



**Pacific Gas and  
Electric Company®**

James R. Becker  
Site Vice President

Diablo Canyon Power Plant  
Mail Code 104/5/601  
P. O. Box 56  
Avila Beach, CA 93424

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805.545.3462  
Internal: 691.3462  
Fax: 805.545.6445

PG&E Letter HBL-10-004

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D.C. 20555

Docket No. 50-133 OL-DPR-7  
Humboldt Bay Power Plant, Unit 3  
License Amendment Request 10-01

Deletion of Technical Specification (TS) 3.1.3, "Fuel Storage Pool Liner Water Level," and TS Sections 1.0, "Use and Application," 3.0, "Limiting Condition for Operation (LCO) Applicability," 3.0, "Surveillance Requirement (SR) Applicability," 4.1, "Site Location," and 5.6.2, "Technical Specification (TS) Bases Control Program"

Dear Commissioners and Staff:

In accordance with 10 CFR 50.90, enclosed is an application for an amendment to Facility Operating License No. DPR-7 for Humboldt Bay Power Plant (HBPP) Unit 3. The enclosed License Amendment Request (LAR) proposes deletion of Technical Specification (TS) 3.1.3, "Fuel Storage Pool Liner Water Level." TS 3.1.3 places restrictions on the maximum operating water level in the gap between the stainless steel liner covering the inside surface of the fuel storage pool and the pool walls. This TS restriction was originally intended to preclude leakage from the fuel storage pool to surrounding groundwater, and to preclude groundwater seepage into the pool.

The transfer of spent fuel from the fuel storage pool to the Independent Spent Fuel Storage Installation (ISFSI) was completed in December 2008, and the decontamination and dismantlement phase of HBPP Unit 3 decommissioning has commenced. Subsequently, Pacific Gas and Electric Company (PG&E) updated the fuel storage pool rupture analysis to reflect the current radioactive isotope inventory of the pool. This recent analysis demonstrates that the radiological dose consequences to a member of the public from the entire fuel storage pool inventory being released to groundwater are orders of magnitude less than the impact to a member of the public in one year from background radiation. It can therefore be concluded that, without maintaining the liner gap level, the dose consequences to the public from fuel storage pool leakage are also negligible.

The deletion of TS 3.1.3 will eliminate the only remaining Unit 3 TS Limiting Condition for Operation (LCO). Therefore, it is also proposed that TS sections 1.0, "Use and Application," 3.0, "Limiting Condition for Operation (LCO) Applicability," 3.0, "Surveillance Requirement (SR) Applicability," and 5.6.2, "Technical Specification (TS) Bases Control Program," be deleted because these sections are only applicable to TS LCOs.

AV/MSO  
FSME



In addition, editorial corrections are proposed for the Table of Contents and TS section 4.1, "Site Location."

Enclosure 1 provides the evaluation of the changes proposed in this LAR. Enclosure 2 provides a markup of the HBPP Unit 3 TS showing the proposed changes. Enclosure 3 provides a retyped (clean) version of the HBPP Unit 3 TS incorporating the proposed changes.

The changes proposed in this LAR are not required to address an immediate safety concern. However, the proposed changes will result in reduced burden on the HBPP plant staff as a result of the elimination of the TS surveillance requirement to monitor the water level in the fuel storage pool liner gap. PG&E relies on the operating staff of HBPP Units 1 and 2 to fully comply with the TS surveillance requirement. However, PG&E intends to permanently terminate operation of HBPP Units 1 and 2 in September 2010. On this basis, PG&E requests NRC approval of these proposed changes by September 1, 2010, and that the changes be made effective upon NRC issuance of a license amendment, to be implemented within 60 days from the date of issuance of the license amendment.

There are no regulatory commitments made in this letter.

If you wish to discuss the information in the enclosure, please contact David Sokolsky at (707) 444-0801.

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

Executed on April 9, 2010.

Sincerely,

James R. Becker  
*Site Vice President*

cc: Gary W. Butner, California Department of Public Health  
Elmo E. Collins, Jr., NRC Region IV  
John B. Hickman, NRC  
PG Fossil Gen HBPP Humboldt Distribution

Enclosures

## EVALUATION

### 1.0 DESCRIPTION

Pacific Gas and Electric Company (PG&E) requests to amend Operating License No. DPR-7 for Humboldt Bay Power Plant (HBPP) Unit 3.

