 | 645.81 |
| 73 | 606.76 | 607.17 | 607.76 | 608.47 | 620.28 | 633.01 | 646.90 | 647.66 | 647.77 | 647.86 | 647.95 | 648.00 |
| 74 | 529.93 | 530.27 | 530.76 | 531.36 | 540.72 | 550.81 | 561.81 | 562.47 | 562.56 | 562.62 | 562.69 | 562.72 |
| 75 | 527.64 | 527.98 | 528.47 | 529.07 | 538.36 | 548.37 | 559.30 | 559.96 | 560.04 | 560.10 | 560.16 | 560.18 |
| 76 | 528.79 | 529.13 | 529.62 | 530.21 | 539.48 | 549.48 | 560.39 | 561.04 | 561.12 | 561.17 | 561.23 | 561.26 |
| 77 | 530.47 | 530.82 | 531.31 | 531.90 | 541.15 | 551.14 | 562.04 | 562.70 | 562.77 | 562.82 | 562.88 | 562.91 |
| 78 | 532.11 | 532.45 | 532.94 | 533.53 | 542.78 | 552.75 | 563.64 | 564.29 | 564.36 | 564.42 | 564.47 | 564.50 |
| 79 | 424.35 | 424.60 | 424.96 | 425.40 | 431.64 | 438.38 | 445.73 | 446.24 | 446.29 | 446.32 | 446.36 | 446.38 |
| 80 | 419.80 | 420.06 | 420.42 | 420.86 | 427.02 | 433.68 | 440.95 | 441.46 | 441.50 | 441.53 | 441.56 | 441.57 |
| 81 | 420.15 | 420.40 | 420.76 | 421.20 | 427.35 | 433.98 | 441.24 | 441.75 | 441.79 | 441.82 | 441.85 | 441.86 |
| 82 | 421.09 | 421.34 | 421.70 | 422.14 | 428.28 | 434.90 | 442.16 | 442.66 | 442.70 | 442.73 | 442.75 | 442.77 |
| 83 | 422.17 | 422.42 | 422.78 | 423.22 | 429.35 | 435.97 | 443.22 | 443.72 | 443.76 | 443.78 | 443.81 | 443.82 |
| 84 | 423.25 | 423.50 | 423.86 | 424.29 | 430.42 | 437.04 | 444.28 | 444.78 | 444.81 | 444.84 | 444.87 | 444.88 |
| 85 | 282.56 | 282.69 | 282.87 | 283.10 | 285.88 | 288.89 | 292.17 | 292.47 | 292.48 | 292.49 | 292.50 | 292.51 |
| 86 | 277.34 | 277.47 | 277.66 | 277.89 | 280.63 | 283.58 | 286.81 | 287.10 | 287.11 | 287.12 | 287.13 | 287.13 |
| 87 | 277.32 | 277.45 | 277.64 | 277.86 | 280.59 | 283.54 | 286.76 | 287.05 | 287.06 | 287.07 | 287.08 | 287.08 |
| 88 | 277.70 | 277.84 | 278.02 | 278.25 | 280.98 | 283.92 | 287.14 | 287.43 | 287.44 | 287.45 | 287.46 | 287.46 |
| 89 | 278.15 | 278.28 | 278.47 | 278.70 | 281.42 | 284.37 | 287.58 | 287.87 | 287.88 | 287.89 | 287.90 | 287.90 |
| 90 | 278.68 | 278.81 | 279.00 | 279.22 | 281.95 | 284.89 | 288.11 | 288.39 | 288.40 | 288.41 | 288.42 | 288.42 |
| 91 | 279.10 | 279.23 | 279.42 | 279.65 | 282.37 | 285.31 | 288.52 | 288.81 | 288.82 | 288.83 | 288.83 | 288.84 |

FUEL TEMPERATURE ( TIME = 200.00 ( SEC ) )

| J | TFP( 1,J) | TFP( 2,J) | TFP( 3,J) | TFP( 4,J) | TFP( 5,J) | TFP( 6,J) | TFP( 7,J) | TFP( 8,J) | TFP( 9,J) | TFP(10,J) | TFP(11,J) | TFP(12,J) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 |
| 2 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 |
| 3 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 |
| 4 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 |
| 5 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 |
| 6 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 |
| 7 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 | 137.23 |
| 8 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 |
| 9 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 |
| 10 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 |
| 11 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 |
| 12 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 |
| 13 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 | 138.69 |
| 14 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 |
| 15 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 |
| 16 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 |
| 17 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 |
| 18 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 | 139.52 |
| 19 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 |
| 20 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 |
| 21 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 |
| 22 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 |
| 23 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 | 140.05 |
| 24 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 |
| 25 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 |
| 26 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 |
| 27 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 |
| 28 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 |
| 29 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 |
| 30 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 |
| 31 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 |
| 32 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 |
| 33 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 | 140.73 |
| 34 | 140.93 | 140.93 | 140.93 | 140.93 | 140.93 | 140.93 | 140.93 | 140.93 | 140.93 | 140.93 | 140.93 | 140.93 |
| 35 | 140.93 | 140.93 | 140.93 | 140.93 | 140.93 | 140.93 | 140.93 | 140.93 | 140.93 | 140.93 | 140.93 | 140.93 |
| 36 | 454.08 | 455.49 | 457.36 | 459.44 | 464.23 | 469.00 | 473.82 | 476.25 | 477.64 | 478.67 | 479.73 | 480.24 |
| 37 | 496.16 | 497.21 | 498.65 | 500.30 | 504.18 | 508.15 | 512.26 | 514.18 | 515.11 | 515.80 | 516.52 | 516.86 |
| 38 | 521.72 | 522.63 | 523.90 | 525.38 | 528.90 | 532.54 | 536.36 | 538.05 | 538.78 | 539.33 | 539.90 | 540.17 |
| 39 | 555.88 | 556.77 | 558.02 | 559.48 | 562.97 | 566.61 | 570.44 | 572.09 | 572.81 | 573.35 | 573.91 | 574.17 |
| 40 | 574.50 | 575.36 | 576.57 | 577.99 | 581.39 | 584.94 | 588.69 | 590.28 | 590.97 | 591.49 | 592.03 | 592.29 |
| 41 | 592.21 | 593.04 | 594.22 | 595.61 | 598.95 | 602.44 | 606.13 | 607.67 | 608.35 | 608.86 | 609.38 | 609.63 |
| 42 | 608.75 | 609.58 | 610.73 | 612.09 | 615.39 | 618.84 | 622.50 | 624.01 | 624.67 | 625.16 | 625.67 | 625.92 |
| 43 | 624.76 | 625.57 | 626.71 | 628.06 | 631.32 | 634.74 | 638.37 | 639.84 | 640.49 | 640.98 | 641.48 | 641.73 |
| 44 | 645.20 | 646.00 | 647.12 | 648.46 | 651.70 | 655.11 | 658.74 | 660.17 | 660.78 | 661.24 | 661.70 | 661.93 |
| 45 | 659.12 | 659.91 | 661.02 | 662.33 | 665.55 | 668.93 | 672.53 | 673.93 | 674.53 | 674.98 | 675.43 | 675.65 |
| 46 | 672.21 | 672.98 | 674.07 | 675.37 | 678.55 | 681.91 | 685.48 | 686.86 | 687.44 | 687.88 | 688.32 | 688.54 |
| 47 | 685.49 | 686.26 | 687.33 | 688.62 | 691.77 | 695.10 | 698.64 | 700.00 | 700.57 | 701.00 | 701.44 | 701.65 |
| 48 | 697.99 | 698.74 | 699.80 | 701.07 | 704.19 | 707.49 | 711.01 | 712.34 | 712.90 | 713.32 | 713.75 | 713.96 |
| 49 | 703.71 | 704.44 | 705.47 | 706.71 | 709.76 | 712.99 | 716.44 | 717.73 | 718.27 | 718.66 | 719.07 | 719.27 |
| 50 | 714.79 | 715.50 | 716.52 | 717.74 | 720.76 | 723.95 | 727.38 | 728.65 | 729.16 | 729.54 | 729.94 | 730.12 |
| 51 | 724.88 | 725.58 | 726.58 | 727.78 | 730.76 | 733.92 | 737.32 | 738.56 | 739.05 | 739.42 | 739.79 | 739.97 |
| 52 | 734.76 | 735.45 | 736.43 | 737.61 | 740.55 | 743.68 | 747.04 | 748.26 | 748.72 | 749.07 | 749.42 | 749.59 |
| 53 | 743.42 | 744.09 | 745.05 | 746.21 | 749.10 | 752.19 | 755.52 | 756.72 | 757.14 | 757.46 | 757.79 | 757.94 |
| 54 | 733.34 | 733.98 | 734.89 | 735.99 | 738.74 | 741.69 | 744.86 | 746.01 | 746.39 | 746.68 | 746.98 | 747.12 |
| 55 | 739.50 | 740.12 | 741.01 | 742.09 | 744.80 | 747.71 | 750.86 | 751.99 | 752.35 | 752.62 | 752.90 | 753.04 |
| 56 | 745.43 | 746.02 | 746.89 | 747.95 | 750.62 | 753.50 | 756.63 | 757.74 | 758.08 | 758.34 | 758.61 | 758.74 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 57 | 751.14 | 751.72 | 752.56 | 753.61 | 756.24 | 759.09 | 762.19 | 763.29 | 763.60 | 763.85 | 764.12 | 764.24 |
| 58 | 756.31 | 756.87 | 757.71 | 758.73 | 761.33 | 764.16 | 767.24 | 768.32 | 768.62 | 768.86 | 769.12 | 769.24 |
| 59 | 721.98 | 722.51 | 723.29 | 724.27 | 741.81 | 760.88 | 781.68 | 782.68 | 782.97 | 783.18 | 783.40 | 783.51 |
| 60 | 724.00 | 724.54 | 725.33 | 726.31 | 743.85 | 762.86 | 783.60 | 784.59 | 784.86 | 785.06 | 785.27 | 785.37 |
| 61 | 727.56 | 728.11 | 728.91 | 729.89 | 747.47 | 766.48 | 787.20 | 788.19 | 788.45 | 788.65 | 788.85 | 788.95 |
| 62 | 731.28 | 731.83 | 732.64 | 733.62 | 751.22 | 770.23 | 790.94 | 791.92 | 792.18 | 792.38 | 792.58 | 792.67 |
| 63 | 735.04 | 735.59 | 736.40 | 737.38 | 754.98 | 773.98 | 794.69 | 795.67 | 795.93 | 796.12 | 796.31 | 796.41 |
| 64 | 690.32 | 690.83 | 691.56 | 692.45 | 708.06 | 724.91 | 743.26 | 744.17 | 744.39 | 744.55 | 744.71 | 744.79 |
| 65 | 691.78 | 692.28 | 693.01 | 693.90 | 709.46 | 726.25 | 744.55 | 745.46 | 745.67 | 745.82 | 745.97 | 746.05 |
| 66 | 694.75 | 695.26 | 695.99 | 696.88 | 712.42 | 729.20 | 747.49 | 748.39 | 748.59 | 748.74 | 748.89 | 748.97 |
| 67 | 697.80 | 698.31 | 699.04 | 699.93 | 715.46 | 732.22 | 750.49 | 751.39 | 751.59 | 751.73 | 751.88 | 751.96 |
| 68 | 700.88 | 701.38 | 702.11 | 703.00 | 718.52 | 735.26 | 753.53 | 754.42 | 754.61 | 754.75 | 754.90 | 754.97 |
| 69 | 640.18 | 640.62 | 641.27 | 642.05 | 655.23 | 669.44 | 684.93 | 685.74 | 685.90 | 686.01 | 686.13 | 686.18 |
| 70 | 640.06 | 640.51 | 641.15 | 641.92 | 655.04 | 669.19 | 684.62 | 685.43 | 685.57 | 685.68 | 685.78 | 685.84 |
| 71 | 642.02 | 642.46 | 643.10 | 643.88 | 656.97 | 671.09 | 686.50 | 687.30 | 687.44 | 687.54 | 687.65 | 687.70 |
| 72 | 644.26 | 644.70 | 645.34 | 646.11 | 659.19 | 673.29 | 688.69 | 689.49 | 689.62 | 689.72 | 689.82 | 689.87 |
| 73 | 646.59 | 647.03 | 647.67 | 648.44 | 661.50 | 675.58 | 690.97 | 691.77 | 691.90 | 691.99 | 692.09 | 692.14 |
| 74 | 564.76 | 565.13 | 565.67 | 566.31 | 576.65 | 587.80 | 599.98 | 600.68 | 600.77 | 600.85 | 600.92 | 600.96 |
| 75 | 562.61 | 562.98 | 563.51 | 564.15 | 574.42 | 585.49 | 597.59 | 598.29 | 598.38 | 598.44 | 598.51 | 598.54 |
| 76 | 563.86 | 564.23 | 564.76 | 565.40 | 575.64 | 586.69 | 598.78 | 599.47 | 599.55 | 599.62 | 599.68 | 599.71 |
| 77 | 565.60 | 565.97 | 566.50 | 567.14 | 577.37 | 588.42 | 600.49 | 601.18 | 601.26 | 601.32 | 601.39 | 601.42 |
| 78 | 567.31 | 567.67 | 568.20 | 568.84 | 579.06 | 590.09 | 602.16 | 602.84 | 602.92 | 602.98 | 603.04 | 603.07 |
| 79 | 451.48 | 451.75 | 452.14 | 452.62 | 459.53 | 467.00 | 475.16 | 475.71 | 475.76 | 475.79 | 475.83 | 475.85 |
| 80 | 446.76 | 447.03 | 447.43 | 447.90 | 454.73 | 462.10 | 470.18 | 470.72 | 470.76 | 470.79 | 470.83 | 470.84 |
| 81 | 447.18 | 447.45 | 447.84 | 448.31 | 455.12 | 462.48 | 470.55 | 471.09 | 471.12 | 471.15 | 471.18 | 471.20 |
| 82 | 448.17 | 448.44 | 448.83 | 449.30 | 456.11 | 463.46 | 471.51 | 472.05 | 472.09 | 472.11 | 472.14 | 472.16 |
| 83 | 449.30 | 449.57 | 449.96 | 450.43 | 457.23 | 464.57 | 472.62 | 473.16 | 473.19 | 473.22 | 473.25 | 473.26 |
| 84 | 450.42 | 450.69 | 451.08 | 451.55 | 458.34 | 465.68 | 473.72 | 474.26 | 474.29 | 474.32 | 474.35 | 474.36 |
| 85 | 297.08 | 297.22 | 297.43 | 297.67 | 300.76 | 304.09 | 307.72 | 308.04 | 308.05 | 308.07 | 308.08 | 308.09 |
| 86 | 291.19 | 291.34 | 291.54 | 291.79 | 294.82 | 298.08 | 301.65 | 301.96 | 301.98 | 301.98 | 301.99 | 302.00 |
| 87 | 291.20 | 291.34 | 291.55 | 291.79 | 294.81 | 298.07 | 301.64 | 301.95 | 301.96 | 301.97 | 301.97 | 301.98 |
| 88 | 291.61 | 291.76 | 291.96 | 292.21 | 295.22 | 298.48 | 302.04 | 302.35 | 302.36 | 302.37 | 302.38 | 302.38 |
| 89 | 292.08 | 292.22 | 292.42 | 292.67 | 295.68 | 298.94 | 302.50 | 302.81 | 302.82 | 302.82 | 302.83 | 302.84 |
| 90 | 292.62 | 292.77 | 292.97 | 293.22 | 296.23 | 299.48 | 303.04 | 303.35 | 303.36 | 303.37 | 303.37 | 303.38 |
| 91 | 293.07 | 293.21 | 293.42 | 293.66 | 296.67 | 299.92 | 303.47 | 303.78 | 303.79 | 303.80 | 303.81 | 303.81 |

```
NAME(1)= 200


 TIME   USUP    ULIN    UDUP    UCUP    UGOUT   ULOUT   UGLOP    CRF      DPDN    DPCR   DPLOP  AMCOIN  AMCOR   AMGS    AMLS  MERROR
        <------  ( CM/SEC )  AT CORE WATER STATE       ------>          <---    ( M.AQ )   ---->  <---  (  KG/M**2 ) AT CORE FLOW --->


200.00  2.081   2.081   3.526   4.474   1.334   0.0     0.0      0.0      0.0      7.35    0.0  5087.9 1364.8 2638.9 1045.1    42.3
210.00  2.492   2.492   3.526   4.474   1.378   0.874   0.0      0.353    0.0      6.99    0.0  5286.9 1364.8 2765.9 1115.5    43.8
        TIMES DMASS G(1) G(N1) GGAS      220.00         -0.30035E-07     0.61049E-03      0.56992E-03      0.37319E-03
220.00  2.304   2.304   3.526   4.474   1.398   0.737   0.0      0.322    0.0      6.90    0.0  5518.2 1384.7 2893.8 1197.3    45.5
230.00  1.655   1.655   3.526   4.474   1.318   0.925   0.0      0.563    0.0      6.57    0.0  5681.5 1342.3 3024.1 1271.5    46.7
        TIMES DMASS G(1) G(N1) GGAS      237.50          0.11500E-05     0.33702E-03      0.33730E-03      0.33730E-03
        TIMES DMASS G(1) G(N1) GGAS      240.00         -0.74026E-07     0.38841E-03      0.47446E-03      0.36616E-03
240.00  1.466   1.466   3.526   4.474   1.372   0.406   0.0      0.279    0.0      6.81    0.0  5820.8 1304.1 3151.6 1320.5    47.8
 TIME   USUP    ULIN    UDUP    UCUP    UGOUT   ULOUT   UGLOP    CRF      DPDN    DPCR   DPLOP  AMCOIN  AMCOR   AMGS    AMLS  MERROR
        <------  ( CM/SEC )  AT CORE WATER STATE       ------>          <---    ( M.AQ )   ---->  <---  (  KG/M**2 ) AT CORE FLOW --->


250.00  2.779   2.779   3.526   4.474   1.255   0.999   0.0      0.362    0.0      6.72    0.0  6040.8 1340.3 3270.1 1384.0    49.4
        TIMES DMASS G(1) G(N1) GGAS      253.50          0.12412E-05     0.74043E-03      0.33782E-03      0.33782E-03
        TIMES DMASS G(1) G(N1) GGAS      257.00          0.89291E-06     0.66501E-03      0.33486E-03      0.33486E-03
        TIMES DMASS G(1) G(N1) GGAS      260.00         -0.78115E-07     0.47326E-03      0.51904E-03      0.36345E-03




260.00  1.787   1.787   3.526   4.474   1.362   0.583   0.0      0.329    0.0      6.98    0.0  6284.9 1382.5 3390.8 1463.5    51.2
270.00  1.965   1.965   3.526   4.474   1.253   0.439   0.0      0.225    0.0      7.01    0.0  6417.4 1329.4 3515.0 1523.9    52.2
        TIMES DMASS G(1) G(N1) GGAS      280.00         -0.75670E-09     0.54224E-03      0.51326E-03      0.34203E-03
280.00  2.048   2.048   3.526   4.474   1.281   0.641   0.0      0.316    0.0      7.33    0.0  6625.4 1362.3 3633.3 1579.0    53.8
290.00  1.752   1.752   3.526   4.474   1.339   0.828   0.0      0.477    0.0      7.36    0.0  6808.8 1364.0 3754.5 1638.1    55.3
        TIMES DMASS G(1) G(N1) GGAS      300.00         -0.10201E-07     0.63344E-03      0.50768E-03      0.33608E-03
```

*** TIME = 300.00 ( SEC ) **** INLET AND OUTLET CONDITION ****

| TQN2(C) | ZB2(M) | TQN5(C) | ZB5(M) | DD(IB4)(MM) | DD(N1)(MM) | DP(M) | CRATIO |
|---|---|---|---|---|---|---|---|
| 442.03 | 1.8799 | 0.0 | 3.6600 | 0.67498 | 0.67487 | 1.48109 | 0.27091 |

P, RL, RGST 2.7774E+04 7.3552E-06 1.1862E-08

| I | IP | AG(I) | AGINF(I) | AGDISP(I) | TW(I) | TL/TG(I) | PC(I) | HT(I) | HR(I) | HCV(I) | G(I) | GG(I) | GL(I) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 0.0 | 0.0 | 0.0 | 136.90 | 119.99 | 2.777E+04 | 887.5 | 0.0 | 1.459E+06 | 6.334E-04 | 0.0 | 6.334E-04 |
| 2 | 1 | 0.0 | 0.0 | 0.0 | 136.90 | 120.55 | 2.774E+04 | 887.5 | 0.0 | 1.459E+06 | 6.335E-04 | 0.0 | 6.335E-04 |
| 3 | 1 | 0.0 | 0.0 | 0.0 | 136.90 | 121.26 | 2.770E+04 | 887.5 | 0.0 | 1.459E+06 | 6.335E-04 | 0.0 | 6.335E-04 |
| 4 | 1 | 0.0 | 0.0 | 0.0 | 136.90 | 122.05 | 2.766E+04 | 887.5 | 0.0 | 1.459E+06 | 6.336E-04 | 0.0 | 6.336E-04 |
| 5 | 1 | 0.0 | 0.0 | 0.0 | 136.90 | 122.84 | 2.762E+04 | 887.5 | 0.0 | 1.459E+06 | 6.336E-04 | 0.0 | 6.336E-04 |
| 6 | 1 | 0.0 | 0.0 | 0.0 | 136.90 | 123.64 | 2.758E+04 | 887.5 | 0.0 | 1.459E+06 | 6.337E-04 | 0.0 | 6.337E-04 |
| 7 | 1 | 0.0 | 0.0 | 0.0 | 136.90 | 124.43 | 2.755E+04 | 887.5 | 0.0 | 1.459E+06 | 6.337E-04 | 0.0 | 6.337E-04 |
| 8 | 1 | 0.0 | 0.0 | 0.0 | 138.29 | 125.22 | 2.751E+04 | 1532. | 0.0 | 3.022E+06 | 6.338E-04 | 0.0 | 6.338E-04 |
| 9 | 1 | 0.0 | 0.0 | 0.0 | 138.29 | 126.83 | 2.747E+04 | 1532. | 0.0 | 3.022E+06 | 6.339E-04 | 0.0 | 6.339E-04 |
| 10 | 1 | 0.0 | 0.0 | 0.0 | 138.29 | 128.50 | 2.743E+04 | 1532. | 0.0 | 3.022E+06 | 6.339E-04 | 0.0 | 6.339E-04 |
| 11 | 1 | 0.0 | 0.0 | 0.0 | 138.29 | 129.93 | 2.739E+04 | 1532. | 0.0 | 3.022E+06 | 6.340E-04 | 0.0 | 6.340E-04 |
| 12 | 3 | 0.0605 | 0.0 | 0.0 | 138.29 | 129.93 | 2.736E+04 | 1532. | 0.0 | 3.022E+06 | 6.140E-04 | 1.818E-06 | 6.122E-04 |
| 13 | 3 | 0.0988 | 0.0 | 0.0 | 138.29 | 129.93 | 2.732E+04 | 1532. | 0.0 | 3.022E+06 | 6.021E-04 | 3.699E-06 | 5.984E-04 |
| 14 | 3 | 0.1308 | 0.0 | 0.0 | 139.08 | 129.93 | 2.729E+04 | 2006. | 0.0 | 4.330E+06 | 5.949E-04 | 5.573E-06 | 5.894E-04 |
| 15 | 3 | 0.1706 | 0.0 | 0.0 | 139.08 | 129.93 | 2.725E+04 | 2006. | 0.0 | 4.330E+06 | 5.899E-04 | 8.250E-06 | 5.816E-04 |
| 16 | 3 | 0.2027 | 0.0 | 0.0 | 139.08 | 129.93 | 2.722E+04 | 2006. | 0.0 | 4.330E+06 | 5.861E-04 | 1.093E-05 | 5.752E-04 |
| 17 | 3 | 0.2252 | 0.0 | 0.0 | 139.08 | 129.93 | 2.719E+04 | 2006. | 0.0 | 4.330E+06 | 5.841E-04 | 1.360E-05 | 5.705E-04 |
| 18 | 3 | 0.2453 | 0.0 | 0.0 | 139.08 | 129.93 | 2.716E+04 | 2006. | 0.0 | 4.330E+06 | 5.825E-04 | 1.627E-05 | 5.663E-04 |
| 19 | 3 | 0.2638 | 0.0 | 0.0 | 139.59 | 129.93 | 2.713E+04 | 2360. | 0.0 | 5.377E+06 | 5.812E-04 | 1.894E-05 | 5.622E-04 |
| 20 | 3 | 0.2849 | 0.0 | 0.0 | 139.59 | 129.93 | 2.710E+04 | 2360. | 0.0 | 5.377E+06 | 5.800E-04 | 2.225E-05 | 5.577E-04 |
| 21 | 3 | 0.3044 | 0.0 | 0.0 | 139.59 | 129.93 | 2.708E+04 | 2360. | 0.0 | 5.377E+06 | 5.789E-04 | 2.557E-05 | 5.533E-04 |
| 22 | 3 | 0.3226 | 0.0 | 0.0 | 139.59 | 129.93 | 2.705E+04 | 2360. | 0.0 | 5.377E+06 | 5.779E-04 | 2.889E-05 | 5.491E-04 |
| 23 | 3 | 0.3397 | 0.0 | 0.0 | 139.59 | 129.93 | 2.702E+04 | 2360. | 0.0 | 5.377E+06 | 5.771E-04 | 3.220E-05 | 5.449E-04 |
| 24 | 3 | 0.3558 | 0.0 | 0.0 | 139.96 | 129.93 | 2.700E+04 | 2642. | 0.0 | 6.250E+06 | 5.762E-04 | 3.551E-05 | 5.407E-04 |
| 25 | 3 | 0.3737 | 0.0 | 0.0 | 139.96 | 129.93 | 2.698E+04 | 2642. | 0.0 | 6.250E+06 | 5.755E-04 | 3.937E-05 | 5.361E-04 |
| 26 | 3 | 0.3906 | 0.0 | 0.0 | 139.96 | 129.93 | 2.695E+04 | 2642. | 0.0 | 6.250E+06 | 5.747E-04 | 4.322E-05 | 5.315E-04 |
| 27 | 3 | 0.4067 | 0.0 | 0.0 | 139.96 | 129.93 | 2.693E+04 | 2642. | 0.0 | 6.250E+06 | 5.740E-04 | 4.707E-05 | 5.270E-04 |
| 28 | 3 | 0.4222 | 0.0 | 0.0 | 139.96 | 129.93 | 2.691E+04 | 2642. | 0.0 | 6.250E+06 | 5.734E-04 | 5.092E-05 | 5.224E-04 |
| 29 | 3 | 0.4370 | 0.0 | 0.0 | 140.24 | 129.93 | 2.688E+04 | 2868. | 0.0 | 6.971E+06 | 5.727E-04 | 5.478E-05 | 5.179E-04 |
| 30 | 3 | 0.4529 | 0.0 | 0.0 | 140.24 | 129.93 | 2.686E+04 | 2868. | 0.0 | 6.971E+06 | 5.721E-04 | 5.907E-05 | 5.130E-04 |
| 31 | 3 | 0.4682 | 0.0 | 0.0 | 140.24 | 129.93 | 2.684E+04 | 2868. | 0.0 | 6.971E+06 | 5.715E-04 | 6.337E-05 | 5.081E-04 |
| 32 | 3 | 0.4830 | 0.0 | 0.0 | 140.24 | 129.93 | 2.682E+04 | 2868. | 0.0 | 6.971E+06 | 5.709E-04 | 6.767E-05 | 5.032E-04 |
| 33 | 3 | 0.4972 | 0.0 | 0.0 | 140.24 | 129.93 | 2.680E+04 | 2868. | 0.0 | 6.971E+06 | 5.703E-04 | 7.196E-05 | 4.983E-04 |
| 34 | 3 | 0.5110 | 0.0 | 0.0 | 140.43 | 129.93 | 2.678E+04 | 3030. | 0.0 | 7.503E+06 | 5.697E-04 | 7.626E-05 | 4.934E-04 |
| 35 | 3 | 0.5254 | 0.0 | 0.0 | 140.43 | 129.93 | 2.676E+04 | 3030. | 0.0 | 7.503E+06 | 5.691E-04 | 8.088E-05 | 4.882E-04 |
| 36 | 3 | 0.5394 | 0.0 | 0.0 | 140.43 | 129.93 | 2.674E+04 | 3030. | 0.0 | 7.503E+06 | 5.686E-04 | 8.551E-05 | 4.830E-04 |
| 37 | 3 | 0.5530 | 0.0 | 0.0 | 140.43 | 129.93 | 2.673E+04 | 3030. | 0.0 | 7.503E+06 | 5.680E-04 | 9.013E-05 | 4.779E-04 |
| 38 | 3 | 0.5662 | 0.0 | 0.0 | 140.43 | 129.93 | 2.671E+04 | 3030. | 0.0 | 7.503E+06 | 5.674E-04 | 9.476E-05 | 4.727E-04 |
| 39 | 3 | 0.5790 | 0.0 | 0.0 | 140.54 | 129.93 | 2.669E+04 | 3126. | 0.0 | 7.820E+06 | 5.669E-04 | 9.938E-05 | 4.675E-04 |
| 40 | 3 | 0.5921 | 0.0 | 0.0 | 140.54 | 129.93 | 2.668E+04 | 3126. | 0.0 | 7.820E+06 | 5.663E-04 | 1.042E-04 | 4.621E-04 |
| 41 | 3 | 0.6048 | 0.0 | 0.0 | 140.54 | 129.93 | 2.666E+04 | 3126. | 0.0 | 7.820E+06 | 5.658E-04 | 1.090E-04 | 4.567E-04 |
| 42 | 3 | 0.6173 | 0.0 | 0.0 | 140.54 | 129.93 | 2.665E+04 | 3126. | 0.0 | 7.820E+06 | 5.652E-04 | 1.138E-04 | 4.514E-04 |
| 43 | 3 | 0.6294 | 0.0 | 0.0 | 140.54 | 129.93 | 2.663E+04 | 3126. | 0.0 | 7.820E+06 | 5.647E-04 | 1.187E-04 | 4.460E-04 |
| 44 | 3 | 0.6413 | 0.0 | 0.0 | 140.57 | 129.93 | 2.662E+04 | 3159. | 0.0 | 7.931E+06 | 5.641E-04 | 1.235E-04 | 4.406E-04 |
| 45 | 3 | 0.6532 | 0.0 | 0.0 | 140.57 | 129.93 | 2.660E+04 | 3159. | 0.0 | 7.931E+06 | 5.636E-04 | 1.284E-04 | 4.352E-04 |
| 46 | 3 | 0.6653 | 0.0 | 0.0 | 140.57 | 129.93 | 2.659E+04 | 3159. | 0.0 | 7.931E+06 | 5.630E-04 | 1.335E-04 | 4.295E-04 |
| 47 | 3 | 0.6843 | 0.0 | 0.0 | 140.57 | 129.93 | 2.658E+04 | 3159. | 0.0 | 7.931E+06 | 5.623E-04 | 1.418E-04 | 4.205E-04 |
| 48 | 5 | 0.7635 | 0.7550 | 0.9914 | 479.00 | 129.93 | 2.656E+04 | 181.4 | 1.068E+06 | 1.386E+07 | 5.529E-04 | 1.751E-04 | 3.777E-04 |
| 49 | 5 | 0.7787 | 0.7717 | 0.9927 | 503.52 | 129.93 | 2.655E+04 | 147.3 | 1.188E+06 | 1.179E+07 | 5.523E-04 | 1.834E-04 | 3.689E-04 |
| 50 | 5 | 0.7928 | 0.7863 | 0.9934 | 526.65 | 129.93 | 2.655E+04 | 131.1 | 1.304E+06 | 1.096E+07 | 5.518E-04 | 1.910E-04 | 3.609E-04 |
| 51 | 5 | 0.8062 | 0.8000 | 0.9940 | 546.51 | 129.93 | 2.654E+04 | 120.6 | 1.400E+06 | 1.045E+07 | 5.514E-04 | 1.983E-04 | 3.531E-04 |
| 52 | 5 | 0.8190 | 0.8131 | 0.9945 | 565.22 | 129.93 | 2.653E+04 | 112.8 | 1.488E+06 | 1.009E+07 | 5.510E-04 | 2.054E-04 | 3.456E-04 |
| 53 | 5 | 0.8313 | 0.8256 | 0.9949 | 582.31 | 129.93 | 2.652E+04 | 106.6 | 1.564E+06 | 9.809E+06 | 5.506E-04 | 2.124E-04 | 3.382E-04 |
| 54 | 5 | 0.8431 | 0.8377 | 0.9953 | 583.33 | 129.93 | 2.652E+04 | 99.48 | 1.487E+06 | 9.151E+06 | 5.502E-04 | 2.193E-04 | 3.309E-04 |
| 55 | 5 | 0.8539 | 0.8486 | 0.9956 | 596.69 | 136.73 | 2.651E+04 | 95.10 | 1.530E+06 | 8.939E+06 | 5.498E-04 | 2.256E-04 | 3.242E-04 |
| 56 | 5 | 0.8645 | 0.8591 | 0.9959 | 609.60 | 137.60 | 2.650E+04 | 91.08 | 1.563E+06 | 8.741E+06 | 5.494E-04 | 2.318E-04 | 3.176E-04 |
| 57 | 5 | 0.8748 | 0.8691 | 0.9961 | 622.17 | 138.98 | 2.650E+04 | 87.40 | 1.588E+06 | 8.558E+06 | 5.491E-04 | 2.379E-04 | 3.111E-04 |
| 58 | 5 | 0.8845 | 0.8766 | 0.9964 | 633.89 | 140.77 | 2.649E+04 | 83.67 | 1.588E+06 | 8.356E+06 | 5.487E-04 | 2.440E-04 | 3.047E-04 |
| 59 | 5 | 0.8932 | 0.8794 | 0.9966 | 614.66 | 146.94 | 2.649E+04 | 78.99 | 1.350E+06 | 7.674E+06 | 5.481E-04 | 2.497E-04 | 2.984E-04 |
| 60 | 5 | 0.9004 | 0.8818 | 0.9967 | 621.63 | 160.04 | 2.648E+04 | 75.89 | 1.308E+06 | 7.484E+06 | 5.471E-04 | 2.547E-04 | 2.924E-04 |
| 61 | 5 | 0.9042 | 0.8841 | 0.9969 | 627.87 | 173.23 | 2.648E+04 | 74.07 | 1.303E+06 | 7.385E+06 | 5.458E-04 | 2.595E-04 | 2.863E-04 |
| 62 | 5 | 0.9065 | 0.8864 | 0.9970 | 633.65 | 179.69 | 2.648E+04 | 72.88 | 1.316E+06 | 7.330E+06 | 5.444E-04 | 2.640E-04 | 2.803E-04 |
| 63 | 5 | 0.9088 | 0.8886 | 0.9972 | 639.07 | 182.59 | 2.647E+04 | 71.78 | 1.325E+06 | 7.283E+06 | 5.429E-04 | 2.686E-04 | 2.744E-04 |
| 64 | 5 | 0.9109 | 0.8908 | 0.9973 | 601.32 | 185.60 | 2.647E+04 | 69.66 | 1.092E+06 | 6.639E+06 | 5.415E-04 | 2.730E-04 | 2.685E-04 |
| 65 | 5 | 0.9127 | 0.8927 | 0.9974 | 604.76 | 183.42 | 2.647E+04 | 68.85 | 1.095E+06 | 6.602E+06 | 5.401E-04 | 2.770E-04 | 2.630E-04 |
| 66 | 5 | 0.9145 | 0.8946 | 0.9975 | 609.14 | 185.24 | 2.646E+04 | 68.05 | 1.103E+06 | 6.574E+06 | 5.386E-04 | 2.810E-04 | 2.577E-04 |
| 67 | 5 | 0.9162 | 0.8965 | 0.9976 | 613.27 | 187.26 | 2.646E+04 | 67.30 | 1.110E+06 | 6.547E+06 | 5.372E-04 | 2.849E-04 | 2.524E-04 |
| 68 | 5 | 0.9178 | 0.8983 | 0.9977 | 616.65 | 189.24 | 2.645E+04 | 66.57 | 1.112E+06 | 6.513E+06 | 5.358E-04 | 2.887E-04 | 2.471E-04 |
| 69 | 5 | 0.9195 | 0.9001 | 0.9978 | 563.00 | 191.20 | 2.645E+04 | 64.54 | 8.447E+05 | 5.729E+06 | 5.344E-04 | 2.925E-04 | 2.419E-04 |
| 70 | 5 | 0.9209 | 0.9017 | 0.9978 | 563.57 | 185.81 | 2.645E+04 | 64.03 | 8.378E+05 | 5.695E+06 | 5.330E-04 | 2.958E-04 | 2.372E-04 |
| 71 | 5 | 0.9222 | 0.9032 | 0.9979 | 565.94 | 186.74 | 2.644E+04 | 63.45 | 8.385E+05 | 5.669E+06 | 5.317E-04 | 2.990E-04 | 2.326E-04 |
| 72 | 5 | 0.9235 | 0.9047 | 0.9980 | 568.60 | 188.04 | 2.644E+04 | 62.89 | 8.404E+05 | 5.648E+06 | 5.303E-04 | 3.022E-04 | 2.281E-04 |
| 73 | 5 | 0.9248 | 0.9062 | 0.9980 | 571.39 | 189.39 | 2.644E+04 | 62.37 | 8.429E+05 | 5.631E+06 | 5.290E-04 | 3.054E-04 | 2.235E-04 |
| 74 | 5 | 0.9261 | 0.9076 | 0.9981 | 499.27 | 190.74 | 2.644E+04 | 60.41 | 5.697E+05 | 4.672E+06 | 5.276E-04 | 3.086E-04 | 2.191E-04 |
| 75 | 5 | 0.9271 | 0.9088 | 0.9982 | 498.80 | 181.61 | 2.643E+04 | 60.21 | 5.633E+05 | 4.657E+06 | 5.263E-04 | 3.111E-04 | 2.152E-04 |
| 76 | 5 | 0.9281 | 0.9100 | 0.9982 | 500.70 | 181.93 | 2.643E+04 | 59.77 | 5.645E+05 | 4.644E+06 | 5.250E-04 | 3.136E-04 | 2.114E-04 |
| 77 | 5 | 0.9291 | 0.9112 | 0.9983 | 502.89 | 182.74 | 2.643E+04 | 59.34 | 5.667E+05 | 4.634E+06 | 5.237E-04 | 3.161E-04 | 2.076E-04 |
| 78 | 5 | 0.9300 | 0.9124 | 0.9983 | 505.02 | 183.56 | 2.642E+04 | 58.93 | 5.689E+05 | 4.625E+06 | 5.224E-04 | 3.185E-04 | 2.039E-04 |
| 79 | 5 | 0.9309 | 0.9135 | 0.9983 | 402.29 | 184.30 | 2.642E+04 | 57.20 | 3.015E+05 | 3.353E+06 | 5.211E-04 | 3.210E-04 | 2.001E-04 |
| 80 | 5 | 0.9315 | 0.9144 | 0.9984 | 399.59 | 169.67 | 2.642E+04 | 57.48 | 2.949E+05 | 3.346E+06 | 5.199E-04 | 3.227E-04 | 1.971E-04 |
| 81 | 5 | 0.9321 | 0.9153 | 0.9984 | 400.53 | 168.98 | 2.642E+04 | 57.15 | 2.957E+05 | 3.337E+06 | 5.187E-04 | 3.244E-04 | 1.942E-04 |
| 82 | 5 | 0.9326 | 0.9161 | 0.9984 | 401.83 | 168.96 | 2.641E+04 | 56.80 | 2.974E+05 | 3.330E+06 | 5.175E-04 | 3.261E-04 | 1.913E-04 |
| 83 | 5 | 0.9331 | 0.9170 | 0.9985 | 403.21 | 168.98 | 2.641E+04 | 56.46 | 2.993E+05 | 3.325E+06 | 5.163E-04 | 3.278E-04 | 1.884E-04 |
| 84 | 5 | 0.9337 | 0.9178 | 0.9985 | 404.58 | 168.98 | 2.641E+04 | 56.13 | 3.012E+05 | 3.319E+06 | 5.151E-04 | 3.295E-04 | 1.856E-04 |
| 85 | 5 | 0.9342 | 0.9187 | 0.9985 | 271.46 | 168.96 | 2.640E+04 | 52.44 | 1.002E+05 | 1.635E+06 | 5.140E-04 | 3.312E-04 | 1.828E-04 |
| 86 | 5 | 0.9344 | 0.9192 | 0.9986 | 267.68 | 149.92 | 2.640E+04 | 53.79 | 9.629E+04 | 1.643E+06 | 5.129E-04 | 3.321E-04 | 1.808E-04 |
| 87 | 5 | 0.9346 | 0.9197 | 0.9986 | 267.93 | 148.99 | 2.640E+04 | 53.58 | 9.652E+04 | 1.640E+06 | 5.118E-04 | 3.329E-04 | 1.789E-04 |
| 88 | 5 | 0.9349 | 0.9202 | 0.9986 | 268.46 | 148.84 | 2.640E+04 | 53.32 | 9.707E+04 | 1.637E+06 | 5.107E-04 | 3.337E-04 | 1.771E-04 |
| 89 | 5 | 0.9351 | 0.9208 | 0.9986 | 269.02 | 148.71 | 2.639E+04 | 53.05 | 9.770E+04 | 1.635E+06 | 5.097E-04 | 3.345E-04 | 1.752E-04 |
| 90 | 5 | 0.9353 | 0.9213 | 0.9986 | 269.63 | 148.54 | 2.639E+04 | 52.79 | 9.840E+04 | 1.634E+06 | 5.087E-04 | 3.353E-04 | 1.734E-04 |
| 91 | 5 | 0.9380 | 0.9218 | 0.9986 | 260.43 | 148.37 | 2.639E+04 | 52.47 | 8.473E+04 | 1.521E+06 | 5.077E-04 | 3.361E-04 | 1.716E-04 |

*** TIME = 300.00 ( SEC ) **** HOT ROD INFORMATION ****

| TPN2(C) | ZP2(M) |
|---|---|
| 448.25 | 1.8081 |

| I | IPP | TWP(I) | HTP(I) | HRP(I) | HCVP(I) | I | IPP | TWP(I) | HTP(I) | HRP(I) | HCVP(I) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 137.07 | 953.2 | 0.0 | 1.605E+06 | 46 | 4 | 477.89 | 216.3 | 1.263E+06 | 1.649E+07 |
| 2 | 1 | 137.07 | 953.2 | 0.0 | 1.605E+06 | 47 | 4 | 514.51 | 167.7 | 1.507E+06 | 1.371E+07 |
| 3 | 1 | 137.07 | 953.2 | 0.0 | 1.605E+06 | 48 | 5 | 540.57 | 139.0 | 1.499E+06 | 1.196E+07 |
| 4 | 1 | 137.07 | 953.2 | 0.0 | 1.605E+06 | 49 | 5 | 557.44 | 127.2 | 1.582E+06 | 1.125E+07 |
| 5 | 1 | 137.07 | 953.2 | 0.0 | 1.605E+06 | 50 | 5 | 577.22 | 118.9 | 1.691E+06 | 1.085E+07 |
| 6 | 1 | 137.07 | 953.2 | 0.0 | 1.605E+06 | 51 | 5 | 595.18 | 112.3 | 1.786E+06 | 1.054E+07 |
| 7 | 1 | 137.07 | 953.2 | 0.0 | 1.605E+06 | 52 | 5 | 612.74 | 106.9 | 1.876E+06 | 1.030E+07 |
| 8 | 1 | 138.49 | 1645. | 0.0 | 3.324E+06 | 53 | 5 | 629.11 | 102.3 | 1.955E+06 | 1.008E+07 |
| 9 | 1 | 138.49 | 1645. | 0.0 | 3.324E+06 | 54 | 5 | 628.88 | 96.25 | 1.848E+06 | 9.479E+06 |
| 10 | 1 | 138.49 | 1645. | 0.0 | 3.324E+06 | 55 | 5 | 642.02 | 92.65 | 1.891E+06 | 9.298E+06 |
| 11 | 1 | 138.49 | 1645. | 0.0 | 3.324E+06 | 56 | 5 | 654.83 | 89.24 | 1.924E+06 | 9.123E+06 |
| 12 | 3 | 138.49 | 1645. | 0.0 | 3.324E+06 | 57 | 5 | 667.39 | 86.03 | 1.949E+06 | 8.956E+06 |
| 13 | 3 | 138.49 | 1645. | 0.0 | 3.324E+06 | 58 | 5 | 679.14 | 82.70 | 1.943E+06 | 8.768E+06 |
| 14 | 3 | 139.30 | 2155. | 0.0 | 4.763E+06 | 59 | 5 | 658.68 | 78.21 | 1.652E+06 | 8.096E+06 |
| 15 | 3 | 139.30 | 2155. | 0.0 | 4.763E+06 | 60 | 5 | 665.71 | 75.41 | 1.597E+06 | 7.923E+06 |
| 16 | 3 | 139.30 | 2155. | 0.0 | 4.763E+06 | 61 | 5 | 671.93 | 73.80 | 1.589E+06 | 7.835E+06 |
| 17 | 3 | 139.30 | 2155. | 0.0 | 4.763E+06 | 62 | 5 | 677.68 | 72.76 | 1.602E+06 | 7.787E+06 |
| 18 | 3 | 139.30 | 2155. | 0.0 | 4.763E+06 | 63 | 5 | 683.07 | 71.80 | 1.610E+06 | 7.744E+06 |
| 19 | 3 | 139.82 | 2535. | 0.0 | 5.915E+06 | 64 | 5 | 642.96 | 69.58 | 1.326E+06 | 7.079E+06 |
| 20 | 3 | 139.82 | 2535. | 0.0 | 5.915E+06 | 65 | 5 | 646.48 | 68.85 | 1.329E+06 | 7.045E+06 |
| 21 | 3 | 139.82 | 2535. | 0.0 | 5.915E+06 | 66 | 5 | 650.85 | 68.14 | 1.337E+06 | 7.020E+06 |
| 22 | 3 | 139.82 | 2535. | 0.0 | 5.915E+06 | 67 | 5 | 654.98 | 67.46 | 1.344E+06 | 6.995E+06 |
| 23 | 3 | 139.82 | 2535. | 0.0 | 5.915E+06 | 68 | 5 | 658.37 | 66.80 | 1.345E+06 | 6.963E+06 |
| 24 | 3 | 140.20 | 2838. | 0.0 | 6.875E+06 | 69 | 5 | 601.49 | 64.58 | 1.021E+06 | 6.144E+06 |
| 25 | 3 | 140.20 | 2838. | 0.0 | 6.875E+06 | 70 | 5 | 602.24 | 64.11 | 1.013E+06 | 6.112E+06 |
| 26 | 3 | 140.20 | 2838. | 0.0 | 6.875E+06 | 71 | 5 | 604.69 | 63.58 | 1.014E+06 | 6.087E+06 |
| 27 | 3 | 140.20 | 2838. | 0.0 | 6.875E+06 | 72 | 5 | 607.42 | 63.07 | 1.016E+06 | 6.068E+06 |
| 28 | 3 | 140.20 | 2838. | 0.0 | 6.875E+06 | 73 | 5 | 610.28 | 62.59 | 1.018E+06 | 6.053E+06 |
| 29 | 3 | 140.48 | 3080. | 0.0 | 7.668E+06 | 74 | 5 | 533.45 | 60.38 | 6.861E+05 | 5.040E+06 |
| 30 | 3 | 140.48 | 3080. | 0.0 | 7.668E+06 | 75 | 5 | 533.11 | 60.18 | 6.790E+05 | 5.026E+06 |
| 31 | 3 | 140.48 | 3080. | 0.0 | 7.668E+06 | 76 | 5 | 535.09 | 59.77 | 6.802E+05 | 5.013E+06 |
| 32 | 3 | 140.48 | 3080. | 0.0 | 7.668E+06 | 77 | 5 | 537.34 | 59.38 | 6.826E+05 | 5.004E+06 |
| 33 | 3 | 140.48 | 3080. | 0.0 | 7.668E+06 | 78 | 5 | 539.54 | 59.00 | 6.851E+05 | 4.995E+06 |
| 34 | 3 | 140.68 | 3255. | 0.0 | 8.253E+06 | 79 | 5 | 429.09 | 56.93 | 3.597E+05 | 3.637E+06 |
| 35 | 3 | 140.68 | 3255. | 0.0 | 8.253E+06 | 80 | 5 | 426.37 | 57.15 | 3.521E+05 | 3.629E+06 |
| 36 | 3 | 140.68 | 3255. | 0.0 | 8.253E+06 | 81 | 5 | 427.38 | 56.83 | 3.532E+05 | 3.619E+06 |
| 37 | 3 | 140.68 | 3255. | 0.0 | 8.253E+06 | 82 | 5 | 428.75 | 56.51 | 3.551E+05 | 3.613E+06 |
| 38 | 3 | 140.68 | 3255. | 0.0 | 8.253E+06 | 83 | 5 | 430.19 | 56.19 | 3.573E+05 | 3.607E+06 |
| 39 | 3 | 140.79 | 3357. | 0.0 | 8.602E+06 | 84 | 5 | 431.62 | 55.87 | 3.595E+05 | 3.601E+06 |
| 40 | 3 | 140.79 | 3357. | 0.0 | 8.602E+06 | 85 | 5 | 285.31 | 52.51 | 1.153E+05 | 1.794E+06 |
| 41 | 3 | 140.79 | 3357. | 0.0 | 8.602E+06 | 86 | 5 | 281.19 | 53.69 | 1.107E+05 | 1.797E+06 |
| 42 | 3 | 140.79 | 3357. | 0.0 | 8.602E+06 | 87 | 5 | 281.48 | 53.49 | 1.110E+05 | 1.793E+06 |
| 43 | 3 | 140.79 | 3357. | 0.0 | 8.602E+06 | 88 | 5 | 282.05 | 53.23 | 1.117E+05 | 1.791E+06 |
| 44 | 3 | 140.83 | 3393. | 0.0 | 8.724E+06 | 89 | 5 | 282.64 | 52.97 | 1.124E+05 | 1.788E+06 |
| 45 | 3 | 140.83 | 3393. | 0.0 | 8.724E+06 | 90 | 5 | 283.28 | 52.72 | 1.132E+05 | 1.786E+06 |
| | | | | | | 91 | 5 | 272.84 | 52.44 | 9.683E+04 | 1.662E+06 |

