10 CFR 50.90

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U. S. Nuclear Regulatory Commission
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References:
1. Arizona Public Service Company (APS) letter number 102-07149, *License Amendment Request to Revise Technical Specifications to Incorporate Updated Criticality Safety Analysis,* dated November 25, 2015, [Agencywide Documents Access and Management System (ADAMS) Accession Number ML15336A251]
2. NRC letter *Palo Verde Nuclear Generating Station, Units 1, 2, and 3 - Supplemental Information Needed for Acceptance of Requested Licensing Action Re: License Amendment Request to Revise Technical Specifications to Incorporate Updated Criticality Safety Analysis,* dated January 15, 2016 (ADAMS Accession No. ML16014A001)

Dear Sirs:

Subject: **Palo Verde Nuclear Generating Station (PVNGS)**
Units 1, 2, and 3
Docket Nos. STN 50-528, 50-529, and 50-530
Supplemental Information Regarding License Amendment Request to Revise Technical Specifications to Incorporate Updated Criticality Safety Analysis

In reference 1, Arizona Public Service Company (APS) submitted a license amendment request (LAR) to revise the PVNGS Technical Specifications (TS) for Palo Verde Nuclear Generating Station (PVNGS) Units 1, 2, and 3. The proposed amendment would modify TS requirements to incorporate the results of an updated criticality safety analysis for both new and spent fuel storage. In reference 2, the Nuclear Regulatory Commission (NRC) staff requested supplemental information to support the acceptance review of the LAR.

The enclosure to this letter provides supplemental information in response to the NRC request. The enclosure also contains three attachments. Attachment 1 provides the revised APS response to significant hazards consideration questions 1 and 2. The original APS response to question 3 of the significant hazards consideration remains unchanged. Attachment 2 provides a marked-up TS page that includes the requested information regarding interface requirements mentioned in NRC supplemental information request number 2. Attachment 3 provides the revised (clean) TS page.

This submittal does not contain any new regulatory commitments as defined by NEI 99-04, *Guidelines for Managing NRC Commitment Changes*, Revision 0.

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NRR

In accordance with the PVNGS Quality Assurance Program, the Plant Review Board and the Offsite Safety Review Committee have reviewed and approved the proposed changes to the LAR. By copy of this letter, this change to the LAR is being forwarded to the Arizona Radiation Regulatory Agency in accordance with 10 CFR 50.91(b)(1).

Should you have any questions concerning the content of this letter, please contact Thomas Weber, Department Leader, Nuclear Regulatory Affairs, at (623) 393-5764.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on: January 29, 2016
(Date)

Sincerely,

Andrews, George W(Z99748)

Digitally signed by Andrews, George W(Z99748)
DN: cn=Andrews, George W(Z99748)
Reason: I am approving this document as delegated for Maria Lacal
Date: 2016.01.29 14:44:37 -07'00'

MLL/TNW/CJS/af

Enclosure: Supplemental Information Regarding License Amendment Request to Revise Technical Specifications to Incorporate Updated Criticality Safety Analysis

cc:	M. L. Dapas	NRC Region IV Regional Administrator
	M. M. Watford	NRC NRR Project Manager for PVNGS
	L. J. Klos	NRC NRR Project Manager
	C. A. Peabody	NRC Senior Resident Inspector for PVNGS
	A. V. Godwin	Arizona Radiation Regulatory Agency (ARRA)
	T. Morales	Arizona Radiation Regulatory Agency (ARRA)

Enclosure

Supplemental Information Regarding License Amendment Request to Revise Technical Specifications to Incorporate Updated Criticality Safety Analysis

Introduction

By letter dated November 25, 2015 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML15336A251), Arizona Public Service Company (APS) submitted a license amendment request (LAR) for Palo Verde Nuclear Generating Station (PVNGS) Units 1, 2, and 3. The proposed amendment would modify technical specification (TS) requirements to incorporate the results of an updated criticality safety analysis for both new and spent fuel storage.

The NRC staff reviewed the application and concluded that the information delineated below is necessary to enable the staff to make an independent assessment regarding the acceptability of the proposed amendment.

Each of the NRC staff supplemental information requests is provided first, followed by the APS response to each request.