The proposed change would modify the Technical Specifications (TS) to delete TS 3.1.3, "Fuel Storage Pool Liner Water Level" and TS sections 1.0, "Use and Application," 3.0, "Limiting Condition for Operation (LCO) Applicability," 3.0, "Surveillance Requirement (SR) Applicability," and 5.6.2, "Technical Specification (TS) Bases Control Program." In addition, the heading to Section 4.1, "Site Location," is proposed to be restored.

### 2.0 PROPOSED CHANGES

This License Amendment Request (LAR) proposes to revise the HBPP Unit 3 TS to delete TS 3.1.3, "Fuel Storage Pool Liner Water Level," because the radiological dose consequences of fuel storage pool leakage are negligible. Since the deletion of TS 3.1.3 would also eliminate the only Unit 3 TS LCO, it is also proposed that sections 1.0, "Use and Application," 3.0, "Limiting Condition for Operation (LCO) Applicability," 3.0, "Surveillance Requirement (SR) Applicability," and 5.6.2, "Technical Specification (TS) Bases Control Program," be deleted because the information in these sections is only applicable to TS LCOs.

Two editorial changes are proposed to correct changes made in previous license amendments. The TS Table of Contents will be corrected to delete the word "(Deleted)" for Section 5.8 because this section remains in the TS. The word "(Deleted)" was erroneously added in a previous license amendment. In addition, the heading to Section 4.1, "Site Location," is proposed to be restored because it was inadvertently removed in a previous license amendment.

The proposed changes to the TS are noted in the marked-up copy of the applicable TS sections provided in Enclosure 2. Enclosure 3 provides a retyped (clean) version of the HBPP Unit 3 TS incorporating the proposed changes

### 3.0 BACKGROUND

A stainless steel liner covering the inside surface of the fuel storage pool was installed in 1963 because of high chloride concentrations in the pool that were suspected to be from groundwater in-leakage. The liner formed a nominal one-quarter-inch gap between the walls and floor of the pool and the liner. It was discovered in March of 1966 that a leak had developed in the fuel storage pool

liner and that the leakage was from the fuel storage pool to the gap, and then through the structural concrete to the adjacent groundwater. TS 3.1.3 requires that the water level in the gap be maintained below the fuel storage pool water level and below the exterior groundwater level to preclude both pool leakage to the surrounding groundwater and groundwater leakage into the pool. Water level in the liner gap is maintained using a liner gap pump, which discharges to the Turbine Building Drain Tank in the Liquid Radwaste Collection System.

## 4.0 TECHNICAL ANALYSIS

- 4.1 TS 3.1.3, "Fuel Storage Pool Liner Water Level," places restrictions on the maximum operating water level in the gap between the stainless steel liner covering the inside surface of the fuel storage pool and the pool walls.

Following completion of transfer of spent fuel from the storage pool to the Independent Spent Fuel Storage Facility (ISFSI) in December 2008, PG&E recognized the need to update the HBPP Unit 3 Defueled Safety Analysis Report (DSAR), including the fuel pool rupture analysis. The pool rupture analysis had not been updated since 1984, and the radionuclides previously evaluated did not accurately represent the current radioactive isotope inventory of the pool. For example, the four radionuclides that were evaluated in 1984 have decayed since that time, some of them significantly (Cesium-134 has a half life of approximately two years and is no longer present). Failures of stainless steel clad fuel early in Unit 3 operation and spent fuel crud have also contaminated plant systems, including the storage pool, with an array of uranium, transuranic and corrosion product radionuclides that were not considered in the 1984 DSAR analysis.

Humboldt Bay Power Plant, Unit 3 Calculation NX-356, "Radiological Consequences for Breach of Defueled Spent Fuel Pool, June 2009," was performed to re-analyze rupture of the fuel storage pool from a heavy load drop. The calculation inputs include the radioisotopic results from a March 2009 sample of fuel storage pool water and the conservative assumption that a uniform layer of high activity sludge is covering the floors of the fuel pit and the cask pit. In summary, the calculation concludes that various HBPP site groundwater studies continue to support the DSAR assertion that the only feasible pathway for radiological dose to the public is from human consumption of fish. The sum of the peak yearly doses from each radionuclide released, which occur anywhere from three years to 244 years from the initiating event, is 0.37 mrem; therefore, if all the peak doses were to occur in the same year, the maximum yearly dose to a single member of the public would be approximately 0.4 mrem due to the radionuclide concentrations in edible aquatic foods in Humboldt Bay. The highest yearly dose to a member of the public is 0.24 mrem at 250 years. These dose consequences are orders of magnitude less than the impact to a member of

the public in one year from background radiation and are therefore insignificant. Based on these results, the fuel storage pool rupture analysis was removed from the DSAR under the provisions of 10 CFR 50.59.

Since PG&E Calculation NX-356 evaluates the rupture of the fuel storage pool and subsequent discharge of the entire contents of the pool, the results of Calculation NX-356 conservatively envelope the radiological consequences of fuel storage pool leakage. The assumption in Calculation NX-356 that the entire contents of the fuel storage pool are released to the groundwater does not take credit for monitoring and maintaining the fuel storage pool liner gap water level to ensure that leakage is captured and precluded from entering the surrounding groundwater. As a result, monitoring and maintaining the fuel storage pool liner gap water level is not required to ensure that the radiological consequences of fuel storage pool leakage are maintained at insignificant levels. Since monitoring fuel storage pool liner gap water level is not required to ensure that average annual releases of radioactive material in effluents and their resultant committed effective dose equivalents are maintained at small percentages of the dose limits specified in 10 CFR 20.1301, retention of this TS requirement is not required. Thus, it is proposed that TS 3.1.3 be deleted.

- 4.2 TS section 1.0, "Use and Application," consists of sub-sections 1.1, "Definitions," 1.2, "Logical Connectors," 1.3, "Completion Times," and 1.4, "Frequency."

Sub-section 1.1 contains definitions for "ACTIONS" and "ELEVATION." These two terms are currently used only in TS 3.1.3, which is proposed to be deleted.

Sub-section 1.2 was determined to be no longer applicable in a previous license amendment and can, therefore, be deleted.

Sub-section 1.3 establishes the Completion Time convention and provides guidance for its use. This term is currently used only in TS 3.1.3, which is proposed to be deleted.

Sub-section 1.4 defines the proper use and application of Frequency requirements. This term is used only in TS 3.1.3, which is proposed to be deleted.

As a result, if all sub-sections within TS section 1.0 are being deleted, it is proposed that TS section 1.0, "Use and Application," be deleted.

- 4.3 TS section 3.0, "Limiting Condition for Operation (LCO) Applicability," establishes the conditions for which TS LCOs must be met and the requirements that shall be met upon failure to meet a given LCO. This

section applies only to LCOs. TS 3.1.3 contains the only remaining LCO and is being proposed to be deleted. Therefore, it is also proposed that TS section 3.0, "Limiting Condition for Operation (LCO) Applicability," be deleted.

- 4.4 TS section 3.0, "Surveillance Requirement (SR) Applicability," establishes the conditions for which TS Surveillance Requirements (SR) must be met and the requirements that shall be met when a given SR is not performed within its specified frequency. This section applies only to LCOs. TS 3.1.3 contains the only remaining SR and is being proposed to be deleted. Therefore, it is also proposed that TS section 3.0, "Surveillance Requirement (SR) Applicability," be deleted.
- 4.5 The heading of TS section 4.1, "Site Location," is proposed to be restored to the first paragraph of section 4.0, "Design Features." The heading was previously deleted in error.
- 4.6 TS section 5.6.2, "Technical Specification (TS) Bases Control Program," establishes the process for making changes to the TS Bases. This section applies only to LCOs. TS 3.1.3 contains the only remaining LCO and is being proposed to be deleted. Therefore, it is also proposed that TS section 5.6.2 be deleted.
- 4.7 The Table of Contents is being corrected to delete the word "(Deleted)" from section 5.8, "High Radiation Area." This section remains in the TS, and the word "(Deleted)" was erroneously added in a previous license amendment.

## **5.0 REGULATORY ANALYSIS**

### **5.1 No Significant Hazards Consideration**

Pacific Gas and Electric (PG&E) has evaluated the no significant hazards consideration involved with the proposed amendment, focusing on the three standards set forth in 10 CFR 50.92(c) as quoted below:

"The Commission may make a final determination, under the procedures in §50.91, that a proposed amendment to an operating license or a combined license for a facility or reactor licensed under §§50.21(b) or 50.22, or for a testing facility involves no significant hazards consideration, if operation of the facility in accordance with the proposed amendment would not:

- (1) Involve a significant increase in the probability or consequences of an accident previously evaluated; or

- (2) