

PSAT 04000U.04

**Attachment 2**

PSAT 04000U.03

"Design Data Base for Application of the Revised DBA Source Term  
to the TVA Browns Ferry Nuclear Power Plant"

9610250115 961018  
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**DESIGN DATA BASE FOR**  
**APPLICATION OF THE REVISED DBA SOURCE TERM**  
**TO THE TVA BROWNS FERRY NUCLEAR POWER PLANT**

	<u>PROJECT MGR</u>		<u>REVIEWER</u>		<u>TVA TECH CONT</u>	
	<u>Print/Sign</u>	<u>Date</u>	<u>Print/Sign</u>	<u>Date</u>	<u>Print/Sign</u>	<u>Date</u>
REV: 0	James Metcalf /s	9/1/95	Dave Leaver /s	9/1/95	Don McCamy /s	9/1/95
			By fax direction (on file)		By fax direction (on file)	
Reason for Revision: Initial Issue						
REV: 1	James Metcalf /s	9/22/95	Dave Leaver /s	9/22/95	Don McCamy /s	9/22/95
			By fax direction (on file)		By fax direction (on file)	
Reasons for Revision:						

1. General - Added revision numbers to PSAT calc references.
2. Item 1 - Added NUREG reference.
3. Item 2 - Finalized reference and removed exception (based on deletion of Item 2.4, see 5 below).
4. Item 2.3 - Corrected typo in note and added clarification that "Other" could be included in dose calculation of record if contribution negligible.
5. Item 2.4 - Deleted because power purge is not being used to model Case 2 SGTS bypass.
6. Item 3.7 - Provided steamline/drainline volume and reference.
7. Item 3.8 - Changed MC volume to be slightly more conservative.
8. Item 3.20 - Finalized reference, changed value, and removed option for flow from torus (not needed because Case 2 SGTS bypass is being modeled using a specific flowpath from drywell - see 5 above).
9. Item 3.23 - Provided "two-step" drywell leakrates to steamline and clarified reference.
10. Items 3.24 and 3.25 - Provided values for steamline and MC volumetric flows and references.

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REV: 1

## Reasons for Revision (continued)

11. Items 3.27 and 3.28 - Added "free" for clarification.
12. Item 3.29 - Added "per line" MSIV test limit.
13. Item 3.30 - Added RB non-SGTS volumetric exchange when RB pressure positive.
14. Item 4.1 - Clarified "bid" spec.
15. Items 4.3 and 4.4 - Added clarification that values are medians over oited intervals.
16. Items 4.7 and 4.8 - Changed "DF" to "filter efficiency", provided values and references for Item 4.7, and deleted Item 4.8 because Item 4.7 particulate removal is so high that Item 4.8 not needed.
17. Item 5.1 - Made fumigation X/Qs 1.5 to 2 hours instead of 0 to 0.5 hours.
18. Item 5.4 - Changed reference to TVA calc.
19. Items 7.3, 7.4, and 7.5 - Added steamline ID, effective steamline length, and approximate containment dimensions.
20. Item 8.9 - Added use: steamline initial temperature determination.
21. Item 8.15 - Added site-specific "standard conditions" reference pressure for converting drywell to steamline volumetric flow.

REV: 2      James Metcalf /s  
6/16/96Dave Leaver /s  
By fax direction  
(on file)      6/16/96Don McCamy /s  
By fax direction  
(on file)      6/25/96

## Reasons for Revision:

1. "Controlled Copy" designation removed - Data Base revisions to be issued only with Calc Package.
2. Item 4.7 - Unnecessary parenthetic expression deleted, name changed to "... /Main Condenser".
3. Item 6.4 - Value changed and reference added.

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REV: 2

## Reasons for Revision (continued)

4. Item 7.6, 7.7, 7.8, and 7.9 - Added generic flow area to HP turbine, minimum flow area of drainline pathway, elevation of LP turbine/main condenser bellows centerline, and elevation of hotwell bottom.