FUEL TEMPERATURE ( TIME = 300.00 ( SEC ) )

| J | TF( 1,J) | TF( 2,J) | TF( 3,J) | TF( 4,J) | TF( 5,J) | TF( 6,J) | TF( 7,J) | TF( 8,J) | TF( 9,J) | TF(10,J) | TF(11,J) | TF(12,J) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 |
| 2 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 |
| 3 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 |
| 4 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 |
| 5 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 |
| 6 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 |
| 7 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 | 136.90 |
| 8 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 |
| 9 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 |
| 10 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 |
| 11 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 |
| 12 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 |
| 13 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 | 138.29 |
| 14 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 |
| 15 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 |
| 16 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 |
| 17 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 |
| 18 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 | 139.08 |
| 19 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 |
| 20 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 |
| 21 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 |
| 22 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 |
| 23 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 | 139.59 |
| 24 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 |
| 25 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 |
| 26 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 |
| 27 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 |
| 28 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 | 139.96 |
| 29 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 |
| 30 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 |
| 31 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 |
| 32 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 |
| 33 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 | 140.24 |
| 34 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 |
| 35 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 |
| 36 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 |
| 37 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 |
| 38 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 | 140.43 |
| 39 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 |
| 40 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 |
| 41 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 |
| 42 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 |
| 43 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 | 140.54 |
| 44 | 140.57 | 140.57 | 140.57 | 140.57 | 140.57 | 140.57 | 140.57 | 140.57 | 140.57 | 140.57 | 140.57 | 140.57 |
| 45 | 140.57 | 140.57 | 140.57 | 140.57 | 140.57 | 140.57 | 140.57 | 140.57 | 140.57 | 140.57 | 140.57 | 140.57 |
| 46 | 140.57 | 140.57 | 140.57 | 140.57 | 140.57 | 140.57 | 140.57 | 140.57 | 140.57 | 140.57 | 140.57 | 140.57 |
| 47 | 140.57 | 140.57 | 140.57 | 140.57 | 140.57 | 140.57 | 140.57 | 140.57 | 140.57 | 140.57 | 140.57 | 140.57 |
| 48 | 479.00 | 479.94 | 481.23 | 482.71 | 486.17 | 489.71 | 493.37 | 495.10 | 495.92 | 496.53 | 497.16 | 497.46 |
| 49 | 503.52 | 504.34 | 505.46 | 506.77 | 509.88 | 513.08 | 516.44 | 517.97 | 518.61 | 519.10 | 519.60 | 519.84 |
| 50 | 526.65 | 527.41 | 528.48 | 529.72 | 532.68 | 535.75 | 538.99 | 540.42 | 541.01 | 541.45 | 541.91 | 542.13 |
| 51 | 546.51 | 547.24 | 548.26 | 549.46 | 552.33 | 555.32 | 558.48 | 559.85 | 560.40 | 560.82 | 561.26 | 561.47 |
| 52 | 565.22 | 565.93 | 566.92 | 568.09 | 570.90 | 573.83 | 576.93 | 578.25 | 578.79 | 579.20 | 579.62 | 579.83 |
| 53 | 582.31 | 583.00 | 583.96 | 585.11 | 587.86 | 590.74 | 593.79 | 595.07 | 595.61 | 596.01 | 596.43 | 596.63 |
| 54 | 583.33 | 583.97 | 584.88 | 585.95 | 588.54 | 591.25 | 594.14 | 595.34 | 595.80 | 596.14 | 596.49 | 596.66 |
| 55 | 596.69 | 597.32 | 598.20 | 599.26 | 601.80 | 604.48 | 607.33 | 608.50 | 608.94 | 609.27 | 609.61 | 609.77 |
| 56 | 609.60 | 610.22 | 611.09 | 612.12 | 614.64 | 617.28 | 620.10 | 621.24 | 621.67 | 621.98 | 622.31 | 622.46 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 57 | 622.17 | 622.77 | 623.63 | 624.65 | 627.13 | 629.75 | 632.54 | 633.65 | 634.06 | 634.36 | 634.67 | 634.81 |
| 58 | 633.89 | 634.48 | 635.32 | 636.32 | 638.76 | 641.34 | 644.10 | 645.19 | 645.57 | 645.85 | 646.14 | 646.28 |
| 59 | 614.66 | 615.20 | 615.97 | 616.89 | 632.18 | 648.45 | 665.97 | 666.94 | 667.27 | 667.52 | 667.78 | 667.91 |
| 60 | 621.63 | 622.15 | 622.90 | 623.80 | 638.86 | 654.93 | 672.28 | 673.23 | 673.53 | 673.76 | 673.99 | 674.11 |
| 61 | 627.87 | 628.39 | 629.13 | 630.02 | 645.00 | 661.01 | 678.31 | 679.25 | 679.54 | 679.76 | 679.99 | 680.10 |
| 62 | 633.65 | 634.16 | 634.90 | 635.79 | 650.73 | 666.72 | 684.00 | 684.94 | 685.22 | 685.44 | 685.66 | 685.77 |
| 63 | 639.07 | 639.58 | 640.32 | 641.20 | 656.11 | 672.07 | 689.33 | 690.25 | 690.53 | 690.74 | 690.96 | 691.07 |
| 64 | 601.32 | 601.78 | 602.45 | 603.25 | 616.53 | 630.72 | 646.06 | 646.92 | 647.16 | 647.34 | 647.53 | 647.62 |
| 65 | 604.76 | 605.22 | 605.89 | 606.69 | 619.92 | 634.08 | 649.38 | 650.24 | 650.47 | 650.65 | 650.83 | 650.92 |
| 66 | 609.14 | 609.60 | 610.26 | 611.06 | 624.28 | 638.41 | 653.71 | 654.55 | 654.78 | 654.96 | 655.13 | 655.22 |
| 67 | 613.27 | 613.73 | 614.39 | 615.18 | 628.38 | 642.50 | 657.78 | 658.62 | 658.85 | 659.02 | 659.19 | 659.27 |
| 68 | 616.65 | 617.11 | 617.76 | 618.56 | 631.72 | 645.82 | 661.07 | 661.91 | 662.13 | 662.29 | 662.46 | 662.54 |
| 69 | 563.00 | 563.40 | 563.98 | 564.68 | 575.88 | 587.87 | 600.84 | 601.60 | 601.78 | 601.91 | 602.05 | 602.12 |
| 70 | 563.57 | 563.97 | 564.55 | 565.24 | 576.39 | 588.32 | 601.24 | 602.00 | 602.17 | 602.30 | 602.43 | 602.49 |
| 71 | 565.94 | 566.33 | 566.91 | 567.60 | 578.72 | 590.63 | 603.52 | 604.28 | 604.44 | 604.56 | 604.69 | 604.75 |
| 72 | 568.60 | 568.99 | 569.56 | 570.25 | 581.36 | 593.24 | 606.12 | 606.87 | 607.04 | 607.16 | 607.28 | 607.34 |
| 73 | 571.39 | 571.78 | 572.35 | 573.04 | 584.13 | 596.01 | 608.88 | 609.62 | 609.78 | 609.90 | 610.02 | 610.08 |
| 74 | 499.27 | 499.61 | 500.08 | 500.66 | 509.47 | 518.89 | 529.09 | 529.74 | 529.85 | 529.94 | 530.02 | 530.06 |
| 75 | 498.80 | 499.13 | 499.60 | 500.18 | 508.95 | 518.33 | 528.49 | 529.13 | 529.24 | 529.32 | 529.40 | 529.44 |
| 76 | 500.70 | 501.03 | 501.50 | 502.07 | 510.84 | 520.21 | 530.35 | 530.99 | 531.10 | 531.18 | 531.26 | 531.30 |
| 77 | 502.89 | 503.22 | 503.69 | 504.26 | 513.01 | 522.38 | 532.52 | 533.16 | 533.26 | 533.34 | 533.42 | 533.46 |
| 78 | 505.02 | 505.35 | 505.82 | 506.39 | 515.14 | 524.50 | 534.63 | 535.27 | 535.37 | 535.45 | 535.53 | 535.56 |
| 79 | 402.29 | 402.54 | 402.89 | 403.31 | 409.18 | 415.46 | 422.26 | 422.76 | 422.82 | 422.87 | 422.92 | 422.95 |
| 80 | 399.59 | 399.84 | 400.19 | 400.61 | 406.44 | 412.68 | 419.44 | 419.93 | 419.99 | 420.04 | 420.08 | 420.11 |
| 81 | 400.53 | 400.77 | 401.12 | 401.54 | 407.36 | 413.59 | 420.34 | 420.84 | 420.90 | 420.94 | 420.98 | 421.00 |
| 82 | 401.83 | 402.07 | 402.42 | 402.84 | 408.66 | 414.89 | 421.63 | 422.13 | 422.19 | 422.23 | 422.27 | 422.29 |
| 83 | 403.21 | 403.45 | 403.80 | 404.22 | 410.04 | 416.26 | 423.01 | 423.50 | 423.56 | 423.60 | 423.64 | 423.66 |
| 84 | 404.58 | 404.83 | 405.17 | 405.59 | 411.41 | 417.63 | 424.37 | 424.87 | 424.92 | 424.96 | 425.01 | 425.03 |
| 85 | 271.46 | 271.58 | 271.76 | 271.98 | 274.60 | 277.40 | 280.44 | 280.72 | 280.74 | 280.75 | 280.77 | 280.78 |
| 86 | 267.68 | 267.80 | 267.98 | 268.20 | 270.80 | 273.58 | 276.58 | 276.86 | 276.88 | 276.90 | 276.91 | 276.92 |
| 87 | 267.93 | 268.06 | 268.24 | 268.45 | 271.05 | 273.82 | 276.83 | 277.11 | 277.12 | 277.14 | 277.15 | 277.16 |
| 88 | 268.46 | 268.59 | 268.77 | 268.98 | 271.58 | 274.35 | 277.35 | 277.63 | 277.65 | 277.66 | 277.67 | 277.68 |
| 89 | 269.02 | 269.15 | 269.33 | 269.54 | 272.14 | 274.91 | 277.91 | 278.19 | 278.20 | 278.22 | 278.23 | 278.24 |
| 90 | 269.63 | 269.75 | 269.93 | 270.14 | 272.74 | 275.51 | 278.51 | 278.79 | 278.80 | 278.82 | 278.83 | 278.84 |
| 91 | 260.43 | 260.55 | 260.72 | 260.93 | 263.39 | 266.05 | 268.94 | 269.21 | 269.22 | 269.23 | 269.24 | 269.24 |

FUEL TEMPERATURE ( TIME = 300.00 ( SEC ) )

| J | TFP( 1,J) | TFP( 2,J) | TFP( 3,J) | TFP( 4,J) | TFP( 5,J) | TFP( 6,J) | TFP( 7,J) | TFP( 8,J) | TFP( 9,J) | TFP(10,J) | TFP(11,J) | TFP(12,J) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 |
| 2 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 |
| 3 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 |
| 4 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 |
| 5 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 |
| 6 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 |
| 7 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 | 137.07 |
| 8 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 |
| 9 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 |
| 10 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 |
| 11 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 |
| 12 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 |
| 13 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 | 138.49 |
| 14 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 |
| 15 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 |
| 16 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 |
| 17 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 |
| 18 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 | 139.30 |
| 19 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 |
| 20 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 |
| 21 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 |
| 22 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 |
| 23 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 |
| 24 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 |
| 25 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 |
| 26 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 |
| 27 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 |
| 28 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 | 140.20 |
| 29 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 |
| 30 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 |
| 31 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 |
| 32 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 |
| 33 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 | 140.48 |
| 34 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 |
| 35 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 |
| 36 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 |
| 37 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 |
| 38 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 | 140.68 |
| 39 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 |
| 40 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 |
| 41 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 |
| 42 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 |
| 43 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 | 140.79 |
| 44 | 140.83 | 140.83 | 140.83 | 140.83 | 140.83 | 140.83 | 140.83 | 140.83 | 140.83 | 140.83 | 140.83 | 140.83 |
| 45 | 140.83 | 140.83 | 140.83 | 140.83 | 140.83 | 140.83 | 140.83 | 140.83 | 140.83 | 140.83 | 140.83 | 140.83 |
| 46 | 477.89 | 479.01 | 480.52 | 482.25 | 486.28 | 490.36 | 494.55 | 496.57 | 497.62 | 498.40 | 499.21 | 499.60 |
| 47 | 514.51 | 515.46 | 516.76 | 518.27 | 521.84 | 525.50 | 529.32 | 531.06 | 531.88 | 532.50 | 533.14 | 533.44 |
| 48 | 540.57 | 541.40 | 542.56 | 543.92 | 547.17 | 550.55 | 554.11 | 555.66 | 556.30 | 556.79 | 557.29 | 557.54 |
| 49 | 557.44 | 558.22 | 559.33 | 560.62 | 563.73 | 566.97 | 570.41 | 571.87 | 572.47 | 572.92 | 573.39 | 573.62 |
| 50 | 577.22 | 577.98 | 579.05 | 580.31 | 583.35 | 586.53 | 589.89 | 591.31 | 591.90 | 592.34 | 592.80 | 593.01 |
| 51 | 595.18 | 595.92 | 596.97 | 598.20 | 601.19 | 604.31 | 607.64 | 609.01 | 609.58 | 610.01 | 610.46 | 610.67 |
| 52 | 612.74 | 613.46 | 614.49 | 615.71 | 618.65 | 621.75 | 625.04 | 626.38 | 626.94 | 627.36 | 627.80 | 628.00 |
| 53 | 629.11 | 629.82 | 630.83 | 632.03 | 634.95 | 638.01 | 641.28 | 642.59 | 643.13 | 643.55 | 643.97 | 644.18 |
| 54 | 628.88 | 629.55 | 630.50 | 631.63 | 634.38 | 637.28 | 640.38 | 641.61 | 642.08 | 642.44 | 642.81 | 642.98 |
| 55 | 642.02 | 642.68 | 643.62 | 644.73 | 647.45 | 650.33 | 653.39 | 654.60 | 655.06 | 655.40 | 655.76 | 655.92 |
| 56 | 654.83 | 655.48 | 656.40 | 657.50 | 660.19 | 663.04 | 666.08 | 667.26 | 667.70 | 668.03 | 668.37 | 668.53 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 57 | 667.39 | 668.03 | 668.94 | 670.02 | 672.68 | 675.50 | 678.51 | 679.67 | 680.09 | 680.41 | 680.73 | 680.89 |
| 58 | 679.14 | 679.76 | 680.65 | 681.72 | 684.34 | 687.12 | 690.11 | 691.23 | 691.64 | 691.94 | 692.24 | 692.39 |
| 59 | 658.68 | 659.25 | 660.07 | 661.05 | 677.82 | 695.71 | 715.02 | 716.04 | 716.39 | 716.66 | 716.94 | 717.07 |
| 60 | 665.71 | 666.27 | 667.07 | 668.04 | 684.58 | 702.27 | 721.41 | 722.40 | 722.73 | 722.97 | 723.22 | 723.34 |
| 61 | 671.93 | 672.49 | 673.28 | 674.24 | 690.70 | 708.34 | 727.44 | 728.43 | 728.74 | 728.98 | 729.22 | 729.34 |
| 62 | 677.68 | 678.23 | 679.02 | 679.97 | 696.41 | 714.04 | 733.12 | 734.10 | 734.41 | 734.64 | 734.89 | 735.00 |
| 63 | 683.07 | 683.61 | 684.40 | 685.35 | 701.76 | 719.36 | 738.43 | 739.40 | 739.70 | 739.93 | 740.17 | 740.28 |
| 64 | 642.96 | 643.46 | 644.17 | 645.04 | 659.64 | 675.29 | 692.22 | 693.13 | 693.39 | 693.58 | 693.78 | 693.88 |
| 65 | 646.48 | 646.97 | 647.69 | 648.54 | 663.12 | 678.73 | 695.63 | 696.53 | 696.78 | 696.97 | 697.17 | 697.26 |
| 66 | 650.85 | 651.35 | 652.06 | 652.91 | 667.47 | 683.07 | 699.96 | 700.85 | 701.10 | 701.29 | 701.48 | 701.57 |
| 67 | 654.98 | 655.47 | 656.18 | 657.03 | 671.57 | 687.15 | 704.04 | 704.92 | 705.16 | 705.35 | 705.54 | 705.63 |
| 68 | 658.37 | 658.86 | 659.57 | 660.42 | 674.93 | 690.49 | 707.35 | 708.23 | 708.46 | 708.64 | 708.83 | 708.92 |
| 69 | 601.49 | 601.92 | 602.54 | 603.29 | 615.64 | 628.87 | 643.19 | 643.99 | 644.19 | 644.33 | 644.48 | 644.55 |
| 70 | 602.24 | 602.67 | 603.28 | 604.03 | 616.33 | 629.50 | 643.78 | 644.57 | 644.75 | 644.89 | 645.04 | 645.10 |
| 71 | 604.69 | 605.11 | 605.73 | 606.47 | 618.74 | 631.89 | 646.14 | 646.93 | 647.11 | 647.25 | 647.39 | 647.45 |
| 72 | 607.42 | 607.84 | 608.45 | 609.19 | 621.45 | 634.58 | 648.82 | 649.61 | 649.78 | 649.91 | 650.05 | 650.11 |
| 73 | 610.28 | 610.70 | 611.31 | 612.05 | 624.29 | 637.41 | 651.64 | 652.42 | 652.59 | 652.72 | 652.86 | 652.92 |
| 74 | 533.45 | 533.80 | 534.32 | 534.93 | 544.66 | 555.06 | 566.33 | 567.01 | 567.14 | 567.24 | 567.33 | 567.38 |
| 75 | 533.11 | 533.47 | 533.98 | 534.59 | 544.28 | 554.64 | 565.87 | 566.55 | 566.67 | 566.76 | 566.85 | 566.90 |
| 76 | 535.09 | 535.45 | 535.96 | 536.57 | 546.24 | 556.59 | 567.81 | 568.49 | 568.61 | 568.70 | 568.79 | 568.83 |
| 77 | 537.34 | 537.69 | 538.20 | 538.82 | 548.48 | 558.83 | 570.04 | 570.72 | 570.83 | 570.92 | 571.01 | 571.05 |
| 78 | 539.54 | 539.89 | 540.40 | 541.01 | 550.67 | 561.01 | 572.22 | 572.89 | 573.01 | 573.09 | 573.18 | 573.22 |
| 79 | 429.09 | 429.35 | 429.73 | 430.19 | 436.70 | 443.66 | 451.21 | 451.74 | 451.81 | 451.87 | 451.92 | 451.95 |
| 80 | 426.37 | 426.63 | 427.01 | 427.46 | 433.93 | 440.85 | 448.35 | 448.88 | 448.95 | 449.00 | 449.05 | 449.07 |
| 81 | 427.38 | 427.64 | 428.02 | 428.47 | 434.93 | 441.84 | 449.33 | 449.86 | 449.92 | 449.97 | 450.02 | 450.04 |
| 82 | 428.75 | 429.01 | 429.38 | 429.84 | 436.29 | 443.20 | 450.69 | 451.22 | 451.28 | 451.33 | 451.37 | 451.40 |
| 83 | 430.19 | 430.45 | 430.82 | 431.27 | 437.72 | 444.63 | 452.12 | 452.65 | 452.71 | 452.76 | 452.80 | 452.82 |
| 84 | 431.62 | 431.88 | 432.25 | 432.70 | 439.15 | 446.06 | 453.55 | 454.07 | 454.13 | 454.18 | 454.22 | 454.25 |
| 85 | 285.31 | 285.44 | 285.64 | 285.87 | 288.77 | 291.88 | 295.24 | 295.54 | 295.56 | 295.58 | 295.60 | 295.61 |
| 86 | 281.19 | 281.32 | 281.52 | 281.75 | 284.63 | 287.70 | 291.03 | 291.33 | 291.35 | 291.36 | 291.38 | 291.39 |
| 87 | 281.48 | 281.62 | 281.81 | 282.05 | 284.92 | 287.99 | 291.31 | 291.61 | 291.63 | 291.64 | 291.66 | 291.67 |
| 88 | 282.05 | 282.18 | 282.38 | 282.61 | 285.48 | 288.55 | 291.87 | 292.17 | 292.19 | 292.20 | 292.22 | 292.22 |
| 89 | 282.64 | 282.77 | 282.97 | 283.20 | 286.07 | 289.14 | 292.46 | 292.76 | 292.78 | 292.79 | 292.80 | 292.81 |
| 90 | 283.28 | 283.41 | 283.61 | 283.84 | 286.71 | 289.77 | 293.09 | 293.39 | 293.41 | 293.42 | 293.44 | 293.45 |
| 91 | 272.84 | 272.97 | 273.15 | 273.38 | 276.09 | 279.03 | 282.23 | 282.52 | 282.53 | 282.54 | 282.55 | 282.55 |

```
 NAME(1)= 300


 TIME   USUP    ULIN    UDUP    UCUP    UGOUT  ULOUT   UGLOP     CRF     DPDN     DPCR    DPLOP  AMCOIN  AMCOR   AMGS    AMLS  MERROR
       <------   ( CM/SEC )  AT CORE WATER STATE       ------>           <---    ( M.AQ )    ---->  <---  (  KG/M**2 ) AT CORE FLOW --->


300.00  2.392   2.392   3.526   4.474   1.259  0.643   0.0     0.271    0.0      7.36     0.0  6998.2 1371.4 3876.2 1696.8   56.8
        TIMES DMASS G(1) G(N1) GGAS      300.50          0.10335E-05     0.62998E-03     0.33857E-03     0.33857E-03
310.00  1.874   1.874   3.526   4.474   1.332  0.664   0.0     0.357    0.0      7.44     0.0  7202.0 1386.2 3995.8 1764.6   58.4
        TIMES DMASS G(1) G(N1) GGAS      320.00          0.11758E-07     0.60725E-03     0.55084E-03     0.33569E-03
320.00  2.294   2.294   3.526   4.474   1.257  0.806   0.0     0.354    0.0      7.57     0.0  7396.6 1392.4 4115.4 1831.7   60.1
330.00  1.759   1.759   3.526   4.474   1.271  0.484   0.0     0.277    0.0      7.48     0.0  7583.1 1387.0 4235.0 1902.5   61.7
        TIMES DMASS G(1) G(N1) GGAS      340.00          0.63810E-07     0.38715E-03     0.47641E-03     0.34254E-03
340.00  1.462   1.462   3.526   4.474   1.283  0.501   0.0     0.346    0.0      7.48     0.0  7728.8 1353.1 4354.4 1961.4   63.0
 TIME   USUP    ULIN    UDUP    UCUP    UGOUT  ULOUT   UGLOP     CRF     DPDN     DPCR    DPLOP  AMCOIN  AMCOR   AMGS    AMLS  MERROR
       <------   ( CM/SEC )  AT CORE WATER STATE       ------>           <---    ( M.AQ )    ---->  <---  (  KG/M**2 ) AT CORE FLOW --->


350.00  2.458   2.458   3.526   4.474   1.188  0.866   0.0     0.355    0.0      7.48     0.0  7920.6 1370.3 4469.2 2019.6   64.6
        TIMES DMASS G(1) G(N1) GGAS      360.00          0.20300E-07     0.67607E-03     0.53933E-03     0.32582E-03
360.00  2.553   2.553   3.526   4.474   1.221  0.800   0.0     0.316    0.0      7.25     0.0  8147.9 1399.7 4582.6 2102.2   66.5
370.00  1.397   1.397   3.526   4.474   1.239  0.575   0.0     0.415    0.0      7.18     0.0  8346.1 1398.6 4698.7 2183.8   68.1


        TIMES DMASS G(1) G(N1) GGAS      380.00         -0.66662E-07     0.77030E-03     0.64205E-03     0.31002E-03
380.00  2.908   2.908   3.526   4.474   1.161  1.244   0.0     0.431    0.0      7.13     0.0  8553.4 1404.2 4812.0 2270.4   69.8
        TIMES DMASS G(1) G(N1) GGAS      381.75          0.13083E-05     0.68318E-03     0.32065E-03     0.32065E-03
390.00  1.019   1.019   3.526   4.474   1.222  0.621   0.0     0.614    0.0      7.21     0.0  8725.4 1381.9 4926.2 2349.1   71.3
        TIMES DMASS G(1) G(N1) GGAS      393.75          0.12688E-05     0.34423E-03     0.31564E-03     0.31564E-03
        TIMES DMASS G(1) G(N1) GGAS      400.00          0.39843E-07     0.66543E-03     0.48666E-03     0.30445E-03
```

*** TIME = 400.00 ( SEC ) **** INLET AND OUTLET CONDITION ****

| TQN2(C) | ZB2(M) | TQN5(C) | ZB5(M) | DD(IB4)(MM) | DD(N1)(MM) | DP(M) | CRATIO |
|---|---|---|---|---|---|---|---|
| 438.23 | 2.2802 | 0.0 | 3.6600 | 0.67538 | 0.67527 | 1.47249 | 0.27382 |

P, RL, RGST 2.7619E+04 7.3566E-06 1.1799E-08

| I | IP | AG(I) | AGINF(I) | AGDISP(I) | TW(I) | TL/TG(I) | PC(I) | HT(I) | HR(I) | HCV(I) | G(I) | GG(I) | GL(I) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 0.0 | 0.0 | 0.0 | 136.58 | 124.88 | 2.762E+04 | 842.0 | 0.0 | 1.361E+06 | 6.654E-04 | 0.0 | 6.654E-04 |
| 2 | 1 | 0.0 | 0.0 | 0.0 | 136.58 | 125.64 | 2.758E+04 | 842.0 | 0.0 | 1.361E+06 | 6.654E-04 | 0.0 | 6.654E-04 |
| 3 | 1 | 0.0 | 0.0 | 0.0 | 136.58 | 126.57 | 2.754E+04 | 842.0 | 0.0 | 1.361E+06 | 6.654E-04 | 0.0 | 6.654E-04 |
| 4 | 1 | 0.0 | 0.0 | 0.0 | 136.58 | 127.60 | 2.751E+04 | 842.0 | 0.0 | 1.361E+06 | 6.654E-04 | 0.0 | 6.654E-04 |
| 5 | 1 | 0.0 | 0.0 | 0.0 | 136.58 | 128.63 | 2.747E+04 | 842.0 | 0.0 | 1.361E+06 | 6.654E-04 | 0.0 | 6.654E-04 |
| 6 | 1 | 0.0 | 0.0 | 0.0 | 136.58 | 129.57 | 2.743E+04 | 842.0 | 0.0 | 1.361E+06 | 6.654E-04 | 0.0 | 6.654E-04 |
| 7 | 3 | 0.0223 | 0.0 | 0.0 | 136.58 | 129.72 | 2.739E+04 | 842.0 | 0.0 | 1.361E+06 | 6.654E-04 | 4.124E-07 | 6.650E-04 |
| 8 | 3 | 0.0476 | 0.0 | 0.0 | 137.94 | 129.72 | 2.735E+04 | 1453. | 0.0 | 2.818E+06 | 6.538E-04 | 1.270E-06 | 6.525E-04 |
| 9 | 3 | 0.0864 | 0.0 | 0.0 | 137.94 | 129.72 | 2.732E+04 | 1453. | 0.0 | 2.818E+06 | 6.453E-04 | 3.020E-06 | 6.423E-04 |
| 10 | 3 | 0.1179 | 0.0 | 0.0 | 137.94 | 129.72 | 2.728E+04 | 1453. | 0.0 | 2.818E+06 | 6.384E-04 | 4.768E-06 | 6.337E-04 |
| 11 | 3 | 0.1457 | 0.0 | 0.0 | 137.94 | 129.72 | 2.725E+04 | 1453. | 0.0 | 2.818E+06 | 6.320E-04 | 6.514E-06 | 6.255E-04 |
| 12 | 3 | 0.1712 | 0.0 | 0.0 | 137.94 | 129.72 | 2.722E+04 | 1453. | 0.0 | 2.818E+06 | 6.261E-04 | 8.260E-06 | 6.178E-04 |
| 13 | 3 | 0.1946 | 0.0 | 0.0 | 137.94 | 129.72 | 2.719E+04 | 1453. | 0.0 | 2.818E+06 | 6.205E-04 | 1.001E-05 | 6.105E-04 |
| 14 | 3 | 0.2103 | 0.0 | 0.0 | 138.72 | 129.72 | 2.715E+04 | 1904. | 0.0 | 4.039E+06 | 6.167E-04 | 1.175E-05 | 6.050E-04 |
| 15 | 3 | 0.2306 | 0.0 | 0.0 | 138.72 | 129.72 | 2.712E+04 | 1904. | 0.0 | 4.039E+06 | 6.132E-04 | 1.424E-05 | 5.990E-04 |
| 16 | 3 | 0.2491 | 0.0 | 0.0 | 138.72 | 129.72 | 2.710E+04 | 1904. | 0.0 | 4.039E+06 | 6.101E-04 | 1.674E-05 | 5.933E-04 |
| 17 | 3 | 0.2662 | 0.0 | 0.0 | 138.72 | 129.72 | 2.707E+04 | 1904. | 0.0 | 4.039E+06 | 6.071E-04 | 1.923E-05 | 5.879E-04 |
| 18 | 3 | 0.2821 | 0.0 | 0.0 | 138.72 | 129.72 | 2.704E+04 | 1904. | 0.0 | 4.039E+06 | 6.044E-04 | 2.172E-05 | 5.827E-04 |
| 19 | 3 | 0.2971 | 0.0 | 0.0 | 139.22 | 129.72 | 2.701E+04 | 2239. | 0.0 | 5.015E+06 | 6.019E-04 | 2.422E-05 | 5.776E-04 |
| 20 | 3 | 0.3146 | 0.0 | 0.0 | 139.22 | 129.72 | 2.698E+04 | 2239. | 0.0 | 5.015E+06 | 5.994E-04 | 2.731E-05 | 5.721E-04 |
| 21 | 3 | 0.3311 | 0.0 | 0.0 | 139.22 | 129.72 | 2.696E+04 | 2239. | 0.0 | 5.015E+06 | 5.972E-04 | 3.040E-05 | 5.668E-04 |
| 22 | 3 | 0.3467 | 0.0 | 0.0 | 139.22 | 129.72 | 2.693E+04 | 2239. | 0.0 | 5.015E+06 | 5.950E-04 | 3.350E-05 | 5.615E-04 |
| 23 | 3 | 0.3616 | 0.0 | 0.0 | 139.22 | 129.72 | 2.691E+04 | 2239. | 0.0 | 5.015E+06 | 5.929E-04 | 3.659E-05 | 5.564E-04 |
| 24 | 3 | 0.3758 | 0.0 | 0.0 | 139.58 | 129.72 | 2.688E+04 | 2507. | 0.0 | 5.829E+06 | 5.910E-04 | 3.968E-05 | 5.513E-04 |
| 25 | 3 | 0.3915 | 0.0 | 0.0 | 139.58 | 129.72 | 2.686E+04 | 2507. | 0.0 | 5.829E+06 | 5.891E-04 | 4.328E-05 | 5.458E-04 |
| 26 | 3 | 0.4066 | 0.0 | 0.0 | 139.58 | 129.72 | 2.684E+04 | 2507. | 0.0 | 5.829E+06 | 5.873E-04 | 4.687E-05 | 5.404E-04 |
| 27 | 3 | 0.4211 | 0.0 | 0.0 | 139.58 | 129.72 | 2.681E+04 | 2507. | 0.0 | 5.829E+06 | 5.855E-04 | 5.047E-05 | 5.351E-04 |
| 28 | 3 | 0.4351 | 0.0 | 0.0 | 139.58 | 129.72 | 2.679E+04 | 2507. | 0.0 | 5.829E+06 | 5.839E-04 | 5.406E-05 | 5.298E-04 |
| 29 | 3 | 0.4485 | 0.0 | 0.0 | 139.85 | 129.72 | 2.677E+04 | 2721. | 0.0 | 6.502E+06 | 5.823E-04 | 5.766E-05 | 5.246E-04 |
| 30 | 3 | 0.4630 | 0.0 | 0.0 | 139.85 | 129.72 | 2.675E+04 | 2721. | 0.0 | 6.502E+06 | 5.807E-04 | 6.166E-05 | 5.190E-04 |
| 31 | 3 | 0.4770 | 0.0 | 0.0 | 139.85 | 129.72 | 2.673E+04 | 2721. | 0.0 | 6.502E+06 | 5.792E-04 | 6.567E-05 | 5.135E-04 |
| 32 | 3 | 0.4906 | 0.0 | 0.0 | 139.85 | 129.72 | 2.671E+04 | 2721. | 0.0 | 6.502E+06 | 5.777E-04 | 6.968E-05 | 5.081E-04 |
| 33 | 3 | 0.5037 | 0.0 | 0.0 | 139.85 | 129.72 | 2.669E+04 | 2721. | 0.0 | 6.502E+06 | 5.763E-04 | 7.369E-05 | 5.026E-04 |
| 34 | 3 | 0.5165 | 0.0 | 0.0 | 140.04 | 129.72 | 2.667E+04 | 2875. | 0.0 | 6.997E+06 | 5.750E-04 | 7.770E-05 | 4.973E-04 |
| 35 | 3 | 0.5298 | 0.0 | 0.0 | 140.04 | 129.72 | 2.665E+04 | 2875. | 0.0 | 6.997E+06 | 5.736E-04 | 8.201E-05 | 4.916E-04 |
| 36 | 3 | 0.5428 | 0.0 | 0.0 | 140.04 | 129.72 | 2.663E+04 | 2875. | 0.0 | 6.997E+06 | 5.723E-04 | 8.633E-05 | 4.860E-04 |
| 37 | 3 | 0.5555 | 0.0 | 0.0 | 140.04 | 129.72 | 2.662E+04 | 2875. | 0.0 | 6.997E+06 | 5.711E-04 | 9.064E-05 | 4.804E-04 |
| 38 | 3 | 0.5678 | 0.0 | 0.0 | 140.04 | 129.72 | 2.660E+04 | 2875. | 0.0 | 6.997E+06 | 5.698E-04 | 9.495E-05 | 4.749E-04 |
| 39 | 3 | 0.5798 | 0.0 | 0.0 | 140.15 | 129.72 | 2.658E+04 | 2966. | 0.0 | 7.293E+06 | 5.687E-04 | 9.927E-05 | 4.694E-04 |
| 40 | 3 | 0.5920 | 0.0 | 0.0 | 140.15 | 129.72 | 2.657E+04 | 2966. | 0.0 | 7.293E+06 | 5.675E-04 | 1.038E-04 | 4.637E-04 |
| 41 | 3 | 0.6040 | 0.0 | 0.0 | 140.15 | 129.72 | 2.655E+04 | 2966. | 0.0 | 7.293E+06 | 5.664E-04 | 1.083E-04 | 4.581E-04 |
| 42 | 3 | 0.6156 | 0.0 | 0.0 | 140.15 | 129.72 | 2.654E+04 | 2966. | 0.0 | 7.293E+06 | 5.653E-04 | 1.128E-04 | 4.525E-04 |
| 43 | 3 | 0.6271 | 0.0 | 0.0 | 140.15 | 129.72 | 2.652E+04 | 2966. | 0.0 | 7.293E+06 | 5.642E-04 | 1.173E-04 | 4.469E-04 |
| 44 | 3 | 0.6383 | 0.0 | 0.0 | 140.19 | 129.72 | 2.651E+04 | 2997. | 0.0 | 7.397E+06 | 5.631E-04 | 1.217E-04 | 4.414E-04 |
| 45 | 3 | 0.6494 | 0.0 | 0.0 | 140.19 | 129.72 | 2.649E+04 | 2997. | 0.0 | 7.397E+06 | 5.621E-04 | 1.263E-04 | 4.358E-04 |
| 46 | 3 | 0.6603 | 0.0 | 0.0 | 140.19 | 129.72 | 2.648E+04 | 2997. | 0.0 | 7.397E+06 | 5.611E-04 | 1.309E-04 | 4.302E-04 |
| 47 | 3 | 0.6710 | 0.0 | 0.0 | 140.19 | 129.72 | 2.647E+04 | 2997. | 0.0 | 7.397E+06 | 5.601E-04 | 1.354E-04 | 4.247E-04 |
| 48 | 3 | 0.6815 | 0.0 | 0.0 | 140.19 | 129.72 | 2.645E+04 | 2997. | 0.0 | 7.397E+06 | 5.592E-04 | 1.400E-04 | 4.192E-04 |
| 49 | 3 | 0.6918 | 0.0 | 0.0 | 140.15 | 129.72 | 2.644E+04 | 2966. | 0.0 | 7.293E+06 | 5.582E-04 | 1.445E-04 | 4.137E-04 |
| 50 | 3 | 0.7018 | 0.0 | 0.0 | 140.15 | 129.72 | 2.643E+04 | 2966. | 0.0 | 7.293E+06 | 5.573E-04 | 1.490E-04 | 4.083E-04 |
| 51 | 3 | 0.7117 | 0.0 | 0.0 | 140.15 | 129.72 | 2.642E+04 | 2966. | 0.0 | 7.293E+06 | 5.564E-04 | 1.535E-04 | 4.029E-04 |
| 52 | 3 | 0.7214 | 0.0 | 0.0 | 140.15 | 129.72 | 2.641E+04 | 2966. | 0.0 | 7.293E+06 | 5.556E-04 | 1.580E-04 | 3.975E-04 |
| 53 | 3 | 0.7309 | 0.0 | 0.0 | 140.15 | 129.72 | 2.640E+04 | 2966. | 0.0 | 7.293E+06 | 5.547E-04 | 1.625E-04 | 3.922E-04 |
| 54 | 3 | 0.7402 | 0.0 | 0.0 | 140.04 | 129.72 | 2.639E+04 | 2875. | 0.0 | 6.997E+06 | 5.539E-04 | 1.670E-04 | 3.869E-04 |
| 55 | 3 | 0.7492 | 0.0 | 0.0 | 140.04 | 129.72 | 2.638E+04 | 2875. | 0.0 | 6.997E+06 | 5.531E-04 | 1.714E-04 | 3.817E-04 |
| 56 | 3 | 0.7587 | 0.0 | 0.0 | 140.04 | 129.72 | 2.637E+04 | 2875. | 0.0 | 6.997E+06 | 5.522E-04 | 1.761E-04 | 3.762E-04 |
| 57 | 3 | 0.7770 | 0.0 | 0.0 | 140.04 | 129.72 | 2.636E+04 | 2875. | 0.0 | 6.997E+06 | 5.512E-04 | 1.852E-04 | 3.660E-04 |
| 58 | 5 | 0.8391 | 0.8290 | 0.9953 | 482.94 | 129.72 | 2.635E+04 | 156.5 | 9.018E+05 | 1.213E+07 | 5.437E-04 | 2.134E-04 | 3.303E-04 |
| 59 | 5 | 0.8517 | 0.8419 | 0.9957 | 487.43 | 129.72 | 2.634E+04 | 129.3 | 8.882E+05 | 1.002E+07 | 5.430E-04 | 2.207E-04 | 3.223E-04 |
| 60 | 5 | 0.8627 | 0.8529 | 0.9960 | 507.46 | 129.72 | 2.633E+04 | 115.2 | 9.562E+05 | 9.308E+06 | 5.423E-04 | 2.271E-04 | 3.152E-04 |
| 61 | 5 | 0.8731 | 0.8631 | 0.9963 | 524.32 | 129.72 | 2.633E+04 | 105.7 | 1.008E+06 | 8.830E+06 | 5.416E-04 | 2.332E-04 | 3.084E-04 |
| 62 | 5 | 0.8831 | 0.8729 | 0.9965 | 540.40 | 129.72 | 2.632E+04 | 98.48 | 1.053E+06 | 8.486E+06 | 5.409E-04 | 2.391E-04 | 3.018E-04 |
| 63 | 5 | 0.8926 | 0.8821 | 0.9967 | 554.03 | 129.72 | 2.632E+04 | 92.55 | 1.083E+06 | 8.179E+06 | 5.402E-04 | 2.449E-04 | 2.954E-04 |
| 64 | 5 | 0.9014 | 0.8856 | 0.9969 | 528.06 | 129.72 | 2.631E+04 | 83.45 | 8.256E+05 | 7.014E+06 | 5.395E-04 | 2.505E-04 | 2.890E-04 |
| 65 | 5 | 0.9084 | 0.8878 | 0.9970 | 536.49 | 159.92 | 2.631E+04 | 78.66 | 8.046E+05 | 6.737E+06 | 5.384E-04 | 2.547E-04 | 2.836E-04 |
| 66 | 5 | 0.9148 | 0.8898 | 0.9972 | 544.51 | 172.68 | 2.631E+04 | 74.85 | 7.832E+05 | 6.533E+06 | 5.369E-04 | 2.587E-04 | 2.782E-04 |
| 67 | 5 | 0.9206 | 0.8917 | 0.9973 | 551.50 | 185.39 | 2.630E+04 | 71.65 | 7.591E+05 | 6.359E+06 | 5.352E-04 | 2.624E-04 | 2.728E-04 |
| 68 | 5 | 0.9260 | 0.8936 | 0.9974 | 557.75 | 198.22 | 2.630E+04 | 68.90 | 7.338E+05 | 6.210E+06 | 5.332E-04 | 2.658E-04 | 2.673E-04 |
| 69 | 5 | 0.9310 | 0.8954 | 0.9975 | 511.41 | 211.15 | 2.630E+04 | 65.29 | 5.386E+05 | 5.325E+06 | 5.309E-04 | 2.691E-04 | 2.618E-04 |
| 70 | 5 | 0.9349 | 0.8970 | 0.9976 | 514.57 | 212.77 | 2.629E+04 | 63.72 | 5.200E+05 | 5.249E+06 | 5.284E-04 | 2.717E-04 | 2.567E-04 |
| 71 | 5 | 0.9383 | 0.8985 | 0.9976 | 518.62 | 221.65 | 2.629E+04 | 62.08 | 5.064E+05 | 5.171E+06 | 5.258E-04 | 2.742E-04 | 2.516E-04 |
| 72 | 5 | 0.9399 | 0.9001 | 0.9977 | 522.37 | 230.42 | 2.629E+04 | 60.97 | 5.051E+05 | 5.123E+06 | 5.230E-04 | 2.766E-04 | 2.464E-04 |
| 73 | 5 | 0.9389 | 0.9016 | 0.9978 | 525.76 | 234.96 | 2.629E+04 | 60.70 | 5.237E+05 | 5.128E+06 | 5.202E-04 | 2.789E-04 | 2.413E-04 |
| 74 | 5 | 0.9376 | 0.9032 | 0.9979 | 459.79 | 232.15 | 2.628E+04 | 58.89 | 3.695E+05 | 4.197E+06 | 5.176E-04 | 2.813E-04 | 2.363E-04 |
| 75 | 5 | 0.9370 | 0.9046 | 0.9979 | 460.18 | 210.52 | 2.628E+04 | 59.98 | 3.760E+05 | 4.285E+06 | 5.152E-04 | 2.833E-04 | 2.319E-04 |
| 76 | 5 | 0.9371 | 0.9059 | 0.9980 | 462.58 | 206.85 | 2.628E+04 | 59.81 | 3.821E+05 | 4.300E+06 | 5.129E-04 | 2.853E-04 | 2.276E-04 |
| 77 | 5 | 0.9377 | 0.9072 | 0.9980 | 465 21 | 206.17 | 2.628E+04 | 59.42 | 3.863E+05 | 4.301E+06 | 5.107E-04 | 2.874E-04 | 2.234E-04 |
| 78 | 5 | 0.9384 | 0.9085 | 0.9981 | 467.80 | 206.64 | 2.627E+04 | 58.98 | 3.897E+05 | 4.299E+06 | 5.086E-04 | 2.894E-04 | 2.192E-04 |
| 79 | 5 | 0.9390 | 0.9098 | 0.9981 | 373.39 | 207.39 | 2.627E+04 | 56.22 | 2.092E+05 | 3.007E+06 | 5.065E-04 | 2.914E-04 | 2.151E-04 |
| 80 | 5 | 0.9392 | 0.9108 | 0.9982 | 371.86 | 185.62 | 2.627E+04 | 57.57 | 2.072E+05 | 3.070E+06 | 5.045E-04 | 2.929E-04 | 2.116E-04 |
| 81 | 5 | 0.9393 | 0.9119 | 0.9982 | 373.16 | 184.08 | 2.627E+04 | 57.38 | 2.099E+05 | 3.075E+06 | 5.025E-04 | 2.943E-04 | 2.082E-04 |
| 82 | 5 | 0.9393 | 0.9129 | 0.9983 | 374.70 | 183.46 | 2.626E+04 | 57.15 | 2.132E+05 | 3.079E+06 | 5.006E-04 | 2.957E-04 | 2.048E-04 |
| 83 | 5 | 0.9393 | 0.9139 | 0.9983 | 376.27 | 182.73 | 2.626E+04 | 56.94 | 2.171E+05 | 3.084E+06 | 4.987E-04 | 2.971E-04 | 2.016E-04 |
| 84 | 5 | 0.9392 | 0.9149 | 0.9983 | 377.83 | 181.79 | 2.626E+04 | 56.75 | 2.213E+05 | 3.090E+06 | 4.969E-04 | 2.986E-04 | 1.983E-04 |
| 85 | 5 | 0.9390 | 0.9158 | 0.9984 | 257.40 | 180.65 | 2.626E+04 | 51.29 | 7.707E+04 | 1.458E+06 | 4.952E-04 | 3.000E-04 | 1.952E-04 |
| 86 | 5 | 0.9385 | 0.9165 | 0.9984 | 254.48 | 155.10 | 2.625E+04 | 54.52 | 7.566E+04 | 1.524E+06 | 4.936E-04 | 3.008E-04 | 1.928E-04 |
| 87 | 5 | 0.9379 | 0.9172 | 0.9984 | 254.90 | 153.15 | 2.625E+04 | 54.53 | 7.718E+04 | 1.529E+06 | 4.921E-04 | 3.015E-04 | 1.906E-04 |
| 88 | 5 | 0.9374 | 0.9178 | 0.9985 | 255.52 | 152.15 | 2.625E+04 | 54.40 | 7.888E+04 | 1.531E+06 | 4.906E-04 | 3.022E-04 | 1.884E-04 |
| 89 | 5 | 0.9373 | 0.9184 | 0.9985 | 256.13 | 151.19 | 2.625E+04 | 54.22 | 7.995E+04 | 1.533E+06 | 4.892E-04 | 3.030E-04 | 1.863E-04 |
| 90 | 5 | 0.9373 | 0.9190 | 0.9985 | 256.80 | 150.69 | 2.624E+04 | 53.99 | 8.098E+04 | 1.533E+06 | 4.879E-04 | 3.037E-04 | 1.842E-04 |
| 91 | 5 | 0.9872 | 0.9196 | 0.9985 | 247.72 | 150.28 | 2.624E+04 | 55.90 | 2.264E+04 | 1.518E+06 | 4.867E-04 | 3.044E-04 | 1.822E-04 |

