

Final Report – Scenario Disposition

**SPENT FUEL POOL
PHYSICAL INSPECTION**

**Search for Unaccounted For A-49 Fuel Rod Segments and
Other Special Nuclear Material**

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the fuel rod segments will be used to determine the

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Final Report – Scenario Disposition

SPENT FUEL POOL PHYSICAL INSPECTION

Search for Unaccounted For A-49 Fuel Rod Segments and Other Special Nuclear Material (SNM)

1.0 EXECUTIVE SUMMARY

The Spent Fuel Pool (SFP) Physical Inspection considers whether any or all of the three unaccounted for 18-inch Humboldt Bay Power Plant (HBPP) fuel rod segments associated with fuel assembly A-49 remain stored in the Unit 3 SFP in an undocumented location or item. The various SFP locations and items considered the A-49 rod segments to be in one (or more) of three possible physical configurations: (A) intact A-49 fuel rod segments, (B) damaged A-49 fuel rod segments (broken, crushed, or cut but identifiable as from A-49), or (C) A-49 fuel rod segments in a canister. In addition to the specific search for the A-49 fuel rod segments, the search also included the identification of other potential fuel (in the form of fuel fragments not specifically identified as being from A-49) and non-fuel SNM found during the physical inspection (Physical Configuration D).

A Physical Inspection Plan established a comprehensive list of discrete locations and items in the SFP that were capable of physically accommodating the three A-49 fuel rod segments or the canister holding the segments. The Plan recognized earlier inspections conducted prior to the formation and implementation of the SNM Inventory, Inspection & Control Project (hereafter "SNM Project"), and the fuel assembly inspection activities of 2000 associated with pre-ISFSI activities. The Plan was implemented in a meticulous and thorough manner. The planned objectives for each inspection were satisfied.

The inspections are listed, defined, and each SFP location or item is specified in Attachment 1, *Spent Fuel Pool Physical Inspection Scenario Descriptions* to this report. The inspections of the locations and items are summarized and documented in Attachment 2, *Spent Fuel Pool Physical Inspection Results*. In general, the inspection locations were accessible, ensuring complete and conclusive results based on visual inspection or radiation dose assessment. In some cases, a portion of the item or location being inspected was accessible, but was partially obscured or equipment was not available to fully assess the location or item. In those cases, further discussion and justification was provided. For those items and locations that could not be dispositioned, action items were identified.

Based **solely** on the results of the **physical inspection** of the SFP, all 56 SFP physical inspection scenarios were dispositioned as "Highly Unlikely"¹. The subject A-49 fuel rod segments are not currently stored in the locations or items listed in Project Instruction SAP8065936-PI-02, *Physical Inspections*, specifically the *HBPP Spent Fuel Pool Global Inspection Plan – Areas or items for Inspection* (Global Search Plan or Plan). However, based on the possible physical configurations of the subject A-49 fuel rod segments, the following can be concluded with regard to the three unaccounted for 18-inch fuel rod segments associated with fuel assembly A-49 and other SNM (fuel and non-fuel):

- For Physical Configurations A and C, it is "Highly Unlikely"¹ that any of the Plan locations and items contain the subject A-49 segments
- For Physical Configuration B, it is "Reasonably Possible" that one or more of the Plan locations and items specifically contain fuel fragments that may be associated with the subject A-49 segments
- For Physical Configuration D, it was confirmed that one or more of the Plan locations and items contained fuel fragments and other SNM (non-fuel).

With regard to Physical Configuration D, it is "Reasonably Possible" that all or some of the three A-49 fuel rod segments and their remnants may still be in the SFP as fragments **rather than** segments. Indeed, a number of the fuel fragments associated with Physical Condition D may in fact be from the A-49 fuel rod segments and the remnants thereof. This possibility is based on the observation that some fuel rod fragments found in the spent fuel pool during the physical inspection activities exhibit various characteristics that are indicative of the three unaccounted for A-49 fuel rod segments and their remnants.

2.0 DESCRIPTION

Members of the SNM Project assessed and evaluated the SFP in order to develop a thorough and comprehensive plan to ensure that all areas of the SFP would be identified and examined with regard to the A-49 fuel rod segments. The evaluation resulted in the identification of 56 discrete locations and items in the SFP, when taken together, address the entire SFP. The locations and items are referred to as scenarios. The scenarios for each of these locations and items

¹ Three categories of possibility were considered: "Highly Unlikely" means the event is very improbable. "Possible, But Not Likely" means the event, while possible, would have a fairly low probability of occurrence. "Reasonably Possible" means the event may have occurred.

postulated that the three unaccounted for fuel rod segments remain stored in the HBPP Unit 3 SFP in an undocumented SFP location. Each of the locations and items is identified, described, and located within the SFP in Attachment 1, *Spent Fuel Pool Physical Inspection Scenario Descriptions*.

Even though the available documentation indicates that the last known location of the unaccounted for A-49 fuel rod segments was in a cylindrical canister, it was recognized that the rod segments could have been removed from the canister, were possibly damaged (broken, crushed, cut), or may have been transferred to another container. In order to ensure that the physical inspection of the SFP did not overlook these possible configurations for the A-49 fuel rod segments, a set of physical configurations were established to define potential configurations of the segments.

The physical configurations considered the A-49 rod segments to be in any one of three possible configurations: (A) intact A-49 fuel rod segments (approximately 18"), (B) damaged A-49 fuel rod segments (i.e., cut, crushed, or broken but identifiable as from A-49 (less than approximately 18", i.e., fragments)), or (C) A-49 fuel rod segments in a canister (approximately 18" segments in a nominal 1-1/2", schedule 40 pipe section w/screwed caps). In addition to the search specifically for the A-49 fuel assembly fuel rod segments, the search also included the identification of other potential fuel (in the form of fuel rod fragments) and non-fuel SNM found during the physical inspection (Physical Configuration D).

The 56 scenarios and the four (4) Physical Configurations were combined to develop a Global Search Plan (Project Inspection SAP8065936-PI-02) that considered those locations that could accommodate the three unaccounted for fuel rod segments, several smaller lengths of the rod segments, and/or their storage receptacle. The Plan provided a comprehensive summary document of all aspects associated with the physical inspection of the SFP. The Plan recognized earlier inspections conducted prior to the development and implementation of the SNM Project. The Plan was initially approved on November 2, 2004. The results and disposition of the 56 scenarios identified in the Global Search Plan are discussed in Attachment 2, *Spent Fuel Pool Physical Inspection Results*.

3.0 INVESTIGATION

To ensure a meticulous and comprehensive assessment of the physical inspection of the SFP, the SNM Project implemented the Global Search Plan of the SFP between November 2004 and April 2005. Members of the SNM Project supported by Engineering, Operations, and Site Radiation Protection performed the inspections outlined in the Plan. The inspections are listed, defined, and located in Attachment 1 to this report. All SFP items and locations are discussed

in detail and have been dispositioned in Attachment 2.

The inspections were performed using underwater cameras. Most inspections were recorded on digital video disks (DVD). In some instances, a radiation dose assessment was more appropriate to disposition a specific scenario due to accessibility issues. DVDs generated during the inspections showed the presence of a silt layer and debris on both the floor of the SFP and on the spent fuel storage rack structures. The silt and debris accumulated under the edges of the racks over the years was mostly from fuel assembly cleaning, reconstitution campaigns, and processing activities associated with radioactive waste disposal. Dirt and dust not collected by the SFP purification system created layers on the SFP floor areas. This powdery debris would ascend and appear smoke-like in the water when disturbed. This debris was also examined for the presence of fuel rod segments, fuel fragments, pellets, or other SNM (fuel and nonfuel).

4.0 ANALYSIS

Attachment 1 provides a summary of the 56 scenarios addressed in the Global Inspection Plan. Each of the scenarios is listed, defined, and each SFP location or item is specified in Attachment 1 to this report. Figure 1, *HBPP Unit 3 Spent Fuel Pool Schematic Configuration for Physical Inspections* generically depicts the SFP configuration for the various locations and items for the majority of the inspections.

Attachment 2 provides an individual summary of the SFP physical inspection objective, process, results and conclusion associated with each scenario. DVDs have been retained and are indexed and filed separately.

The physical inspections were completed as identified in the Global Search Plan. The three unaccounted for fuel rod segments and/or the canister were not located. However, a number of fuel rod fragments (clad and unclad) were found, that have been videotaped, categorized, characterized, and stored.

The Plan addressed storage of the unaccounted for fuel rod segments in the Unit 3 SFP, intact (whole), damaged (cut, crushed, or broken), or in a storage canister. The inspection team found no basis to assume the three fuel rod segments would be cut into smaller pieces. However, the subject segments could have been damaged or broken resulting in fuel fragments that had the segments as their parent source. Accordingly, scenarios involving shorter rod segments were deemed "Reasonably Possible." Therefore, locations where smaller segments (i.e., fuel fragments) of the rods could be located in the SFP were identified and documented. Specific scenarios provide discussion and address the SNM Project team's conclusion regarding inspection of the SFP for smaller fuel rod segments. The specific analysis of the fuel fragments that have been found in the SFP during the SFP Physical Inspection and their possible relationship to the A-49 fuel rod segments is discussed in a separate scenario.

An absolute determination that the three fuel rod segments, or pieces of them, are not in the SFP will not be possible until all 390 fuel assemblies and obstructions are removed from the SFP. This includes the clean up and identification of all debris. Although the Global Search Plan addressed every area the SNM Project team considered plausible, some unlikely places were not completely searched due to the low likelihood of the fuel rod segments being there and because a significant personnel radiation exposure would be associated with the inspection. For example, a small portion of an unaccounted for fuel rod segment could possibly be lodged in one of the 390 fuel assemblies. To disassemble each and every assembly to make the determination versus what was inspected (signs of rework on the top of the bundle) would require a huge effort and associated radiation exposure.

5.0 CONCLUSION

The three intact unaccounted for fuel rod segments and/or the canister with the three fuel rod segments were not located within the SFP locations as outlined in the Global Search Plan and defined as Physical Configurations A and C.

Based on the results of the inspection, the three fuel rod segments for two of the three Physical Configurations are not stored in the SFP as defined and listed in the "HBPP Spent Fuel Pool Global Inspection Plan – Areas or Items for Inspection," and as delineated in Attachment 1. These two physical configurations are the intact A-49 fuel rod segments and the A-49 fuel rod segments in the canister, Physical Configurations A and C, respectively.

However, with regard to Physical Configurations B and D, it is "Reasonably Possible" that all or some of the three A-49 fuel rod segments and their remnants may still be in the SFP as fragments *rather than* segments. Indeed, a number of the fuel fragments associated with Physical Condition D may in fact be from the A-49 fuel rod segments and the remnants thereof. This possibility is based on the observation that some fuel rod fragments found in the spent fuel pool during the physical inspection activities exhibit various characteristics that are indicative of the three unaccounted for A-49 fuel rod segments and their remnants.

The subject fuel fragments found during the implementation of the Global Search Plan were identified, measured, characterized, categorized, and evaluated. These fragments were collected and are currently stored in one of two special containers (designated as the Fuel Fragment Storage Container and the Unclad Fuel Fragment Storage Container) located in the SFP. The fragments have been captured on video and tallied in PG&E Calculation NX-288². Prior to this physical inspection and relocation campaign, the vast majority of the 175 fuel fragments were found in the Central Storage Container (CSC) in the SFP. Historically, the

² PG&E Calculation NX-288, *Documentation of Spent Fuel Fragments*, Revision 6, April 21, 2005

CSC was utilized as the primary repository for fuel fragments and other small radioactive items found in the SFP. During the search for A-49 fuel rod segments during 2004 – 2005, five (5) fragments were found in Failed Fuel Can #1 (FFC #1), one (1) in the SFP sump, one (1) on the floor of the SFP, and eight (8) in the original container that housed damaged fuel assembly UD6N.

6.0 RECOMMENDATION

No additional physical inspections are recommended. However, the action items identified for specific scenarios will be completed in the future during decommissioning activities for HBPP Unit 3.

7.0 REVIEW & APPROVAL

Inspection Report

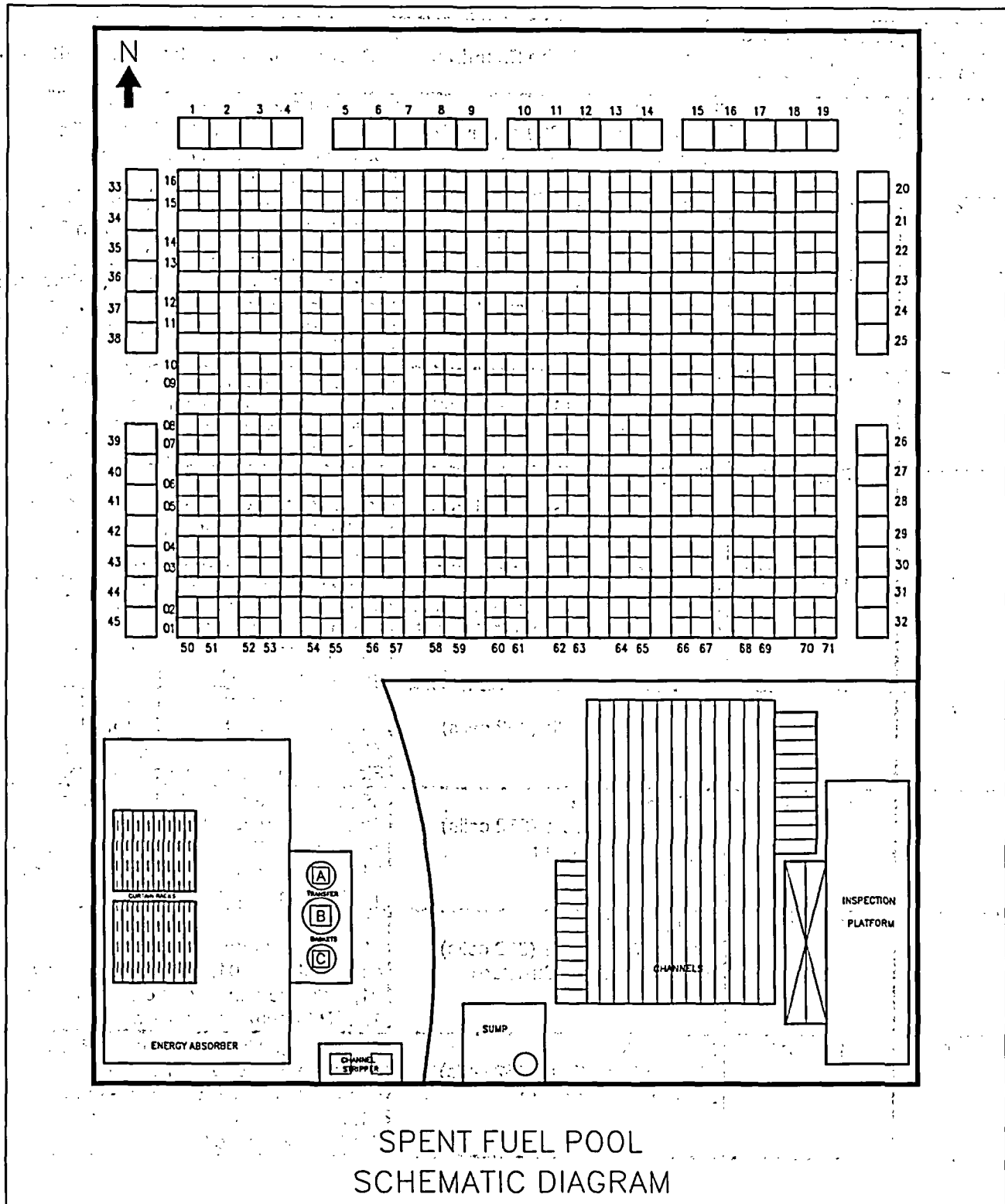
Prepared By: Christopher Kudla Date 05/06/05

Review: Peter Rasmussen Date 05/18/05

Approval: Bruce Norton Date 05/18/05
Project Manager

Figure 1

**HBPP UNIT 3 SPENT FUEL POOL SCHEMATIC CONFIGURATION
FOR PHYSICAL INSPECTIONS**



Attachment 1

**SPENT FUEL POOL (SFP)
PHYSICAL INSPECTION SCENARIO DESCRIPTIONS**

Area/ Item No.	SNMP Scenario No. SAP8065936	Area or Item to be Examined	Description & Location of Area/Item
1	1-04-01a	Fuel Rack Area Fuel Assemblies (389 assemblies, does <u>not</u> include UD6N)	389 Fuel Assemblies located in the Peripheral Cells and the Storage Rack Cells as depicted on Figure 1, SFP Schematic Diagram.
2	1-04-01b	Fuel Rack Area Peripheral Cells (45 cells)	45 Peripheral Cells noted as locations 1 – 45, inclusive and as depicted on Figure 1, SFP Schematic Diagram.
3	1-04-01c	Fuel Rack Area Peripheral Cells (45 cells) Upper Rack Structure	45 Peripheral Cells Upper Rack Structure noted as locations 1 – 45, inclusive and as depicted on Figure 1, SFP Schematic Diagram.
4	1-04-01d	Fuel Rack Area Peripheral Cells (45 cells) Middle- Tier Rack Structure	45 Peripheral Cells Middle-Tier Rack Structure noted as locations 1 – 45, inclusive and as depicted on Figure 1, SFP Schematic Diagram.
5	1-04-01e	Fuel Rack Area Peripheral Cells (45 cells) Lower Rack Structure	45 Peripheral Cells Lower Rack Structure noted as locations 1 – 45, inclusive and as depicted on Figure 1, SFP Schematic Diagram.
6	1-04-01f	Fuel Rack Area Peripheral Cells (45 cells) Between Cells and SFP Walls (North, East & West)	Areas of the Peripheral Cells Between Cells and SFP Walls (North, East & West) noted as locations 1 – 45, inclusive and as depicted on Figure 1, SFP Schematic Diagram.
7	1-04-01g	Fuel Rack Area Storage Rack Cells (352 cells)	352 Storage Rack Cells bounded by the grid coordinates 50-01, 50-16, 71-16 and 71-01, inclusive and as depicted on Figure 1, SFP Schematic Diagram.
8	1-04-01h	Fuel Rack Area Storage Rack Cells (352 cells) Upper Rack Structure	352 Storage Rack Cells Upper Rack Structure bounded by the grid coordinates 50-01, 50-16, 71-16 and 71- 01, inclusive and as depicted on Figure 1, SFP Schematic Diagram.
9	1-04-01i	Fuel Rack Area Storage Rack Cells (352 cells) Middle-Tier Rack Structure	352 Storage Rack Cells Middle-Tier Rack Structure bounded by the grid coordinates 50-01, 50-16, 71-16 and 71- 01, inclusive and as depicted on Figure 1, SFP Schematic Diagram.
10	1-04-01j	Fuel Rack Area Storage Rack Cells (352 cells) Lower Rack Structure	352 Storage Rack Cells Lower Rack Structure bounded by the grid coordinates 50-01, 50-16, 71-16 and 71- 01, inclusive and as depicted on Figure 1, SFP Schematic Diagram.

Attachment 1

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Area/ Item No.	SNMP Scenario No. SAP8065936	Area or Item to be Examined	Description & Location of Area/Item
11	1-04-01k	Fuel Rack Area Storage Rack Structure Between Storage Rack Cells and Peripheral Cells	Areas between the Storage Rack Cells (bounded by the grid coordinates 50-01, 50-16, 71-16 and 71-01, inclusive) and the Peripheral Cells (noted as locations 1 – 45, inclusive) as depicted on Figure 1, SFP Schematic Diagram.
12	1-04-01l	Fuel Rack Area Gap – Boral Can & Cell (389 cells)	The gap space between the outside surface of the fuel assembly Boral can and the inside surface of the fuel rack cell in order to determine if the gap is wide enough to accommodate a fuel rod segment or fragment.
13	1-04-01m	Fuel Rack Area Vertical Pipes (Part of the Storage Rack Cells) Between East and West Sections of the Storage Rack Cells	The two (2) vertical pipes located between the Storage Rack Cells between columns 59 and 60, with one between row 4 and 5 and the other between rows 12 and 13 (grid is depicted on Figure 1, SFP Schematic Diagram).
14	1-04-02a	Liner General Area Fuel Rack Area Floor - General	The Fuel Rack Floor area bounded by the grid coordinates 50-01, 50-16, 71-16 and 71-01 and Peripheral Cell Racks 1 - 45, inclusive and as depicted on Figure 1, SFP Schematic Diagram.
15	1-04-02b	Liner General Area Cask Pit Area Floor - General	The Cask Pit Floor area as depicted on Figure 1, SFP Schematic Diagram.
16	1-04-02c	Liner General Area Energy Absorber Area Floor - General	The Energy Absorber Floor area as depicted on Figure 1, SFP Schematic Diagram.
17	1-04-02d	Liner General Area SFP Sump	The SFP Sump located in the Cask Pit Floor area as depicted on Figure 1, SFP Schematic Diagram.
18	1-04-02e	Liner General Area SFP Sump Drain Line	The SFP Sump Drain Line is attached to the SFP Sump that is located in the Cask Pit Floor area (depicted on Figure 1, SFP Schematic Diagram).
19	1-04-02f	Liner General Area SFP Skimmer Pipes	The SFP Skimmer Pipes located along the north wall of the SFP as depicted on Figure 1, SFP Schematic Diagram.
20	1-04-02g	Liner General Area SFP Suction Piping, Foot Valve & Discharge Piping (SFP Recirculation)	The SFP Suction piping and valves located in the northeast corner and Discharge piping located in the northwest and southwest corners (SFP depicted on Figure 1, SFP Schematic Diagram).

Attachment 1

Area/ Item No.	SNMP Scenario No. SAP8065936	Area or Item to be Examined	Description & Location of Area/Item
21	1-04-02h	Liner General Area SFP Liner & Wall Juncture (Corner Areas – 4 Locations)	The SFP Liner & Wall Juncture (Corner Areas – 4 Locations) located in the northeast, southeast, southwest and northwest corners of the SFP as depicted on Figure 1, SFP Schematic Diagram.

Attachment 1

**SPENT FUEL POOL (SFP)
PHYSICAL INSPECTION SCENARIO DESCRIPTIONS**

Area/ Item No.	SNMP Scenario No. SAP8065936	Area or Item to be Examined	Description & Location of Area/Item
22	1-04-02i	Liner General Area Fuel Transfer Basket Rack Area - General	The Fuel Transfer Basket Rack Area – General located in the southwest portion of the SFP as depicted on Figure 1, SFP Schematic Diagram.
23	1-04-03a	Containers ISC – 1 - Red	The Interim Storage Container (ISC) designated by the red colored identification tag and marked with the numeral 1 that is located in the Cask Pit/Channel area (depicted on Figure 1, SFP Schematic Diagram).
24	1-04-03b	Containers ISC – 2 - Blue	The Interim Storage Container (ISC) designated by the blue colored identification tag and marked with the numeral 2 that is located in the Cask Pit/Channel area (depicted on Figure 1, SFP Schematic Diagram).
25	1-04-03c	Containers ISC – 3 - Green	The Interim Storage Container (ISC) designated by the green colored identification tag and marked with the numeral 3 that is located in the Cask Pit/Channel area (depicted on Figure 1, SFP Schematic Diagram).
26	1-04-03d	Containers ISC – 4 - Yellow	The Interim Storage Container (ISC) designated by the yellow colored identification tag and marked with the numeral 4 that is located on the Energy Absorber (depicted on Figure 1, SFP Schematic Diagram).
27	1-04-03e	Containers ISC – 5 - Brown	The Interim Storage Container (ISC) designated by the brown colored identification tag and marked with the numeral 5 that is located in the Cask Pit/Channel area (depicted on Figure 1, SFP Schematic Diagram).
28	1-04-03f	Containers ISC – 6 - Orange	The Interim Storage Container (ISC) designated by the orange colored identification tag and marked with the numeral 6 that is located in the Cask Pit/Channel area (depicted on Figure 1, SFP Schematic Diagram).
29	1-04-03g	Containers ISC – 7 - Pink	The Interim Storage Container (ISC) designated by the pink colored identification tag and marked with the numeral 7 that is located in the Cask Pit/Channel area (depicted on Figure 1, SFP Schematic Diagram).

Attachment 1

**SPENT FUEL POOL (SFP)
PHYSICAL INSPECTION SCENARIO DESCRIPTIONS**

Area/ Item No.	SNMP Scenario No. SAP8065936	Area or Item to be Examined	Description & Location of Area/Item
30	1-04-03h	Containers ISC – 8 - Purple	The Interim Storage Container (ISC) designated by the purple colored identification tag and marked with the numeral 8 that is located in the Cask Pit/Channel area (depicted on Figure 1, SFP Schematic Diagram).
31	1-04-03i	Containers ISC – 9 – Red/White	The Interim Storage Container (ISC) designated by the two-tone red/white colored identification tag and marked with the numeral 9 that is located on the Energy Absorber (depicted on Figure 1, SFP Schematic Diagram).
32	1-04-03j	Containers ISC – 10 – Blue/White	The Interim Storage Container (ISC) designated by the two-tone blue/white colored identification tag and marked with the numeral 10 that is located on the Energy Absorber (depicted on Figure 1, SFP Schematic Diagram).
33	1-04-03k	Containers ISC – 11 – Green/White	The Interim Storage Container (ISC) designated by the two-tone green/white colored identification tag and marked with the numeral 11 that is located in the Cask Pit/Channel area (depicted on Figure 1, SFP Schematic Diagram).
34	1-04-03l	Containers ISC – 12 – Yellow/White	The Interim Storage Container (ISC) designated by the two-tone yellow/white colored identification tag and marked with the numeral 12 that is located in the Cask Pit/Channel area (depicted on Figure 1, SFP Schematic Diagram).
35	1-04-03m	Containers ISC – 13 – Brown/White	The Interim Storage Container (ISC) designated by the two-tone brown/white colored identification tag and marked with the numeral 13 that is located in the Cask Pit/Channel area (depicted on Figure 1, SFP Schematic Diagram).
36	1-04-03n	Containers ISC – 14 – Orange/White	The Interim Storage Container (ISC) designated by the two-tone orange/white colored identification tag and marked with the numeral 14 that is located in the Cask Pit/Channel area (depicted on Figure 1, SFP Schematic Diagram).

Attachment 1

Area/ Item No.	SNMP Scenario No. SAP8065936	Area or Item to be Examined	Description & Location of Area/Item
37	1-04-03o	Containers ISC – 15 – Pink/White	The Interim Storage Container (ISC) designated by the two-tone pink/white colored identification tag and marked with the numeral 15 that is located in the Cask Pit/Channel area (depicted on Figure 1, SFP Schematic Diagram).

Attachment 1

**SPENT FUEL POOL (SFP)
PHYSICAL INSPECTION SCENARIO DESCRIPTIONS**

Area/ Item No.	SNMP Scenario No. SAP8065936	Area or Item to be Examined	Description & Location of Area/Item
38	1-04-03p	Containers ISC – 16 – Purple/White	The Interim Storage Container (ISC) designated by the two-tone purple/white colored identification tag and marked with the numeral 16 that is located in the Cask Pit/Channel area (depicted on Figure 1, SFP Schematic Diagram).
39	1-04-03q	Containers Fuel Transfer Basket A & Under Basket	The Fuel Transfer Basket A area located in the southwest portion of the SFP as depicted on Figure 1, SFP Schematic Diagram.
40	1-04-03r	Containers Fuel Transfer Basket B & Under Basket	The Fuel Transfer Basket B area located in the southwest portion of the SFP as depicted on Figure 1, SFP Schematic Diagram.
41	1-04-03s	Containers Fuel Transfer Basket C & Under Basket	The Fuel Transfer Basket C area located in the southwest portion of the SFP as depicted on Figure 1, SFP Schematic Diagram.
42	1-04-03t	Containers UD6N Fuel Assembly Box (including contents)	The UD6N Fuel Assembly Box located in Peripheral Rack Cell 32 as depicted on Figure 1, SFP Schematic Diagram. The "old" UD6N container is on the east inspection platform.
43	1-04-03u	Containers Failed Fuel Cans (4)	Failed Fuel Cans (1 – 4) are currently known as the Storage Containers 1 – 4. One of the four cans in the SFP has been filled with cut-up incore detectors and the other three remaining cans are empty
44	1-04-03v	Containers Central Storage Container (CSC) (Unclad Fuel Fragment Container (UFFC) & Fuel Fragment Container (Fuel Frag))	The Central Storage Container (CSC) that is located in the Cask Pit/Channel area (depicted on Figure 1, SFP Schematic Diagram). In addition there are two other containers – UFFC & Fuel Frag that hold the clad and unclad fuel fragments that have been found in the SFP.
45	1-04-03w	Containers Pellet Catcher	The Pellet Catcher that is located in the Cask Pit/Channel area (depicted on Figure 1, SFP Schematic Diagram).

Attachment 1

SPENT FUEL POOL (SFP)
PHYSICAL INSPECTION SCENARIO DESCRIPTIONS

Area/ Item No.	SNMP Scenario No. SAP8065936	Area or Item to be Examined	Description & Location of Area/Item
46	1-04-03x	Containers Transitory ISCs	Inspect the Transitory Interim Storage Containers (ISC) designated by the two-tone red/black colored identification tag and marked with the numeral 17, the two-tone blue/black colored identification tag and marked with the numeral 18, the two-tone green/black colored identification tag and marked with the numeral 19, and the two-tone yellow/black colored identification tag and marked with the numeral 20 that are all located in the Cask Pit/Channel area (depicted on Figure 1, SFP Schematic Diagram).
47	1-04-04a	Miscellaneous Poison Curtain Rack 1 & Under Rack	Poison Curtain Rack 1 (Slots 1 – 60) is located on the Energy Absorber as depicted on Figure 1, SFP Schematic Diagram.
48	1-04-04b	Miscellaneous Poison Curtain Rack 2 & Under Rack	Poison Curtain Rack 2 (Slots 61 – 120) is located on the floor area adjacent to the Energy Absorber (depicted on Figure 1, SFP Schematic Diagram).
49	1-04-04c	Miscellaneous Work/Inspection Platform (On, Underneath & Behind) – South Wall	Work/Inspection Platform is located on the South Wall of the SFP (depicted on Figure 1, SFP Schematic Diagram).
50	1-04-04d	Miscellaneous Work/Inspection Platform (On, Underneath & Behind) – East Wall	Work/Inspection Platform is located on the East Wall of the SFP as depicted on Figure 1, SFP Schematic Diagram.
51	1-04-04e	Miscellaneous Energy Absorber (Underneath, Between – West & South Walls & On Top)	Energy Absorber is located on the South Wall of the SFP as depicted on Figure 1, SFP Schematic Diagram.
52	1-04-04f	Miscellaneous Channels (On, Between, Underneath & In)	Channels are stacked on the floor area of the Cask Pit/Channel as depicted on Figure 1, SFP Schematic Diagram.
53	1-04-04g	Miscellaneous Dummy Fuel Assembly	Dummy Fuel Assembly is located in Transfer Basket C (depicted on Figure 1, SFP Schematic Diagram).
54	1-04-04h	Miscellaneous Channel Stripper (On, Behind, Underneath & In)	Channel Stripper is attached to and is located on the south wall of the SFP as depicted on Figure 1, SFP Schematic Diagram.

Attachment 1

**SPENT FUEL POOL (SFP)
PHYSICAL INSPECTION SCENARIO DESCRIPTIONS**

Area/ Item No.	SNMP Scenario No. SAP8065936	Area or Item to be Examined	Description & Location of Area/Item
55	1-04-04i	Miscellaneous Resin Bed (On, Behind, Underneath & In)	Resin Bed was located in the northwest corner of the SFP (depicted on Figure 1, SFP Schematic Diagram).
56	1-04-04j	Miscellaneous Operating Sources (North End of SFP)	Operating Sources are located in Peripheral Cells location 3 and 4 (depicted on Figure 1, SFP Schematic Diagram).

Attachment 2

SPENT FUEL POOL PHYSICAL INSPECTION RESULTS

Area/Item No.: 1

Scenario Information: Scenario No: 1-04-01a

Title/Location: Fuel Rack Area

Objective/Description: Fuel Assemblies (389 assemblies, does not include UD6N)

Physical Configuration: A, B, C, & D

Inspection Process:

- Perform examination of fuel assemblies B14, HD46, HE29, HE34, and HG29.
- Re-review DVDs (Disks – 2000 ISFSI Fuel Assembly Inspection, 8/13/03, 8/14/03, & 2/04 (TP2004-01 Disks 1 – 7)) to fully assess damaged fuel assemblies, missing fuel rods, missing fuel rod segments, and identification of dummy fuel rods.
- Reconcile results of the aforementioned activities to establish fuel assembly SNM basis.
- Any fuel assemblies that have inconclusive examination and inspection results should be re-examined and re-recorded.

Inspection Summary/Details:

- Re-reviewed the DVDs to determine if the videos adequately document the examination and inspection of the defined scenario areas.
- Each fuel assembly (except B14 and HD46 which could not be grappled, HE29 and HE34 which could not be removed from their channels, and HG29 which had its channel removed, but was not examined) was previously examined and video documented in 2000 and 2002 – 2003.
- Fuel assemblies B14 and HD46 are “cabled” assemblies with top cover plates that require special lifting techniques due to broken and/or missing tie rods. They cannot be examined from the top because of the plates and cables.
- HE29 and HE34 can only be examined from the top due to the channels.