NRC Staff Request 1a:

In Section 4.3, "Significant Hazards Consideration," the licensee answers "No" to all three questions.

a. In Question 1, please explain how the increased complexity of the spent fuel pool storage requirements and the transitional period when two separate sets of requirements will be in place do not result in a significant increase in the probability of a fuel assembly misloading or justify your current answer. While there will be procedures controlling the movement of fuel, the requirements will be more complex indicating the likelihood of an increased probability of a human error in creating the fuel handling move sheets.

APS Response 1a:

Although there is some increase in the complexity of TS 3.7.17 due to the increase in the number of allowable storage arrays, the proposed amendment does not significantly increase the probability or consequences of an accident previously analyzed. To address the additional arrays proposed in the LAR, the elements of the current process were reviewed. Establishing the spent fuel pool layout is a procedurally controlled process performed by trained and qualified individuals and is a separate task from the generation of fuel movement sheets. Once the overall spent fuel pool layout is confirmed it serves as the baseline for the subsequent spent fuel pool activities. Each spent fuel pool layout is reviewed and independently verified to conform to the array and cell interface requirements.

The fuel to be stored in the spent fuel pool is evaluated and is independently verified to classify each assembly with regard to initial enrichment, burnup, and other criteria to establish the region specification for the spent fuel. The region specification establishes the appropriate region for each assembly. This segregation of activities separates and insulates the complexity of spent fuel pool module geometry, fuel region specifications and interface considerations from the development of fuel movement sheets.

Generation of fuel movement sheets is also a procedurally controlled process performed by trained and qualified individuals, whether during the transition period or after the transition is completed. Fuel movement sheets are generated to conform to the spent fuel pool layout that is defined and independently verified to meet the fuel storage array requirements.

A human factors review was conducted in response to the NRC request for supplemental information. The Standardized Plant Analysis Risk-Human Reliability Analysis (SPAR-H) method was chosen for the review since it is a recent methodology endorsed and used by the NRC. The Electric Power Research Institute (EPRI) Caused-Based Decision Tree Method (CBDTM) was also chosen since it is more-comprehensive and breaks the categories found in the SPAR-H method into more specific categories.

None of the performance shaping factors (PSFs) from either the SPAR-H or CBDTM methodologies identified significant potential impacts due to the process changes themselves or the additional arrays. After reviewing the proposed changes to the process and complexity governing the movement of spent fuel, it is concluded there is no significant increase in the probability of a fuel assembly misload event. The transition period was also reviewed including the fact that both the current and future spent fuel pool arrays will exist in the pool at the same time.

As a defense-in-depth measure to minimize the potential for an increase in the probability of a misload event during the transition phase, APS plans to have each fuel move sheet receive an additional independent verification during the transition process. In addition, APS does not plan to perform other activities, such as dry cask loading or new fuel receipt during the spent fuel pool transition process for each spent fuel pool.

The proposed amendment will not result in a significant increase in the probability of an accident previously analyzed during the transition phase and future routine operation. The proposed amendment will not result in an increase in consequences of an accident previously analyzed as the soluble boron concentration in the pool is almost 700 ppm above what is required to maintain k_{eff} less than 0.95 during a postulated multiple misload accident.

The revised APS response to significant hazards considerations question 1 is provided in Attachment 1 to this Enclosure.

NRC Staff Request 1b:

In Section 4.3, "Significant Hazards Consideration," the licensee answers "No" to all three questions.

b. Section 5.6.5, "Inadvertent Removal of a SNAP-IN Insert," of Westinghouse Electric Company LLC's WCAP-18030-P, Revision 0, "Criticality Safety Analysis for Palo Verde Nuclear Generating Station, Units 1, 2, and 3," September 2015, states, in part, that "With the incorporation of SNAP-IN inserts, a new potential accident event is created." However, Question 2 of the Significant Hazards Consideration indicates there is no potential for a new or different accident than was previously analyzed. Please revise the Significant Hazards Consideration or justify the current answer.