**1. Radionuclide Data** (References - Ci Inventories: TVA Bid Spec, except Cs and Te from GE Letter BFSE 95-023 and "Other" is PSAT Calc 04011H.05, Rev 0; Decay Constants and DCFs: TACT5 data file MLWRICRP.30 from NUREG/CR-5106 except Kr-90, Cs-134, Cs-137 and "Other" are PSAT Calc 04011H.05, Rev 0)

Nuclide	Core Inventory @ t=0	(per sec)	(10 <sup>-2</sup> Rem-m <sup>3</sup> /Ci-sec)		(10 <sup>4</sup> Rem/Ci)
	10 <sup>7</sup> Ci	DKlambda	WB DCF	Skin DCF	Thyroid DCF
Kr-83m	1.127	1.04E-04	0.00127	0.0	0.0
Kr-85m	2.351	4.39E-05	2.3	4.97	0.0
Kr-85	0.136	2.04E-09	0.0331	4.84	0.0
Kr-87	4.481	1.52E-04	13.3	33.6	0.0
Kr-88	6.303	6.89E-05	33.8	7.76	0.0
Kr-89	7.653	3.63E-03	30.3	34.7	0.0
Kr-90	7.554	-	-	-	-
Xe-131m	0.105	6.68E-07	0.125	1.33	0.0
Xe-133m	0.596	3.49E-06	0.429	2.96	0.0
Xe-133	18.47	1.52E-06	0.496	0.967	0.0
Xe-135m	3.761	7.40E-04	6.37	2.14	0.0
Xe-135	6.610	2.09E-05	3.59	6.32	0.0
Xe-137	16.55	2.96E-03	2.83	45.9	0.0
Xe-138	15.52	6.80E-04	18.7	14.7	0.0
I-131	9.378	9.96E-07	5.59	3.07	110.0
I-132	13.55	8.27E-05	35.5	11.0	0.63
I-133	18.98	9.22E-06	9.11	8.90	18.0
I-134	20.81	2.23E-04	41.1	14.2	0.11
I-135	17.78	2.86E-05	24.9	7.86	3.1
Cs-134	2.508	9.55E-09	25.8	11.5	0.0
Cs-137	1.503	7.29E-10	9.3	12.7	0.0
Te-132	13.33	2.51E-06	35.5	11.0	0.63
Other	496.7	7.05E-05	16.8	0.0	0.0

**2. Source Terms** (Reference Calc PSAT 04011H.06, Rev 0)

2.1 Fraction of core inventory, 0 - 30 seconds: no releases

2.2 Fraction of core inventory, 30 - 1830 seconds: Gases -  
 Xe, Kr - 2.8E-5 /sec (0.05 total)  
 Elemental I - 1.3E-6 /sec (2.4E-3 total)  
 Organic I - 4.2E-8 /sec (7.5E-5 total)

Aerosols -  
 Iodine - 2.6E-5 /sec (0.0475 total)  
 Cesium - 2.8E-5 /sec (0.05 total)

2.3 Fraction of core inventory, 1830 - 7230 seconds: Gases - Xe, Kr - 1.8E-4 /sec (0.95 total)

Elemental I -  $2.2\text{E-}6$  /sec ( $1.2\text{E-}2$  total)  
Organic I -  $6.9\text{E-}8$  /sec ( $3.8\text{E-}4$  total)

Aerosols - Iodine -  $4.4\text{E-}5$  /sec (0.2375 total)  
Cesium -  $3.7\text{E-}5$  /sec (0.2 total)  
Tellurium -  $9.3\text{E-}6$  /sec (0.05 total)  
Other -  $1.9\text{E-}6$  /sec (0.01 total)

Note that the Other is specified only to verify the assumption that its inclusion in the dose calculation will have little or no impact - should not be included in calculations of record unless contribution is negligible.