Inspection Results:

- Did not perform examination of fuel assemblies B14, HD46, HE29, HE34, and HG29.
- Re-reviewed DVDs to fully assess damaged fuel assemblies, missing fuel rods, missing fuel rod segments, and identification of dummy fuel rods.
- Reconcile results of the aforementioned activities to establish fuel assembly SNM basis. Separate report with regard to SNM accountability has been written to document damaged and reconstituted fuel assemblies.
- Additional examination and video documentation was performed on 1/5/05 and 1/24/05. Combination of the previous existing video and the recent video taken in early 2005 was adequate to assess the subject scenario.

Video Records:

- DVDs generated during 2000 ISFSI Fuel Assembly Inspection.
- DVDs generated during Phase 1 of TBD-306: Disks dated 8/13/03, 8/14/03, and 2/04 (TP2004-01 Disks 1 – 7).
- DVDs generated in 2005: Disks dated 1/5/05 & 1/24/05.

Conclusion:

The three unaccounted for A-49 fuel rod segments and/or SNM were not located within the SFP location for Physical Configurations A, B, C, & D as defined by the scenario based on the

Attachment 2

examinations documented on the DVDs. Due to the issues associated with fuel assemblies B14 and HD46 (which could not be grappled), HE29 and HE34 (which could not be removed from their channels), and HG29 (which had its channel removed, but was not thoroughly examined since the inspection stand was not available) that were previously examined and video documented during the 2000 ISFSI Fuel Assembly Inspection to the extent possible. Fuel assemblies B14 and HD46 are "cabled" assemblies with top cover plates that require special lifting techniques due to broken and/or missing tie rods. They could only be examined from the top because of the plates and cables. HE29 and HE34 could only be examined from the top due to the channels. In all cases, special lifting devices and techniques are required to lift and move fuel assemblies B14 and HD46. Accordingly, due to the fragile nature and/or unique requirements associated with these fuel assemblies, it was concluded by HBPP that it would be extremely difficult if not impossible to adequately lift and examine the subject assemblies with currently available equipment. Therefore, at the time that the HBPP ISFSI is implemented, the subject fuel assemblies will be lifted and moved, allowing inspection of them. At that time, any evidence of the three unaccounted for fuel rod segments and/or SNM will be appropriately documented. It is highly unlikely that the fuel rod segments will be found in Physical Configuration A or C. However, it is reasonably possible that fuel fragments if found would be in Physical Configurations B or D.

Action Items:

- Examine fuel assemblies B14, HD46, HE29, HE34, and HG29 prior to or at the time of ISFSI implementation.
- Document any evidence of the three unaccounted for fuel rod segments and/or SNM found during the examination of the subject fuel assemblies.

Attachment 2

**SPENT FUEL POOL
PHYSICAL INSPECTION RESULTS**

Area/Item No.: 2

Scenario Information: Scenario No: 1-04-01b

Title/Location: Fuel Rack Area

Objective/Description: Peripheral Cells (45 cells)

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs (Disks – 2/04 (TP2004-01 Disks 1 – 7), 3/04 (TP2004-01 Disks 1, 2 & 7), 7/26/04, 7/29/04, 8/2/04, 8/11/04, 8/14/04, & 9/1/04) and determine if the disks adequately documents the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVDs to determine if the disks adequately document the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVDs to fully assess the Peripheral Cells.
- Peripheral cell SFP22 could not be examined, since it is occupied by fuel assembly B14, which cannot be grappled without special lifting equipment that is currently not available.
- Video documentation does not exist for SFP33, but it is presumed to be empty.
- Layer of resin in peripheral cells primarily in the northwest corner of the SFP could hide fuel fragments (1/4" size), but not as physical configurations A and C.
- Performed additional video documentation of northwest corner area of the SFP following the resin vacuuming operation to document the "as-is" conditions in the subject area.
- Additional examination and video documentation was performed on 1/18/05, 1/21/05, 1/27/05 AM, & 1/27/05 PM. Combination of the previous existing video and the recent video taken in early 2005 was adequate to assess the subject scenario.

Video Records:

- DVDs generated during Phase 1 of TBD-306: Disks dated 2/04 (TP2004-01 Disks 1 – 7), 3/04 (TP2004-01 Disks 1, 2 & 7), 7/26/04, 7/29/04, 8/2/04, 8/11/04, 8/14/04, & 9/1/04.
- DVDs generated in 2005: Disks dated 1/18/05, 1/21/05, 1/27/05 AM, & 1/27/05 PM.
- A summary compilation DVD (Title: 02 – Peripheral Cells) was made from the Phase 1 of TBD-306 and 2005 DVDs. This compilation was specifically developed to address this scenario.

Conclusion:

The three unaccounted for A-49 fuel rod segments and/or SNM were not located within the SFP location for Physical Configurations A, B, C, & D as defined by the scenario.

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Action Items:

- Examine cells SFP22 and SFP33 prior to or at the time of ISFSI implementation.
- Perform a final examination of the northwest corner of the SFP following ISFSI implementation and rack removal in the area of the remaining resin bed.
- Document any evidence of the three unaccounted for fuel rod segments and/or SNM found during the examinations.

Attachment 2
SPENT FUEL POOL
PHYSICAL INSPECTION RESULTS

Area/Item No.: 3

Scenario Information: Scenario No: 1-04-01c

Title/Location: Fuel Rack Area

Objective/Description: Peripheral Cells (45 cells) Upper Rack Structure

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs (Disks dated 7/26/04 & 7/28/04) and determine if the disks adequately document the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVDs to determine if the disks adequately document the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVDs to fully assess the Peripheral Cell Upper Rack Structure.
- Performed additional video documentation of Peripheral Cell Upper Rack Structure to document the "as-is" conditions in the subject area.
- Additional examination and video documentation was performed on 1/27/05. Combination of the previous existing video and the recent video taken in early 2005 was adequate to assess the subject scenario.

Video Records:

- DVDs generated during Phase 1 of TBD-306: DVDs dated 7/26/04 & 7/28/04.
- DVD generated in 2005: Disks dated 1/27/05 and 2/22/05.
- A summary compilation DVD (Title: 03 – Peripheral Cell Rack Struc., 08 – Storage Rack Struc., 11 – Struct. Between Main & Peripheral Racks) was made from the Phase 1 of TBD-306 and 2005 DVDs. This compilation was specifically developed to address this scenario.

Conclusion:

The three unaccounted for A-49 fuel rod segments and/or SNM were not located within the SFP location for Physical Configurations A, B, C, & D as defined by the scenario.

Action Items:

- None

Attachment 2
SPENT FUEL POOL
PHYSICAL INSPECTION RESULTS

Area/Item No.: 4

Scenario Information: Scenario No: 1-04-01d

Title/Location: Fuel Rack Area

Objective/Description: Peripheral Cells (45 cells) Middle-Tier Rack Structure

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs (Disks – “DVD dated 11/14/03”, 7/26/04 & 7/28/04) and determine if the disks adequately document the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVDs to determine if the tapes adequately document the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVDs to fully assess the Peripheral Cells Middle-Tier Rack Structure.
- No additional examination or video documentation was performed. Combination of the existing video and Peripheral Cells Middle-Tier Rack Structure area “fly-by” video was not adequate to assess the subject scenario.

Video Records:

- DVDs generated during Phase 1 of TBD-306: Disks dated 11/14/03, 7/26/04 & 7/28/04.

Conclusion:

The three unaccounted for A-49 fuel rod segments and/or SNM were not located within the SFP location for Physical Configurations A, B, C, & D as defined by the scenario based on the examinations documented on digital storage media. Due to the configuration and construction of the Peripheral Cells Middle-Tier Rack Structure, it is extremely difficult if not impossible to adequately examine the subject area with currently available equipment. Therefore, after removal of all spent fuel from the SFP and its storage in the HBPP ISFSI, the subject structure will be cut apart, examined, and removed from the SFP during the decommissioning of HBPP Unit 3. At that time, any evidence of the three unaccounted for fuel rod segments and/or SNM will be appropriately documented. It is highly unlikely that the fuel rod segments will be found in Physical Configuration A or C. However, it is reasonably possible that fuel fragments may be found in Physical Configurations B or D.

Action Items:

- Perform a final examination of the structure as it is removed and the area following removal of the structure.
- Document any evidence of the three unaccounted for fuel rod segments and/or SNM found during the examination.

Attachment 2
SPENT FUEL POOL
PHYSICAL INSPECTION RESULTS

Area/Item No.: 5

Scenario Information: Scenario No: 1-04-01e

Title/Location: Fuel Rack Area

Objective/Description: Peripheral Cells (45 cells) Lower Rack Structure

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs (Disks – "DVD dated 11/14/03", 7/26/04 & 7/28/04) and determine if the disks adequately document the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVDs to determine if the disks adequately document the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVDs to fully assess the Peripheral Cells Lower Rack Structure.
- No additional examination or video documentation was performed. Combination of the existing video and Peripheral Cells Lower Rack Structure area "fly-by" video was not adequate to assess the subject scenario.

Video Records:

- DVDs generated during Phase 1 of TBD-306: Disks dated 11/14/03", 7/26/04 & 7/28/04.

Conclusion:

The three unaccounted for A-49 fuel rod segments and/or SNM were not located within the SFP location for Physical Configurations A, B, C, & D as defined by the scenario based on the examinations documented on digital storage media. Due to the configuration and construction of the Peripheral Cells Lower Rack Structure, it is extremely difficult if not impossible to adequately examine the subject area with currently available equipment. Therefore, after removal of all spent fuel from the SFP and its storage in the HBPP ISFSI, the subject structure will be cut apart, examined, and removed from the SFP during the decommissioning of HBPP Unit 3. At that time, any evidence of the three unaccounted for fuel rod segments and/or SNM will be appropriately documented. It is highly unlikely that the fuel rod segments will be found in Physical Configuration A or C. However, it is reasonably possible that fuel fragments may be found in Physical Configurations B or D.

Action Items:

- Perform a final examination of the structure as it is removed and the area following removal of the structure.
- Document any evidence of the three unaccounted for fuel rod segments and/or SNM found during the examination.

Attachment 2

SPENT FUEL POOL PHYSICAL INSPECTION RESULTS

Area/Item No.: 6

Scenario Information: Scenario No: 1-04-01f

Title/Location: Fuel Rack Area

Objective/Description: Peripheral Cells (45 cells) Between Cells and SFP Walls (North, East & West)

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs (Disks – 7/26/04 & 7/28/04) and determine if the disks adequately document the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVDs to determine if the disks adequately document the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVDs to fully assess the Peripheral Cells between Cells and SFP Walls (North, East, & West).
- Performed additional video documentation of northwest corner area of the SFP following the resin vacuuming operation to document the “as-is” conditions in the subject area.
- Additional examination and video documentation was performed on 1/10/05 parts 1 & 2, 1/17/05 parts 1 & 2, 1/18/05, 1/19/05, 1/27/05 am & pm and 2/22/05. Combination of the existing video and SFP NW corner area video is not adequate to assess the subject scenario.
- Video only shows the gap between the upper channel of the Peripheral Cells and the wall of the SFP. The video does not show the lower channel area of the Peripheral Cells.

Video Records:

- DVDs generated during Phase 1 of TBD-306: Disks dated 7/26/04 & 7/28/04.
- DVDs generated in 2005: Disks dated 1/10/05 Parts 1 & 2, 1/11/05 parts 1 & 2, 1/17/05 parts 1 & 2, 1/18/05, 1/19/05, 1/27/05 am & pm and 2/22/05.
- A summary compilation DVD (Title: 06 – Between Cells and Walls) was made from the Phase 1 of TBD-306 and 2005 DVDs. This compilation was specifically developed to address this scenario.

Conclusion:

The three unaccounted for A-49 fuel rod segments and/or SNM were not located within the SFP location for Physical Configurations A, B, C, & D as defined by the scenario based on the examinations documented on digital storage media. Due to the configuration and construction of the Peripheral Cells (45 cells) Between Cells and SFP Walls (North, East & West), it is extremely difficult if not impossible to adequately examine the subject area with currently available equipment. After removal of all spent fuel from the SFP and its storage in the HBPP ISFSI, the subject structure will be cut apart, examined, and removed from the SFP during the decommissioning of HBPP Unit 3. At that time, any evidence of the three unaccounted for fuel rod segments and/or SNM will be documented. It is highly unlikely that the fuel rod segments will be found in Physical Configuration A or C. However, it is reasonably possible that fuel fragments may be found in Physical Configurations B or D.

Attachment 2

Action Items:

- Perform a final examination of the area following ISFSI implementation.
- Document evidence of the three unaccounted for fuel rod segments and/or SNM found during the examination.

Attachment 2

SPENT FUEL POOL PHYSICAL INSPECTION RESULTS

Area/Item No.: 7

Scenario Information: Scenario No: 1-04-01g

Title/Location: Fuel Rack Area

Objective/Description: Storage Rack Cells (352 cells)

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs from the Boral Can Inspection (TP 2004-01, Disks 1 – 7) and determine if the disks adequately document the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVDs to determine if the disks adequately document the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVDs to fully assess the Storage Rack Cells.
- No additional examination or video documentation was performed.

Video Records:

- DVDs generated during the Boral Can Inspection (TP 2004-01, Disks 1 – 7).
- A summary compilation DVD (Title: 07 – Storage Cells) was made from the Boral Can Inspection DVDs. This compilation was specifically developed to address this scenario.

Conclusion:

The three unaccounted for A-49 fuel rod segments and/or SNM were not located within the SFP location for Physical Configurations A, B, & C as defined by the scenario based on the examinations documented on videotape. However, SNM in the form of a fuel fragment was identified for Physical Configuration D. A fuel fragment was identified in cell 62-12, retrieved and placed in the clad fuel fragment container. Fuel assembly HD46 is a "cabled" assembly with top cover plates that requires special lifting techniques due to broken and/or missing tie rods. It could not be lifted to examine the Storage Rack Cell in which it is located. In this case, special lifting devices and techniques are required to lift and move the subject assembly. Accordingly, due to the fragile nature and/or unique requirements associated with this fuel assembly, it was concluded by HBPP that it would be extremely difficult if not impossible to adequately lift and examine the subject assembly with currently available equipment. Therefore, at the time that the HBPP ISFSI is implemented, the subject fuel assembly will be lifted and moved, allowing inspection of the associated Storage Rack Cell. At that time, any evidence of the three unaccounted for fuel rod segments and/or SNM will be appropriately documented. It is highly unlikely that the fuel rod segments will be found in Physical Configuration A or C. However, it is reasonably possible that fuel fragments may be found in Physical Configurations B or D.

Action Items:

- Perform a final examination of the area following ISFSI implementation.
- Document any evidence of the three unaccounted for fuel rod segments and/or SNM found during the examination.

Attachment 2

SPENT FUEL POOL PHYSICAL INSPECTION RESULTS

Area/Item No.: 8

Scenario Information: Scenario No: 1-04-01h

Title/Location: Fuel Rack Area

Objective/Description: Storage Rack Cells (352 cells) Upper Rack Structure

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs (Disks dated 11/14/03, 7/26/04, & 7/28/04) and determine if the disks adequately document the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVDs to determine if the disks adequately document the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVDs to fully assess the Storage Rack Cell Upper Rack Structure.
- Performed additional video documentation of Storage Rack Cell Upper Rack Structure to document the "as-is" conditions in the subject area.
- Additional examination and video documentation was performed on 1/27/05. Combination of the existing video and Storage Rack Cell Upper Rack Structure area video was adequate to assess the subject scenario.

Video Records:

- DVDs generated during Phase 1 of TBD-306: Disks dated 11/14/03, 7/26/04, & 7/28/04.
- DVDs generated in 2005: Disk dated 1/27/05.
- A summary compilation DVD (Title: 03 – Peripheral Cell Rack Struc., 08 – Storage Rack Struc., 11 – Struct. Between Main & Peripheral Racks) was made from the Phase 1 of TBD-306 and 2005 DVDs. This compilation was specifically developed to address this scenario.

Conclusion:

The three unaccounted for A-49 fuel rod segments and/or SNM were not located within the SFP location for Physical Configurations A, B, C, & D as defined by the scenario.

Action Items:

- None

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SPENT FUEL POOL
PHYSICAL INSPECTION RESULTS

Area/Item No.: 9

Scenario Information: Scenario No: 1-04-01i

Title/Location: Fuel Rack Area

Objective/Description: Storage Rack Cells (352 cells) Middle-Tier Rack Structure

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs (Disks dated 11/14/03, 7/26/04, & 7/28/04) and determine if the disks adequately document the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVDs to determine if the disks adequately document the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVDs to fully assess the Storage Rack Cells Middle-Tier Rack Structure.
- No additional examination or video documentation was performed. Combination of the existing video and Storage Rack Cells Middle-Tier Rack Structure area "fly-by" video was not adequate to assess the subject scenario.

Video Records:

- DVDs generated during Phase 1 of TBD-306: Disks dated 11/14/03, 7/26/04, & 7/28/04.

Conclusion:

The three unaccounted for A-49 fuel rod segments and/or SNM were not located within the SFP location for Physical Configurations A, B, C, & D as defined by the scenario based on the examinations documented on digital storage media. Due to the configuration and construction of the Storage Rack Cells Middle-Tier Rack Structure, it is extremely difficult if not impossible to adequately examine the subject area with currently available equipment. Therefore, after removal of all spent fuel from the SFP and its storage in the HBPP ISFSI, the subject structure will be cut apart, examined, and removed from the SFP during the decommissioning of HBPP Unit 3. At that time, any evidence of the three unaccounted for fuel rod segments and/or SNM will be appropriately documented. It is highly unlikely that the fuel rod segments will be found in Physical Configuration A or C. However, it is reasonably possible that fuel fragments may be found in Physical Configurations B or D.

Action Items:

- Perform a final examination of the structure as it is removed and the area following removal of the structure.
- Document any evidence of the three unaccounted for fuel rod segments and/or SNM found during the examination.

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SPENT FUEL POOL
PHYSICAL INSPECTION RESULTS

Area/Item No.: 10

Scenario Information: Scenario No: 1-04-01j

Title/Location: Fuel Rack Area

Objective/Description: Storage Rack Cells (352 cells) Lower Rack Structure

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs (Disks dated 11/14/03, 7/26/04, & 7/28/04) and determine if the disks adequately document the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVDs to determine if the disks adequately document the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVDs to fully assess the Storage Rack Cells Lower Rack Structure.
- No additional examination or video documentation was performed. Combination of the existing video and Storage Rack Cells Lower Rack Structure area "fly-by" video was not adequate to assess the subject scenario.

Video Records:

- DVDs generated during 2003 Phase 1 of TBD-306: Disks dated 11/14/03, 7/26/04, & 7/28/04.

Conclusion:

The three unaccounted for A-49 fuel rod segments and/or SNM were not located within the SFP location for Physical Configurations A, B, C, & D as defined by the scenario based on the examinations documented on digital storage media. Due to the configuration and construction of the Storage Rack Cells Lower Rack Structure, it is extremely difficult if not impossible to adequately examine the subject area with currently available equipment. Therefore, after removal of all spent fuel from the SFP and its storage in the HBPP ISFSI, the subject structure will be cut apart, examined, and removed from the SFP during the decommissioning of HBPP Unit 3. At that time, any evidence of the three unaccounted for fuel rod segments and/or SNM will be appropriately documented. It is highly unlikely that the fuel rod segments will be found in Physical Configuration A or C. However, it is reasonably possible that fuel fragments may be found in Physical Configurations B or D.

Action Items:

- Perform a final examination of the structure as it is removed and the area following removal of the structure.
- Document any evidence of the three unaccounted for fuel rod segments and/or SNM found during the examination.

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SPENT FUEL POOL PHYSICAL INSPECTION RESULTS

Area/Item No.: 11

Scenario Information: Scenario No: 1-04-01k

Title/Location: Fuel Rack Area

Objective/Description: Storage Rack Structure Between Storage Rack Cells and Peripheral Cells

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs (Disks dated 11/14/03, 7/26/04, & 7/28/04) and determine if the disks adequately document the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVDs to determine if the disks adequately document the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVDs to fully assess the Storage Rack Structure Between Storage Rack Cells and Peripheral Cells.
- Performed additional video documentation of Storage Rack Structure Between Storage Rack Cells and Peripheral Cells to document the "as-is" conditions in the subject area.
- Additional examination and video documentation was performed on 1/27/05. Combination of the existing video and Storage Rack Structure Between Storage Rack Cells and Peripheral Cells area video is not adequate to assess the subject scenario.
- Video only shows the area of the upper channel of the Storage Rack Structure between Storage Rack Cells and Peripheral Cells. The video does not show the lower portion of this structure.

Video Records:

- DVDs generated during Phase 1 of TBD-306: Disks dated 11/14/03, 7/26/04, & 7/28/04.
- DVD generated in 2005: Disk dated 1/27/05.
- A summary compilation DVD (Title: 03 – Peripheral Cell Rack Struc., 08 – Storage Rack Struc., 11 – Struct. Between Main & Peripheral Racks) was made from the Phase 1 of TBD-306 and 2005 DVDs. This compilation was specifically developed to address this scenario.

Conclusion:

The three unaccounted A-49 for fuel rod segments and/or SNM were not located within the SFP location for Physical Configurations A, B, C, & D as defined by the scenario based on the examinations documented on digital storage media. Due to the configuration and construction of the Storage Rack Structure Between Storage Rack Cells and Peripheral Cells, it is extremely difficult if not impossible to adequately examine the subject lower area of the structure with currently available equipment. Therefore, after removal of all spent fuel from the SFP and its storage in the HBPP ISFSI, the subject structure will be cut apart, examined, and removed from

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the SFP during the decommissioning of HBPP Unit 3. At that time, any evidence of the three unaccounted for fuel rod segments and/or SNM will be appropriately documented. It is highly unlikely that the fuel rod segments will be found in Physical Configuration A or C. However, it is reasonably possible that fuel fragments may be found in Physical Configurations B or D.

Action Items:

- Perform a final examination of the area following ISFSI implementation.
- Document any evidence of the three unaccounted for fuel rod segments and/or SNM found during the examination.

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SPENT FUEL POOL PHYSICAL INSPECTION RESULTS

Area/Item No.: 12

Scenario Information: Scenario No: 1-04-01I

Title/Location: Fuel Rack Area

Objective/Description: Gap – Boral Can & Cell (389 Cells)

Physical Configuration: A, B, C, & D

Inspection Process:

- For the Central Storage Racks confirm space between Boral Can and cell is inadequate to accommodate fuel rod segments.
- Re-review the Boral Can Inspection DVDs (TP2004-01 disks 1 - 7) and determine if the disks adequately document the examination and inspection of the defined areas for both the Peripheral and Central Storage Racks. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.
- Visually assess, examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- For the Central Storage Racks, it appears that there is inadequate space between the Boral can and the rack cell to accommodate the objects (A, B, C & D) of interest.
- For the Peripheral Storage Rack cells, due to the configuration of the cells, the gap between the Boral Can and the cell wall was found to be adequate to accommodate the objects (A, B, C and D) of interest to be placed in the gap between the can and the cell.

Inspection Results:

- Re-reviewed DVDs to fully assess the Gap – Boral Can & Cell.
- Performed additional video documentation of Gap – Boral Can & Cell to document the “as-is” conditions in the subject area.
- Additional examination and video documentation was performed on 1/27/05. Combination of the existing video and Gap – Boral Can & Cell area video was adequate to assess the subject scenario.

Video Records:

- DVDs generated in 2004: TP2004-01 disks 1 - 7.
- DVD generated in 2005: Disk dated 1/27/05.

Conclusion:

For the Central Storage Rack cells, dimensional comparative analysis was performed and determined that it is physically not possible for a fuel rod to fit in the gap between a fuel assembly containing a Boral can and its storage rack to a depth of more than a few feet. As a result, the fuel assembly to storage rack gap was not inspected for each fuel assembly and associated cell. In addition, during the 2004 Boral Can Inspection (TP 2004-01), all of the fuel assemblies with their respective Boral cans (except those exempted – see scenario 1-04-01a) were removed from the peripheral and central storage rack cells and each cell was inspected for the presence of fuel fragments. Any of the Physical Configurations would have been identified during this inspection. The three unaccounted for fuel rod segments and/or SNM were not located within the SFP location for the Physical Configurations as defined by the scenario.

Attachment 2

Action Items:

- None

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**SPENT FUEL POOL
PHYSICAL INSPECTION RESULTS**

Area/Item No.: 13

Scenario Information: Scenario No: 1-04-01m

Title/Location: Fuel Rack Area

Objective/Description: Vertical Pipes (Part of the Storage Rack Cells) Between East and West Sections of the Storage Rack Cells

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs (Disk 8/2/04) and determine if the disk adequately documents the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVD to determine if the disk adequately documents the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVD to fully assess the Vertical Pipes (Part of the Storage Rack Cells) Between East and West Sections of the Storage Rack Cells.
- Performed additional video documentation of the Vertical Pipes (Part of the Storage Rack Cells) Between East and West Sections of the Storage to document the "as-is" conditions in the subject area.
- Additional examination and video documentation was performed on 1/27/05. Combination of the existing video and the Vertical Pipes (Part of the Storage Rack Cells) Between East and West Sections of the Storage Rack Cells area video was not adequate (video was not clear in some cases) to assess the subject scenario.
- A rod was inserted into the pipes along their entire length to verify that the pipes were empty. This is video documented on the 8/2/04 disk.

Video Records:

- DVDs generated during Phase 1 of TBD-306: Disk dated 8/2/04.
- DVD generated in 2005: Disk dated 1/27/05.
- A summary compilation DVD (Title: 13 – Vertical Pipes) was made from the Phase 1 of TBD-306 and 2005 DVDs. This compilation was specifically developed to address this scenario.

Conclusion:

The three unaccounted for A-49 fuel rod segments and/or SNM were not located within the SFP location for Physical Configurations A, B, C, & D as defined by the scenario.

Action Items:

- None

Attachment 2

SPENT FUEL POOL PHYSICAL INSPECTION RESULTS

Area/Item No.: 14

Scenario Information: Scenario No: 1-04-02a

Title/Location: Liner General Area

Objective/Description: Fuel Rack Area Floor - General

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs (Disks dated 8/14/03, 7/26/04, 7/27/04, 7/28/04, 8/2/04, 8/14/04, & 9/3/04) and determine if the disks adequately document the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVDs to determine if the disks adequately document the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVDs to fully assess the Fuel Rack Area Floor – General area.
- Most of the SFP floor area was searched providing reasonable assurance that the objects (A, B, C, & D) were not there. However, there were isolated areas and locations that were not clear.
- Performed additional video documentation of the Fuel Rack Area Floor - General area to document the "as-is" conditions in the subject area.
- Additional examination and video documentation was performed on 1/18/05, 1/21/05, 1/22/05, & 1/27/05. Combination of the existing video and the Fuel Rack Area Floor - General area video was not adequate to assess the subject scenario.

Video Records:

- DVDs generated during Phase 1 of TBD-306: Disks dated 8/14/03, 7/26/04, 7/27/04, 7/28/04, 8/2/04, 8/14/04, & 9/3/04.
- DVDs generated in 2005: Disk dated 1/18/05, 1/21/05, 1/22/05, & 1/27/05.
- A summary compilation DVD (Title: 14 – Fuel Rack Floor) was made from the Phase 1 of TBD-306 and 2005 DVDs. This compilation was specifically developed to address this scenario.

Conclusion:

The three unaccounted for A-49 fuel rod segments and/or SNM were not located within the SFP location for Physical Configurations A, B, C, & D as defined by the scenario based on the examinations documented on digital storage media. Due to the configuration, construction, and interference of the Storage Rack Cells Structure, it is extremely difficult if not impossible to adequately examine the subject area with currently available equipment. Therefore, after removal of all spent fuel from the SFP and its storage in the HBPP ISFSI, the subject structure will be cut apart, examined, and removed from the SFP during the decommissioning of HBPP Unit 3. At that time, any evidence of the three unaccounted for fuel rod segments and/or SNM will be appropriately documented. It is highly unlikely that the fuel rod segments will be found in Physical Configuration A or C. However, it is reasonably possible that fuel fragments may be found in Physical Configurations B or D.

Attachment 2

Action Items:

- Perform a final examination of the area following ISFSI implementation.
- Document any evidence of the three unaccounted for fuel rod segments and/or SNM found during the examination.

Attachment 2

**SPENT FUEL POOL
PHYSICAL INSPECTION RESULTS**

Area/Item No.: 15

Scenario Information: Scenario No: 1-04-02b

Title/Location: Liner General Area

Objective/Description: Cask Pit Area Floor - General

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs (Disks – 8/2/04 & 12/22/04) and determine if the disks adequately document the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVDs to determine if the disks adequately document the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVDs to fully assess the Cask Pit Area Floor - General area.
- Most of the Cask Pit Area Floor - General was searched providing reasonable assurance that the objects (A, B, C, & D) were not there. However, there were some small isolated areas and locations that were not clear.
- Performed additional video documentation of the Cask Pit Area Floor - General area to document the "as-is" conditions in the subject area.
- Additional examination and video documentation was performed on 1/20/05. Combination of the existing video and the Cask Pit Area Floor - General area video was not adequate to assess the subject scenario.

Video Records:

- DVDs generated during Phase 1 of TBD-306: Disks dated 8/2/04 & 12/22/04.
- DVD generated in 2005: Disk dated 1/20/05.

Conclusion:

The three unaccounted for A-49 fuel rod segments and/or SNM were not located within the SFP location for Physical Configurations A, B, C, & D as defined by the scenario based on the examinations documented on digital storage media. Due to the storage of the channels and other items in the Cask Pit Area Floor area, it is difficult to adequately examine the subject area with currently available equipment. Therefore, after removal of all channels and other items from the SFP during decommissioning, the subject area will be clear of interferences and obstructions. At that time, any evidence of the three unaccounted for fuel rod segments and/or SNM will be appropriately documented. It is highly unlikely that the fuel rod segments will be found in Physical Configuration A or C. However, it is reasonably possible that fuel fragments may be found in Physical Configurations B or D.

Action Items:

- Perform a final examination of the area following ISFSI implementation.
- Document any evidence of the three unaccounted for fuel rod segments and/or SNM found during the examination.

Attachment 2
SPENT FUEL POOL
PHYSICAL INSPECTION RESULTS

Area/Item No.: 16

Scenario Information: Scenario No: 1-04-02c

Title/Location: Liner General Area

Objective/Description: Energy Absorber Area Floor - General

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs (Disks – 7/9/04, 7/27/04, 7/28/04, 8/26/04, & 9/2/04) and determine if the disks adequately document the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVDs to determine if the disks adequately document the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVDs to fully assess the Energy Absorber Area Floor - General area.
- Most of the Energy Absorber Area Floor - General was searched providing reasonable assurance that the objects (A, B, C, & D) were not there. However, there were some small isolated areas and locations that were not clear.
- Performed additional video documentation of the Energy Absorber Area Floor - General area to document the "as-is" conditions in the subject area.
- Additional examination and video documentation was performed on 1/18/05. Combination of the existing video and the Energy Absorber Area Floor - General area video was not adequate to assess the subject scenario.

Video Records:

- DVDs generated during Phase 1 of TBD-306: Disks dated 7/9/04, 7/27/04, 7/28/04, 8/26/04, & 9/2/04.
- DVD generated in 2005: Disk dated 1/18/05.
- A summary compilation DVD (Title: 16 – Energy Absorber Area Floor, 50 – Energy Absorber) was made from the Phase 1 of TBD-306 and 2005 DVDs. This compilation was specifically developed to address this scenario.

Conclusion:

The three unaccounted for A-49 fuel rod segments and/or SNM were not located within the SFP location for Physical Configurations A, B, C, & D as defined by the scenario based on the examinations documented on digital video media. However, due to the amount of debris under and in the vicinity of the Energy Absorber structure, it is extremely difficult if not impossible to adequately examine the subject area with currently available equipment. Therefore, after removal of all spent fuel from the SFP and its storage in the HBPP ISFSI, the subject structure will be removed from the SFP during the decommissioning of HBPP Unit 3. At that time, any evidence of the three unaccounted for fuel rod segments and/or SNM will be appropriately documented. It is highly unlikely that the fuel rod segments will be found in Physical Configuration A or C. However, it is reasonably possible that fuel fragments may be found in Physical Configurations B or D.

Attachment 2

Action Items:

- Perform a final examination of the Energy Absorber as it is removed and the area following removal of the Energy Absorber.
- Document any evidence of fuel rod segments and/or SNM found during the examination.

Attachment 2
SPENT FUEL POOL
PHYSICAL INSPECTION RESULTS

Area/Item No.: 17

Scenario Information: **Scenario No:** 1-04-02d
Title/Location: Liner General Area
Objective/Description: SFP Sump
Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVD (Disk – 7/26/04) and determine if the disk adequately documents the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVD to determine if the disk adequately documents the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVD to fully assess the SFP Sump.
- Most of the SFP Sump area was searched providing reasonable assurance that the objects (A, B, C, & D) were not there. However, there were isolated areas and locations that were not clear.
- Additional examination and video documentation was performed on 12/22/04, 12/23/04, 12/28/04, 1/12/05 Parts AM & PM, 1/17/05 Parts 1 & 2, 1/19/05, 1/20/05, 1/27/05, 3/23/05 & 3/25/05. Combination of the previous existing video and the recent video taken in early 2005 was adequate to assess the subject scenario.
- The sump is clean and is free of fuel fragments. The DVD of 3/23/05 shows the removal of a fuel fragment found during the sump clean up, and the DVD of 3/25/05 shows the clean sump.

