

→ DRAFT →

- 1307

## ADDITIONAL QUESTIONS ON COLR AMENDMENT

1. Where is it stated in the application that the replacement safety limits for DNBR and peak fuel centerline temperature proposed for TS 2.1.1 are the valid safety limits for the plant?

**Response:**

The application does not specifically define the replacement limits. The format and detail was based on the Byron/Braidwood application that did not include the specific limits being replaced.

USAR Table 4.1-1, Reactor Design Table, identifies the Minimum DNBR Ratio for design transients as 1.76 (WRB-3) and 1.30 (W-3).

USAR Section 4.4.1.1, "Departure from Nucleate Boiling Design Basis," states:

"The WCGS utilizes the EPRI VIPRE-01 Computer Code (Versatile Internals and Component Program for Reactors, EPRI) with the WRB-2 Critical Heat Flux Correlation for core thermal-hydraulic analysis. The WRB-2 correlation was developed to obtain a more accurate CHF predictor for mixing vane grid fuel assemblies of the same design as the 17X17 standard fuel mixing vane design (Reference 8). The calculated design limit DNBR for the VIPRE-01 code with the WRB-2 CHF correlation is below the 1.17 DNBR design limit for the Westinghouse THINC computer code with the WRB-2 correlation. Therefore, conservative use of a 1.17 DNBR design limit for the VIPRE-01 code with the WRB-2 correlation will be utilized for core DNBR analyses.

DNBR margin is maintained for the Vantage 5H fuel by ensuring the DNB safety analyses meet a DNBR thermal design limit of 1.76. The limiting Condition II transient from DNBR perspective, is analyzed using VIPRE-01 code and results in a minimum DNBR greater than 1.76. The thermal design limit is set greater than the statistical design limit (see Section 4.4.2.12) to provide generic DNB margin."

The thermal design DNBR limit of 1.76 is the Safety Analysis design limit DNBR plus the WCGS generic margin (30.1%).

Thermal Design Limit = Safety Analysis Design Limit/1-margin

$$1.76 = 1.23/1-0.301$$

Appendix A of the COLR specifies the Design Limit DNBR of 1.23. The Design Limit DNBR was derived and submitted to the NRC in the license application associated with Amendment No. 92 (12/8/95).

USAR Section 4.2.1.2, Fuel Material," states:

"a. Thermal-physical properties

The thermal-physical properties of UO<sub>2</sub> are described in Reference 2 with due consideration of temperature and irradiation effects. Fuel pellet temperatures - The center temperature of the hottest pellet is below the melting temperature of the UO<sub>2</sub> [melting point of 5080 °F (Ref. 3) unirradiated and decreasing by 58°F per 10,000 MWD/MTU]. While a limited amount of center melting can be tolerated, the design conservatively precludes center melting. A calculated fuel centerline temperature of 4700°F has been selected as an overpower limit to ensure no fuel melting. This provides sufficient margin for uncertainties, as described in Section 4.4.2.9."

2. For each of the references in Technical Specification (TS) 5.6.5.b that are proposed to be changed, provide a discussion of (1) what each Safety Evaluation (SE) was for (e.g., the SE was issued to Wolf Creek to approve a licensee topical report) and (2) the conditions, if any, that were specified by the NRC in approving the report.

[No action taken on this item as yet.]

3. If the staff's SE above (in item 2) specified conditions on the use of the approved topical report, discuss if the conditions have been incorporated into the topical report so that so that listing the report in TS 5.6.5.b, in place of the current reference to the staff's SE, would require the licensee to continue to follow the conditions.

**RESPONSE:**

WCAPs – NRC SE included in the "A" version of the WCAP. (see example WCAP-11397-P-A) – *copy brought*

Proposed changes to the WCGS COLR include the Topical Report (titles, Revs., etc.) and the NRC approval document.

4. For the proposed change to the first reference in TS 5.6.5.b, is the correct number of the WCNOG topical report the following, TR 90-0025 W01? The number proposed is the following: TR 00-0025 W01. The SE dated October 29, 1992, and the technical evaluation report attached to that SE stated TR 90-0025 W01. However, in the letter dated October 22, 2001, the response to Question 1 the topical report was stated to be TR 00-0025 W01.

**Response:**

The correct reference is TR 90—0025 W01. See USAR Reference 93 in Section 4.4.7. Also, the TS Markups in the original application is incorrect.

5. The staff requests that the licensee incorporate the changes to the COLR and to the TS Bases, that are specified in the licensee's application dated April 3, 2001, as part of the implementation of the amendment. Does the licensee agree to this being part of the implementation of the amendment.

**Response:**

The changes to the COLR and TS Bases are considered part of the implementation of the amendment and will be incorporated as part of implementation. WCNOG will adopt the TS Bases and COLR changes upon implementation of the license amendment.

6. The regulation 10 CFR 50.59 provides criteria for changes to the plant as described in the final safety analysis report without prior staff approval. In the licensee's response to Question 3 in the October 22, 2001, letter, it appears that the 50.59 criteria would be required to be applied to changes in the NRC-approved methodology documents listed in the COLR because such changes are part of the reload design activity, and the reload design activity is a change to the plant as specified in 10 CFR 50.59. Discuss if this is what was meant by the statement made in the response. If the 50.59 criteria is not required by 10 CFR 50.59 to be applied to changes in the NRC-approved methodology documents in the COLR, then the staff requests that the licensee commit in its commitment tracking system to apply the 10 CFR 50.59 criteria to such changes.

**Response:**

Reload activities are controlled through the design change process. The design change process includes 10 CFR 50.59 reviews. As such, reload activities would be required to be screened per 10 CFR 50.59 as they would be described in Chapter 15 of the USAR. (NOTE: "Described" is broad in application. The industry no longer relies on "changing" the SAR to initiate 50.59 reviews.) In addition, any changes to methods are required by Criteria 8 or 10 CFR 50.59 require a 50.59 Evaluation. Therefore, there should be no need to make additional commitments but allow the 10 CFR 50.59 process to operate as designed.

If it is the NRC position that changes to the COLR can be made without NRC approval provided the changes do not require approval pursuant to 10 CFR 50.59, this should be specified in the Technical Specification (similar to the Bases Control Program) and not through a commitment. However, it is WCNOCs belief that this was not the intent based on the discussions during the development and implementation of the recent changes to 10 CFR 50.59.

USAR References to TS Section 5.6.5b Topical Reports

TOPICAL REPORT	USAR Ref./Section		USAR Section Discussion
TR 90-0025	Ref. 93	4.4.7	4.4.2.2.3 4.4.2.9.5 4.4.4.3.1
NSAG-006	Ref. 8	5.2.6	5.2.2
WCAP-11397	Ref. 14	15.0.14	
	Ref. 7	15.2.9	
	Ref. 4	15.3.5	
	Ref. 4	15.5.4	
	Ref. 91	4.4.7	
WCAP-10216	Ref. 67	4.4.7	
WCAP-10266	Ref. 6	15.6.7	
WCAP-11596	Ref. 7	15.0.14	
	Ref. 32	4.4.7	
WCAP-10965	Ref. 8	15.0.14	
	Ref. 16	15.4.9	
	Ref. 31	4.4.7	
WCAP-12610	Ref. 2	4.1.1	
	Ref. 20	4.2.5	

## STARS COMMON LICENSING SUBMITTALS

- TS 3.9.4, Allow Ctmt Equipment Hatch Open during Fuel Movement

**NRR Lead PM:** Jack Donohew

**STARS Lead:** Wolf Creek - Steve Wideman

Plant	Submitted Date T - Target S - Submitted	Requested Date	Comments	Status
Callaway	12/7/01T	8/02T		
Wolf Creek	8/7/01S	9/03		Informal questions from PM responded to.
STP	10/22/01S	5/1/02		
Diablo Canyon	10/17/01S	4/15/02	DCCP submittal includes Personnel Air locks and TSTF-312	
Comanche Peak	11/8/01S	3/15/02		
Palo Verde	11/30/01T	3/1/02T		

- SR 3.0.3, Missed Surveillance Requirements (TSTF-358, Rev. 6)

**NRR Lead PM:**

**STARS Lead:**

Plant	Submitted Date T - Target S - Submitted	Requested Date	Comments	Status
Callaway	11/7/01S	6/3/02		
Wolf Creek	12/14/01T			
STP	12/14/01T			
Diablo Canyon	12/14/01T			
Comanche Peak	12/14/01T			
Palo Verde	02/02T			

- SR 3.3.12, Low Power Calorimetric Surveillance Requirement (TSTF-371, Rev. 0)

**NRR Lead PM:**

**STARS Lead:** Callaway, Bert Yates

Plant	Submitted Date T - Target S - Submitted	Requested Date	Comments	Status
Callaway	11/7/01S	9/1/02		
Wolf Creek	02/02T			
STP	NA			
Diablo Canyon	01/02T			
Comanche Peak	NA			
Palo Verde	NA			

## STARS COMMON LICENSING SUBMITTALS

- Modify Definition of Positive Reactivity Addition (TSTF-286, Rev. 2)

**NRR Lead PM:**

**STARS Lead:**

<b>Plant</b>	<b>Submitted Date</b> T - Target S - Submitted	<b>Requested Date</b>	<b>Comments</b>	<b>Status</b>
Callaway	12/17/01T			
Wolf Creek	12/17/01T			
STP	NA		Already submitted/approved.	
Diablo Canyon	12/21/01T			
Comanche Peak	12/21/01T			
Palo Verde	06/02T			