72-1015

NAC INTERNATIONAL

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October 26, 1999

U.S. Nuclear Regulatory Commission
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Attn: Document Control Desk

Subject: Comments on Preliminary Certificate of Compliance and Safety Evaluation Report for the NAC-UMS Storage System, Docket No. 72-1015 (TAC No. L22511)

References:
1. Submittal of UMS Universal Storage System Safety Analysis Report, Revision 1, NAC International, October 1, 1999
2. Preliminary Certificate of Compliance and Safety Evaluation Report for the NAC-UMS Storage System (TAC No. L22511), U.S. NRC, October 22, 1999

As requested by the NRC in the letter of October 22,1999 (Reference 2), NAC International (NAC) herewith provides comments on the Preliminary Certificate of Compliance and Safety Evaluation Report for the NAC-UMS Storage System as Attachment 1.

If you have any comments or questions, please contact me or Steve Whitsett at (770) 447-1144.

Sincerely,

TC Thompson

Thomas C. Thompson
Director, Licensing & Competitive Assessment
Engineering & Design Services

Attachment

cc:
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NF06

PDR ADOCK

U.S. Nuclear Regulatory Commission
October 26, 1999

ATTACHMENT 1

COMMENTS ON PRELIMINARY CERTIFICATE OF COMPLIANCE AND SAFETY EVALUATION REPORT FOR THE NAC-UMS STORAGE SYSTEM DOCKET NO. 72-1015 (TAC NO. L22511)

COMMENTS ON PRELIMINARY CERTIFICATE OF COMPLIANCE AND SAFETY EVALUATION REPORT FOR THE NAC-UMS STORAGE SYSTEM DOCKET NO. 72-1015
(TAC NO. L22511)

NAC suggests that the following comments be considered for incorporation:

1. CoC, Page 1:
   - Issued to: delete the comma after International, so that the corporate entity is NAC International Inc., i.e., NAC International Inc.
   - Change SAR to Revision 2.

2. CoC, Page 2, Item 1(b):
   - First paragraph, 7th line, revise to read, "...PWR basket include Boral sheets ...." The tubes are not "encased" by the Boral.
   - First paragraph, 8th line, revise to read, "....BWR basket may include Boral ....".
   - Second paragraph, 5th line and 10th line: Delete the word "vents" and say inlets and outlets. NAC has used inlets and outlets throughout the SAR and prefers that this terminology be used in the CoC and the SER (same as for NAC-MPC).

3. CoC, Page 3:
   - Item 2: Revise last line as: "...consistent with the operating procedures described ...".

4. TS, Page B1-2:
   - Add OPERABLE and definition (same as in Appendix A because the revised note at top of TS, Page A1-1 limits those definitions to Appendix A).

5. SER, Page vii:
   - Change SAR to Revision 2.

6. SER, Page ix:
   - NAC – delete comma after International, i.e., NAC International Inc.

7. SER, Page 1-1:

   - Delete hyphen after NAC.

8. SER, Page 1-2:

   - Revise 3rd sentence under PWR Baskets: "The square fuel tubes include neutron poison sheets (Boral) on all four sides for criticality control.

   - Section 1.1.2, 5th line: Add "thick" after 2.5-inch; begin following sentence as "The VCC provides. . .".

9. SER, Page 1-3:

   - Section 1.1.4 - Revise wording to say,

- Air Pad Rig Set -	Allows movement of the VCC on the storage pad, trailer, or plant transport bay.
- Automatic Welding System -	Performs TSC closure welding with minimum radiation exposure.

10. SER, Page 2-3:

    - Section 2.3.5: Criticality: Insert word "thermal" before the word "neutron" in the last line.

11. SER, Page 3-4:

    - Last line: Correct last word to "precipitation."

12. SER, Page 3-5:

    - Section 3.1.4.2: Revise first two sentences as, "Criticality control in the PWR TSC baskets is achieved by including neutron poison sheets (Boral) on all four sides of each fuel tube. In the BWR TSC baskets, criticality control is achieved by including neutron poison sheets (Boral) on some sides of selected fuel tubes."

13. SER, Page 3-6:

    - Section 3.1.4.3, 1st paragraph, next to the last line: Section VIII should be Section IX.

14. SER, Page 3-7:

- Section 3.1.4.4: The retaining ring bolts are ASTM A 193, Grade B6 high alloy steel. Drawing 790-560 has been revised to provide the proper callout.

- Section 3.1.4.5, 2nd paragraph, 9th line: Revise to say, ". . . gas during welding or cutting operations on the shield lid welds."

15. SER, Page 3-9:

- Section 3.2.1, 3rd paragraph, 7th line: Revise to say, ". . . gas during welding or cutting operations on the shield lid welds."

16. SER, Page 3-11:

- Section 3.2.3.2: In the last line, insert word "model" after the word "canister."

17. SER, Page 3-13:

- Section 3.2.4.3, 5th line: Correct temperature to 76°F.

18. SER, Page 3-14:

- Section 3.2.5.2: In the next to last line, insert "for BWR support disks" after words "and – 16."

19. SER, Page 3-20:

- Fuel Tube, 1st line: Revise BORAL to Boral for consistency.

20. SER, Page 4-1:

- Section 4.1, 5th line: Delete words, "by which."

21. SER, Page 4-2:

- 2nd paragraph, 2nd line: Revise wording as, "The minimum margin between the maximum cladding temperature and its temperature limit occurs during normal operation."

22. SER, Page 4-4:

- Section 4.3.3, 3rd line: "temperature of 133°F event."

23. SER, Page 4-5:

- Section 4.3.4, 4th line: (3) helium backfilling. . .
- Section 4.4.1, last line: ". . . internals in the radial and axial directions."

24. SER, Page 4.6:

- Section 4.4.1.1: Last paragraph seems to dangle.

25. SER, Page 4-8:

- Section 4.4.1.6, 2nd paragraph, 2nd line: Delete "(if utilized)."
- Section 4.4.1.6, 4th paragraph, 2nd sentence: Revise to, "ANSYS results are used to calculate the effective conductivities of the fuel tube and Boral plate."

26. SER, Page 4-11, in table:

- NAC suggests that the half inlets/outlets blocked case be included.
- Several of the temperatures should be corrected: For the Fire accident, the PWR canister shell temperature should be 459°F and the BWR temperature should be: Fuel Cladding – 691°F, Aluminum Disk = 662°F, Support Disk = 664°F, and Canister Shell = 416°F. Delete helium in header of Transfer column and Temperatures for the Aluminum Disk = 686°F and Support Disk = 686°F.

27. SER, Page 5-1:

- NAC notes that there is no discussion of cooling time versus burnup for the various fuel types.
- Section 5.11, 2nd paragraph, 2nd line: mrem/her should be mrem/hr.

28. SER, Page 5-2:

- 1st and 2nd paragraphs: 0.16 cm should be 1.6 cm.

29. SER, Page 5-3:

- 2nd line: Stainless steel clad fuels are not approved contents.

30. SER, Page 5-5:

- Section 5.4.2: Revise last sentence, ". . . work with the transfer cask will be performed under an appropriate radiation protection . . .".

31. SER, Page 6-3:

- Section 6.2, 1st paragraph: NAC suggests that the last sentence be revised to clarify spacer use based on a discussion similar to that in the 3rd paragraph.

32. SER, Page 6-4:

- Section 6.3.1: Delete the 2nd line from the bottom. Absence of the solid neutron shield is not considered for the UMS.

33. SER, Page 8-1:

- Section 8.1.1: Replace "is" at the end of the 3rd line with "are."

34. SER, Page 8-2:

- Section 8.1.3, 2nd paragraph, 1st sentence: "Once the shield lid has . . .".
- Section 8.1.3, 2nd paragraph, 2nd sentence: ". . . shield lid and the weld are nondestructively. . .".

35. SER, Page 9-1:

- Section 9.1, 1st line: Insert "and" after "tests."

36. SER, Page 9-5:

- Section 9.2: Delete the second sentence. LCO 3.1.6 requires temperature surveillance and inspection of the inlets and outlets is one of the actions that would be taken to return the system to operability. SAR Page 2.3-5 has been revised accordingly.

37. SER, Page 10-3:

- Section 10.3, 2nd paragraph: In the 2nd line, 10.3.1 should be 10.3-1.

38. SER, Page 11-7:

- Section 11.2.10.1: Revise as, "Lightning is a natural phenomena that is expected to occur at or near an ISFSI site."

39. SER, Page 11-8:

- Section 11.2.12.2, 2nd paragraph: In the 2nd line delete the word "capabilities."

40. SER, Page 14-1:

- Section 14.1, 1st paragraph: In the last line, insert "of" after "disposed."

41. SER Conclusions:

- Change SAR to Revision 2.

U.S. Nuclear Regulatory Commission
October 26, 1999

ATTACHMENT 2

TECHNICAL SPECIFICATION CHANGED PAGES

INTACT FUEL ROD	INTACT FUEL ROD is a fuel rod without known or suspected cladding defects greater than a pinhole leak or hairline crack.
LOADING OPERATIONS	LOADING OPERATIONS include all licensed activities on an NAC-UMS SYSTEM while it is being loaded with fuel assemblies. LOADING OPERATIONS begin when the first fuel assembly is placed in the CANISTER and end when the NAC-UMS SYSTEM is secured on the transporter. LOADING OPERATIONS does not include post-storage operations, i.e., CANISTER transfer operations between the TRANSFER CASK and the CONCRETE CASK or transport cask after STORAGE OPERATIONS.
INITIAL PEAK PLANAR-AVERAGE ENRICHMENT	THE INITIAL PEAK PLANAR-AVERAGE ENRICHMENT is the maximum planar-average enrichment at any height along the axis of the fuel assembly. The 4.0 wt % ^{235}U enrichment limit for BWR fuel applies along the full axial extent of the assembly. The INITIAL PEAK PLANAR-AVERAGE ENRICHMENT may be higher than the bundle (assembly) average enrichment.
NAC-UMS SYSTEM	NAC-UMS SYSTEM includes the components approved for loading and storage of spent fuel assemblies at the ISFSI. The NAC-UMS SYSTEM consists of a CONCRETE CASK, a TRANSFER CASK, and a CANISTER.
OPERABLE	The CONCRETE CASK heat removal system is OPERABLE if the difference between the ISFSI ambient temperature and the average outlet air temperature is $\leq$ 102°F for the PWR CANISTER or $\leq$ 92°F for the BWR CANISTER.

(continued)

STORAGE OPERATIONS	STORAGE OPERATIONS include all licensed activities that are performed at the ISFSI, while an NAC-UMS SYSTEM containing spent fuel is located on the storage pad within the ISFSI perimeter.
TRANSFER CASK	TRANSFER CASK is a shielded lifting device that holds the CANISTER during LOADING and UNLOADING OPERATIONS and during closure welding, vacuum drying, leak testing, and non-destructive examination of the CANISTER closure welds. The TRANSFER CASK is also used to transfer the CANISTER into and from the CONCRETE CASK and into the transport cask.
TRANSPORT OPERATIONS	TRANSPORT OPERATIONS include all licensed activities involved in moving a loaded NAC-UMS CONCRETE CASK and CANISTER to and from the ISFSI. TRANSPORT OPERATIONS begin when the NAC-UMS SYSTEM is first secured on the transporter and end when the NAC-UMS SYSTEM is at its destination and no longer secured on the transporter.
TRANSPORTABLE STORAGE CANISTER (CANISTER)	TRANSPORTABLE STORAGE CANISTER is the sealed container that consists of a tube and disk fuel basket in a cylindrical canister shell that is welded to a baseplate, shield lid with welded port covers, and structural lid. The CANISTER provides the confinement boundary for the confined spent fuel.
TRANSFER OPERATIONS	TRANSFER OPERATIONS include all licensed activities involved in transferring a loaded CANISTER from a CONCRETE CASK to another CONCRETE CASK or to a TRANSPORT CASK.

(continued)