Video Records:

- DVD generated during Phase 1 of TBD-306: Disk dated 7/26/04.
- DVDs generated in 2005: Disks dated 12/22/04, 12/23/04, 12/28/04, 1/12/05 Parts AM & PM, 1/17/05 Parts 1 & 2, 1/19/05, 1/20/05, 1/27/05, 3/23/05 & 3/25/05.
- A summary compilation DVD (Title: 17 – SFP Sump) was made from the Phase 1 of TBD-306 and 2005 DVDs. This compilation was specifically developed to address this scenario.

Conclusion:

The three unaccounted for A-49 fuel rod segments and/or SNM were not located within the SFP location for Physical Configurations A, B, & C as defined by the scenario based on the examinations documented on the DVDs. However, SNM in the form of a fuel fragment was identified for Physical Configuration D. The SNM fuel fragment is documented in Calculation NX-288 and on video (DVDs – 03/23/05, 03/25/05)

Action Items:

- None

Attachment 2
SPENT FUEL POOL
PHYSICAL INSPECTION RESULTS

Area/Item No.: 18

Scenario Information: Scenario No: 1-04-02e

Title/Location: Liner General Area

Objective/Description: SFP Sump Drain Line

Physical Configuration: A, B, C, & D

Inspection Process:

- Visually assess, examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the existing library of DVDs to determine if disks had been made of the SFP Sump Drain Line area.

Inspection Results:

- Concluded that there were no DVDs of the SFP Sump Drain Line area.
- Performed video documentation of SFP Sump Drain Line area to document the "as-is" conditions in the subject area.
- Initial examination and video documentation was performed on 1/17/05 to assess the subject scenario.
- The accumulated videos provide a limited view of the SFP Sump Drain Line area. Only a portion of the drain line near the sump can be viewed. It was also noticed that there was a buildup of debris inside the drain pipe.
- Sump was cleaned in March 2005 which afforded an unobstructed view of the drain line. The clean sump and the drain line are documented on the DVD recorded on 3/25/05.

Video Records:

- DVDs generated in 2005: Disks dated 1/17/05, 3/23/05 & 3/25/05.

Conclusion:

The three unaccounted for A-49 fuel rod segments and/or SNM were not located within the SFP location for Physical Configurations A, B, C, & D as defined by the scenario based on the examinations documented on the DVDs.

Action Items:

- None

Attachment 2

**SPENT FUEL POOL
PHYSICAL INSPECTION RESULTS**

Area/Item No.: 19

Scenario Information: Scenario No: 1-04-02f

Title/Location: Liner General Area

Objective/Description: SFP Skimmer Pipes

Physical Configuration: A, B, D

Inspection Process:

- Visually assess, examine and inspect those areas and locations utilizing binoculars and/or video equipment, including recorded documentation of same. As an alternate examination mechanism, a radiation dose survey of the subject pipes may be performed to confirm the Physical Configurations.

Inspection Summary/Details:

- The SFP Skimmer Pipes are covered. Accordingly, it was determined that a radiation dose survey would be more appropriate to confirm the Physical Configurations for the scenario.

Inspection Results:

- A HBPP Area Survey Report was generated for the SFP Skimmer Pipes (SWP #5-0102, Survey No. 5-049) on 1/28/05,
- The results of the subject Area Survey Report indicate that the radiation dose level was less than 1.0 mr/Hr, which confirms that the fuel rod segments and/or SNM were not present for the Physical Configurations.

Video Records:

- No DVDs were generated as a part of the examination and confirmation of the Physical Configurations for the scenario.

Conclusion:

The three unaccounted for A-49 fuel rod segments and/or SNM were not located within the SFP location for Physical Configurations A, B, & D as defined by the scenario.

Action Items:

- None

Attachment 2
SPENT FUEL POOL
PHYSICAL INSPECTION RESULTS

Area/Item No.: 20

Scenario Information: Scenario No: 1-04-02g

Title/Location: Liner General Area

Objective/Description: SFP Suction Piping, Foot Valve & Discharge Piping (SFP Recirculation)

Physical Configuration: A, B, & D

Inspection Process:

- Visually assess, examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.
- The dimension of Physical Configuration C, the fuel rod segments in the canister, is of such size that it would not fit in the foot valve and suction piping. Accordingly, Physical Configuration C is not required to be considered for the foot valve and suction strainer.
- While the three unaccounted for fuel segments and/or SNM in any of the Physical Configurations would physically fit in the SFP recirculation system discharge piping, the configuration of the discharge piping, being a long run of vertical piping which is open at the bottom, precludes the introduction of any of the Physical Configurations into the piping and not having it fall out of the piping. Accordingly, the discharge piping, located on the west wall of the SFP, need not be considered as a location of the 3 unaccounted for fuel segments and/or SNM.

Inspection Summary/Details:

- Re-reviewed various DVDs to determine if the SFP Suction Piping, Foot Valve & Discharge Piping (SFP Recirculation) is depicted in a level of detail to address the defined scenario area.

Inspection Results:

- The review of the existing DVDs did not provide detailed and clear images of the SFP Suction Piping, Foot Valve & Discharge Piping (SFP Recirculation) area.
- Performed additional video documentation of SFP Suction Piping, Foot Valve & Discharge Piping (SFP Recirculation) to document the "as-is" conditions in the subject area and to assess the subject scenario.
- It was determined that the foot valve and suction piping are protected by an inlet strainer that would have precluded the Physical Configurations associated with either the three fuel rod segments and/or SNM.
- The additional examination and video documentation was performed on 1/18/05.

Video Records:

- DVD generated in 2005: Disk dated 1/18/05.

Conclusion:

The three unaccounted for A-49 fuel rod segments and/or SNM were not located within the SFP location for Physical Configurations A, B, & D as defined by the scenario.

Action Items:

- None

Attachment 2

**SPENT FUEL POOL
PHYSICAL INSPECTION RESULTS**

Area/Item No.: 21

Scenario Information: Scenario No: 1-04-02h

Title/Location: Liner General Area

Objective/Description: SFP Liner & Wall Juncture (Corner Areas – 4 Locations)

Physical Configuration: A, B, D

Inspection Process:

- Visually assess, examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.
- The dimension of Physical Configuration C, the fuel rod segments in the canister, is of such size that it would not fit in the subject areas. Accordingly, Physical Configuration C is not required to be considered for this scenario.
- Confirm that SE and SW corners of the SFP liner are sealed.
- Review the results of TP 2/10/87 *Flush of SFP Liner Gap* which may provide disposition of this item.

Inspection Summary/Details:

- Re-reviewed the existing library of DVDs to determine if disks had been made of the SFP Liner & Wall Juncture (Corner Areas – 4 Locations) areas.

Inspection Results:

- Concluded that there were no DVDs of the SFP Liner & Wall Juncture area.
- Performed visual observation of SFP Liner & Wall Juncture (Corner Areas – 4 Locations) areas to determine the “as-is” conditions in the subject areas.
- Confirmed that the SE and SW corners of the SFP liner were previously sealed.
- Observed that the NE and NW corners of the SFP liner are open, but the gap opening is very limited and would require a very deliberate act to place the segments in the opening.

Video Records:

- None.

Conclusion:

The three unaccounted for A-49 fuel rod segments and/or SNM were not located within the SFP location for Physical Configurations A, B, & D as defined by the scenario.

Action Items:

- None

Attachment 2

**SPENT FUEL POOL
PHYSICAL INSPECTION RESULTS**

Area/Item No.: 22

Scenario Information: Scenario No: 1-04-02i

Title/Location: Liner General Area

Objective/Description: Fuel Transfer Basket Rack Area - General

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVD (Disk – DVD dated 8/14/03 & 8/17/04) to determine if the disk adequately documents the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVD to determine if the disk adequately documents the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVD to fully assess the Fuel Transfer Basket Rack Area - General.
- The subject DVD of the area provided reasonable assurance that the objects (A, B, C, & D) were not there.
- No additional examination or video documentation was performed. The existing Fuel Transfer Basket Rack Area - General area video was adequate to assess the subject scenario.

Video Records:

- Video Inspection DVDs generated during Phase 1 of TBD-306: Disks dated DVD dated 8/14/03 & 8/17/04.
- A summary compilation DVD (Title: 22 – Transfer Basket, 39 – Transfer Basket A, 40 – Transfer Basket B, 41 – Transfer Basket C) was made from the Phase 1 of TBD-306 DVDs. This compilation was specifically developed to address this scenario.

Conclusion:

The three unaccounted for A-49 fuel rod segments and/or SNM were not located within the SFP location for Physical Configurations A, B, C, & D as defined by the scenario.

Action Items:

- None

Attachment 2

SPENT FUEL POOL PHYSICAL INSPECTION RESULTS

Area/Item No.: 23

Scenario Information: Scenario No: 1-04-03a

Title/Location: Containers

Objective/Description: ISC – 1 - Red

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs and determine if the disks adequately document the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVDs (Disks – 7/11/04, 7/12/04, 7/13/04, 7/17/04, 7/19/04, 7/23/04, 7/25/04, 7/27/04, 7/29/04, 8/4/04, 8/15/04, 8/26/04, & 8/27/04) to determine if the disks adequately document the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVDs to fully assess the content of the subject ISC. DVDs only provide the “as-is” condition for the subject ISC on the date that the disk was made.
- Concluded that subject ISC content is transitory.
- Additional video documentation of subject ISC was made during 2004/2005 (DVDs – 12/10/04, 12/22/04, 12/23/04 AM & PM, 12/29/04 Part A, 12/30/04 PM, 12/31/04, & 1/4/05 Part A) to document fuel fragments.
- DVD recorded on 4/20/05 documents that this ISC is empty.
- Combination of the previous existing video, the recent video taken in 2004/2005, and fuel fragment assessment (Calculation NX-288) was adequate to assess the subject scenario.

Video Records:

- DVDs generated during Phase 1 of TBD-306: Disks dated 7/11/04, 7/12/04, 7/13/04, 7/17/04, 7/19/04, 7/23/04, 7/25/04, 7/27/04, 7/29/04, 8/4/04, 8/15/04, 8/26/04, & 8/27/04.
- DVDs generated in late 2004 and early 2005: Disks dated 12/10/04, 12/22/04, 12/23/04 AM & PM, 12/29/04 Part A, 12/30/04 PM, 12/31/04, 1/4/05 Part A & 4/20/05.

Conclusion:

The three unaccounted for A-49 fuel rod segments were not located within the SFP location for Physical Configurations A, B, & C as defined by the scenario. However, SNM in the form of fuel fragments was identified for Physical Configuration D. The SNM fuel fragments are documented in Calculation NX-288 and on video (DVDs – 10/22/03, 02/04, 03/04, 7/9/04, 7/11/04, 7/12/04, 7/13/04, 7/25/04, 7/26/04, 7/27/04, 7/30/04, 8/10/04, 8/11/04, 8/12/04, 8/15/04, 8/16/04, 8/17/04, 8/18&19/04, 8/26/04, 8/27/04, 8/31/04, 9/15/04, 9/17/04, 9/21/04, 9/28/04, 9/29/04 PM, 9/30/04, 10/1/04 AM & PM, 10/5/04, 10/6/04, 10/8/04, 12/10/04, 12/28/04, 1/13/05, 1/14/05, 1/26/05, 1/28/05, 2/2/05, 2/17/05, 2/18/05, 3/2/05, 3/23/05 and 3/25/05).

Action Items:

- None

Attachment 2

**SPENT FUEL POOL
PHYSICAL INSPECTION RESULTS**

Area/Item No.: 24

Scenario Information: Scenario No: 1-04-03b

Title/Location: Containers

Objective/Description: ISC – 2 - Blue

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs and determine if the disks adequately document the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVDs (Disks – 7/11/04, 7/12/04, 7/13/04, 7/17/04, 7/19/04, 7/23/04, 7/25/04, 7/27/04, 7/29/04, 8/4/04, 8/15/04, 8/26/04, & 8/27/04) to determine if the disks adequately document the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVDs to fully assess the content of the subject ISC. DVDs only provide the “as-is” condition for the subject ISC on the date that the disk was made.
- Concluded that subject ISC content is transitory.
- Additional video documentation of subject ISC was made during 2004/2005 (DVDs – 10/6/04 PM, 12/10/04, 12/22/04, 12/23/04 AM & PM, 12/28/04, 12/29/04 Part A, 12/30/04 PM, 12/31/04, & 1/4/05 Part A) to document fuel fragments.
- DVD recorded on 4/20/05 documents that this ISC contains irradiated hardware.
- Combination of the previous existing video, the recent video taken in 2004/2005, and fuel fragment assessment (Calculation NX-288) was adequate to assess the subject scenario.

Video Records:

- DVDs generated during Phase 1 of TBD-306: Disks dated 7/11/04, 7/12/04, 7/13/04, 7/17/04, 7/19/04, 7/23/04, 7/25/04, 7/27/04, 7/29/04, 8/4/04, 8/15/04, 8/26/04 & 8/27/04.
- DVDs generated in late 2004 and early 2005: Disks dated 10/6/04 PM, 12/10/04, 12/22/04, 12/23/04 AM & PM, 12/28/04, 12/29/04 Part A, 12/30/04 PM, 12/31/04, 1/4/05 Part A & 4/20/05.

Conclusion:

The three unaccounted for A-49 fuel rod segments were not located within the SFP location for Physical Configurations A, B, & C as defined by the scenario. However, SNM in the form of fuel fragments was identified for Physical Configuration D. The SNM fuel fragments are documented in Calculation NX-288 and on video (DVDs – 10/22/03, 02/04, 03/04, 7/9/04, 7/11/04, 7/12/04, 7/13/04, 7/25/04, 7/26/04, 7/27/04, 7/30/04, 8/10/04, 8/11/04, 8/12/04, 8/15/04, 8/16/04, 8/17/04, 8/18&19/04, 8/26/04, 8/27/04, 8/31/04, 9/15/04, 9/17/04, 9/21/04, 9/28/04, 9/29/04 PM, 9/30/04, 10/1/04 AM & PM, 10/5/04, 10/6/04, 10/8/04, 12/10/04, 12/28/04, 1/13/05, 1/14/05, 1/26/05, 1/28/05, 2/2/05, 2/17/05, 2/18/05, 3/2/05, 3/23/05 and 3/25/05).

Action Items:

- None

Attachment 2

SPENT FUEL POOL PHYSICAL INSPECTION RESULTS

Area/Item No.: 25

Scenario Information: Scenario No: 1-04-03c

Title/Location: Containers

Objective/Description: ISC – 3 - Green

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs and determine if the disks adequately document the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVDs (Disks – 7/11/04, 7/12/04, 7/13/04, 7/17/04, 7/19/04, 7/23/04, 7/25/04, 7/27/04, 7/29/04, 8/4/04, 8/15/04, 8/26/04, & 8/27/04) to determine if the disks adequately document the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVDs to fully assess the content of the subject ISC. DVDs only provide the “as-is” condition for the subject ISC on the date that the disk was made.
- Concluded that subject ISC content is transitory.
- Additional video documentation of subject ISC was made during 2004/2005 (Disks – 10/6/04 PM, 12/10/04, 12/22/04, 12/23/04 AM & PM, 12/28/04, 12/29/04 Part A, 12/30/04 PM, 12/31/04, & 1/4/05 Part A) to document fuel fragments.
- DVD recorded on 4/20/05 documents that this ISC is empty.
- Combination of the previous existing video, the recent video taken in 2004/2005, and fuel fragment assessment (Calculation NX-288) was adequate to assess the subject scenario.

Video Records:

- DVDs generated during Phase 1 of TBD-306: Disks dated 7/11/04, 7/12/04, 7/13/04, 7/17/04, 7/19/04, 7/23/04, 7/25/04, 7/27/04, 7/29/04, 8/4/04, 8/15/04, 8/26/04, & 8/27/04.
- DVDs generated in late 2004 and early 2005: Disks dated 10/6/04 PM, 12/10/04, 12/22/04, 12/23/04 AM & PM, 12/28/04, 12/29/04 Part A, 12/30/04 PM, 12/31/04, 1/4/05 Part A & 4/20/05.

Conclusion:

The three unaccounted for A-49 fuel rod segments were not located within the SFP location for Physical Configurations A, B, & C as defined by the scenario. However, SNM in the form of fuel fragments was identified for Physical Configuration D. The SNM fuel fragments are documented in Calculation NX-288 and on video (DVDs – 10/22/03, 02/04, 03/04, 7/9/04, 7/11/04, 7/12/04, 7/13/04, 7/25/04, 7/26/04, 7/27/04, 7/30/04, 8/10/04, 8/11/04, 8/12/04, 8/15/04, 8/16/04, 8/17/04, 8/18&19/04, 8/26/04, 8/27/04, 8/31/04, 9/15/04, 9/17/04, 9/21/04, 9/28/04, 9/29/04 PM, 9/30/04, 10/1/04 AM & PM, 10/5/04, 10/6/04, 10/8/04, 12/10/04, 12/28/04, 1/13/05, 1/14/05, 1/26/05, 1/28/05, 2/2/05, 2/17/05, 2/18/05, 3/2/05, 3/23/05 and 3/25/05).

Action Items:

- None

Attachment 2

**SPENT FUEL POOL
PHYSICAL INSPECTION RESULTS**

Area/Item No.: 26

Scenario Information: Scenario No: 1-04-03d

Title/Location: Containers

Objective/Description: ISC – 4 - Yellow

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs and determine if the disks adequately document the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVDs (Disks – 7/11/04, 7/12/04, 7/13/04, 7/17/04, 7/19/04, 7/23/04, 7/25/04, 7/27/04, 7/29/04, 8/4/04, 8/15/04, 8/26/04, & 8/27/04) to determine if the disks adequately document the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVDs to fully assess the content of the subject ISC. DVDs only provide the “as-is” condition for the subject ISC on the date that the disk was made.
- Concluded that subject ISC content is transitory.
- Additional video documentation of subject ISC was made during 2004/2005 (Disks – 12/10/04, 12/22/04, 12/23/04 AM & PM, 12/29/04 Part A, 12/30/04 PM, 12/31/04, & 1/4/05 Part A) to document fuel fragments.
- DVD recorded on 4/20/05 documents that this ISC is empty.
- Combination of the previous existing video, the recent video taken in 2004/2005, and fuel fragment assessment (Calculation NX-288) was adequate to assess the subject scenario.

Video Records:

- Video inspection DVDs generated during Phase 1 of TBD-306: Disks dated 7/11/04, 7/12/04, 7/13/04, 7/17/04, 7/19/04, 7/23/04, 7/25/04, 7/27/04, 7/29/04, 8/4/04, 8/15/04, 8/26/04, & 8/27/04.
- Video inspection DVDs generated in late 2004 and early 2005: Disks dated 12/10/04, 12/22/04, 12/23/04 AM & PM, 12/28/04, 12/29/04 Part A, 12/30/04 PM, 12/31/04, 1/4/05 Part A & 4/20/05.

Conclusion:

The three unaccounted for A-49 fuel rod segments were not located within the SFP location for Physical Configurations A, B, & C as defined by the scenario. However, SNM in the form of fuel fragments was identified for Physical Configuration D. The SNM fuel fragments are documented in Calculation NX-288 and on video (DVDs – 10/22/03, 02/04, 03/04, 7/9/04, 7/11/04, 7/12/04, 7/13/04, 7/25/04, 7/26/04, 7/27/04, 7/30/04, 8/10/04, 8/11/04, 8/12/04, 8/15/04, 8/16/04, 8/17/04, 8/18&19/04, 8/26/04, 8/27/04, 8/31/04, 9/15/04, 9/17/04, 9/21/04, 9/28/04, 9/29/04 PM, 9/30/04, 10/1/04 AM & PM, 10/5/04, 10/6/04, 10/8/04, 12/10/04, 12/28/04, 1/13/05, 1/14/05, 1/26/05, 1/28/05, 2/2/05, 2/17/05, 2/18/05, 3/2/05, 3/23/05 and 3/25/05).

Attachment 2

Action Items:

- None

Attachment 2

**SPENT FUEL POOL
PHYSICAL INSPECTION RESULTS**

Area/Item No.: 27

Scenario Information: Scenario No: 1-04-03e

Title/Location: Containers

Objective/Description: ISC - 5 - Brown

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs and determine if the disks adequately document the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVDs (Disks - 7/11/04, 7/12/04, 7/13/04, 7/17/04, 7/19/04, 7/23/04, 7/25/04, 7/27/04, 7/29/04, 8/4/04, 8/15/04, 8/26/04, & 8/27/04) to determine if the disks adequately document the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVDs to fully assess the content of the subject ISC. DVDs only provide the "as-is" condition for the subject ISC on the date that the disk was made.
- Concluded that subject ISC content is transitory.
- Additional video documentation of subject ISC was made during 2004/2005 (DVDs - 10/6/04 PM, 12/10/04, 12/22/04, 12/23/04 AM & PM, 12/29/04 Part A, 12/30/04 PM, 12/31/04, 1/4/05 Part A, & 1/28/05) to document fuel fragments.
- DVD recorded on 4/20/05 documents that this ISC is empty.
- Combination of the previous existing video, the recent video taken in 2004/2005, and fuel fragment assessment (Calculation NX-288) was adequate to assess the subject scenario.

Video Records:

- DVDs generated during Phase 1 of TBD-306: Disks dated 7/11/04, 7/12/04, 7/13/04, 7/17/04, 7/19/04, 7/23/04, 7/25/04, 7/27/04, 7/29/04, 8/4/04, 8/15/04, 8/26/04 & 8/27/04.
- DVDS generated in late 2004 and early 2005: Disks dated 10/6/04 PM, 12/10/04, 12/22/04, 12/23/04 AM & PM, 12/28/04, 12/29/04 Part A, 12/30/04 PM, 12/31/04, 1/4/05 Part A, 1/28/05 & 4/20/05.

Conclusion:

The three unaccounted for A-49 fuel rod segments were not located within the SFP location for Physical Configurations A, B, & C as defined by the scenario. However, SNM in the form of fuel fragments was identified for Physical Configuration D. The SNM fuel fragments are documented in Calculation NX-288 and on video (DVDs - 10/22/03, 02/04, 03/04, 7/9/04, 7/11/04, 7/12/04, 7/13/04, 7/25/04, 7/26/04, 7/27/04, 7/30/04, 8/10/04, 8/11/04, 8/12/04, 8/15/04, 8/16/04, 8/17/04, 8/18&19/04, 8/26/04, 8/27/04, 8/31/04, 9/15/04, 9/17/04, 9/21/04, 9/28/04, 9/29/04 PM, 9/30/04, 10/1/04 AM & PM, 10/5/04, 10/6/04, 10/8/04, 12/10/04, 12/28/04, 1/13/05, 1/14/05, 1/26/05, 1/28/05, 2/2/05, 2/17/05, 2/18/05, 3/2/05, 3/23/05 and 3/25/05).

Action Items:

- None

Attachment 2

**SPENT FUEL POOL
PHYSICAL INSPECTION RESULTS**

Area/Item No.: 28

Scenario Information: Scenario No: 1-04-03f

Title/Location: Containers

Objective/Description: ISC – 6 - Orange

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs and determine if the disk adequately documents the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVDs (Disks – 7/11/04, 7/12/04, 7/13/04, 7/17/04, 7/19/04, 7/23/04, 7/25/04, 7/27/04, 7/29/04, 8/4/04, 8/15/04, 8/16/04, 8/26/04, 8/27/04, & 9/2/04) to determine if the disks adequately document the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVDs to fully assess the content of the subject ISC. DVDs only provide the “as-is” condition for the subject ISC on the date that the disk was made.
- Concluded that subject ISC content is transitory.
- Additional video documentation of subject ISC was made during 2004/2005 (Disks – 10/6/04 PM, 12/10/04, 12/22/04, 12/23/04 AM & PM, 12/29/04 Part A, 12/30/04 PM, 12/31/04, & 1/4/05 Part A) to document fuel fragments.
- DVD recorded on 4/20/05 documents that this ISC contains incore tubes.
- Combination of the previous existing video, the recent video taken in 2004/2005, and fuel fragment assessment (Calculation NX-288) was adequate to assess the subject scenario.

Video Records:

- DVDs generated during Phase 1 of TBD-306: Disks dated 7/11/04, 7/12/04, 7/13/04, 7/17/04, 7/19/04, 7/23/04, 7/25/04, 7/27/04, 7/29/04, 8/4/04, 8/15/04, 8/16/04, 8/26/04, 8/27/04, & 9/2/04.
- DVDs generated in late 2004 and early 2005: Disks dated 10/6/04 PM, 12/10/04, 12/22/04, 12/23/04 AM & PM, 12/28/04, 12/29/04 Part A, 12/30/04 PM, 12/31/04, 1/4/05 Part A & 4/20/05.

Conclusion:

The three unaccounted for A-49 fuel rod segments were not located within the SFP location for Physical Configurations A, B, & C as defined by the scenario. However, SNM in the form of fuel fragments was identified for Physical Configuration D. The SNM fuel fragments are documented in Calculation NX-288 and on video (DVDs – 10/22/03, 02/04, 03/04, 7/9/04, 7/11/04, 7/12/04, 7/13/04, 7/25/04, 7/26/04, 7/27/04, 7/30/04, 8/10/04, 8/11/04, 8/12/04, 8/15/04, 8/16/04, 8/17/04, 8/18&19/04, 8/26/04, 8/27/04, 8/31/04, 9/15/04, 9/17/04, 9/21/04, 9/28/04, 9/29/04 PM, 9/30/04, 10/1/04 AM & PM, 10/5/04, 10/6/04, 10/8/04, 12/10/04, 12/28/04, 1/13/05, 1/14/05, 1/26/05, 1/28/05, 2/2/05, 2/17/05, 2/18/05, 3/2/05, 3/23/05 and 3/25/05).

Attachment 2

Action Items:

- None

Attachment 2
SPENT FUEL POOL
PHYSICAL INSPECTION RESULTS

Area/Item No.: 29

Scenario Information: Scenario No: 1-04-03g

Title/Location: Containers

Objective/Description: ISC – 7 - Pink

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs and determine if the disks adequately document the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVDS (Disks – 7/11/04, 7/12/04, 7/13/04, 7/17/04, 7/19/04, 7/23/04, 7/25/04, 7/27/04, 7/29/04, 8/4/04, 8/15/04, 8/26/04, & 8/27/04) to determine if the tapes adequately document the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVDs to fully assess the content of the subject ISC. DVDs only provide the “as-is” condition for the subject ISC on the date that the disk was made.
- Concluded that subject ISC content is transitory.
- Additional video documentation of subject ISC was made during 2004/2005 (Disks – 10/6/04 PM, 12/10/04, 12/22/04, 12/23/04 AM & PM, 12/29/04 Part A, 12/30/04 PM, 12/31/04, & 1/4/05 Part A) to document fuel fragments.
- DVD recorded on 4/20/05 documents that this ISC contains incore tubes and GE test pins.
- Combination of the previous existing video, the recent video taken in 2004/2005, and fuel fragment assessment (Calculation NX-288) was adequate to assess the subject scenario.

Video Records:

- DVDs generated during Phase 1 of TBD-306: Disks dated 7/11/04, 7/12/04, 7/13/04, 7/17/04, 7/19/04, 7/23/04, 7/25/04, 7/27/04, 7/29/04, 8/4/04, 8/15/04, 8/26/04, & 8/27/04.
- DVDs generated in late 2004 and early 2005: Disks dated 10/6/04 PM, 12/10/04, 12/22/04, 12/23/04 AM & PM, 12/28/04, 12/29/04 Part A, 12/30/04 PM, 12/31/04, 1/4/05 Part A & 4/20/05.

Conclusion:

The three unaccounted for A-49 fuel rod segments were not located within the SFP location for Physical Configurations A, B, & C as defined by the scenario. However, SNM in the form of fuel fragments was identified for Physical Configuration D. The SNM fuel fragments are documented in Calculation NX-288 and on video (DVDs – 10/22/03, 02/04, 03/04, 7/9/04, 7/11/04, 7/12/04, 7/13/04, 7/25/04, 7/26/04, 7/27/04, 7/30/04, 8/10/04, 8/11/04, 8/12/04, 8/15/04, 8/16/04, 8/17/04, 8/18&19/04, 8/26/04, 8/27/04, 8/31/04, 9/15/04, 9/17/04, 9/21/04, 9/28/04, 9/29/04 PM, 9/30/04, 10/1/04 AM & PM, 10/5/04, 10/6/04, 10/8/04, 12/10/04, 12/28/04, 1/13/05, 1/14/05, 1/26/05, 1/28/05, 2/2/05, 2/17/05, 2/18/05, 3/2/05, 3/23/05 and 3/25/05).

Action Items:

- None

Attachment 2
SPENT FUEL POOL
PHYSICAL INSPECTION RESULTS

Area/Item No.: 30

Scenario Information: Scenario No: 1-04-03h

Title/Location: Containers

Objective/Description: ISC - 8 - Purple

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs and determine if the disks adequately document the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVDs (Disks – 7/11/04, 7/12/04, 7/13/04, 7/17/04, 7/19/04, 7/23/04, 7/25/04, 7/27/04, 7/29/04, 8/4/04, 8/15/04, 8/26/04, & 8/27/04) to determine if the disks adequately document the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVDs to fully assess the content of the subject ISC. DVDs only provide the “as-is” condition for the subject ISC on the date that the disk was made.
- Concluded that subject ISC content is transitory.
- Additional vide documentation of subject ISC was made during 2004/2005 (Disks – 10/6/04 PM, 12/10/04, 12/22/04, 12/23/04 AM & PM, 12/28/04, 12/29/04 Part A, 12/30/04 PM, 12/31/04, & 1/4/05 Part A) to document fuel fragments.
- DVD recorded on 4/20/05 documents that this ISC is empty.
- Combination of the previous existing video, the recent video taken in 2004/2005, and fuel fragment assessment (Calculation NX-288) was adequate to assess the subject scenario.

Video Records:

- DVDs generated during Phase 1 of TBD-306: Disks dated 7/11/04, 7/12/04, 7/13/04, 7/17/04, 7/19/04, 7/23/04, 7/25/04, 7/27/04, 7/29/04, 8/4/04, 8/15/04, 8/26/04, & 8/27/04.
- DVDs generated in late 2004 and early 2005: Disks dated 10/6/04 PM, 12/10/04, 12/22/04, 12/23/04 AM & PM, 12/28/04, 12/29/04 Part A, 12/30/04 PM, 12/31/04, 1/4/05 Part A & 4/20/05.

Conclusion:

The three unaccounted for A-49 fuel rod segments were not located within the SFP location for Physical Configurations A, B, & C as defined by the scenario. However, SNM in the form of fuel fragments was identified for Physical Configuration D. The SNM fuel fragments are documented in Calculation NX-288 and on video (DVDs – 10/22/03, 02/04, 03/04, 7/9/04, 7/11/04, 7/12/04, 7/13/04, 7/25/04, 7/26/04, 7/27/04, 7/30/04, 8/10/04, 8/11/04, 8/12/04, 8/15/04, 8/16/04, 8/17/04, 8/18&19/04, 8/26/04, 8/27/04, 8/31/04, 9/15/04, 9/17/04, 9/21/04, 9/28/04, 9/29/04 PM, 9/30/04, 10/1/04 AM & PM, 10/5/04, 10/6/04, 10/8/04, 12/10/04, 12/28/04, 1/13/05, 1/14/05, 1/26/05, 1/28/05, 2/2/05, 2/17/05, 2/18/05, 3/2/05, 3/23/05 and 3/25/05).

Action Items:

- None

Attachment 2

SPENT FUEL POOL PHYSICAL INSPECTION RESULTS

Area/Item No.: 31

Scenario Information: Scenario No: 1-04-03i

Title/Location: Containers

Objective/Description: ISC – 9 – Red/White

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs and determine if the disks adequately document the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVDs (Disks – 7/11/04, 7/12/04, 7/13/04, 7/17/04, 7/19/04, 7/23/04, 7/25/04, 7/27/04, 7/29/04, 8/4/04, 8/15/04, 8/26/04, & 8/27/04) to determine if the disks adequately document the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVDs to fully assess the content of the subject ISC. DVDs only provide the "as-is" condition for the subject ISC on the date that the disk was made.
- Concluded that subject ISC content is transitory.
- Additional video documentation of subject ISC was made during 2004/2005 (Disks – 12/10/04, 12/22/04, 12/23/04 AM & PM, 12/29/04 Part A, 12/30/04 PM, 12/31/04, & 1/4/05 Part A) to document fuel fragments.
- DVD recorded on 4/20/05 documents that this ISC is empty.
- Combination of the previous existing video, the recent video taken in 2004/2005, and fuel fragment assessment (Calculation NX-288) was adequate to assess the subject scenario.

Video Records:

- DVDs generated during Phase 1 of TBD-306: Disks dated 7/11/04, 7/12/04, 7/13/04, 7/17/04, 7/19/04, 7/23/04, 7/25/04, 7/27/04, 7/29/04, 8/4/04, 8/15/04, 8/26/04, & 8/27/04.
- DVDs generated in late 2004 and early 2005: Disks dated 12/10/04, 12/22/04, 12/23/04 AM & PM, 12/29/04 Part A, 12/30/04 PM, 12/31/04, 1/4/05 Part A & 4/20/05.

