# Industry/TSTF Standard Technical Specification Change Traveler

**Incorrect Criteria Defined in B 3.7.16**

Priority/Classification 4) Change Bases

NUREGs Affected: ☑ 1430 ☑ 1431 ☑ 1432 ☑ 1433 ☑ 1434

Description:

The Applicable Safety Analysis Section of B 3.7.16 has been revised to denote that the Fuel Storage Pool Water Level satisfies Criteria 2 and 3.

Justification:

Fuel Storage Pool Water Level is a process variable which satisfies criteria 2 and 3 of 10 CFR 50.36.c.2. It is an initial condition assumed in the fuel handling accident and mitigates the release of radionuclides.

## Revision History

### OG Revision 0 Revision Status: Closed

Revision Proposed by: Millstone 2

Revision Description:
Original Issue

### Owners Group Review Information

Date Originated by OG: 29-May-96

Owners Group Comments
(No Comments)

Owners Group Resolution: Approved Date: 04-Jun-96

### TSTF Review Information

TSTF Received Date: 01-Jul-96 Date Distributed for Review 31-Jul-96

OG Review Completed: ☑ BWOG ☑ WOG ☑ CEOG ☑ BWROG

TSTF Comments:

BWOG - Applicable, BWOG accepts
WOG - Applicable, WOG accepts
BWROG - Applicable, BWROG accepts

TSTF Resolution: Approved Date: 10-Oct-96

### NRC Review Information

NRC Received Date: 23-Jan-97 NRC Reviewer: Giardina, R.

NRC Comments:

3/23/97 - Revision 0 is withdrawn. Revision 1 replaces in total. Revision 0 was missing the BWR/4 and BWR/6 markups.

Final Resolution: Superceded by Revision Final Resolution Date: 07-Apr-97

**TSTF Revision 1** **Revision Status: Active** **Next Action:**

Revision Proposed by: TSTF

Revision Description:
Revision 0 of TSTF-139 inadvertently ommitted the BWR/4 and BWR/6 markups. These markups have been supplied in this revision.

## TSTF Review Information

TSTF Received Date: 23-Mar-97 Date Distributed for Review 23-Mar-97

OG Review Completed: ☑ BWOG ☑ WOG ☑ CEOG ☑ BWROG

TSTF Comments:
(No Comments)

TSTF Resolution: Approved Date: 23-Mar-97

## NRC Review Information

NRC Received Date: 07-Apr-97 NRC Reviewer: Giardina, R.

NRC Comments:
4/15/97 - Reviewer recommends approval.
4/16/97 - To C. Grimes for disposition.
5/2/97- C. Grimes approved changes.

Final Resolution: NRC Approves Final Resolution Date: 02-May-97

## Incorporation Into the NUREGs

File to BBS/LAN Date: TSTF Informed Date: TSTF Approved Date:

NUREG Rev Incorporated:

## Affected Technical Specifications

| | | |
|---|---|---|
| S/A 3.7.14 Bases | Fuel Storage Pool Water Level | NUREG(s)- 1430 Only |
| S/A 3.7.15 Bases | Fuel Storage Pool Water Level | NUREG(s)- 1431 Only |
| S/A 3.7.16 Bases | Fuel Storage Pool Water Level | NUREG(s)- 1432 Only |
| S/A 3.7.8 Bases | Spent Fuel Storage Pool Water Level | NUREG(s)- 1433 Only |
| S/A 3.7.7 Bases | Fuel Pool Water Level | NUREG(s)- 1434 Only |

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B 3.7 PLANT SYSTEMS

B 3.7.14 Fuel Storage Pool Water Level

BASES

BACKGROUND

The minimum water level in the fuel storage pool meets the assumption of iodine decontamination factors following a fuel handling accident. The specified water level shields and minimizes the general area dose when the storage racks are filled to their maximum capacity. The water also provides shielding during the movement of spent fuel.

A general description of the fuel storage pool design is given in the FSAR, Section [9.1.2], Reference 1. The Spent Fuel Pool Cooling and Cleanup System is given in the FSAR, Section [9.1.3] (Ref. 2). The assumptions of the fuel handling accident are given in the FSAR, Section [15.4.7] (Ref. 3).

APPLICABLE SAFETY ANALYSES

The minimum water level in the fuel storage pool meets the assumptions of the fuel handling accident described in Regulatory Guide 1.25 (Ref. 4). The resultant 2 hour thyroid dose to a person at the exclusion area boundary is below 10 CFR 100 (Ref. 5) guidelines.

According to Reference 4, there is 23 ft of water between the top of the damaged fuel bundle and the fuel pool surface for a fuel handling accident. With 23 ft, the assumptions of Reference 4 can be used directly. In practice, the LCO preserves this assumption for the bulk of the fuel in the storage racks. In the case of a single bundle dropped and lying horizontally on top of the spent fuel rack, however, there may be < 23 ft above the top of the fuel bundle and the surface, by the width of the bundle. To offset this small nonconservatism, the analysis assumes that all fuel rods fail, although the analysis shows that only the first [few] rows fail from a hypothetical maximum drop.

The fuel storage pool water level satisfies ~~Criterion~~ Criteria 2 and 3 of the NRC Policy Statement.

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B 3.7 PLANT SYSTEMS

B 3.7.15 Fuel Storage Pool Water Level

BASES

BACKGROUND

The minimum water level in the fuel storage pool meets the assumptions of iodine decontamination factors following a fuel handling accident. The specified water level shields and minimizes the general area dose when the storage racks are filled to their maximum capacity. The water also provides shielding during the movement of spent fuel.

A general description of the fuel storage pool design is given in the FSAR, Section [9.1.2] (Ref. 1). A description of the Spent Fuel Pool Cooling and Cleanup System is given in the FSAR, Section [9.1.3] (Ref. 2). The assumptions of the fuel handling accident are given in the FSAR, Section [15.7.4] (Ref. 3).

APPLICABLE SAFETY ANALYSES

The minimum water level in the fuel storage pool meets the assumptions of the fuel handling accident described in Regulatory Guide 1.25 (Ref. 4). The resultant 2 hour thyroid dose per person at the exclusion area boundary is a small fraction of the 10 CFR 100 (Ref. 5) limits.

According to Reference 4, there is 23 ft of water between the top of the damaged fuel bundle and the fuel pool surface during a fuel handling accident. With 23 ft of water, the assumptions of Reference 4 can be used directly. In practice, this LCO preserves this assumption for the bulk of the fuel in the storage racks. In the case of a single bundle dropped and lying horizontally on top of the spent fuel racks, however, there may be < 23 ft of water above the top of the fuel bundle and the surface, indicated by the width of the bundle. To offset this small nonconservatism, the analysis assumes that all fuel rods fail, although analysis shows that only the first few rows fail from a hypothetical maximum drop.

The fuel storage pool water level satisfies ~~Criterion~~ Criteria 2 and 3 of the NRC Policy Statement.

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B 3.7 PLANT SYSTEMS

B 3.7.16 Fuel Storage Pool Water Level

BASES

BACKGROUND

The minimum water level in the fuel storage pool meets the assumptions of iodine decontamination factors following a fuel handling accident. The specified water level shields and minimizes the general area dose when the storage racks are filled to their maximum capacity. The water also provides shielding during the movement of spent fuel.

A general description of the fuel storage pool design is given in the FSAR, Section [9.1.2], Reference 1, and the Spent Fuel Pool Cooling and Cleanup System is given in the FSAR, Section [9.1.3] (Ref. 2). The assumptions of the fuel handling accident are given in the FSAR, Section [15.7.4] (Ref. 3).

APPLICABLE SAFETY ANALYSES

The minimum water level in the fuel storage pool meets the assumptions of the fuel handling accident described in Regulatory Guide 1.25 (Ref. 4). The resultant 2 hour thyroid dose to a person at the exclusion area boundary is a small fraction of the 10 CFR 100 (Ref. 5) limits.