*** TIME = 400.00 ( SEC ) **** HOT ROD INFORMATION ****

| TPN2(C) | ZP2(M) |
|---|---|
| 439.14 | 2.1947 |

| I | IPP | TWP(I) | HTP(I) | HRP(I) | HCVP(I) | I | IPP | TWP(I) | HTP(I) | HRP(I) | HCVP(I) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 136.74 | 904.4 | 0.0 | 1.497E+06 | 46 | 3 | 140.44 | 3219. | 0.0 | 8.136E+06 |
| 2 | 1 | 136.74 | 904.4 | 0.0 | 1.497E+06 | 47 | 3 | 140.44 | 3219. | 0.0 | 8.136E+06 |
| 3 | 1 | 136.74 | 904.4 | 0.0 | 1.497E+06 | 48 | 3 | 140.44 | 3219. | 0.0 | 8.136E+06 |
| 4 | 1 | 136.74 | 904.4 | 0.0 | 1.497E+06 | 49 | 3 | 140.40 | 3185. | 0.0 | 8.023E+06 |
| 5 | 1 | 136.74 | 904.4 | 0.0 | 1.497E+06 | 50 | 3 | 140.40 | 3185. | 0.0 | 8.023E+06 |
| 6 | 1 | 136.74 | 904.4 | 0.0 | 1.497E+06 | 51 | 3 | 140.40 | 3185. | 0.0 | 8.023E+06 |
| 7 | 3 | 136.74 | 904.4 | 0.0 | 1.497E+06 | 52 | 3 | 140.40 | 3185. | 0.0 | 8.023E+06 |
| 8 | 3 | 138.14 | 1561. | 0.0 | 3.100E+06 | 53 | 3 | 140.40 | 3185. | 0.0 | 8.023E+06 |
| 9 | 3 | 138.14 | 1561. | 0.0 | 3.100E+06 | 54 | 3 | 140.29 | 3088. | 0.0 | 7.697E+06 |
| 10 | 3 | 138.14 | 1561. | 0.0 | 3.100E+06 | 55 | 4 | 440.84 | 393.2 | 8.751E+05 | 2.798E+07 |
| 11 | 3 | 138.14 | 1561. | 0.0 | 3.100E+06 | 56 | 4 | 491.22 | 170.3 | 1.158E+06 | 1.336E+07 |
| 12 | 3 | 138.14 | 1561. | 0.0 | 3.100E+06 | 57 | 4 | 522.52 | 143.2 | 1.323E+06 | 1.194E+07 |
| 13 | 3 | 138.14 | 1561. | 0.0 | 3.100E+06 | 58 | 5 | 545.88 | 120.0 | 1.271E+06 | 1.051E+07 |
| 14 | 3 | 138.93 | 2045. | 0.0 | 4.443E+06 | 59 | 5 | 542.15 | 110.0 | 1.197E+06 | 9.507E+06 |
| 15 | 3 | 138.93 | 2045. | 0.0 | 4.443E+06 | 60 | 5 | 558.79 | 102.9 | 1.255E+06 | 9.157E+06 |
| 16 | 3 | 138.93 | 2045. | 0.0 | 4.443E+06 | 61 | 5 | 573.60 | 97.04 | 1.300E+06 | 8.860E+06 |
| 17 | 3 | 138.93 | 2045. | 0.0 | 4.443E+06 | 62 | 5 | 588.22 | 92.07 | 1.341E+06 | 8.616E+06 |
| 18 | 3 | 138.93 | 2045. | 0.0 | 4.443E+06 | 63 | 5 | 600.89 | 87.65 | 1.366E+06 | 8.374E+06 |
| 19 | 3 | 139.45 | 2405. | 0.0 | 5.517E+06 | 64 | 5 | 571.53 | 79.93 | 1.033E+06 | 7.296E+06 |
| 20 | 3 | 139.45 | 2405. | 0.0 | 5.517E+06 | 65 | 5 | 579.49 | 76.09 | 1.002E+06 | 7.065E+06 |
| 21 | 3 | 139.45 | 2405. | 0.0 | 5.517E+06 | 66 | 5 | 587.14 | 72.96 | 9.708E+05 | 6.894E+06 |
| 22 | 3 | 139.45 | 2405. | 0.0 | 5.517E+06 | 67 | 5 | 593.81 | 70.30 | 9.375E+05 | 6.749E+06 |
| 23 | 3 | 139.45 | 2405. | 0.0 | 5.517E+06 | 68 | 5 | 599.83 | 68.00 | 9.035E+05 | 6.624E+06 |
| 24 | 3 | 139.82 | 2692. | 0.0 | 6.412E+06 | 69 | 5 | 549.89 | 64.59 | 6.608E+05 | 5.726E+06 |
| 25 | 3 | 139.82 | 2692. | 0.0 | 6.412E+06 | 70 | 5 | 552.98 | 63.29 | 6.371E+05 | 5.667E+06 |
| 26 | 3 | 139.82 | 2692. | 0.0 | 6.412E+06 | 71 | 5 | 556.93 | 61.92 | 6.193E+05 | 5.602E+06 |
| 27 | 3 | 139.82 | 2692. | 0.0 | 6.412E+06 | 72 | 5 | 560.60 | 60.98 | 6.167E+05 | 5.563E+06 |
| 28 | 3 | 139.82 | 2692. | 0.0 | 6.412E+06 | 73 | 5 | 563.95 | 60.77 | 6.386E+05 | 5.567E+06 |
| 29 | 3 | 140.10 | 2922. | 0.0 | 7.152E+06 | 74 | 5 | 493.12 | 58.82 | 4.486E+05 | 4.575E+06 |
| 30 | 3 | 140.10 | 2922. | 0.0 | 7.152E+06 | 75 | 5 | 493.60 | 59.76 | 4.567E+05 | 4.658E+06 |
| 31 | 3 | 140.10 | 2922. | 0.0 | 7.152E+06 | 76 | 5 | 496.04 | 59.60 | 4.639E+05 | 4.672E+06 |
| 32 | 3 | 140.10 | 2922. | 0.0 | 7.152E+06 | 77 | 5 | 498.68 | 59.26 | 4.685E+05 | 4.674E+06 |
| 33 | 3 | 140.10 | 2922. | 0.0 | 7.152E+06 | 78 | 5 | 501.29 | 58.87 | 4.723E+05 | 4.673E+06 |
| 34 | 3 | 140.29 | 3088. | 0.0 | 7.697E+06 | 79 | 5 | 399.15 | 56.21 | 2.509E+05 | 3.306E+06 |
| 35 | 3 | 140.29 | 3088. | 0.0 | 7.697E+06 | 80 | 5 | 397.60 | 57.40 | 2.486E+05 | 3.368E+06 |
| 36 | 3 | 140.29 | 3088. | 0.0 | 7.697E+06 | 81 | 5 | 399.01 | 57.20 | 2.518E+05 | 3.371E+06 |
| 37 | 3 | 140.29 | 3088. | 0.0 | 7.697E+06 | 82 | 5 | 400.64 | 56.95 | 2.559E+05 | 3.373E+06 |
| 38 | 3 | 140.29 | 3088. | 0.0 | 7.697E+06 | 83 | 5 | 402.30 | 56.72 | 2.605E+05 | 3.376E+06 |
| 39 | 3 | 140.40 | 3185. | 0.0 | 8.023E+06 | 84 | 5 | 403.95 | 56.51 | 2.655E+05 | 3.379E+06 |
| 40 | 3 | 140.40 | 3185. | 0.0 | 8.023E+06 | 85 | 5 | 270.38 | 51.51 | 8.879E+04 | 1.610E+06 |
| 41 | 3 | 140.40 | 3185. | 0.0 | 8.023E+06 | 86 | 5 | 267.30 | 54.36 | 8.722E+04 | 1.672E+06 |
| 42 | 3 | 140.40 | 3185. | 0.0 | 8.023E+06 | 87 | 5 | 267.76 | 54.34 | 8.897E+04 | 1.676E+06 |
| 43 | 3 | 140.40 | 3185. | 0.0 | 8.023E+06 | 88 | 5 | 268.42 | 54.20 | 9.092E+04 | 1.678E+06 |
| 44 | 3 | 140.44 | 3219. | 0.0 | 8.136E+06 | 89 | 5 | 269.05 | 54.01 | 9.214E+04 | 1.679E+06 |
| 45 | 3 | 140.44 | 3219. | 0.0 | 8.136E+06 | 90 | 5 | 269.76 | 53.78 | 9.332E+04 | 1.679E+06 |
| | | | | | | 91 | 5 | 259.20 | 56.81 | 2.585E+04 | 1.694E+06 |

FUEL TEMPERATURE ( TIME = 400.00 ( SEC ) )

| J | TF( 1,J) | TF( 2,J) | TF( 3,J) | TF( 4,J) | TF( 5,J) | TF( 6,J) | TF( 7,J) | TF( 8,J) | TF( 9,J) | TF(10,J) | TF(11,J) | TF(12,J) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 |
| 2 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 |
| 3 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 |
| 4 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 |
| 5 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 |
| 6 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 |
| 7 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 | 136.58 |
| 8 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 |
| 9 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 |
| 10 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 |
| 11 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 |
| 12 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 |
| 13 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 | 137.94 |
| 14 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 |
| 15 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 |
| 16 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 |
| 17 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 |
| 18 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 | 138.72 |
| 19 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 |
| 20 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 |
| 21 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 |
| 22 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 |
| 23 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 | 139.22 |
| 24 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 |
| 25 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 |
| 26 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 |
| 27 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 |
| 28 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 | 139.58 |
| 29 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 |
| 30 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 |
| 31 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 |
| 32 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 |
| 33 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 | 139.85 |
| 34 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 |
| 35 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 |
| 36 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 |
| 37 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 |
| 38 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 |
| 39 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 |
| 40 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 |
| 41 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 |
| 42 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 |
| 43 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 |
| 44 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 |
| 45 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 |
| 46 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 |
| 47 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 |
| 48 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 | 140.19 |
| 49 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 |
| 50 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 |
| 51 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 |
| 52 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 |
| 53 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 | 140.15 |
| 54 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 |
| 55 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 |
| 56 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 57 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 | 140.04 |
| 58 | 482.94 | 483.76 | 484.89 | 486.18 | 489.21 | 492.31 | 495.52 | 497.03 | 497.75 | 498.28 | 498.83 | 499.09 |
| 59 | 487.43 | 488.12 | 489.07 | 490.18 | 506.69 | 523.77 | 541.68 | 542.91 | 543.47 | 543.89 | 544.32 | 544.53 |
| 60 | 507.46 | 508.10 | 509.00 | 510.04 | 525.98 | 542.57 | 560.08 | 561.24 | 561.75 | 562.13 | 562.52 | 562.71 |
| 61 | 524.32 | 524.93 | 525.79 | 526.79 | 542.34 | 558.60 | 575.83 | 576.94 | 577.41 | 577.76 | 578.13 | 578.30 |
| 62 | 540.40 | 540.99 | 541.82 | 542.79 | 558.07 | 574.10 | 591.14 | 592.21 | 592.66 | 592.99 | 593.34 | 593.50 |
| 63 | 554.03 | 554.60 | 555.40 | 556.35 | 571.35 | 587.14 | 603.98 | 605.01 | 605.42 | 605.73 | 606.05 | 606.20 |
| 64 | 528.06 | 528.55 | 529.24 | 530.07 | 542.95 | 556.60 | 571.24 | 572.16 | 572.46 | 572.68 | 572.91 | 573.02 |
| 65 | 536.49 | 536.95 | 537.62 | 538.42 | 551.00 | 564.41 | 578.84 | 579.73 | 579.99 | 580.18 | 580.39 | 580.48 |
| 66 | 544.51 | 544.96 | 545.61 | 546.39 | 558.74 | 571.93 | 586.18 | 587.05 | 587.28 | 587.45 | 587.63 | 587.72 |
| 67 | 551.50 | 551.93 | 552.56 | 553.32 | 565.44 | 578.44 | 592.51 | 593.35 | 593.55 | 593.71 | 593.86 | 593.94 |
| 68 | 557.75 | 558.17 | 558.78 | 559.53 | 571.44 | 584.25 | 598.16 | 598.98 | 599.15 | 599.28 | 599.41 | 599.48 |
| 69 | 511.41 | 511.78 | 512.31 | 512.96 | 522.95 | 533.71 | 545.41 | 546.14 | 546.25 | 546.34 | 546.43 | 546.47 |
| 70 | 514.37 | 514.93 | 515.45 | 516.09 | 525.97 | 536.62 | 548.22 | 548.94 | 549.03 | 549.11 | 549.19 | 549.22 |
| 71 | 518.62 | 518.97 | 519.49 | 520.11 | 529.89 | 540.45 | 551.97 | 552.67 | 552.76 | 552.82 | 552.89 | 552.92 |
| 72 | 522.37 | 522.72 | 523.23 | 523.85 | 533.58 | 544.10 | 555.58 | 556.28 | 556.35 | 556.41 | 556.48 | 556.51 |
| 73 | 525.76 | 526.11 | 526.62 | 527.25 | 537.01 | 547.56 | 559.07 | 559.77 | 559.85 | 559.91 | 559.98 | 560.01 |
| 74 | 459.79 | 460.09 | 460.51 | 461.03 | 468.73 | 477.06 | 486.16 | 486.76 | 486.82 | 486.87 | 486.92 | 486.94 |
| 75 | 460.18 | 460.48 | 460.91 | 461.44 | 469.24 | 477.65 | 486.82 | 487.43 | 487.50 | 487.55 | 487.61 | 487.63 |
| 76 | 462.58 | 462.89 | 463.32 | 463.85 | 471.68 | 480.12 | 489.32 | 489.93 | 490.00 | 490.06 | 490.11 | 490.14 |
| 77 | 465.21 | 465.51 | 465.95 | 466.47 | 474.32 | 482.78 | 491.99 | 492.60 | 492.68 | 492.73 | 492.79 | 492.82 |
| 78 | 467.80 | 468.10 | 468.54 | 469.06 | 476.92 | 485.39 | 494.62 | 495.22 | 495.30 | 495.35 | 495.41 | 495.44 |
| 79 | 373.39 | 373.60 | 373.92 | 374.30 | 379.48 | 385.08 | 391.19 | 391.65 | 391.69 | 391.72 | 391.76 | 391.77 |
| 80 | 371.86 | 372.08 | 372.40 | 372.78 | 378.02 | 383.65 | 389.78 | 390.25 | 390.30 | 390.33 | 390.36 | 390.38 |
| 81 | 373.16 | 373.38 | 373.70 | 374.09 | 379.34 | 384.98 | 391.12 | 391.59 | 391.64 | 391.67 | 391.70 | 391.72 |
| 82 | 374.70 | 374.92 | 375.24 | 375.63 | 380.88 | 386.54 | 392.69 | 393.16 | 393.20 | 393.24 | 393.27 | 393.29 |
| 83 | 376.27 | 376.49 | 376.81 | 377.20 | 382.47 | 388.14 | 394.30 | 394.77 | 394.82 | 394.85 | 394.89 | 394.90 |
| 84 | 377.83 | 378.06 | 378.38 | 378.77 | 384.05 | 389.74 | 395.91 | 396.38 | 396.43 | 396.46 | 396.50 | 396.52 |
| 85 | 257.40 | 257.51 | 257.67 | 257.87 | 260.20 | 262.73 | 265.47 | 265.73 | 265.75 | 265.76 | 265.77 | 265.77 |
| 86 | 254.48 | 254.59 | 254.76 | 254.96 | 257.34 | 259.90 | 262.67 | 262.94 | 262.95 | 262.96 | 262.97 | 262.98 |
| 87 | 254.90 | 255.02 | 255.19 | 255.39 | 257.78 | 260.34 | 263.11 | 263.38 | 263.40 | 263.41 | 263.42 | 263.42 |
| 88 | 255.52 | 255.64 | 255.80 | 256.00 | 258.40 | 260.96 | 263.74 | 264.01 | 264.02 | 264.04 | 264.05 | 264.05 |
| 89 | 256.13 | 256.24 | 256.41 | 256.61 | 259.01 | 261.58 | 264.37 | 264.63 | 264.65 | 264.66 | 264.67 | 264.68 |
| 90 | 256.80 | 256.92 | 257.08 | 257.29 | 259.69 | 262.26 | 265.04 | 265.31 | 265.33 | 265.34 | 265.35 | 265.36 |
| 91 | 247.72 | 247.83 | 248.00 | 248.20 | 250.59 | 253.17 | 255.98 | 256.25 | 256.27 | 256.29 | 256.30 | 256.31 |

FUEL TEMPERATURE ( TIME = 400.00 ( SEC ) )

| J | TFP( 1,J) | TFP( 2,J) | TFP( 3,J) | TFP( 4,J) | TFP( 5,J) | TFP( 6,J) | TFP( 7,J) | TFP( 8,J) | TFP( 9,J) | TFP(10,J) | TFP(11,J) | TFP(12,J) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 |
| 2 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 |
| 3 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 |
| 4 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 |
| 5 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 |
| 6 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 |
| 7 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 | 136.74 |
| 8 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 |
| 9 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 |
| 10 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 |
| 11 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 |
| 12 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 |
| 13 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 | 138.14 |
| 14 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 |
| 15 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 |
| 16 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 |
| 17 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 |
| 18 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 | 138.93 |
| 19 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 |
| 20 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 |
| 21 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 |
| 22 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 |
| 23 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 | 139.45 |
| 24 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 |
| 25 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 |
| 26 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 |
| 27 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 |
| 28 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 | 139.82 |
| 29 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 |
| 30 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 |
| 31 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 |
| 32 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 |
| 33 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 | 140.10 |
| 34 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 |
| 35 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 |
| 36 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 |
| 37 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 |
| 38 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 |
| 39 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 |
| 40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 |
| 41 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 |
| 42 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 |
| 43 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 |
| 44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 |
| 45 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 |
| 46 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 |
| 47 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 |
| 48 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 | 140.44 |
| 49 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 |
| 50 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 |
| 51 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 |
| 52 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 |
| 53 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 | 140.40 |
| 54 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 | 140.29 |
| 55 | 440.84 | 442.48 | 444.56 | 446.80 | 451.81 | 456.63 | 461.36 | 463.84 | 465.43 | 466.58 | 467.75 | 468.30 |
| 56 | 491.22 | 492.13 | 493.38 | 494.81 | 498.17 | 501.60 | 505.16 | 506.83 | 507.66 | 508.28 | 508.92 | 509.23 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 57 | 522.52 | 523.34 | 524.47 | 525.77 | 528.84 | 531.99 | 535.27 | 536.73 | 537.38 | 537.85 | 538.34 | 538.57 |
| 58 | 545.88 | 546.60 | 547.62 | 548.81 | 551.65 | 554.61 | 557.73 | 559.08 | 559.65 | 560.07 | 560.50 | 560.71 |
| 59 | 542.15 | 542.81 | 543.73 | 544.82 | 561.89 | 579.76 | 598.74 | 599.93 | 600.46 | 600.86 | 601.27 | 601.47 |
| 60 | 558.79 | 559.42 | 560.32 | 561.38 | 578.19 | 595.86 | 614.66 | 615.80 | 616.30 | 616.68 | 617.06 | 617.25 |
| 61 | 573.60 | 574.22 | 575.09 | 576.12 | 592.71 | 610.19 | 628.82 | 629.93 | 630.40 | 630.75 | 631.11 | 631.29 |
| 62 | 588.22 | 588.82 | 589.67 | 590.68 | 607.09 | 624.41 | 642.92 | 644.00 | 644.44 | 644.77 | 645.11 | 645.28 |
| 63 | 600.89 | 601.47 | 602.30 | 603.29 | 619.48 | 636.60 | 654.94 | 655.99 | 656.40 | 656.71 | 657.02 | 657.18 |
| 64 | 571.53 | 572.03 | 572.76 | 573.63 | 587.61 | 602.50 | 618.53 | 619.47 | 619.78 | 620.01 | 620.25 | 620.36 |
| 65 | 579.49 | 579.98 | 580.68 | 581.53 | 595.25 | 609.91 | 625.74 | 626.65 | 626.92 | 627.13 | 627.34 | 627.44 |
| 66 | 587.14 | 587.61 | 588.29 | 589.12 | 602.62 | 617.09 | 632.75 | 633.64 | 633.88 | 634.06 | 634.25 | 634.34 |
| 67 | 593.81 | 594.28 | 594.94 | 595.75 | 609.05 | 623.32 | 638.81 | 639.68 | 639.89 | 640.05 | 640.21 | 640.28 |
| 68 | 599.83 | 600.28 | 600.93 | 601.72 | 614.83 | 628.92 | 644.25 | 645.10 | 645.28 | 645.41 | 645.55 | 645.61 |
| 69 | 549.89 | 550.28 | 550.85 | 551.54 | 562.56 | 574.43 | 587.36 | 588.12 | 588.24 | 588.34 | 588.43 | 588.48 |
| 70 | 552.98 | 553.37 | 553.93 | 554.61 | 565.53 | 577.30 | 590.14 | 590.89 | 591.00 | 591.08 | 591.17 | 591.21 |
| 71 | 556.93 | 557.31 | 557.86 | 558.54 | 569.36 | 581.05 | 593.82 | 594.56 | 594.65 | 594.73 | 594.80 | 594.84 |
| 72 | 560.60 | 560.98 | 561.53 | 562.19 | 572.98 | 584.64 | 597.38 | 598.11 | 598.20 | 598.27 | 598.34 | 598.37 |
| 73 | 563.95 | 564.33 | 564.88 | 565.55 | 576.37 | 588.06 | 600.84 | 601.57 | 601.66 | 601.73 | 601.81 | 601.84 |
| 74 | 493.12 | 493.44 | 493.90 | 494.46 | 503.06 | 512.35 | 522.48 | 523.12 | 523.19 | 523.24 | 523.29 | 523.32 |
| 75 | 493.60 | 493.93 | 494.40 | 494.96 | 503.66 | 513.03 | 523.23 | 523.87 | 523.95 | 524.01 | 524.07 | 524.10 |
| 76 | 496.04 | 496.36 | 496.83 | 497.40 | 506.13 | 515.52 | 525.74 | 526.39 | 526.47 | 526.53 | 526.59 | 526.62 |
| 77 | 498.68 | 499.01 | 499.48 | 500.04 | 508.79 | 518.19 | 528.42 | 529.06 | 529.15 | 529.21 | 529.27 | 529.30 |
| 78 | 501.29 | 501.62 | 502.09 | 502.66 | 511.41 | 520.82 | 531.06 | 531.70 | 531.78 | 531.84 | 531.91 | 531.94 |
| 79 | 399.15 | 399.38 | 399.73 | 400.14 | 405.94 | 412.20 | 419.01 | 419.51 | 419.55 | 419.59 | 419.63 | 419.65 |
| 80 | 397.60 | 397.84 | 398.18 | 398.60 | 404.45 | 410.74 | 417.58 | 418.08 | 418.13 | 418.17 | 418.21 | 418.22 |
| 81 | 399.01 | 399.25 | 399.59 | 400.02 | 405.87 | 412.17 | 419.02 | 419.52 | 419.57 | 419.61 | 419.65 | 419.67 |
| 82 | 400.64 | 400.88 | 401.23 | 401.65 | 407.52 | 413.82 | 420.68 | 421.18 | 421.23 | 421.27 | 421.31 | 421.33 |
| 83 | 402.30 | 402.54 | 402.89 | 403.31 | 409.19 | 415.51 | 422.37 | 422.88 | 422.93 | 422.97 | 423.01 | 423.03 |
| 84 | 403.95 | 404.19 | 404.54 | 404.96 | 410.85 | 417.18 | 424.06 | 424.56 | 424.61 | 424.65 | 424.69 | 424.71 |
| 85 | 270.38 | 270.50 | 270.67 | 270.89 | 273.48 | 276.28 | 279.34 | 279.62 | 279.63 | 279.64 | 279.66 | 279.66 |
| 86 | 267.30 | 267.42 | 267.60 | 267.82 | 270.46 | 273.29 | 276.36 | 276.65 | 276.67 | 276.68 | 276.69 | 276.70 |
| 87 | 267.76 | 267.89 | 268.07 | 268.29 | 270.94 | 273.77 | 276.85 | 277.13 | 277.15 | 277.16 | 277.18 | 277.18 |
| 88 | 268.42 | 268.54 | 268.73 | 268.95 | 271.60 | 274.43 | 277.51 | 277.80 | 277.82 | 277.83 | 277.84 | 277.85 |
| 89 | 269.05 | 269.18 | 269.36 | 269.58 | 272.24 | 275.08 | 278.16 | 278.45 | 278.47 | 278.48 | 278.50 | 278.50 |
| 90 | 269.76 | 269.89 | 270.07 | 270.29 | 272.95 | 275.79 | 278.88 | 279.16 | 279.18 | 279.19 | 279.21 | 279.22 |
| 91 | 259.20 | 259.33 | 259.51 | 259.73 | 262.40 | 265.28 | 268.40 | 268.70 | 268.73 | 268.75 | 268.77 | 268.77 |

```
 NAME(1)= 400

 TIME   USUP    ULIN    UDUP    UCUP    UGOUT   ULOUT   UGLOP    CRF      DPDN    DPCR    DPLOP  AMCOIN  AMCOR   AMGS    AMLS  MERROR
        <------  ( CM/SEC )  AT CORE WATER STATE        ------>          <---    ( M.AQ )   ---->  <---  (  KG/M**2 ) AT CORE FLOW --->

400.00  2.513   2.513   3.526   4.474   1.140   0.683   0.0     0.274    0.0     7.19     0.0  8876.3 1365.7 5037.0 2404.2   72.5
410.00  2.314   2.314   3.526   4.474   1.160   0.880   0.0     0.383    0.0     7.07     0.0  9139.4 1421.2 5145.0 2501.6   74.7
        TIMES DMASS G(1) G(N1) GGAS      420.00        -0.57800E-07     0.64389E-03      0.58715E-03     0.31902E-03
420.00  2.431   2.431   3.526   4.474   1.195   1.004   0.0     0.416    0.0     6.91     0.0  9339.0 1420.6 5257.7 2587.6   76.2
        TIMES DMASS G(1) G(N1) GGAS      423.25         0.12028E-05     0.65760E-03      0.32295E-03     0.32295E-03
430.00  1.042   1.042   3.526   4.474   1.200   0.818   0.0     0.790    0.0     6.75     0.0  9527.3 1397.6 5369.9 2685.2   77.7
        TIMES DMASS G(1) G(N1) GGAS      440.00         0.31985E-07     0.82697E-03      0.62711E-03     0.30587E-03
440.00  3.120   3.120   3.526   4.474   1.146   1.203   0.0     0.388    0.0     6.55     0.0  9725.4 1402.1 5478.5 2768.6   79.2
        TIMES DMASS G(1) G(N1) GGAS      449.75         0.12011E-05     0.52108E-03      0.31005E-03     0.31005E-03
 TIME   USUP    ULIN    UDUP    UCUP    UGOUT   ULOUT   UGLOP    CRF      DPDN    DPCR    DPLOP  AMCOIN  AMCOR   AMGS    AMLS  MERROR
        <------  ( CM/SEC )  AT CORE WATER STATE        ------>          <---    ( M.AQ )   ---->  <---  (  KG/M**2 ) AT CORE FLOW --->

450.00  1.966   1.966   3.526   4.474   1.181   1.692   0.0     0.867    0.0     6.35     0.0  9951.3 1413.4 5587.3 2872.9   80.9
        TIMES DMASS G(1) G(N1) GGAS      460.00        -0.49666E-07     0.65802E-03      0.56957E-03     0.31019E-03
460.00  2.482   2.482   3.526   4.474   1.162   0.972   0.0     0.394    0.0     6.13     0.0 10148.7 1408.2 5695.5 2965.8   82.2

470.00  1.839   1.839   3.526   4.474   1.171   1.206   0.0     0.660    0.0     6.05     0.0 10395.5 1431.3 5804.2 3079.0   83.9
        TIMES DMASS G(1) G(N1) GGAS      475.00        -0.18527E-04     0.26250E-03      0.26263E-03     0.26263E-03
        TIMES DMASS G(1) G(N1) GGAS      475.25        -0.26481E-05     0.27096E-03      0.21483E-03     0.21483E-03
        TIMES DMASS G(1) G(N1) GGAS      478.75         0.93326E-06     0.32115E-03      0.19528E-03     0.19528E-03
        TIMES DMASS G(1) G(N1) GGAS      479.00        -0.74415E-05     0.32115E-03      0.22155E-03     0.22155E-03
        TIMES DMASS G(1) G(N1) GGAS      480.00         0.89991E-07     0.34778E-03      0.35919E-03     0.26091E-03
```

AXIAL NODE OF STORED OUTPUT DATA

EL.1 = 10
EL.2 = 26
EL.3 = 46
EL.4 = 61
EL.5 = 76
EL.6 = 91

RADIAL NODE OF STORED OUTPUT DATA

| ( EL.1 ) | ( EL.2 ) | ( EL.3 ) | ( EL.4 ) | ( EL.5 ) |
|---|---|---|---|---|
| R.1 = 1 | R.1 = 1 | R.1 = 1 | R.1 = 1 | R.1 = 1 |
| R.2 = 4 | R.2 = 4 | R.2 = 4 | R.2 = 4 | R.2 = 4 |
| R.3 = 8 | R.3 = 8 | R.3 = 8 | R.3 = 8 | R.3 = 8 |
| R.4 = 12 | R.4 = 12 | R.4 = 12 | R.4 = 12 | R.4 = 12 |

CONTROL DATA

| TIME | MAXPOWER | FLOWRATE | PRESSURE | DPCORE | DPDOWN | DPLOOP | WGOUT |
|---|---|---|---|---|---|---|---|
| ( SEC ) | ( KW/M ) | ( CM/SEC ) | (KG/CM**2) | ( M.AQ ) | ( M.AQ ) | ( M.AQ ) | (KG/M**2H) |
| 0.0 | 2.08600 | 4.99329 | 2.08391 | 0.102166E-01 | 0.0 | 0.0 | 16993.4 |
| 10.0000 | 1.98895 | 4.78839 | 2.50962 | 0.466525 | 0.0 | 0.0 | 44272.5 |
| 20.0000 | 1.91494 | 3.69299 | 2.84814 | 0.704347 | 0.0 | 0.0 | 29155.7 |
| 30.0000 | 1.85665 | 3.63752 | 2.91181 | 0.878486 | 0.0 | 0.0 | 38285.9 |
| 40.0000 | 1.80883 | 2.94053 | 3.01862 | 1.02528 | 0.0 | 0.0 | 43027.2 |
| 50.0000 | 1.76844 | 2.89917 | 3.05021 | 1.13974 | 0.0 | 0.0 | 47840.0 |
| 60.0000 | 1.73359 | 2.85997 | 3.02457 | 1.22442 | 0.0 | 0.0 | 52612.7 |
| 70.0000 | 1.70300 | 2.63786 | 2.97036 | 1.28675 | 0.0 | 0.0 | 54477.4 |
| 80.0000 | 1.67581 | 2.34710 | 2.93148 | 1.30543 | 0.0 | 0.0 | 52828.2 |
| 90.0000 | 1.65136 | 2.28025 | 2.89584 | 1.33659 | 0.0 | 0.0 | 52305.1 |
| 100.000 | 1.62919 | 2.36118 | 2.86890 | 1.36392 | 0.0 | 0.0 | 52661.4 |
| 110.000 | 1.60891 | 2.25877 | 2.84414 | 1.38711 | 0.0 | 0.0 | 52708.0 |
| 120.000 | 1.59026 | 2.36160 | 2.81784 | 1.41061 | 0.0 | 0.0 | 49625.9 |
| 130.000 | 1.58954 | 1.94354 | 2.80903 | 1.41613 | 0.0 | 0.0 | 50095.9 |
| 140.000 | 1.56443 | 2.28139 | 2.77930 | 1.42189 | 0.0 | 0.0 | 48320.9 |
| 150.000 | 1.54112 | 2.46702 | 2.76482 | 1.44852 | 0.0 | 0.0 | 47301.0 |
| 160.000 | 1.51939 | 1.99474 | 2.76603 | 1.46119 | 0.0 | 0.0 | 50181.4 |
| 170.000 | 1.49907 | 1.87581 | 2.75903 | 1.45798 | 0.0 | 0.0 | 48373.7 |
| 180.000 | 1.48000 | 2.16789 | 2.74955 | 1.44226 | 0.0 | 0.0 | 47064.1 |
| 190.000 | 1.46204 | 1.85236 | 2.77495 | 1.47458 | 0.0 | 0.0 | 48424.6 |
| 200.000 | 1.44508 | 2.08087 | 2.77697 | 1.47387 | 0.0 | 0.0 | 45257.6 |
| 210.000 | 1.42903 | 2.49175 | 2.74231 | 1.47560 | 0.0 | 0.0 | 46737.5 |
| 220.000 | 1.41380 | 2.30439 | 2.73403 | 1.49710 | 0.0 | 0.0 | 47433.1 |
| 230.000 | 1.39932 | 1.65511 | 2.70269 | 1.45015 | 0.0 | 0.0 | 44733.7 |
| 240.000 | 1.38553 | 1.46600 | 2.72592 | 1.40968 | 0.0 | 0.0 | 46538.9 |
| 250.000 | 1.37236 | 2.77866 | 2.71684 | 1.44734 | 0.0 | 0.0 | 42568.6 |
| 260.000 | 1.35977 | 1.78657 | 2.74197 | 1.49381 | 0.0 | 0.0 | 46195.1 |
| 270.000 | 1.34771 | 1.96456 | 2.74498 | 1.43484 | 0.0 | 0.0 | 42520.5 |
| 280.000 | 1.33615 | 2.04776 | 2.77432 | 1.47136 | 0.0 | 0.0 | 43471.8 |
| 290.000 | 1.32505 | 1.75190 | 2.77775 | 1.47425 | 0.0 | 0.0 | 45426.1 |
| 300.000 | 1.31438 | 2.39224 | 2.77738 | 1.48109 | 0.0 | 0.0 | 42715.2 |
| 310.000 | 1.30410 | 1.87374 | 2.78466 | 1.49760 | 0.0 | 0.0 | 45181.4 |
| 320.000 | 1.29419 | 2.29387 | 2.79733 | 1.50356 | 0.0 | 0.0 | 42665.8 |
| 330.000 | 1.28463 | 1.75907 | 2.78928 | 1.49772 | 0.0 | 0.0 | 43131.4 |
| 340.000 | 1.27539 | 1.46232 | 2.78847 | 1.46143 | 0.0 | 0.0 | 43537.0 |
| 350.000 | 1.26647 | 2.45847 | 2.78884 | 1.47911 | 0.0 | 0.0 | 40311.0 |
| 360.000 | 1.25783 | 2.55294 | 2.76722 | 1.51067 | 0.0 | 0.0 | 41411.5 |
| 370.000 | 1.24946 | 1.39747 | 2.76105 | 1.50931 | 0.0 | 0.0 | 42040.9 |
| 380.000 | 1.24135 | 2.90837 | 2.75584 | 1.51468 | 0.0 | 0.0 | 39404.1 |
| 390.000 | 1.23348 | 1.01908 | 2.76377 | 1.49051 | 0.0 | 0.0 | 41447.6 |
| 400.000 | 1.22584 | 2.51261 | 2.76193 | 1.47249 | 0.0 | 0.0 | 38695.5 |
| 410.000 | 1.21842 | 2.31441 | 2.75001 | 1.53219 | 0.0 | 0.0 | 39343.8 |
| 420.000 | 1.21121 | 2.43051 | 2.73477 | 1.53165 | 0.0 | 0.0 | 40547.2 |
| 430.000 | 1.20419 | 1.04214 | 2.72030 | 1.50629 | 0.0 | 0.0 | 40730.0 |
| 440.000 | 1.19736 | 3.12032 | 2.70096 | 1.51083 | 0.0 | 0.0 | 38875.9 |
| 450.000 | 1.19071 | 1.96570 | 2.68236 | 1.53445 | 0.0 | 0.0 | 40063.7 |
| 460.000 | 1.18422 | 2.48170 | 2.66165 | 1.51619 | 0.0 | 0.0 | 39424.6 |
| 470.000 | 1.17790 | 1.83941 | 2.65444 | 1.54076 | 0.0 | 0.0 | 39718.7 |
| 480.000 | 1.17174 | 1.31158 | 2.65870 | 1.41972 | 0.0 | 0.0 | 33161.7 |

TEMPERATURE PROFILE

| TIME ( SEC ) | TW1 ( DC ) | TW2 ( DC ) | TW3 ( DC ) | TW4 ( DC ) | TW5 ( DC ) | TW6 ( DC ) | HT3 (W/M**2 K) |
|---|---|---|---|---|---|---|---|
| 0.0 | 353.218 | 577.643 | 720.308 | 625.444 | 446.371 | 236.533 | 6.97246 |
| 10.0000 | 342.993 | 589.376 | 746.272 | 651.751 | 467.189 | 246.042 | 105.176 |
| 20.0000 | 140.044 | 599.285 | 764.020 | 672.065 | 482.780 | 253.782 | 57.3323 |
| 30.0000 | 140.809 | 601.574 | 773.771 | 690.369 | 498.286 | 260.092 | 70.7254 |
| 40.0000 | 142.091 | 600.682 | 779.475 | 698.048 | 505.062 | 263.547 | 77.0587 |
| 50.0000 | 142.353 | 587.210 | 779.130 | 703.001 | 510.917 | 266.303 | 87.9527 |
| 60.0000 | 142.054 | 563.668 | 772.889 | 706.354 | 515.514 | 268.580 | 95.2231 |
| 70.0000 | 141.383 | 537.830 | 765.642 | 707.934 | 518.798 | 270.297 | 94.0488 |
| 80.0000 | 140.837 | 507.896 | 759.287 | 709.889 | 523.310 | 272.578 | 89.6414 |
| 90.0000 | 140.337 | 471.242 | 752.498 | 711.109 | 526.977 | 274.480 | 94.7855 |
| 100.000 | 139.954 | 141.709 | 744.296 | 711.253 | 529.675 | 276.041 | 97.2230 |
| 110.000 | 139.601 | 141.352 | 735.091 | 710.566 | 531.828 | 277.348 | 99.0985 |
| 120.000 | 139.230 | 140.977 | 725.450 | 708.803 | 532.531 | 277.965 | 98.5050 |
| 130.000 | 139.114 | 140.860 | 715.554 | 707.570 | 534.342 | 279.111 | 101.168 |
| 140.000 | 138.689 | 140.429 | 704.872 | 705.712 | 534.973 | 279.738 | 101.560 |
| 150.000 | 138.466 | 140.200 | 693.870 | 702.337 | 533.864 | 279.523 | 103.217 |
| 160.000 | 138.451 | 140.179 | 681.951 | 698.620 | 533.690 | 279.843 | 108.993 |
| 170.000 | 138.330 | 140.052 | 669.415 | 695.095 | 533.141 | 279.945 | 111.249 |
| 180.000 | 138.178 | 139.895 | 656.253 | 692.590 | 532.781 | 280.105 | 114.737 |
| 190.000 | 138.485 | 140.196 | 642.698 | 688.144 | 531.144 | 279.757 | 117.452 |
| 200.000 | 138.487 | 140.193 | 628.160 | 683.158 | 528.787 | 279.102 | 122.876 |
| 210.000 | 138.008 | 139.710 | 612.970 | 679.233 | 525.934 | 274.724 | 125.588 |
| 220.000 | 137.876 | 139.574 | 597.896 | 672.580 | 522.448 | 273.037 | 128.391 |
| 230.000 | 137.443 | 139.138 | 581.468 | 667.137 | 520.155 | 272.027 | 133.620 |
| 240.000 | 137.727 | 139.417 | 564.586 | 663.966 | 519.321 | 269.643 | 138.773 |
| 250.000 | 137.587 | 139.273 | 546.916 | 660.382 | 516.614 | 268.164 | 146.623 |
| 260.000 | 137.898 | 139.579 | 527.385 | 652.886 | 512.830 | 264.800 | 158.942 |
| 270.000 | 137.919 | 139.596 | 504.949 | 648.302 | 510.548 | 262.492 | 176.905 |
| 280.000 | 138.286 | 139.959 | 476.685 | 642.447 | 507.512 | 261.631 | 217.318 |
| 290.000 | 138.313 | 139.983 | 140.600 | 634.733 | 504.007 | 260.925 | 3695.48 |
| 300.000 | 138.292 | 139.958 | 140.573 | 627.871 | 500.700 | 260.435 | 3673.11 |
| 310.000 | 138.371 | 140.033 | 140.648 | 619.434 | 496.487 | 257.462 | 3651.96 |
| 320.000 | 138.521 | 140.180 | 140.793 | 612.420 | 492.402 | 256.105 | 3631.86 |
| 330.000 | 138.400 | 140.056 | 140.668 | 603.303 | 488.037 | 255.206 | 3611.26 |
| 340.000 | 138.374 | 140.028 | 140.639 | 594.438 | 485.001 | 254.800 | 3591.73 |
| 350.000 | 138.365 | 140.015 | 140.625 | 585.812 | 482.076 | 254.385 | 3572.88 |
| 360.000 | 138.067 | 139.715 | 140.324 | 575.672 | 477.346 | 253.428 | 3553.36 |
| 370.000 | 137.972 | 139.617 | 140.225 | 564.075 | 472.394 | 252.463 | 3535.28 |
| 380.000 | 137.890 | 139.533 | 140.140 | 551.885 | 468.965 | 251.616 | 3517.77 |
| 390.000 | 137.981 | 139.621 | 140.227 | 538.144 | 464.521 | 249.029 | 3501.47 |
| 400.000 | 137.944 | 139.582 | 140.187 | 524.318 | 462.584 | 247.722 | 3485.09 |
| 410.000 | 137.775 | 139.411 | 140.015 | 508.382 | 458.119 | 247.107 | 3468.60 |
| 420.000 | 137.563 | 139.196 | 139.800 | 489.937 | 452.297 | 245.888 | 3452.36 |
| 430.000 | 137.361 | 138.992 | 139.595 | 465.992 | 446.989 | 243.872 | 3436.56 |
| 440.000 | 137.095 | 138.725 | 139.327 | 138.997 | 443.781 | 243.063 | 3420.88 |
| 450.000 | 136.840 | 138.468 | 139.069 | 138.739 | 438.181 | 241.900 | 3405.62 |
| 460.000 | 136.557 | 138.183 | 138.784 | 138.454 | 433.963 | 240.288 | 3390.59 |
| 470.000 | 136.451 | 138.075 | 138.675 | 138.346 | 428.417 | 239.275 | 3376.62 |
| 480.000 | 136.496 | 138.118 | 138.718 | 138.389 | 435.212 | 242.386 | 3363.58 |

TEMPERATURE PROFILE

| TIME ( SEC ) | TWP1 ( DC ) | TWP2 ( DC ) | TWP3 ( DC ) | TWP4 ( DC ) | TWP5 ( DC ) | TWP6 ( DC ) | HTP3 (W/M**2 K) |
|---|---|---|---|---|---|---|---|
| 0.0 | 375.052 | 619.087 | 772.306 | 670.762 | 476.489 | 247.726 | 6.97178 |
| 10.0000 | 368.015 | 630.117 | 797.395 | 694.813 | 496.157 | 257.099 | 110.417 |
| 20.0000 | 140.266 | 640.378 | 814.870 | 715.412 | 512.231 | 264.908 | 60.7174 |
| 30.0000 | 141.028 | 641.152 | 823.632 | 732.944 | 527.414 | 271.257 | 74.1070 |
| 40.0000 | 142.309 | 639.756 | 829.193 | 741.406 | 534.903 | 274.948 | 79.2965 |
| 50.0000 | 142.569 | 626.601 | 828.643 | 746.975 | 541.633 | 278.041 | 90.1565 |
| 60.0000 | 142.270 | 603.154 | 821.807 | 750.657 | 546.868 | 280.591 | 97.4275 |
| 70.0000 | 141.597 | 578.463 | 814.049 | 752.462 | 550.677 | 282.534 | 95.9103 |
| 80.0000 | 141.051 | 551.541 | 807.380 | 754.656 | 555.839 | 285.121 | 91.3189 |
| 90.0000 | 140.550 | 520.403 | 800.205 | 756.049 | 560.037 | 287.276 | 96.5440 |
| 100.000 | 140.166 | 480.253 | 791.567 | 756.288 | 563.174 | 289.058 | 98.8940 |
| 110.000 | 139.813 | 141.606 | 781.898 | 755.628 | 565.707 | 290.563 | 100.620 |
| 120.000 | 139.442 | 141.230 | 771.839 | 753.846 | 566.653 | 291.306 | 99.9171 |
| 130.000 | 139.325 | 141.114 | 761.497 | 752.582 | 568.789 | 292.634 | 102.554 |
| 140.000 | 138.900 | 140.682 | 750.384 | 750.715 | 569.640 | 293.388 | 102.700 |
| 150.000 | 138.676 | 140.452 | 739.026 | 747.217 | 568.578 | 293.208 | 104.130 |
| 160.000 | 138.660 | 140.430 | 726.809 | 743.379 | 568.575 | 293.637 | 109.436 |
| 170.000 | 138.539 | 140.302 | 714.012 | 739.787 | 568.150 | 293.817 | 111.498 |
| 180.000 | 138.386 | 140.144 | 700.560 | 737.284 | 567.910 | 294.057 | 114.694 |
| 190.000 | 138.692 | 140.445 | 686.806 | 732.696 | 566.266 | 293.731 | 116.848 |
| 200.000 | 138.693 | 140.441 | 672.206 | 727.563 | 563.857 | 293.068 | 121.462 |
| 210.000 | 138.214 | 139.957 | 657.129 | 723.537 | 560.924 | 288.228 | 123.282 |
| 220.000 | 138.082 | 139.821 | 642.360 | 716.649 | 557.313 | 286.418 | 125.232 |
| 230.000 | 137.648 | 139.384 | 626.441 | 711.142 | 555.021 | 285.399 | 129.119 |
| 240.000 | 137.931 | 139.662 | 610.456 | 708.154 | 554.331 | 282.857 | 132.276 |
| 250.000 | 137.792 | 139.518 | 594.230 | 704.474 | 551.360 | 281.092 | 137.200 |
| 260.000 | 138.101 | 139.823 | 576.954 | 696.778 | 547.417 | 277.381 | 144.573 |
| 270.000 | 138.122 | 139.840 | 558.306 | 692.346 | 545.151 | 274.910 | 153.177 |
| 280.000 | 138.488 | 140.202 | 537.790 | 686.488 | 542.032 | 274.012 | 166.183 |
| 290.000 | 138.515 | 140.225 | 512.746 | 678.749 | 538.475 | 273.315 | 198.170 |
| 300.000 | 138.493 | 140.200 | 477.886 | 671.934 | 535.094 | 272.843 | 251.546 |
| 310.000 | 138.572 | 140.275 | 140.904 | 663.481 | 530.742 | 269.533 | 3922.57 |
| 320.000 | 138.722 | 140.421 | 141.049 | 656.609 | 526.572 | 268.096 | 3900.98 |
| 330.000 | 138.600 | 140.297 | 140.923 | 647.604 | 522.092 | 267.175 | 3878.86 |
| 340.000 | 138.574 | 140.268 | 140.893 | 639.031 | 519.102 | 266.824 | 3857.87 |
| 350.000 | 138.564 | 140.255 | 140.879 | 630.696 | 516.037 | 266.410 | 3837.62 |
| 360.000 | 138.266 | 139.954 | 140.578 | 620.859 | 511.087 | 265.414 | 3816.67 |
| 370.000 | 138.171 | 139.856 | 140.479 | 609.755 | 506.019 | 264.444 | 3797.24 |
| 380.000 | 138.089 | 139.772 | 140.393 | 598.449 | 502.437 | 263.566 | 3778.43 |
| 390.000 | 138.180 | 139.859 | 140.480 | 585.841 | 498.021 | 260.716 | 3760.93 |
| 400.000 | 138.142 | 139.820 | 140.439 | 573.601 | 496.040 | 259.202 | 3743.34 |
| 410.000 | 137.973 | 139.648 | 140.267 | 559.879 | 491.296 | 258.461 | 3725.63 |
| 420.000 | 137.761 | 139.434 | 140.052 | 545.054 | 485.457 | 257.221 | 3708.18 |
| 430.000 | 137.558 | 139.229 | 139.847 | 529.046 | 480.135 | 254.993 | 3691.21 |
| 440.000 | 137.293 | 138.962 | 139.578 | 510.501 | 476.937 | 254.122 | 3674.36 |
| 450.000 | 137.037 | 138.704 | 139.320 | 483.429 | 471.347 | 252.918 | 3657.97 |
| 460.000 | 136.753 | 138.419 | 139.034 | 442.758 | 467.156 | 251.125 | 3641.83 |
| 470.000 | 136.648 | 138.311 | 138.926 | 138.588 | 461.643 | 250.065 | 3626.82 |
| 480.000 | 136.693 | 138.354 | 138.967 | 138.631 | 467.656 | 253.021 | 3612.82 |

QUENCH DATA AND CARRYOVER RATIO

| TIME ( SEC ) | LC.SUBCL ( DC ) | QUENCHVL ( CM/SEC ) | QUENCHPT ( M ) | CARRYOVR ( - ) | QUENCHTP ( DC ) | TW3 ( DC ) | HT3 (W/M**2 K) |
|---|---|---|---|---|---|---|---|
| 0.0 | 2.00000 | 0.0 | 0.0 | 0.109171E-07 | 236.249 | 720.308 | 6.97246 |
| 10.0000 | 0.0 | 1.75330 | 0.336203 | 0.205886 | 332.756 | 746.272 | 105.176 |
| 20.0000 | 0.741058 | 0.721612 | 0.519774 | 0.148938E-07 | 400.363 | 764.020 | 57.3323 |
| 30.0000 | 0.887451E-01 | 0.803118 | 0.588678 | 0.206609 | 383.835 | 773.771 | 70.7254 |
| 40.0000 | 0.467072E-01 | 0.871296 | 0.675155 | 0.125414 | 380.804 | 779.475 | 77.0587 |
| 50.0000 | 0.187836E-01 | 0.561298 | 0.744234 | 0.167616 | 414.239 | 779.130 | 87.9527 |
| 60.0000 | 0.0 | 0.612724 | 0.803475 | 0.171445 | 404.945 | 772.889 | 95.2231 |
| 70.0000 | 0.0 | 0.677977 | 0.869367 | 0.246417 | 397.654 | 765.642 | 94.0488 |
| 80.0000 | 0.0 | 0.493431 | 0.930238 | 0.216724 | 424.002 | 759.287 | 89.6414 |
| 90.0000 | 0.0 | 0.526681 | 0.980380 | 0.218168 | 417.299 | 752.498 | 94.7855 |
| 100.000 | 0.0 | 0.480428 | 1.02893 | 0.228034 | 424.785 | 744.296 | 97.2230 |
| 110.000 | 0.0 | 0.496107 | 1.07814 | 0.217703 | 420.704 | 735.091 | 99.0985 |
| 120.000 | 0.0 | 0.425592 | 1.12632 | 0.262122 | 437.039 | 725.450 | 98.5050 |
| 130.000 | 0.424194E-02 | 0.419575 | 1.16854 | 0.252609 | 436.280 | 715.554 | 101.168 |
| 140.000 | 0.0 | 0.439958 | 1.21296 | 0.266253 | 429.800 | 704.872 | 101.560 |
| 150.000 | 0.665283E-02 | 0.460248 | 1.25853 | 0.280917 | 422.508 | 693.870 | 103.217 |
| 160.000 | 0.0 | 0.484074 | 1.30521 | 0.310501 | 422.343 | 681.951 | 108.993 |
| 170.000 | 0.900269E-02 | 0.408436 | 1.34746 | 0.188267 | 438.888 | 669.415 | 111.249 |
| 180.000 | 0.0 | 0.423566 | 1.38799 | 0.285757 | 434.567 | 656.253 | 114.737 |
| 190.000 | 0.0 | 0.445619 | 1.42990 | 0.313012 | 429.998 | 642.698 | 117.452 |
| 200.000 | 0.131973 | 0.438702 | 1.47293 | 0.422565E-06 | 431.333 | 628.160 | 122.876 |
| 210.000 | 0.534058E-03 | 0.432026 | 1.51627 | 0.353457 | 433.054 | 612.970 | 125.588 |
| 220.000 | 0.321045E-01 | 0.409135 | 1.55734 | 0.322237 | 437.980 | 597.896 | 128.391 |
| 230.000 | 0.0 | 0.410123 | 1.59798 | 0.562750 | 436.891 | 581.468 | 133.620 |
| 240.000 | 0.0 | 0.413807 | 1.63880 | 0.278814 | 436.704 | 564.586 | 138.773 |
| 250.000 | 0.0 | 0.412250 | 1.67957 | 0.362150 | 436.778 | 546.916 | 146.623 |
| 260.000 | 0.287781E-01 | 0.410901 | 1.72031 | 0.328763 | 438.210 | 527.385 | 158.942 |
| 270.000 | 0.130005E-01 | 0.400588 | 1.76034 | 0.225344 | 440.986 | 504.949 | 176.905 |
| 280.000 | 0.0 | 0.405864 | 1.80017 | 0.315783 | 440.618 | 476.685 | 217.318 |
| 290.000 | 0.0 | 0.408496 | 1.84014 | 0.476772 | 440.057 | 140.600 | 3695.48 |
| 300.000 | 0.135193E-01 | 0.401096 | 1.87992 | 0.270908 | 442.028 | 140.573 | 3673.11 |
| 310.000 | 0.0 | 0.411779 | 1.91958 | 0.357234 | 439.171 | 140.648 | 3651.96 |
| 320.000 | 0.0 | 0.416945 | 1.96015 | 0.354310 | 438.446 | 140.793 | 3631.86 |
| 330.000 | 0.0 | 0.409746 | 2.00054 | 0.277291 | 440.156 | 140.668 | 3611.26 |
| 340.000 | 0.0 | 0.409889 | 2.04041 | 0.345776 | 440.008 | 140.639 | 3591.73 |
| 350.000 | 0.0 | 0.405572 | 2.07992 | 0.355361 | 441.197 | 140.625 | 3572.88 |
| 360.000 | 0.0 | 0.397269 | 2.11884 | 0.315816 | 442.009 | 140.324 | 3553.36 |
| 370.000 | 0.0 | 0.426939 | 2.15896 | 0.414582 | 433.882 | 140.225 | 3535.28 |
| 380.000 | 0.0 | 0.420356 | 2.19991 | 0.431042 | 435.452 | 140.140 | 3517.77 |
| 390.000 | 0.0 | 0.414434 | 2.24039 | 0.613938 | 437.335 | 140.227 | 3501.47 |
| 400.000 | 0.0 | 0.409471 | 2.28021 | 0.273824 | 438.234 | 140.187 | 3485.09 |
| 410.000 | 0.0 | 0.398646 | 2.31940 | 0.383115 | 439.752 | 140.015 | 3468.60 |
| 420.000 | 0.0 | 0.463749 | 2.36118 | 0.416424 | 423.637 | 139.800 | 3452.36 |
| 430.000 | 0.0 | 0.447547 | 2.40537 | 0.790494 | 427.944 | 139.595 | 3436.56 |
| 440.000 | 0.0 | 0.428879 | 2.44800 | 0.388452 | 431.950 | 139.327 | 3420.88 |
| 450.000 | 0.0 | 0.416870 | 2.48933 | 0.866628 | 434.234 | 139.069 | 3405.62 |
| 460.000 | 0.0 | 0.428277 | 2.53004 | 0.394195 | 428.702 | 138.784 | 3390.59 |
| 470.000 | 0.0 | 0.503480 | 2.57758 | 0.659898 | 414.310 | 138.675 | 3376.62 |
| 480.000 | 0.0 | 0.415480 | 2.61782 | 0.282582 | 435.547 | 138.718 | 3363.58 |