## 2.4 - DELETED

### 3. Volumes and Volumetric Flowrates

- |  |   |
|--|---|
| 3.1 Volume of Drywell - $159000 \text{ ft}^3$                                | (Reference NEDO-24580, Rev 2, Table BF 4.1.1-1)   |
| 3.2 Volume of Torus Airspace - $124000 \text{ ft}^3$                         | (Reference TVA Bid Spec total containment volume of $283000 \text{ ft}^3$ less drywell volume)  |
| 3.3 Volume of Suppression Pool - $127800 \text{ ft}^3$                       | (Reference BFNP UFSAR Table 5.2-1, Amendment 9 and given as $123000\text{-}128000 \text{ ft}^3$ in TVA Calc ND-Q0999-880163, Rev 1)                                 |
| 3.4 Volume of Reactor Building (RB) - $1.932\text{E}6 \text{ ft}^3$          | (Reference TVA Bid Spec)  |
| 3.5 Volume of Stack Room (SR) - $34560 \text{ ft}^3$                         | (Reference TVA Bid Spec - 1/2 volume of $69120 \text{ ft}^3$ used to account for 50% mixing)  |
| 3.6 Volume of Control Room (CR) - $210000 \text{ ft}^3$                      | (Reference TVA Bid Spec)  |
| 3.7 Volume of Main Steamlines and Associated Drainlines - $692 \text{ ft}^3$ | (Steamlines only used - $692 = 4 \text{ steamlines} \times 68.25 \text{ ft length} \times \{21.562" \text{ diameter}\}^2 \times \pi/4/144$ , see Items 7.3 and 7.4) |
| 3.8 Volume of Main Condenser (MC) - $122400 \text{ ft}^3$                    | (Reference TVA Bid Spec - for conservatism only 90% of condenser volume credited)   |
| 3.9 Volume of Water in the Hotwell - $25400 \text{ ft}^3$                    | (Reference TVA Bid Spec as 190000 gallons)  |

- 3.10 Volumetric Flowrate, Drywell to Torus (Filtered): (Reference Calc PSAT 04011H.01, Rev 0)  
From t=0 to t=1830 seconds - 0 cfh  
From t=1830 to t=7230 seconds - 1.6E5 cfh  
From t=7230 seconds to end - 1.2E6 cfh
- 3.11 Volumetric Flowrate, Torus to Drywell (Unfiltered): (Reference Calc PSAT 04011H.01, Rev 0)  
From t=0 to t=7890 seconds - 0 cfh  
From t=7890 seconds to end - 1.2E6 cfh
- 3.12 Volumetric Flowrate, Drywell to RB - 132.5 cfh (Reference TVA Bid Spec total primary containment leakrate of 235.8 cfh apportioned between drywell and torus volumes)
- 3.13 Volumetric Flowrate, Torus to RB - 103.3 cfh (Reference TVA Bid Spec total primary containment leakrate of 235.8 cfh apportioned between drywell and torus volumes)
- 3.14 Volumetric Flowrate, RB to Stack (Filtered) - 1.32E6 cfh for Case 1 (Reference TVA Bid Spec)  
- 9.0E5 cfh for Case 2
- 3.15 Volumetric Flowrate, RB to SR (Filtered) - 300 cfh (Reference TVA Bid Spec)
- 3.16 Volumetric Flowrate, Torus to Stack (Unfiltered) - 10 cfh (Reference TVA Bid Spec)
- 3.17 Volumetric Flowrate, Torus to Stack (Filtered): (Reference TVA Bid Spec for CAD flow\*)  
From t=0 to t=10 days - 0 cfh  
From t=10 to t=11 days - 8340 cfh  
From t=11 to t=20 days - 0 cfh  
From t=20 to t=21 days - 8340 cfh  
From t=21 to t=29 days - 0 cfh  
From t=29 to t=30 days - 8340 cfh  
\*CAD flow not specified to be from torus, but primary containment is well mixed at this time
- 3.18 Volumetric Flowrate, Torus to SR (Filtered): (Reference TVA Bid Spec for CAD flow\*\*)  
0.033% of the CAD flowrates given above  
\*\*CAD flow bypassing the stack not given, but assumed to bypass with same fraction as SGTS flow = 300 cfh/9.0E5 cfh = 0.00033 max
- 3.19 Volumetric Flowrate, SR to Environment - 300 cfh (Reference TVA Bid Spec - assumed to be same as leakage into SR from stack)

- 3.20 Volumetric Flowrate, Drywell to Environment Via Reactor Building (Reference Calc PSAT 04011H.07, Rev 0)
- (Unfiltered - Case 2 CR Only)  
From  $t=0$  to  $t=105$  seconds -  $3.1E-3$  cfh  
From  $t=105$  seconds to end - 0 cfh
- 3.21 Volumetric Flowrate, Environment to CR (Filtered) -  $1.8E5$  cfh (Reference TVA Bid Spec as 3000 cfm)
- 3.22 Volumetric Flowrate, Environment to CR (Unfiltered) -  $2.23E5$  cfh (Reference TVA Bid Spec as 3717 cfm)
- 3.23 Volumetric Flowrate, Drywell to Main Steamlines/Drainlines
- 120 cfh from  $t=0$  to  $t=7230$  seconds (Reference Calc PSAT 04001H.02, Rev 0\*\*\*)
  - 177.5 cfh from  $t=7230$  seconds to end \*\*\*Rates developed in this calculation are for one steam line at 100 scfh. These rates are multiplied by 2.5 to obtain the values given in this data base for total flow. See Item 3.28.)
- 3.24 Volumetric Flowrate, Main Steamlines/Drainlines to MC - 475 cfh  
(Reference 250 scfh from Item 3.28 corrected for reference temperature in steamlines versus standard conditions from Calc PSAT 04002H.08, Rev 0; i.e.,  $250 \times \{558.5 \text{ K} \times 9/5\} / 529.67 \text{ R} = 475$ )
- 3.25 Volumetric Flowrate, MC to Environment - 250 cfh (Based on Item 3.28 with observation that flow to main condenser through drain lines will be at near-standard temperature after approximately 6 hours - see Exhibit 1 of Calc PSAT 04002H.09, Rev 0)
- 3.26 Free Volume In-Vessel, below BAF -  $4100 \text{ ft}^3$  (Reference TVA Calc MD-Q0063-920470 Rev 0, Attachment A)
- 3.27 Free Volume In-Vessel, within Core Shroud, BAF-TAF -  $1759 \text{ ft}^3$  (Reference TVA Calc MD-Q0063-920470 Rev 0, Attachment A as  $5077.7 \text{ ft}^3 - 4099.7 \text{ ft}^3 + 486.6 \text{ ft}^3 + 294.5 \text{ ft}^3 = 1759.1 \text{ ft}^3$ )

3.28 Combined MSIV Tested Leakrates - 250 scfh

(Reference TVA Fax McCamy to  
Metcalf dated 9/1/95)

3.29 Per Line MSIV Tested Leakrate - 100 scfh

(Reference TVA Bid Spec)

3.30 Non-SGTS Volumetric Exchange when RB Pressure Positive - 1540 cfh

(Reference TVA Calc ND-Q0065-  
900052, Rev 2)

#### 4. Filter Efficiencies, Removal Lambdas, and Decontamination Factors

4.1 Filter Efficiency - All Filtered Flowpaths Except Drywell to Torus:

(Reference Tech Specs 3.7.B and 3.7.E, Amendment  
231 and TVA Bid Spec - Charcoal Filters Assumed  
Removed from SGTS and CREVS)

- For Particulate Iodine, Cesium, and Other - 99%
- For Elemental and Organic Iodine, Tellurium, and Noble Gasses - 0%

4.2 Filter Efficiency - Drywell to Torus:

(Reference Calc PSAT 04011H.04, Rev 0)

From t=0 to t=7230 seconds:

- For Particulate and Elemental Iodine, Cesium, Tellurium, and Other - 72%
- For Organic Iodine and Noble Gasses - 0%

From t=7230 to t=7890 seconds:

- For Particulate and Elemental Iodine, Cesium, Tellurium, and Other - 95%
- For Organic Iodine and Noble Gasses - 0%

From t=7890 seconds to end:

- For All Species - 0%

4.3 Removal (Sedimentation) Lambdas in Drywell:

(Reference Calc PSAT 04001H.02, Rev 0 -  
values are medians over cited intervals)

For Particulate and Elemental Iodine, Cesium, Tellurium, and Other:

- From t=0 to t=30 seconds - 0/hour
- From t=30 to t=2400 seconds - 0.35/hour
- From t=2400 to t=3200 seconds - 0.45/hour
- From t=3200 to t=4000 seconds - 0.55/hour
- From t=4000 to t=4885 seconds - 0.65/hour
- From t=4885 to t=6300 seconds - 0.75/hour
- From t=6300 to t=7360 seconds - 0.85/hour
- From t=7360 to t=8570 seconds - 0.95/hour
- From t=8570 to t=9840 seconds - 0.85/hour
- From t=9840 to t=11760 seconds - 0.75/hour
- From t=11760 to t=14530 seconds - 0.65/hour
- From t=14530 to t=18650 seconds - 0.55/hour

- From t=18650 to t=24980 seconds - 0.45/hour
- From t=24980 to t=35570 seconds - 0.35/hour
- From t=35570 to t=57220 seconds - 0.25/hour
- From t=57220 to t=100000 seconds - 0.162/hour
- From t=100000 seconds to end - 0/hour

For Organic Iodine and Noble Gasses

- From t=0 to end - 0/hour

4.4 Removal (Sedimentation) Lambdas in Torus: (Reference Calc PSAT 04001H.02, Rev 0 - values are medians over cited intervals)

For Particulate and Elemental Iodine, Cesium, Tellurium, and Other:

- From t=0 to t=7890 seconds - 0/hour
- From t=7890 to t=8570 seconds - 0.95/hour
- From t=8570 to t=9840 seconds - 0.85/hour
- From t=9840 to t=11760 seconds - 0.75/hour
- From t=11760 to t=14530 seconds - 0.65/hour
- From t=14530 to t=18650 seconds - 0.55/hour
- From t=18650 to t=24980 seconds - 0.45/hour
- From t=24980 to t=35570 seconds - 0.35/hour
- From t=35570 to t=57220 seconds - 0.25/hour
- From t=57220 to t=100000 seconds - 0.162/hour
- From t=100000 seconds to end - 0/hour

For Organic Iodine and Noble Gasses

- From t=0 to end - 0/hour

4.5 Maximum DF for Elemental Iodine in Drywell - 8000 (Reference Calc PSAT 04011H.03, Rev 0)

4.6 Maximum DF for Elemental Iodine in Torus - 8000 (Reference Calc PSAT 04011H.03, Rev 0)

4.7 Filter Efficiency for Flowpath From Drywell to Main Steamlines/Main Condenser:

(Reference Calcs PSAT 04002H.08, Rev 0 and .09, Rev 0)

- For Particulate Iodine, Cesium, and Other - 99.85%
- For Elemental Iodine and Tellurium - 50%
- For Organic Iodine and Noble Gasses - 0%