According to Reference 4, there is 23 ft of water between the top of the damaged fuel bundle and the fuel pool surface for a fuel handling accident. With a 23 ft water level, the assumptions of Reference 4 can be used directly. In practice, this LCO preserves this assumption for the bulk of the fuel in the storage racks. In the case of a single bundle, dropped and lying horizontally on top of the spent fuel racks, however, there may be < 23 ft of water above the top of the bundle and the surface, by the width of the bundle. To offset this small nonconservatism, the analysis assumes that all fuel rods fail, although analysis shows that only the first few rods fail from a hypothetical maximum drop.

The fuel storage pool water level satisfies ~~Criterion~~ Criteria 2 and 3 of the NRC Policy Statement.

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B 3.7 PLANT SYSTEMS

B 3.7.8 Spent Fuel Storage Pool Water Level

BASES

BACKGROUND

The minimum water level in the spent fuel storage pool meets the assumptions of iodine decontamination factors following a fuel handling accident.

A general description of the spent fuel storage pool design is found in the FSAR, Section [ ] (Ref. 1). The assumptions of the fuel handling accident are found in the FSAR, Section [15.1.4] (Ref. 2).

APPLICABLE SAFETY ANALYSES

The water level above the irradiated fuel assemblies is an explicit assumption of the fuel handling accident. A fuel handling accident is evaluated to ensure that the radiological consequences (calculated whole body and thyroid doses at the exclusion area and low population zone boundaries) are $\leq$ 25% of 10 CFR 100 (Ref. 3) exposure guidelines NUREG-0800 (Ref. 4). A fuel handling accident could release a fraction of the fission product inventory by breaching the fuel rod cladding as discussed in the Regulatory Guide 1.25 (Ref. 5).

The fuel handling accident is evaluated for the dropping of an irradiated fuel assembly onto the reactor core. The consequences of a fuel handling accident over the spent fuel storage pool are no more severe than those of the fuel handling accident over the reactor core, as discussed in the FSAR, Section [9.1.2.2.2] (Ref. 6). The water level in the spent fuel storage pool provides for absorption of water soluble fission product gases and transport delays of soluble and insoluble gases that must pass through the water before being released to the secondary containment atmosphere. This absorption and transport delay reduces the potential radioactivity of the release during a fuel handling accident.

The spent fuel storage pool water level satisfies ~~Criterion~~ Criteria 2 and 3 of the NRC Policy Statement.

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B 3.7 PLANT SYSTEMS

B 3.7.7 Fuel Pool Water Level

BASES

BACKGROUND

The minimum water level in the spent fuel storage pool and upper containment fuel storage pool meets the assumptions of iodine decontamination factors following a fuel handling accident.

A general description of the spent fuel storage pool and upper containment fuel storage pool design is found in the FSAR, Section [9.1.2] (Ref. 1). The assumptions of the fuel handling accident are found in the FSAR, Sections [15.7.4] and [15.7.6] (Refs. 2 and 3, respectively).

APPLICABLE SAFETY ANALYSES

The water level above the irradiated fuel assemblies is an explicit assumption of the fuel handling accident. A fuel handling accident is evaluated to ensure that the radiological consequences (calculated whole body and thyroid doses at the exclusion area and low population zone boundaries) are $\leq$ 25% (NUREG-0800, Section 15.7.4, Ref. 4) of the 10 CFR 100 (Ref. 5) exposure guidelines. A fuel handling accident could release a fraction of the fission product inventory by breaching the fuel rod cladding as discussed in the Regulatory Guide 1.25 (Ref. 6).

The fuel handling accident is evaluated for the dropping of an irradiated fuel assembly onto stored fuel bundles. The consequences of a fuel handling accident inside the auxiliary building and inside containment are documented in References 2 and 3, respectively. The water levels in the spent fuel storage pool and upper containment fuel storage pool provide for absorption of water soluble fission product gases and transport delays of soluble and insoluble gases that must pass through the water before being released to the secondary containment atmosphere. This absorption and transport delay reduces the potential radioactivity of the release during a fuel handling accident.

The fuel pool water level satisfies ~~Criterion~~ Criteria 2 and 3 of the NRC Policy Statement.

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