HOT ROD QUENCH DATA

| TIME ( SEC ) | LC.SUBCL ( DC ) | QUENCHVL ( CM/SEC ) | QUENCHPT ( M ) | QUENCHTP ( DC ) | MAXPOWER ( KW/M ) | TWP3 ( DC ) | HTP3 (W/M**2 K) |
|---|---|---|---|---|---|---|---|
| 0.0 | 2.00000 | 0.0 | 0.0 | 247.416 | 2.29460 | 772.306 | 6.97178 |
| 10.0000 | 1.83685 | 1.24367 | 0.294214 | 344.791 | 2.18785 | 797.395 | 110.417 |
| 20.0000 | 0.741058 | 1.54155 | 0.437074 | 340.355 | 2.10644 | 814.870 | 60.7174 |
| 30.0000 | 0.887451E-01 | 0.620068 | 0.543118 | 401.169 | 2.04232 | 823.632 | 74.1070 |
| 40.0000 | 0.467072E-01 | 0.844066 | 0.615863 | 382.673 | 1.98971 | 829.193 | 79.2965 |
| 50.0000 | 0.187836E-01 | 0.823671 | 0.699074 | 391.450 | 1.94528 | 828.643 | 90.1565 |
| 60.0000 | 0.0 | 0.535052 | 0.756703 | 417.549 | 1.90695 | 821.807 | 97.4275 |
| 70.0000 | 0.0 | 0.621805 | 0.814355 | 401.022 | 1.87331 | 814.049 | 95.9103 |
| 80.0000 | 0.0 | 0.616773 | 0.876409 | 403.352 | 1.84339 | 807.380 | 91.3189 |
| 90.0000 | 0.0 | 0.471088 | 0.932668 | 426.170 | 1.81650 | 800.205 | 96.5440 |
| 100.000 | 0.0 | 0.511418 | 0.980699 | 419.133 | 1.79210 | 791.567 | 98.8940 |
| 110.000 | 0.0 | 0.476107 | 1.02823 | 425.271 | 1.76981 | 781.898 | 100.620 |
| 120.000 | 0.0 | 0.478217 | 1.07591 | 423.791 | 1.74929 | 771.839 | 99.9171 |
| 130.000 | 0.424194E-02 | 0.419931 | 1.12300 | 438.740 | 1.74850 | 761.497 | 102.554 |
| 140.000 | 0.0 | 0.401792 | 1.16399 | 441.104 | 1.72087 | 750.384 | 102.700 |
| 150.000 | 0.665283E-02 | 0.417928 | 1.20624 | 436.013 | 1.69523 | 739.026 | 104.130 |
| 160.000 | 0.0 | 0.425954 | 1.24934 | 433.449 | 1.67133 | 726.809 | 109.436 |
| 170.000 | 0.900269E-02 | 0.437620 | 1.29370 | 429.770 | 1.64898 | 714.012 | 111.498 |
| 180.000 | 0.0 | 0.382420 | 1.33577 | 446.080 | 1.62800 | 700.560 | 114.694 |
| 190.000 | 0.0 | 0.387326 | 1.37441 | 444.501 | 1.60824 | 686.806 | 116.848 |
| 200.000 | 0.131973 | 0.396374 | 1.41438 | 441.680 | 1.58959 | 672.206 | 121.462 |
| 210.000 | 0.534058E-03 | 0.398469 | 1.45487 | 440.085 | 1.57193 | 657.129 | 123.282 |
| 220.000 | 0.321045E-01 | 0.402908 | 1.49562 | 438.354 | 1.55518 | 642.360 | 125.232 |
| 230.000 | 0.0 | 0.379235 | 1.53586 | 445.410 | 1.53926 | 626.441 | 129.119 |
| 240.000 | 0.0 | 0.377709 | 1.57425 | 446.438 | 1.52408 | 610.456 | 132.276 |
| 250.000 | 0.0 | 0.381024 | 1.61313 | 445.253 | 1.50960 | 594.230 | 137.200 |
| 260.000 | 0.287781E-01 | 0.386949 | 1.65244 | 444.417 | 1.49575 | 576.954 | 144.573 |
| 270.000 | 0.130005E-01 | 0.385690 | 1.69193 | 445.063 | 1.48249 | 558.306 | 153.177 |
| 280.000 | 0.0 | 0.381894 | 1.73109 | 447.639 | 1.46977 | 537.790 | 166.183 |
| 290.000 | 0.0 | 0.380237 | 1.76965 | 448.229 | 1.45756 | 512.746 | 198.170 |
| 300.000 | 0.135193E-01 | 0.380291 | 1.80806 | 448.248 | 1.44581 | 477.886 | 251.546 |
| 310.000 | 0.0 | 0.386901 | 1.84676 | 446.693 | 1.43451 | 140.904 | 3922.57 |
| 320.000 | 0.0 | 0.389530 | 1.88558 | 446.483 | 1.42361 | 141.049 | 3900.98 |
| 330.000 | 0.0 | 0.385413 | 1.92404 | 447.144 | 1.41309 | 140.923 | 3878.86 |
| 340.000 | 0.0 | 0.398031 | 1.96289 | 443.597 | 1.40294 | 140.893 | 3857.87 |
| 350.000 | 0.0 | 0.390050 | 2.00161 | 445.904 | 1.39311 | 140.879 | 3837.62 |
| 360.000 | 0.0 | 0.393358 | 2.03983 | 444.155 | 1.38361 | 140.578 | 3816.67 |
| 370.000 | 0.0 | 0.396095 | 2.07787 | 442.613 | 1.37441 | 140.479 | 3797.24 |
| 380.000 | 0.0 | 0.388219 | 2.11562 | 441.570 | 1.36549 | 140.393 | 3778.43 |
| 390.000 | 0.0 | 0.406393 | 2.15481 | 435.059 | 1.35683 | 140.480 | 3760.93 |
| 400.000 | 0.0 | 0.396945 | 2.19468 | 439.144 | 1.34843 | 140.439 | 3743.34 |
| 410.000 | 0.0 | 0.387977 | 2.23394 | 442.378 | 1.34027 | 140.267 | 3725.63 |
| 420.000 | 0.0 | 0.378677 | 2.27241 | 445.484 | 1.33233 | 140.052 | 3708.18 |
| 430.000 | 0.0 | 0.371561 | 2.31068 | 447.964 | 1.32461 | 139.847 | 3691.21 |
| 440.000 | 0.0 | 0.408745 | 2.34968 | 434.569 | 1.31710 | 139.578 | 3674.36 |
| 450.000 | 0.0 | 0.414816 | 2.39249 | 433.232 | 1.30978 | 139.320 | 3657.97 |
| 460.000 | 0.0 | 0.404063 | 2.43405 | 435.229 | 1.30265 | 139.034 | 3641.83 |
| 470.000 | 0.0 | 0.396086 | 2.47455 | 437.257 | 1.29569 | 138.926 | 3626.82 |
| 480.000 | 0.0 | 0.390714 | 2.51478 | 439.253 | 1.28891 | 138.967 | 3612.82 |

HEAT TRANSFER COEFFICIENT

| TIME ( SEC ) | HT1 (W/M**2 K) | HT2 (W/M**2 K) | HT3 (W/M**2 K) | HT4 (W/M**2 K) | HT5 (W/M**2 K) | HT6 (W/M**2 K) | VOID3 ( - ) |
|---|---|---|---|---|---|---|---|
| 0.0 | 6.98589 | 6.97511 | 6.97246 | 44.4438 | 54.2174 | 48.0417 | 0.998424 |
| 10.0000 | 253.327 | 68.6831 | 105.176 | 35.1042 | 16.6990 | 13.6176 | 0.963727 |
| 20.0000 | 2364.77 | 43.6092 | 57.3323 | 51.6586 | 45.3145 | 15.1731 | 0.988366 |
| 30.0000 | 2312.91 | 86.8580 | 70.7254 | 58.7901 | 47.9764 | 38.0469 | 0.934411 |
| 40.0000 | 2271.91 | 95.9626 | 77.0587 | 68.0699 | 59.3690 | 51.8483 | 0.883602 |
| 50.0000 | 2234.87 | 137.190 | 87.9527 | 71.8268 | 61.6557 | 54.8780 | 0.839653 |
| 60.0000 | 2200.87 | 155.628 | 95.2231 | 72.9365 | 60.6739 | 53.4613 | 0.801243 |
| 70.0000 | 2169.82 | 173.662 | 94.0488 | 75.3489 | 63.6954 | 56.7954 | 0.783371 |
| 80.0000 | 2142.46 | 198.389 | 89.6414 | 72.2682 | 58.0334 | 50.2258 | 0.774261 |
| 90.0000 | 2117.79 | 245.645 | 94.7855 | 73.6984 | 60.3875 | 52.5939 | 0.757632 |
| 100.000 | 2095.53 | 3614.05 | 97.2230 | 74.3037 | 60.5097 | 52.8984 | 0.745112 |
| 110.000 | 2075.13 | 3578.88 | 99.0985 | 74.6557 | 59.5109 | 51.2894 | 0.733573 |
| 120.000 | 2056.21 | 3546.24 | 98.5050 | 76.4048 | 62.9613 | 55.5915 | 0.722704 |
| 130.000 | 2055.22 | 3544.54 | 101.168 | 74.2852 | 59.0255 | 51.3205 | 0.709713 |
| 140.000 | 2029.86 | 3500.80 | 101.560 | 76.2584 | 62.8139 | 55.2419 | 0.702013 |
| 150.000 | 2006.68 | 3460.82 | 103.217 | 78.3676 | 65.0121 | 57.5678 | 0.684304 |
| 160.000 | 1985.46 | 3424.23 | 108.993 | 77.5125 | 61.5943 | 53.4170 | 0.660855 |
| 170.000 | 1965.30 | 3389.45 | 111.249 | 78.5221 | 62.1934 | 52.9178 | 0.647042 |
| 180.000 | 1946.22 | 3356.55 | 114.737 | 76.3011 | 63.4038 | 54.8211 | 0.635687 |
| 190.000 | 1929.26 | 3327.29 | 117.452 | 78.3787 | 62.3946 | 53.8164 | 0.619200 |
| 200.000 | 1912.51 | 3298.41 | 122.876 | 75.8285 | 63.3728 | 72.1480 | 0.606580 |
| 210.000 | 1895.52 | 3269.11 | 125.588 | 79.9437 | 67.6596 | 73.5812 | 0.603625 |
| 220.000 | 1880.10 | 3242.52 | 128.391 | 83.7010 | 67.8792 | 66.6832 | 0.594106 |
| 230.000 | 1864.72 | 3215.99 | 133.620 | 79.7475 | 67.6402 | 61.8932 | 0.595830 |
| 240.000 | 1851.59 | 3193.35 | 138.773 | 75.0026 | 59.3160 | 89.5118 | 0.595254 |
| 250.000 | 1838.12 | 3170.11 | 146.623 | 78.7335 | 66.9204 | 63.5237 | 0.582688 |
| 260.000 | 1826.18 | 3149.52 | 158.942 | 85.6560 | 67.0594 | 87.9198 | 0.567707 |
| 270.000 | 1814.11 | 3128.71 | 176.905 | 79.1871 | 66.0004 | 68.5890 | 0.572847 |
| 280.000 | 1803.26 | 3110.00 | 217.318 | 83.5901 | 67.8766 | 63.2873 | 0.559446 |
| 290.000 | 1792.11 | 3090.76 | 3695.48 | 85.0147 | 67.9893 | 61.1765 | 0.561935 |
| 300.000 | 1781.26 | 3072.05 | 3673.11 | 86.1269 | 69.4987 | 61.0133 | 0.560348 |
| 310.000 | 1771.00 | 3054.36 | 3651.96 | 92.3687 | 69.7368 | 76.9586 | 0.559098 |
| 320.000 | 1761.26 | 3037.55 | 3631.86 | 89.0747 | 71.9445 | 65.7926 | 0.556010 |
| 330.000 | 1751.27 | 3020.32 | 3611.26 | 94.2699 | 72.3516 | 63.8436 | 0.559896 |
| 340.000 | 1741.80 | 3003.99 | 3591.73 | 95.8720 | 67.1105 | 57.8961 | 0.565258 |
| 350.000 | 1732.65 | 2988.22 | 3572.88 | 95.1417 | 70.0222 | 61.3902 | 0.560604 |
| 360.000 | 1723.19 | 2971.90 | 3553.36 | 101.427 | 74.2399 | 63.7905 | 0.557743 |
| 370.000 | 1714.42 | 2956.78 | 3535.28 | 108.016 | 74.8804 | 62.5844 | 0.559433 |
| 380.000 | 1705.93 | 2942.13 | 3517.77 | 111.726 | 73.3520 | 64.9348 | 0.555679 |
| 390.000 | 1698.03 | 2928.50 | 3501.47 | 117.096 | 69.9806 | 74.0441 | 0.560055 |
| 400.000 | 1690.08 | 2914.80 | 3485.09 | 122.912 | 69.5456 | 65.0056 | 0.562476 |
| 410.000 | 1682.09 | 2901.01 | 3468.60 | 133.284 | 76.9640 | 65.5101 | 0.553594 |
| 420.000 | 1674.21 | 2887.42 | 3452.36 | 147.882 | 80.1499 | 66.9174 | 0.556180 |
| 430.000 | 1666.54 | 2874.21 | 3436.56 | 178.730 | 77.2656 | 75.1420 | 0.560129 |
| 440.000 | 1658.94 | 2861.10 | 3420.88 | 3105.49 | 76.2353 | 64.4610 | 0.557458 |
| 450.000 | 1651.54 | 2848.33 | 3405.62 | 3091.63 | 80.3775 | 87.6888 | 0.556987 |
| 460.000 | 1644.25 | 2835.76 | 3390.59 | 3077.99 | 80.4391 | 69.4160 | 0.559420 |
| 470.000 | 1637.48 | 2824.08 | 3376.62 | 3065.31 | 85.0947 | 69.2198 | 0.555128 |
| 480.000 | 1631.16 | 2813.17 | 3363.58 | 3053.47 | 24.9941 | 15.9589 | 0.561337 |

HEAT TRANSFER COEFFICIENT

| TIME ( SEC ) | HTP1 (W/M**2 K) | HTP2 (W/M**2 K) | HTP3 (W/M**2 K) | HTP4 (W/M**2 K) | HTP5 (W/M**2 K) | HTP6 (W/M**2 K) | VOID3 ( - ) |
|---|---|---|---|---|---|---|---|
| 0.0 | 6.98401 | 6.97419 | 6.97178 | 44.4385 | 54.2071 | 48.0150 | 0.998424 |
| 10.0000 | 204.229 | 72.2032 | 110.417 | 44.4599 | 26.2877 | 21.5363 | 0.963727 |
| 20.0000 | 2540.00 | 44.2258 | 60.7174 | 56.0280 | 49.5695 | 20.7049 | 0.988366 |
| 30.0000 | 2484.29 | 90.6801 | 74.1070 | 62.1065 | 51.3321 | 41.3853 | 0.934411 |
| 40.0000 | 2440.26 | 98.0523 | 79.2965 | 69.4498 | 60.1023 | 52.6705 | 0.883602 |
| 50.0000 | 2400.47 | 134.734 | 90.1565 | 73.1718 | 62.1392 | 55.2676 | 0.839653 |
| 60.0000 | 2363.95 | 151.200 | 97.4275 | 74.2988 | 60.9809 | 53.5180 | 0.801243 |
| 70.0000 | 2330.60 | 164.060 | 95.9103 | 76.7065 | 64.0474 | 56.8976 | 0.783371 |
| 80.0000 | 2301.22 | 179.928 | 91.3189 | 73.6234 | 58.3102 | 50.1684 | 0.774261 |
| 90.0000 | 2274.72 | 204.128 | 96.5440 | 75.0665 | 60.7235 | 52.5924 | 0.757632 |
| 100.000 | 2250.81 | 269.563 | 98.8940 | 75.6754 | 60.8517 | 52.8947 | 0.745112 |
| 110.000 | 2228.90 | 3844.06 | 100.620 | 76.0291 | 59.8428 | 51.2474 | 0.733573 |
| 120.000 | 2208.57 | 3809.01 | 99.9171 | 77.7497 | 63.3536 | 55.6269 | 0.722704 |
| 130.000 | 2207.52 | 3807.19 | 102.554 | 75.6292 | 59.3920 | 51.2903 | 0.709713 |
| 140.000 | 2180.28 | 3760.21 | 102.700 | 77.5401 | 63.2110 | 55.2591 | 0.702013 |
| 150.000 | 2155.37 | 3717.27 | 104.130 | 79.6473 | 65.4369 | 57.6194 | 0.684304 |
| 160.000 | 2132.59 | 3677.97 | 109.436 | 78.6839 | 61.8983 | 53.3264 | 0.660855 |
| 170.000 | 2110.93 | 3640.61 | 111.498 | 79.6653 | 62.4944 | 52.8315 | 0.647042 |
| 180.000 | 2090.44 | 3605.27 | 114.694 | 77.3583 | 63.7505 | 54.7654 | 0.635687 |
| 190.000 | 2072.21 | 3573.84 | 116.848 | 79.3482 | 62.6389 | 53.7116 | 0.619200 |
| 200.000 | 2054.23 | 3542.82 | 121.462 | 76.6102 | 63.5843 | 73.7470 | 0.606580 |
| 210.000 | 2035.98 | 3511.34 | 123.282 | 80.8555 | 67.9237 | 74.0874 | 0.603625 |
| 220.000 | 2019.42 | 3482.79 | 125.232 | 84.4848 | 68.0571 | 66.6856 | 0.594106 |
| 230.000 | 2002.89 | 3454.29 | 129.119 | 80.5327 | 68.0680 | 62.1102 | 0.595830 |
| 240.000 | 1988.80 | 3429.97 | 132.276 | 75.3027 | 59.2903 | 89.5207 | 0.595254 |
| 250.000 | 1974.32 | 3405.01 | 137.200 | 79.5239 | 67.5788 | 64.8155 | 0.582688 |
| 260.000 | 1961.50 | 3382.90 | 144.573 | 85.8524 | 66.9956 | 87.9300 | 0.567707 |
| 270.000 | 1948.53 | 3360.54 | 153.177 | 79.4152 | 66.1799 | 68.8003 | 0.572847 |
| 280.000 | 1936.89 | 3340.45 | 166.183 | 83.5985 | 67.8698 | 63.3596 | 0.559446 |
| 290.000 | 1924.90 | 3319.79 | 198.170 | 84.7012 | 67.7852 | 60.9923 | 0.561935 |
| 300.000 | 1913.25 | 3299.69 | 251.546 | 85.8174 | 69.5014 | 60.9750 | 0.560348 |
| 310.000 | 1902.24 | 3280.69 | 3922.57 | 91.4761 | 69.3479 | 76.8821 | 0.559098 |
| 320.000 | 1891.77 | 3262.64 | 3900.98 | 88.2399 | 71.6696 | 66.0089 | 0.556010 |
| 330.000 | 1881.04 | 3244.13 | 3878.86 | 92.7850 | 71.8888 | 63.6245 | 0.559896 |
| 340.000 | 1870.86 | 3226.58 | 3857.87 | 93.7343 | 66.4300 | 57.4278 | 0.565258 |
| 350.000 | 1861.04 | 3209.64 | 3837.62 | 93.0638 | 70.0787 | 61.4906 | 0.560604 |
| 360.000 | 1850.88 | 3192.12 | 3816.67 | 98.4039 | 73.6718 | 63.4543 | 0.557743 |
| 370.000 | 1841.46 | 3175.87 | 3797.24 | 103.645 | 73.8982 | 61.9995 | 0.559433 |
| 380.000 | 1832.34 | 3160.14 | 3778.43 | 105.919 | 73.2119 | 64.8581 | 0.555679 |
| 390.000 | 1823.85 | 3145.50 | 3760.93 | 109.462 | 68.6947 | 73.9177 | 0.560055 |
| 400.000 | 1815.32 | 3130.79 | 3743.34 | 112.840 | 69.3066 | 66.0600 | 0.562476 |
| 410.000 | 1806.73 | 3115.97 | 3725.63 | 119.199 | 75.9577 | 65.6983 | 0.553594 |
| 420.000 | 1798.27 | 3101.38 | 3708.18 | 125.427 | 78.5895 | 66.5465 | 0.556180 |
| 430.000 | 1790.04 | 3087.19 | 3691.21 | 132.305 | 75.1077 | 74.9988 | 0.560129 |
| 440.000 | 1781.87 | 3073.10 | 3674.36 | 157.140 | 75.1780 | 64.7636 | 0.557458 |
| 450.000 | 1773.92 | 3059.39 | 3657.97 | 182.775 | 78.2385 | 88.7267 | 0.556987 |
| 460.000 | 1766.09 | 3045.89 | 3641.83 | 299.672 | 78.3424 | 69.4508 | 0.559420 |
| 470.000 | 1758.82 | 3033.34 | 3626.82 | 3292.44 | 82.2203 | 68.6882 | 0.555128 |
| 480.000 | 1752.02 | 3021.62 | 3612.82 | 3279.73 | 32.3873 | 21.7225 | 0.561337 |

VOID FRACTION

| TIME ( SEC ) | VOID1 ( - ) | VOID2 ( - ) | VOID3 ( - ) | VOID4 ( - ) | VOID5 ( - ) | VOID6 ( - ) | MAXPOWER ( KW/M ) |
|---|---|---|---|---|---|---|---|
| 0.0 | 0.999090 | 0.998655 | 0.998424 | 0.996725 | 0.994809 | 0.995550 | 2.08600 |
| 10.0000 | 0.330503 | 0.955601 | 0.963727 | 0.975090 | 1.00000 | 1.00000 | 1.98895 |
| 20.0000 | 0.914582E-01 | 0.791882 | 0.988366 | 0.989052 | 0.991060 | 0.993515 | 1.91494 |
| 30.0000 | 0.154999E-01 | 0.712957 | 0.934411 | 0.952859 | 0.966814 | 0.977318 | 1.85665 |
| 40.0000 | 0.0 | 0.622965 | 0.883602 | 0.917515 | 0.939730 | 0.955708 | 1.80883 |
| 50.0000 | 0.0 | 0.518333 | 0.839653 | 0.896643 | 0.929625 | 0.947600 | 1.76844 |
| 60.0000 | 0.0 | 0.437136 | 0.801243 | 0.889393 | 0.923837 | 0.941389 | 1.73359 |
| 70.0000 | 0.0 | 0.369351 | 0.783371 | 0.884878 | 0.917380 | 0.935759 | 1.70300 |
| 80.0000 | 0.0 | 0.333743 | 0.774261 | 0.893736 | 0.921933 | 0.936399 | 1.67581 |
| 90.0000 | 0.0 | 0.296940 | 0.757632 | 0.890227 | 0.923167 | 0.941022 | 1.65136 |
| 100.000 | 0.0 | 0.269877 | 0.745112 | 0.887539 | 0.921497 | 0.940156 | 1.62919 |
| 110.000 | 0.0 | 0.248900 | 0.733573 | 0.885276 | 0.919806 | 0.938617 | 1.60891 |
| 120.000 | 0.0 | 0.231773 | 0.722704 | 0.880891 | 0.916541 | 0.935744 | 1.59026 |
| 130.000 | 0.0 | 0.226714 | 0.709713 | 0.883843 | 0.921765 | 0.936573 | 1.58954 |
| 140.000 | 0.0 | 0.231807 | 0.702013 | 0.880157 | 0.918641 | 0.936595 | 1.56443 |
| 150.000 | 0.0 | 0.227780 | 0.684304 | 0.871650 | 0.911299 | 0.930469 | 1.54112 |
| 160.000 | 0.0 | 0.228899 | 0.660855 | 0.871114 | 0.913818 | 0.930051 | 1.51939 |
| 170.000 | 0.0 | 0.249440 | 0.647042 | 0.866941 | 0.913798 | 0.932809 | 1.49907 |
| 180.000 | 0.0 | 0.273066 | 0.635687 | 0.867442 | 0.922573 | 0.937028 | 1.48000 |
| 190.000 | 0.0 | 0.253505 | 0.619200 | 0.859819 | 0.916679 | 0.933585 | 1.46204 |
| 200.000 | 0.0 | 0.259851 | 0.606580 | 0.865816 | 0.916253 | 0.935474 | 1.44508 |
| 210.000 | 0.172496E-03 | 0.291820 | 0.603625 | 0.854279 | 0.906687 | 0.924394 | 1.42903 |
| 220.000 | 0.208020E-03 | 0.290520 | 0.594106 | 0.845413 | 0.897803 | 0.917685 | 1.41380 |
| 230.000 | 0.133132E-01 | 0.323153 | 0.595830 | 0.849316 | 0.913287 | 0.927810 | 1.39932 |
| 240.000 | 0.239425E-01 | 0.335852 | 0.595254 | 0.856614 | 0.933288 | 0.944097 | 1.38553 |
| 250.000 | 0.187415E-01 | 0.327175 | 0.582688 | 0.845588 | 0.917989 | 0.935136 | 1.37236 |
| 260.000 | 0.900269E-02 | 0.311112 | 0.567707 | 0.835963 | 0.904284 | 0.923059 | 1.35977 |
| 270.000 | 0.318514E-01 | 0.339052 | 0.572847 | 0.834978 | 0.933615 | 0.935450 | 1.34771 |
| 280.000 | 0.221606E-01 | 0.326926 | 0.559446 | 0.828414 | 0.918858 | 0.932126 | 1.33615 |
| 290.000 | 0.292041E-01 | 0.332687 | 0.561935 | 0.818023 | 0.912820 | 0.928527 | 1.32505 |
| 300.000 | 0.304276E-01 | 0.333313 | 0.560348 | 0.807796 | 0.910396 | 0.929706 | 1.31438 |
| 310.000 | 0.314681E-01 | 0.333098 | 0.559098 | 0.797121 | 0.901414 | 0.922726 | 1.30410 |
| 320.000 | 0.319126E-01 | 0.331409 | 0.556010 | 0.788238 | 0.905914 | 0.921659 | 1.29419 |
| 330.000 | 0.438841E-01 | 0.340523 | 0.559896 | 0.780428 | 0.900511 | 0.919481 | 1.28463 |
| 340.000 | 0.567454E-01 | 0.349812 | 0.565258 | 0.777621 | 0.921023 | 0.933745 | 1.27539 |
| 350.000 | 0.561590E-01 | 0.346685 | 0.560604 | 0.767617 | 0.911747 | 0.932409 | 1.26647 |
| 360.000 | 0.503923E-01 | 0.342372 | 0.557743 | 0.758300 | 0.896441 | 0.918248 | 1.25783 |
| 370.000 | 0.562960E-01 | 0.346474 | 0.559433 | 0.751866 | 0.897168 | 0.914488 | 1.24946 |
| 380.000 | 0.567308E-01 | 0.344001 | 0.555679 | 0.743369 | 0.899324 | 0.917821 | 1.24135 |
| 390.000 | 0.633136E-01 | 0.349329 | 0.560055 | 0.740845 | 0.914752 | 0.928237 | 1.23348 |
| 400.000 | 0.813389E-01 | 0.357466 | 0.562476 | 0.736543 | 0.911590 | 0.936663 | 1.22584 |
| 410.000 | 0.597879E-01 | 0.344149 | 0.553594 | 0.724610 | 0.890258 | 0.915807 | 1.21842 |
| 420.000 | 0.694864E-01 | 0.349723 | 0.556180 | 0.721065 | 0.883458 | 0.909187 | 1.21121 |
| 430.000 | 0.779483E-01 | 0.355364 | 0.560129 | 0.720530 | 0.901447 | 0.915254 | 1.20419 |
| 440.000 | 0.830648E-01 | 0.354936 | 0.557458 | 0.716933 | 0.890903 | 0.919927 | 1.19736 |
| 450.000 | 0.762450E-01 | 0.350958 | 0.556987 | 0.719225 | 0.888826 | 0.892261 | 1.19071 |
| 460.000 | 0.926341E-01 | 0.358750 | 0.559420 | 0.718575 | 0.873202 | 0.911865 | 1.18422 |
| 470.000 | 0.839286E-01 | 0.353544 | 0.555128 | 0.714057 | 0.863116 | 0.904389 | 1.17790 |
| 480.000 | 0.106538 | 0.363129 | 0.561337 | 0.720398 | 0.921089 | 1.00000 | 1.17174 |

MOVEMENT OF BOUNDARIES

| TIME ( SEC ) | LIQ.BOIL ( M ) | QUENCHPT ( M ) | SATURATE ( M ) | TRA-DISP ( M ) | REWETTED ( M ) | LIQ. LEV ( M ) | PRESHEAD ( M ) |
|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 0.0 | 3.66000 | 0.0 | 3.66000 | 0.0 | 0.102166E-01 |
| 10.0000 | 0.297866 | 0.336203 | 0.297866 | 0.370771 | 3.66000 | 3.66000 | 0.466525 |
| 20.0000 | 0.426777 | 0.519774 | 0.426777 | 0.988649 | 3.66000 | 0.988649 | 0.704347 |
| 30.0000 | 0.527369 | 0.588678 | 0.527369 | 0.675232 | 3.66000 | 3.66000 | 0.878486 |
| 40.0000 | 0.603304 | 0.675155 | 0.603304 | 0.694182 | 3.66000 | 3.66000 | 1.02528 |
| 50.0000 | 0.649228 | 0.744234 | 0.649228 | 0.795650 | 3.66000 | 3.66000 | 1.13974 |
| 60.0000 | 0.690321 | 0.803475 | 0.690321 | 0.852774 | 3.66000 | 3.66000 | 1.22442 |
| 70.0000 | 0.726067 | 0.869367 | 0.726067 | 0.870402 | 3.66000 | 3.66000 | 1.28675 |
| 80.0000 | 0.722833 | 0.930238 | 0.722833 | 0.932456 | 3.66000 | 3.66000 | 1.30543 |
| 90.0000 | 0.711033 | 0.980380 | 0.711033 | 0.980380 | 3.66000 | 3.66000 | 1.33659 |
| 100.000 | 0.720355 | 1.02893 | 0.720355 | 1.02893 | 3.66000 | 3.66000 | 1.36392 |
| 110.000 | 0.725228 | 1.07814 | 0.725228 | 1.07814 | 3.66000 | 3.66000 | 1.38711 |
| 120.000 | 0.727990 | 1.12632 | 0.727990 | 1.12632 | 3.66000 | 3.66000 | 1.41061 |
| 130.000 | 0.714894 | 1.16854 | 0.714894 | 1.16854 | 3.66000 | 3.66000 | 1.41613 |
| 140.000 | 0.686542 | 1.21296 | 0.686542 | 1.21296 | 3.66000 | 3.66000 | 1.42189 |
| 150.000 | 0.691151 | 1.25853 | 0.691151 | 1.25853 | 3.66000 | 3.66000 | 1.44852 |
| 160.000 | 0.687541 | 1.30521 | 0.687541 | 1.30521 | 3.66000 | 3.66000 | 1.46119 |
| 170.000 | 0.649453 | 1.34746 | 0.649453 | 1.34746 | 3.66000 | 3.66000 | 1.45798 |
| 180.000 | 0.607601 | 1.38799 | 0.607601 | 1.38799 | 3.66000 | 3.66000 | 1.44226 |
| 190.000 | 0.635359 | 1.42990 | 0.635359 | 1.42990 | 3.66000 | 3.66000 | 1.47458 |
| 200.000 | 0.624301 | 1.47293 | 0.624301 | 3.62465 | 3.66000 | 3.62465 | 1.47387 |
| 210.000 | 0.568652 | 1.51627 | 0.568652 | 1.51627 | 3.66000 | 3.66000 | 1.47560 |
| 220.000 | 0.568801 | 1.55734 | 0.568801 | 1.55734 | 3.66000 | 3.66000 | 1.49710 |
| 230.000 | 0.483419 | 1.59798 | 0.483419 | 1.59798 | 3.66000 | 3.66000 | 1.45015 |
| 240.000 | 0.437197 | 1.63880 | 0.437197 | 1.63880 | 3.66000 | 3.66000 | 1.40968 |
| 250.000 | 0.459856 | 1.67957 | 0.459856 | 1.67957 | 3.66000 | 3.66000 | 1.44734 |
| 260.000 | 0.507572 | 1.72031 | 0.507572 | 1.72031 | 3.66000 | 3.66000 | 1.49381 |
| 270.000 | 0.406624 | 1.76034 | 0.406624 | 1.76034 | 3.66000 | 3.66000 | 1.43484 |
| 280.000 | 0.441978 | 1.80017 | 0.441978 | 1.80017 | 3.66000 | 3.66000 | 1.47136 |
| 290.000 | 0.406669 | 1.84014 | 0.406669 | 1.84014 | 3.66000 | 3.66000 | 1.47425 |
| 300.000 | 0.406880 | 1.87992 | 0.406880 | 1.87992 | 3.66000 | 3.66000 | 1.48109 |
| 310.000 | 0.404566 | 1.91958 | 0.404566 | 1.91958 | 3.66000 | 3.66000 | 1.49760 |
| 320.000 | 0.403131 | 1.96015 | 0.403131 | 1.96015 | 3.66000 | 3.66000 | 1.50356 |
| 330.000 | 0.363570 | 2.00054 | 0.363570 | 2.00054 | 3.66000 | 3.66000 | 1.49772 |
| 340.000 | 0.322771 | 2.04041 | 0.322771 | 2.04041 | 3.66000 | 3.66000 | 1.46143 |
| 350.000 | 0.323265 | 2.07992 | 0.323265 | 2.07992 | 3.66000 | 3.66000 | 1.47911 |
| 360.000 | 0.344572 | 2.11884 | 0.344572 | 2.11884 | 3.66000 | 3.66000 | 1.51067 |
| 370.000 | 0.322792 | 2.15896 | 0.322792 | 2.15896 | 3.66000 | 3.66000 | 1.50931 |
| 380.000 | 0.319748 | 2.19991 | 0.319748 | 2.19991 | 3.66000 | 3.66000 | 1.51468 |
| 390.000 | 0.296531 | 2.24039 | 0.296531 | 2.24039 | 3.66000 | 3.66000 | 1.49051 |
| 400.000 | 0.229774 | 2.28021 | 0.229774 | 2.28021 | 3.66000 | 3.66000 | 1.47249 |
| 410.000 | 0.311057 | 2.31940 | 0.311057 | 2.31940 | 3.66000 | 3.66000 | 1.53219 |
| 420.000 | 0.278113 | 2.36118 | 0.278113 | 2.36118 | 3.66000 | 3.66000 | 1.53165 |
| 430.000 | 0.237797 | 2.40537 | 0.237797 | 2.40537 | 3.66000 | 3.66000 | 1.50629 |
| 440.000 | 0.215141 | 2.44800 | 0.215141 | 2.44800 | 3.66000 | 3.66000 | 1.51083 |
| 450.000 | 0.225467 | 2.48933 | 0.225467 | 2.48933 | 3.66000 | 3.66000 | 1.53445 |
| 460.000 | 0.173184 | 2.53004 | 0.173184 | 2.53004 | 3.66000 | 3.66000 | 1.51619 |
| 470.000 | 0.202050 | 2.57758 | 0.202050 | 2.57758 | 3.66000 | 3.66000 | 1.54076 |
| 480.000 | 0.117968 | 2.61782 | 0.117968 | 2.61782 | 3.66000 | 3.66000 | 1.41972 |

MASS BALANCE IN CORE

| TIME(S) | GLOUT/G(1) | G(N1)/G(1) | MDOT/G(1) |
|---|---|---|---|
| 0.0 | 0.0 | 11.22730 | 1.00000 |
| 10.00000 | 2.40379 | 13.19746 | 0.52019 |
| 20.00000 | 0.0 | 12.10569 | 0.76494 |
| 30.00000 | 1.82382 | 12.76509 | 0.48009 |
| 40.00000 | 0.89386 | 13.10752 | 0.43882 |
| 50.00000 | 1.17749 | 13.45511 | 0.34047 |
| 60.00000 | 1.18839 | 13.79980 | 0.28033 |
| 70.00000 | 1.57634 | 13.93448 | 0.13876 |
| 80.00000 | 1.23414 | 13.81537 | 0.11303 |
| 90.00000 | 1.20748 | 13.77759 | 0.09969 |
| 100.00000 | 1.30730 | 13.80332 | 0.10860 |
| 110.00000 | 1.19429 | 13.80668 | 0.08854 |
| 120.00000 | 1.50389 | 13.58409 | 0.11316 |
| 130.00000 | 1.19288 | 13.61804 | -0.01855 |
| 140.00000 | 1.47638 | 13.48984 | 0.10422 |
| 150.00000 | 1.68472 | 13.41618 | 0.14941 |
| 160.00000 | 1.50564 | 13.62421 | -0.05791 |
| 170.00000 | 0.85856 | 13.49366 | 0.04560 |
| 180.00000 | 1.50623 | 13.39907 | 0.06941 |
| 190.00000 | 1.40933 | 13.49733 | -0.09012 |
| 200.00000 | 0.0 | 13.26860 | 0.35171 |
| 210.00000 | 2.14158 | 13.37549 | 0.08959 |
| 220.00000 | 1.80579 | 13.42572 | 0.06651 |
| 230.00000 | 2.26588 | 13.23077 | -0.36524 |
| 240.00000 | 0.99409 | 13.36114 | -0.22133 |
| 250.00000 | 2.44764 | 13.07439 | 0.18292 |
| 260.00000 | 1.42822 | 13.33631 | -0.09655 |
| 270.00000 | 1.07644 | 13.07092 | 0.13166 |
| 280.00000 | 1.57180 | 13.13963 | 0.05346 |
| 290.00000 | 2.03017 | 13.28077 | -0.24728 |
| 300.00000 | 1.57522 | 13.08498 | 0.19855 |
| 310.00000 | 1.62682 | 13.26310 | -0.07388 |
| 320.00000 | 1.97499 | 13.08142 | 0.09288 |
| 330.00000 | 1.18542 | 13.11504 | -0.00606 |
| 340.00000 | 1.22884 | 13.14434 | -0.23070 |
| 350.00000 | 2.12320 | 12.91135 | 0.15745 |
| 360.00000 | 1.95993 | 12.99083 | 0.20224 |
| 370.00000 | 1.40848 | 13.03629 | -0.30821 |
| 380.00000 | 3.04785 | 12.84585 | 0.16658 |
| 390.00000 | 1.52095 | 12.99344 | -0.82156 |
| 400.00000 | 1.67259 | 12.79467 | 0.26861 |
| 410.00000 | 2.15587 | 12.84149 | 0.11208 |
| 420.00000 | 2.46130 | 12.92841 | 0.08824 |
| 430.00000 | 2.00368 | 12.94161 | -0.95123 |
| 440.00000 | 2.94877 | 12.80770 | 0.24163 |
| 450.00000 | 4.14524 | 12.89349 | -0.47154 |
| 460.00000 | 2.38103 | 12.84733 | 0.13447 |
| 470.00000 | 2.95458 | 12.86857 | -0.30079 |
| 480.00000 | 0.90211 | 12.39501 | -0.03301 |

TEMPERATURE FIELD OF FUEL ROD ( AXIAL NODE = 10 )

| TIME ( SEC ) | TF(R.1) ( DC ) | TF(R.2) ( DC ) | TF(R.3) ( DC ) | TF(R.4) ( DC ) |
|---|---|---|---|---|
| 0.0 | 353.218 | 353.483 | 366.851 | 365.598 |
| 10.0000 | 342.993 | 345.604 | 379.465 | 379.840 |
| 20.0000 | 140.044 | 140.044 | 140.044 | 140.044 |
| 30.0000 | 140.809 | 140.809 | 140.809 | 140.809 |
| 40.0000 | 142.091 | 142.091 | 142.091 | 142.091 |
| 50.0000 | 142.353 | 142.353 | 142.353 | 142.353 |
| 60.0000 | 142.054 | 142.054 | 142.054 | 142.054 |
| 70.0000 | 141.383 | 141.383 | 141.383 | 141.383 |
| 80.0000 | 140.837 | 140.837 | 140.837 | 140.837 |
| 90.0000 | 140.337 | 140.337 | 140.337 | 140.337 |
| 100.000 | 139.954 | 139.954 | 139.954 | 139.954 |
| 110.000 | 139.601 | 139.601 | 139.601 | 139.601 |
| 120.000 | 139.230 | 139.230 | 139.230 | 139.230 |
| 130.000 | 139.114 | 139.114 | 139.114 | 139.114 |
| 140.000 | 138.689 | 138.689 | 138.689 | 138.689 |
| 150.000 | 138.466 | 138.466 | 138.466 | 138.466 |
| 160.000 | 138.451 | 138.451 | 138.451 | 138.451 |
| 170.000 | 138.330 | 138.330 | 138.330 | 138.330 |
| 180.000 | 138.178 | 138.178 | 138.178 | 138.178 |
| 190.000 | 138.485 | 138.485 | 138.485 | 138.485 |
| 200.000 | 138.487 | 138.487 | 138.487 | 138.487 |
| 210.000 | 138.008 | 138.008 | 138.008 | 138.008 |
| 220.000 | 137.876 | 137.876 | 137.876 | 137.876 |
| 230.000 | 137.443 | 137.443 | 137.443 | 137.443 |
| 240.000 | 137.727 | 137.727 | 137.727 | 137.727 |
| 250.000 | 137.587 | 137.587 | 137.587 | 137.587 |
| 260.000 | 137.898 | 137.898 | 137.898 | 137.898 |
| 270.000 | 137.919 | 137.919 | 137.919 | 137.919 |
| 280.000 | 138.286 | 138.286 | 138.286 | 138.286 |
| 290.000 | 138.313 | 138.313 | 138.313 | 138.313 |
| 300.000 | 138.292 | 138.292 | 138.292 | 138.292 |
| 310.000 | 138.371 | 138.371 | 138.371 | 138.371 |
| 320.000 | 138.521 | 138.521 | 138.521 | 138.521 |
| 330.000 | 138.400 | 138.400 | 138.400 | 138.400 |
| 340.000 | 138.374 | 138.374 | 138.374 | 138.374 |
| 350.000 | 138.365 | 138.365 | 138.365 | 138.365 |
| 360.000 | 138.067 | 138.067 | 138.067 | 138.067 |
| 370.000 | 137.972 | 137.972 | 137.972 | 137.972 |
| 380.000 | 137.890 | 137.890 | 137.890 | 137.890 |
| 390.000 | 137.981 | 137.981 | 137.981 | 137.981 |
| 400.000 | 137.944 | 137.944 | 137.944 | 137.944 |
| 410.000 | 137.775 | 137.775 | 137.775 | 137.775 |
| 420.000 | 137.563 | 137.563 | 137.563 | 137.563 |
| 430.000 | 137.361 | 137.361 | 137.361 | 137.361 |
| 440.000 | 137.095 | 137.095 | 137.095 | 137.095 |
| 450.000 | 136.840 | 136.840 | 136.840 | 136.840 |
| 460.000 | 136.557 | 136.557 | 136.557 | 136.557 |
| 470.000 | 136.451 | 136.451 | 136.451 | 136.451 |
| 480.000 | 136.496 | 136.496 | 136.496 | 136.496 |

TEMPERATURE FIELD OF FUEL ROD ( AXIAL NODE = 26 )

| TIME ( SEC ) | TF(R.1) ( DC ) | TF(R.2) ( DC ) | TF(R.3) ( DC ) | TF(R.4) ( DC ) |
|---|---|---|---|---|
| 0.0 | 577.643 | 578.130 | 607.953 | 603.570 |
| 10.0000 | 589.376 | 591.143 | 637.666 | 635.746 |
| 20.0000 | 599.285 | 601.141 | 649.919 | 648.760 |
| 30.0000 | 601.574 | 603.733 | 656.138 | 655.712 |
| 40.0000 | 600.682 | 603.003 | 657.364 | 657.435 |
| 50.0000 | 587.210 | 590.229 | 652.504 | 653.746 |
| 60.0000 | 563.668 | 566.976 | 634.281 | 636.578 |
| 70.0000 | 537.830 | 541.328 | 610.304 | 612.974 |
| 80.0000 | 507.896 | 511.621 | 582.290 | 585.224 |
| 90.0000 | 471.242 | 475.392 | 549.295 | 552.545 |
| 100.000 | 141.709 | 141.709 | 141.709 | 141.709 |
| 110.000 | 141.352 | 141.352 | 141.352 | 141.352 |
| 120.000 | 140.977 | 140.977 | 140.977 | 140.977 |
| 130.000 | 140.860 | 140.860 | 140.860 | 140.860 |
| 140.000 | 140.429 | 140.429 | 140.429 | 140.429 |
| 150.000 | 140.200 | 140.200 | 140.200 | 140.200 |
| 160.000 | 140.179 | 140.179 | 140.179 | 140.179 |
| 170.000 | 140.052 | 140.052 | 140.052 | 140.052 |
| 180.000 | 139.895 | 139.895 | 139.895 | 139.895 |
| 190.000 | 140.196 | 140.196 | 140.196 | 140.196 |
| 200.000 | 140.193 | 140.193 | 140.193 | 140.193 |
| 210.000 | 139.710 | 139.710 | 139.710 | 139.710 |
| 220.000 | 139.574 | 139.574 | 139.574 | 139.574 |
| 230.000 | 139.138 | 139.138 | 139.138 | 139.138 |
| 240.000 | 139.417 | 139.417 | 139.417 | 139.417 |
| 250.000 | 139.273 | 139.273 | 139.273 | 139.273 |
| 260.000 | 139.579 | 139.579 | 139.579 | 139.579 |
| 270.000 | 139.596 | 139.596 | 139.596 | 139.596 |
| 280.000 | 139.959 | 139.959 | 139.959 | 139.959 |
| 290.000 | 139.983 | 139.983 | 139.983 | 139.983 |
| 300.000 | 139.958 | 139.958 | 139.958 | 139.958 |
| 310.000 | 140.033 | 140.033 | 140.033 | 140.033 |
| 320.000 | 140.180 | 140.180 | 140.180 | 140.180 |
| 330.000 | 140.056 | 140.056 | 140.056 | 140.056 |
| 340.000 | 140.028 | 140.028 | 140.028 | 140.028 |
| 350.000 | 140.015 | 140.015 | 140.015 | 140.015 |
| 360.000 | 139.715 | 139.715 | 139.715 | 139.715 |
| 370.000 | 139.617 | 139.617 | 139.617 | 139.617 |
| 380.000 | 139.533 | 139.533 | 139.533 | 139.533 |
| 390.000 | 139.621 | 139.621 | 139.621 | 139.621 |
| 400.000 | 139.582 | 139.582 | 139.582 | 139.582 |
| 410.000 | 139.411 | 139.411 | 139.411 | 139.411 |
| 420.000 | 139.196 | 139.196 | 139.196 | 139.196 |
| 430.000 | 138.992 | 138.992 | 138.992 | 138.992 |
| 440.000 | 138.725 | 138.725 | 138.725 | 138.725 |
| 450.000 | 138.468 | 138.468 | 138.468 | 138.468 |
| 460.000 | 138.183 | 138.183 | 138.183 | 138.183 |
| 470.000 | 138.075 | 138.075 | 138.075 | 138.075 |
| 480.000 | 138.118 | 138.118 | 138.118 | 138.118 |

TEMPERATURE FIELD OF FUEL ROD ( AXIAL NODE = 46 )

| TIME ( SEC ) | TF(R.1) ( DC ) | TF(R.2) ( DC ) | TF(R.3) ( DC ) | TF(R.4) ( DC ) |
|---|---|---|---|---|
| 0.0 | 720.308 | 720.911 | 726.786 | 720.470 |
| 10.0000 | 746.272 | 750.013 | 760.387 | 757.834 |
| 20.0000 | 764.020 | 766.068 | 775.340 | 773.259 |
| 30.0000 | 773.771 | 776.109 | 785.935 | 784.673 |
| 40.0000 | 779.475 | 781.973 | 792.124 | 791.554 |
| 50.0000 | 779.130 | 781.887 | 792.613 | 792.863 |
| 60.0000 | 772.889 | 775.825 | 787.010 | 788.043 |
| 70.0000 | 765.642 | 768.516 | 779.476 | 780.434 |
| 80.0000 | 759.287 | 762.039 | 772.661 | 773.453 |
| 90.0000 | 752.498 | 755.321 | 765.993 | 766.875 |
| 100.000 | 744.296 | 747.172 | 757.960 | 759.054 |
| 110.000 | 735.091 | 737.992 | 748.850 | 750.152 |
| 120.000 | 725.450 | 728.303 | 739.010 | 740.255 |
| 130.000 | 715.554 | 718.441 | 729.233 | 730.519 |
| 140.000 | 704.872 | 707.729 | 718.400 | 719.681 |
| 150.000 | 693.870 | 696.723 | 707.330 | 708.627 |
| 160.000 | 681.951 | 684.861 | 695.511 | 696.869 |
| 170.000 | 669.415 | 672.335 | 682.970 | 684.360 |
| 180.000 | 656.253 | 659.198 | 669.865 | 671.335 |
| 190.000 | 642.698 | 645.643 | 656.267 | 657.735 |
| 200.000 | 628.160 | 631.139 | 641.845 | 643.418 |
| 210.000 | 612.970 | 615.972 | 626.720 | 628.373 |
| 220.000 | 597.896 | 600.884 | 611.563 | 613.173 |
| 230.000 | 581.468 | 584.492 | 595.262 | 596.955 |
| 240.000 | 564.586 | 567.627 | 578.428 | 580.083 |
| 250.000 | 546.916 | 550.012 | 560.936 | 562.607 |
| 260.000 | 527.385 | 530.591 | 541.787 | 543.566 |
| 270.000 | 504.949 | 508.324 | 519.943 | 521.895 |
| 280.000 | 476.685 | 480.484 | 493.145 | 495.568 |
| 290.000 | 140.600 | 140.600 | 140.600 | 140.600 |
| 300.000 | 140.573 | 140.573 | 140.573 | 140.573 |
| 310.000 | 140.648 | 140.648 | 140.648 | 140.648 |
| 320.000 | 140.793 | 140.793 | 140.793 | 140.793 |
| 330.000 | 140.668 | 140.668 | 140.668 | 140.668 |
| 340.000 | 140.639 | 140.639 | 140.639 | 140.639 |
| 350.000 | 140.625 | 140.625 | 140.625 | 140.625 |
| 360.000 | 140.324 | 140.324 | 140.324 | 140.324 |
| 370.000 | 140.225 | 140.225 | 140.225 | 140.225 |
| 380.000 | 140.140 | 140.140 | 140.140 | 140.140 |
| 390.000 | 140.227 | 140.227 | 140.227 | 140.227 |
| 400.000 | 140.187 | 140.187 | 140.187 | 140.187 |
| 410.000 | 140.015 | 140.015 | 140.015 | 140.015 |
| 420.000 | 139.800 | 139.800 | 139.800 | 139.800 |
| 430.000 | 139.595 | 139.595 | 139.595 | 139.595 |
| 440.000 | 139.327 | 139.327 | 139.327 | 139.327 |
| 450.000 | 139.069 | 139.069 | 139.069 | 139.069 |
| 460.000 | 138.784 | 138.784 | 138.784 | 138.784 |
| 470.000 | 138.675 | 138.675 | 138.675 | 138.675 |
| 480.000 | 138.718 | 138.718 | 138.718 | 138.718 |

TEMPERATURE FIELD OF FUEL ROD ( AXIAL NODE = 61 )

| TIME ( SEC ) | TF(R.1) ( DC ) | TF(R.2) ( DC ) | TF(R.3) ( DC ) | TF(R.4) ( DC ) |
|---|---|---|---|---|
| 0.0 | 625.444 | 625.977 | 659.538 | 654.369 |
| 10.0000 | 651.751 | 654.133 | 698.675 | 694.970 |
| 20.0000 | 672.065 | 673.671 | 722.298 | 719.844 |
| 30.0000 | 690.369 | 692.148 | 741.848 | 739.704 |
| 40.0000 | 698.048 | 700.069 | 753.984 | 752.792 |
| 50.0000 | 703.001 | 705.120 | 760.603 | 759.904 |
| 60.0000 | 706.354 | 708.511 | 764.584 | 764.181 |
| 70.0000 | 707.934 | 710.144 | 766.598 | 766.413 |
| 80.0000 | 709.889 | 712.035 | 767.620 | 767.482 |
| 90.0000 | 711.109 | 713.276 | 768.526 | 768.437 |
| 100.000 | 711.253 | 713.430 | 768.648 | 768.678 |
| 110.000 | 710.566 | 712.750 | 767.891 | 768.028 |
| 120.000 | 708.803 | 711.018 | 766.327 | 766.591 |
| 130.000 | 707.570 | 709.741 | 764.647 | 764.885 |
| 140.000 | 705.712 | 707.912 | 762.599 | 762.911 |
| 150.000 | 702.337 | 704.573 | 759.461 | 759.935 |
| 160.000 | 698.620 | 700.833 | 755.273 | 755.822 |
| 170.000 | 695.095 | 697.307 | 751.116 | 751.658 |
| 180.000 | 692.590 | 694.737 | 747.202 | 747.638 |
| 190.000 | 688.144 | 690.327 | 743.095 | 743.678 |
| 200.000 | 683.158 | 685.317 | 738.004 | 738.683 |
| 210.000 | 679.233 | 681.415 | 733.313 | 733.918 |
| 220.000 | 672.580 | 674.825 | 727.416 | 728.218 |
| 230.000 | 667.137 | 669.295 | 720.744 | 721.484 |
| 240.000 | 663.966 | 666.008 | 715.529 | 716.057 |
| 250.000 | 660.382 | 662.470 | 711.685 | 712.179 |
| 260.000 | 652.886 | 655.102 | 706.029 | 706.849 |
| 270.000 | 648.302 | 650.374 | 699.433 | 700.100 |
| 280.000 | 642.447 | 644.584 | 693.777 | 694.470 |
| 290.000 | 634.733 | 636.907 | 686.793 | 687.670 |
| 300.000 | 627.871 | 630.021 | 679.253 | 680.101 |
| 310.000 | 619.434 | 621.672 | 671.396 | 672.339 |
| 320.000 | 612.420 | 614.582 | 663.287 | 664.153 |
| 330.000 | 603.303 | 605.523 | 654.802 | 655.799 |
| 340.000 | 594.438 | 596.675 | 645.628 | 646.608 |
| 350.000 | 585.812 | 588.010 | 636.372 | 637.335 |
| 360.000 | 575.672 | 577.945 | 626.869 | 627.945 |
| 370.000 | 564.075 | 566.421 | 615.913 | 617.114 |
| 380.000 | 551.885 | 554.272 | 603.984 | 605.246 |
| 390.000 | 538.144 | 540.587 | 590.808 | 592.175 |
| 400.000 | 524.318 | 526.795 | 576.938 | 578.301 |
| 410.000 | 508.382 | 510.961 | 561.910 | 563.375 |
| 420.000 | 489.937 | 492.658 | 544.825 | 546.434 |
| 430.000 | 465.992 | 469.042 | 524.306 | 526.252 |
| 440.000 | 138.997 | 138.997 | 138.997 | 138.997 |
| 450.000 | 138.739 | 138.739 | 138.739 | 138.739 |
| 460.000 | 138.454 | 138.454 | 138.454 | 138.454 |
| 470.000 | 138.346 | 138.346 | 138.346 | 138.346 |
| 480.000 | 138.389 | 138.389 | 138.389 | 138.389 |

TEMPERATURE FIELD OF FUEL ROD ( AXIAL NODE = 76 )

| TIME ( SEC ) | TF(R.1) ( DC ) | TF(R.2) ( DC ) | TF(R.3) ( DC ) | TF(R.4) ( DC ) |
|---|---|---|---|---|
| 0.0 | 446.371 | 446.731 | 466.626 | 464.360 |
| 10.0000 | 467.189 | 468.358 | 493.145 | 491.417 |
| 20.0000 | 482.780 | 483.788 | 511.450 | 510.203 |
| 30.0000 | 498.286 | 499.355 | 527.181 | 526.011 |
| 40.0000 | 505.062 | 506.343 | 537.363 | 536.693 |
| 50.0000 | 510.917 | 512.242 | 543.703 | 543.177 |
| 60.0000 | 515.514 | 516.846 | 548.709 | 548.333 |
| 70.0000 | 518.798 | 520.179 | 552.284 | 551.993 |
| 80.0000 | 523.310 | 524.603 | 555.669 | 555.338 |
| 90.0000 | 526.977 | 528.304 | 559.249 | 558.931 |
| 100.000 | 529.675 | 531.006 | 562.132 | 561.901 |
| 110.000 | 531.828 | 533.153 | 564.242 | 564.065 |
| 120.000 | 532.531 | 533.913 | 565.579 | 565.519 |
| 130.000 | 534.342 | 535.666 | 566.746 | 566.625 |
| 140.000 | 534.973 | 536.346 | 567.607 | 567.553 |
| 150.000 | 533.864 | 535.282 | 567.174 | 567.272 |
| 160.000 | 533.690 | 535.051 | 566.192 | 566.265 |
| 170.000 | 533.141 | 534.528 | 565.572 | 565.654 |
| 180.000 | 532.781 | 534.150 | 564.782 | 564.869 |
| 190.000 | 531.144 | 532.494 | 563.065 | 563.219 |
| 200.000 | 528.787 | 530.213 | 561.044 | 561.260 |
| 210.000 | 525.934 | 527.357 | 558.306 | 558.580 |
| 220.000 | 522.448 | 523.879 | 554.905 | 555.232 |
| 230.000 | 520.155 | 521.556 | 551.676 | 551.926 |
| 240.000 | 519.321 | 520.594 | 549.430 | 549.577 |
| 250.000 | 516.614 | 517.990 | 547.543 | 547.774 |
| 260.000 | 512.830 | 514.221 | 544.117 | 544.443 |
| 270.000 | 510.548 | 511.896 | 540.888 | 541.123 |
| 280.000 | 507.512 | 508.881 | 538.024 | 538.303 |
| 290.000 | 504.007 | 505.358 | 534.438 | 534.756 |
| 300.000 | 500.700 | 502.075 | 530.993 | 531.297 |
| 310.000 | 496.487 | 497.865 | 526.971 | 527.334 |
| 320.000 | 492.402 | 493.795 | 522.728 | 523.088 |
| 330.000 | 488.037 | 489.428 | 518.242 | 518.614 |
| 340.000 | 485.001 | 486.309 | 514.135 | 514.429 |
| 350.000 | 482.076 | 483.403 | 510.989 | 511.256 |
| 360.000 | 477.346 | 478.729 | 506.964 | 507.330 |
| 370.000 | 472.394 | 473.781 | 502.020 | 502.418 |
| 380.000 | 468.965 | 470.307 | 497.649 | 497.959 |
| 390.000 | 464.521 | 465.824 | 493.140 | 493.497 |
| 400.000 | 462.584 | 463.848 | 489.930 | 490.141 |
| 410.000 | 458.119 | 459.479 | 486.539 | 486.865 |
| 420.000 | 452.297 | 453.698 | 481.367 | 481.794 |
| 430.000 | 446.989 | 448.356 | 475.651 | 476.063 |
| 440.000 | 443.781 | 445.094 | 471.227 | 471.519 |
| 450.000 | 438.181 | 439.561 | 466.523 | 466.925 |
| 460.000 | 433.963 | 435.307 | 461.541 | 461.879 |
| 470.000 | 428.417 | 429.808 | 456.452 | 456.848 |
| 480.000 | 435.212 | 435.835 | 454.110 | 453.674 |

TEMPERATURE FIELD OF FUEL ROD ( AXIAL NODE = 10 )

| TIME ( SEC ) | TFP(R.1) ( DC ) | TFP(R.2) ( DC ) | TFP(R.3) ( DC ) | TFP(R.4) ( DC ) |
|---|---|---|---|---|
| 0.0 | 375.052 | 375.340 | 390.175 | 388.686 |
| 10.0000 | 368.015 | 370.448 | 404.930 | 405.116 |
| 20.0000 | 140.266 | 140.266 | 140.266 | 140.266 |
| 30.0000 | 141.028 | 141.028 | 141.028 | 141.028 |
| 40.0000 | 142.309 | 142.309 | 142.309 | 142.309 |
| 50.0000 | 142.569 | 142.569 | 142.569 | 142.569 |
| 60.0000 | 142.270 | 142.270 | 142.270 | 142.270 |
| 70.0000 | 141.597 | 141.597 | 141.597 | 141.597 |
| 80.0000 | 141.051 | 141.051 | 141.051 | 141.051 |
| 90.0000 | 140.550 | 140.550 | 140.550 | 140.550 |
| 100.000 | 140.166 | 140.166 | 140.166 | 140.166 |
| 110.000 | 139.813 | 139.813 | 139.813 | 139.813 |
| 120.000 | 139.442 | 139.442 | 139.442 | 139.442 |
| 130.000 | 139.325 | 139.325 | 139.325 | 139.325 |
| 140.000 | 138.900 | 138.900 | 138.900 | 138.900 |
| 150.000 | 138.676 | 138.676 | 138.676 | 138.676 |
| 160.000 | 138.660 | 138.660 | 138.660 | 138.660 |
| 170.000 | 138.539 | 138.539 | 138.539 | 138.539 |
| 180.000 | 138.386 | 138.386 | 138.386 | 138.386 |
| 190.000 | 138.692 | 138.692 | 138.692 | 138.692 |
| 200.000 | 138.693 | 138.693 | 138.693 | 138.693 |
| 210.000 | 138.214 | 138.214 | 138.214 | 138.214 |
| 220.000 | 138.082 | 138.082 | 138.082 | 138.082 |
| 230.000 | 137.648 | 137.648 | 137.648 | 137.648 |
| 240.000 | 137.931 | 137.931 | 137.931 | 137.931 |
| 250.000 | 137.792 | 137.792 | 137.792 | 137.792 |
| 260.000 | 138.101 | 138.101 | 138.101 | 138.101 |
| 270.000 | 138.122 | 138.122 | 138.122 | 138.122 |
| 280.000 | 138.488 | 138.488 | 138.488 | 138.488 |
| 290.000 | 138.515 | 138.515 | 138.515 | 138.515 |
| 300.000 | 138.493 | 138.493 | 138.493 | 138.493 |
| 310.000 | 138.572 | 138.572 | 138.572 | 138.572 |
| 320.000 | 138.722 | 138.722 | 138.722 | 138.722 |
| 330.000 | 138.600 | 138.600 | 138.600 | 138.600 |
| 340.000 | 138.574 | 138.574 | 138.574 | 138.574 |
| 350.000 | 138.564 | 138.564 | 138.564 | 138.564 |
| 360.000 | 138.266 | 138.266 | 138.266 | 138.266 |
| 370.000 | 138.171 | 138.171 | 138.171 | 138.171 |
| 380.000 | 138.089 | 138.089 | 138.089 | 138.089 |
| 390.000 | 138.180 | 138.180 | 138.180 | 138.180 |
| 400.000 | 138.142 | 138.142 | 138.142 | 138.142 |
| 410.000 | 137.973 | 137.973 | 137.973 | 137.973 |
| 420.000 | 137.761 | 137.761 | 137.761 | 137.761 |
| 430.000 | 137.558 | 137.558 | 137.558 | 137.558 |
| 440.000 | 137.293 | 137.293 | 137.293 | 137.293 |
| 450.000 | 137.037 | 137.037 | 137.037 | 137.037 |
| 460.000 | 136.753 | 136.753 | 136.753 | 136.753 |
| 470.000 | 136.648 | 136.648 | 136.648 | 136.648 |
| 480.000 | 136.693 | 136.693 | 136.693 | 136.693 |

TEMPERATURE FIELD OF FUEL ROD ( AXIAL NODE = 26 )

| TIME ( SEC ) | TFP(R.1) ( DC ) | TFP(R.2) ( DC ) | TFP(R.3) ( DC ) | TFP(R.4) ( DC ) |
|---|---|---|---|---|
| 0.0 | 619.087 | 619.614 | 652.669 | 647.610 |
| 10.0000 | 630.117 | 632.087 | 684.421 | 682.283 |
| 20.0000 | 640.378 | 642.409 | 696.842 | 695.554 |
| 30.0000 | 641.152 | 643.551 | 702.578 | 702.221 |
| 40.0000 | 639.756 | 642.292 | 702.976 | 703.130 |
| 50.0000 | 626.601 | 629.789 | 697.785 | 699.081 |
| 60.0000 | 603.154 | 606.618 | 679.725 | 682.158 |
| 70.0000 | 578.463 | 582.061 | 656.241 | 658.997 |
| 80.0000 | 551.541 | 555.275 | 629.958 | 632.889 |
| 90.0000 | 520.403 | 524.356 | 600.457 | 603.664 |
| 100.000 | 480.253 | 484.862 | 566.053 | 569.718 |
| 110.000 | 141.606 | 141.606 | 141.606 | 141.606 |
| 120.000 | 141.230 | 141.230 | 141.230 | 141.230 |
| 130.000 | 141.114 | 141.114 | 141.114 | 141.114 |
| 140.000 | 140.682 | 140.682 | 140.682 | 140.682 |
| 150.000 | 140.452 | 140.452 | 140.452 | 140.452 |
| 160.000 | 140.430 | 140.430 | 140.430 | 140.430 |
| 170.000 | 140.302 | 140.302 | 140.302 | 140.302 |
| 180.000 | 140.144 | 140.144 | 140.144 | 140.144 |
| 190.000 | 140.445 | 140.445 | 140.445 | 140.445 |
| 200.000 | 140.441 | 140.441 | 140.441 | 140.441 |
| 210.000 | 139.957 | 139.957 | 139.957 | 139.957 |
| 220.000 | 139.821 | 139.821 | 139.821 | 139.821 |
| 230.000 | 139.384 | 139.384 | 139.384 | 139.384 |
| 240.000 | 139.662 | 139.662 | 139.662 | 139.662 |
| 250.000 | 139.518 | 139.518 | 139.518 | 139.518 |
| 260.000 | 139.823 | 139.823 | 139.823 | 139.823 |
| 270.000 | 139.840 | 139.840 | 139.840 | 139.840 |
| 280.000 | 140.202 | 140.202 | 140.202 | 140.202 |
| 290.000 | 140.225 | 140.225 | 140.225 | 140.225 |
| 300.000 | 140.200 | 140.200 | 140.200 | 140.200 |
| 310.000 | 140.275 | 140.275 | 140.275 | 140.275 |
| 320.000 | 140.421 | 140.421 | 140.421 | 140.421 |
| 330.000 | 140.297 | 140.297 | 140.297 | 140.297 |
| 340.000 | 140.268 | 140.268 | 140.268 | 140.268 |
| 350.000 | 140.255 | 140.255 | 140.255 | 140.255 |
| 360.000 | 139.954 | 139.954 | 139.954 | 139.954 |
| 370.000 | 139.856 | 139.856 | 139.856 | 139.856 |
| 380.000 | 139.772 | 139.772 | 139.772 | 139.772 |
| 390.000 | 139.859 | 139.859 | 139.859 | 139.859 |
| 400.000 | 139.820 | 139.820 | 139.820 | 139.820 |
| 410.000 | 139.648 | 139.648 | 139.648 | 139.648 |
| 420.000 | 139.434 | 139.434 | 139.434 | 139.434 |
| 430.000 | 139.229 | 139.229 | 139.229 | 139.229 |
| 440.000 | 138.962 | 138.962 | 138.962 | 138.962 |
| 450.000 | 138.704 | 138.704 | 138.704 | 138.704 |
| 460.000 | 138.419 | 138.419 | 138.419 | 138.419 |
| 470.000 | 138.311 | 138.311 | 138.311 | 138.311 |
| 480.000 | 138.354 | 138.354 | 138.354 | 138.354 |

TEMPERATURE FIELD OF FUEL ROD ( AXIAL NODE = 46 )

| TIME ( SEC ) | TFP(R.1) ( DC ) | TFP(R.2) ( DC ) | TFP(R.3) ( DC ) | TFP(R.4) ( DC ) |
|---|---|---|---|---|
| 0.0 | 772.306 | 772.963 | 779.384 | 772.030 |
| 10.0000 | 797.395 | 801.545 | 813.134 | 810.483 |
| 20.0000 | 814.870 | 817.140 | 827.422 | 825.189 |
| 30.0000 | 823.632 | 826.202 | 837.090 | 835.808 |
| 40.0000 | 829.193 | 831.894 | 843.041 | 842.442 |
| 50.0000 | 828.643 | 831.614 | 843.353 | 843.657 |
| 60.0000 | 821.807 | 824.970 | 837.187 | 838.381 |
| 70.0000 | 814.049 | 817.143 | 829.080 | 830.171 |
| 80.0000 | 807.380 | 810.345 | 821.897 | 822.789 |
| 90.0000 | 800.205 | 803.251 | 814.848 | 815.851 |
| 100.000 | 791.567 | 794.668 | 806.367 | 807.604 |
| 110.000 | 781.898 | 785.023 | 796.784 | 798.257 |
| 120.000 | 771.839 | 774.911 | 786.505 | 787.908 |
| 130.000 | 761.497 | 764.606 | 776.293 | 777.743 |
| 140.000 | 750.384 | 753.457 | 765.002 | 766.434 |
| 150.000 | 739.026 | 742.090 | 753.555 | 754.995 |
| 160.000 | 726.809 | 729.926 | 741.417 | 742.908 |
| 170.000 | 714.012 | 717.138 | 728.606 | 730.127 |
| 180.000 | 700.560 | 703.710 | 715.203 | 716.809 |
| 190.000 | 686.806 | 689.947 | 701.374 | 702.960 |
| 200.000 | 672.206 | 675.372 | 686.855 | 688.536 |
| 210.000 | 657.129 | 660.307 | 671.801 | 673.545 |
| 220.000 | 642.360 | 645.514 | 656.911 | 658.590 |
| 230.000 | 626.441 | 629.613 | 641.047 | 642.802 |
| 240.000 | 610.456 | 613.616 | 624.992 | 626.702 |
| 250.000 | 594.230 | 597.410 | 608.796 | 610.508 |
| 260.000 | 576.954 | 580.192 | 591.710 | 593.484 |
| 270.000 | 558.306 | 561.611 | 573.296 | 575.114 |
| 280.000 | 537.790 | 541.214 | 553.191 | 555.117 |
| 290.000 | 512.746 | 516.555 | 529.491 | 531.906 |
| 300.000 | 477.886 | 482.250 | 496.571 | 499.596 |
| 310.000 | 140.904 | 140.904 | 140.904 | 140.904 |
| 320.000 | 141.049 | 141.049 | 141.049 | 141.049 |
| 330.000 | 140.923 | 140.923 | 140.923 | 140.923 |
| 340.000 | 140.893 | 140.893 | 140.893 | 140.893 |
| 350.000 | 140.879 | 140.879 | 140.879 | 140.879 |
| 360.000 | 140.578 | 140.578 | 140.578 | 140.578 |
| 370.000 | 140.479 | 140.479 | 140.479 | 140.479 |
| 380.000 | 140.393 | 140.393 | 140.393 | 140.393 |
| 390.000 | 140.480 | 140.480 | 140.480 | 140.480 |
| 400.000 | 140.439 | 140.439 | 140.439 | 140.439 |
| 410.000 | 140.267 | 140.267 | 140.267 | 140.267 |
| 420.000 | 140.052 | 140.052 | 140.052 | 140.052 |
| 430.000 | 139.847 | 139.847 | 139.847 | 139.847 |
| 440.000 | 139.578 | 139.578 | 139.578 | 139.578 |
| 450.000 | 139.320 | 139.320 | 139.320 | 139.320 |
| 460.000 | 139.034 | 139.034 | 139.034 | 139.034 |
| 470.000 | 138.926 | 138.926 | 138.926 | 138.926 |
| 480.000 | 138.967 | 138.967 | 138.967 | 138.967 |

TEMPERATURE FIELD OF FUEL ROD ( AXIAL NODE = 61 )

| TIME ( SEC ) | TFP(R.1) ( DC ) | TFP(R.2) ( DC ) | TFP(R.3) ( DC ) | TFP(R.4) ( DC ) |
|---|---|---|---|---|
| 0.0 | 670.762 | 671.341 | 708.602 | 702.596 |
| 10.0000 | 694.813 | 697.592 | 749.255 | 745.240 |
| 20.0000 | 715.412 | 717.215 | 772.420 | 769.771 |
| 30.0000 | 732.944 | 734.932 | 791.348 | 789.071 |
| 40.0000 | 741.406 | 743.598 | 803.628 | 802.274 |
| 50.0000 | 746.975 | 749.266 | 810.794 | 809.962 |
| 60.0000 | 750.657 | 752.990 | 815.181 | 814.697 |
| 70.0000 | 752.462 | 754.851 | 817.443 | 817.214 |
| 80.0000 | 754.656 | 756.977 | 818.628 | 818.459 |
| 90.0000 | 756.049 | 758.392 | 819.671 | 819.559 |
| 100.000 | 756.288 | 758.642 | 819.869 | 819.893 |
| 110.000 | 755.628 | 757.990 | 819.131 | 819.278 |
| 120.000 | 753.846 | 756.240 | 817.540 | 817.830 |
| 130.000 | 752.582 | 754.929 | 815.829 | 816.096 |
| 140.000 | 750.715 | 753.091 | 813.714 | 814.060 |
| 150.000 | 747.217 | 749.632 | 810.460 | 810.992 |
| 160.000 | 743.379 | 745.767 | 806.085 | 806.705 |
| 170.000 | 739.787 | 742.174 | 801.768 | 802.377 |
| 180.000 | 737.284 | 739.600 | 797.715 | 798.202 |
| 190.000 | 732.696 | 735.048 | 793.458 | 794.112 |
| 200.000 | 727.563 | 729.892 | 788.186 | 788.947 |
| 210.000 | 723.537 | 725.887 | 783.315 | 783.993 |
| 220.000 | 716.649 | 719.065 | 777.201 | 778.100 |
| 230.000 | 711.142 | 713.465 | 770.311 | 771.133 |
| 240.000 | 708.154 | 710.345 | 765.021 | 765.593 |
| 250.000 | 704.474 | 706.725 | 761.162 | 761.705 |
| 260.000 | 696.778 | 699.154 | 755.337 | 756.242 |
| 270.000 | 692.346 | 694.571 | 748.676 | 749.395 |
| 280.000 | 686.488 | 688.779 | 743.014 | 743.766 |
| 290.000 | 678.749 | 681.072 | 735.978 | 736.929 |
| 300.000 | 671.934 | 674.236 | 728.425 | 729.341 |
| 310.000 | 663.481 | 665.868 | 720.532 | 721.551 |
| 320.000 | 656.609 | 658.916 | 712.448 | 713.375 |
| 330.000 | 647.604 | 649.966 | 704.019 | 705.081 |
| 340.000 | 639.031 | 641.400 | 694.993 | 696.025 |
| 350.000 | 630.696 | 633.024 | 685.974 | 686.984 |
| 360.000 | 620.859 | 623.254 | 676.708 | 677.832 |
| 370.000 | 609.755 | 612.210 | 666.108 | 667.351 |
| 380.000 | 598.449 | 600.923 | 654.797 | 656.069 |
| 390.000 | 585.841 | 588.353 | 642.538 | 643.910 |
| 400.000 | 573.601 | 576.123 | 629.931 | 631.286 |
| 410.000 | 559.879 | 562.466 | 616.659 | 618.102 |
| 420.000 | 545.054 | 547.696 | 602.193 | 603.722 |
| 430.000 | 529.046 | 531.752 | 586.666 | 588.261 |
| 440.000 | 510.501 | 513.483 | 570.064 | 571.771 |
| 450.000 | 483.429 | 486.692 | 547.259 | 549.524 |
| 460.000 | 442.758 | 447.156 | 516.847 | 519.952 |
| 470.000 | 138.588 | 138.588 | 138.588 | 138.588 |
| 480.000 | 138.631 | 138.631 | 138.631 | 138.631 |

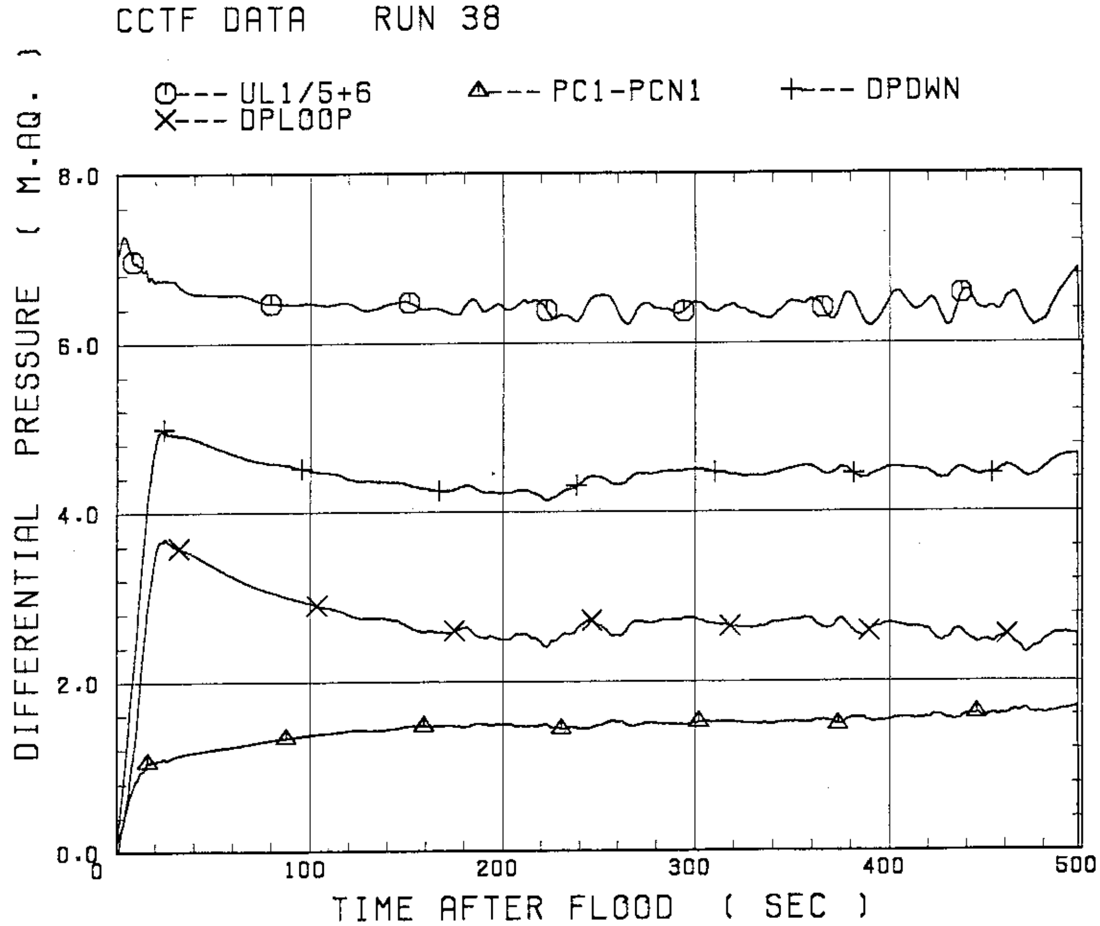
TEMPERATURE FIELD OF FUEL ROD ( AXIAL NODE = 76 )

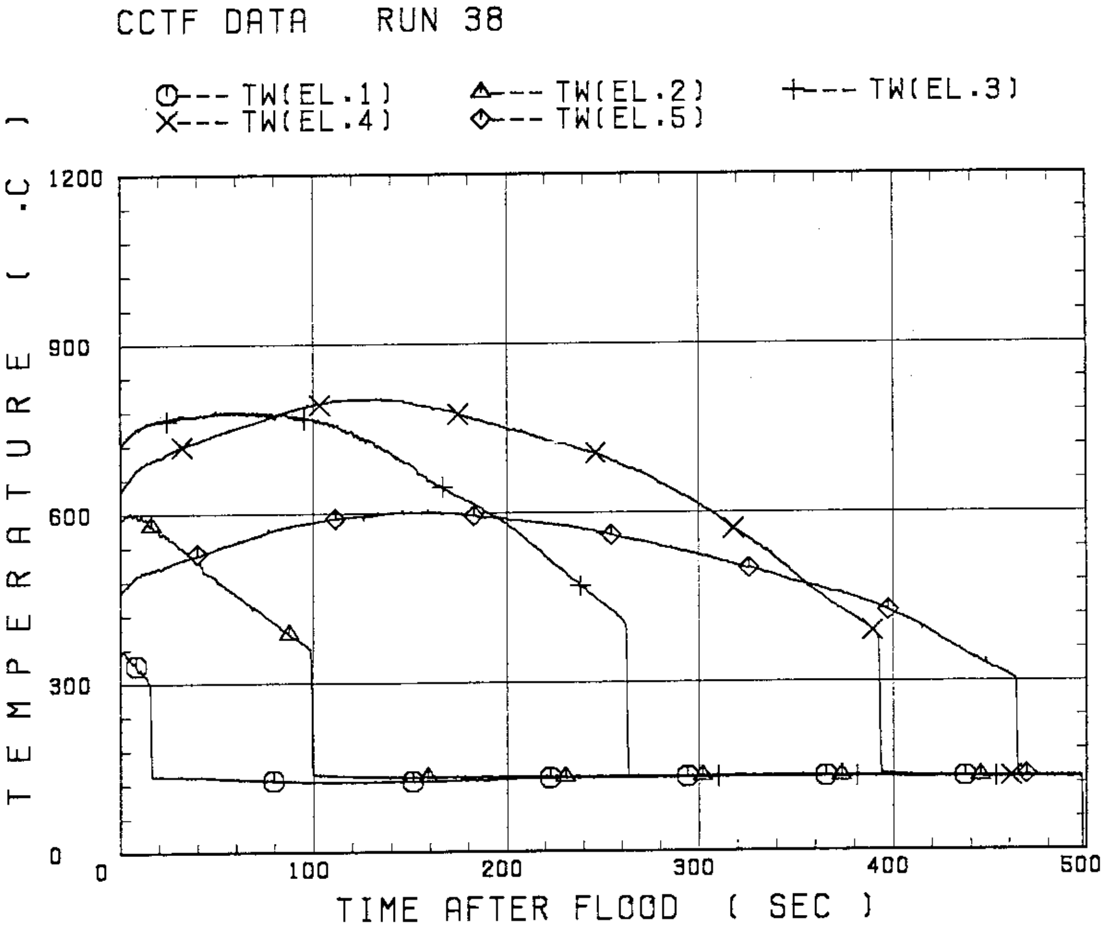
| TIME ( SEC ) | TFP(R.1) ( DC ) | TFP(R.2) ( DC ) | TFP(R.3) ( DC ) | TFP(R.4) ( DC ) |
|---|---|---|---|---|
| 0.0 | 476.489 | 476.878 | 499.039 | 496.385 |
| 10.0000 | 496.157 | 497.612 | 526.735 | 524.860 |
| 20.0000 | 512.231 | 513.366 | 544.829 | 543.466 |
| 30.0000 | 527.414 | 528.623 | 560.288 | 559.021 |
| 40.0000 | 534.903 | 536.290 | 570.713 | 569.936 |
| 50.0000 | 541.633 | 543.058 | 577.740 | 577.090 |
| 60.0000 | 546.868 | 548.298 | 583.424 | 582.953 |
| 70.0000 | 550.677 | 552.161 | 587.558 | 587.185 |
| 80.0000 | 555.839 | 557.227 | 591.486 | 591.066 |
| 90.0000 | 560.037 | 561.463 | 595.605 | 595.202 |
| 100.000 | 563.174 | 564.604 | 598.953 | 598.654 |
| 110.000 | 565.707 | 567.131 | 601.452 | 601.219 |
| 120.000 | 566.653 | 568.137 | 603.105 | 603.011 |
| 130.000 | 568.789 | 570.213 | 604.556 | 604.395 |
| 140.000 | 569.640 | 571.117 | 605.657 | 605.573 |
| 150.000 | 568.578 | 570.104 | 605.353 | 605.453 |
| 160.000 | 568.575 | 570.038 | 604.451 | 604.521 |
| 170.000 | 568.150 | 569.642 | 603.949 | 604.029 |
| 180.000 | 567.910 | 569.382 | 603.249 | 603.338 |
| 190.000 | 566.266 | 567.717 | 601.513 | 601.684 |
| 200.000 | 563.857 | 565.395 | 599.470 | 599.712 |
| 210.000 | 560.924 | 562.454 | 596.654 | 596.966 |
| 220.000 | 557.313 | 558.851 | 593.129 | 593.505 |
| 230.000 | 555.021 | 556.530 | 589.804 | 590.087 |
| 240.000 | 554.331 | 555.698 | 587.544 | 587.704 |
| 250.000 | 551.360 | 552.848 | 585.599 | 585.870 |
| 260.000 | 547.417 | 548.911 | 581.940 | 582.317 |
| 270.000 | 545.151 | 546.604 | 578.638 | 578.900 |
| 280.000 | 542.032 | 543.503 | 575.698 | 576.016 |
| 290.000 | 538.475 | 539.923 | 572.000 | 572.360 |
| 300.000 | 535.094 | 536.573 | 568.493 | 568.835 |
| 310.000 | 530.742 | 532.220 | 564.326 | 564.739 |
| 320.000 | 526.572 | 528.066 | 559.966 | 560.371 |
| 330.000 | 522.092 | 523.584 | 555.354 | 555.771 |
| 340.000 | 519.102 | 520.500 | 551.168 | 551.495 |
| 350.000 | 516.037 | 517.469 | 547.997 | 548.302 |
| 360.000 | 511.087 | 512.572 | 543.772 | 544.188 |
| 370.000 | 506.019 | 507.503 | 538.678 | 539.123 |
| 380.000 | 502.437 | 503.884 | 534.224 | 534.580 |
| 390.000 | 498.021 | 499.409 | 529.566 | 529.957 |
| 400.000 | 496.040 | 497.403 | 526.387 | 526.624 |
| 410.000 | 491.296 | 492.753 | 522.790 | 523.162 |
| 420.000 | 485.457 | 486.950 | 517.516 | 517.983 |
| 430.000 | 480.135 | 481.587 | 511.746 | 512.198 |
| 440.000 | 476.937 | 478.346 | 507.355 | 507.677 |
| 450.000 | 471.347 | 472.807 | 502.575 | 503.011 |
| 460.000 | 467.156 | 468.588 | 497.608 | 497.974 |
| 470.000 | 461.643 | 463.117 | 492.518 | 492.945 |
| 480.000 | 467.656 | 468.436 | 489.983 | 489.591 |

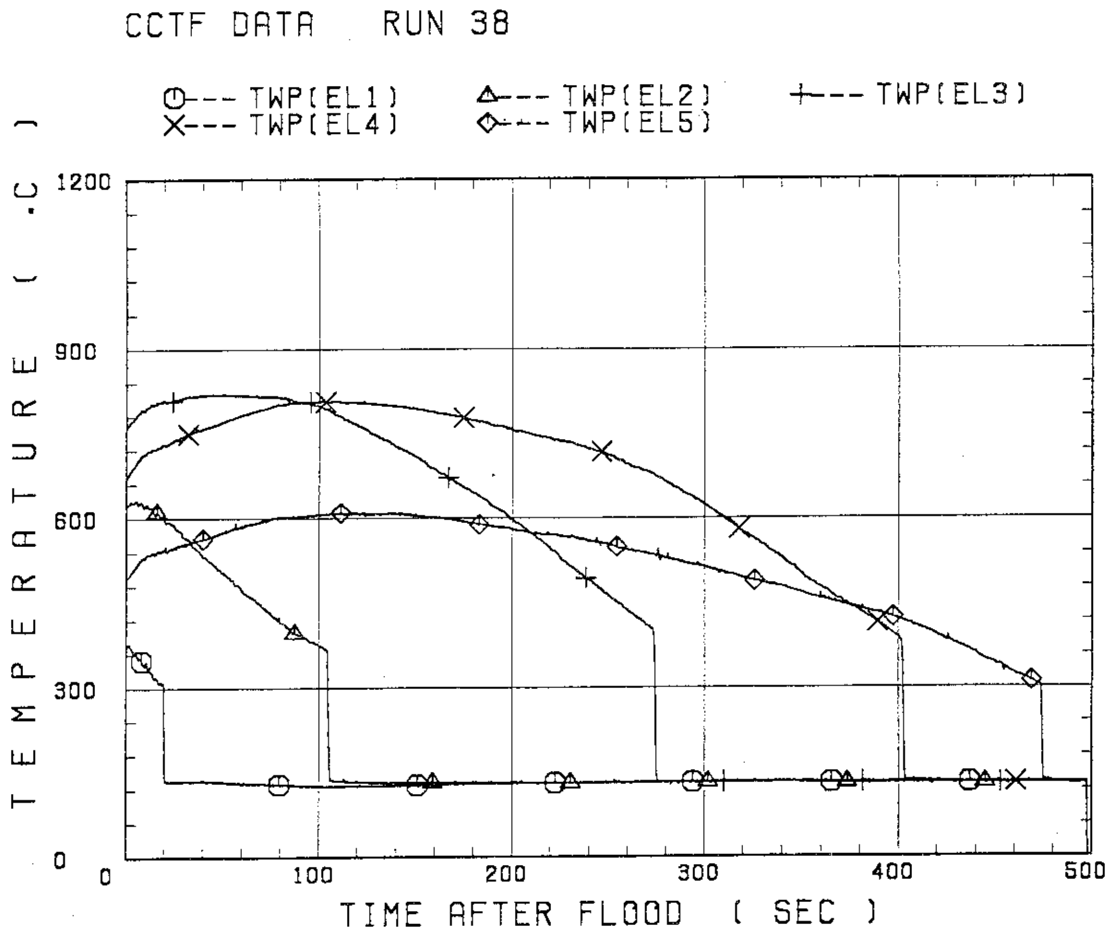
***** CPLOT START NPRINT= 961 *****

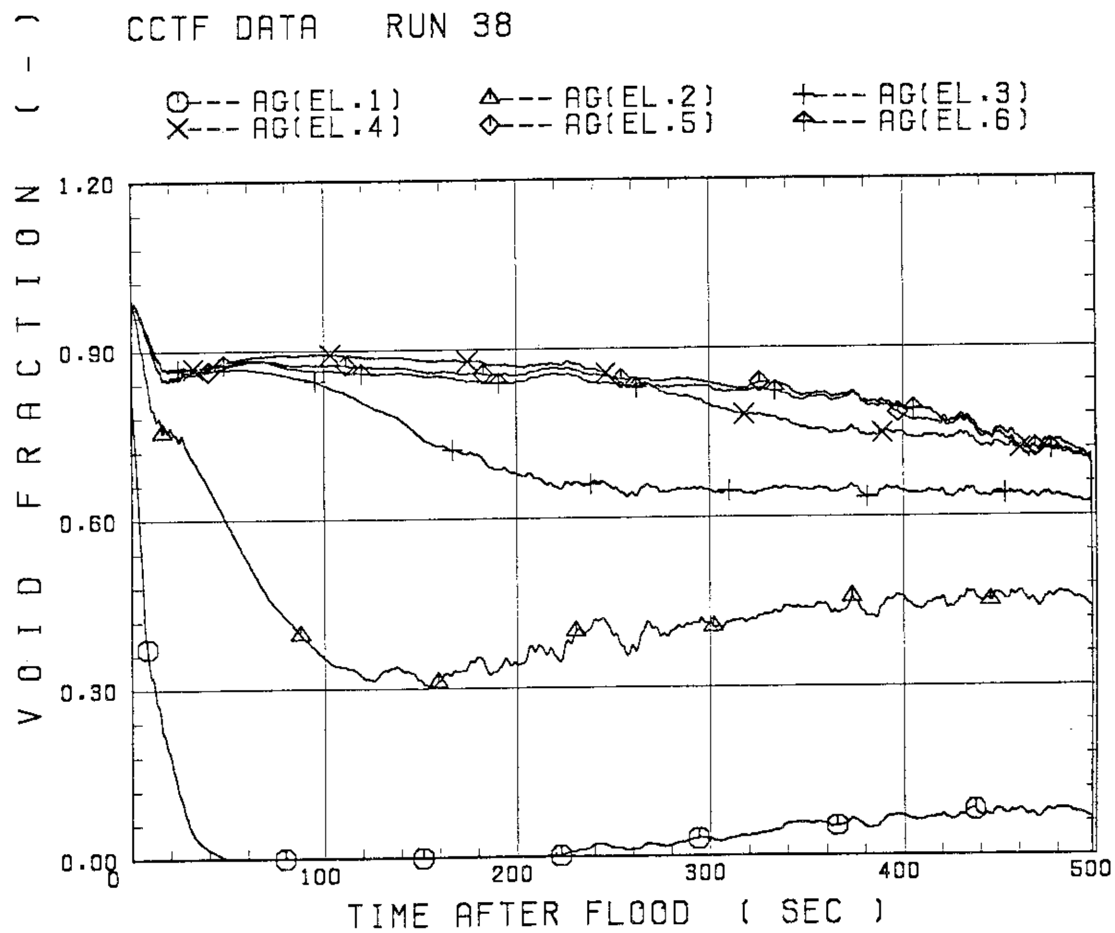
```
TE18Z11
TE18Z12
TE18Z13
TE18Z14
TE18Z15
TE17Y11
TE17Y12
TE17Y13
TE17Y14
TE17Y15
ITAG = TE17Y13  IELV = 3 ELV =     1.8300
ITAG = TE17Y14  IELV = 4 ELV =     2.4400
ITAG = TE18Z13  IELV = 3 ELV =     1.8300
ITAG = TE18Z14  IELV = 4 ELV =     2.4400
ITAG = TE17Y11  IELV = 1 ELV =     0.3800
ITAG = TE17Y12  IELV = 2 ELV =     1.0150
ITAG = TE17Y15  IELV = 5 ELV =     3.0500
ITAG = TE18Z11  IELV = 1 ELV =     0.3800
ITAG = TE18Z12  IELV = 2 ELV =     1.0150
ITAG = TE18Z15  IELV = 5 ELV =     3.0500
```

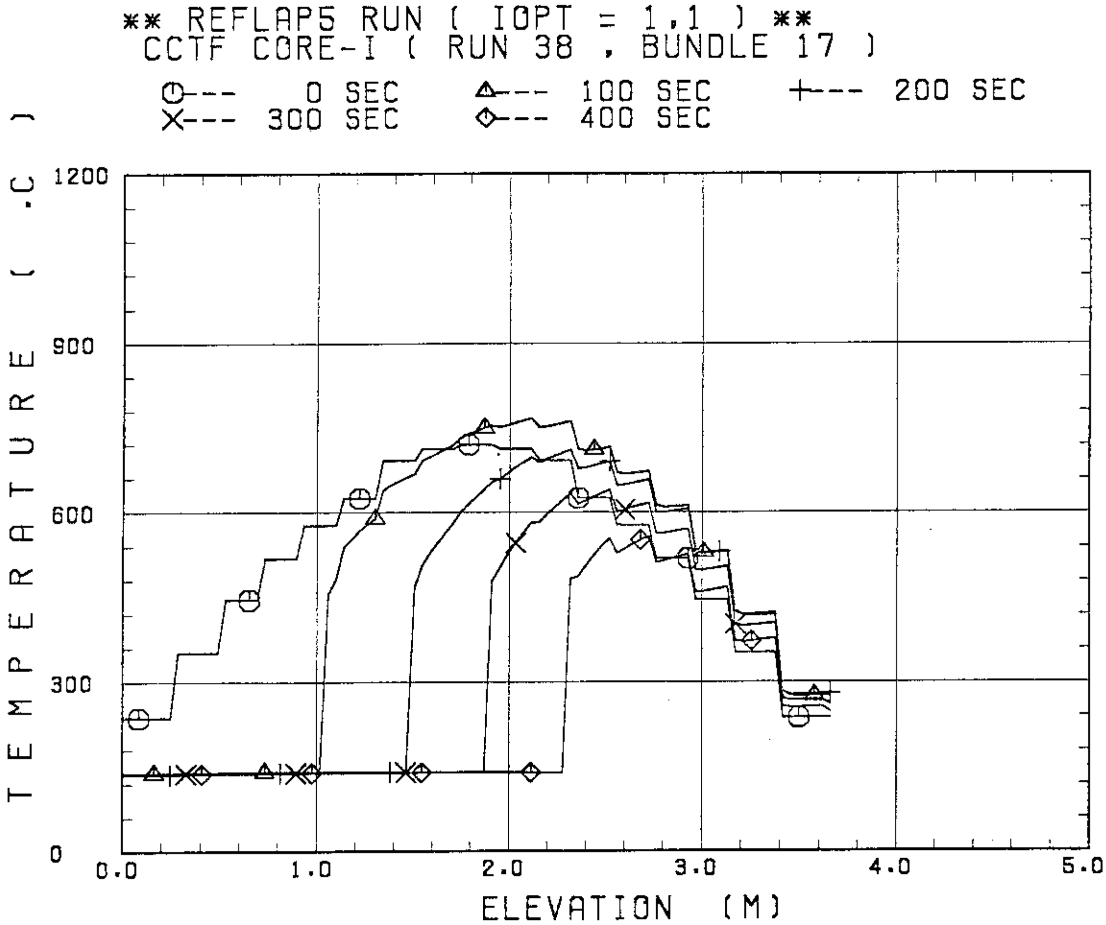
付録C　サンプル試験結果－2

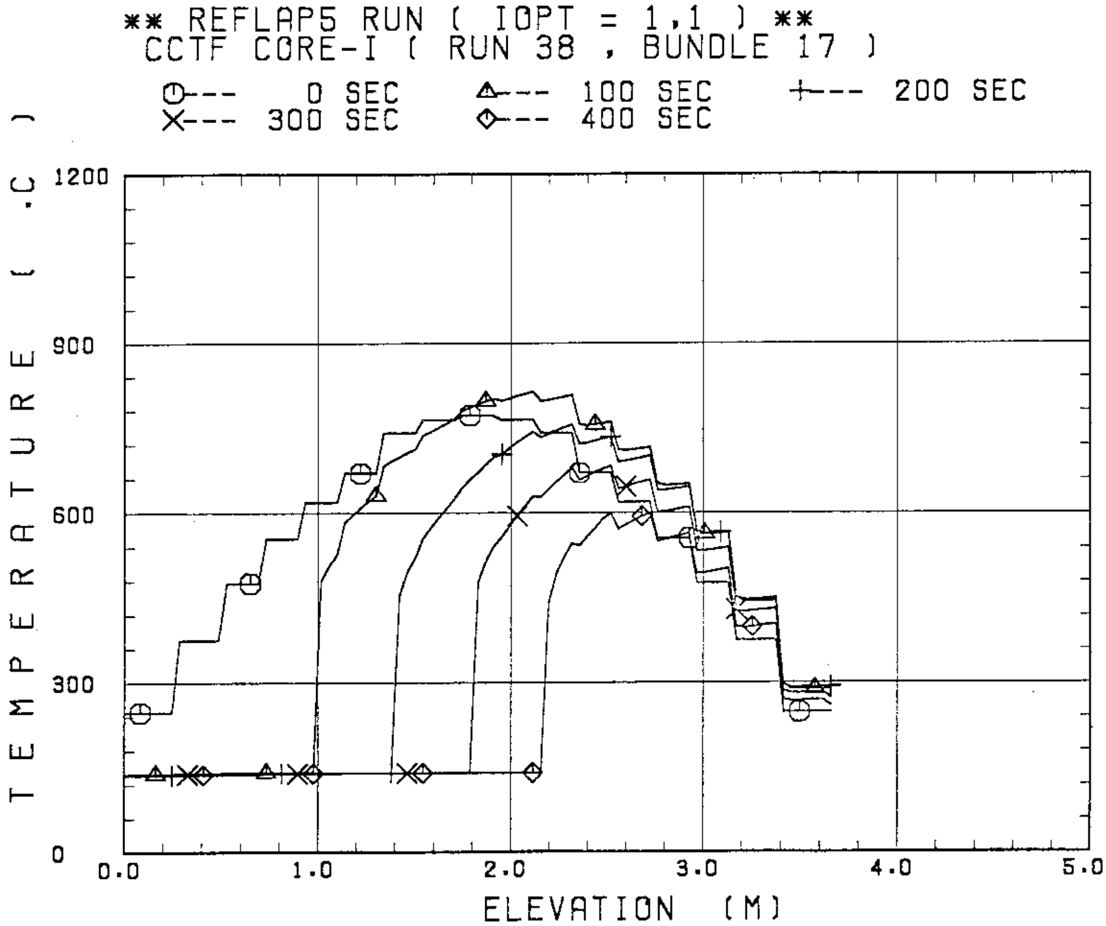


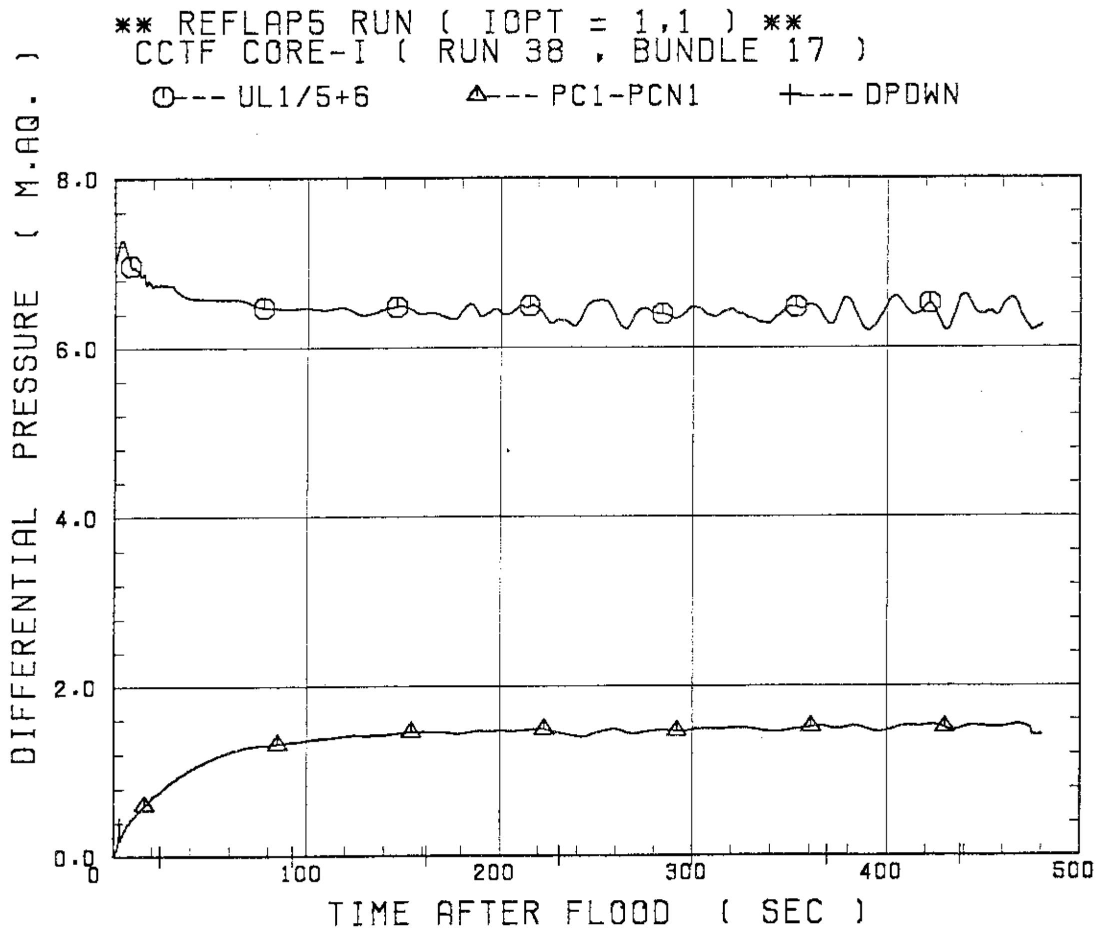



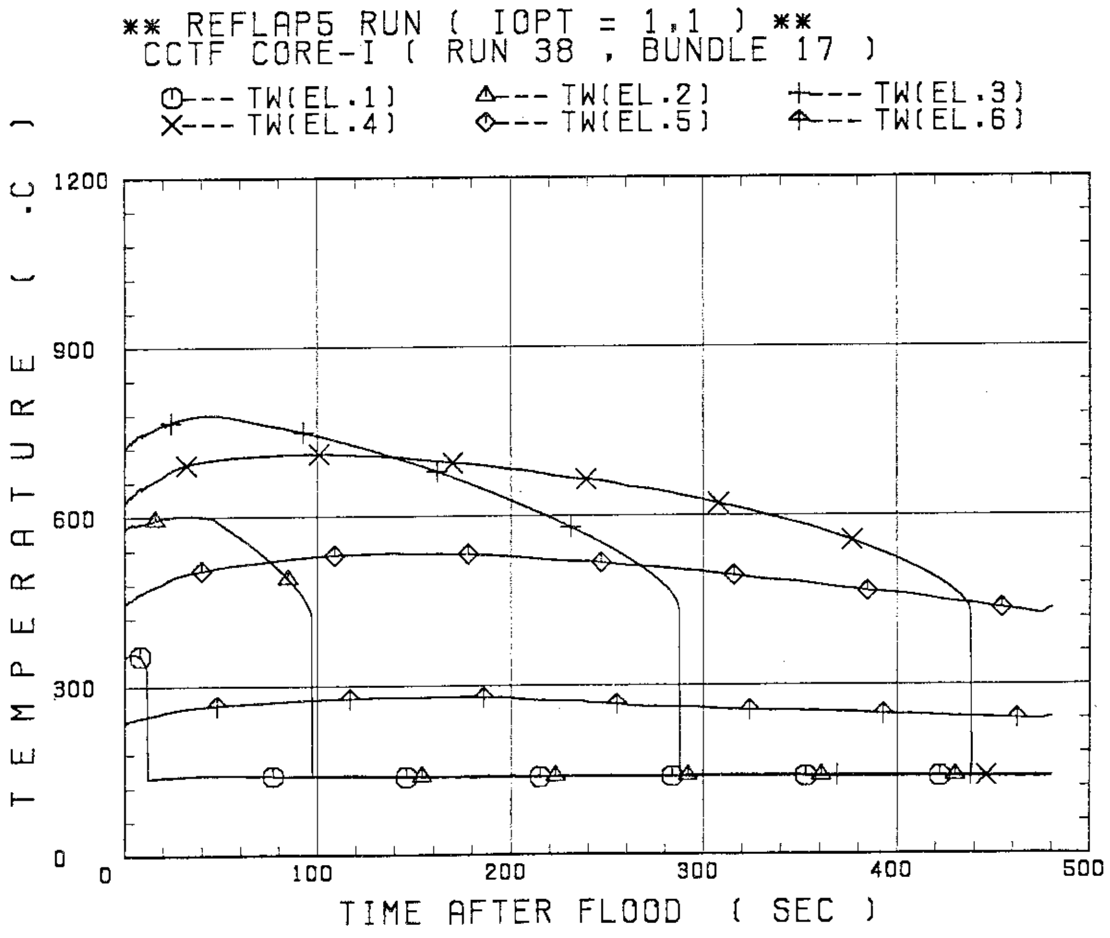

CCTF DATA RUN 38
TWP(EL1)
TWP(EL2)
TWP(EL3)
TWP(EL4)
TWP(EL5)
TEMPERATURE ( .C )
1200
900
600
300
0
0
100
200
300
400
500
TIME AFTER FLOOD ( SEC )

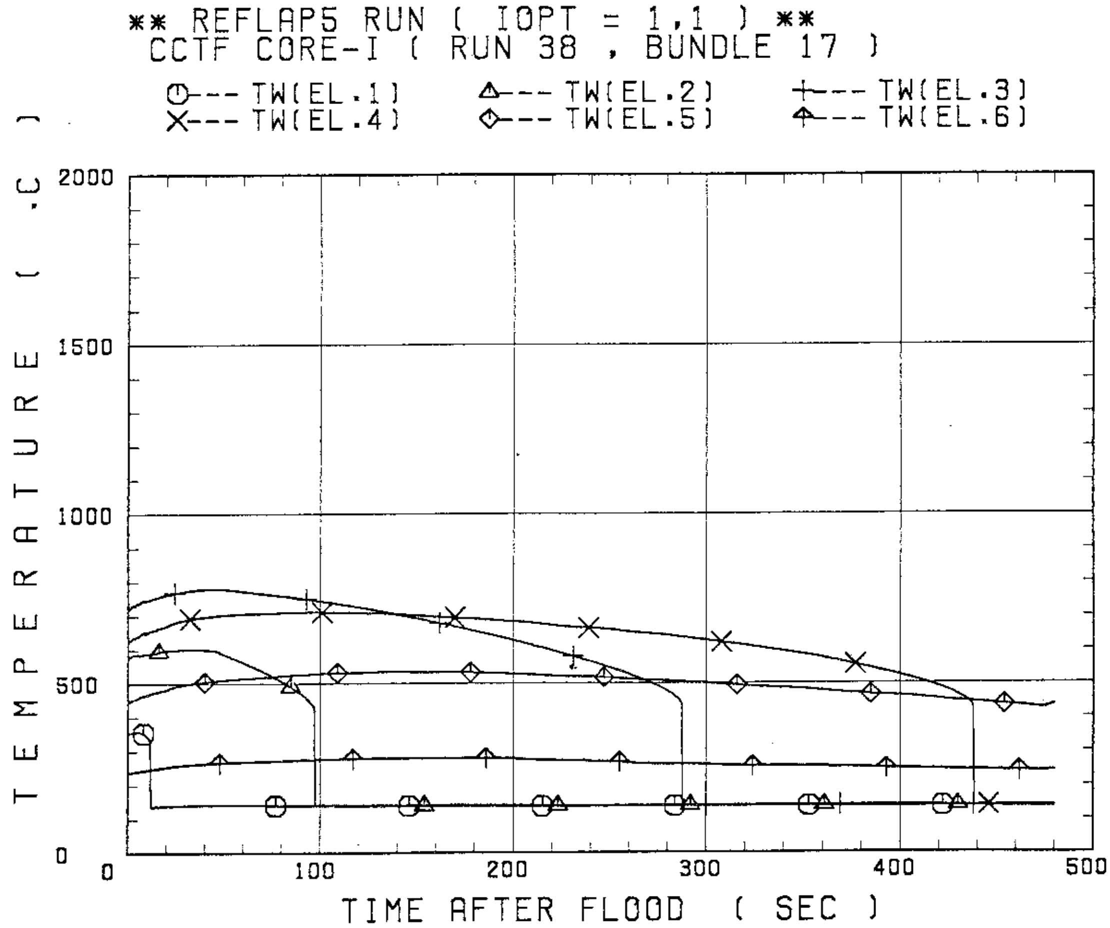

CCTF DATA RUN 38
AG(EL.1)
AG(EL.2)
AG(EL.3)
AG(EL.4)
AG(EL.5)
AG(EL.6)
VOID FRACTION ( - )
1.20
0.90
0.60
0.30
0.00
0
100
200
300
400
500
TIME AFTER FLOOD ( SEC )

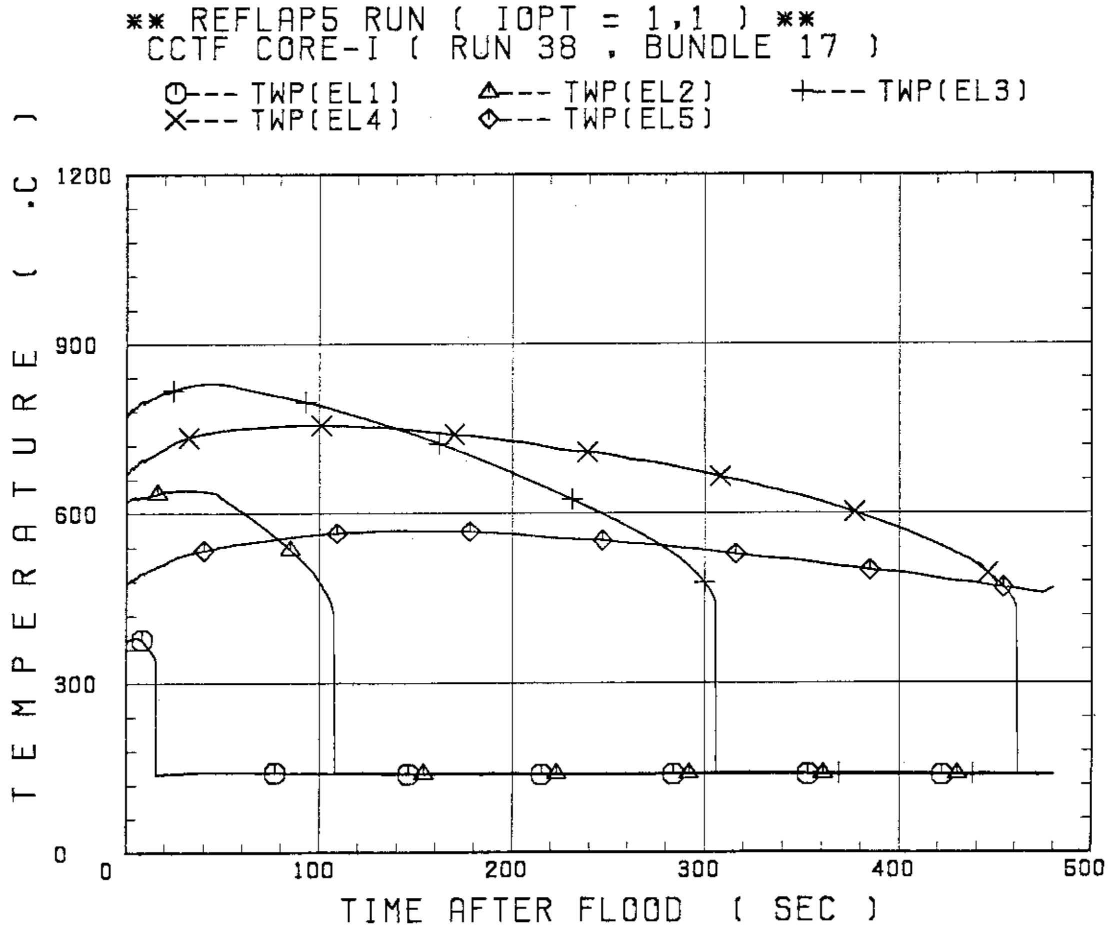

** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
O--- 0 SEC
△--- 100 SEC
+--- 200 SEC
X--- 300 SEC
◇--- 400 SEC
TEMPERATURE ( .C )
1200
900
600
300
0
0.0
1.0
2.0
3.0
4.0
5.0
ELEVATION (M)

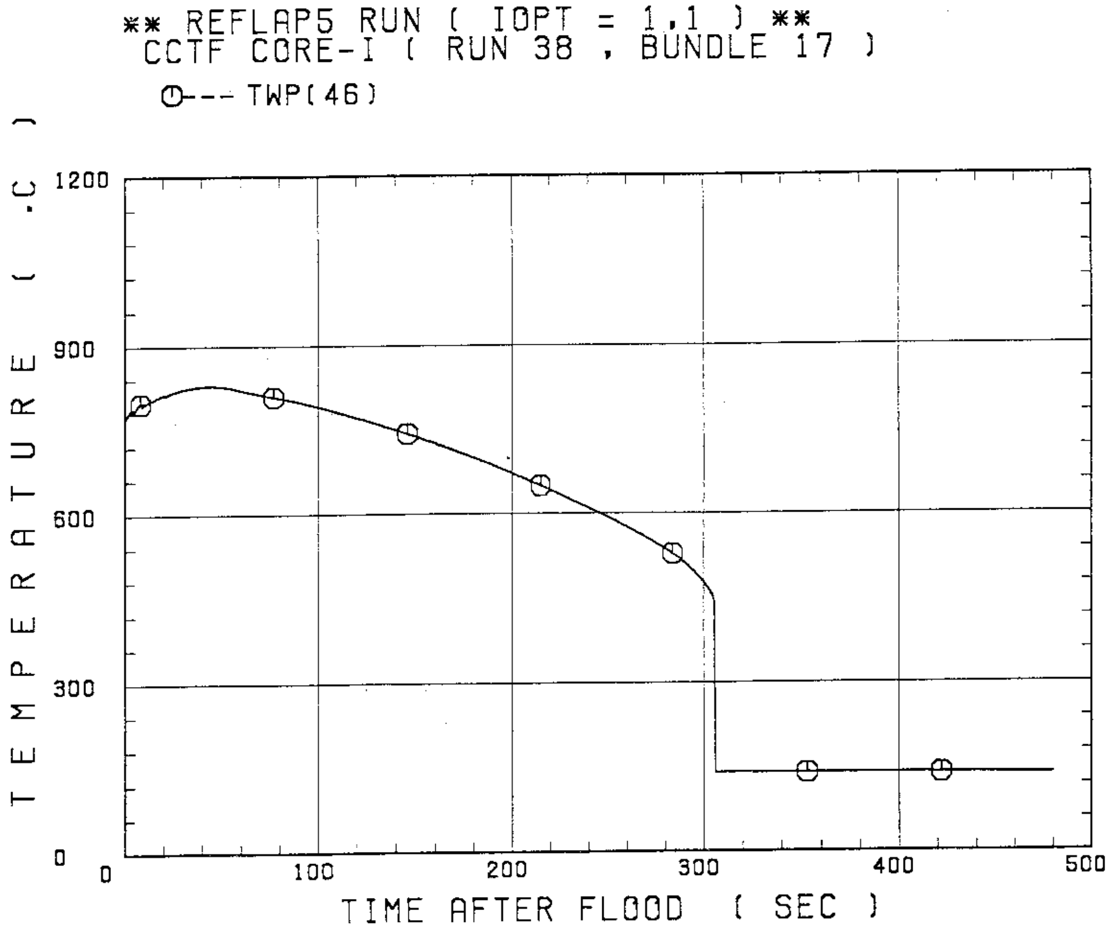

** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
O--- 0 SEC
△--- 100 SEC
+--- 200 SEC
X--- 300 SEC
◇--- 400 SEC
TEMPERATURE ( .C )
1200
900
600
300
0
0.0
1.0
2.0
3.0
4.0
5.0
ELEVATION (M)

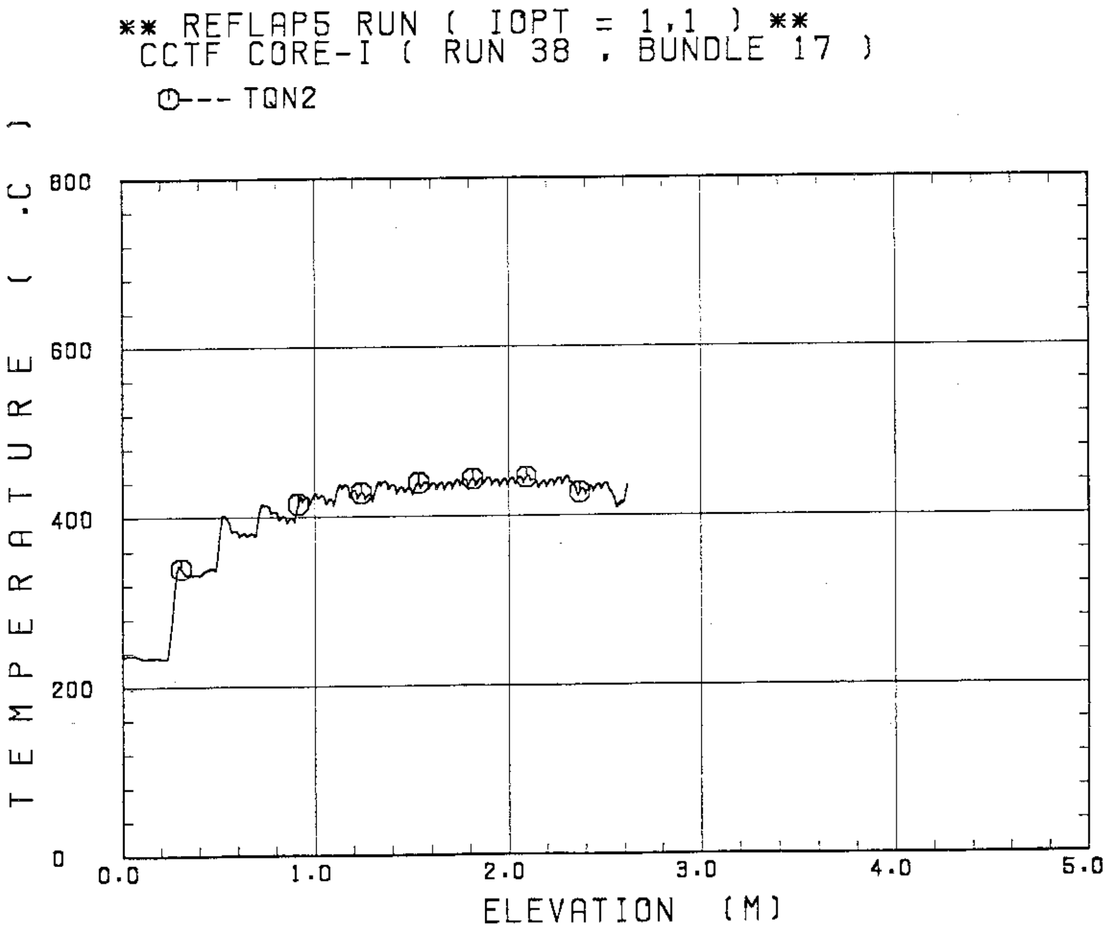

** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
UL1/5+6
PC1-PCN1
DPDWN
DIFFERENTIAL PRESSURE ( M.AQ. )
8.0
6.0
4.0
2.0
0.0
0
100
200
300
400
500
TIME AFTER FLOOD ( SEC )

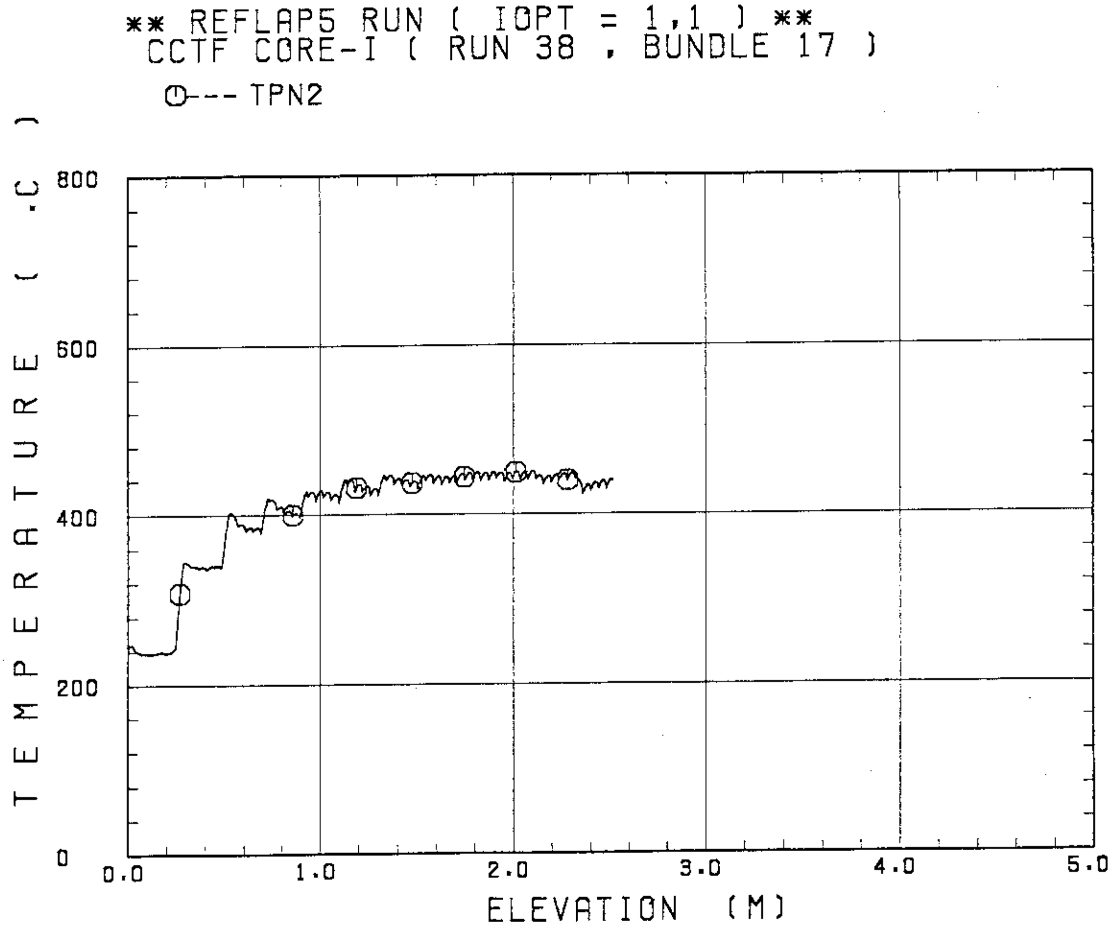

** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
TW(EL.1)
TW(EL.2)
TW(EL.3)
TW(EL.4)
TW(EL.5)
TW(EL.6)
TEMPERATURE ( .C )
1200
900
600
300
0
0
100
200
300
400
500
TIME AFTER FLOOD ( SEC )

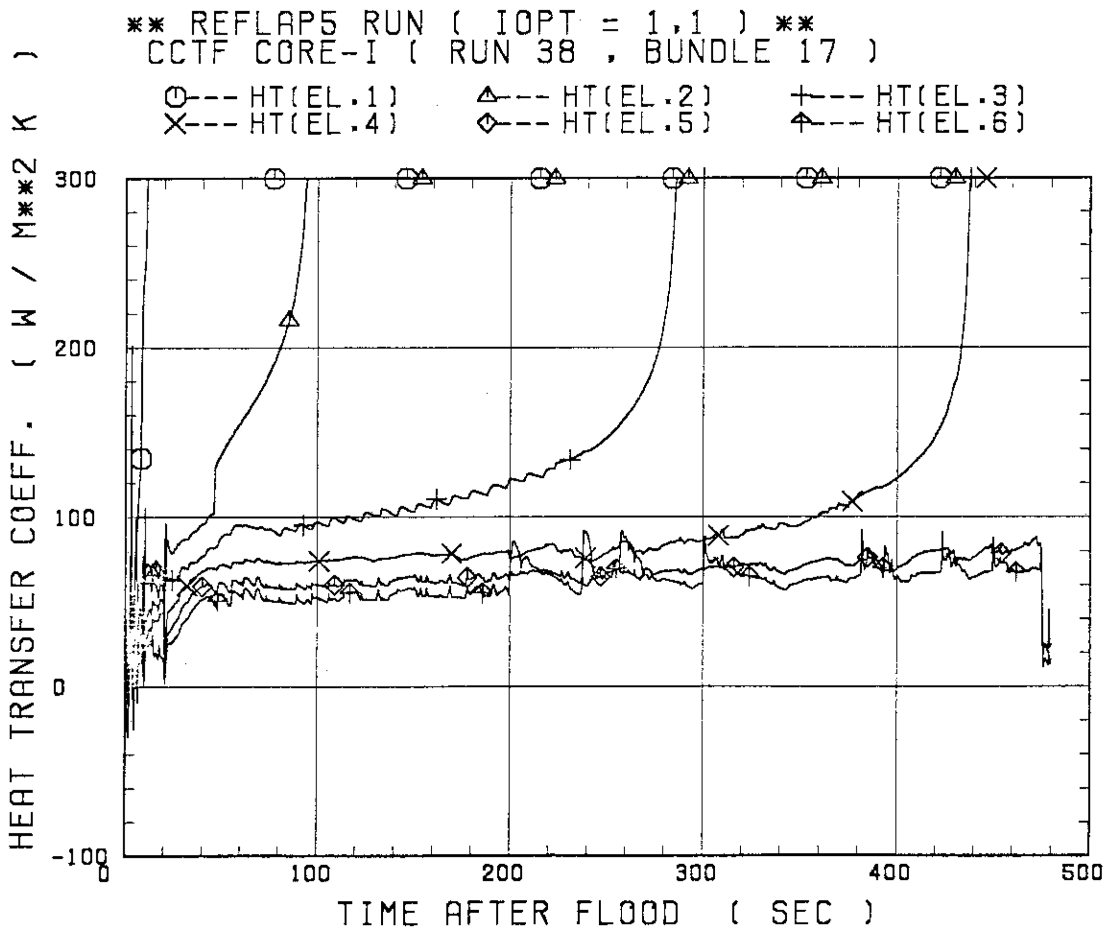

** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
O--- TW(EL.1)
Δ--- TW(EL.2)
+--- TW(EL.3)
X--- TW(EL.4)
◇--- TW(EL.5)
↑--- TW(EL.6)
TEMPERATURE ( .C )
0
500
1000
1500
2000
0
100
200
300
400
500
TIME AFTER FLOOD ( SEC )

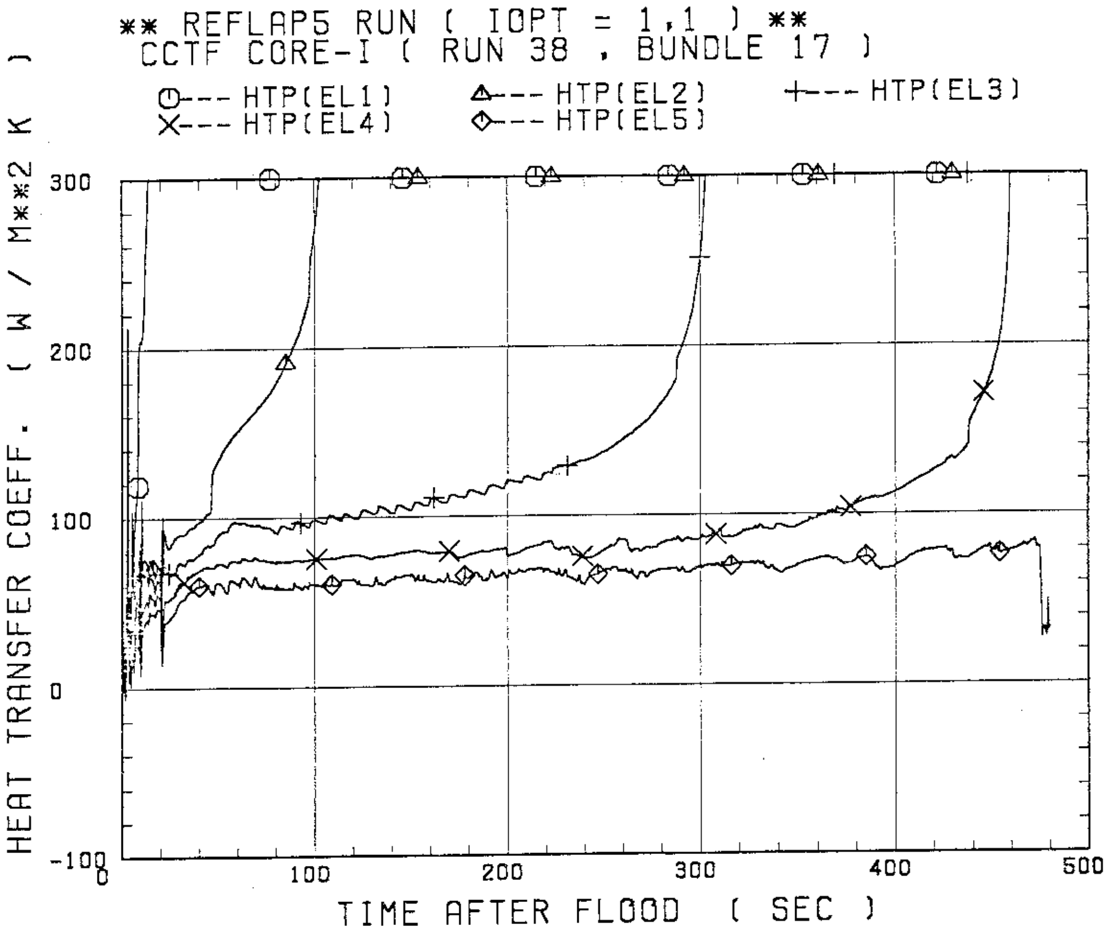

** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
O--- TWP(EL1)
Δ--- TWP(EL2)
+--- TWP(EL3)
X--- TWP(EL4)
◇--- TWP(EL5)
TEMPERATURE ( .C )
0
300
600
900
1200
0
100
200
300
400
500
TIME AFTER FLOOD ( SEC )

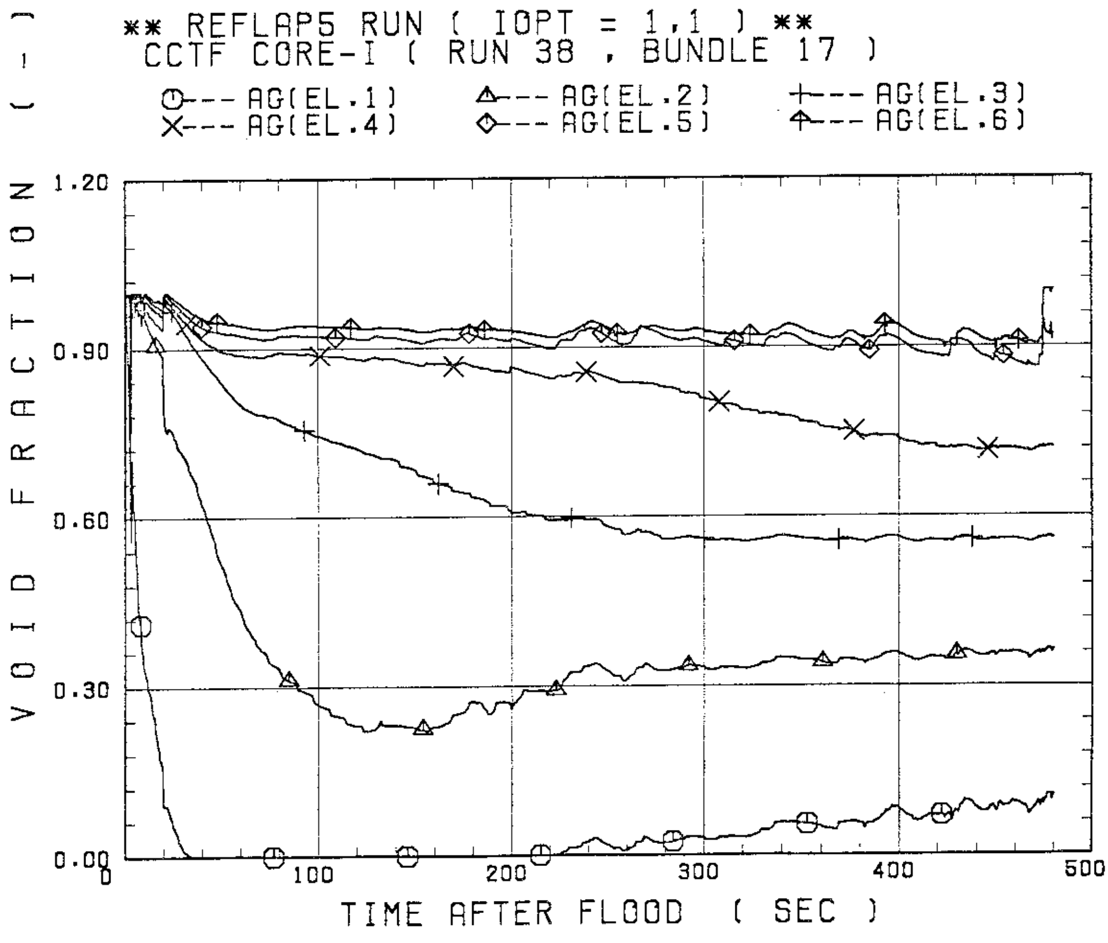

** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
TWP(46)
TEMPERATURE ( .C )
1200
900
600
300
0
0
100
200
300
400
500
TIME AFTER FLOOD ( SEC )

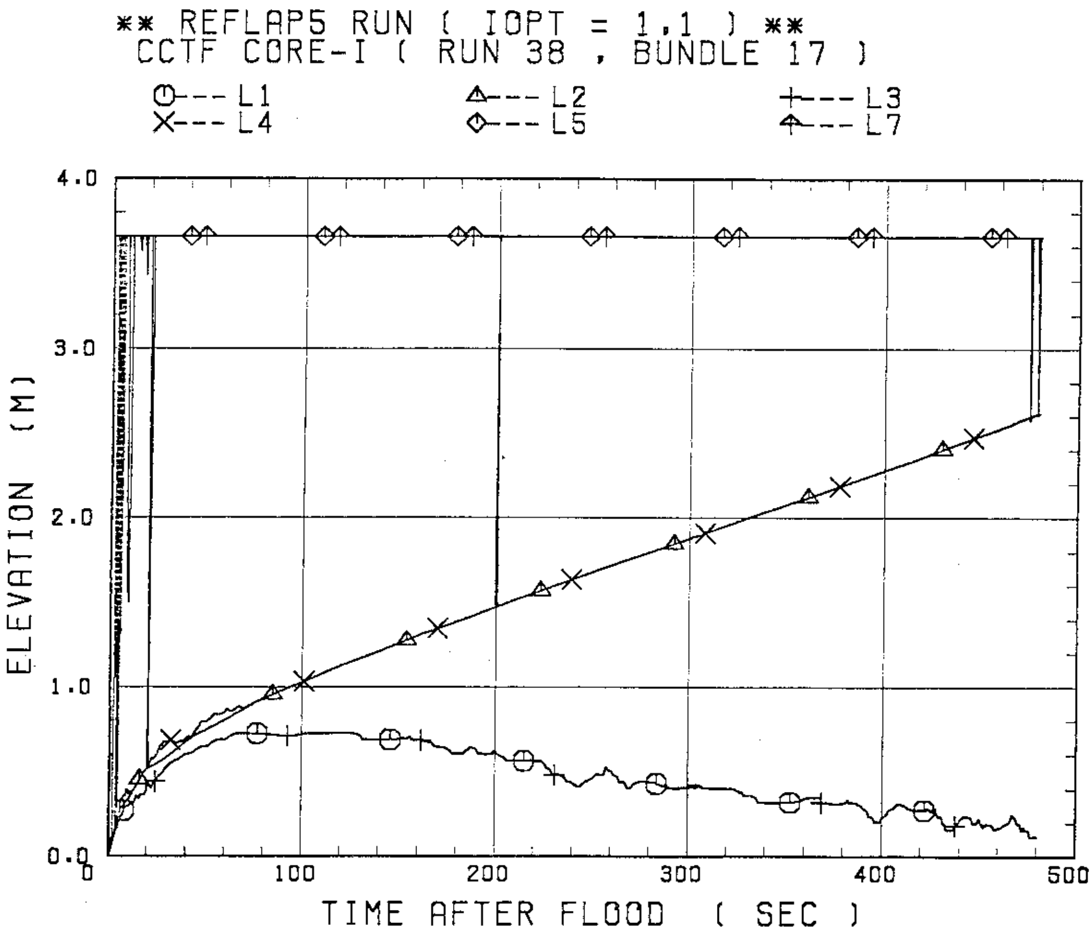

** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
TQN2
TEMPERATURE ( .C )
800
600
400
200
0
0.0
1.0
2.0
3.0
4.0
5.0
ELEVATION (M)

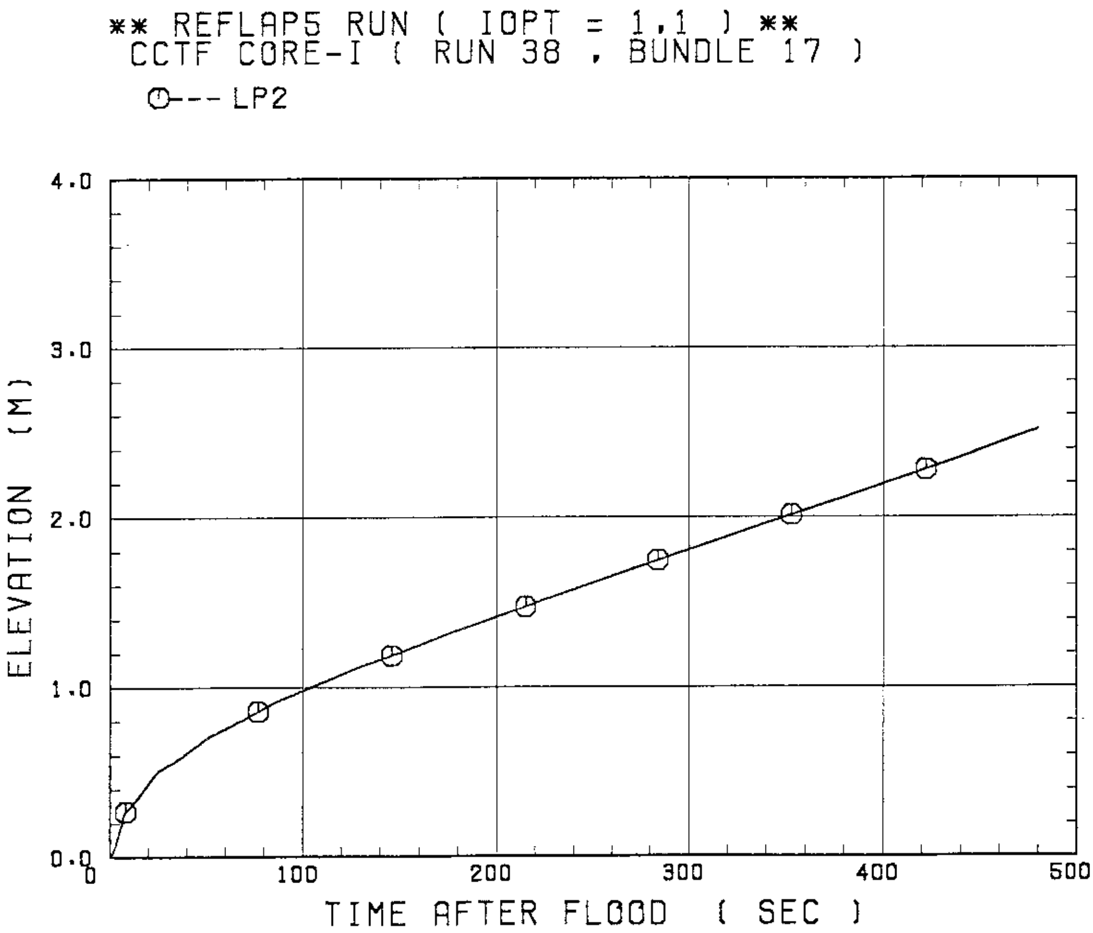

** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
TPN2
TEMPERATURE ( .C )
800
600
400
200
0
0.0
1.0
2.0
3.0
4.0
5.0
ELEVATION (M)

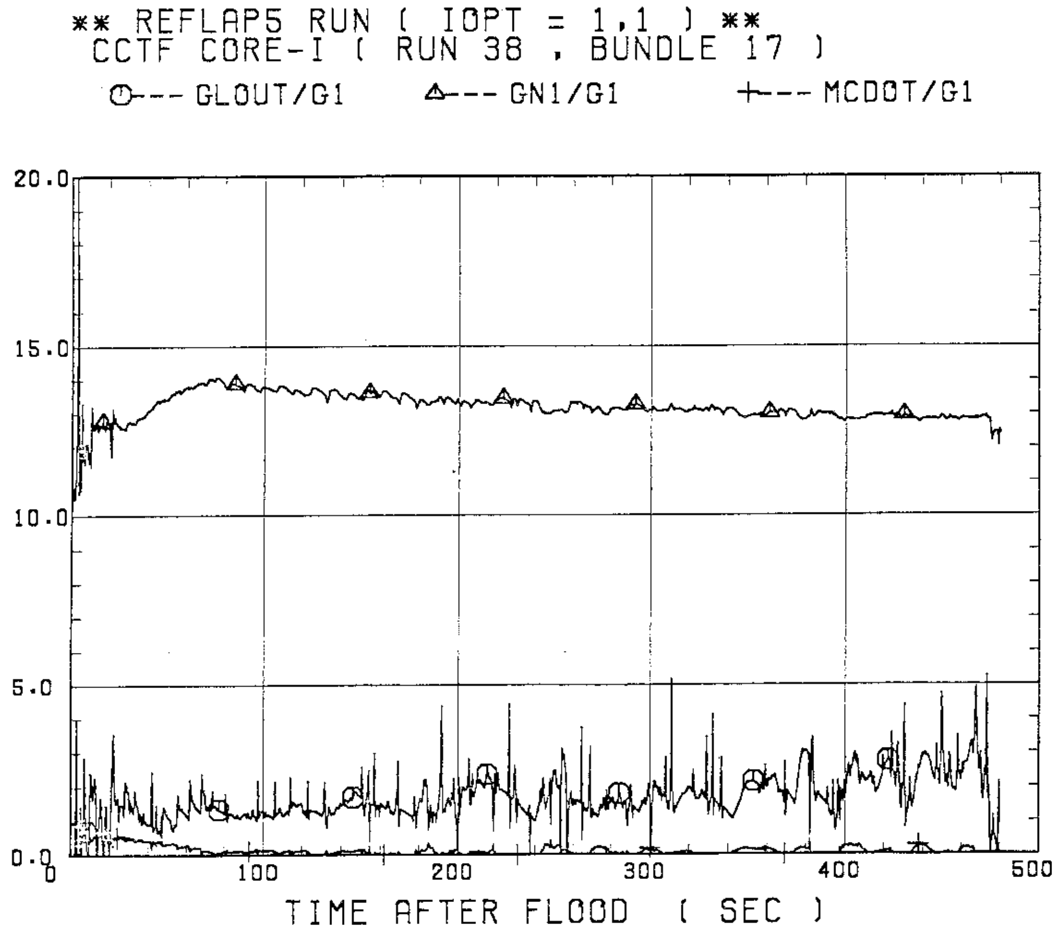

** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
HT(EL.1)
HT(EL.2)
HT(EL.3)
HT(EL.4)
HT(EL.5)
HT(EL.6)
HEAT TRANSFER COEFF. ( W / M**2 K )
300
200
100
0
-100
0
100
200
300
400
500
TIME AFTER FLOOD ( SEC )

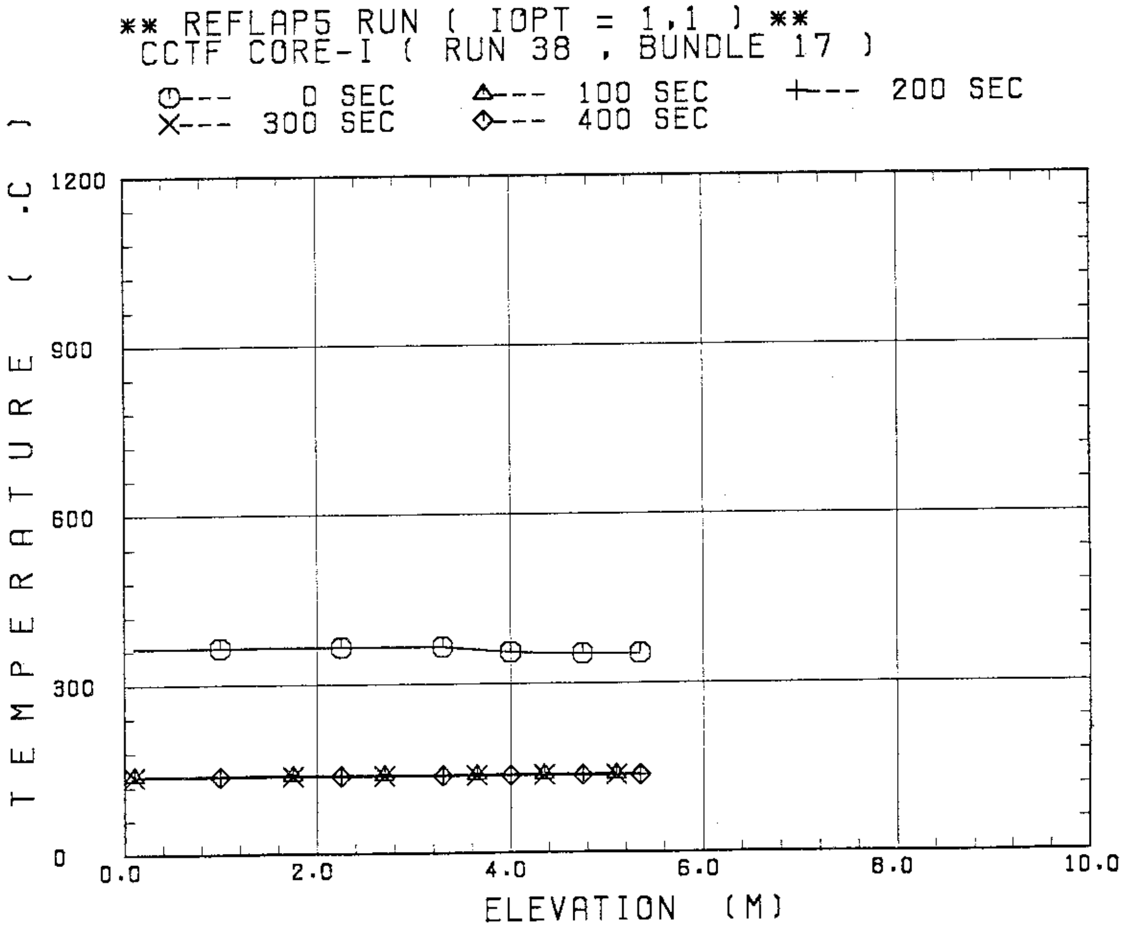

** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
HTP(EL1)
HTP(EL2)
HTP(EL3)
HTP(EL4)
HTP(EL5)
HEAT TRANSFER COEFF. ( W / M**2 K )
300
200
100
0
-100
0
100
200
300
400
500
TIME AFTER FLOOD ( SEC )

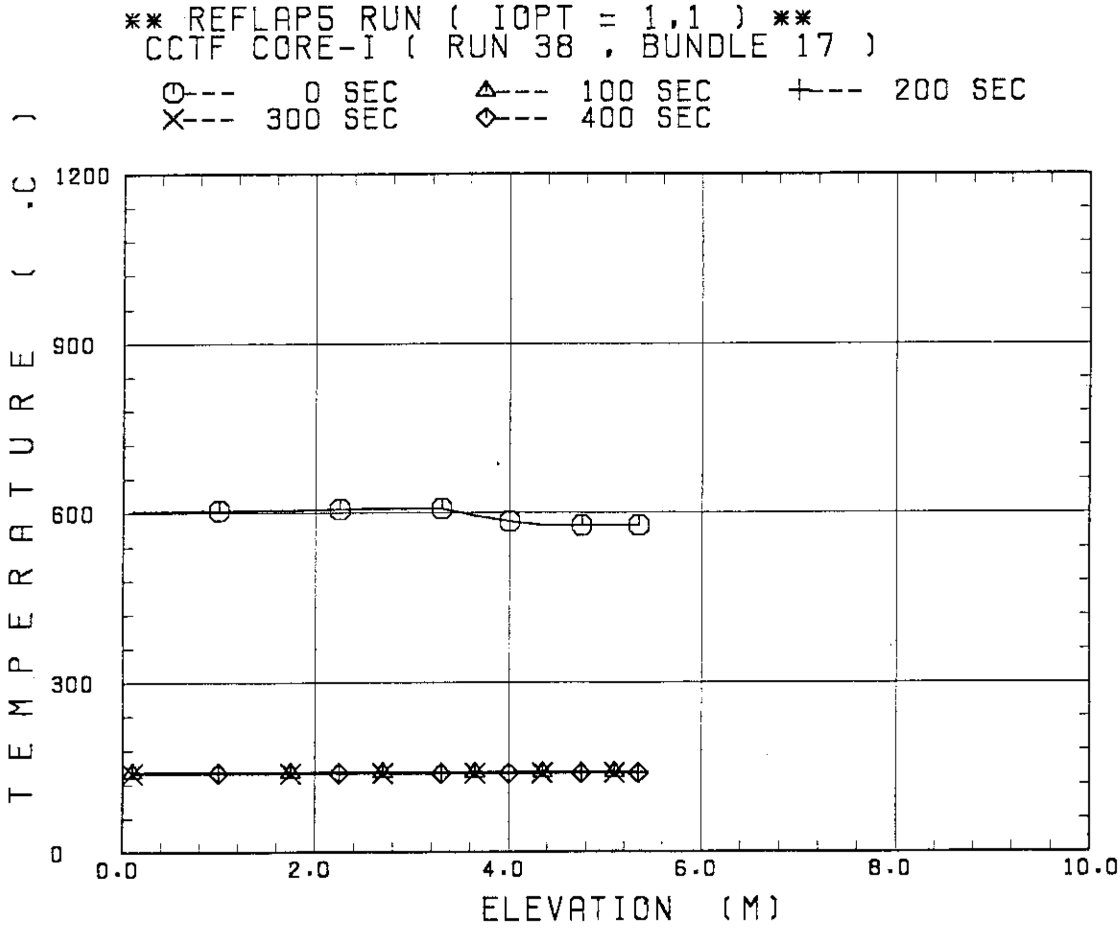

** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
AG(EL.1)
AG(EL.2)
AG(EL.3)
AG(EL.4)
AG(EL.5)
AG(EL.6)
VOID FRACTION ( - )
1.20
0.90
0.60
0.30
0.00
0
100
200
300
400
500
TIME AFTER FLOOD ( SEC )


** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
L1
L2
L3
L4
L5
L7
4.0
3.0
2.0
1.0
0.0
ELEVATION (M)
0
100
200
300
400
500
TIME AFTER FLOOD ( SEC )

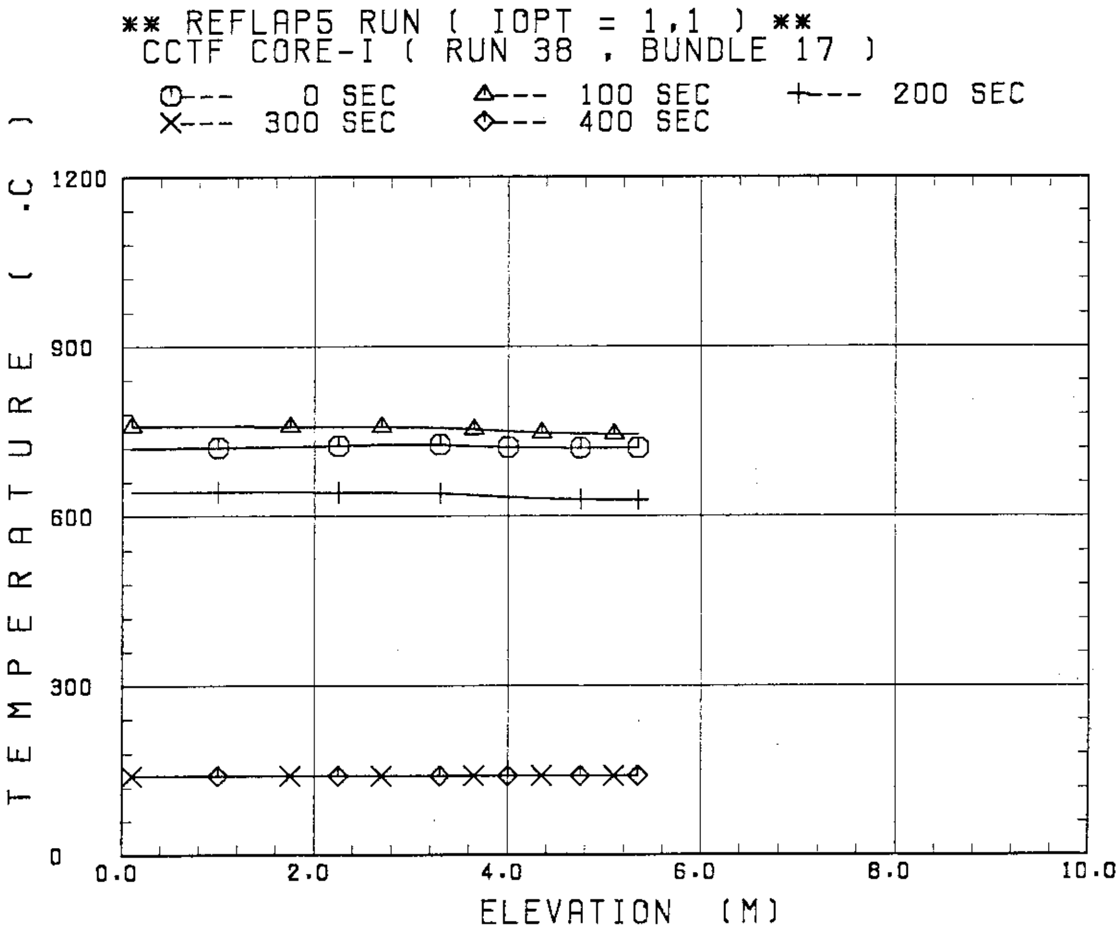

** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
LP2
4.0
3.0
2.0
1.0
0.0
ELEVATION (M)
0
100
200
300
400
500
TIME AFTER FLOOD ( SEC )


** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
GLOUT/G1
GN1/G1
MCDOT/G1
20.0
15.0
10.0
5.0
0.0
0
100
200
300
400
500
TIME AFTER FLOOD ( SEC )

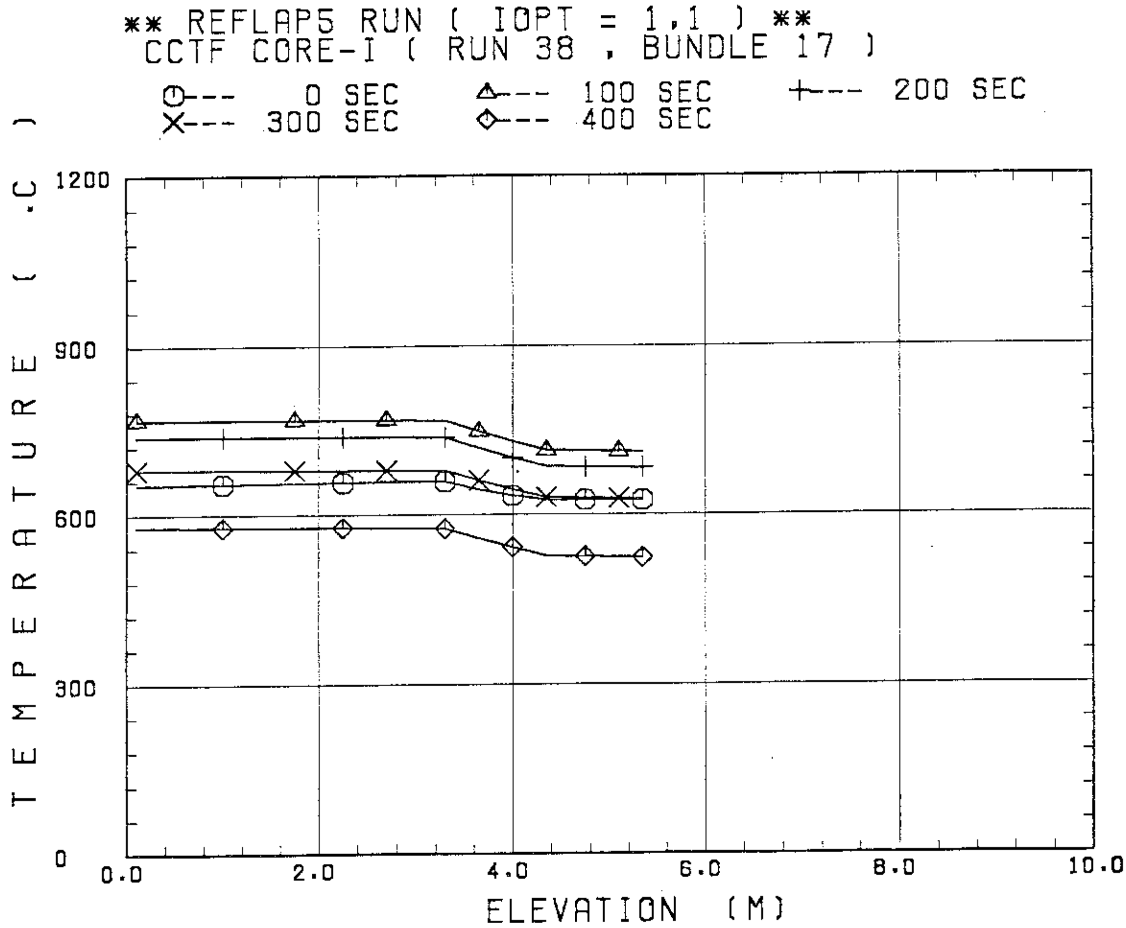

** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
0 SEC
100 SEC
200 SEC
300 SEC
400 SEC
TEMPERATURE ( .C )
1200
900
600
300
0
0.0
2.0
4.0
6.0
8.0
10.0
ELEVATION (M)

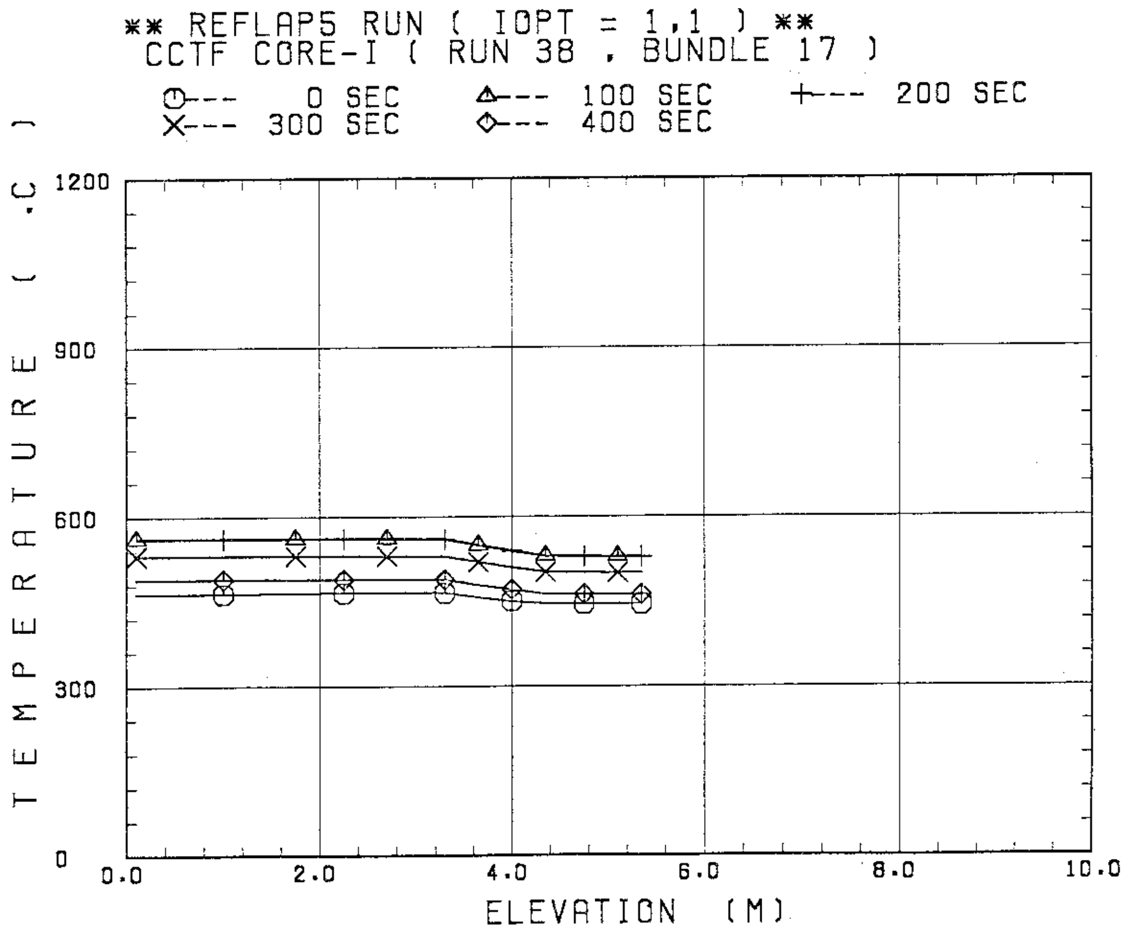


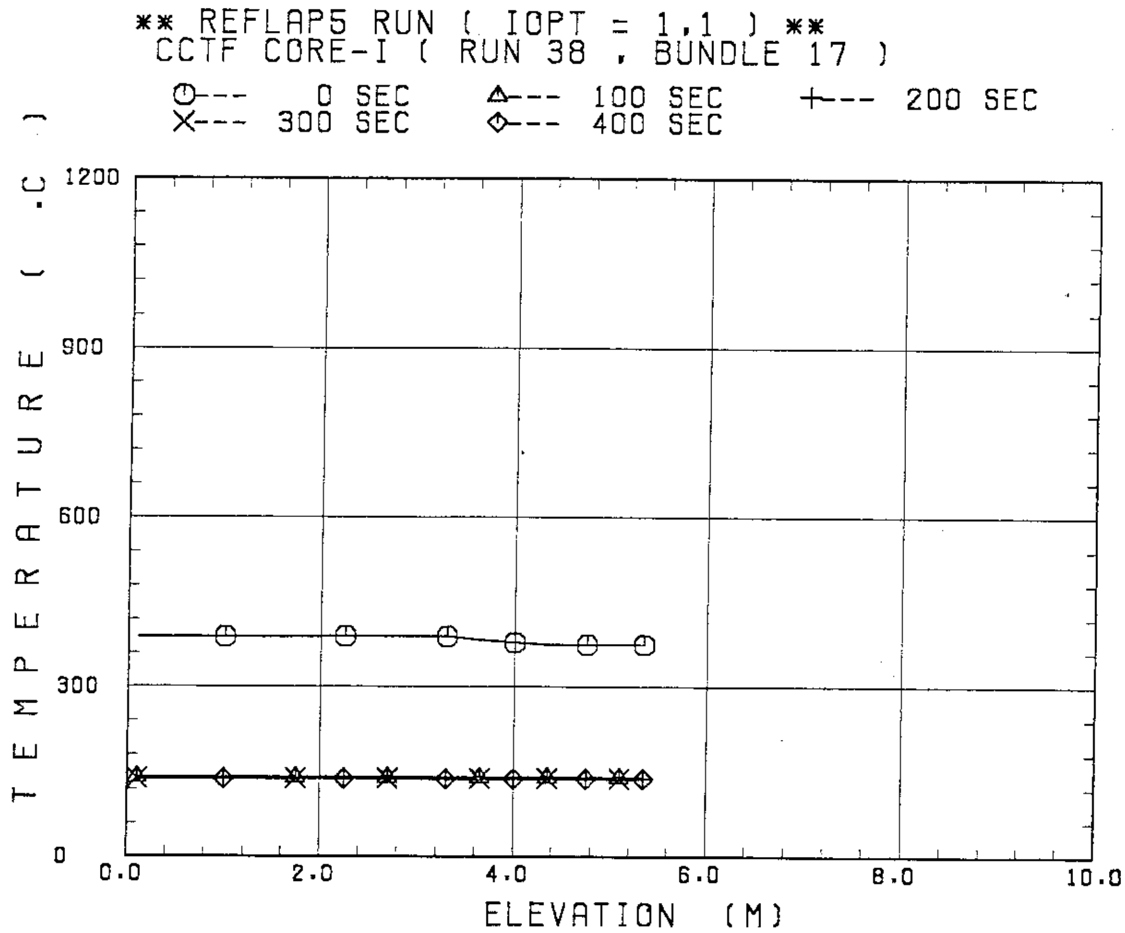
** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
0 SEC
100 SEC
200 SEC
300 SEC
400 SEC
TEMPERATURE ( .C )
1200
900
600
300
0
0.0
2.0
4.0
6.0
8.0
10.0
ELEVATION (M)

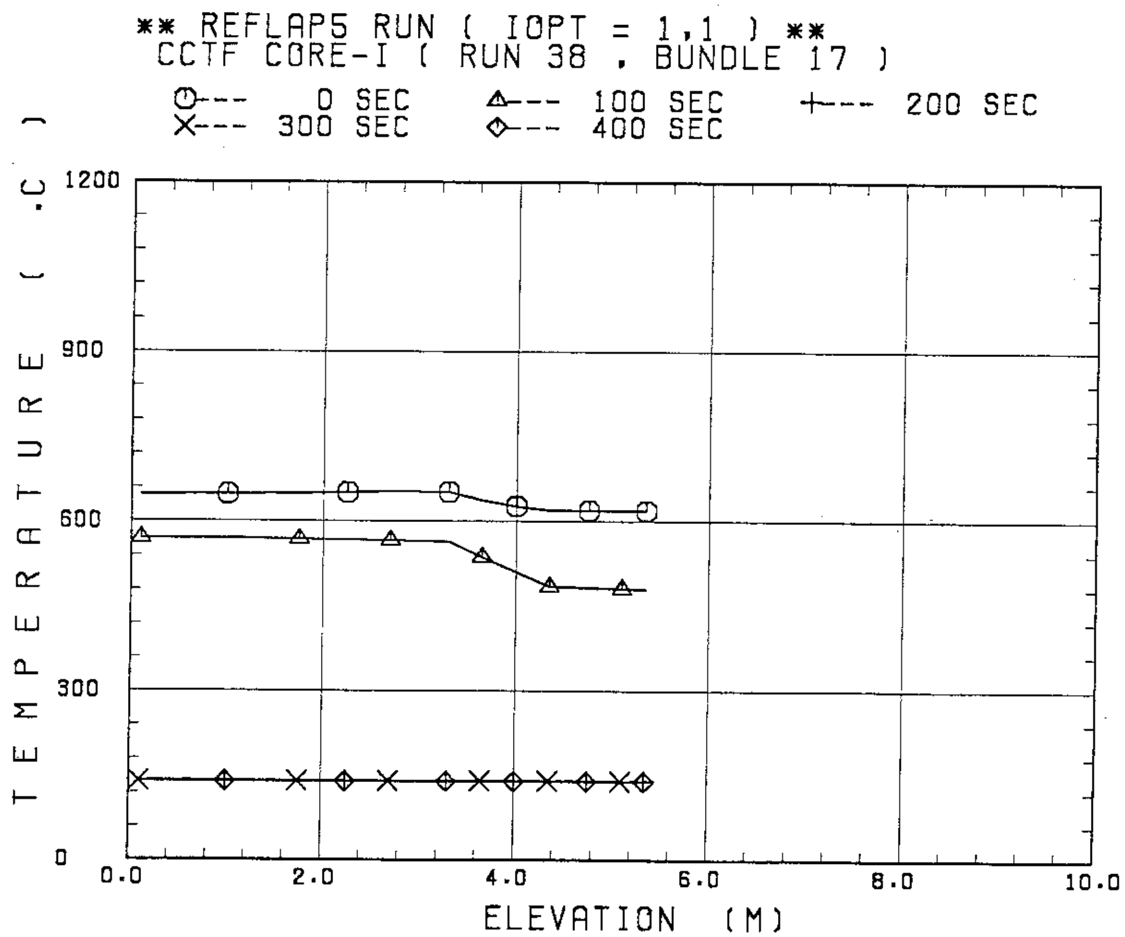



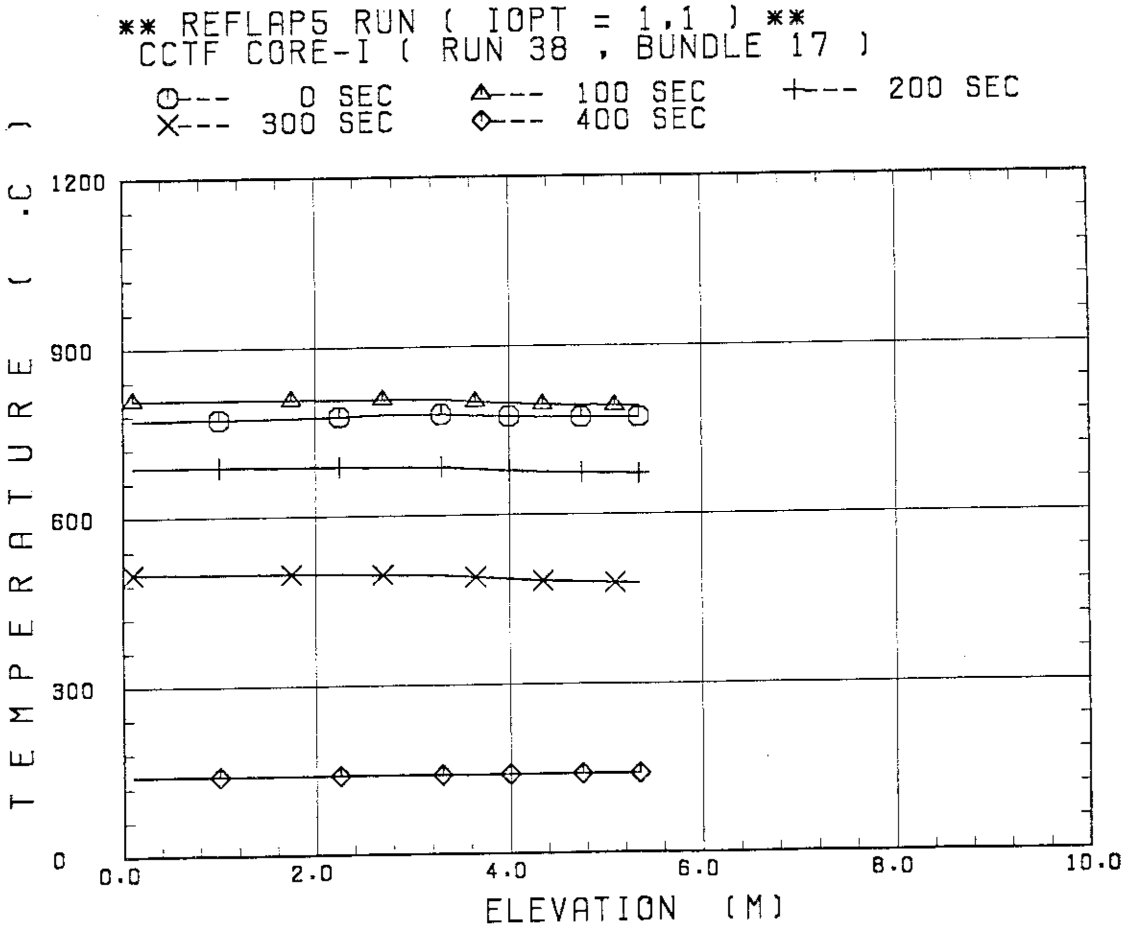
** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
0 SEC
100 SEC
200 SEC
300 SEC
400 SEC
TEMPERATURE ( .C )
1200
900
600
300
0
0.0
2.0
4.0
6.0
8.0
10.0
ELEVATION (M)

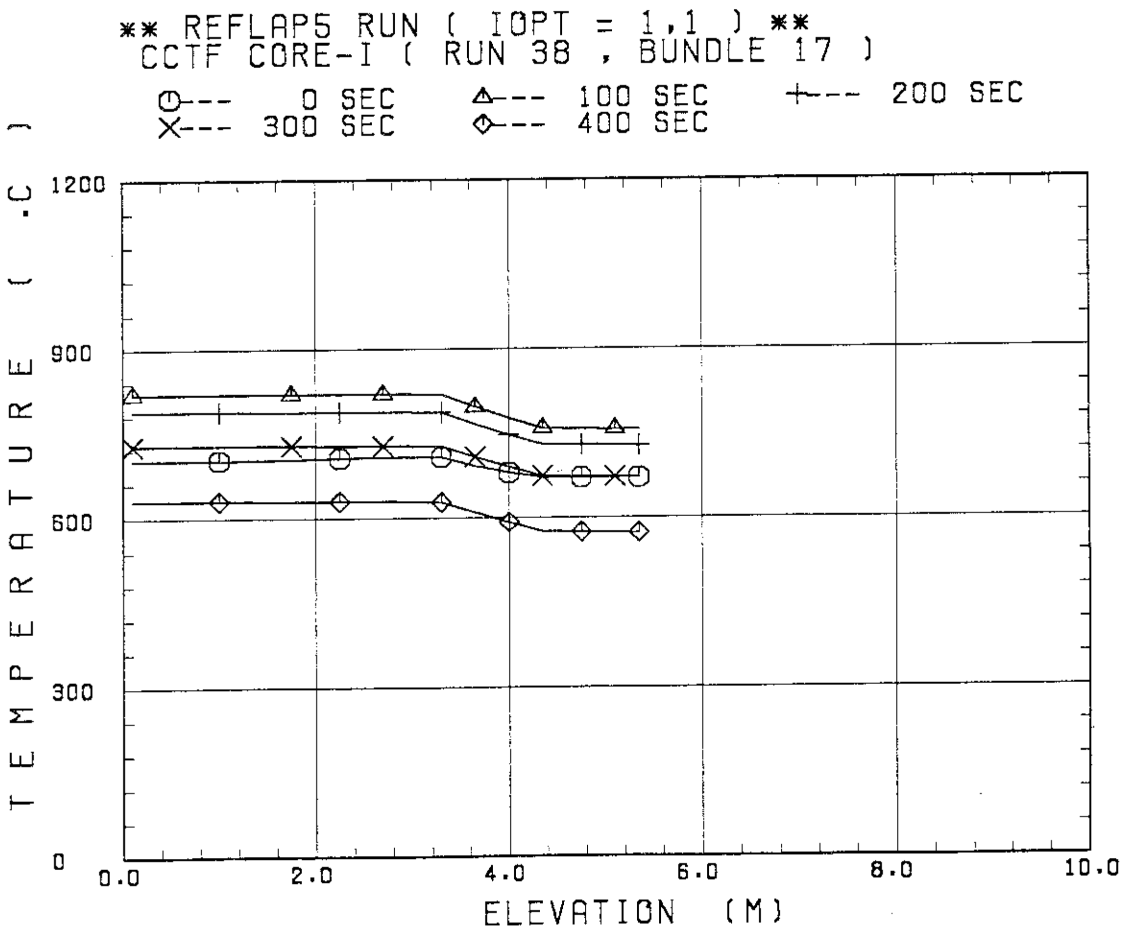

** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
0 SEC
100 SEC
200 SEC
300 SEC
400 SEC
TEMPERATURE ( .C )
1200
900
600
300
0
0.0
2.0
4.0
6.0
8.0
10.0
ELEVATION (M)

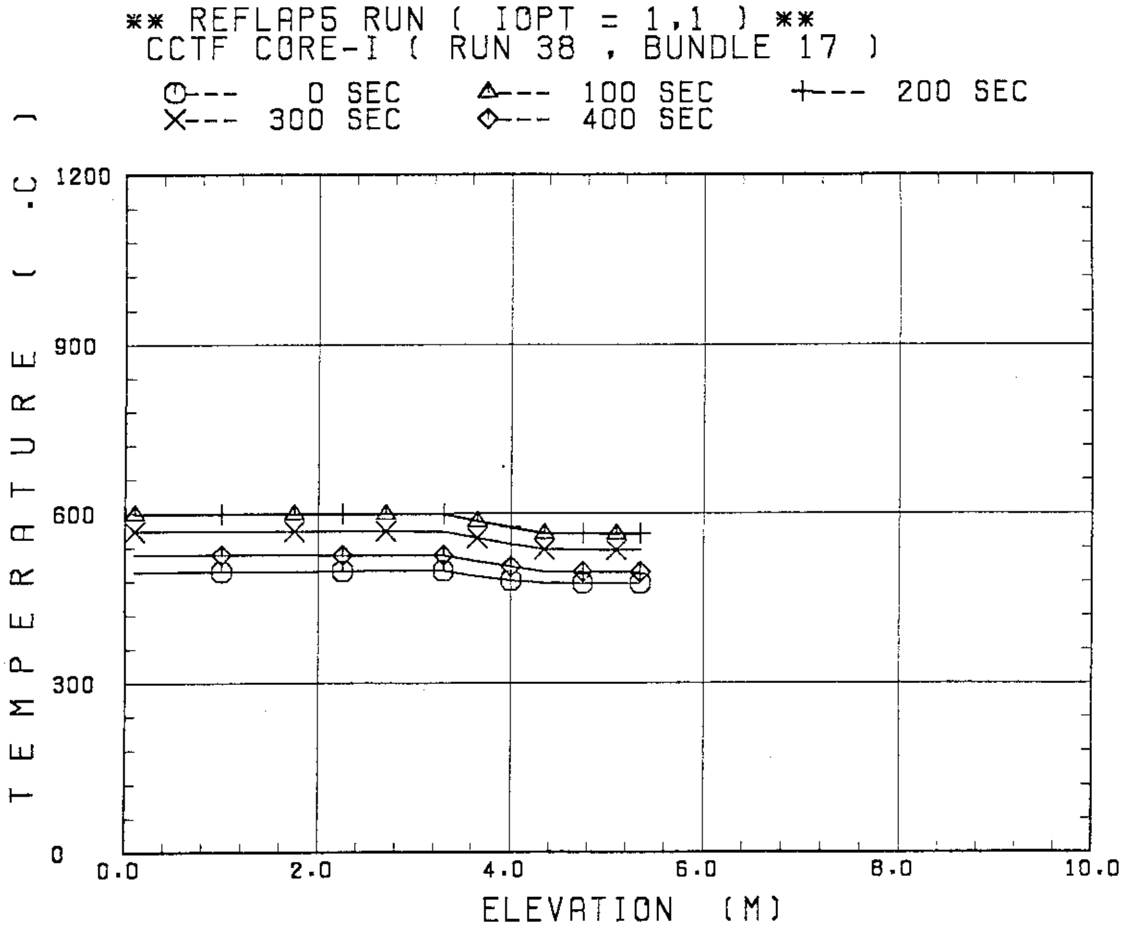

** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
0 SEC
100 SEC
200 SEC
300 SEC
400 SEC
TEMPERATURE ( .C )
1200
900
600
300
0
0.0
2.0
4.0
6.0
8.0
10.0
ELEVATION (M)

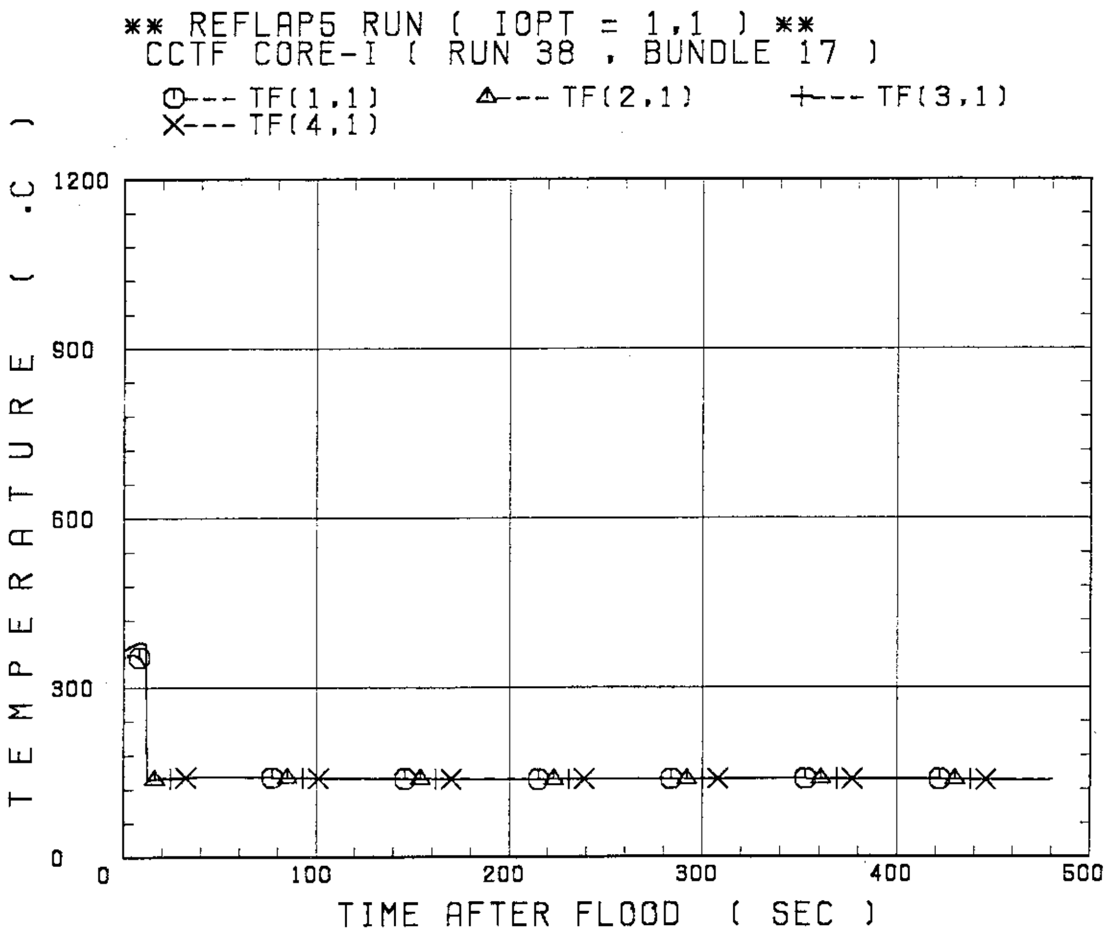

** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
0 SEC
100 SEC
200 SEC
300 SEC
400 SEC
TEMPERATURE ( .C )
0
300
600
900
1200
0.0
2.0
4.0
6.0
8.0
10.0
ELEVATION (M)

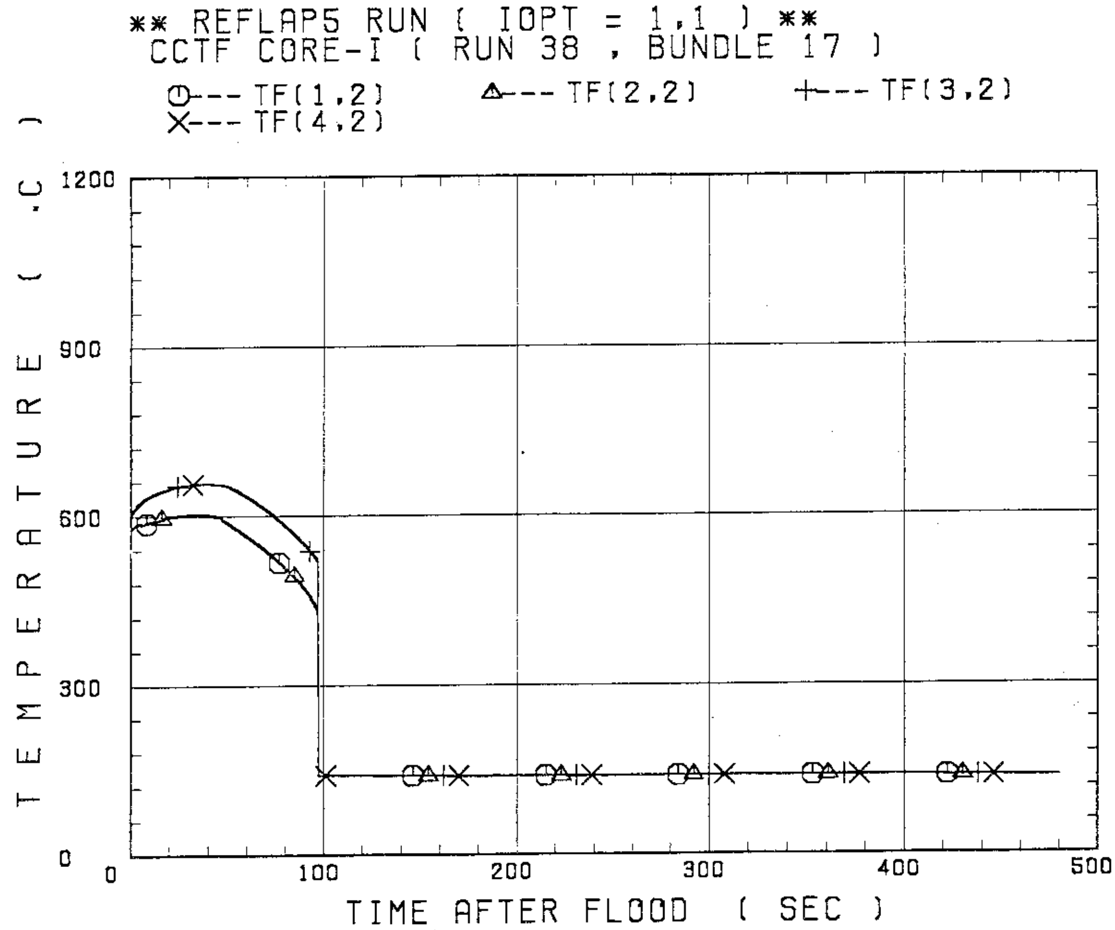

** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
0 SEC
100 SEC
200 SEC
300 SEC
400 SEC
TEMPERATURE ( .C )
0
300
600
900
1200
0.0
2.0
4.0
6.0
8.0
10.0
ELEVATION (M)

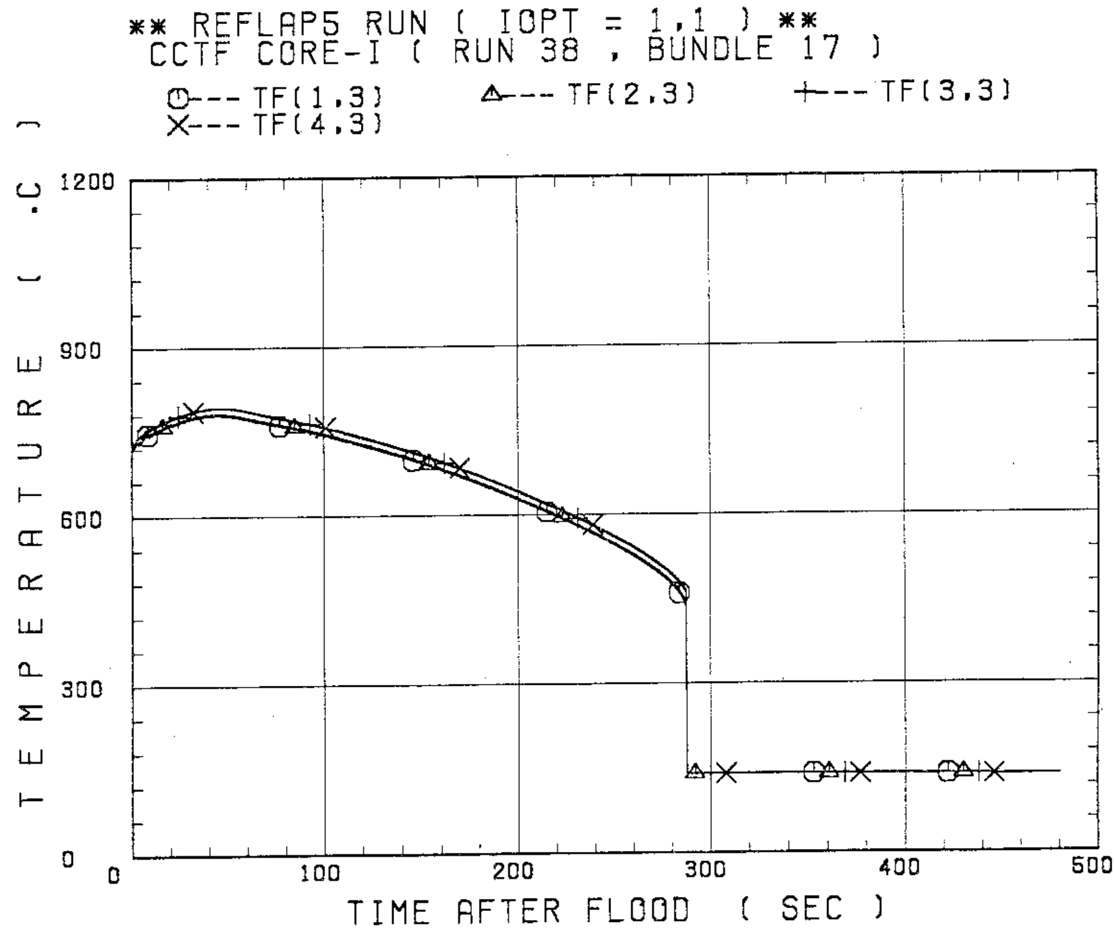

** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
0 SEC
100 SEC
200 SEC
300 SEC
400 SEC
TEMPERATURE ( .C )
1200
900
600
300
0
0.0
2.0
4.0
6.0
8.0
10.0
ELEVATION (M)

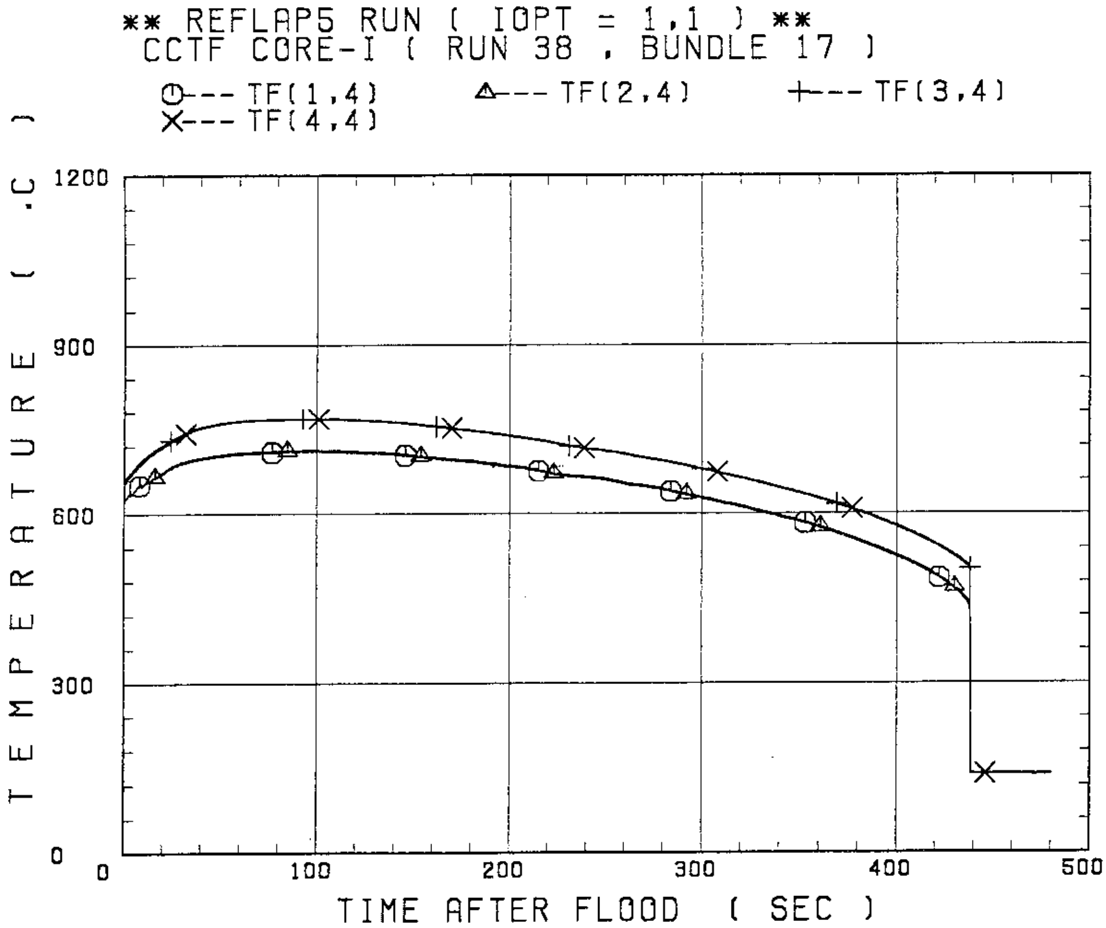

** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
0 SEC
100 SEC
200 SEC
300 SEC
400 SEC
TEMPERATURE ( .C )
1200
900
600
300
0
0.0
2.0
4.0
6.0
8.0
10.0
ELEVATION (M)