4.8 - DELETED

## 5. X/Q Values, Breathing Rates and Occupancy Factors

	<u>EAB</u>	<u>LPZ</u>	<u>CR</u>
5.1 Stack Release X/Q (sec/m <sup>3</sup> ):	(Reference TVA Bid Spec - data presented as "Top of Stack" - modified by telecon with TVA's Tech Contact Don McCamy 9/13/95)		
From t=0 to t=1.5 hours	9.7E-7	8.0E-7	5.9E-15
From t=1.5 to 2 hours	2.4E-5	1.3E-5	3.31E-5
From t=2 to t=8 hours		8.0E-7	3.8E-15
From t=8 to t=24 hours		4.0E-7	3.0E-15
From t=24 to t=96 hours		2.0E-7	1.9E-15
From t=96 to t=720 hours		6.5E-8	9.6E-16
5.2 SR Release X/Q (sec/m <sup>3</sup> ):	(Reference TVA Bid Spec - data presented as "Base of Stack")		
From t=0 to t=2 hours	1.22E-4	5.65E-5	8.89E-4
From t=2 to t=8 hours		5.65E-5	7.30E-4
From t=8 to t=24 hours		2.24E-5	6.60E-4
From t=24 to t=96 hours		7.94E-6	5.40E-4
From t=96 to t=720 hours		1.71E-6	4.00E-4
5.3 MC Release X/Q (sec/m <sup>3</sup> )	(Reference TVA Bid Spec - data presented as "Turbine Building" - CR X/Qs decreased by a factor of two to account for intakes being on either side of Turbine Building as described in TVA Bid Spec)		
From t=0 to t=2 hours	2.70E-4	1.32E-4	1.74E-4
From t=2 to t=8 hours		6.02E-5	1.47E-4
From t=8 to t=24 hours		4.07E-5	1.27E-4
From t=24 to t=96 hours		1.73E-5	1.01E-4
From t=96 to t=720 hours		5.10E-6	7.20E-5
5.4 RB Ground-Level Release X/Q (sec/m <sup>3</sup> )**** - 1.12E-3	(Reference TVA Calc ND-Q0065-900052, Rev 2)		
****From t=0 to t=105 seconds, Case 2 CR Only			
5.5 Breathing rates:	(Reference TVA Bid Spec)		
0 - 8 hour - 3.47E-4 m <sup>3</sup> /sec			
8 - 24 hour - 1.75E-4 m <sup>3</sup> /sec			
24 - 720 hour - 2.32E-4 m <sup>3</sup> /sec			
5.6 Occupancy Factors:	(Reference TVA Bid Spec)		
From t=0 to t=1 day - 1.0			
From t=1 to t=4 days - 0.6			
From t=4 to t=30 days - 0.4			

## 6. Chemistry Data

6.1 Initial Pool pH - 6.0

(Reference TVA Memo Ricketts to MoCarny dated 8/30/95 stating range 6.0 - 6.3)

6.2 Initial Hotwell pH - 7.0

(Reference TVA Memo Ricketts to MoCarny dated 8/30/95 stating range 7.0 - 7.7)

6.3 Mass of Chloride-Bearing Cable Insulation in Containment

(Reference TVA QIR BFEBFN95038)

- Hypalon - 333 lbm
- PVC - 3472 lbm

6.4 Thickness of Cable Insulation - 60 mils

(Reference telecon D. Leaver to D. MoCarny, September 29, 1995)

6.5 Mass of B-10 Needed for Reactor Shutdown - 186 lbm

(Reference TVA Calc MD-Q0063-920470, Rev 0)

6.6 Mass B-10 per Lbm of Enriched Sodium Pentaborate - 0.108 lbm (Reference TVA Calc MD-Q0063-920470, Rev 0)

6.7 Formula of ESPB -  $\text{Na}_2\text{O} \cdot 5\text{B}_2\text{O}_3 \cdot 10\text{H}_2\text{O}$  (Reference TVA Calc MD-Q0063-920470, Rev 0)

6.8 Formula Weight of ESPB - 585.9 lbm/lbm-mole

(Reference TVA Calc MD-Q0063-920470, Rev 0)

6.9 Reactor Coolant Mass Excluding Suppression Pool - 1.22E6 lbm

(Reference TVA Calc MD-Q0063-920470, Rev 0)

## 7. Fission Product Transport Data

7.1 Sedimentation Area in Drywell - 8183 ft<sup>2</sup>

(Reference TVA Calc ND-Q0999-950021, Rev 0)

7.2 Sedimentation Area in Torus - 13635 ft<sup>2</sup>

(Reference TVA Calc ND-Q0999-950021, Rev 0)

- 10859 ft<sup>2</sup> wet
- 2776 ft<sup>2</sup> dry

7.3 Steamline ID - 21.562"

(Reference TVA Calc ND-Q0031-920075, Rev 6)