APS Response 1b:

WCAP-18030-P, Section 5.6.5, states "a new potential accident event is created." This was referring to the removal of a SNAP-IN® insert. The inadvertent removal of a SNAP-IN® insert does not represent a "new or different kind of accident" as intended pursuant to the criteria of 10 CFR 50.92. Rather, the removal of a SNAP-IN® insert is an alternate way of creating a fuel assembly misload accident, which is an accident that is previously evaluated. A misload accident occurs when there is a loss of configuration control and any portion of the spent fuel pool does not conform to an approved storage pattern, as identified in Sections 3.7.17 and 4.3.1.1 of the Technical Specifications. This loss of configuration control could manifest itself as:

- A fuel assembly present in a location that is assumed to be empty
- A location that requires a more restrictive combination of burnup/initial enrichment/decay time, or
- A cell lacking a credited SNAP-IN® insert

The inadvertent removal of a SNAP-IN® insert is bounded by placing fuel in a location that the criticality analysis requires to be empty (e.g., blocked). These events are more consequential, as placing a fuel assembly in a vacant location has two effects. First, the addition of fissile material increases the reactivity of the array. Second, soluble boron is displaced by the fuel assembly, further increasing the reactivity of the array.

The inadvertent removal of a SNAP-IN® insert has competing effects. The removal of the SNAP-IN® insert removes solid boron, increasing reactivity. However, the removal of the SNAP-IN® insert also slightly increases the amount of soluble boron in the array as the volume that was occupied with a SNAP-IN® insert is replaced by borated water. The net reactivity effect of an inadvertent SNAP-IN® insert removal is less than half the reactivity impact of misloading a fuel assembly into a cell required to be empty (e.g., blocked).

WCAP-18030-P includes technical evaluations for a single fuel assembly misload, multiple fuel assembly misloads, and inadvertent removal of a SNAP-IN® insert. The results show that k_{eff} remains less than 0.95 crediting 1460 ppm boron for the multiple misload accident, 1100 ppm boron for the single misload accident and 450 ppm boron for the SNAP-IN® insert removal. PVNGS TS 3.7.15, *Fuel Storage Pool Boron Concentration,* will remain unchanged at greater than or equal to 2150 ppm, providing additional margin to criticality.

The revised APS response to significant hazards considerations question 2 is provided in Attachment 1 to this Enclosure.

NRC Staff Request 2:

The requirements for maintaining an adequate interface between different arrays is described in WCAP-18030-P, Section 5.3, "Interface Conditions" are not captured in the proposed technical specifications. Please revise the proposed TSs to include the interface requirements or justify why interface conditions are not included in the TSs.

APS Response 2:

The LAR was originally developed with the expectation that the control of spent fuel pool layout and interface requirements would be performed in accordance with updated plant implementing procedures, including specific training on the new requirements and updating job qualification cards. The specific nature of the interface requirements will be included in plant procedures, as part of the implementation of the license amendment.

The current Standard Technical Specifications for Combustion Engineering Plants (NUREG-1432) does not specifically address this level of detail in Sections 3.7.18 or Section 4.3, *Fuel Storage*. However, in light of the NRC staff supplemental request, APS is adding the following note to Technical Specification Figure 3.7.17-1:

> "Interface requirements: Each cell is part of up to four 2x2 arrays and each cell must simultaneously meet the requirements of all those arrays of which it is a part."

Adding this note to the TS is consistent with the interface condition identified in WCAP-18030-P. The affected TS markup page is provided as Attachment 2 to this Enclosure and the clean TS page is provided as Attachment 3 to this Enclosure.

NRC Staff Request 3:

Please provide the analysis supporting the modeling of fuel assembly grids and spacers discussed in WCAP-18030-P, Section 5.1.2.3, "Grid and Sleeves."

APS Response 3:

An expanded description of the basis for the conclusion in WCAP-18030-P, Section 5.1.2.3, is provided in Westinghouse Criticality Topical, WCAP-17483-P, Section 4.2.3, which explicitly includes the APS limiting assembly (CE 16X16 NGF) type. WCAP-17483-P was provided to the NRC in Westinghouse letter LTR-NRC-11-71, *Submittal of WCAP-17483-P, Revision 0 and WCAP-17483-NP,* Revision 0, *Westinghouse Methodology for Spent Fuel Pool and New Fuel Rack Criticality Safety Analysis,* on December 20, 2011. The letter is retrievable in ADAMS as ML11364A065. The non-proprietary version of WCAP-17483-NP is retrievable in ADAMS as ML11364A066. The fuel assembly grid and spacer modeling provided in these WCAPs is similar to other licensees that have been accepted for review and approved as license amendments.