Conclusion:

The three unaccounted for A-49 fuel rod segments were not located within the SFP location for Physical Configurations A, B, & C as defined by the scenario. However, SNM in the form of fuel fragments was identified for Physical Configuration D. The SNM fuel fragments are documented in Calculation NX-288 and on video (DVDs – 10/22/03, 02/04, 03/04, 7/9/04, 7/11/04, 7/12/04, 7/13/04, 7/25/04, 7/26/04, 7/27/04, 7/30/04, 8/10/04, 8/11/04, 8/12/04, 8/15/04, 8/16/04, 8/17/04, 8/18&19/04, 8/26/04, 8/27/04, 8/31/04, 9/15/04, 9/17/04, 9/21/04, 9/28/04, 9/29/04 PM, 9/30/04, 10/1/04 AM & PM, 10/5/04, 10/6/04, 10/8/04, 12/10/04, 12/28/04, 1/13/05, 1/14/05, 1/26/05, 1/28/05, 2/2/05, 2/17/05, 2/18/05, 3/2/05, 3/23/05 and 3/25/05).

Action Items:

- None

Attachment 2
SPENT FUEL POOL
PHYSICAL INSPECTION RESULTS

Area/Item No.: 32

Scenario Information: Scenario No: 1-04-03j

Title/Location: Containers

Objective/Description: ISC – 10 – Blue/White

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs and determine if the disks adequately document the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVDs (Disks – 7/11/04, 7/12/04, 7/13/04, 7/17/04, 7/19/04, 7/23/04, 7/25/04, 7/27/04, 7/29/04, 8/4/04, 8/15/04, 8/16/04, 8/26/04, & 8/27/04) to determine if the disks adequately document the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVDs to fully assess the content of the subject ISC. DVDs only provide the "as-is" condition for the subject ISC on the date that the disk was made.
- Concluded that subject ISC content is transitory.
- Additional videotaping of subject ISC was made during 2004/2005 (Disks – 12/10/04, 12/22/04, 12/23/04 AM & PM, 12/29/04 Part A, 12/30/04 PM, 12/31/04, & 1/4/05 Part A) to document fuel fragments.
- DVD recorded on 4/20/05 documents that this ISC contains stellite balls.
- Combination of the previous existing video, the recent video taken in 2004/2005, and fuel fragment assessment (Calculation NX-288) was adequate to assess the subject scenario.

Video Records:

- DVDs generated during Phase 1 of TBD-306: Disks dated 7/11/04, 7/12/04, 7/13/04, 7/17/04, 7/19/04, 7/23/04, 7/25/04, 7/27/04, 7/29/04, 8/4/04, 8/15/04, 8/16/04, 8/26/04, & 8/27/04.
- DVD generated in late 2004 and early 2005: Disks dated 12/10/04, 12/22/04, 12/23/04 AM & PM, 12/29/04 Part A, 12/30/04 PM, 12/31/04, 1/4/05 Part A & 4/20/05.

Conclusion:

The three unaccounted for A-49 fuel rod segments were not located within the SFP location for Physical Configurations A, B, & C as defined by the scenario. However, SNM in the form of fuel fragments was identified for Physical Configuration D. The SNM fuel fragments are documented in Calculation NX-288 and on video (DVDs – 10/22/03, 02/04, 03/04, 7/9/04, 7/11/04, 7/12/04, 7/13/04, 7/25/04, 7/26/04, 7/27/04, 7/30/04, 8/10/04, 8/11/04, 8/12/04, 8/15/04, 8/16/04, 8/17/04, 8/18&19/04, 8/26/04, 8/27/04, 8/31/04, 9/15/04, 9/17/04, 9/21/04, 9/28/04, 9/29/04 PM, 9/30/04, 10/1/04 AM & PM, 10/5/04, 10/6/04, 10/8/04, 12/10/04, 12/28/04, 1/13/05, 1/14/05, 1/26/05, 1/28/05, 2/2/05, 2/17/05, 2/18/05, 3/2/05, 3/23/05 and 3/25/05).

Action Items:

- None

Attachment 2

**SPENT FUEL POOL
PHYSICAL INSPECTION RESULTS**

Area/Item No.: 33

Scenario Information: Scenario No: 1-04-03k

Title/Location: Containers

Objective/Description: ISC – 11 – Green/White

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs and determine if the disks adequately document the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVDs (Disks – 7/11/04, 7/12/04, 7/13/04, 7/17/04, 7/19/04, 7/23/04, 7/25/04, 7/27/04, 7/29/04, 8/4/04, 8/14/04, 8/15/04, 8/16/04, 8/26/04, & 8/27/04) to determine if the disks adequately document the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVDs (Disks) to fully assess the content of the subject ISC. DVDs only provide the "as-is" condition for the subject ISC on the date that the disk was made.
- Concluded that subject ISC content is transitory.
- Additional video documentation of subject ISC was made during 2004/2005 (Disks – 12/10/04, 12/22/04, 12/23/04 AM & PM, 12/29/04 Part A, 12/30/04 PM, 12/31/04, & 1/4/05 Part A) to document fuel fragments.
- DVD recorded on 4/20/05 documents that this ISC contains irradiated hardware.
- Combination of the previous existing video, the recent video taken in 2004/2005, and fuel fragment assessment (Calculation NX-288) was adequate to assess the subject scenario.

Video Records:

- DVDs generated during Phase 1 of TBD-306: Disks dated 7/11/04, 7/12/04, 7/13/04, 7/17/04, 7/19/04, 7/23/04, 7/25/04, 7/27/04, 7/29/04, 8/4/04, 8/14/04, 8/15/04, 8/16/04, 8/26/04, & 8/27/04.
- DVDs generated in late 2004 and early 2005: Disks dated 12/10/04, 12/22/04, 12/23/04 AM & PM, 12/29/04 Part A, 12/30/04 PM, 12/31/04, 1/4/05 Part A & 4/20/05.

Conclusion:

The three unaccounted for A-49 fuel rod segments were not located within the SFP location for Physical Configurations A, B, & C as defined by the scenario. However, SNM in the form of fuel fragments was identified for Physical Configuration D. The SNM fuel fragments are documented in Calculation NX-288 and on video (DVDs – 10/22/03, 02/04, 03/04, 7/9/04, 7/11/04, 7/12/04, 7/13/04, 7/25/04, 7/26/04, 7/27/04, 7/30/04, 8/10/04, 8/11/04, 8/12/04, 8/15/04, 8/16/04, 8/17/04, 8/18&19/04, 8/26/04, 8/27/04, 8/31/04, 9/15/04, 9/17/04, 9/21/04, 9/28/04, 9/29/04 PM, 9/30/04, 10/1/04 AM & PM, 10/5/04, 10/6/04, 10/8/04, 12/10/04, 12/28/04, 1/13/05, 1/14/05, 1/26/05, 1/28/05, 2/2/05, 2/17/05, 2/18/05, 3/2/05, 3/23/05 and 3/25/05).

Action Items:

- None

Attachment 2
SPENT FUEL POOL
PHYSICAL INSPECTION RESULTS

Area/Item No.: 34

Scenario Information: Scenario No: 1-04-03I

Title/Location: Containers

Objective/Description: ISC – 12 – Yellow/White

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs and determine if the disks adequately document the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVDs (Disks – 7/11/04, 7/12/04, 7/13/04, 7/17/04, 7/19/04, 7/23/04, 7/25/04, 7/27/04, 7/29/04, 8/4/04, 8/14/04, 8/15/04, 8/16/04, 8/26/04, & 8/27/04) to determine if the disks adequately document the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVDs to fully assess the content of the subject ISC. DVDs only provide the "as-is" condition for the subject ISC on the date that the disk was made.
- Concluded that subject ISC content is transitory.
- Additional video documentation of subject ISC was made during 2004/2005 (Disks – 12/10/04, 12/22/04, 12/23/04 AM & PM, 12/29/04 Part A, 12/30/04 PM, 12/31/04, 1/4/05 Part A, & 2/2/05) to document fuel fragments.
- DVD recorded on 4/20/05 documents that this ISC is empty.
- Combination of the previous existing video, the recent video taken in 2004/2005, and fuel fragment assessment (Calculation NX-288) was adequate to assess the subject scenario.

Video Records:

- DVDs generated during Phase 1 of TBD-306: Disks dated 7/11/04, 7/12/04, 7/13/04, 7/17/04, 7/19/04, 7/23/04, 7/25/04, 7/27/04, 7/29/04, 8/4/04, 8/14/04, 8/15/04, 8/16/04, 8/26/04, & 8/27/04.
- DVDs generated in late 2004 and early 2005: Disks dated 12/10/04, 12/22/04, 12/23/04 AM & PM, 12/29/04 Part A, 12/30/04 PM, 12/31/04, 1/4/05 Part A, 2/2/05 & 4/20/05.

Conclusion:

The three unaccounted for A-49 fuel rod segments were not located within the SFP location for Physical Configurations A, B, & C as defined by the scenario. However, SNM in the form of fuel fragments was identified for Physical Configuration D. The SNM fuel fragments are documented in Calculation NX-288 and on video (DVDs – 10/22/03, 02/04, 03/04, 7/9/04, 7/11/04, 7/12/04, 7/13/04, 7/25/04, 7/26/04, 7/27/04, 7/30/04, 8/10/04, 8/11/04, 8/12/04, 8/15/04, 8/16/04, 8/17/04, 8/18&19/04, 8/26/04, 8/27/04, 8/31/04, 9/15/04, 9/17/04, 9/21/04, 9/28/04, 9/29/04 PM, 9/30/04, 10/1/04 AM & PM, 10/5/04, 10/6/04, 10/8/04, 12/10/04, 12/28/04, 1/13/05, 1/14/05, 1/26/05, 1/28/05, 2/2/05, 2/17/05, 2/18/05, 3/2/05, 3/23/05 and 3/25/05).

Action Items:

- None

Attachment 2

SPENT FUEL POOL PHYSICAL INSPECTION RESULTS

Area/Item No.: 35

Scenario Information: Scenario No: 1-04-03m

Title/Location: Containers

Objective/Description: ISC – 13 – Brown/White

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs and determine if the disks adequately document the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVDs (Disks – 7/11/04, 7/12/04, 7/13/04, 7/17/04, 7/19/04, 7/23/04, 7/25/04, 7/27/04, 7/29/04, 8/4/04, 8/15/04, 8/16/04, 8/26/04; & 8/27/04) to determine if the disks adequately document the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVDs to fully assess the content of the subject ISC. DVDs only provide the “as-is” condition for the subject ISC on the date that the disk was made.
- Concluded that subject ISC content is transitory.
- Additional video documentation of subject ISC was made during 2004/2005 (Disks – 12/10/04, 12/22/04, 12/23/04 AM & PM, 12/29/04 Parts A & B, 12/30/04 PM, 12/31/04, & 1/4/05 Part A) to document fuel fragments.
- DVD recorded on 4/20/05 documents that this ISC is empty.
- Combination of the previous existing video, the recent video taken in 2004/2005, and fuel fragment assessment (Calculation NX-288) was adequate to assess the subject scenario.

Video Records:

- DVDs generated during Phase 1 of TBD-306: Disks dated 7/11/04, 7/12/04, 7/13/04, 7/17/04, 7/19/04, 7/23/04, 7/25/04, 7/27/04, 7/29/04, 8/4/04, 8/15/04, 8/16/04, 8/26/04, & 8/27/04.
- DVDs in late 2004 and early 2005: Disks dated 12/10/04, 12/22/04, 12/23/04 AM & PM, 12/29/04 Parts A & B, 12/30/04 PM, 12/31/04, 1/4/05 Part A & 4/20/05.

Conclusion:

The three unaccounted for A-49 fuel rod segments were not located within the SFP location for Physical Configurations A, B, & C as defined by the scenario. However, SNM in the form of fuel fragments was identified for Physical Configuration D. The SNM fuel fragments are documented in Calculation NX-288 and on video (DVDs – 10/22/03, 02/04, 03/04, 7/9/04, 7/11/04, 7/12/04, 7/13/04, 7/25/04, 7/26/04, 7/27/04, 7/30/04, 8/10/04, 8/11/04, 8/12/04, 8/15/04, 8/16/04, 8/17/04, 8/18&19/04, 8/26/04, 8/27/04, 8/31/04, 9/15/04, 9/17/04, 9/21/04, 9/28/04, 9/29/04 PM, 9/30/04, 10/1/04 AM & PM, 10/5/04, 10/6/04, 10/8/04, 12/10/04, 12/28/04, 1/13/05, 1/14/05, 1/26/05, 1/28/05, 2/2/05, 2/17/05, 2/18/05, 3/2/05, 3/23/05 and 3/25/05).

Action Items:

- None

Attachment 2

**SPENT FUEL POOL
PHYSICAL INSPECTION RESULTS**

Area/Item No.: 36

Scenario Information: Scenario No: 1-04-03n

Title/Location: Containers

Objective/Description: ISC – 14 – Orange/White

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs and determine if the disks adequately document the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVDs (Disks – 7/11/04, 7/12/04, 7/13/04, 7/17/04, 7/19/04, 7/23/04, 7/25/04, 7/26/04, 7/27/04, 7/29/04, 8/4/04, 8/14/04, 8/15/04, 8/16/04, 8/26/04, & 8/27/04) to determine if the disks adequately document the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVDs to fully assess the content of the subject ISC. DVDs only provide the “as-is” condition for the subject ISC on the date that the disks were made.
- Concluded that subject ISC content is transitory.
- Additional video documentation of subject ISC was made during 2004/2005 (DVDs – 12/10/04, 12/22/04, 12/23/04 AM & PM, 12/29/04 Part A, 12/30/04 PM, 12/31/04, & 1/4/05 Part A) to document fuel fragments.
- DVD recorded on 4/20/05 documents that this ISC is empty.
- Combination of the previous existing video, the recent video taken in 2004/2005, and fuel fragment assessment (Calculation NX-288) was adequate to assess the subject scenario.

Video Records:

- DVDs generated during Phase 1 of TBD-306: Disks dated 7/11/04, 7/12/04, 7/13/04, 7/17/04, 7/19/04, 7/23/04, 7/25/04, 7/26/04, 7/27/04, 7/29/04, 8/4/04, 8/14/04, 8/15/04, 8/16/04, 8/26/04, & 8/27/04.
- DVDs generated in late 2004 and early 2005: Disks dated 12/10/04, 12/22/04, 12/23/04 AM & PM, 12/29/04 Part A, 12/30/04 PM, 12/31/04, 1/4/05 Part A & 4/20/05.

Conclusion:

The three unaccounted for A-49 fuel rod segments were not located within the SFP location for Physical Configurations A, B, & C as defined by the scenario. However, SNM in the form of fuel fragments was identified for Physical Configuration D. The SNM fuel fragments are documented in Calculation NX-288 and on video (DVDs – 10/22/03, 02/04, 03/04, 7/9/04, 7/11/04, 7/12/04, 7/13/04, 7/25/04, 7/26/04, 7/27/04, 7/30/04, 8/10/04, 8/11/04, 8/12/04, 8/15/04, 8/16/04, 8/17/04, 8/18&19/04, 8/26/04, 8/27/04, 8/31/04, 9/15/04, 9/17/04, 9/21/04, 9/28/04, 9/29/04 PM, 9/30/04, 10/1/04 AM & PM, 10/5/04, 10/6/04, 10/8/04, 12/10/04, 12/28/04, 1/13/05, 1/14/05, 1/26/05, 1/28/05, 2/2/05, 2/17/05, 2/18/05, 3/2/05, 3/23/05 and 3/25/05).

Attachment 2

Action Items:

- None

Attachment 2

**SPENT FUEL POOL
PHYSICAL INSPECTION RESULTS**

Area/Item No.: 37

Scenario Information: Scenario No: 1-04-030

Title/Location: Containers

Objective/Description: ISC - 15 - Pink/White

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs and determine if the disks adequately document the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVDs (Disks - 7/11/04, 7/12/04, 7/13/04, 7/17/04, 7/19/04, 7/23/04, 7/25/04, 7/27/04, 7/29/04, 8/4/04, 8/14/04, 8/15/04, 8/16/04, 8/26/04, & 8/27/04) to determine if the disks adequately document the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVDs to fully assess the content of the subject ISC. DVDs only provide the "as-is" condition for the subject ISC on the date that the disks were made.
- Concluded that subject ISC content is transitory.
- Additional video documentation of subject ISC was made during 2004/2005 (Disks - 12/10/04, 12/22/04, 12/23/04 AM & PM, 12/29/04 Part A, 12/30/04 PM, 12/31/04, 1/4/05 Part A, & 1/28/05) to document fuel fragments.
- DVD recorded on 4/20/05 documents that this ISC is empty.
- Combination of the previous existing video, the recent video taken in 2004/2005, and fuel fragment assessment (Calculation NX-288) was adequate to assess the subject scenario.

Video Records:

- DVDs generated during Phase 1 of TBD-306: Disks dated 7/11/04, 7/12/04, 7/13/04, 7/17/04, 7/19/04, 7/23/04, 7/25/04, 7/27/04, 7/29/04, 8/4/04, 8/14/04, 8/15/04, 8/16/04, 8/26/04, & 8/27/04.
- DVDs generated in late 2004 and early 2005: Disks dated 12/10/04, 12/22/04, 12/23/04 AM & PM, 12/29/04 Part A, 12/30/04 PM, 12/31/04, 1/4/05 Part A, 1/28/05 & 4/20/05.

Conclusion:

The three unaccounted for A-49 fuel rod segments were not located within the SFP location for Physical Configurations A, B, & C as defined by the scenario. However, SNM in the form of fuel fragments was identified for Physical Configuration D. The SNM fuel fragments are documented in Calculation NX-288 and on video (DVDs - 10/22/03, 02/04, 03/04, 7/9/04, 7/11/04, 7/12/04, 7/13/04, 7/25/04, 7/26/04, 7/27/04, 7/30/04, 8/10/04, 8/11/04, 8/12/04, 8/15/04, 8/16/04, 8/17/04, 8/18&19/04, 8/26/04, 8/27/04, 8/31/04, 9/15/04, 9/17/04, 9/21/04, 9/28/04, 9/29/04 PM, 9/30/04, 10/1/04 AM & PM, 10/5/04, 10/6/04, 10/8/04, 12/10/04, 12/28/04, 1/13/05, 1/14/05, 1/26/05, 1/28/05, 2/2/05, 2/17/05, 2/18/05, 3/2/05, 3/23/05 and 3/25/05).

Action Items:

- None

Attachment 2

SPENT FUEL POOL PHYSICAL INSPECTION RESULTS

Area/Item No.: 38

Scenario Information: Scenario No: 1-04-03p

Title/Location: Containers

Objective/Description: ISC – 16 – Purple/White

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs and determine if the disks adequately document the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVDs (Disks – 7/11/04, 7/12/04, 7/13/04, 7/17/04, 7/19/04, 7/23/04, 7/25/04, 7/27/04, 7/29/04, 8/4/04, 8/14/04, 8/15/04, 8/16/04, 8/26/04, & 8/27/04) to determine if the disks adequately document the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVDs to fully assess the content of the subject ISC. DVDs only provide the “as-is” condition for the subject ISC on the date that the disks were made.
- Concluded that subject ISC content is transitory.
- Additional video documentation of subject ISC was made during 2004/2005 (Disks – 12/10/04, 12/22/04, 12/23/04 AM & PM, 12/29/04 Part A, 12/30/04 PM, 12/31/04, & 1/4/05 Part A) to document fuel fragments.
- DVD recorded on 4/20/05 documents that this ISC contains irradiated hardware.
- Combination of the previous existing video, the recent video taken in 2004/2005, and fuel fragment assessment (Calculation NX-288) was adequate to assess the subject scenario.

Video Records:

- DVDs generated during Phase 1 of TBD-306: Disks dated 7/11/04, 7/12/04, 7/13/04, 7/17/04, 7/19/04, 7/23/04, 7/25/04, 7/27/04, 7/29/04, 8/4/04, 8/14/04, 8/15/04, 8/16/04, 8/26/04, & 8/27/04.
- DVDs generated in late 2004 and early 2005: Disks dated 12/10/04, 12/22/04, 12/23/04 AM & PM, 12/29/04 Part A, 12/30/04 PM, 12/31/04, 1/4/05 Part A & 4/20/05.

Conclusion:

The three unaccounted for A-49 fuel rod segments were not located within the SFP location for Physical Configurations A, B, & C as defined by the scenario. However, SNM in the form of fuel fragments was identified for Physical Configuration D. The SNM fuel fragments are documented in Calculation NX-288 and on video (DVDs – 10/22/03, 02/04, 03/04, 7/9/04, 7/11/04, 7/12/04, 7/13/04, 7/25/04, 7/26/04, 7/27/04, 7/30/04, 8/10/04, 8/11/04, 8/12/04, 8/15/04, 8/16/04, 8/17/04, 8/18&19/04, 8/26/04, 8/27/04, 8/31/04, 9/15/04, 9/17/04, 9/21/04, 9/28/04, 9/29/04 PM, 9/30/04, 10/1/04 AM & PM, 10/5/04, 10/6/04, 10/8/04, 12/10/04, 12/28/04, 1/13/05, 1/14/05, 1/26/05, 1/28/05, 2/2/05, 2/17/05, 2/18/05, 3/2/05, 3/23/05 and 3/25/05).

Action Items:

- None

Attachment 2

**SPENT FUEL POOL
PHYSICAL INSPECTION RESULTS**

Area/Item No.: 39

Scenario Information: Scenario No: 1-04-03q

Title/Location: Containers

Objective/Description: Fuel Transfer Basket A & Under Basket

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs (Disks - 8/4/04, 8/5/04, & 8/17/04) to determine if the disks adequately document the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVDs to determine if the disks adequately document the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVDs to fully assess the Fuel Transfer Basket A & Under Basket.
- The subject DVDs of the area provided reasonable assurance that the objects (A, B, C, & D) were not there.
- No additional examination or video documentation was performed. The existing Fuel Transfer Basket A & Under Basket area disks were adequate to assess the subject scenario.

Video Records:

- DVDs generated during Phase 1 of TBD-306: Disks dated 8/4/04, 8/5/04, & 8/17/04.
- A summary compilation DVD (Title: 22 - Transfer Basket, 39 - Transfer Basket A, 40 - Transfer Basket B, 41 - Transfer Basket C) was made from the Phase 1 of TBD-306 DVDs. This compilation was specifically developed to address this scenario.

Conclusion:

The three unaccounted for A-49 fuel rod segments and/or SNM were not located within the SFP location for Physical Configurations A, B, C, & D as defined by the scenario.

Action Items:

- None

Attachment 2

**SPENT FUEL POOL
PHYSICAL INSPECTION RESULTS**

Area/Item No.: 40

Scenario Information: Scenario No: 1-04-03r

Title/Location: Containers

Objective/Description: Fuel Transfer Basket B & Under Basket

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs (Disk – 8/4/04, 8/5/04, & 8/17/04) to determine if the disks adequately document the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVDs to determine if the disks adequately document the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVDs to fully assess the Fuel Transfer Basket B & Under Basket.
- The subject disks of the area provided reasonable assurance that the objects (A, B, C, & D) were not there.
- No additional examination or video documentation was performed. The existing Fuel Transfer Basket B & Under Basket area disks were adequate to assess the subject scenario.

Video Records:

- DVDs generated during Phase 1 of TBD-306: Disks dated 8/4/04, 8/5/04, & 8/17/04.
- A summary compilation DVD (Title: 22 – Transfer Basket, 39 – Transfer Basket A, 40 – Transfer Basket B, 41 – Transfer Basket C) was made from the Phase 1 of TBD-306 DVDs. This compilation was specifically developed to address this scenario.

Conclusion:

The three unaccounted for A-49 fuel rod segments and/or SNM were not located within the SFP location for Physical Configurations A, B, C, & D as defined by the scenario.

Action Items:

- None

Attachment 2

**SPENT FUEL POOL
PHYSICAL INSPECTION RESULTS**

Area/Item No.: 41

Scenario Information: Scenario No: 1-04-03s

Title/Location: Containers

Objective/Description: Fuel Transfer Basket C & Under Basket

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs (Disk -- 8/5/04 & 8/17/04) to determine if the disks adequately document the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVDs to determine if the disks adequately document the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVDs to fully assess the Fuel Transfer Basket C & Under Basket.
- The subject disks of the area provided reasonable assurance that the objects (A, B, C, & D) were not there.
- No additional examination or video documentation was performed. The existing Fuel Transfer Basket C & Under Basket area disks were adequate to assess the subject scenario.

Video Records:

- DVDs generated during Phase 1 of TBD-306: Disks dated 8/5/04 & 8/17/04.
- A summary compilation DVD (Title: 22 -- Transfer Basket, 39 -- Transfer Basket A, 40 -- Transfer Basket B, 41 -- Transfer Basket C) was made from the Phase 1 of TBD-306 DVDs. This compilation was specifically developed to address this scenario.

Conclusion:

The three unaccounted for A-49 fuel rod segments and/or SNM were not located within the SFP location for Physical Configurations A, B, C, & D as defined by the scenario.

Action Items:

- None

Attachment 2

**SPENT FUEL POOL
PHYSICAL INSPECTION RESULTS**

Area/Item No.: 42

Scenario Information: Scenario No: 1-04-03t

Title/Location: Containers

Objective/Description: UD6N Fuel Assembly Box (including contents)

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs (Disks 8/13/03, 8/4/04, 8/8/04 AM & PM, 8/9/04 AM & PM, 8/10/04, 8/11/04, 8/12/04 AM & PM, 8/13/04, & 8/17/04) and determine if the disks adequately document the examination and inspection of UD6N and its container. If the review is inconclusive, re-examine and inspect UD6N and its container utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVDs to determine if the disks adequately document the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVDs to fully assess the content of the UD6N container. DVDs only provide the "as-is" condition for the subject container on the date that the disks were made.
- Concluded that subject container content was transitory until it was finally moved to location SFP32 on 8/13/04.
- No additional examination or video documentation was performed.
- The previous existing video is adequate to assess the subject scenario.

Video Records:

- DVDs generated during Phase 1 of TBD-306: Disks dated 8/13/03, 8/4/04, 8/8/04 AM & PM, 8/9/04 AM & PM, 8/10/04, 8/11/04, 8/12/04 AM & PM, 8/13/04, & 8/17/04.
- A summary compilation DVD (Title: 42 – UD6N Assembly Box) was made from the Phase 1 of TBD-306 DVDs. The compilation was specifically developed to address this scenario.

Conclusion:

The three unaccounted for A-49 fuel rod segments were not located within the SFP location for Physical Configurations A, B, & C as defined by the scenario. However, SNM in the form of fuel fragments was identified for Physical Configuration D. They are not part of fuel assembly UD6N, but were stored in the original UD6N storage box until the subject assembly and loose fuel rods were transferred to a new storage box. The SNM fuel fragments specifically associated with the UD6N storage box are documented in Calculation NX-288 and on video (Disks – 8/15/04, 8/16/04, 8/17/04, 9/10/04, 9/14/04, 9/15/04, 9/17/04, 9/28/04, 9/29/04 AM & PM, 9/30/04, 10/1/04 AM & PM, 10/5/04, 10/6/04, & 1/14/05).

Action Items:

- None

Attachment 2

**SPENT FUEL POOL
PHYSICAL INSPECTION RESULTS**

Area/Item No.: 43

Scenario Information: Scenario No: 1-04-03u

Title/Location: Containers

Objective/Description: Failed Fuel Cans (4) (Renamed Storage Containers 1 – 4). The Storage Containers (1 – 4) are located in the SFP.

Physical Configuration: A, B, C, & D

Inspection Process:

- Failed Fuel Cans (4) (Renamed Storage Containers 1 – 4).
- Re-review the DVDs (Disks 10/22/03, 7/11/04, 7/13/04, 7/15/04, 7/17/04, 7/19/04, 7/23/04, 7/24/04, 7/25/04, 7/27/04, 7/29/04, & 8/7/04 AM) and determine if the disks adequately document the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas/locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVDs to determine if the disks adequately document the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVDs to fully assess the content of the Storage Cans (4). DVDs only provide the "as-is" condition and content for the subject Storage Can on the date that the disks were made.
- Concluded that subject Storage Can content is transitory.
- One of the Storage Cans has been filled with cut-up incore detectors.
- Three other cans were empty (documented on disk dated 1/5/05).
- Additional video documentation of subject Storage Can content and subsequent transfer to ISCs was made during 2004/2005 (DVDs) and is addressed in scenarios 23 - 38.
- Combination of the previous existing video, the recent video taken in 2004/2005, and fuel fragment assessment (Calculation NX-288) was adequate to assess the subject scenario.

Video Records:

- DVDs generated during Phase 1 of TBD-306: Disks dated 10/22/03, 7/11/04, 7/13/04, 7/15/04, 7/17/04, 7/19/04, 7/23/04, 7/24/04, 7/25/04, 7/26/04, 7/27/04, 7/29/04, 8/7/04, 1/5/05 & 2/18/05.
- A summary compilation DVD (Title: 43 – Failed Fuel Cans (Storage Cans)) was made from the Phase 1 of TBD-306 disks. This compilation specifically addresses this scenario.

Conclusion:

The three unaccounted for A-49 fuel rod segments were not located within the SFP location for Physical Configurations A, B, & C as defined by the scenario. However, SNM in the form of fuel fragments was identified for Physical Configuration D. The SNM fuel fragments are documented in Calculation NX-288 and on video (DVDs – 10/22/03, 02/04, 03/04, 7/9/04, 7/11/04, 7/12/04, 7/13/04, 7/25/04, 7/26/04, 7/27/04, 7/30/04, 8/10/04, 8/11/04, 8/12/04, 8/15/04, 8/16/04, 8/17/04, 8/18&19/04, 8/26/04, 8/27/04, 8/31/04, 9/15/04, 9/17/04, 9/21/04, 9/28/04, 9/29/04 PM, 9/30/04, 10/1/04 AM & PM, 10/5/04, 10/6/04, 10/8/04, 12/10/04, 12/28/04, 1/13/05, 1/14/05, 1/26/05, 1/28/05, 2/2/05, 2/17/05, 2/18/05, 3/2/05, 3/23/05 and 3/25/05).

Attachment 2

Action Items:

- None

Attachment 2

**SPENT FUEL POOL
PHYSICAL INSPECTION RESULTS**

Area/Item No.: 44

Scenario Information: Scenario No: 1-04-03v

Title/Location: Containers

Objective/Description: Central Storage Container (CSC), the addition of the Fuel Fragment Container (FFC) and the Unclad Fuel Fragment Container (UFFC)).

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs (Disks – “DVD dated 8/13/03, 10/22/03, 7/11/04, & 8/26/04) and determine if the disks adequately document the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas/locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVDs to determine if the disks adequately document the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVDs to assess the content of the Central Storage Container. DVDs provide the “as-is” condition and content for the container on the date that the disks were made.
- Concluded that subject Central Storage Container content is transitory.
- Final video documentation of subject Central Storage Container content and subsequent transfer to ISCs was made during 2004/2005 and is addressed in scenarios 23 - 38.
- Fuel Fragment Container (Fuel Frag) and the Unclad Fuel Fragment Container (UFFC) current content was documented on DVDs dated 1/14/05, 2/18/05 & 3/25/05.
- Combination of the previous existing video, the recent video taken in 2004/2005, and fuel fragment assessment (Calculation NX-288) was adequate to assess the subject scenario.

Video Records:

- DVDs generated during Phase 1 of TBD-306: Disks dated 8/13/03, 10/22/03, 7/11/04, & 8/26/04.
- DVD generated in 2005: Disk 1/8/05, 1/14/05, 2/18/05 & 3/25/05.
- A summary compilation DVD (Title: 44 – Central Storage Container) was made from the Phase 1 of TBD-306 and 2005 disks. This compilation specifically addresses this scenario.

Conclusion:

The three unaccounted for A-49 fuel rod segments were not located within the CSC for Physical Configurations A and C as defined by the scenario. However, SNM in the form of fuel fragments was identified for Physical Configurations B and D. A number of the fuel fragments found in the CSC could be remnants of the three unaccounted for A-49 fuel rod segments. The SNM fuel fragments were consolidated in the Unclad Fuel Fragment Container (UFFC) and the Fuel Fragment Container (Fuel Frag). The SNM fuel fragments are documented in Calculation NX-288 and on video (DVDs – 10/22/03, 02/04, 03/04, 7/9/04, 7/11/04, 7/12/04, 7/13/04, 7/25/04, 7/26/04, 7/27/04, 7/30/04, 8/10/04, 8/11/04, 8/12/04, 8/15/04, 8/16/04, 8/17/04, 8/18&19/04, 8/26/04, 8/27/04, 8/31/04, 9/15/04, 9/17/04, 9/21/04, 9/28/04, 9/29/04 PM, 9/30/04, 10/1/04 AM & PM, 10/5/04, 10/6/04, 10/8/04, 12/10/04, 12/28/04, 1/13/05, 1/14/05, 1/26/05, 1/28/05, 2/2/05, 2/17/05, 2/18/05, 3/2/05, 3/23/05 and 3/25/05).

Attachment 2

Action Items:

- None

Attachment 2
SPENT FUEL POOL
PHYSICAL INSPECTION RESULTS

Area/Item No.: 45

Scenario Information: Scenario No: 1-04-03w

Title/Location: Containers

Objective/Description: Pellet Catcher

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs (Disks 10/22/03, 7/29/04, 8/5/04, & 8/16/04) and determine if the disk adequately documents the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVDs to determine if the disks adequately document the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVDs to fully assess the content of the Pellet Catcher. DVDs only provide the "as-is" condition and content for the subject container on the date that the disks were made.
- Final video documentation of subject Pellet Catcher content and subsequent transfer to ISCs was made during 2004/2005 (DVDs) and is addressed in scenarios 23 - 38.
- Combination of the previous existing video and the recent video taken in 2004/2005 was adequate to assess the subject scenario.
- A HBPP Area Survey Report was generated for the Pellet Catcher (SWP #5-0102, Survey No. 5-081) on 2/16/05.
- The results of the subject Area Survey Report indicate that the highest measured radiation dose level was 316R/hr before and 1.3R/hr after the Pellet Catcher was emptied.