7.4 Length of Steamline from Outboard MSIV to Drain Line Tap - 68.25' (Reference TVA Calc ND-Q0999-950021, Rev 0)

7.5 Approx Containment Dimensions: (Reference TVA Browns Ferry Dwg, General Plans and Sections, Sheet 2)

- Diameter of Drywell Cylinder - 38.5 feet
- Height of Drywell Cylinder - 55 feet
- Height of Drywell Sphere Sidewall - 50 feet
- Diameter of Drywell Sphere - 67 feet
- Major Torus Diameter - 111.5 feet
- Minor Torus Diameter - 31 feet

7.6 Generic Flow Area to HP Turbine - 0.0288 in<sup>2</sup> (Reference Attachment 3 to DRF A00-04146, Section C, Rec # R92-920904-001, Page B-6)

7.7 Min Flow Area of Drainline Pathway = 5.41 in<sup>2</sup> (Reference Attachment 2 to DRF A00-04146, Section C, Rec # R92-920904-001, Page 2-1, for diameter of 2.624")

7.8 Elevation of LP Turbine/Main Condenser Bellows  $\pm$  - 609'1" (Reference Attachment 2 to DRF A00-04146, Section C, Rec # R92-920904-001, Page 2-2)

7.9 Elevation of Bottom of Main Condenser Hotwell - 564'9" (Reference Attachment 2 to DRF A00-04146, Section C, Rec # R92-920904-001, Page 2-2 for elevation of surface = 567' with 27" of water in hotwell)

## 8. Thermal-Hydraulic Data

8.1 Drywell State after 30 Seconds, but Prior to Start of Containment Heat Removal (End of Debris Quench)

- 27 psig
- 275 F

(Reference TVA Calc ND-Q0031-920075, Rev 6)

8.2 Drywell State after Start of Containment Heat Removal

- 10 psig
- 175 F

8.3 Core Power - 3458 Mw(t)

(Reference TVA Bid Spec)

- 8.4 Core Spray Flowrate - 6250 gpm (two pumps) (Reference BFNP UFSAR Table 14.6-3, Amendment 7)
- 8.5 ID of Core Shroud - 203" (Reference TVA Calc MD-Q0063-920470, Rev 0, Attachment A as 207" OD minus 2x thickness of 2")
- 8.6 Elevation of TAF - Approx 360" (Reference TVA Calc MD-Q0063-920470, Rev 0, Attachment A)
- 8.7 Elevation of BAF - Approx 216" (Reference TVA Calc MD-Q0063-920470, Rev 0, Attachment A)
- 8.8 Inside Radius of Vessel and Lower Head - 125.5" (Reference TVA Calc MD-Q0063-920470, Rev 0, Attachment A)
- 8.9 Reference Pressure for Determination of Coolant Mass\*\*\*\*\* - 1015 psia (Reference TVA Calc MD-Q0063-920470, Rev 0, Attachment A)
- \*\*\*\*\*Also used as reference pressure for determining initial steamline temperature (saturation temperature at the pressure specified)
- 8.10 Liquid Specific Volume at Reference Pressure - 0.02166 ft<sup>3</sup>/lbm (Reference TVA Calc MD-Q0063-920470, Rev 0, Attachment A)
- 8.11 Test Basis for Drywell-to-Torus Vacuum Breakers -  
Leak rate less than 1" orifice equivalent (Reference BFNP UFSAR Q5.1 Response, Amendment 24)  
 $A/\sqrt{K}$  approx 0.0033 ft<sup>2</sup>
- 8.12 Maximum Suppression Pool Temperature - 173 F (Reference BFNP UFSAR Table 14.6-3, Amendment 7, and Figure 14.6-12, Amendment 7)
- 8.13 Minimum ECCS Injection Temperature Post-Blowdown - 150 F (Reference BFNP UFSAR Figure 14.6-12, Amendment 7)
- 8.14 Vent Submergence - 3.5 ft (Reference NEDO-24580, Rev 2, Table BF 4.1.1-1)
- 8.15 Reference Pressure for Drywell to Steamline Volumetric Flow Conversion - 14.4 psia (Reference TVA Calc ND-Q0031-920075, Rev 6)