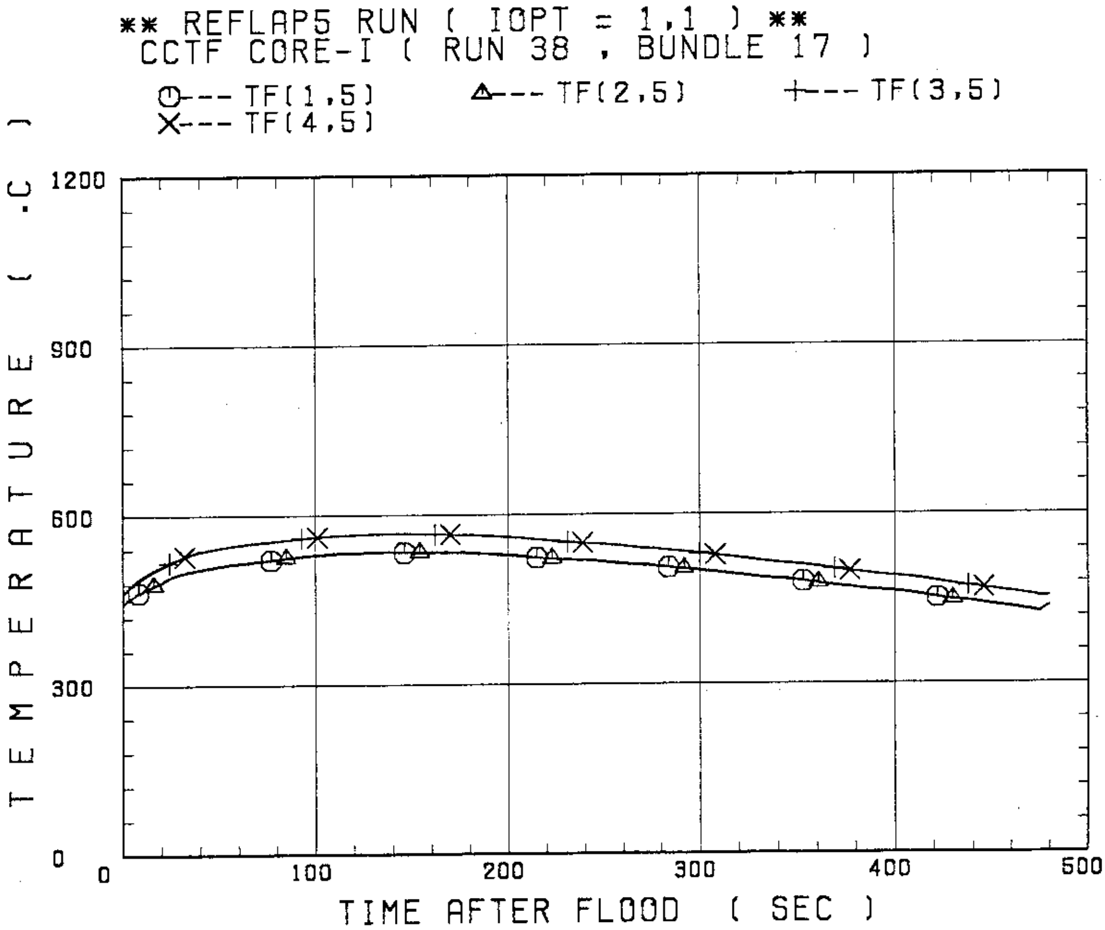

** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
0 SEC
100 SEC
200 SEC
300 SEC
400 SEC
TEMPERATURE ( .C )
ELEVATION (M)
0
300
600
900
1200
0.0
2.0
4.0
6.0
8.0
10.0

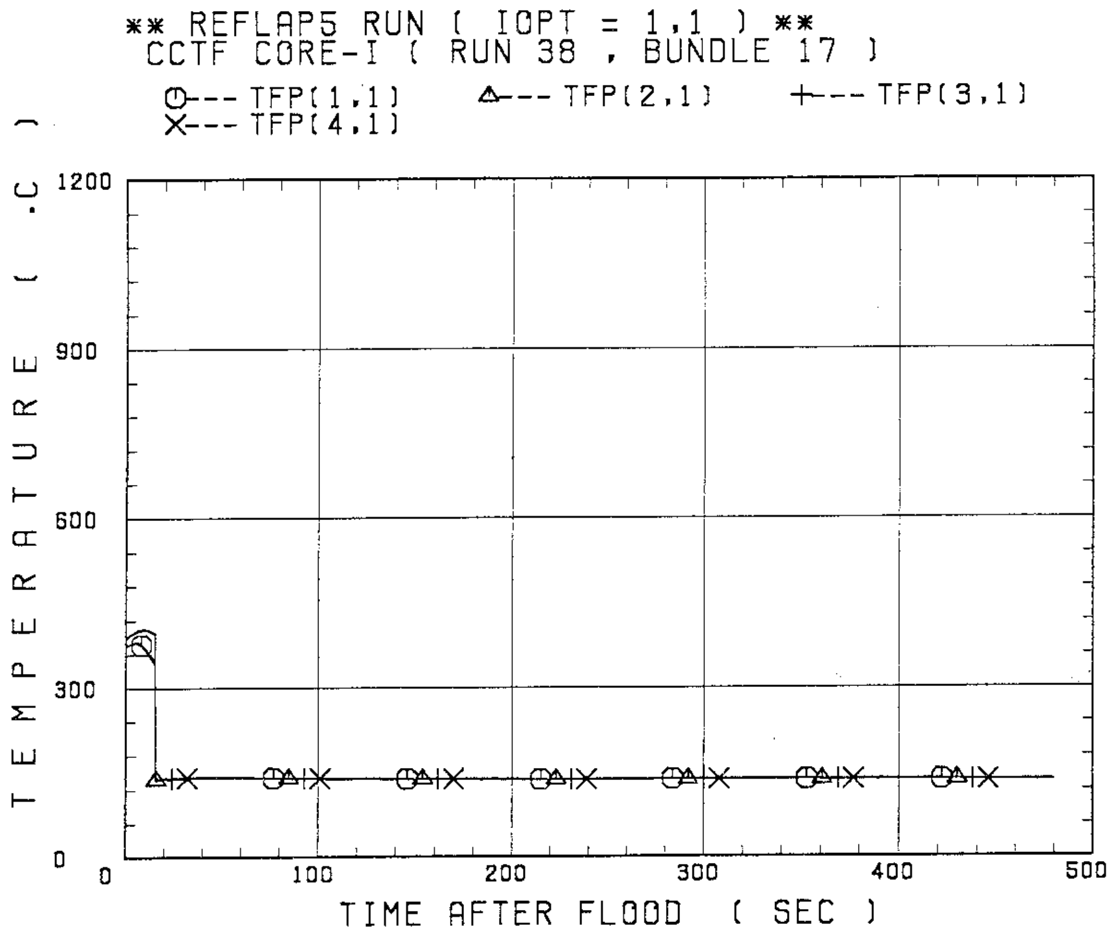

** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
TF(1,1)
TF(2,1)
TF(3,1)
TF(4,1)
TEMPERATURE ( .C )
TIME AFTER FLOOD ( SEC )
0
300
600
900
1200
0
100
200
300
400
500

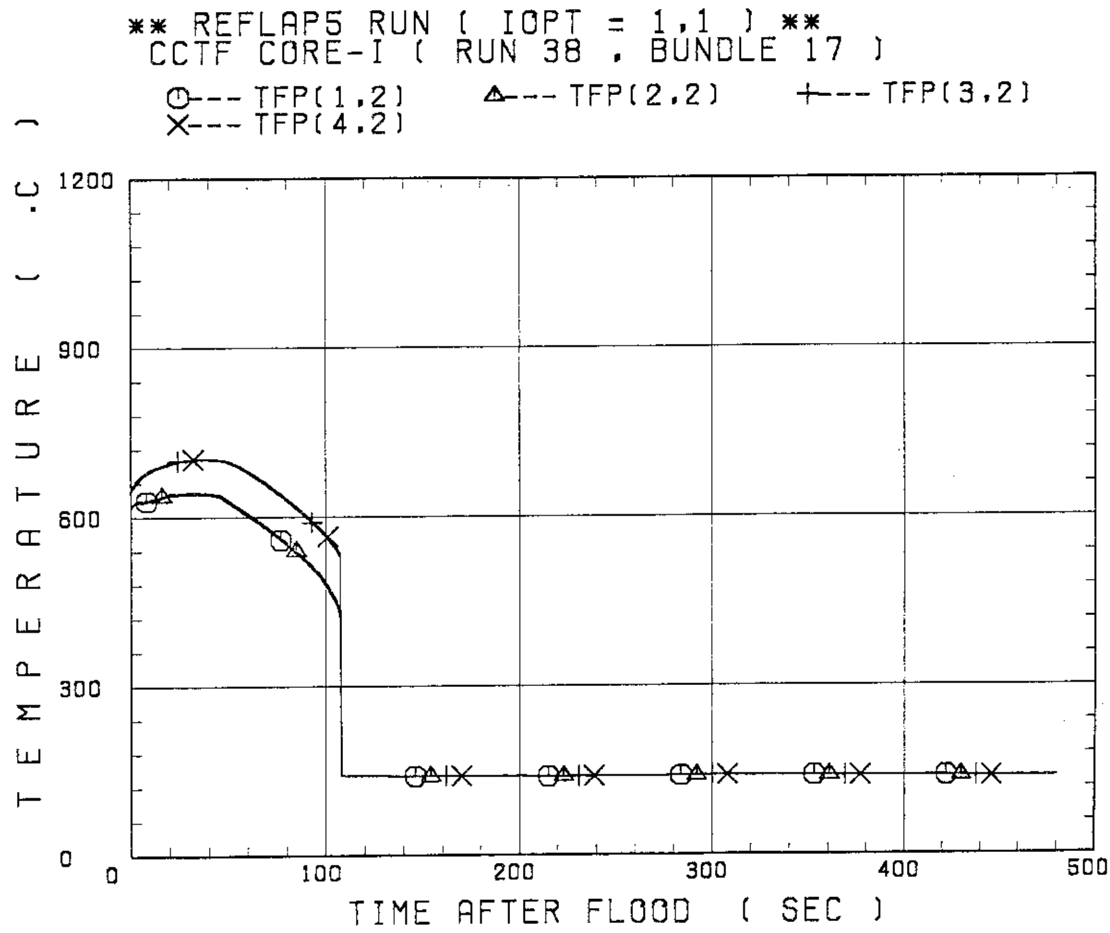

** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
O--- TF(1,2)
Δ--- TF(2,2)
+--- TF(3,2)
X--- TF(4,2)
TEMPERATURE ( .C )
1200
900
600
300
0
0
100
200
300
400
500
TIME AFTER FLOOD ( SEC )

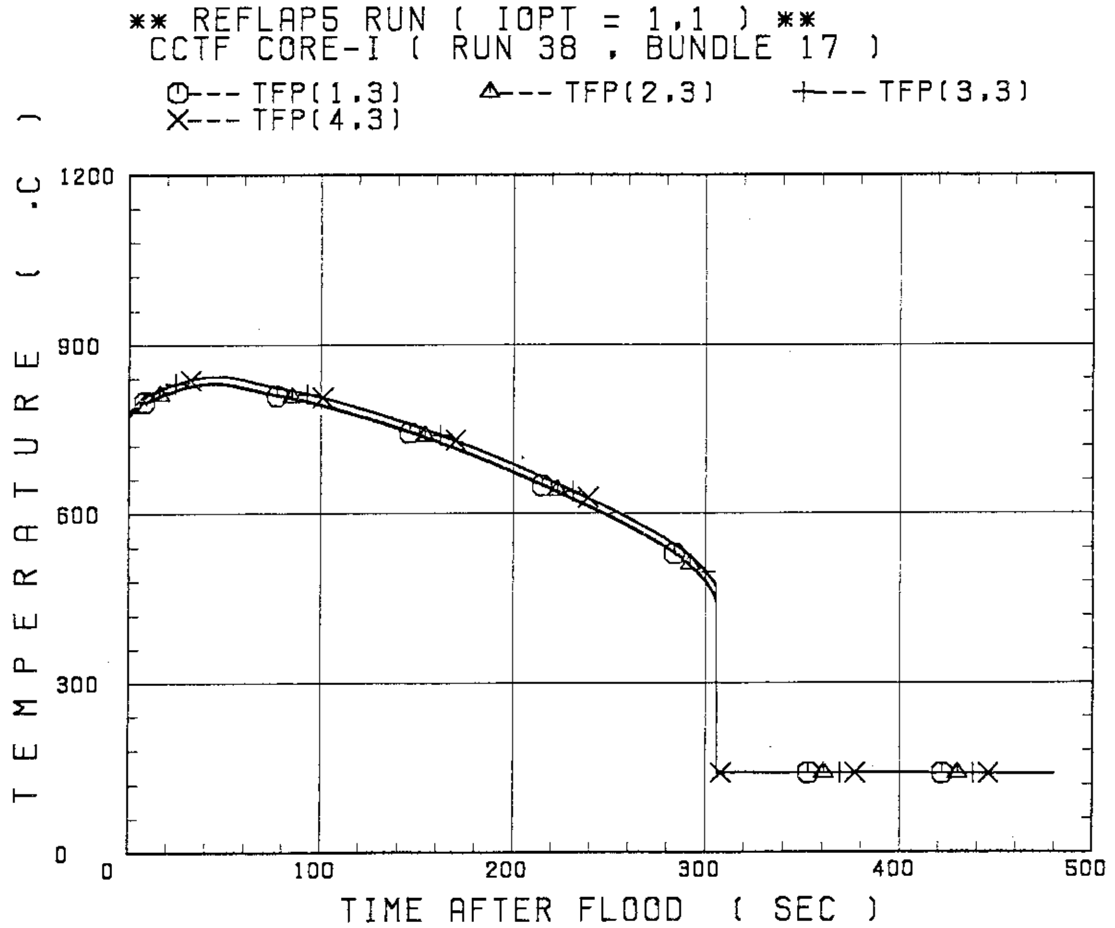

** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
O--- TF(1,3)
Δ--- TF(2,3)
+--- TF(3,3)
X--- TF(4,3)
TEMPERATURE ( .C )
1200
900
600
300
0
0
100
200
300
400
500
TIME AFTER FLOOD ( SEC )

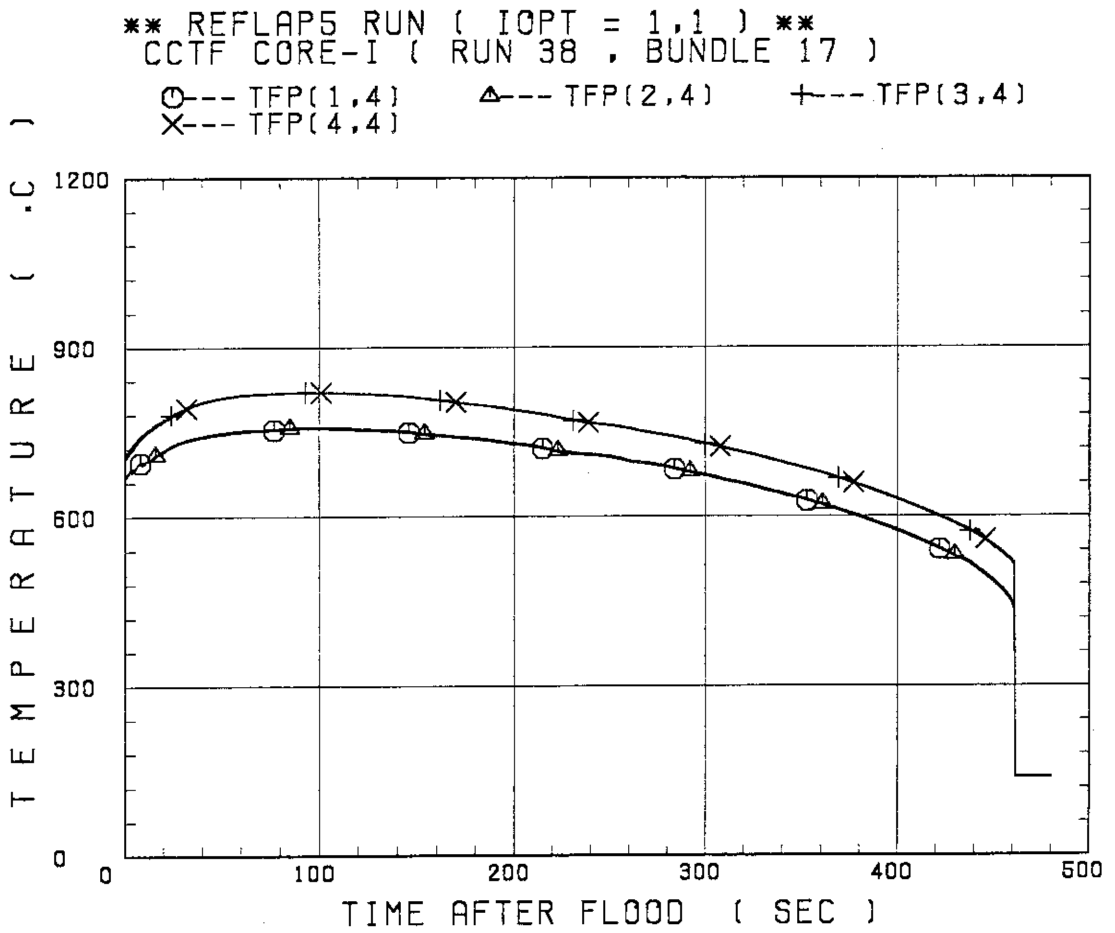

** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
TF(1,4)
TF(2,4)
TF(3,4)
TF(4,4)
TEMPERATURE ( .C )
1200
900
600
300
0
100
200
300
400
500
TIME AFTER FLOOD ( SEC )

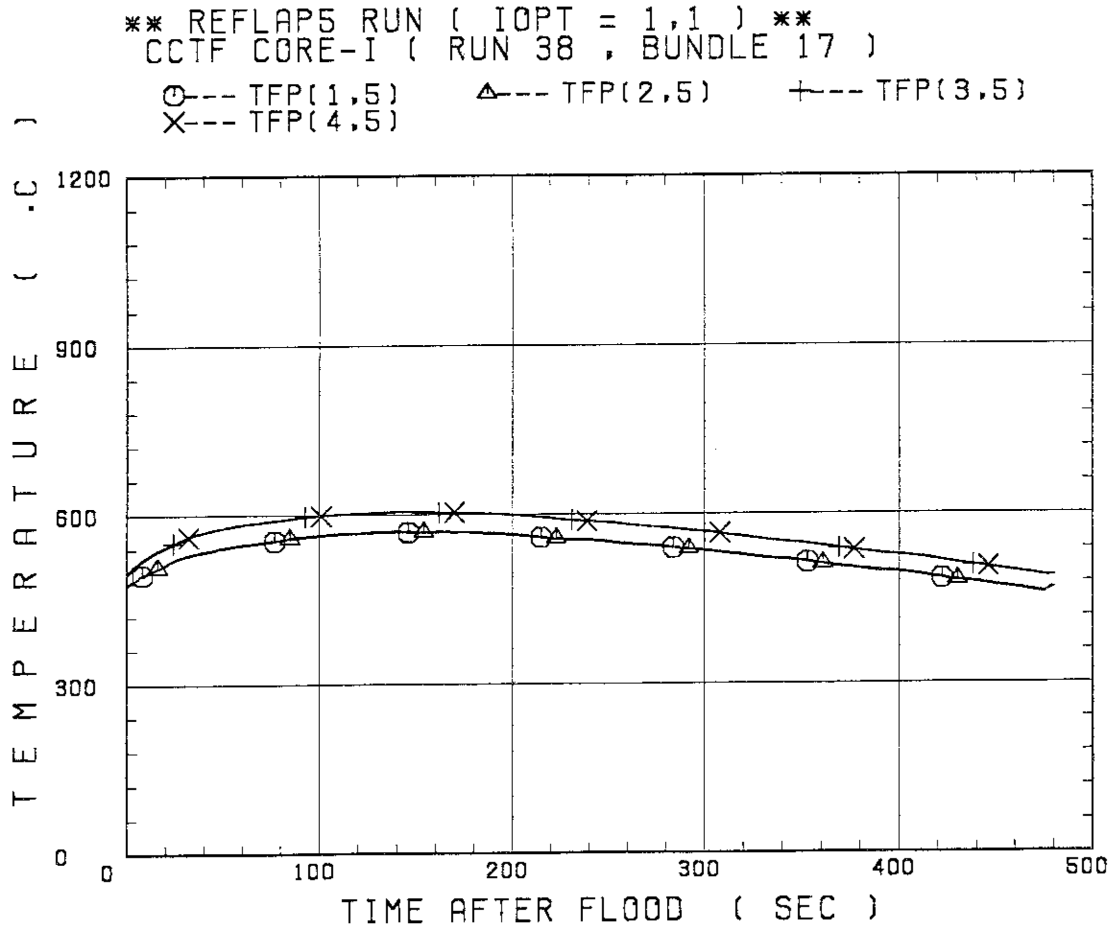

** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
TF(1,5)
TF(2,5)
TF(3,5)
TF(4,5)
TEMPERATURE ( .C )
1200
900
600
300
0
100
200
300
400
500
TIME AFTER FLOOD ( SEC )

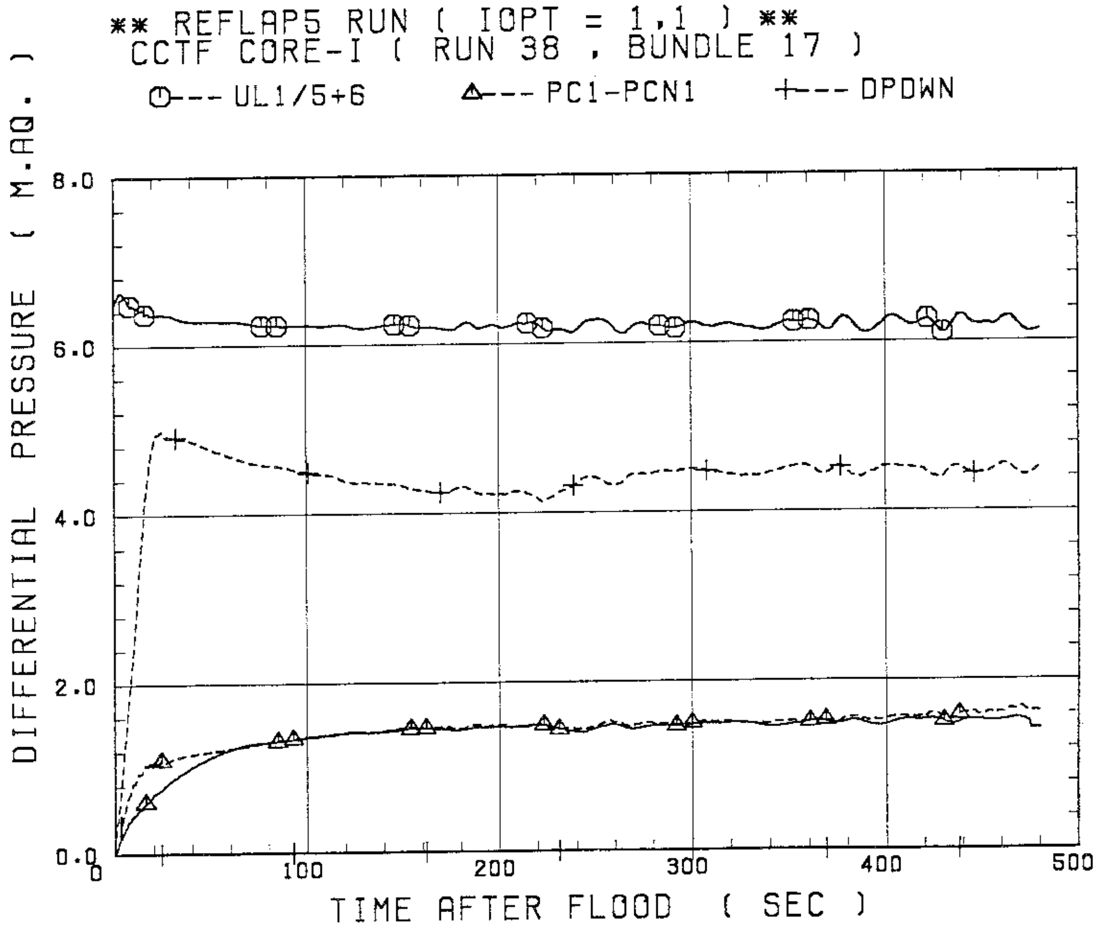

** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
O--- TFP(1,1)
△--- TFP(2,1)
+--- TFP(3,1)
X--- TFP(4,1)
TEMPERATURE ( .C )
1200
900
600
300
0
0
100
200
300
400
500
TIME AFTER FLOOD ( SEC )

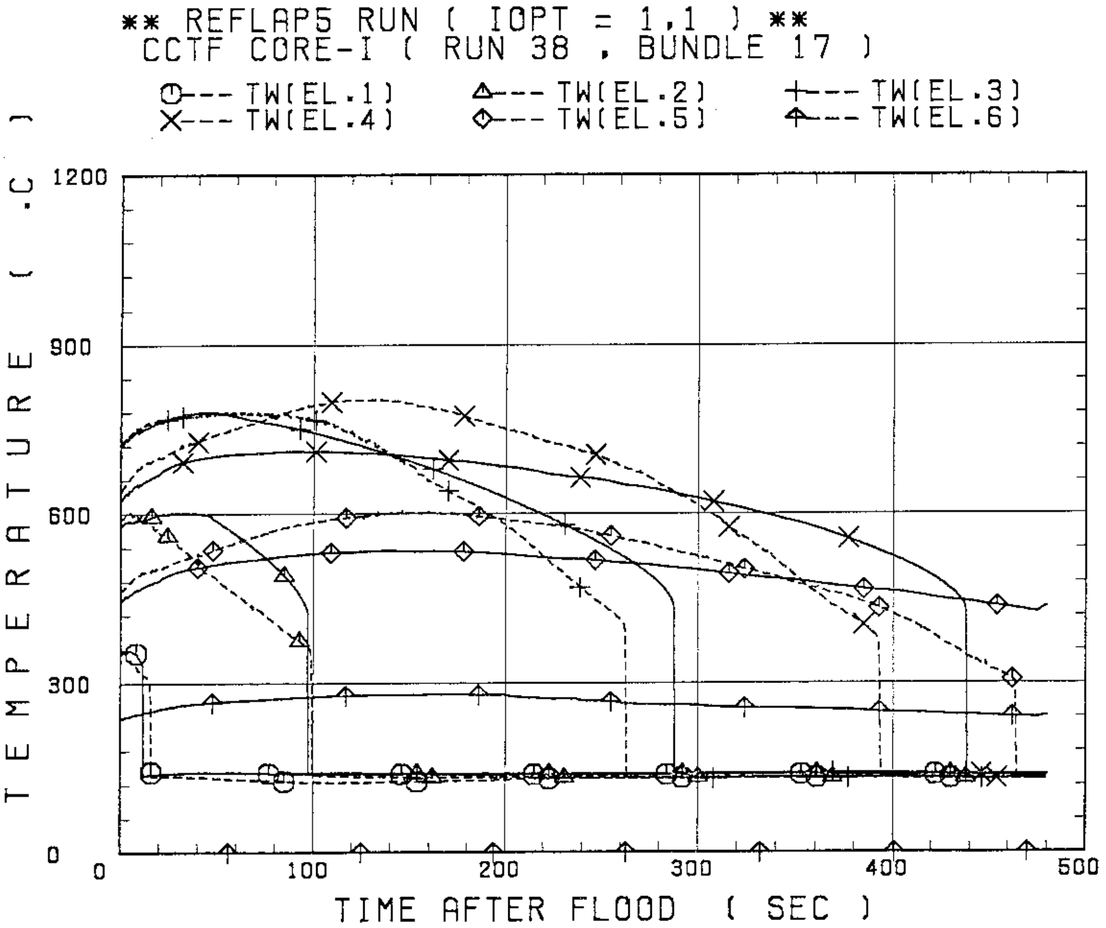

** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
O--- TFP(1,2)
△--- TFP(2,2)
+--- TFP(3,2)
X--- TFP(4,2)
TEMPERATURE ( .C )
1200
900
600
300
0
0
100
200
300
400
500
TIME AFTER FLOOD ( SEC )

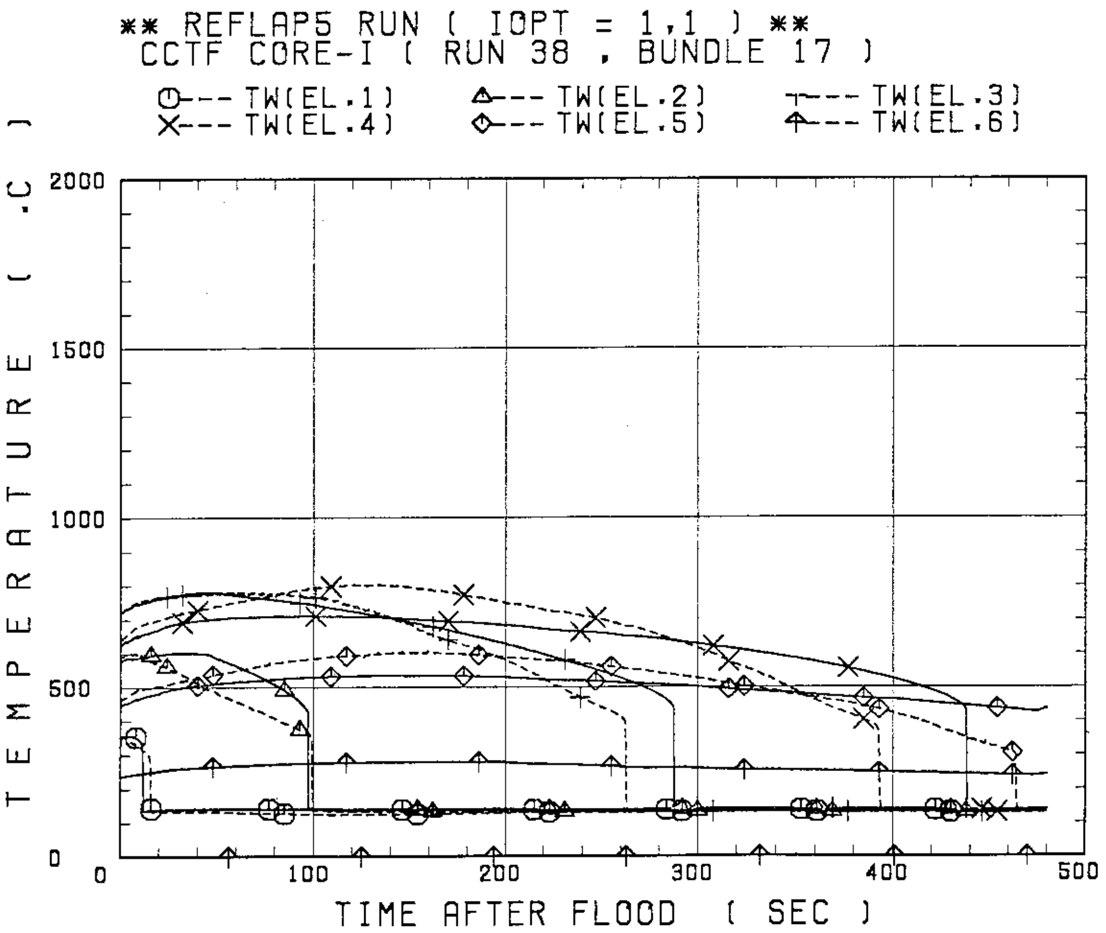

** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
TFP(1,3)
TFP(2,3)
TFP(3,3)
TFP(4,3)
TEMPERATURE ( .C )
1200
900
600
300
0
0
100
200
300
400
500
TIME AFTER FLOOD ( SEC )

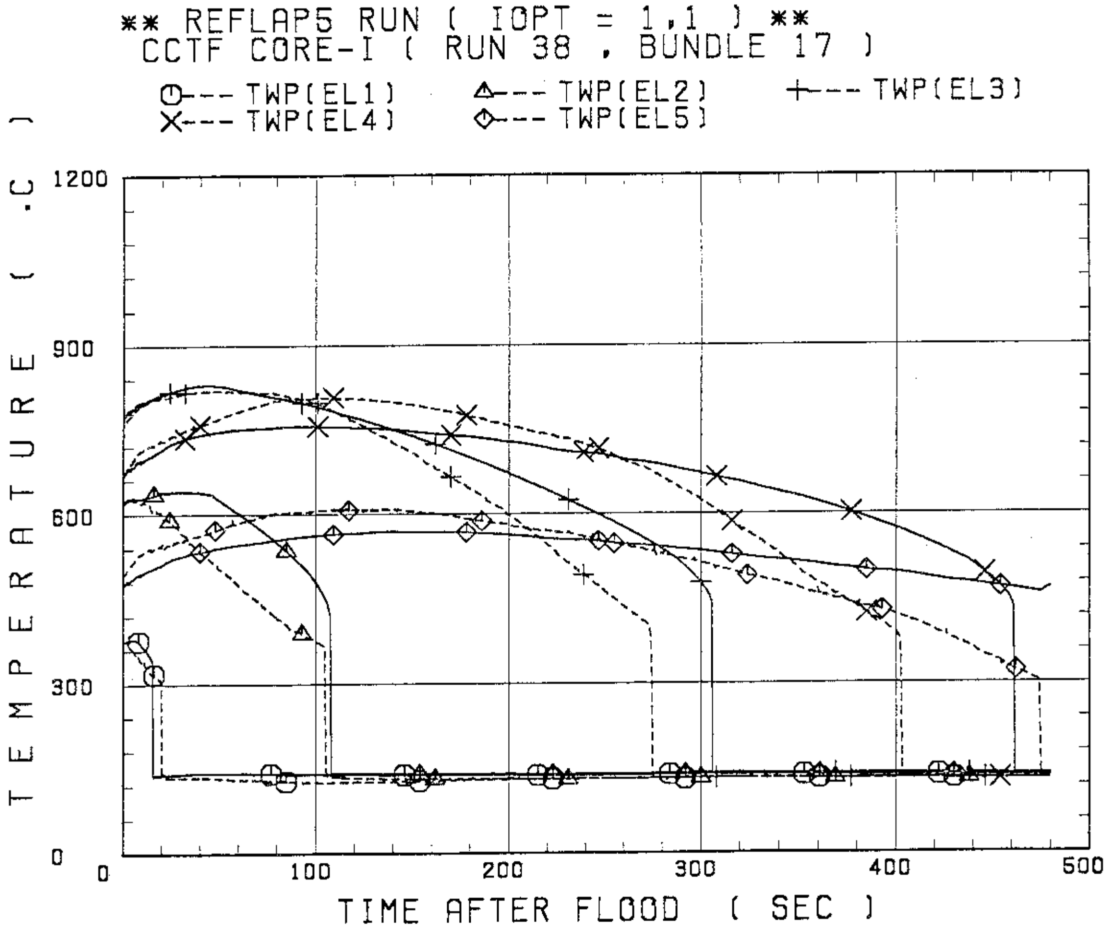

** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
TFP(1,4)
TFP(2,4)
TFP(3,4)
TFP(4,4)
TEMPERATURE ( .C )
1200
900
600
300
0
0
100
200
300
400
500
TIME AFTER FLOOD ( SEC )

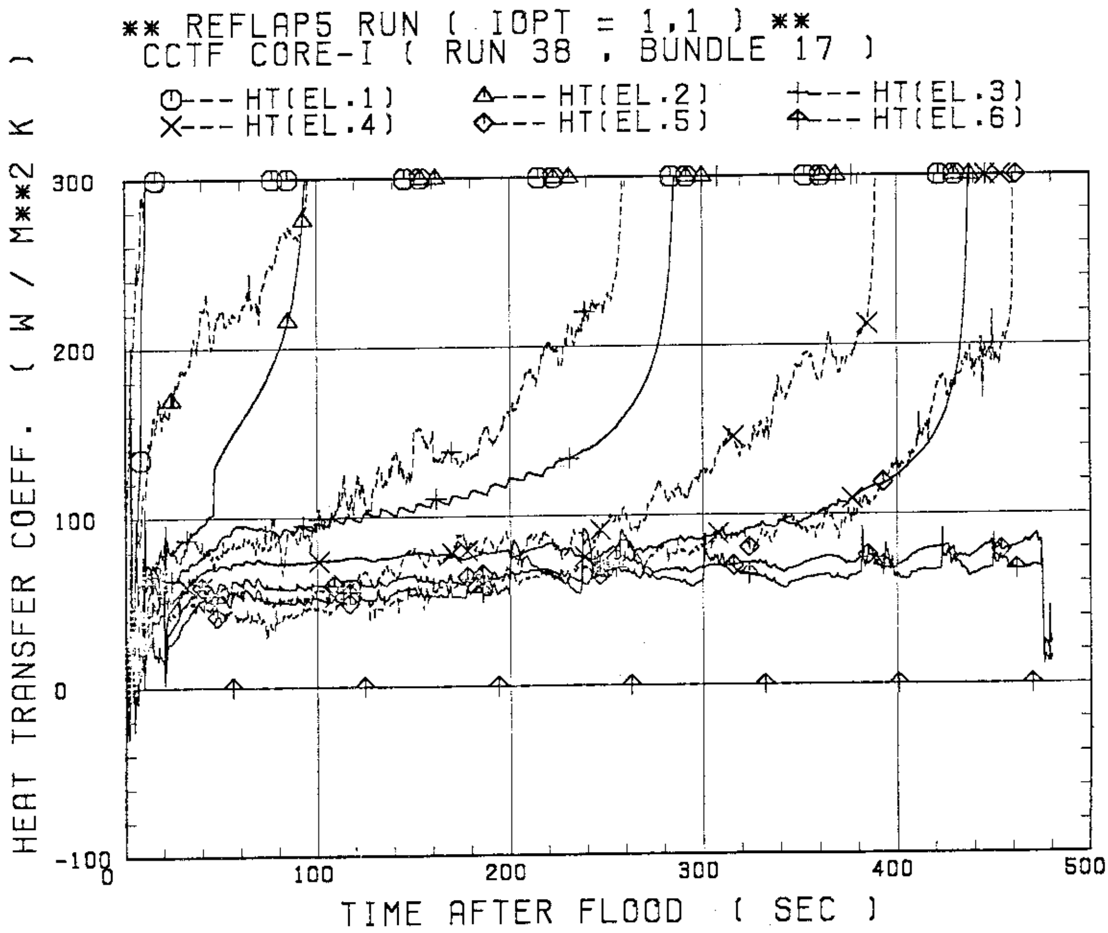

** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
TFP(1,5)
TFP(2,5)
TFP(3,5)
TFP(4,5)
TEMPERATURE ( .C )
1200
900
600
300
0
0
100
200
300
400
500
TIME AFTER FLOOD ( SEC )

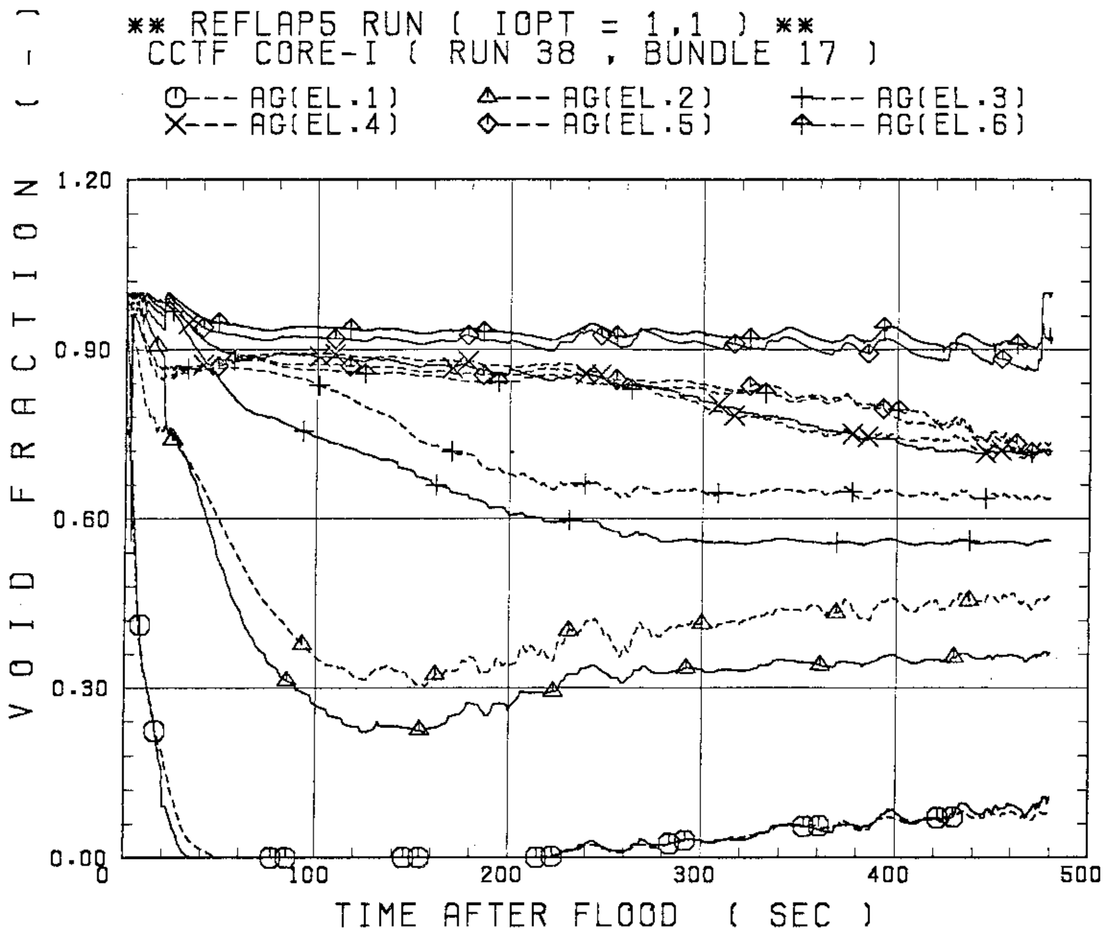

** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
UL1/5+6
PC1-PCN1
DPDWN
DIFFERENTIAL PRESSURE ( M.AQ. )
8.0
6.0
4.0
2.0
0.0
0
100
200
300
400
500
TIME AFTER FLOOD ( SEC )

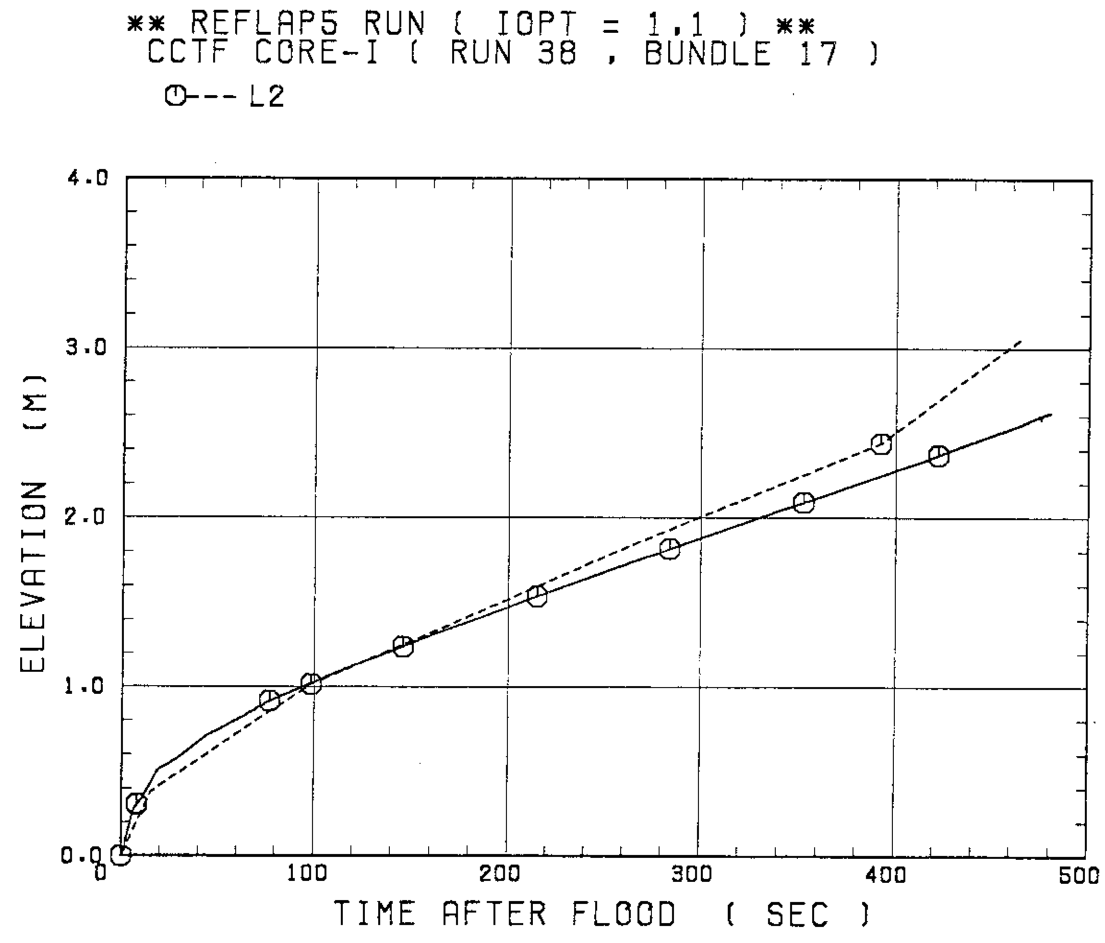

** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
TW(EL.1)
TW(EL.2)
TW(EL.3)
TW(EL.4)
TW(EL.5)
TW(EL.6)
TEMPERATURE ( .C )
0
300
600
900
1200
0
100
200
300
400
500
TIME AFTER FLOOD ( SEC )

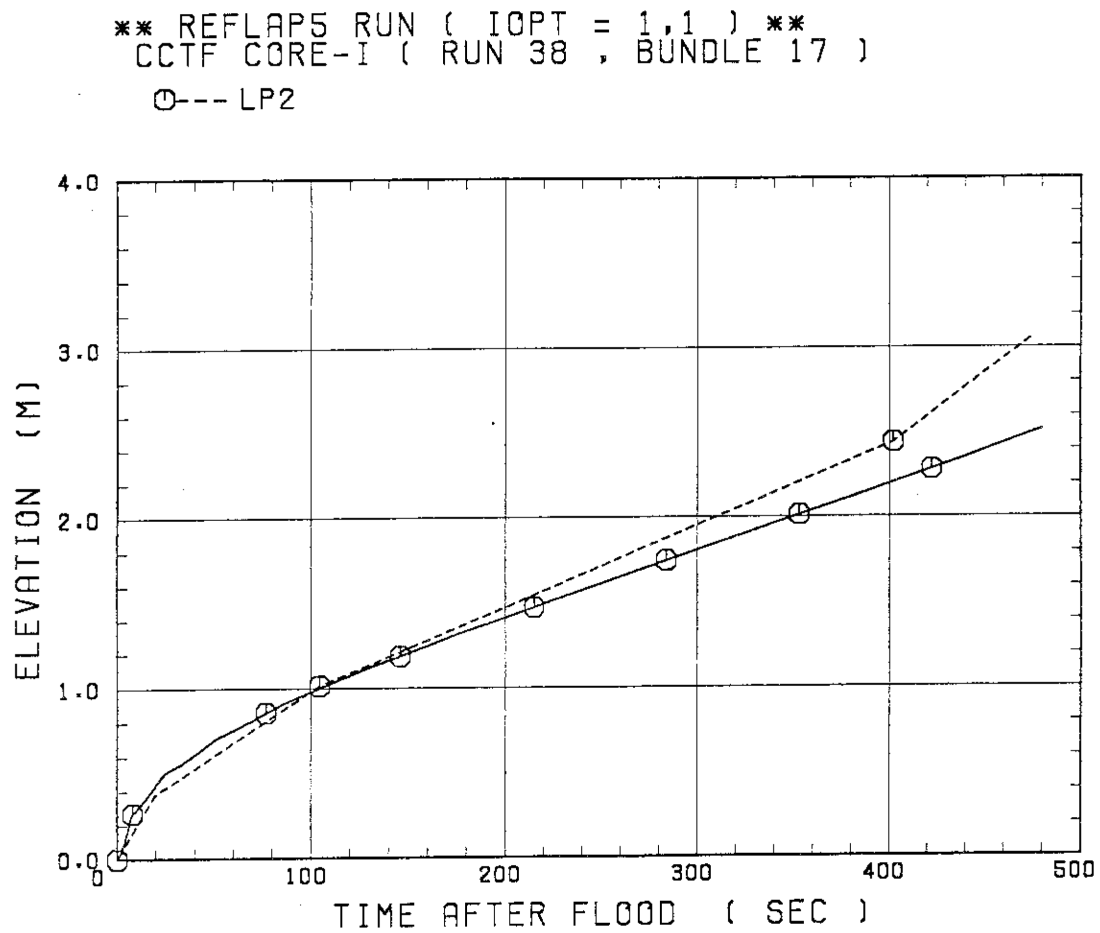

** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
TW(EL.1)
TW(EL.2)
TW(EL.3)
TW(EL.4)
TW(EL.5)
TW(EL.6)
TEMPERATURE ( .C )
0
500
1000
1500
2000
0
100
200
300
400
500
TIME AFTER FLOOD ( SEC )


** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
TWP(EL1)
TWP(EL2)
TWP(EL3)
TWP(EL4)
TWP(EL5)
TEMPERATURE ( .C )
1200
900
600
300
0
0
100
200
300
400
500
TIME AFTER FLOOD ( SEC )


** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
HT(EL.1)
HT(EL.2)
HT(EL.3)
HT(EL.4)
HT(EL.5)
HT(EL.6)
HEAT TRANSFER COEFF. ( W / M**2 K )
300
200
100
0
-100
0
100
200
300
400
500
TIME AFTER FLOOD ( SEC )


** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
AG(EL.1)
AG(EL.2)
AG(EL.3)
AG(EL.4)
AG(EL.5)
AG(EL.6)
VOID FRACTION ( - )
TIME AFTER FLOOD ( SEC )


** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
L2
ELEVATION (M)
TIME AFTER FLOOD ( SEC )


** REFLAP5 RUN ( IOPT = 1,1 ) **
CCTF CORE-I ( RUN 38 , BUNDLE 17 )
LP2
4.0
3.0
2.0
1.0
0.0
ELEVATION (M)
0
100
200
300
400
500
TIME AFTER FLOOD ( SEC )