Video Records:

- DVDs generated during Phase 1 of TBD-306: Disks dated 10/22/03, 7/29/04, 8/5/04, & 8/16/04.
- DVDs generated in 2005: Disks dated 1/5/05, 1/26/05, & 1/27/05 AM & PM.
- A summary compilation DVD (Title: 45 - Pellet Catcher) was made from the Phase 1 of TBD-306 and 2005 disks. This compilation was specifically developed to address this scenario.

Conclusion:

The three unaccounted for A-49 fuel rod segments were not located within the SFP location for Physical Configurations A, B, C, & D as defined by the scenario. The Area Survey Report indicates that fuel or other SNM was not present due to the low final dose rate for the Pellet Catcher.

Action Items:

- None

Attachment 2

**SPENT FUEL POOL
PHYSICAL INSPECTION RESULTS**

Area/Item No.: 46

Scenario Information: Scenario No: 1-04-03x

Title/Location: Containers

Objective/Description: Transitory ISCs (17 – 20)

Physical Configuration: A, B, C, & D

Inspection Process:

- Transitory ISCs by definition may hold items as required to support SFP activities. Accordingly, they may or may not contain items at any given time. The content of Transitory ISCs will be placed in ISCs that are specifically identified and designated.
- Transitory ISCs may or may not be examined and/or videotaped, since they will have their content placed in an ISC. The content of the Transitory ISCs will be addressed after the transfer of the content to an ISC.
- Document the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary:

- Reviewed the various DVDs (Disks – 7/11/04, 7/12/04, 7/13/04, 7/17/04, 7/19/04, 7/23/04, 7/25/04, 7/27/04, 7/29/04, 8/4/04, 8/26/04, 12/10/04, 12/22/04, 12/23/04 AM & PM, 12/29/04 Part A, 12/30/04, 12/31/04, & 1/4/05) associated with the ISC and Transitory ISCs.

Inspection Results/Details:

- Due to the transitory nature of the subject ISCs, it was determined that any examination and/or inspection of the subject ISCs would only provide an "as-is" current determination of the subject ISC content, rather than the "final" content of the subject ISC. Therefore, it was determined that examination and/or inspection of the subject ISCs would not be performed. However, the associated DVDs were reviewed and supported the transitory nature of the containers and their contents.
- DVD recorded on 4/20/05 documents that Transitory ISC 17 contains irradiated hardware, Transitory ISC 18 contains SNM waste, Transitory ISC 19 is empty, and Transitory ISC 20 is empty.
- Concluded that final content (if any) of subject ISCs would be documented during final clean-up of the SFP.

Video Records:

- DVDs generated during previous examinations of the ISCs and Transitory ISCs: Disks dated 7/11/04, 7/12/04, 7/13/04, 7/17/04, 7/19/04, 7/23/04, 7/25/04, 7/27/04, 7/29/04, 8/4/04, 8/26/04, 12/10/04, 12/22/04, 12/23/04 AM & PM, 12/29/04 Part A, 12/30/04, 12/31/04, 1/4/05 & 4/20/05.

Conclusion:

The three unaccounted for A-49 fuel rod segments were not located within the SFP location for Physical Configurations A, B, & C as defined by the scenario. However, SNM in the form of fuel fragments was identified for Physical Configuration D. Due to the transitory nature of these ISCs, a final assessment of each ISC will be performed upon their removal from the SFP during the decommissioning of HBPP Unit 3. At that time, any evidence of the three unaccounted for fuel

Attachment 2

rod segments and/or SNM will be appropriately documented. It is highly unlikely that the fuel rod segments will be found in Physical Configuration A or C. However, it is reasonably possible that fuel fragments may be found in Physical Configurations B or D. The SNM fuel fragments are documented in Calculation NX-288 and on video (DVDs – 10/22/03, 02/04, 03/04, 7/9/04, 7/11/04, 7/12/04, 7/13/04, 7/25/04, 7/26/04, 7/27/04, 7/30/04, 8/10/04, 8/11/04, 8/12/04, 8/15/04, 8/16/04, 8/17/04, 8/18&19/04, 8/26/04, 8/27/04, 8/31/04, 9/15/04, 9/17/04, 9/21/04, 9/28/04, 9/29/04 PM, 9/30/04, 10/1/04 AM & PM, 10/5/04, 10/6/04, 10/8/04, 12/10/04, 12/28/04, 1/13/05, 1/14/05, 1/26/05, 1/28/05, 2/2/05, 2/17/05, 2/18/05, 3/2/05, 3/23/05 and 3/25/05).

Action Items:

- Perform a final examination of the ISCs following their removal from the SFP.
- Document any evidence of the three unaccounted for fuel rod segments and/or SNM found during the examination.

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SPENT FUEL POOL PHYSICAL INSPECTION RESULTS

Area/Item No.: 47

Scenario Information: Scenario No: 1-04-04a

Title/Location: Miscellaneous

Objective/Description: Poison Curtain Rack 1 & Under Rack

Physical Configuration: A, B, C, & D

Inspection Process:

- Visually assess with binoculars and underwater video equipment.
- Video document the exterior of the rack.

Inspection Summary/Details:

- Reviewed the various DVDs (Disks 10/8/03, 10/16/03, 10/22/03, 8/7/04 PM, & 12/22/04) associated with the subject rack that were previously generated.
- It was not necessary to examine the inside of the Poison Curtain Rack 1 because the rack was not fabricated and installed in the SFP until 2003.
- Only poison curtains have been installed in the rack.

Inspection Results:

- No additional examination or video documentation was performed. Combination of the existing DVDs, dates associated with the fabrication and placement of the rack in the SFP, and the documentation for the loading of the rack with poison curtains is adequate to assess the subject scenario.

Video Records:

- DVDs generated during previous examinations of the rack: Disks dated 10/8/03, 10/16/03, 10/22/03, 8/7/04 PM, & 12/22/04.

Conclusion:

The three unaccounted for A-49 fuel rod segments and/or SNM were not located within the SFP location for Physical Configurations A, B, C, & D as defined by the scenario.

Action Items:

- None

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SPENT FUEL POOL
PHYSICAL INSPECTION RESULTS

Area/Item No.: 48

Scenario Information: **Scenario No:** 1-04-04b
Title/Location: Miscellaneous
Objective/Description: Poison Curtain Rack 2 & Under Rack
Physical Configuration: A, B, C, & D.

Inspection Process:

- Visually assess with binoculars and underwater video equipment.
- Videotape the exterior of the rack.

Inspection Summary/Details:

- Reviewed the various DVDs (Disks 10/8/03, 10/16/03, 10/22/03, 8/7/04 PM, & 12/22/04) associated with the subject rack that were previously generated.
- It was not necessary to examine the inside of the Poison Curtain Rack 2 because the rack was not fabricated and installed in the SFP until 2003.
- Only poison curtains have been installed in the rack.

Inspection Results:

- No additional examination or video documentation was performed. Combination of the existing DVDs, dates associated with the fabrication and placement of the rack in the SFP, and the documentation for the loading of the rack with poison curtains is adequate to assess the subject scenario.

Video Records:

- DVDs generated during previous examinations of the rack: Disks dated 10/8/03, 10/16/03, 10/22/03, 8/7/04 PM, & 12/22/04.

Conclusion:

- The three unaccounted for A-49 fuel rod segments and/or SNM were not located within the SFP location for Physical Configurations A, B, C, & D as defined by the scenario.

Action Items:

- None

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SPENT FUEL POOL PHYSICAL INSPECTION RESULTS

Area/Item No.: 49

Scenario Information: Scenario No: 1-04-04c

Title/Location: Miscellaneous

Objective/Description: Work/Inspection Platform (On, Underneath & Behind) – South Wall

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs (Disks –1/8/05 & 1/27/05 PM) and determine if the tape adequately documents the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.
- Visually assess with binoculars and underwater video equipment.
- Videotape the exterior of the rack (if necessary).

Inspection Summary/Details:

- Re-reviewed the DVDs to determine if the disks adequately document the examination and inspection of the defined scenario areas.
- The Work/Inspection Platform was not fabricated and installed in the SFP until August 2004.

Inspection Results:

- Re-reviewed DVDs to fully assess the Work/Inspection Platform.
- Performed additional video documentation of the Work/Inspection Platform to document the "as-is" condition in the subject area.
- Combination of the existing DVDs, dates associated with the fabrication and placement of the platform in the SFP, is adequate to assess the subject scenario.

Video Records:

- DVDs generated during previous examinations of the Work/Inspection Platform: Disks dated 1/8/05 & 1/27/05 PM.

Conclusion:

The three unaccounted for A-49 fuel rod segments and/or SNM were not located within the SFP location for Physical Configurations A, B, C, & D as defined by the scenario.

Action Items:

- None

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SPENT FUEL POOL PHYSICAL INSPECTION RESULTS

Area/Item No.: 50

Scenario Information: Scenario No: 1-04-04d

Title/Location: Miscellaneous

Objective/Description: Work/Inspection Platform (On, Underneath & Behind) – East Wall

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs (Disks – 8/2/04, 1/8/05, 1/18/05, & 1/27/05 AM & PM) and determine if the disks adequately document the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.
- Visually assess with binoculars and underwater video equipment.
- Video document the exterior of the rack (if necessary).

Inspection Summary/Details:

- Re-reviewed the DVDs to determine if the disks adequately document the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVDs to fully assess the Work/Inspection Platform.
- Performed additional video documentation of the Work/Inspection Platform to document the "as-is" condition in the subject area.
- Combination of the existing video and recent Work/Inspection Platform video was not adequate to assess the subject scenario. Debris and access limitations to the bottom of the platform preclude a thorough examination of the area.

Video Records:

- DVDs generated during previous examinations of the Work/Inspection Platform: Disks dated 8/2/04, 1/8/05, 1/18/05, & 1/27/05 AM & PM.
- A summary compilation DVD (Title: 50 Inspection Platform East Wall) was made from the various disks. This compilation was specifically developed to address the scenario.

Conclusion:

The three unaccounted for A-49 fuel rod segments and/or SNM were not located within the SFP location for Physical Configurations A, B, C, & D as defined by the scenario based on the examinations documented on video tape. Due to the debris and limited access to the bottom area of the Work/Inspection Platform, it is extremely difficult if not impossible to adequately examine the subject area with currently available equipment. Therefore, after removal of all spent fuel from the SFP and its storage in the HBPP ISFSI, the subject structure will be removed from the SFP during the decommissioning of HBPP Unit 3. At that time, any evidence of the three unaccounted for fuel rod segments and/or SNM will be appropriately documented. It is highly unlikely that the fuel rod segments will be found in Physical Configuration A or C. However, it is reasonably possible that fuel fragments may be found in Physical Configurations B or D.

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Action Items:

- Perform a final examination of the platform as it is removed and the area following removal of the platform.
- Document any evidence of the three unaccounted for fuel rod segments and/or SNM found during the examination.

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**SPENT FUEL POOL
PHYSICAL INSPECTION RESULTS**

Area/Item No.: 51

Scenario Information: Scenario No: 1-04-04e

Title/Location: Miscellaneous

Objective/Description: Energy Absorber (Underneath, Between – West & South Walls & On Top)

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs (Disks 10/22/03, 7/9/04, 7/25/04, 7/27/04, 7/28/04, 7/29/04, 8/2/04, 8/17/04, 8/18/04, 8/19/04, 8/26/04, 9/2/04, 9/8/04, & 9/21/04) and determine if the disks adequately document the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.
- Either obtain the required underwater video equipment to examine the subject areas that were not previously inspected, or move the absorber so that the currently available equipment can be utilized to examine the subject areas that were not previously inspected.

Inspection Summary/Details:

- Re-reviewed the DVDs to determine if the disks adequately document the examination and inspection of the defined scenario areas.

Inspection Results:

- The existing DVDs did not fully assess the Energy Absorber scenario.
- Performed additional video documentation of the Energy Absorber to document the "as-is" condition in the subject area. Most of the area underneath the energy absorber was searched providing reasonable assurance that the objects (A, B, C, & D) are not there. A small portion of the absorber could not be viewed due to clutter and debris that was not readily removable. Most but not all of the areas between the walls (south and west) and the absorber were searched providing some reasonable assurance that the objects (A, B, C, & D) are not there. Some of the area between the south and west walls, and the absorber could not be viewed due to limited access.
- Additional examination and video documentation was performed on 12/31/04, 1/5/05, 1/18/05, & 1/19/05. Combination of the previous existing video and the recent video taken in late 2004 and early 2005 was not adequate to assess the subject scenario.

Video Records:

- DVDs generated during Phase 1 of TBD-306: Disks dated 10/22/03, 7/9/04, 7/25/04, 7/27/04, 7/28/04, 7/29/04, 8/2/04, 8/17/04, 8/18/04, 8/19/04, 8/26/04, 9/2/04, 9/8/04, & 9/21/04.
- DVDs generated in late 2004 and early 2005: Disks dated 12/31/04, 1/5/05, 1/18/05 & 1/19/05.

Conclusion:

The three unaccounted for A-49 fuel rod segments and/or SNM were not located within the SFP location for Physical Configurations A, B, C, & D as defined by the scenario based on the examinations documented on video tape. Due to the limited access along the south and west walls of the SFP in the vicinity of the Energy Absorber, it is extremely difficult if not impossible to adequately examine the subject area with currently available equipment. Therefore, after

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removal of all spent fuel from the SFP and its storage in the HBPP ISFSI, the subject structure will be removed from the SFP during the decommissioning of HBPP Unit 3. At that time, any evidence of the three unaccounted for fuel rod segments and/or SNM will be appropriately documented. It is highly unlikely that the fuel rod segments will be found in Physical Configuration A or C. However, it is reasonably possible that fuel fragments may be found in Physical Configurations B or D.

Action Items:

- Perform a final examination of the Energy Absorber as it is removed and the area following removal of the Energy Absorber.
- Document any evidence of the three unaccounted for fuel rod segments and/or SNM found during the examination.

Attachment 2

SPENT FUEL POOL PHYSICAL INSPECTION RESULTS

Area/Item No.: 52

Scenario Information: Scenario No: 1-04-04f

Title/Location: Miscellaneous

Objective/Description: Channels (On, Between, Underneath & In)

Physical Configuration: A, B, C, & D

Inspection Process:

- Visually assess with binoculars and underwater video equipment.
- Videotape the exterior of the stacked channels.

Inspection Summary/Details:

- Reviewed the various DVDs (Disks 7/25/04, 7/27/04, & 8/2/04) associated with the subject channels that were previously generated.
- The channels were removed from the fuel assemblies and placed in their current position and configuration in the SFP in 2000 during the fuel assembly inspection. The channels are currently stacked in the Cask Pit area of the SFP
- The top of the channel stack does not indicate the presence of the objects (A, B, C, & D).
- It was not necessary to examine between, underneath, and in the channels since the objects (A, B, C, & D) would have been located and identified during the placement of the channels in 2000. HBPP believed that there was a low probability that the fuel rod segments were beneath the channels, since the SFP floor area appeared to be clean in 2000 immediately prior to the placement of the channels. However, HBPP personnel were not specifically looking for fuel segments and/or fuel fragments at that time, so it is possible that the segments or fragments may be beneath the channels.

Inspection Results:

- The existing DVDs did not fully assess the Channels.
- Performed additional video documentation of the Channels to document the "as-is" condition in the subject area. Most of the areas associated with the channels were searched and provided reasonable assurance that the objects (A, B, C, & D) are not there.
- Additional examination and video documentation was performed on 12/22/04, 12/31/04, & 1/20/05. Combination of the previous existing video and the recent video taken in late 2004 and early 2005 was adequate to assess the subject scenario.

Video Records:

- DVDs generated during Phase 1 of TBD-306: Disks dated 7/25/04, 7/27/04, & 8/2/04.
- DVDs generated in late 2004 and early 2005: Disks dated 12/22/04, 12/31/04, & 1/20/05.

Conclusion:

The three unaccounted for A-49 fuel rod segments and/or SNM were not located within the SFP location for Physical Configurations A, B, C, & D as defined by the scenario. Due to the presence of the Channels, the area of the SFP immediately beneath the Channels cannot be examined at this time. Therefore, after removal of the Channels from the SFP, the subject area will be examined, and at that time, any evidence of the three unaccounted for fuel rod segments and/or SNM will be appropriately documented. It is highly unlikely that the fuel rod segments will be found in Physical Configuration A or C. However, it is reasonably possible that fuel fragments may be found in Physical Configurations B or D.

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Action Items:

- Perform a final examination of the channels as they are removed and the SFP floor area following removal of the channels.
- Document any evidence of the three unaccounted for fuel rod segments and/or SNM found during the examination.

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**SPENT FUEL POOL
PHYSICAL INSPECTION RESULTS**

Area/Item No.: 53

Scenario Information: Scenario No: 1-04-04g

Title/Location: Miscellaneous

Objective/Description: Dummy Fuel Assembly

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVD (Disk - 8/4/04) to determine if the disk adequately documents the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.
- Lift dummy fuel assembly and examine in either empty cell or Channel Stripper for potential hiding places.

Inspection Summary/Details:

- Re-reviewed the DVD to determine if the disk adequately documents the examination and inspection of the defined scenario area.

Inspection Results:

- The dummy assembly has characteristics of a real fuel assembly. It is fabricated with fuel assembly components and filled with lead shot to simulate the weight of an actual fuel assembly. The dummy assembly is bolted shut and there is no access to the interior of the assembly and it cannot be internally examined.
- Re-reviewed DVD to fully assess the Dummy Fuel Assembly.
- The dummy assembly was not lifted to examine the assembly or its cell.
- The subject tape of the assembly provided reasonable assurance that the objects (A, B, C, & D) were not there.
- No additional examination or video documentation was performed. The existing Dummy Fuel Assembly video was adequate to assess the subject scenario.

Video Records:

- DVD generated during Phase 1 of TBD-306; Disk dated 8/4/04.

Conclusion:

The three unaccounted for A-49 fuel rod segments and/or SNM were not located within the SFP location for Physical Configurations A, B, C, & D as defined by the scenario.

Action Items:

- Examine the Dummy Fuel Assembly cell after it is removed from the SFP.

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SPENT FUEL POOL PHYSICAL INSPECTION RESULTS

Area/Item No.: 54

Scenario Information: Scenario No: 1-04-04h

Title/Location: Miscellaneous

Objective/Description: Channel Stripper (On, Behind, Underneath & In)

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs (Disks 8/13/03, 8/18/04 & 8/19/04) and determine if the disks adequately document the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.

Inspection Summary/Details:

- Re-reviewed the DVDs to determine if the disks adequately document the examination and inspection of the defined scenario areas.

Inspection Results:

- Re-reviewed DVDs to fully assess the Channel Stripper.
- Performed additional video documentation of the Channel Stripper to document the "as-is" condition in the subject area.
- Additional examination and video documentation was performed on 1/5/05, 1/8/05, 1/11/05 Part 2, 1/12/05 Parts AM & PM, 1/17/05 Parts 1 & 2, 1/18/05, 1/19/05, 1/20/05, & 1/27/05. Combination of the previous existing video and the recent video taken in early 2005 was adequate to assess the subject scenario.

Video Records:

- DVDs generated during Phase 1 of TBD-306: Disks 8/13/03, 8/18/04, & 8/19/04.
- DVDs generated in 2005: Disks dated 1/5/05, 1/8/05, 1/11/05 Part 2, 1/12/05 Parts AM & PM, 1/17/05 Parts 1 & 2, 1/18/05, 1/19/05, 1/20/05, & 1/27/05.
- A summary compilation DVD (Title: 54 – Channel Stripper) was made from the Phase 1 of TBD-306 and 2005 disks. This compilation was specifically developed to address this scenario.

Conclusion:

The three unaccounted for A-49 fuel rod segments and/or SNM were not located within the SFP location for Physical Configurations A, B, C, & D as defined by the scenario.

Action Items:

- None

Attachment 2
SPENT FUEL POOL
PHYSICAL INSPECTION RESULTS

Area/Item No.: 55

Scenario Information: Scenario No: 1-04-04i

Title/Location: Miscellaneous

Objective/Description: Resin Bed (On, Behind, Underneath & In)

Physical Configuration: A, B, C, & D

Inspection Process:

- Visually assess with binoculars and underwater video equipment.
- Search the entire resin bed.
- Remove and/or clean-up the resin bed to confirm that the three unaccounted for fuel rod segments and/or SNM is not present.

Inspection Summary/Details:

- The accessible areas of the resin bed were previously searched (documented on DVDs dated 02/04 (TP2004 Disks 1 – 7), 7/28/04, 8/1/04, & 8/2/04) and probed utilizing a rake, and provided reasonable assurance that the objects (A, B, C, & D) were not there. However, all areas of the resin bed were not searched at that time due to access limitations and interferences.

Inspection Results:

- Re-reviewed DVDs to fully assess the Resin Bed and any items that might be hidden within the bed.
- Performed additional video documentation of the Resin Bed during the vacuuming operations to remove it.
- The vacuum system was not capable of picking up large fuel fragments. Small fuel fragments (< 1/4") that were picked up during the vacuum process would be separated from the resin in the separator. There was no evidence of small fuel fragments in the separator.
- Additional examination and video documentation was performed on 1/9/05, 1/10/05 Parts 1 & 2, 1/11/05 Parts 1 & 2, 1/14/05, 1/17/05, 1/18/05, 1/20/05, 1/21/05, & 1/22/05. Combination of the previous existing video and the recent video taken in early 2005 was adequate to assess the subject scenario.

Video Records:

- DVDs generated during Phase 1 of TBD-306: Disks dated 02/04 (TP2004-01 Disks 1 – 7), 7/28/04, 8/1/04, & 8/2/04.
- DVDs generated in 2005: Disks dated 1/9/05, 1/10/05 Parts 1 & 2, 1/11/05 Parts 1 & 2, 1/14/05, 1/17/05, 1/18/05, 1/20/05, 1/21/05, & 1/22/05.

Conclusion:

The three unaccounted for A-49 fuel rod segments and/or SNM were not located within the SFP location for Physical Configurations A, B, C, & D as defined by the scenario.

Action Items:

- None

Attachment 2

SPENT FUEL POOL PHYSICAL INSPECTION RESULTS

Area/Item No.: 56

Scenario Information: Scenario No: 1-04-04j

Title/Location: Miscellaneous

Objective/Description: Operating Sources (North End of SFP)

Physical Configuration: A, B, C, & D

Inspection Process:

- Re-review the DVDs (Disks 10/22/03, 7/27/04, 7/29/04, 8/18/04, & 8/19/04) and determine if the disks adequately document the examination and inspection of the defined areas. If the review is inconclusive, re-examine and inspect those areas and locations utilizing binoculars and/or underwater video equipment, including recorded documentation of same.
- Visually assess with binoculars and underwater video equipment.
- Lift the operating sources and examine both the sources and their cells.

Inspection Summary/Details:

- Re-reviewed the DVDs to determine if the disks adequately document the examination and inspection of the defined scenario area.
- Visually examined the defined scenario area.
- The two (2) operating sources were not lifted since special equipment was not available.

Inspection Results:

- Re-reviewed DVDs to fully assess the Operating Sources.
- Performed additional video documentation of the Operating Sources and the northwest corner of the SFP following resin vacuuming to document the "as-is" condition of the area.
- Additional examination and video documentation was performed on 1/27/05. Combination of the previous existing video and the recent video taken in early 2005 was adequate to assess the subject scenario.

Video Records:

- DVDs generated during Phase 1 of TBD-306: Disks 10/22/03, 7/27/04, 7/29/04, 8/18/04, & 8/19/0.
- DVD generated in 2005: Disk dated 1/27/05.
- A summary compilation DVD (Title: 56 – Operating Sources) was made from the Phase 1 of TBD-306 and 2005 disks. This compilation was specifically developed to address this scenario.

Conclusion:

The three unaccounted for A-49 fuel rod segments and/or SNM were not located within the SFP location for Physical Configurations A, B, C & D as defined by the scenario. The Operating Sources could not be lifted since the integrity of the source handles were in question. One handle was broken and the other handle was suspect. The area immediately around the sources in the fuel rack cell and the floor surrounding the sources was checked for SNM. Nothing of interest was noted. The floor in the immediate area was covered with a residue of resin of varying depths that was probed for SNM. Since the sources were not lifted, only the "nose" area (approximately 1 in²) of the sources that seat in the fuel rack cells was not inspected.

Attachment 2

Action Items:

- Examine the Operating Sources fuel rack cell area after they are removed from the SFP.

**ENGINEERING REVIEW OF CONTROL AND
ACCOUNTABILITY OF MODIFIED FUEL ASSEMBLIES AT
HUMBOLDT BAY POWER PLANT UNIT 3
FINAL REPORT**

BY HBPP SNM PROJECT

ENGINEERING REVIEW OF CONTROL AND ACCOUNTABILITY OF MODIFIED FUEL ASSEMBLIES AT HUMBOLDT BAY POWER PLANT UNIT 3

PURPOSE AND BACKGROUND

HBPP has 389 fuel assemblies encased in Boral Cans and one damaged assembly (UD-6N) in a stainless steel container in the Unit 3 spent fuel pool (SFP). Investigation by HBPP and the SNM Project has determined that 28 of the 389 assemblies were subject to some form of modification/alteration. This document will examine the history of these assemblies.

For purposes of this report, a modified fuel assembly is any assembly that is not in its original, as received configuration. Modified fuel assemblies typically include assemblies that have been encased in stainless steel to maintain assembly structural stability due to sheared top end plate studs, assemblies subjected to failed trepanning efforts, assemblies that have had some of their fuel rods removed for shipment offsite or to accommodate installation of test rods, assemblies subject to reconstitution activities, and assemblies damaged by modification efforts (missing upper/lower end plugs, fuel rod unscrewed from tie plate, etc.).

RESULTS

The HBPP and SNM Project investigations have concluded that 28 of the HBPP fuel assemblies have been modified. Thus, the 390 assemblies in residence in the HBPP Unit 3 SFP may be categorized as follows:

- 361 assemblies are unmodified. These assemblies will not be examined as part of this evaluation, as the bundles remain in their original configuration and their history is readily determined by core loading maps and SFP maps.
- 28 assemblies that have been modified. These assemblies are the focus of this report.
- Assembly UD-6N was damaged during a fuel move. The UD-6N assembly lost its physical integrity and has been stored in a special storage container. UD-6N is not evaluated as part of this report.

HBPP Fuel Condition Reports are herein provided for the 28 modified assemblies. The Condition Reports list documentation associated with assembly receipt and storage as new/unirradiated fuel, core loading positions during the assembly's nuclear service, irradiated storage locations in the SFP, modification/reconstitution activities, review of assembly inspection records, and an assembly status summary. As an accompaniment to the Condition Report, a Modified Assembly Map is provided that includes a matrix (reflecting the top view of the assembly) that shows any missing or removed rods, missing end plugs, and other notations related to modification of the assembly. Note that 5 of the 28 modified assemblies do not include this Modified Assembly Map, as the

5 assemblies were successfully reconstituted and subsequently burned for at least one cycle of operation. Thus, Modified Assembly Maps for the five assemblies would simply reflect their full complement of fuel rods and would offer no additional information to the Fuel Condition Report. The five such assemblies are – HE-01, HE-04, HE-24, HD-07 and HD-16.

FUEL CONDITION REPORT

Assembly

B-14

Receipt & New Fuel (Unirradiated) Storage

Received on 6/2/65 (RLOC 03612-1833 to 1838 – B-14 info found on 03612-1836)
New Fuel Storage Vault Space 1N 6/2/65 – 9/14/66 RLOC 03612-1096 to 1073.

Active Nuclear Service and Discharge

Cycle 3A	Core Location 56-02	12/20/66-3/29/67	RLOC 03612-1426
Cycle 3B	Core Location 56-02	4/5/67-10/4/67	RLOC 03612-1425
Cycle 4A	Core Location 54-12	10/28/67-10/5/68	RLOC 03612-1424
Cycle 4B	Core Location 55-12	10/25/68-6/14/69	RLOC 03612-1423
Cycle 5	Core Location 55-12	7/20/69-4/17/70	RLOC 03612-1422
Cycle 6	Core Location 54-14	5/9/70-6/5/71	RLOC 03612-1421

Discharged 6/20/71

Irradiated Storage

SFP Location 69-03, 9/21/71, RLOC 03612-1212.

Bundle remained in this SFP location through SFP survey map dated 5/5/72, RLOC 03612-1179.

SFP Location 65-07, 5/6/72, RLOC 03612-1178.

Bundle remained in this SFP location through SFP survey map dated 10/27/72, RLOC 03612-1170.

SFP Location 71-01, 2/16/73, RLOC 03612-1169.

Bundle remained in this SFP location through SFP survey map dated 8/3/83, RLOC 03612-1145.

SFP Location 17, 2/23/84, RLOC 03633-2897.

Bundle remained in this SFP location through SFP survey map dated 7/30/86, RLOC 03633-2938.

SFP Location 22, 7/27/87, RLOC 03633-2937.

Bundle remains in this SFP location through map dated 12/27/04.

Reconstitution/Modification Activities

The only activities related to B-14 occurred during the GE visit of November 1972. The following are the notes from these activities (Reference RLOC 03614-4156 through 4161):

FUEL CONDITION REPORT

"B-14 was installed into the elevator with intentions of breaking off the upper end plate studs at the base of the nut should the tie nut be frozen on the upper end plate. The nuts were frozen on the stud and were broken off as planned, except for rods C-7 & G-3. The nut on rod C-7 would come off and was backed off. However, the nut on rod G-3 would not back off nor would its stud break off. The rod is not secured to the lower tie plate as it rotates quite freely in the bundle. Therefore there is no tie rods holding the upper tie plate to the bundle. Several unsuccessful attempts were made to remove the upper tie plate from the bundle. After about 10 hours trying to remove the tie plate from the bundle it was decided to abort the rod retrieval from bundles B-14 and C-85."

"Plans are being made to restore bundle B-14 to its original handleable state."

Ultimately, the fuel bundle was bound by steel cable to restore the assembly to a condition where the assembly may be moved.

Status Summary

SNM:

B-14 has all of its original fuel rods – no changes to the assembly SNM quantities.

Modification:

The assembly has six upper tie rod nuts that are sheared off, and one tie rod not secured to lower tie plate.

The assembly has an added cable for preservation of the assembly integrity and to allow B-14 to be handled/moved.

January 24, 2005 Video Inspection Record

The video inspection record is found on a DVD labeled 'HBPP SFP 1/24/05'. The Chapter that is applicable to this assembly bundle is Chapter 27.

The 1/24/05 video inspection record accurately corresponds to the assembly configuration described in this record.

MODIFIED ASSEMBLY MAP

Assembly: B-14

	A	B	C	D	E	F	G
1			Tie rod upper end plate nut sheared off.				
2							
3	Tie rod upper end plate nut sheared off.						Tie rod not secured to lower tie plate.
4							
5	Tie rod upper end plate nut sheared off.						Tie rod upper end plate nut sheared off.
6							
7					Tie rod upper end plate nut sheared off.		

Assembly: B-14
Fuel Type: GE Type II P1
Date (Reference Record Location) of Fuel Receipt: 6/2/65 (RLOC 03612-1833)
Burnup (Reference Record Location): 15795.50 (RLOC 05775-2966 through 3254)
Handling Notes: SPECIAL HANDLING REQUIRED. HELD TOGETHER BY STEEL CABLE.

FUEL CONDITION REPORT

Assembly

B-29

Receipt & New Fuel (Unirradiated) Storage

Received on 6/2/65 (RLOC 03612-1833 to 1838 – B-29 info found on 03612-1835)
New Fuel Storage Vault Space 2K 6/2/65 – 8/8/66 RLOC 03612-1096 to 1077.

Active Nuclear Service and Discharge

Cycle 3A	Core Location 61-04	12/20/66-3/29/67	RLOC 03612-1426
Cycle 3B	Core Location 61-04	4/5/67-10/4/67	RLOC 03612-1425
Cycle 4A	Core Location 62-04	10/28/67-10/5/68	RLOC 03612-1424
Cycle 4B	Core Location 61-04	10/25/68-6/14/69	RLOC 03612-1423
Cycle 5	Core Location 61-04	7/20/69-4/17/70	RLOC 03612-1422
Cycle 6	Core Location 61-04	5/9/70-6/5/71	RLOC 03612-1421

Discharged 6/11/71

Irradiated Storage

SFP Location 70-06, 9/21/71, RLOC 03612-1212.

Bundle remained in this SFP location through SFP survey map dated 3/24/72, RLOC 03612-1183.

SFP Location 71-15, 5/4/72, RLOC 03612-1180.

Bundle remained in this SFP location through SFP survey map dated 2/16/73, RLOC 03612-1169.

Bundle moved from SFP Location 71-15 to SFP Location 55-01. (RLOC 03614-4126)

Bundle moved from SFP Location 55-01 to channel stripper. (RLOC 03614-4126)

Bundle moved from channel stripper to SFP Location 53-07. (RLOC 03614-4126)

SFP Location 53-07, 4/26/73, RLOC 03612-1167.

Assembly top plate map showing the six rods removed on 4/28/73. RLOC 03612-1168

Bundle remained in SFP location 53-07 through SFP survey map dated 11/13/73, RLOC 03612-1164.

SFP Location 53-13, 'Following 1/11/74 fuel movement', RLOC 03612-1163.

Bundle remained in this SFP location through SFP survey map dated 7/30/86, RLOC 03633-2938.

SFP Location 53-12, 7/27/87, RLOC 03633-2937.