ATTACHMENT 1

Revised Significant Hazards Consideration Responses Questions 1 and 2

Attachment 1

Revised Significant Hazards Consideration Responses for Questions 1 and 2
(Changes identified with vertical bars in the right margin)

Significant Hazards Consideration

As required by 10 CFR 50.91(a), *Notice for Public Comment*, an analysis of the issue of no significant hazards consideration using the standards in 10 CFR 50.92, *Issuance of Amendment*, is presented below:

1. Does the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

The proposed amendment would modify the Palo Verde Nuclear Generating Station (PVNGS) Technical Specifications (TS) to incorporate the results of an updated criticality safety analysis for both new fuel and spent fuel storage. The revised criticality safety analysis provides an updated methodology that allows credit for neutron absorbing NETCO-SNAP-IN® rack inserts and corrects non-conservative input assumptions in the previous criticality safety analysis.

The proposed amendment does not change or modify the fuel, fuel handling processes, number of fuel assemblies that may be stored in the spent fuel pool (SFP), decay heat generation rate, or the SFP cooling and cleanup system. The proposed amendment was evaluated for impact on the following previously evaluated events and accidents:

- fuel handling accident (FHA)
- fuel misload event
- SFP boron dilution event
- seismic event
- loss of SFP cooling event

Implementation of the proposed amendment will be accomplished in accordance with the Spent Fuel Pool Transition Plan and does not involve new fuel handling equipment or processes. The radiological source term of the fuel assemblies is not affected by the proposed amendment request. The FHA radiological dose consequences associated with fuel enrichment at this level are addressed in the PVNGS Updated Final Safety Analysis Report (UFSAR) Section 15.7.4 and remain unchanged. Therefore, the proposed amendments do not significantly increase the probability or consequences of a FHA.

To address the proposed additional arrays, several elements of the current process were reviewed. Pool layout, region eligibility specifications and the development of fuel move sheets are separate tasks. Each of these activities is procedurally controlled and performed by trained and qualified individuals. This segregation of activities separates and insulates

the complexity of spent fuel pool module geometry, fuel region specifications and interface considerations from the development of fuel movement sheets.

Creation of fuel move sheets in accordance with the proposed amendment will not significantly change the probability of a fuel misload event because development of fuel move sheets will continue to be controlled by approved procedures and developed by qualified personnel. A review of the additional proposed arrays and the transitional period (when both the current and new arrays would be effective in the spent fuel pool) was performed. The human performance shaping factors evaluated did not identify significant potential impacts due to the process changes themselves or the additional arrays. The review, therefore, confirmed that the potential for human performance errors resulting in the probability of a misload event is not significantly increased.

Operation in accordance with the proposed amendment will not significantly change the probability of a fuel misload event because fuel movement activities will continue to be controlled by approved fuel handling procedures and performed by qualified personnel. Although there will be additional allowable storage arrays defined by the amendment, the fuel handling procedures will continue to require identification of the initial and target locations for each fuel assembly that is moved.

The consequences of a fuel misload event are not changed because the reactivity analysis demonstrates that the same subcriticality criteria and requirements continue to be met for the limiting fuel misload event.

Operation in accordance with the proposed amendment will not change the probability or consequences of a boron dilution event because the systems and events that could affect SFP soluble boron concentration are unchanged. The current boron dilution analysis demonstrates that the limiting boron dilution event will reduce the boron concentration from the TS limit of 2150 ppm to 1900 ppm. This leaves sufficient margin to the 1460 ppm credited by the SFP criticality safety analysis. The analysis confirms that the time needed for dilution to reduce the soluble boron concentration is greater than the time needed for actions to be taken to prevent further dilution.

Operation in accordance with the proposed amendment will not change the probability of a seismic event since there are no elements of the updated criticality analysis that influence the occurrence of a seismic event. The consequences of a seismic event are not significantly increased because the forcing functions for seismic excitation are not increased and because the mass of storage racks with NETCO-SNAP-IN® inserts is not appreciably increased. Seismic analyses demonstrate adequate stress levels in the storage racks when inserts are installed.

Operation in accordance with the proposed amendment will not change the probability of a loss of SFP cooling event because the systems and events that could affect SFP cooling are unchanged. The consequences are not significantly increased because there are no changes in the SFP heat load or SFP cooling systems, structures, or components. Furthermore, conservative analyses indicate that the current design requirements and criteria continue to be met with the NETCO-SNAP-IN® inserts installed.

Therefore, the proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The proposed amendment would modify the PVNGS TS to incorporate the results of an updated criticality safety analysis for both new fuel and spent fuel storage. The revised criticality safety analysis provides an updated methodology that allows credit for neutron absorbing NETCO-SNAP-IN® rack inserts and corrects non-conservative input assumptions in the previous criticality safety analysis.

The proposed amendment does not change or modify the fuel, fuel handling processes, number of fuel assemblies that may be stored in the pool, decay heat generation rate, or the SFP cooling and cleanup system. The effects of operating with the proposed amendment are listed below. The proposed amendment was evaluated for the potential of each effect to create the possibility of a new or different kind of accident:

- addition of inserts to the SFP storage racks
- new storage patterns
- additional weight from the inserts
- displacement of SFP water by the inserts,

Each NETCO-SNAP-IN® insert will be placed between a fuel assembly and the storage cell wall, taking up some of the space available on two sides of the fuel assembly. Analyses demonstrate that the presence of the inserts does not adversely affect spent fuel cooling, seismic capability, or subcriticality. The aluminum and boron carbide materials of construction have been shown to be compatible with nuclear fuel, storage racks, and SFP environments, and generate no adverse material interactions. Therefore, placing the inserts into the SFP storage racks cannot cause a new or different kind of accident.

Operation with the added weight of the NETCO-SNAP-IN® inserts will not create a new or different accident. The analyses of the racks with NETCO-SNAP-IN® inserts installed demonstrate that the stress levels in the rack modules continue to be considerably less than allowable stress limits. Therefore, the added weight from the inserts cannot cause a new or different kind of accident.

Operation with the proposed fuel storage patterns will not create a new or different kind of accident because fuel movement will continue to be controlled by approved fuel handling procedures. These procedures continue to require identification of the initial and target locations for each fuel assembly that is moved. There are no changes in the criteria or design requirements pertaining to fuel storage safety, including subcriticality requirements. Analyses demonstrate that the proposed storage patterns meet these requirements and criteria with adequate margins. Therefore, the proposed storage patterns cannot cause a new or different kind of accident.

The scenario involving the inadvertent removal of a SNAP-IN® insert was evaluated and found to not represent a "new or different kind of accident." Rather, it represents a loss of reactivity configuration control, which is a less significant form of a fuel assembly misload event. Whenever a fuel assembly is placed in a storage configuration that is not explicitly allowed, a fuel assembly misload condition is created, whether it is the removal of a SNAP-IN® insert or the placement of a fuel assembly in a location that is missing a specified SNAP-IN® insert. An inadvertent removal of a SNAP-IN® insert is, therefore, not a new kind of accident but rather an alternate way of creating a previously evaluated accident. Loading a fuel assembly into a storage cell location required to be vacant and blocked (the limiting accident of this type) bounds the removal of a SNAP-IN® insert.

Operation with insert movement above stored fuel will not create a new or different kind of accident. The insert with its handling tool weighs less than the weight of a single fuel assembly. Single fuel assemblies are routinely moved safely over fuel assemblies and the same level of safety in design and operation will be maintained when moving the inserts.

The installed rack inserts will displace a negligible quantity of the SFP water volume and therefore will not reduce operator response time to previously-evaluated SFP accidents.

The accidents and events previously analyzed remain bounding. Therefore, the proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated.

ATTACHMENT 2

Marked-up Technical Specifications Page

(Page Provided for After SFP Transition)

Revised
insert page
related to
3.7.17-2
(Figure
3.7.17-1)

Figure 3.7.17-1

Allowable Storage Arrays

Array A Two Region 1 assemblies (1) checkerboarded with two blocked cells (X). The Region 1 assemblies are each in a cell with a stainless steel L-insert. No NETCO-SNAP-IN® inserts are credited.	1	X
	X	1
Array B Two Region 1 assemblies (1) checkerboarded with two cells containing trash cans (TC). The Region 1 assemblies are each in a cell with a stainless steel L-insert. Every cell without a stainless steel L-insert must contain a NETCO-SNAP-IN® insert.	1	TC
	TC	1
Array C Two Region 2 assemblies (2) checkerboarded with one Region 3 assembly (3) and one blocked cell (X). The Region 2 assemblies are each in a cell with a stainless steel L-insert. The Region 3 assembly is in a cell containing a NETCO-SNAP-IN® insert.	2	X
	3	2
Array D One Region 2 assembly (2) checkerboarded with three Region 4 assemblies (4). The Region 2 assembly and the diagonally located Region 4 assembly are each in a storage cell with a stainless steel L-insert. The two storage cells without a stainless steel L-insert contain a NETCO-SNAP-IN® insert.	2	4
	4	4
Array E Four Region 5 assemblies (5). Two storage cells contain a stainless steel L-insert. One cell contains a NETCO-SNAP-IN® insert. One storage cell contains no insert.	5	5
	5	5
Array F Four Region 6 assemblies (6). Two storage cells contain a stainless steel L-insert. The other two cells contain no inserts.	6	6
	6	6

Notes:

1. The shaded locations indicate cells which contain a stainless steel L-insert.
2. A blocked cell (X) contains a blocking device and only water in the active fuel region.
3. NETCO-SNAP-IN® inserts must be oriented in the same direction as the stainless steel L-inserts.
4. NETCO-SNAP-IN® inserts are only located in cells without a stainless steel L-insert.
5. Any cell containing a fuel assembly or a TC may instead be an empty (water-filled) cell in all storage arrays.
6. Any storage array location designated for a fuel assembly may be replaced with non-fissile material.
7. Interface requirements: Each cell is part of up to four 2x2 arrays and each cell must simultaneously meet the requirements of all those arrays of which it is a part.

ATTACHMENT 3

Revised Technical Specifications Page (Clean Copy)

(Page Provided for After SFP Transition)

3.7.17-7

Figure 3.7.17-1
Allowable Storage Arrays

Array A Two Region 1 assemblies (1) checkerboarded with two blocked cells (X). The Region 1 assemblies are each in a cell with a stainless steel L-insert. No NETCO-SNAP-IN® inserts are credited.	1	X
	X	1
Array B Two Region 1 assemblies (1) checkerboarded with two cells containing trash cans (TC). The Region 1 assemblies are each in a cell with a stainless steel L-insert. Every cell without a stainless steel L-insert must contain a NETCO-SNAP-IN® insert.	1	TC
	TC	1
Array C Two Region 2 assemblies (2) checkerboarded with one Region 3 assembly (3) and one blocked cell (X). The Region 2 assemblies are each in a cell with a stainless steel L-insert. The Region 3 assembly is in a cell containing a NETCO-SNAP-IN® insert.	2	X
	3	2
Array D One Region 2 assembly (2) checkerboarded with three Region 4 assemblies (4). The Region 2 assembly and the diagonally located Region 4 assembly are each in a storage cell with a stainless steel L-insert. The two storage cells without a stainless steel L-insert contain a NETCO-SNAP-IN® insert.	2	4
	4	4
Array E Four Region 5 assemblies (5). Two storage cells contain a stainless steel L-insert. One cell contains a NETCO-SNAP-IN® insert. One storage cell contains no insert.	5	5
	5	5
Array F Four Region 6 assemblies (6). Two storage cells contain a stainless steel L-insert. The other two cells contain no inserts.	6	6
	6	6

Notes:
1. The shaded locations indicate cells which contain a stainless steel L-insert.
2. A blocked cell (X) contains a blocking device and only water in the active fuel region.
3. NETCO-SNAP-IN® inserts must be oriented in the same direction as the stainless steel L-inserts.
4. NETCO-SNAP-IN® inserts are only located in cells without a stainless steel L-insert.
5. Any cell containing a fuel assembly or a TC may instead be an empty (water-filled) cell in all storage arrays.
6. Any storage array location designated for a fuel assembly may be replaced with non-fissile material.
7. Interface requirements: Each cell is part of up to four 2x2 arrays and each cell must simultaneously meet the requirements of all those arrays of which it is a part.