Bundle remains in this SFP location through map dated 12/27/04.

FUEL CONDITION REPORT

Reconstitution/Modification Activities

The only activities related to B-29 occurred during the GE visit of April 1973. The following are the notes from these activities (Reference RLOC 03614-4113 through 4131):

A discussion of B-29 begins on RLOC 03614-4117 and describes the trepanning method to be used to extract fuel rods from Type II fuel.

On RLOC 03614-4119:

"Six rods have been removed using the above described method...."

RLOC 03614-4124 and 4125 show a map of assembly B-29, indicating the serial numbers and location of the six removed rods, and their shipping can number and shipment number. The rods that were removed are B-2, D-2, B-4, F-4, D-6, & F-6.

Status Summary

SNM:

B-29 has had six fuel rods removed.

Modification:

The upper tie plate for B-29 has been subject to trepanning.

January 24, 2005 Video Inspection Record

The video inspection record is found on a DVD labeled 'HBPP SFP 1/24/05'. The Chapter that is applicable to this assembly bundle is Chapter 06.

The 1/24/05 video inspection record accurately corresponds to the assembly configuration described in this record.

MODIFIED ASSEMBLY MAP

Assembly: B-29

	A	B	C	D	E	F	G
1							
2		Rod Removed.		Rod Removed.			
3							
4		Rod Removed.				Rod Removed.	
5							
6				Rod Removed.		Rod Removed.	

Assembly: B-29
Date (Reference Record Location) of Fuel Receipt: 6/2/65 (RLOC 03612-1833)
Fuel Type: GE Type II P1
Burnup (Reference Record Location): 19087.03 (RLOC 05775-2966 through 3254)
Handling Notes: UPPER TIE PLATE HAS BEEN SUBJECTED TO TREPPANNING.

MODIFIED ASSEMBLY MAP

7							
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FUEL CONDITION REPORT

Assembly

C-85

Receipt & New Fuel (Unirradiated) Storage

Reference RLOC 03612-2065 to 2071. C-85 SNM info found on 03612-2069.
Shipping date of 8/31/67, receipt stamp for HBPP dated 9/4/67 on frame 2071.
New Fuel Storage Vault Space 2C 9/8/67 – 9/18/67 RLOC 03612-1068 & 1067.

Active Nuclear Service and Discharge

Cycle 4A	Core Location 54-08	10/28/67-10/5/68	RLOC 03612-1424
Cycle 4B	Core Location 61-09	10/25/68-6/14/69	RLOC 03612-1423
Cycle 5	Core Location 61-09	7/20/69-4/17/70	RLOC 03612-1422
Cycle 6	Core Location 61-09	5/9/70-6/5/71	RLOC 03612-1421

Discharged 6/15/71

Irradiated Storage

SFP Location 66-01, 9/21/71, RLOC 03612-1212.
Bundle remained in this SFP location through SFP survey map dated 5/4/72, RLOC 03612-1180.
SFP Location 67-09, 5/5/72, RLOC 03612-1179.
Bundle remained in this SFP location through SFP survey map dated 11/13/73, RLOC 03612-1164.
SFP Location 67-14, "Following 1/11/74 fuel movements", otherwise undated, RLOC 03612-1163.
Bundle remained in this SFP location through SFP survey map dated 1/9/75, RLOC 03612-1159.
SFP Location 62-07, "Final Status Before refueling 6/75", otherwise undated, RLOC 03612-1158.
SFP Location 66-07, "Final Status After refueling 7/75", otherwise undated, RLOC 03612-1157.
Bundle remained in this SFP location through SFP survey map dated 7/20/84, RLOC 03633-2895.
SFP Location 67-07, 12/2/84, RLOC 03633-2898.
Bundle remained in this SFP location through SFP survey map dated 7/30/86, RLOC 03633-2938.
SFP Location 67-06, 7/27/87, RLOC 03633-2937.
Bundle remains in this SFP location through SFP survey map dated 5/12/2000.
SFP Location 67-14, 3/1/01 through SFP survey map dated 12/27/04.

FUEL CONDITION REPORT

Reconstitution/Modification Activities

Assembly C-85 was manipulated during the GE visit of November 1972. The following are the notes from these activities (Reference RLOC 03614-4156 through 4161):

"On November 15, bundle C-85 was moved into the elevator. The fingers on the lock tab washers were pushed down allowing access to the nuts on the tie rod upper end plate. Removal of nuts on tie rods G-5 and G-3 were first attempted and succeeded only in unscrewing the tie rods from the lower tie plate. It was decided to lower the upper tie plate by tightening the adjacent tie rod nuts in hopes of eliminating the possibility of the tie rod unscrewing from the lower tie plate. The nut on Rod A-3 was torqued in a clockwise direction, and after about 1 ft-lb of torque, the upper end plate stud snapped off at the base of the nut. The same thing was tried on rod C-7, with similar results. At that point, work was stopped and C-85 was removed from the elevator."

Rod retrieval for C-85 was aborted.

Status Summary

SNM:

No rods have been removed from C-85. The assembly retains its original complement of SNM.

Modification:

Two tie rods (G-3 and G-5) have unscrewed from the lower tie plate.

Two tie rods (A-3 and C-7) have sheared upper tie plate top studs.

January 24, 2005 Video Inspection Record

The video inspection record is found on a DVD labeled 'HBPP SFP 1/24/05'. The Chapter that is applicable to this assembly bundle is Chapter 19.

The 1/24/05 video inspection record accurately corresponds to the assembly configuration described in this record.

MODIFIED ASSEMBLY MAP

Assembly: C-85

	A	B	C	D	E	F	G
1							
2							
3	Top stud sheared off.						Rod unscrewed from lower tie plate.
4							
5							Rod unscrewed from lower tie plate.
6							
7			Top stud sheared off.				

Assembly: C-85
Fuel Type: GE Type II P2
Date (Reference Record Location) of Fuel Receipt: 9/4/67 (RLOC 03612-2071)
Burnup (Reference Record Location): 19107.01 (RLOC 05775-2966 through 3254)
Handling Notes:

FUEL CONDITION REPORT

Assembly

C-87

Receipt & New Fuel (Unirradiated) Storage

Reference RLOC 03612-2065 to 2071. C-87 SNM info found on 03612-2069.
Shipping date of 8/31/67, receipt stamp for HBPP dated 9/4/67 on 03612-2071.
New Fuel Storage Vault Space 3Q 9/8/67 – 9/18/67 RLOC 03612-1068 & 1067.

Active Nuclear Service and Discharge

Cycle 4A	Core Location 53-09	10/28/67-10/5/68	RLOC 03612-1424
Cycle 4B	Core Location 53-09	10/25/68-6/14/69	RLOC 03612-1423
Cycle 5	Core Location 52-06	7/20/69-4/17/70	RLOC 03612-1422
Cycle 6	Core Location 52-06	5/9/70-6/5/71	RLOC 03612-1421
Cycle 7	Core Location 51-10	8/26/71-8/25/72	RLOC 03612-1420
Cycle 8	Core Location 61-01	10/6/72-9/1/73	RLOC 03612-1419

Discharged 9/12/73.

Irradiated Storage

SFP Location 59-01, 11/13/73, RLOC 03612-1164.

Bundle was moved to channel stripper, 2 of its rods were removed, and the bundle returned to SFP 59-01, 6/20/74, RLOC 03614-4109 & 4110.

Bundle remained in this SFP location through SFP survey map dated 1/9/75, RLOC 03612-1159.

SFP Location 67-01, "Final Status Before refueling 6/75", otherwise undated, RLOC 03612-1158.

Bundle remained in this SFP location through SFP survey map dated 8/3/83, RLOC 03612-1145.

SFP Location 25, 2/23/84, RLOC 03633-2897.

Bundle remained in this SFP location through SFP survey map dated 7/30/86, RLOC 03633-2938.

SFP Location 30, 7/27/87, RLOC 03633-2937.

Bundle remains in this SFP location through map dated 12/27/04.

Reconstitution/Modification Activities

The only activities related to C-87 occurred during the GE visit of June 1974. Reference RLOC 03614-4098 through 4105. The procedure used for the rod recovery effort of June 1974 is found on RLOC 03614-4109 through 4111.

FUEL CONDITION REPORT

The following are the notes from these activities that are relevant to C-87 (RLOC 03614-4104):

"Bundle C-87 fuel rods D-2 (GK3240) and F-6 (GK 3249) removed from bundle by trepanning method and placed in shipping can #1."

The procedure for fuel movement for GE rod recovery, June 1974 states that the D-2 and F-6 rods were removed and the assembly was returned to SFP location 59-01. (RLOC 03614-4109 & 4110.)

Status Summary

SNM:

C-87 has had two of its fuel rods removed and shipped offsite.

Modification:

The upper tie plate has been subjected to trepanning.

January 24, 2005 Video Inspection Record

The video inspection record is found on a DVD labeled 'HBPP SFP 1/24/05'. The Chapter that is applicable to this assembly bundle is Chapter 26.

The 1/24/05 video inspection record accurately corresponds to the assembly configuration described in this record.

MODIFIED ASSEMBLY MAP

Assembly: C-87

	A	B	C	D	E	F	G
1							
2				Rod Removed.			
3							
4							
5							
6						Rod Removed.	
7							

Assembly: C-87
Fuel Type: GE Type II P2
Date (Reference Record Location) of Fuel Receipt: 9/4/67 (RLOC 03612-2071)
Burnup (Reference Record Location): 20196.32 (RLOC 05775-2966 through 3254)
Handling Notes: UPPER TIE PLATE HAS BEEN SUBJECTED TO TREPANNING.

FUEL CONDITION REPORT

Assembly

HD-41

Receipt & New Fuel (Unirradiated) Storage

Received on 12/23/68 (RLOC 03612-2129 to 2156 – HD-41 info found on 03612-2134)
New Fuel Storage Vault Space 2M 12/31/68 RLOC 03612-1061.

Active Nuclear Service and Discharge

Cycle 5	Core Location 58-06	7/20/69-4/17/70	RLOC 03612-1422
Cycle 6	Core Location 58-06	5/9/70-6/5/71	RLOC 03612-1421

Discharged 6/13/71.

Irradiated Storage

SFP Location 62-08, 9/21/71, RLOC 03612-1212.

Bundle remained in this SFP location through SFP survey map dated 2/29/72, RLOC 03612-1205.

Bundle shown in the channel stripper on SFP survey map dated 3/1/72, RLOC 03612-1204.

SFP Location 61-03, 3/2/72, RLOC 03612-1202.

Bundle remained in this SFP location through SFP survey map dated 3/22/72, RLOC 03612-1186.

SFP Location 63-01, 3/23/72, RLOC 03612-1184.

Bundle remained in this SFP location through SFP survey map dated 3/24/72, RLOC 03612-1183.

SFP Location 56-15, 5/4/72, RLOC 03612-1180.

Bundle remained in this SFP location through SFP survey map dated 7/20/84, RLOC 03633-2895.

SFP Location 56-14, 12/2/84, RLOC 03633-2898.

Bundle remained in this SFP location through SFP survey map dated 7/30/86, RLOC 03633-2938.

SFP Location 56-13, 7/27/87, RLOC 03633-2937.

Bundle remains in this SFP location through map dated 12/27/04.

Reconstitution/Modification Activities

HD-41 was inspected during the period 2/22 to 3/10/72. RLOC 03615-1299; 03615-1302 & 1303. The inspection notes that two rods (B-5 and D-2) have no lower end plug and one rod (D-3) has its upper end plug broken off and laying on top of the bundle (RLOC 03614-4302 to 4305).

FUEL CONDITION REPORT

Assembly was subject to reconstitution activities during the period 3/20-3/23/72. RLOC 03615-1297-1312.

A map of the final status of reconstituted assemblies is provided on RLOC 03612-1181 & 1182. The following rods are not original to assembly HD-41: A-4, C-1, & D-4.

The reconstitution procedure used for this work is documented in RLOC 03614-4242 to 4250.

Rod recovery efforts during June 1974 included removal of four rods from HD-41 for subsequent shipment offsite. Reference RLOC 03614-4098 to 4111. The following text appears in the report (RLOC 03614-4103):

"Bundle HD-41 completed. Four rods removed. Rods B-1 and E-4 placed in shipping can #1. Rods D-5 and E-3 placed in shipping can #3."

The procedure used for the rod removal is found on RLOC 03614-4109-4111. The procedure indicates that four rods – D-5, E-3, B-1, and E-4 were removed on 6/19/74.

Status Summary

SNM:

March 1972 work involving the reconstitution of HD-41 by replacement of three rods with rods from assembly HD-7 resulted in a net reduction of 29 grams U for HD-41 (RLOC 03614-4323).

The four rods removed from HD-41 during June 1974 had a curie content total of 2712 curies (RLOC 03614-4100 & 4101).

Modification:

Rods A-4, C-1, and D-4 are non-original rods that were placed in HD-41 from HD-7. Note that HD-7 was being reconstituted, thus, it is reasonable to conclude that the three rods are not sound rods.

Four rods have been removed. B-1, E-4, D-5, and E-3.

January 24, 2005 Video Inspection Record

The video inspection record is found on a DVD labeled 'HBPP SFP 1/24/05'. The Chapter that is applicable to this assembly bundle is Chapter 10.

The 1/24/05 video inspection record accurately corresponds to the assembly configuration described in this record.

MODIFIED ASSEMBLY MAP

Assembly: HD-41

	A	B	C	D	E	F
1		Rod Removed.				
2				No lower end plug.		
3				No upper end plug.	Rod Removed.	
4	Top end plug missing. Chipped cladding.				Rod Removed.	
5		No lower end plug.		Rod Removed.		
6						

Assembly: HD-41

Fuel Type: GE Type III

Date (Reference Record Location) of Fuel Receipt: 12/23/68 (RLOC 03612-2129)

Burnup (Reference Record Location): 11301.67 (RLOC 05775-2966 through 3254)

Handling Notes:

FUEL CONDITION REPORT

Assembly

HD-42

Receipt & New Fuel (Unirradiated) Storage

Received on 12/23/68 (RLOC 03612-2129 to 2156 – HD-42 info found on 03612-2134)
New Fuel Storage Vault Space 2N 12/31/68 - 4/7/69 RLOC 03612-1059 to
1061.

Active Nuclear Service and Discharge

Cycle 5	Core Location 57-09	7/20/69-4/17/70	RLOC 03612-1422
Cycle 6	Core Location 57-09	5/9/70-6/5/71	RLOC 03612-1421

Discharged 6/15/71.

Irradiated Storage

SFP Location 61-08, 9/21/71, RLOC 03612-1212.

Bundle remained in this SFP location through SFP survey map dated 3/1/72, RLOC 03612-1204.

Bundle is shown in channel stripper on SFP survey map dated 3/2/72, RLOC 03612-1202.

SFP Location 61-04, 3/4/72, RLOC 03612-1200.

Bundle remained in this SFP location through SFP survey map dated 3/22/72, RLOC 03612-1186.

SFP Location 63-02, 3/23/72, RLOC 03612-1184.

Bundle remained in this SFP location through SFP survey map dated 3/24/72, RLOC 03612-1183.

SFP Location 57-16, 5/4/72, RLOC 03612-1180.

Bundle remained in this SFP location through SFP survey map dated 7/20/84, RLOC 03633-2895.

SFP Location 58-16, 12/2/84, RLOC 03633-2898.

Bundle remained in this SFP location through SFP survey map dated 7/30/86, RLOC 03633-2938.

SFP Location 58-15, 7/27/87, RLOC 03633-2937.

Bundle remains in this SFP location through map dated 12/27/04.

Reconstitution/Modification Activities

HD-42 was inspected during the period 2/22 to 3/10/72. RLOC 03615-1299; 03615-1303. The inspection noted rod D-4 is broken at 41" and two rods, B-3 and C-2, have no lower end plugs (RLOC 03614-4279 to 4285).

FUEL CONDITION REPORT

During the reconstitution efforts of March 1972 (RLOC 03615-1297-1312), four rods were replaced on HD-42. HD-42 rods D-6, F-4, F-6, & A-1 were replaced with rod C-6 from assembly HD-16, rod F-3 from assembly HD-16, rod F-1 from assembly HD-7, and rod F-6 from assembly HD-7, respectively. (RLOC 03612-1181).

The reconstitution procedure used for this work is documented in RLOC 03614-4242 to 4250.

Status Summary

SNM:

The reconstitution activities performed in March 1972 resulted in a net change of -28 grams U (RLOC 03615-1312).

Modification:

Four of the fuel rods - D-6, F-4, F-6, & A-1 – are not the original assembly fuel rods. Rod D-4 is broken at 41" and two rods, B-3 and C-2, have no lower end plugs.

January 24, 2005 Video Inspection Record

The video inspection record is found on a DVD labeled 'HBPP SFP 1/24/05'. The Chapter that is applicable to this assembly bundle is Chapter 13.

The 1/24/05 video inspection record accurately corresponds to the assembly configuration described in this record.

MODIFIED ASSEMBLY MAP

Assembly: HD-42

	A	B	C	D	E	F
1						
2			No lower end plug.			
3		No lower end plug.				
4				Rod broken at 41".		
5						
6						

Assembly: HD-42
Fuel Type: GE Type III
Date (Reference Record Location) of Fuel Receipt: 12/23/68 (RLOC 03612-2129)
Burnup (Reference Record Location): 11283.12 (RLOC 05775-2966 through 3254)
Handling Notes: ROD D-4 IS BROKEN AT 41".

FUEL CONDITION REPORT

Assembly

HD-43

Receipt & New Fuel (Unirradiated) Storage

Received on 12/23/68 (RLOC 03612-2129 to 2156 – HD-43 info found on 03612-2134)
New Fuel Storage Vault Space 2L 12/31/68 RLOC 03612-1061.

Active Nuclear Service and Discharge

Cycle 5	Core Location 58-08	7/20/69-4/17/70	RLOC 03612-1422
Cycle 6	Core Location 59-08	5/9/70-6/5/71	RLOC 03612-1421
Cycle 7	Core Location 59-06	8/26/71-8/25/72	RLOC 03612-1420
Cycle 8	Core Location 54-03	10/6/72-9/1/73	RLOC 03612-1419

Discharged 9/12/73.

Irradiated Storage

SFP Location 58-05, 11/13/73, RLOC 03612-1164.

Bundle remained in this SFP location through SFP survey map dated 7/9/74, RLOC 03612-1162.

SFP Location 54-01, 8/15/74, RLOC 03612-1161.

SFP Location 57-11, 9/27/74, RLOC 03612-1160.

Bundle remained in this SFP location through SFP survey map dated 7/30/86, RLOC 03633-2938.

SFP Location 57-10, 7/27/87, RLOC 03633-2937.

Bundle remains in this SFP location through map dated 12/27/04.

Reconstitution/Modification Activities

Seven rods (E-4, D-5, E-5, B-2, B-3, C-2, & B-1) were removed from the assembly during GE Rod Recovery actions during August 1974. Reference RLOC 03614-4089 to 4095.

The specific procedure step for the HD-43 rod removal is found on RLOC 03614-4090.

Isotopic information for the seven removed rods is found on RLOC 03614-4093 & 4095.

The seven rods were shipped offsite.

FUEL CONDITION REPORT

Status Summary

SNM:

The SNM quantity in HD-43 has been reduced by the removal of seven of its rods. For specific SNM quantities for these seven removed rods, reference RLOC 03614-4093 & 4095.

Modification:

Removal of seven of the assembly's rods.

January 24, 2005 Video Inspection Record

The video inspection record is found on a DVD labeled 'HBPP SFP 1/24/05'. The Chapter that is applicable to this assembly bundle is Chapter 12.

The 1/24/05 video inspection record accurately corresponds to the assembly configuration described in this record.

MODIFIED ASSEMBLY MAP

Assembly: HD-43

	A	B	C	D	E	F
1		Rod Removed.				
2		Rod Removed.	Rod Removed.			
3		Rod Removed.				
4					Rod Removed.	
5				Rod Removed.	Rod Removed.	
6						

Assembly: HD-43

Fuel Type: GE Type III

Date (Reference Record Location) of Fuel Receipt: 12/23/68 (RLOC 03612-2129)

Burnup (Reference Record Location): 20633.04 (RLOC 05775-2966 through 3254)

Handling Notes:

FUEL CONDITION REPORT

Assembly

HD-44

Receipt & New Fuel (Unirradiated) Storage

Received on 12/23/68 (RLOC 03612-2129 to 2156 – HD-44 info found on 03612-2134)
New Fuel Storage Vault Space 2K 12/31/68 RLOC 03612-1061.

Active Nuclear Service and Discharge

Cycle 5	Core Location 55-07	7/20/69-4/17/70	RLOC 03612-1422
Cycle 6	Core Location 54-07	5/9/70-6/5/71	RLOC 03612-1421

Discharged 6/19/71.

Irradiated Storage

SFP Location 62-07, 9/21/71, RLOC 03612-1212.

Bundle remained in this SFP location through SFP survey map dated 3/2/72, RLOC 03612-1202.

Bundle shown in the channel stripper on SFP survey map dated 3/4/72, RLOC 03612-1200.

SFP Location 61-05, 3/6/72, RLOC 03612-1199.

Bundle remained in this SFP location through SFP survey map dated 3/22/72, RLOC 03612-1186.

SFP Location 63-03, 3/23/72, RLOC 03612-1184.

Bundle remained in this SFP location through SFP survey map dated 3/24/72, RLOC 03612-1183.

SFP Location 56-16, 5/4/72, RLOC 03612-1180.

Bundle remained in this SFP location through SFP survey map dated 7/9/74, RLOC 03612-1162.

Fuel Movement for GE Rod Recovery, June 1974 procedure (RLOC 03614-4109 to 4111) calls for transfer of HD-44 from SFP 56-16 to SFP 62-02. This move is noted as completed 6/17/74.

SFP Location 62-02, 8/15/74, RLOC 03612-1161.

SFP Location 56-16, 9/27/74, RLOC 03612-1160.

Bundle remained in this SFP location through SFP survey map dated 7/30/86, RLOC 03633-2938.

SFP Location 56-15, 7/27/87, RLOC 03633-2937.

Bundle remains in this SFP location through map dated 12/27/04.

Reconstitution/Modification Activities

FUEL CONDITION REPORT

HD-44 was inspected during the period 2/22 to 3/10/72. RLOC 03615-1299; 03615-1303 & 1304. The inspection notes that rods D-5 and E-4 do not have lower end plugs (RLOC 03614-4287 to 4291).

During the reconstitution efforts of March 1972, rod E-2 was replaced by rod B-5 from assembly HD-16 (RLOC 03612-1181).

The reconstitution procedure used for this work is documented in RLOC 03614-4242 to 4250.

The GE Rod Recovery work during June 1974 resulted in the removal of two fuel rods from HD-44. RLOC 03614-4098 to 4111. The following notation is provided on RLOC 03614-4104:

"Bundle HD-44 disassembled, 6 rods checked by NDT (eddy current/ultrasonic) 2 rods failed, 2 questionable and 2 rods sound. Fuel rods E-3 (AT0001) and B-4 (AT0004) placed in shipping can #1 for return to VNC."

Curie content for the two removed rods is provided on RLOC 03614-4102.

GE Rod Recovery activities in August 1974 included removal of rod C-3 from assembly HD-44. RLOC 03614-4089 to 4095. The procedure step citing the removal of rod C-3 from HD-44 is found on RLOC 03614-4090. Isotopics for the removed rod is found on RLOC 03614-4095.

Status Summary

SNM:

The exchange of rod E-2 with rod B-5 from assembly HD-16 resulted in a net gain of 24 grams U. RLOC 03615-1311 & 1312.

The removal of rods E-3 and B-4 during June 1974 resulted in reduction of assembly curie content of 1253 curies.

The removal of rod C-3 resulted in a decrease in assembly SNM. Reference RLOC 03614-4094 for curie content and RLOC 03614-4095 for isotopic content of the removed rod.

FUEL CONDITION REPORT

Modification:

Three rods removed.

Rods D-5 and E-4 have no lower end plug.

January 24, 2005 Video Inspection Record

The video inspection record is found on a DVD labeled 'HBPP SFP 1/24/05'. The Chapter that is applicable to this assembly bundle is Chapter 11.

The 1/24/05 video inspection record accurately corresponds to the assembly configuration described in this record.

MODIFIED ASSEMBLY MAP

Assembly: HD-44

	A	B	C	D	E	F
1						
2						
3			Rod Removed.		Rod Removed.	
4		Rod Removed.			No lower end plug.	
5				No lower end plug.		
6						

<p>Assembly: HD-44</p> <p>Fuel Type: GE Type III</p> <p>Date (Reference Record Location) of Fuel Receipt: 12/23/68 (RLOC 03612-2129)</p> <p>Burnup (Reference Record Location): 11600.81 (RLOC 05775-2966 through 3254)</p> <p>Handling Notes:</p>
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FUEL CONDITION REPORT

Assembly

HD-45

Receipt & New Fuel (Unirradiated) Storage

Received on 12/23/68 (RLOC 03612-2129 to 2156 – HD-45 info found on 03612-2134)
New Fuel Storage Vault Space 2J 12/31/68 RLOC 03612-1061.

Active Nuclear Service and Discharge

Cycle 5	Core Location 60-08	7/20/69-4/17/70	RLOC 03612-1422
Cycle 6	Core Location 61-08	5/9/70-6/5/71	RLOC 03612-1421

Discharged 6/10/71.

Irradiated Storage

SFP Location 63-07, 9/21/71, RLOC 03612-1212.

Bundle remained in this SFP location through SFP survey map dated 3/4/72, RLOC 03612-1200.

Bundle shown in the channel stripper on SFP survey map dated 3/6/72, RLOC 03612-1199.

SFP Location 62-01, 3/7/72, RLOC 03612-1197.

Bundle remained in this SFP location through SFP survey map dated 3/11/72, RLOC 03612-1193.

Bundle shown in the channel stripper on SFP survey map dated 3/14/72, RLOC 03612-1192.

SFP Location 62-01, 3/15/72, RLOC 03612-1191.

Bundle remained in this SFP location through SFP survey map dated 3/22/72, RLOC 03612-1186.

Bundle shown in the channel stripper on SFP survey map dated 3/23/72, RLOC 03612-1184.

SFP Location 63-04, 3/24/72, RLOC 03612-1183.

SFP Location 55-15, 5/4/72, RLOC 03612-1180.

Bundle remained in this SFP location through SFP survey map dated 7/9/74, RLOC 03612-1162.

SFP Location 62-01, 8/15/74, RLOC 03612-1161.

SFP Location 55-15, 9/27/74, RLOC 03612-1160.

Bundle remained in this SFP location through SFP survey map dated 7/20/84, RLOC 03633-2895.

SFP Location 54-14, 12/2/84, RLOC 03633-2898.

Bundle remained in this SFP location through SFP survey map dated 7/30/86, RLOC 03633-2938.

SFP Location 54-13, 7/27/87, RLOC 03633-2937.

FUEL CONDITION REPORT

Bundle remains in this SFP location through map dated 12/27/04.

Reconstitution/Modification Activities

A summary report for fuel work activities during the period of 11/30 through 12/3/71 is provided in RLOC 03622-1108 to 1112. An informal report for the same activities may be found at RLOC 03622-1113 to 1118.

The reports list the six rods removed from HD-45 (rods B-2, B-3, C-2, C-4, D-3, & D-4) and their serial numbers, and isotope weights. The reports also note a sheared tie rod nut on rod C-6 and a clad defect on rod B-2 (note that B-2 was shipped offsite).

HD-45 was inspected during the period 2/22 to 3/10/72. RLOC 03615-1299; 03615-1304 & 1305. The inspection notes that rod C-6 has its existing sheared upper end plug and the six previously removed rods were noted (RLOC 03614-4292 to 4295).

Assembly HD-45 was subject to reconstitution activities during the period 3/20-3/23/72. RLOC 03615-1297-1312. During the reconstitution efforts of March 1972, rod A-3 of HD-45 was replaced by rod F-4 from assembly HD-16 (RLOC 03612-1182). The reconstitution procedure used for this work is documented in RLOC 03614-4242 to 4250.

A map of the final status of reconstituted assemblies is provided on RLOC 03612-1181 & 1182. The following rod is not original to assembly HD-45: A-3.

During the fuel rod removal effort of March 14 and 15, 1972, ten rods were removed from HD-45 (rods D-2, D-5, C-5, E-2, E-3, B-4, E-5, E-4, F-3, & D-1). Reference RLOC 00121-3815 to 3819. Hand notes related to the activities are found on RLOC 03614-4181 & 4182. The references have a listing of the isotopic weights for each of the removed rods.

GE Rod Recovery activities in August 1974 included removal of rod C-3 from assembly HD-45. RLOC 03614-4089 to 4095. The specific procedure step for the rod C-3 removal is found on RLOC 03614-4090. The report includes isotopic information for the removed rod (RLOC 03614-4095).

Status Summary

SNM:

A total of seventeen (17) of the assembly rods have been removed and shipped offsite.

Rod A-3 has been replaced by rod F-4 from assembly HD-16. The net change in SNM is -1 gram U (RLOC 03614-4322).

Modification:

FUEL CONDITION REPORT

Seventeen rods removed.
Sheared tie rod nut on rod C-6.

January 24, 2005 Video Inspection Record

The video inspection record is found on a DVD labeled 'HBPP SFP 1/24/05'. The Chapter that is applicable to this assembly bundle is Chapter 07.

The 1/24/05 video inspection record accurately corresponds to the assembly configuration described in this record.

MODIFIED ASSEMBLY MAP

Assembly: HD-45

	A	B	C	D	E	F
1				Rod Removed.		
2		Rod Removed.	Rod Removed.	Rod Removed.	Rod Removed.	
3		Rod Removed.	Rod Removed.	Rod Removed.	Rod Removed.	Rod Removed.
4		Rod Removed.	Rod Removed.	Rod Removed.	Rod Removed.	
5			Rod Removed.	Rod Removed.	Rod Removed.	
6			Sheared top end plug stud. Rod could not be seated in bottom tie plate. Rod extended.			

Assembly: HD-45

Fuel Type: GE Type III

Date (Reference Record Location) of Fuel Receipt: 12/23/68 (RLOC 03612-2129)

Burnup (Reference Record Location): 11641.05 (RLOC 05775-2966 through 3254)

Handling Notes:

FUEL CONDITION REPORT

Assembly

HD-46

Receipt & New Fuel (Unirradiated) Storage

Received on 12/23/68 (RLOC 03612-2129 to 2156 – HD-46 info found on 03612-2134)
New Fuel Storage Vault Space 2H 12/31/68 RLOC 03612-1061.

Active Nuclear Service and Discharge

Cycle 5	Core Location 60-06	7/20/69-4/17/70	RLOC 03612-1422
Cycle 6	Core Location 60-06	5/9/70-6/5/71	RLOC 03612-1421
Cycle 7	Core Location 56-09	8/26/71-8/25/72	RLOC 03612-1420
Cycle 8	Core Location 61-12	10/6/72-9/1/73	RLOC 03612-1419

Discharged 9/14/73.

Irradiated Storage

SFP Location 56-04, 11/13/73, RLOC 03612-1164.

Bundle remained in this SFP location through SFP survey map "Following January 11, 1974 Fuel movements", RLOC 03612-1163.

SFP Location 62-09, 7/9/74, RLOC 03612-1162.

Bundle remained in this SFP location through SFP survey map dated 8/15/74, RLOC 03612-1161.

SFP Location 64-09, 9/27/74, RLOC 03612-1160.

Bundle remained in this SFP location through SFP survey map dated 7/20/84, RLOC 03633-2895.

SFP Location 71-02, 12/2/84, RLOC 03633-2898.

Bundle remained in this SFP location through SFP survey map dated 7/30/86, RLOC 03633-2938.

SFP Location 71-01, 7/27/87, RLOC 03633-2937.

Bundle remains in this SFP location through map dated 12/27/04.

Reconstitution/Modification Activities

The GE Rod Recovery work during June 1974 is documented in RLOC 03614-4098 to 4111. The following notation is provided on RLOC 03614-4104:

"Bundle HD-46 Trouble! All tie rod nuts removed and nuts broken off. Tie plate could not be removed. Bundle was sling with stainless steel cables similar to Bundle B-14. Bundle was removed to pool storage."

FUEL CONDITION REPORT

The procedure for the fuel work (RLOC 03614-4110) has the following handwritten note on the procedure step for bundle HD-46:

Rods removed: "None. 7 bundle tie rod nuts broken off – 1 screwed off. Bundle slung with SS cables to hold it together."

Status Summary

SNM:

No change to assembly SNM quantities.

Modification:

7 bundle tie rod nuts broken off.

1 tie rod nut screwed off.

Bundle slung with SS cables to hold it together.

January 24, 2005 Video Inspection Record

The video inspection record is found on a DVD labeled 'HBPP SFP 1/24/05'. The Chapter that is applicable to this assembly bundle is Chapter 25.

The 1/24/05 video inspection record accurately corresponds to the assembly configuration described in this record.

MODIFIED ASSEMBLY MAP

Assembly: HD-46

	A	B	C	D	E	F
1			Tie rod nut removed. Only one of eight studs intact.	Tie rod nut removed. Only one of eight studs intact.		
2						
3	Tie rod nut removed. Only one of eight studs intact.					Tie rod nut removed. Only one of eight studs intact.
4	Tie rod nut removed. Only one of eight studs intact.					Tie rod nut removed. Only one of eight studs intact.
5						
6			Tie rod nut removed. Only one of eight studs intact.	Tie rod nut removed. Only one of eight studs intact.		

Assembly: HD-46
Fuel Type: GE Type III
Date (Reference Record Location) of Fuel Receipt: 12/23/68 (RLOC 03612-2129)
Burnup (Reference Record Location): 20853.56 (RLOC 05775-2966 through 3254)
Handling Notes: SPECIAL HANDLING REQUIRED. HELD TOGETHER BY STEEL CABLE.

FUEL CONDITION REPORT

Assembly

HD-47

Receipt & New Fuel (Unirradiated) Storage

Received on 12/23/68 (RLOC 03612-2129 to 2156 – HD-47 info found on 03612-2134)
New Fuel Storage Vault Space 2G 12/31/68 RLOC 03612-1061.

Active Nuclear Service and Discharge

Cycle 5	Core Location 51-05	7/20/69-4/17/70	RLOC 03612-1422
Cycle 6	Core Location 53-05	5/9/70-6/5/71	RLOC 03612-1421
Cycle 7	Core Location 60-01	8/26/71-8/25/72	RLOC 03612-1420
Cycle 8	Core Location 56-08	10/6/72-9/1/73	RLOC 03612-1419

Discharged 9/5/73.

Irradiated Storage

SFP Location 64-06, 11/13/73, RLOC 03612-1164.

SFP Location 64-16, "Following January 11, 1974 Fuel movements.", RLOC 03612-1163.

SFP Location 64-01, 7/9/74, RLOC 03612-1162.

Bundle remained in this SFP location through SFP survey map dated 8/15/74, RLOC 03612-1161.

SFP Location 64-16, 9/27/74, RLOC 03612-1160.

Bundle remained in this SFP location through SFP survey map dated 8/14/75, RLOC 03612-1156.

SFP Location 70-08, 8/12/76, RLOC 03612-1154.

Bundle remained in this SFP location through SFP survey map dated 7/30/86, RLOC 03633-2938.

SFP Location 70-07, 7/27/87, RLOC 03633-2937. NOTE: Assembly is mislabeled as XD-47 on survey maps dated 7/27/87, 7/18/88, and 7/13/89.

Bundle remained in this SFP location through SFP survey map dated 5/12/00.

SFP Location 71-14, 3/1/01.

Bundle remains in this SFP location through map dated 12/27/04.

Reconstitution/Modification Activities

The GE Rod Recovery work during June 1974 is documented in RLOC 03614-4098 to 4111. The following notation is provided on RLOC 03614-4105:

FUEL CONDITION REPORT

"Please leave HD-47 in elevator. Could not remove tie plate. We are going to try trepanning this bundle this afternoon."

The procedure for the fuel work (RLOC 03614-4109 through 4111) has the following handwritten note on the procedure step for bundle HD-46 (RLOC 03614-4110):

Rods removed: "None – tie plate stuck on tie rods"

GE Rod Recovery activities in August 1974 included removal of rod E-5 from assembly HD-47. RLOC 03614-4089 to 4095. The specific procedure step for the removal of rod E-5 is found on RLOC 03614-4091. The isotopic information for the removed rod is found on RLOC 03614-4093.

Status Summary

SNM:

The SNM quantity in HD-47 has been reduced by the removal of one (E-5) of its rods. For specific SNM quantities for this removed rod, reference RLOC 03614-4093.

Modification:

The top tie plate is stuck on the tie rods.

No additional evidence was found regarding the trepanning alluded to on RLOC 03614-4105.

January 24, 2005 Video Inspection Record

The video inspection record is found on a DVD labeled 'HBPP SFP 1/24/05'. The Chapter that is applicable to this assembly bundle is Chapter 23.

The 1/24/05 video inspection record accurately corresponds to the assembly configuration described in this record.

MODIFIED ASSEMBLY MAP

Assembly: HD-47

	A	B	C	D	E	F
1						
2						
3						
4						
5					Rod Removed.	
6						

Assembly: HD-47

Fuel Type: GE Type III

Date (Reference Record Location) of Fuel Receipt: 12/23/68 (RLOC 03612-2129)

Burnup (Reference Record Location): 16099.19 (RLOC 05775-2966 through 3254)

Handling Notes:

FUEL CONDITION REPORT

Assembly

HD-48

Receipt & New Fuel (Unirradiated) Storage

Received on 12/23/68 (RLOC 03612-2129 to 2156 – HD-48 info found on 03612-2134)
New Fuel Storage Vault Space 2F 12/31/68 RLOC 03612-1061.

Active Nuclear Service and Discharge

Cycle 5	Core Location 57-07	7/20/69-4/17/70	RLOC 03612-1422
Cycle 6	Core Location 56-07	5/9/70-6/5/71	RLOC 03612-1421

Discharged 6/10/71.

Irradiated Storage

SFP Location 61-09, 9/21/71, RLOC 03612-1212.
Bundle remained in this SFP location through SFP survey map dated 3/6/72, RLOC 03612-1199.
SFP Location 62-02, 3/7/72, RLOC 03612-1197.
Bundle remained in this SFP location through SFP survey map dated 3/23/72, RLOC 03612-1184.
SFP Location 63-05, 3/24/72, RLOC 03612-1183.
SFP Location 54-15, 5/4/72, RLOC 03612-1180.
Bundle remained in this SFP location through SFP survey map dated 10/27/72, RLOC 03612-1170.
SFP Location 55-10, 2/16/73, RLOC 03612-1169.
Bundle remained in this SFP location through SFP survey map dated 11/13/73, RLOC 03612-1164.
SFP Location 52-15, "Following January 11, 1974 Fuel movements.", RLOC 03612-1163.
Bundle remained in this SFP location through SFP survey map dated 7/20/84, RLOC 03633-2895.
SFP Location 52-14, 12/2/84, RLOC 03633-2898.
Bundle remained in this SFP location through SFP survey map dated 7/30/86, RLOC 03633-2938.
SFP Location 52-13, 7/27/87, RLOC 03633-2937.
Bundle remains in this SFP location through map dated 12/27/04.

Reconstitution/Modification Activities

FUEL CONDITION REPORT

A summary report for fuel work activities during the period of 11/30 through 12/3/71 is provided in RLOC 03622-1108 to 1112. An informal report for the same activities may be found at RLOC 03622-1113 to 1118.

The reports list the five rods removed from HD-48 (rods A-2, B-2, C-4, D-1, & D-3) and their serial numbers, and isotope weights. The reports also notes that A-3 has a frozen nut on the upper end plug stud and the A-3 rod is not fully seated in the bottom tie plate.

HD-48 was inspected during the period 2/22 to 3/10/72. RLOC 03615-1299; 03615-1305 & 1306; RLOC 03614-4296 to 4301. The inspection notes that rod A-3 has its upper tie plate nut frozen on upper end plug, and rod A-6 has no lower end plug. Also, the five previously removed rods were noted on the inspection documentation.

GE Rod Recovery actions during November 1972 are documented in RLOC 03614-4156 through 4161. A total of five rods (E-2, B-5, F-6, E-6 & F-3) were removed from the assembly. Report notes related to HD-48 appear on RLOC 03614-4158:

"Bundle HD-48 was moved into the elevator and the bundle was quickly disassembled. (this bundle had been disassembled earlier in November of 71) Rods E-2 and B-5 were placed into Treet-2 liner #1 and rods F-6, E-6 and F-3 were placed into liner #2. Bundle HD-48 was reassembled and put back into storage."

Status Summary

SNM:

The SNM quantity in HD-48 has been reduced by the removal of ten of its rods.

Modification:

Rod A-3 has its upper tie plate nut frozen.

Rod A-3 is not fully resealed in the bottom tie plate.

Rod A-6 has no lower end plug.

January 24, 2005 Video Inspection Record

The video inspection record is found on a DVD labeled 'HBPP SFP 1/24/05'. The Chapter that is applicable to this assembly bundle is Chapter 03.

The 1/24/05 video inspection record accurately corresponds to the assembly configuration described in this record.

MODIFIED ASSEMBLY MAP

Assembly: HD-48

	A	B	C	D	E	F
1				Rod Removed.		
2	Rod Removed.	Rod Removed.			Rod Removed.	
3	Frozen tie plate nut. Rod not reseated in bottom tie plate.			Rod Removed.		Rod Removed.
4			Rod Removed.			
5		Rod Removed.				
6	No lower end plug.				Rod Removed.	Rod Removed.

Assembly: HD-48
Fuel Type: GE Type III
Date (Reference Record Location) of Fuel Receipt: 12/23/68 (RLOC 03612-2129)
Burnup (Reference Record Location): 11275.46 (RLOC 05775-2966 through 3254)
Handling Notes:

FUEL CONDITION REPORT

Assembly

HE-06

Receipt & New Fuel (Unirradiated) Storage

Received on 3/4/70 (RLOC 03612-2162 to 2173 – HE-06 info found on 03612-2167 & 2171)

New Fuel Storage Vault Space 4B 3/4/70 through 3/19/70 RLOC 03612-1055 to 1057.

Active Nuclear Service and Discharge

Cycle 6 Core Location 60-11 5/9/70-6/5/71 RLOC 03612-1421

Discharged 6/30/71.

Irradiated Storage

SFP Location 62-05, 9/21/71, RLOC 03612-1212.

Bundle remained in this SFP location through SFP survey map dated 2/28/72, RLOC 03612-1206.

Bundle is shown in channel stripper on SFP survey map dated 2/29/72, RLOC 03612-1205.

SFP Location 60-03, 3/1/72, RLOC 03612-1204.

Bundle remained in this SFP location through SFP survey map dated 3/15/72, RLOC 03612-1191.

Bundle is shown in channel stripper on SFP survey map dated 3/20/72, RLOC 03612-1190.

SFP Location 60-03, 3/21/72, RLOC 03612-1188.

Bundle remained in this SFP location through SFP survey map dated 3/24/72, RLOC 03612-1183.

SFP Location 54-16, 5/4/72, RLOC 03612-1180.

Bundle remained in this SFP location through SFP survey map dated 2/16/73 RLOC 03612-1169.

SFP Location 53-09, 4/26/73, RLOC 03612-1167.

Bundle remained in this SFP location through SFP survey map dated 11/13/73, RLOC 03612-1164.

SFP Location 53-15, "Following January 11, 1974 Fuel movements.", RLOC 03612-1163.

Bundle remained in this SFP location through SFP survey map dated 7/20/84, RLOC 03633-2895.

SFP Location 52-15, 12/2/84, RLOC 03633-2898.

FUEL CONDITION REPORT

Bundle remained in this SFP location through SFP survey map dated 7/30/86, RLOC 03633-2938.

SFP Location 52-14, 7/27/87, RLOC 03633-2937.

Bundle remains in this SFP location through map dated 12/27/04.

Reconstitution/Modification Activities

HE-06 was inspected during the period 2/22 to 3/10/72. RLOC 03615-1299; 03615-1302; RLOC 03614-4272 to 4275. The inspection notes that rod E-2 was dropped after completion of its NDT and rod D-6 failed its UT NDT.

Assembly was subject to reconstitution activities during the period 3/20-3/22/72. RLOC 03615-1297-1312.

A map of the final status of reconstituted assemblies is provided on RLOC 03612-1181 & 1182. HE-06 has its full complement of original fuel rods.

The following text appears on RLOC 03615-1301:

"There existed a potential for five reconstituted assemblies. However, due to the inability to remove the D-6 tie rod in bundle HE-6, only four bundles were reconstituted. The D-6 tie rod had been removed twice previously for NDT and visual inspection with no apparent problems. It is the consensus that due to the excessive crud present during rod movement and rod cleaning, possibly some hard crud or metallic foreign material lodged in the bottom tie plate. The final attempt to remove the rod with a keyed socket to fit over the end plug resulted in shearing the bottom end plug."

During the GE visit of April 1973 (Reference RLOC 03614-4113 through 4131) the HE-06 bundle was manipulated and rods removed. The report contains the following discussion concerning HE-06 (RLOC 03614-4116):

"...and bundle HE-6 installed. Bundle HE-6 had been previously disassembled in 1971, and no disassembly problems were encountered. The desired rods were removed and stored in the proper shipping containers. Two (2) dummy tie rods were also installed in this bundle at locations C-6 and F-3 [sic - should be F-4]. This bundle is held together by six (6) rods at location C-1, D-1, F-3, C-6, A-4 and A-3. (see attached matrix sheet) Bundle HE-6 was swapped for bundle HE-23."

Note that the matrix for HE-6 shows the rod serial numbers for the eleven rods removed and is found on RLOC 03614-4122. The eleven rod locations are B-1, A-2, C-4, D-4, B-5, F-3, F-4, D-3, C-2, B-3, & C-6.

Status Summary

FUEL CONDITION REPORT

SNM:

The SNM quantity in HE-06 has been reduced by the removal of eleven of its rods.

Modification:

Rods C-6 and F-4 are dummy tie rods.

Rod D-6 has a sheared bottom end plug and notes indicate rod is failed.

Rod E-2 has been dropped by over 2 inches.

January 24, 2005 Video Inspection Record

The video inspection record is found on a DVD labeled 'HBPP SFP 1/24/05'. The Chapter that is applicable to this assembly bundle is Chapter 04.

The 1/24/05 video inspection record accurately corresponds to the assembly configuration described in this record.

MODIFIED ASSEMBLY MAP

Assembly: HE-06

	A	B	C	D	E	F
1		Rod Removed.				
2	Rod Removed.		Rod Removed.		Rod dropped >2 inches.	
3		Rod Removed.		Rod Removed.		Rod Removed.
4			Rod Removed.	Rod Removed.		Dummy tie rod.
5		Rod Removed.				
6			Dummy tie rod.	Sheared bottom end plug. Notes indicate rod is failed.		

Assembly: HE-06
Fuel Type: GE Type III
Date (Reference Record Location) of Fuel Receipt: 3/4/70 (RLOC 03612-2162)
Burnup (Reference Record Location): 6119.33 (RLOC 05775-2966 through 3254)
Handling Notes:

FUEL CONDITION REPORT

Assembly

HE-23

Receipt & New Fuel (Unirradiated) Storage

Received on 3/16/70 (RLOC 03612-2174 to 2186 – HE-23 info found on 03612-2178)
New Fuel Storage Vault Space 4P 3/17/70 to 3/26/70 RLOC 03612-1054 to
1056.
SFP Location 67-04, 3/28/70 through 4/10/70, RLOC 03612-1317 & 1318.

Active Nuclear Service and Discharge

Cycle 6	Core Location 53-06	5/9/70-6/5/71	RLOC 03612-1421
Cycle 7	Core Location 53-05	8/26/71-8/25/72	RLOC 03612-1420

Discharged 9/2/72.

Irradiated Storage

SFP Location 54-08, 10/27/72, RLOC 03612-1170.
Bundle remained in this SFP location through SFP survey map dated 2/16/73, RLOC
03612-1169.
SFP Location 53-08, 4/26/73, RLOC 03612-1167.
Bundle remained in this SFP location through SFP survey map dated 11/13/73, RLOC
03612-1164.
SFP Location 52-16, "Following January 11, 1974 Fuel movements.", RLOC 03612-
1163.
Bundle remained in this SFP location through SFP survey map dated 7/30/86, RLOC
03633-2938.
SFP Location 52-15, 7/27/87, RLOC 03633-2937.
Bundle remains in this SFP location through map dated 12/27/04.

Reconstitution/Modification Activities

During the GE visit of April 1973 (Reference RLOC 03614-4113 through 4131) the HE-
23 bundle was manipulated and rods removed. The report contains the following
discussion concerning HE-23 (RLOC 03614-4117):

"...was swapped for bundle HE-23. No disassembly problems were encountered during
the disassembly of bundle HE-23. However, the six (6) rods under the blind holes in the
upper tie plate were again stuck in the tie plate. The method described for removing
rods from bundle HE-43 was again used for removing two (2) of the five (5) contiguous
rods listed. (see attached matrix sheet) Bundle HE-23 was reassembled as is and
swapped for bundle B-29."

FUEL CONDITION REPORT

Note that the matrix for HE-23 is found on RLOC 03614-4123, and shows rods B-3 and C-2 (with their respective serial numbers) as removed and indicates rods A-1, F-1, E-2, B-5, and F-6 as stuck in upper tie plate.

Status Summary

SNM:

The SNM quantity in HE-23 has been reduced by the removal of two of its rods, B-3 and C-2.

Modification:

Rods A-1, F-1, E-2, B-5, and F-6 are stuck in upper tie plate.

January 24, 2005 Video Inspection Record

The video inspection record is found on a DVD labeled 'HBPP SFP 1/24/05'. The Chapter that is applicable to this assembly bundle is Chapter 05.

The 1/24/05 video inspection record accurately corresponds to the assembly configuration described in this record.

MODIFIED ASSEMBLY MAP

Assembly: HE-23

	A	B	C	D	E	F
1						
2			Rod Removed.			
3		Rod Removed.				
4						
5						
6						

Assembly: HE-23

Fuel Type: GE Type III

Date (Reference Record Location) of Fuel Receipt: 3/16/70 (RLOC 03612-2174)

Burnup (Reference Record Location): 11149.29 (RLOC 05775-2966 through 3254)

Handling Notes:

FUEL CONDITION REPORT

Assembly

HE-36

Receipt & New Fuel (Unirradiated) Storage

Received on 3/16/70 (RLOC 03612-2174 to 2186 – HE-36 info found on 03612-2177)
New Fuel Storage Vault Space 2M 3/17/70 to 4/20/70 RLOC 03612-1047 to
1056.

Active Nuclear Service and Discharge

Cycle 6	Core Location 54-08	5/9/70-6/5/71	RLOC 03612-1421
Cycle 7	Core Location 55-10	8/26/71-8/25/72	RLOC 03612-1420
Cycle 8	Core Location 60-06	10/6/72-9/1/73	RLOC 03612-1419
Cycle 9	Core Location 56-14	10/2/73-10/30/74	RLOC 03612-1418

Discharged 11/13/74.

Irradiated Storage

SFP Location 55-07, 1/9/75, RLOC 03612-1159.

SFP Location 60-10, 6/75, RLOC 03612-1158.

Bundle remained in this SFP location through SFP survey map dated 8/3/83, RLOC
03612-1145.

SFP Location 6, 2/23/84, RLOC 03633-2897.

Bundle remained in this SFP location through SFP survey map dated 7/30/86, RLOC
03633-2938.

SFP Location 55-16, 7/27/87, RLOC 03633-2937.

Bundle remains in this SFP location through map dated 12/27/04.

Reconstitution/Modification Activities

Modification to unirradiated assembly HE-36:

GE indicated a desire to install removable rod bundles for their testing of high
performance fuel rods and control rod surveillance rods. The description of the testing is
provided in a letter dated March 3, 1970, reference RLOC 00145-3488 through 3490.

The results of installation of the test rods is documented in a letter dated May 21, 1970,
reference RLOC 03622-0635 & 0636. This letter provides serial numbers and isotopic
data for the thirteen rods that were removed to accommodate the control rod
surveillance rods and the four high performance rods.

FUEL CONDITION REPORT

The thirteen rods were never irradiated. The rods were shipped from HBPP to GE in September 1982. Reference RLOC 03622-3605 through 3629.

For HE-36, two unirradiated fuel rods were removed (B-2 & E-5) and replaced with boron carbide absorber rods.

Modification to irradiated assembly HE-36:

In 1981, GE retrieved some of these boron surveillance rods. The GE visit and activities are documented by a HBPP plant temporary procedure that includes signatures of individuals performing the procedure (RLOC 03622-3403 through 3407), a GE procedure on HBPP segmented surveillance rod removal (RLOC 03622-3452 through 3456), a GE memo to PG&E describing the operation (RLOC 03622-3457 through 3459), and handwritten notes indicating when steps of the HBPP procedure were accomplished (RLOC 03622-3439).

The following major activities were performed.

HE-36: One B4C surveillance rod removed from location E-5.

Status Summary

SNM:

The SNM quantity in HE-36 has been reduced by the removal of two of its rods. For specific SNM quantities for these two removed rods, reference RLOC 03622-0635 & 0636.

Modification:

Installation of two boron surveillance rods at locations B-2 and E-5. The rod at E-5 has since been removed and returned to GE.

January 24, 2005 Video Inspection Record

The video inspection record is found on a DVD labeled 'HBPP SFP 1/24/05'. The Chapter that is applicable to this assembly bundle is Chapter 09.

The 1/24/05 video inspection record accurately corresponds to the assembly configuration described in this record.

MODIFIED ASSEMBLY MAP

Assembly: HE-36

	A	B	C	D	E	F
1						
2		B4C Rod.				
3						
4						
5					Rod Removed.	
6						

Assembly: HE-36
Fuel Type: GE Type III
Date (Reference Record Location) of Fuel Receipt: 3/16/70 (RLOC 03612-2174)
Burnup (Reference Record Location): 19798.35 (RLOC 05775-2966 through 3254)
Handling Notes:

FUEL CONDITION REPORT

Assembly

HE-37

Receipt & New Fuel (Unirradiated) Storage

Received on 3/16/70 (RLOC 03612-2174 to 2186 – HE-37 info found on 03612-2177)

New Fuel Storage Vault Space 2J 3/17/70 to 4/9/70 RLOC 03612-1050 to 1056.

New Fuel Storage Vault Space 3J 4/13/70 RLOC 03612-1049.

New Fuel Storage Vault Space 2J 4/16/70 to 4/20/70 RLOC 03612-1047 & 1048.

Active Nuclear Service and Discharge

Cycle 6	Core Location 58-11	5/9/70-6/5/71	RLOC 03612-1421
Cycle 7	Core Location 60-10	8/26/71-8/25/72	RLOC 03612-1420
Cycle 8	Core Location 56-05	10/6/72-9/1/73	RLOC 03612-1419
Cycle 9	Core Location 64-09	10/2/73-10/30/74	RLOC 03612-1418

Discharged 11/7/74.

Irradiated Storage

SFP Location 55-06, 1/9/75, RLOC 03612-1159.

SFP Location 66-04, 6/75, RLOC 03612-1158.

Bundle remained in this SFP location through SFP survey map dated 8/3/83, RLOC 03612-1145.

SFP Location 66-14, 2/23/84, RLOC 03633-2897.

Bundle remained in this SFP location through SFP survey map dated 7/20/84, RLOC 03633-2895.

SFP Location 67-02, 12/2/84, RLOC 03633-2898.

Bundle remained in this SFP location through SFP survey map dated 7/30/86, RLOC 03633-2938.

SFP Location 67-01, 7/27/87, RLOC 03633-2937.

Bundle remains in this SFP location through map dated 12/27/04.

FUEL CONDITION REPORT

Reconstitution/Modification Activities

Modification to unirradiated assembly HE-37:

GE indicated a desire to install removable rod bundles for their testing of high performance fuel rods and control rod surveillance rods. The description of the testing is provided in a letter dated March 3, 1970, reference RLOC 00145-3488 through 3490.

The results of installation of the test rods is documented in a letter dated May 21, 1970, reference RLOC 03622-0635 & 0636. This letter provides serial numbers and isotopic data for the thirteen rods that were removed to accommodate the control rod surveillance rods and the four high performance rods.

The thirteen rods were never irradiated. The rods were shipped from HBPP to GE in September 1982. Reference RLOC 03622-3605 through 3629.

For HE-37, two unirradiated fuel rods were removed (B-2 & E-5) and replaced with boron carbide absorber rods.

Modification to irradiated assembly HE-37:

In 1981, GE retrieved some of these boron surveillance rods. The GE visit and activities are documented by a HBPP plant temporary procedure that includes signatures of individuals performing the procedure (RLOC 03622-3403 through 3407), a GE procedure on HBPP segmented surveillance rod removal (RLOC 03622-3452 through 3456), a GE memo to PG&E describing the operation (RLOC 03622-3457 through 3459), and handwritten notes indicating when steps of the HBPP procedure were accomplished (RLOC 03622-3439).

The following major activities were performed.
HE-37: Two B4C surveillance rods removed.

Status Summary

SNM:

The SNM quantity in HE-37 has been reduced by the removal of two of its rods. For specific SNM quantities for these two removed rods, reference RLOC 03622-0635 & 0636.

Modification:

Installation of two boron surveillance rods at locations B-2 and E-5. Both rods have since been removed and returned to GE.

FUEL CONDITION REPORT

January 24, 2005 Video Inspection Record

The video inspection record is found on a DVD labeled 'HBPP SFP 1/24/05'. The Chapter that is applicable to this assembly bundle is Chapter 18.

The 1/24/05 video inspection record accurately corresponds to the assembly configuration described in this record.

MODIFIED ASSEMBLY MAP

Assembly: HE-37

	A	B	C	D	E	F
1						
2		Rod Removed.				
3						
4						
5					Rod Removed.	
6						

Assembly: HE-37
Fuel Type: GE Type III
Date (Reference Record Location) of Fuel Receipt: 3/16/70 (RLOC 03612-2174)
Burnup (Reference Record Location): 19795.89 (RLOC 05775-2966 through 3254)
Handling Notes:

FUEL CONDITION REPORT

Assembly

HE-38

Receipt & New Fuel (Unirradiated) Storage

Received on 3/16/70 (RLOC 03612-2174 to 2186 – HE-38 info found on 03612-2177)

New Fuel Storage Vault Space 2H 3/17/70 to 4/9/70 RLOC 03612-1050 to 1056.

New Fuel Storage Vault Space 3H 4/13/70 RLOC 03612-1049.

New Fuel Storage Vault Space 2H 4/16/70 to 4/20/70 RLOC 03612-1047 & 1048.

Active Nuclear Service and Discharge

Cycle 6	Core Location 61-07	5/9/70-6/5/71	RLOC 03612-1421
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Cycle 7	Core Location 60-05	8/26/71-8/25/72	RLOC 03612-1420
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Cycle 8	Core Location 59-10	10/6/72-9/1/73	RLOC 03612-1419
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Cycle 9	Core Location 51-06	10/2/73-10/30/74	RLOC 03612-1418
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Discharged 11/12/74.

Irradiated Storage

SFP Location 53-07, 1/9/75, RLOC 03612-1159.

SFP Location 62-10, 6/75, RLOC 03612-1158.

Bundle remained in this SFP location through SFP survey map dated 7/20/84, RLOC 03633-2895.

SFP Location 51-04, 12/2/84, RLOC 03633-2898.

Bundle remained in this SFP location through SFP survey map dated 7/30/86, RLOC 03633-2938.

SFP Location 51-03, 7/27/87, RLOC 03633-2937.

Bundle remains in this SFP location through map dated 12/27/04.

Reconstitution/Modification Activities

Modification to unirradiated assembly HE-38:

GE indicated a desire to install removable rod bundles for their testing of high performance fuel rods and control rod surveillance rods. The description of the testing is provided in a letter dated March 3, 1970, reference RLOC 00145-3488 through 3490.

The results of installation of the test rods is documented in a letter dated May 21, 1970, reference RLOC 03622-0635 & 0636. This letter provides serial numbers and isotopic

FUEL CONDITION REPORT

data for the thirteen rods that were removed to accommodate the control rod surveillance rods and the four high performance rods.

The thirteen rods were never irradiated. The rods were shipped from HBPP to GE in September 1982. Reference RLOC 03622-3605 through 3629.

For HE-38, two unirradiated fuel rods were removed (B-2 & E-5) and replaced with boron carbide absorber rods.

Modification to irradiated assembly HE-38:

In 1981, GE retrieved some of these boron surveillance rods. The GE visit and activities are documented by a HBPP plant temporary procedure that includes signatures of individuals performing the procedure (RLOC 03622-3403 through 3407), a GE procedure on HBPP segmented surveillance rod removal (RLOC 03622-3452 through 3456), a GE memo to PG&E describing the operation (RLOC 03622-3457 through 3459), and handwritten notes indicating when steps of the HBPP procedure were accomplished (RLOC 03622-3439).

The following major activities were performed.

HE-38: One B4C surveillance rod removed (E-5).

Status Summary

SNM:

The SNM quantity in HE-38 has been reduced by the removal of two of its rods. For specific SNM quantities for these two removed rods, reference RLOC 03622-0635 & 0636.

Modification:

Installation of two boron surveillance rods at locations B-2 and E-5. The rod at E-5 has since been removed and returned to GE.

January 24, 2005 Video Inspection Record

The video inspection record is found on a DVD labeled 'HBPP SFP 1/24/05'. The Chapter that is applicable to this assembly bundle is Chapter 02.

The 1/24/05 video inspection record accurately corresponds to the assembly configuration described in this record.

MODIFIED ASSEMBLY MAP

Assembly: HE-38

	A	B	C	D	E	F
1						
2		B4C Rod.				
3						
4						
5					Rod Removed.	
6						

Assembly: HE-38

Fuel Type: GE Type III

Date (Reference Record Location) of Fuel Receipt: 3/16/70 (RLOC 03612-2174)

Burnup (Reference Record Location): 19810.38 (RLOC 05775-2966 through 3254)

Handling Notes:

FUEL CONDITION REPORT

Assembly

HE-39

Receipt & New Fuel (Unirradiated) Storage

Received on 3/16/70 (RLOC 03612-2174 to 2186 – HE-39 info found on 03612-2177)
New Fuel Storage Vault Space 2D 3/17/70 to 4/16/70 RLOC 03612-1048 to 1056.
New Fuel Storage Vault Space 2E 4/20/70 RLOC 03612-1047.

Active Nuclear Service and Discharge

Cycle 6	Core Location 57-04	5/9/70-6/5/71	RLOC 03612-1421
Cycle 7	Core Location 55-05	8/26/71-8/25/72	RLOC 03612-1420
Cycle 8	Core Location 55-09	10/6/72-9/1/73	RLOC 03612-1419
Cycle 9	Core Location 59-01	10/2/73-10/30/74	RLOC 03612-1418

Discharged 11/12/74.

Irradiated Storage

SFP Location 53-06, 1/9/75, RLOC 03612-1159.
SFP Location 64-04, 6/75, RLOC 03612-1158.
Bundle remained in this SFP location through SFP survey map dated 7/30/86, RLOC 03633-2938.
SFP Location 64-03, 7/27/87, RLOC 03633-2937.
Bundle remains in this SFP location through map dated 12/27/04.

Reconstitution/Modification Activities

Modification to unirradiated assembly HE-39:

GE indicated a desire to install removable rod bundles for their testing of high performance fuel rods and control rod surveillance rods. The description of the testing is provided in a letter dated March 3, 1970, reference RLOC 00145-3488 through 3490.

The results of installation of the test rods is documented in a letter dated May 21, 1970, reference RLOC 03622-0635 & 0636. This letter provides serial numbers and isotopic data for the thirteen rods that were removed to accommodate the control rod surveillance rods and the four high performance rods.

The thirteen rods were never irradiated. The rods were shipped from HBPP to GE in September 1982. Reference RLOC 03622-3605 through 3629.

FUEL CONDITION REPORT

For HE-39, two unirradiated fuel rods were removed (B-2 & E-5) and replaced with boron carbide absorber rods.

Modification to irradiated assembly HE-39:

In 1981, GE retrieved some of these boron surveillance rods. The GE visit and activities are documented by a HBPP plant temporary procedure that includes signatures of individuals performing the procedure (RLOC 03622-3403 through 3407), a GE procedure on HBPP segmented surveillance rod removal (RLOC 03622-3452 through 3456), a GE memo to PG&E describing the operation (RLOC 03622-3457 through 3459), and handwritten notes indicating when steps of the HBPP procedure were accomplished (RLOC 03622-3439).

The following major activities were performed.
HE-39: Two B4C surveillance rods removed (B-2 & E-5).

Status Summary

SNM:

The SNM quantity in HE-39 has been reduced by the removal of two of its rods. For specific SNM quantities for these two removed rods, reference RLOC 03622-0635 & 0636.

Modification:

Installation of two boron surveillance rods at locations B-2 and E-5. The two rods have since been removed and returned to GE.

January 24, 2005 Video Inspection Record

The video inspection record is found on a DVD labeled 'HBPP SFP 1/24/05'. The Chapter that is applicable to this assembly bundle is Chapter 17.

The 1/24/05 video inspection record accurately corresponds to the assembly configuration described in this record.

MODIFIED ASSEMBLY MAP

Assembly: HE-39

	A	B	C	D	E	F
1						
2		Rod Removed.				
3						
4						
5					Rod Removed.	
6						

Assembly: HE-39
Fuel Type: GE Type III
Date (Reference Record Location) of Fuel Receipt: 3/16/70 (RLOC 03612-2174)
Burnup (Reference Record Location): 19799.42 (RLOC 05775-2966 through 3254)
Handling Notes:

FUEL CONDITION REPORT

Assembly

HE-40

Receipt & New Fuel (Unirradiated) Storage

Received on 3/16/70 (RLOC 03612-2174 to 2186 – HE-40 info found on 03612-2177)
New Fuel Storage Vault Space 3P 3/17/70 to 4/20/70 RLOC 03612-1047 to
1056.

Active Nuclear Service and Discharge

Cycle 6	Core Location 61-05	5/9/70-6/5/71	RLOC 03612-1421
Cycle 7	Core Location 53-12	8/26/71-8/25/72	RLOC 03612-1420
Cycle 8	Core Location 59-05	10/6/72-9/1/73	RLOC 03612-1419
Cycle 9	Core Location 59-05	10/2/73-10/30/74	RLOC 03612-1418

Discharged 11/11/74.

Irradiated Storage

SFP Location 53-05, 1/9/75, RLOC 03612-1159.

SFP Location 66-03, 6/75, RLOC 03612-1158.

Bundle remained in this SFP location through SFP survey map dated 8/3/83, RLOC
03612-1145.

SFP Location 70-13, 2/23/84, RLOC 03633-2897.

Bundle remained in this SFP location through SFP survey map dated 7/20/84, RLOC
03633-2895.

SFP Location 59-02, 12/2/84, RLOC 03633-2898.

Bundle remained in this SFP location through SFP survey map dated 7/30/86, RLOC
03633-2938.

SFP Location 59-01, 7/27/87, RLOC 03633-2937.

Bundle remains in this SFP location through map dated 12/27/04.

Reconstitution/Modification Activities

Modification to unirradiated assembly HE-40:

GE indicated a desire to install removable rod bundles for their testing of high
performance fuel rods and control rod surveillance rods. The description of the testing is
provided in a letter dated March 3, 1970, reference RLOC 00145-3488 through 3490.

The results of installation of the test rods is documented in a letter dated May 21, 1970,
reference RLOC 03622-0635 & 0636. This letter provides serial numbers and isotopic

FUEL CONDITION REPORT

data for the thirteen rods that were removed to accommodate the control rod surveillance rods and the four high performance rods.

The thirteen rods were never irradiated. The rods were shipped from HBPP to GE in September 1982. Reference RLOC 03622-3605 through 3629.

For HE-40, one unirradiated fuel rod was removed (B-2) and replaced with a boron carbide absorber rod.

Modification to irradiated assembly HE-40:

In 1981, GE retrieved some of these boron surveillance rods. The GE visit and activities are documented by a HBPP plant temporary procedure that includes signatures of individuals performing the procedure (RLOC 03622-3403 through 3407), a GE procedure on HBPP segmented surveillance rod removal (RLOC 03622-3452 through 3456), a GE memo to PG&E describing the operation (RLOC 03622-3457 through 3459), and handwritten notes indicating when steps of the HBPP procedure were accomplished (RLOC 03622-3439).

The following major activities were performed.
HE-40: One B4C surveillance rod removed (B-2).

Status Summary

SNM:

The SNM quantity in HE-40 has been reduced by the removal of one of its rods. For specific SNM quantities for the removed rod, reference RLOC 03622-0635 & 0636.

Modification:

Installation of a boron surveillance rod at location B-2. The rod has since been removed and returned to GE.

January 24, 2005 Video Inspection Record

The video inspection record is found on a DVD labeled 'HBPP SFP 1/24/05'. The Chapter that is applicable to this assembly bundle is Chapter 16.

The 1/24/05 video inspection record accurately corresponds to the assembly configuration described in this record.

MODIFIED ASSEMBLY MAP

Assembly: HE-40

	A	B	C	D	E	F
1						
2		Rod Removed.				
3						
4						
5						
6						

Assembly: HE-40

Fuel Type: GE Type III

Date (Reference Record Location) of Fuel Receipt: 3/16/70 (RLOC 03612-2174)

Burnup (Reference Record Location): 20653.99 (RLOC 05775-2966 through 3254)

Handling Notes:

FUEL CONDITION REPORT

Assembly

HE-41

Receipt & New Fuel (Unirradiated) Storage

Received on 3/16/70 (RLOC 03612-2174 to 2186 – HE-41 info found on 03612-2177)
New Fuel Storage Vault Space 2P 3/17/70 to 4/20/70 RLOC 03612-1047 to
1056.

Active Nuclear Service and Discharge

Cycle 6	Core Location 52-10	5/9/70-6/5/71	RLOC 03612-1421
Cycle 7	Core Location 58-09	8/26/71-8/25/72	RLOC 03612-1420
Cycle 8	Core Location 64-07	10/6/72-9/1/73	RLOC 03612-1419

Discharged 9/8/73.

Irradiated Storage

SFP Location 63-02, 11/13/73, RLOC 03612-1164.
Bundle remained in this SFP location through SFP survey map "Following January 11, 1974 Fuel movements.", RLOC 03612-1163.
SFP Location 63-15, 7/9/74, RLOC 03612-1162.
Bundle remained in this SFP location through SFP survey map dated 8/14/75, RLOC 03612-1156.
SFP Location 71-07, 8/12/76, RLOC 03612-1154.
Bundle remained in this SFP location through SFP survey map dated 7/20/84, RLOC 03633-2895.
SFP Location 70-16, 12/2/84, RLOC 03633-2898.
Bundle remained in this SFP location through SFP survey map dated 7/30/86, RLOC 03633-2938.
SFP Location 70-15, 7/27/87, RLOC 03633-2937.
Bundle remains in this SFP location through map dated 12/27/04.

Reconstitution/Modification Activities

Modification to unirradiated assembly HE-41:

GE indicated a desire to install removable rod bundles for their testing of high performance fuel rods and control rod surveillance rods. The description of the testing is provided in a letter dated March 3, 1970, reference RLOC 00145-3488 through 3490.

FUEL CONDITION REPORT

The results of installation of the test rods is documented in a letter dated May 21, 1970, reference RLOC 03622-0635 & 0636. This letter provides serial numbers and isotopic data for the thirteen rods that were removed to accommodate the control rod surveillance rods and the four high performance rods.

The thirteen rods were never irradiated. The rods were shipped from HBPP to GE in September 1982. Reference RLOC 03622-3605 through 3629.

For HE-41, one unirradiated fuel rod (E-5) was removed and replaced with a high enrichment rod.

Modification to irradiated assembly HE-41:

Reconstitution efforts during June 1974 included removal of the high enrichment rod from HE-41 for subsequent shipment offsite. Reference RLOC 03614-4098 to 4111.

Status Summary

SNM:

The SNM quantity in HE-41 was initially increased (by replacement of one of its rods with a higher enrichment rod) and has been reduced by the subsequent removal of the high enrichment rod (E-5). For specific SNM quantities for the removed rod and its replacement high enrichment rod, reference RLOC 03622-0635 & 0636.

Modification:

None.

January 24, 2005 Video Inspection Record

The video inspection record is found on a DVD labeled 'HBPP SFP 1/24/05'. The Chapter that is applicable to this assembly bundle is Chapter 22.

The 1/24/05 video inspection record accurately corresponds to the assembly configuration described in this record.

MODIFIED ASSEMBLY MAP

Assembly: HE-41

	A	B	C	D	E	F
1						
2						
3						
4						
5					Rod Removed.	
6						

<p>Assembly: HE-41</p> <p>Fuel Type: GE Type III</p> <p>Date (Reference Record Location) of Fuel Receipt: 3/16/70 (RLOC 03612-2174)</p> <p>Burnup (Reference Record Location): 13809.22 (RLOC 05775-2966 through 3254)</p> <p>Handling Notes:</p>

FUEL CONDITION REPORT

Assembly

HE-42

Receipt & New Fuel (Unirradiated) Storage

Received on 3/16/70 (RLOC 03612-2174 to 2186 – HE-42 info found on 03612-2179)
New Fuel Storage Vault Space 3N 3/17/70 to 4/20/70 RLOC 03612-1047 to
1056.

Active Nuclear Service and Discharge

Cycle 6	Core Location 60-13	5/9/70-6/5/71	RLOC 03612-1421
Cycle 7	Core Location 59-07	8/26/71-8/25/72	RLOC 03612-1420
Cycle 8	Core Location 64-11	10/6/72-9/1/73	RLOC 03612-1419
Cycle 9	Core Location 64-11	10/2/73-10/30/74	RLOC 03612-1418
Cycle 10	Core Location 64-09	10/27/74-5/30/75	RLOC 03612-1416

Discharged 6/26/75.

Irradiated Storage

SFP Location 70-07, "Final Status after Refueling 7/75", RLOC 03612-1157.
Bundle remained in this SFP location through SFP survey map dated 7/20/84, RLOC
03633-2895.

SFP Location 67-09, 12/2/84, RLOC 03633-2898.

Bundle remained in this SFP location through SFP survey map dated 7/30/86, RLOC
03633-2938.

SFP Location 67-08, 7/27/87, RLOC 03633-2937.

Bundle remained in this SFP location through SFP survey map dated 5/12/00.

SFP Location 67-16, 3/1/01.

Bundle remains in this SFP location through map dated 12/27/04.

Reconstitution/Modification Activities

Modification to unirradiated assembly HE-42:

GE indicated a desire to install removable rod bundles for their testing of high
performance fuel rods and control rod surveillance rods. The description of the testing is
provided in a letter dated March 3, 1970, reference RLOC 00145-3488 through 3490.

The results of installation of the test rods is documented in a letter dated May 21, 1970,
reference RLOC 03622-0635 & 0636. This letter provides serial numbers and isotopic

FUEL CONDITION REPORT

data for the thirteen rods that were removed to accommodate the control rod surveillance rods and the four high performance rods.

The thirteen rods were never irradiated. The rods were shipped from HBPP to GE in September 1982. Reference RLOC 03622-3605 through 3629.

For HE-42, one unirradiated fuel rod was removed and replaced with a high enrichment rod.

No modification work was done to irradiated assembly HE-42. The assembly retains all of its rods, including the high enrichment rod installed in position E-5.

Status Summary

SNM:

The SNM quantity in HE-42 was initially increased prior to irradiation by replacement of one of its rods with a higher enrichment rod. No additional modification to the assembly SNM has been performed. HE-42 retains its high enrichment rod at position E-5. For specific SNM quantities for the removed rod and its replacement high enrichment rod, reference RLOC 03622-0635 & 0636.

Modification:
None.

January 24, 2005 Video Inspection Record

The video inspection record is found on a DVD labeled 'HBPP SFP 1/24/05'. The Chapter that is applicable to this assembly bundle is Chapter 20.

The 1/24/05 video inspection record accurately corresponds to the assembly configuration described in this record.

MODIFIED ASSEMBLY MAP

Assembly: HE-42

	A	B	C	D	E	F
1						
2						
3						
4						
5					5.5 w/o rod.	
6						

Assembly: HE-42

Fuel Type: GE Type III

Date (Reference Record Location) of Fuel Receipt: 3/16/70 (RLOC 03612-2174)

Burnup (Reference Record Location): 16196.93 (RLOC 05775-2966 through 3254)

Handling Notes:

FUEL CONDITION REPORT

Assembly

HE-43

Receipt & New Fuel (Unirradiated) Storage

Received on 3/16/70 (RLOC 03612-2174 to 2186 – HE-43 info found on 03612-2177)
New Fuel Storage Vault Space 2N 3/17/70 to 4/20/70 RLOC 03612-1047 to
1056.

Active Nuclear Service and Discharge

Cycle 6	Core Location 63-05	5/9/70-6/5/71	RLOC 03612-1421
Cycle 7	Core Location 57-06	8/26/71-8/25/72	RLOC 03612-1420

Discharged 9/4/72.

Irradiated Storage

SFP Location 54-07, 10/27/72, RLOC 03612-1170.

Bundle remained in this SFP location through SFP survey map dated 2/16/73, RLOC 03612-1169.

SFP Location 53-10, 4/26/73, RLOC 03612-1167.

Bundle remained in this SFP location through SFP survey map dated 11/13/73, RLOC 03612-1164.

SFP Location 53-16, "Following January 11, 1974 Fuel movements.", RLOC 03612-1163.

Bundle remained in this SFP location through SFP survey map dated 7/20/84, RLOC 03633-2895.

SFP Location 50-16, 12/2/84, RLOC 03633-2898.

Bundle remained in this SFP location through SFP survey map dated 7/30/86, RLOC 03633-2938.

SFP Location 50-15, 7/27/87, RLOC 03633-2937.

Bundle remains in this SFP location through map dated 12/27/04.

Reconstitution/Modification Activities

Modification to unirradiated assembly HE-43:

GE indicated a desire to install removable rod bundles for their testing of high performance fuel rods and control rod surveillance rods. The description of the testing is provided in a letter dated March 3, 1970, reference RLOC 00145-3488 through 3490.

FUEL CONDITION REPORT

The results of installation of the test rods is documented in a letter dated May 21, 1970, reference RLOC 03622-0635 & 0636. This letter provides serial numbers and isotopic data for the thirteen rods that were removed to accommodate the control rod surveillance rods and the four high performance rods.

The thirteen rods were never irradiated. The rods were shipped from HBPP to GE in September 1982. Reference RLOC 03622-3605 through 3629.

For HE-43, one unirradiated fuel rod was removed and replaced with a high enrichment rod.

Modification to irradiated assembly HE-43:

During the GE visit of April 1973 (Reference RLOC 03614-4113 through 4131) the HE-43 bundle was manipulated and rods removed. The report contains the following discussion concerning HE-43 (RLOC 03614-4115 & 4116):

"Disassembly of bundle HE-43 has been previously attempted 1971 without success. In anticipation of similar disassembly problems a special sling was installed on the bundle as insurance for later handling of the bundle should it become necessary to abort the disassembly. Fortunately the upper tie plate did come off after five (5) of the eight (8) tie rods upper end plug studs were sheared off at the base of the nuts. However eight (8) rods were stuck in the upper tie plate. Six (6) of the eight (8) were under the tie plate's blind holes. (rod locations A-1, F-1, A-6, F-6, B-5, and E-2) The other rod locations were B-6 and F-2. The preselected fuel rods were removed from the bundle by raising the upper tie plate up and over to one side together with the stuck rods. This gave just enough access to the desired rods for their removal (see attached matrix sheet for summary of bundle status).

Dummy tie rods were reinserted into locations F-4 and D-6 for structural stability. The bundle is held together by five (5) rods at locations D-1, F-4, D-6, C-6 and A-4. Bundle HE-43 was removed from the elevator and bundle HE-6 installed."

Note that the matrix for HE-43 is found on RLOC 03614-4121, and shows rods F-3 and high enrichment rod E-5 (with their respective serial numbers) as removed and further indicates the rod in position D-6 was moved to position E-5, and finally two dummy tie rods were installed in positions F-3 and D-6. The matrix also indicates rods C-1, A-3, and F-4 have sheared end plug studs and F-6 is an 'obvious failure'.

FUEL CONDITION REPORT

Status Summary

SNM:

The SNM quantity in HE-43 has been reduced by the removal of two of its rods. For specific SNM quantities for these two removed rods, reference RLOC 03622-0635 & 0636.

Modification:

Two dummy tie rods have been installed in positions F-3 and D-6.
The fuel rod originally in position D-6 has been moved to position E-5.
Rods C-1, A-3, and F-4 have sheared end plug studs.
Rod F-6 is an 'obvious failure'.

January 24, 2005 Video Inspection Record

The video inspection record is found on a DVD labeled 'HBPP SFP 1/24/05'. The Chapter that is applicable to this assembly bundle is Chapter 01.

The 1/24/05 video inspection record accurately corresponds to the assembly configuration described in this record.

MODIFIED ASSEMBLY MAP

Assembly: HE-43

	A	B	C	D	E	F
1			Upper end plug stud sheared off.			
2						
3	Upper end plug stud sheared off.					Dummy tie rod.
4						Upper end plug stud sheared off.
5						
6				Dummy tie rod.		Notes indicate an obvious rod failure.

Assembly: HE-43

Fuel Type: GE Type III

Date (Reference Record Location) of Fuel Receipt: 3/16/70 (RLOC 03612-2174)

Burnup (Reference Record Location): 10631.30 (RLOC 05775-2966 through 3254)

Handling Notes:

FUEL CONDITION REPORT

Assembly

HE-44

Receipt & New Fuel (Unirradiated) Storage

Received on 3/16/70 (RLOC 03612-2174 to 2186 – HE-44 info found on 03612-2177)
New Fuel Storage Vault Space 2Q 3/17/70 to 4/20/70 RLOC 03612-1047 to
1056.

Active Nuclear Service and Discharge

Cycle 6	Core Location 55-02	5/9/70-6/5/71	RLOC 03612-1421
Cycle 7	Core Location 56-08	8/26/71-8/25/72	RLOC 03612-1420
Cycle 8	Core Location 57-01	10/6/72-9/1/73	RLOC 03612-1419
Cycle 9	Core Location 51-04	10/2/73-10/30/74	RLOC 03612-1418
Cycle 10	Core Location 51-06	10/27/74-5/30/75	RLOC 03612-1416

Discharged 6/12/75.

Irradiated Storage

SFP Location 66-12, "Final Status after Refueling 7/75", RLOC 03612-1157.
Bundle remained in this SFP location through SFP survey map dated 7/20/84, RLOC
03633-2895.

SFP Location 63-03, 12/2/84, RLOC 03633-2898.
Bundle remained in this SFP location through SFP survey map dated 7/30/86, RLOC
03633-2938.

SFP Location 63-02, 7/27/87, RLOC 03633-2937.
Bundle remained in this SFP location through SFP survey map dated 5/12/00.

SFP Location 62-11, 3/1/01.
Bundle remains in this SFP location through map dated 12/27/04.

Reconstitution/Modification Activities

Modification to unirradiated assembly HE-44:

GE indicated a desire to install removable rod bundles for their testing of high
performance fuel rods and control rod surveillance rods. The description of the testing is
provided in a letter dated March 3, 1970, reference RLOC 00145-3488 through 3490.

The results of installation of the test rods is documented in a letter dated May 21, 1970,
reference RLOC 03622-0635 & 0636. This letter provides serial numbers and isotopic

FUEL CONDITION REPORT

data for the thirteen rods that were removed to accommodate the control rod surveillance rods and the four high performance rods.

The thirteen rods were never irradiated. The rods were shipped from HBPP to GE in September 1982. Reference RLOC 03622-3605 through 3629.

For HE-44, one unirradiated fuel rod was removed and replaced with a high enrichment rod.

Modification to irradiated assembly HE-44:

No modification to the irradiated HE-44 assembly was performed. HE-44 retains its single high enrichment rod, at position E-5.

Status Summary

SNM:

The SNM quantity in HE-44 has been increased by the exchange of one of its rods for a high enrichment rod.

Modification:

None.

January 24, 2005 Video Inspection Record

The video inspection record is found on a DVD labeled 'HBPP SFP 1/24/05'. The Chapter that is applicable to this assembly bundle is Chapter 14.

The 1/24/05 video inspection record accurately corresponds to the assembly configuration described in this record.

MODIFIED ASSEMBLY MAP

Assembly: HE-44

	A	B	C	D	E	F
1						
2						
3						
4						
5					5.5 w/o rod.	
6						

Assembly: HE-44
Fuel Type: GE Type III
Date (Reference Record Location) of Fuel Receipt: 3/16/70 (RLOC 03612-2174)
Burnup (Reference Record Location): 17168.62 (RLOC 05775-2966 through 3254)
Handling Notes:

FUEL CONDITION REPORT

Assembly

HE-01

Receipt & New Fuel (Unirradiated) Storage

Received on 3/4/70 (RLOC 03612-2162 to 2173 – HE-01 info found on 03612-2167 & 2170)

New Fuel Storage Vault Space 4G 3/4/70 to 3/26/70 RLOC 03612-1054 to 1057.

SFP Location 66-05, 3/28/70 through 4/10/70, RLOC 03612-1317 & 1318.

Active Nuclear Service and Discharge

Cycle 6 Core Location 55-06 5/9/70-6/5/71 RLOC 03612-1421

Discharged 6/19/71.

Irradiated Storage

SFP Location 59-07, 9/21/71, RLOC 03612-1212.

Bundle remained in this SFP location through SFP survey map dated 1/24/72, RLOC 03612-1210.

HE-01 shown in channel stripper on SFP map dated 2/24/72, RLOC 03612-1209.

SFP Location 59-07, 2/25/72, RLOC 03612-1208.

HE-01 shown in channel stripper on SFP map dated 2/26/72, RLOC 03612-1207.

SFP Location 60-01, 2/28/72, RLOC 03612-1206.

Bundle remained in this SFP location through SFP survey map dated 3/8/72, RLOC 03612-1196.

HE-01 shown in channel stripper on SFP map dated 3/9/72, RLOC 03612-1195.

SFP Location 60-01, 3/10/72, RLOC 03612-1194.

Bundle remained in this SFP location through SFP survey map dated 3/15/72, RLOC 03612-1191.

SFP Location 53-01, 3/20/72, RLOC 03612-1190.

SFP Location 60-01, 3/21/72, RLOC 03612-1188.

Bundle remained in this SFP location through SFP survey map dated 3/24/72, RLOC 03612-1183.

SFP Location 55-16, 5/4/72, RLOC 03612-1180.

Bundle remained in this SFP location through SFP survey map dated 7/20/84, RLOC 03633-2895.

SFP Location 54-15, 12/2/84, RLOC 03633-2898.

Bundle remained in this SFP location through SFP survey map dated 7/30/86, RLOC 03633-2938.

SFP Location 54-14, 7/27/87, RLOC 03633-2937.

FUEL CONDITION REPORT

Bundle remains in this SFP location through map dated 12/27/04.

Reconstitution/Modification Activities

HE-01 was inspected during the period 2/22 to 3/10/72. RLOC 03615-1299; 03615-1302; RLOC 03614-4263 to 4266. The inspection notes that three rods appear to be failed, based on U/T.

Assembly was subject to reconstitution activities during the period 3/20-3/23/72. RLOC 03615-1297-1312.

A map of the final status of reconstituted assemblies is provided on RLOC 03612-1181 & 1182. HE-01 has its full complement of fuel rods. The following rod positions have non-original rods: A-3, A-4, C-1, D-1, E-3, E-5, F-3, & F-4.

The reconstitution procedure used for this work is documented in RLOC 03614-4242 to 4250.

Status Summary

SNM:

Reconstitution activities resulted in a net SNM change of -43 grams U.

Modification:

None.

January 24, 2005 Video Inspection Record

The video inspection record is found on a DVD labeled 'HBPP SFP 1/24/05'. The Chapter that is applicable to this assembly bundle is Chapter 08.

The 1/24/05 video inspection record accurately corresponds to the assembly configuration described in this record.

FUEL CONDITION REPORT

Assembly

HE-04

Receipt & New Fuel (Unirradiated) Storage

Received on 3/4/70 (RLOC 03612-2162 to 2173 – HE-04 info found on 03612-2167 & 2171)

New Fuel Storage Vault Space 4C 3/4/70 to 3/26/70 RLOC 03612-1054 to 1057.

SFP Location 70-05, 3/28/70 through 4/10/70, RLOC 03612-1317 & 1318.

Active Nuclear Service and Discharge

Cycle 6 Core Location 56-12 5/9/70-6/5/71 RLOC 03612-1421

SFP Location 59-09, 9/21/71, RLOC 03612-1212.

Bundle remained in this SFP location through SFP survey map dated 2/26/72, RLOC 03612-1207.

HE-04 shown in channel stripper on SFP map dated 2/28/72, RLOC 03612-1206.

SFP Location 60-02, 2/29/72, RLOC 03612-1205.

Bundle remained in this SFP location through SFP survey map dated 6/9/72, RLOC 03612-1171.

Cycle 8 Core Location 64-09 10/6/72-9/1/73 RLOC 03612-1419

Cycle 9 Core Location 60-10 10/2/73-10/30/74 RLOC 03612-1418

Cycle 10 Core Location 58-10 10/27/74-5/30/75 RLOC 03612-1416

Cycle 11 Core Location 60-09 7/8/75-7/2/76 RLOC 03612-1415

Discharged 7/18/76.

Irradiated Storage

SFP Location 11, 8/12/76, RLOC 03612-1154.

Bundle remained in this SFP location through SFP survey map dated 7/30/86, RLOC 03633-2938.

SFP Location 65-16, 7/27/87, RLOC 03633-2937.

Bundle remained in this SFP location through SFP survey map dated 5/12/00.

SFP Location 71-10, 3/1/01.

Bundle remains in this SFP location through map dated 12/27/04.

Reconstitution/Modification Activities

FUEL CONDITION REPORT

HE-04 was inspected during the period 2/22 to 3/10/72. RLOC 03615-1299; 03615-1302; RLOC 03614-4269 to 4271. The inspection notes that two rods appear to be failed, based on U/T.

Assembly was subject to reconstitution activities during the period 3/20-3/23/72. RLOC 03615-1297-1312.

A map of the final status of reconstituted assemblies is provided on RLOC 03612-1181 & 1182. HE-04 has its full complement of fuel rods. The following rod positions have non-original rods: A-3, C-6, D-6, F-3, & F-4.

The reconstitution procedure used for this work is documented in RLOC 03614-4242 to 4250.

Status Summary

SNM:

Reconstitution activities resulted in a net SNM change of +56 grams U.

Modification:
None.

January 24, 2005 Video Inspection Record

The video inspection record is found on a DVD labeled 'HBPP SFP 1/24/05'. The Chapter that is applicable to this assembly bundle is Chapter 24.

The 1/24/05 video inspection record accurately corresponds to the assembly configuration described in this record.

FUEL CONDITION REPORT

Assembly

HE-24

Receipt & New Fuel (Unirradiated) Storage

Received on 3/16/70 (RLOC 03612-2174 to 2186 – HE-24 info found on 03612-2177)
New Fuel Storage Vault Space 2B 3/17/70 to 3/26/70 RLOC 03612-1054 to
1056.

Active Nuclear Service and Discharge

Cycle 6 Core Location 56-10 5/9/70-6/5/71 RLOC 03612-1421
SFP Location 59-08, 9/21/71, RLOC 03612-1212.

Bundle remained in this SFP location through SFP survey map dated 2/29/72, RLOC
03612-1205.

SFP Location 60-04, 3/1/72, RLOC 03612-1204.

Bundle remained in this SFP location through SFP survey map dated 3/9/72, RLOC
03612-1195.

HE-24 shown in channel stripper on SFP map dated 3/10/72, RLOC 03612-1194.

SFP Location 60-04, 3/11/72, RLOC 03612-1193.

Bundle remained in this SFP location through SFP survey map dated 6/9/72, RLOC
03612-1171.

Cycle 8 Core Location 51-06 10/6/72-9/1/73 RLOC 03612-1419

Cycle 9 Core Location 55-05 10/2/73-10/30/74 RLOC 03612-1418

Discharged 11/6/74.

Irradiated Storage

SFP Location 69-05, 1/9/75, RLOC 03612-1159.

SFP Location 70-03, 6/75, RLOC 03612-1158.

Bundle remained in this SFP location through SFP survey map dated 8/3/83, RLOC
03612-1145.

SFP Location 19, 2/23/84, RLOC 03633-2897.

Bundle remained in this SFP location through SFP survey map dated 7/30/86, RLOC
03633-2938.

SFP Location 20, 7/27/87, RLOC 03633-2937.

Bundle remains in this SFP location through map dated 12/27/04.

FUEL CONDITION REPORT

Reconstitution/Modification Activities

HE-24 was inspected during the period 2/22 to 3/10/72. RLOC 03615-1299; 03615-1302; RLOC 03614-4276 to 4278. The inspection notes that two rods appear to be failed, based on U/T.

Assembly was subject to reconstitution activities during the period 3/20-3/23/72. RLOC 03615-1297-1312.

A map of the final status of reconstituted assemblies is provided on RLOC 03612-1181 & 1182. HE-24 has its full complement of fuel rods. The following rod positions have non-original rods: B-2, C-1, & D-4.

The reconstitution procedure used for this work is documented in RLOC 03614-4242 to 4250.

Status Summary

SNM:

Reconstitution activities resulted in a net SNM change of -13 grams U.

Modification:
None.

January 24, 2005 Video Inspection Record

The video inspection record is found on a DVD labeled 'HBPP SFP 1/24/05'. The Chapter that is applicable to this assembly bundle is Chapter 28.

The 1/24/05 video inspection record accurately corresponds to the assembly configuration described in this record.

FUEL CONDITION REPORT

Assembly

HD-07

Receipt & New Fuel (Unirradiated) Storage

Received on 12/12/68 (RLOC 03612-2079 to 2098 – HD-07 info found on 03612-2092 & 2093)

New Fuel Storage Vault Space 4K 12/16/68 to 12/31/68 RLOC 03612-1061 to 1065.

Active Nuclear Service and Discharge

Cycle 5 Core Location 53-03 7/20/69-4/17/70 RLOC 03612-1422

Cycle 6 Core Location 55-07 5/9/70-6/5/71 RLOC 03612-1421

SFP Location 62-09, 9/21/71, RLOC 03612-1212.

Bundle remained in this SFP location through SFP survey map dated 3/6/72, RLOC 03612-1199.

HD-07 shown in channel stripper on SFP map dated 3/7/72, RLOC 03612-1197.

SFP Location 61-01, 3/8/72, RLOC 03612-1196.

Bundle remained in this SFP location through SFP survey map dated 3/20/72, RLOC 03612-1190.

SFP Location 52-01, 3/21/72, RLOC 03612-1188.

SFP Location 61-01, 3/22/72, RLOC 03612-1186.

Bundle remained in this SFP location through SFP survey map dated 6/9/72, RLOC 03612-1171.

Cycle 8 Core Location 60-10 10/6/72-9/1/73 RLOC 03612-1419

Cycle 9 Core Location 61-01 10/2/73-10/30/74 RLOC 03612-1418

Discharged 11/8/74.

Irradiated Storage

SFP Location 63-09, 7/27/87, RLOC 03633-2937 – NOTE: Assembly is erroneously noted as UD-7.

SFP Location 63-09, 7/18/88 – RLOC 04001-4143 – NOTE: Assembly is correctly labeled on this and all subsequent pool maps.

Bundle remains in this SFP location through map dated 12/27/04.

FUEL CONDITION REPORT

Reconstitution/Modification Activities

HD-07 was inspected during the period 2/22 to 3/10/72. RLOC 03615-1299; 03615-1306; RLOC 03614-4260 to 4262. The inspection notes that rod F-3 has no upper end plug and two rods appear to be failed, based on U/T.

Assembly HD-07 was subject to reconstitution activities during the period 3/20-3/23/72. RLOC 03615-1297-1312.

A map of the final status of reconstituted assemblies is provided on RLOC 03612-1181 & 1182. The following rods are not original to assembly HD-07: D-3, F-1, F-3, F-4, & F-6.

The reconstitution procedure used for this work is documented in RLOC 03614-4242 to 4250.

Status Summary

SNM:

Reconstitution activities resulted in a net SNM change of +47 grams U.

Modification:
None.

January 24, 2005 Video Inspection Record

The video inspection record is found on a DVD labeled 'HBPP SFP 1/24/05'. The Chapter that is applicable to this assembly bundle is Chapter 15.

The 1/24/05 video inspection record accurately corresponds to the assembly configuration described in this record.

FUEL CONDITION REPORT

Assembly

HD-16

Receipt & New Fuel (Unirradiated) Storage

Received on 12/17/68 (RLOC 03612-2109 to 2114 – HD-16 info found on 03612-2112)
New Fuel Storage Vault Space 3C 12/18/68 to 12/31/68 RLOC 03612-1061
to 1064.

Active Nuclear Service and Discharge

Cycle 5 Core Location 62-12 7/20/69-4/17/70 RLOC 03612-1422

Cycle 6 Core Location 60-08 5/9/70-6/5/71 RLOC 03612-1421

SFP Location 61-07, 9/21/71, RLOC 03612-1212.

Bundle remained in this SFP location through SFP survey map dated 3/7/72, RLOC 03612-1197.

HD-16 shown in channel stripper on SFP map dated 3/8/72, RLOC 03612-1196.

SFP Location 61-02, 3/9/72, RLOC 03612-1195.

Bundle remained in this SFP location through SFP survey map dated 3/20/72, RLOC 03612-1190.

HD-16 shown in channel stripper on SFP map dated 3/21/72, RLOC 03612-1188.

SFP Location 61-02, 3/22/72, RLOC 03612-1186.

Bundle remained in this SFP location through SFP survey map dated 6/9/72, RLOC 03612-1171.

Cycle 8 Core Location 55-05 10/6/72-9/1/73 RLOC 03612-1419

Discharged 9/15/73.

Irradiated Storage

SFP Location 61-06, 11/13/73, RLOC 03612-1164.

SFP Location 62-15, "Following January 11, 1974 Fuel movements", RLOC 03612-1163.

Bundle remained in this SFP location through SFP survey map dated 8/14/75, RLOC 03612-1156.

SFP Location 71-08, 8/12/76, RLOC 03612-1154.

Bundle remained in this SFP location through SFP survey map dated 7/20/84, RLOC 03633-2895.

SFP Location 68-16, 12/2/84, RLOC 03633-2898.

Bundle remained in this SFP location through SFP survey map dated 7/30/86, RLOC 03633-2938.

SFP Location 68-15, 7/27/87, RLOC 03633-2937.

FUEL CONDITION REPORT

Bundle remains in this SFP location through map dated 12/27/04.

Reconstitution/Modification Activities

HD-16 was inspected during the period 2/22 to 3/10/72. RLOC 03615-1299; 03615-1306; RLOC 03614-4238 to 4240. The inspection notes that rod B-5 has been dropped and one rod appears to be failed, based on U/T.

Assembly was subject to reconstitution activities during the period 3/20-3/23/72. RLOC 03615-1297-1312.

A map of the final status of reconstituted assemblies is provided on RLOC 03612-1181 & 1182. The following rods are not original to assembly HD-16: B-5, C-6, F-3, & F-4.

The reconstitution procedure used for this work is documented in RLOC 03614-4242 to 4250.

Status Summary

SNM:

Reconstitution activities resulted in a net SNM change of -13 grams U.

Modification:
None.

January 24, 2005 Video Inspection Record

The video inspection record is found on a DVD labeled 'HBPP SFP 1/24/05'. The Chapter that is applicable to this assembly bundle is Chapter 21.

The 1/24/05 video inspection record accurately corresponds to the assembly configuration described in this record.

REVIEW & APPROVAL

Prepared by \S\ James B. Neale Date 05 / 18 / 2005

Reviewed by \S\ Greg Bierbaum Date 05 / 18 / 2005

Approved: \S\ Bruce Norton Date 05 / 18 / 2005
Project Manager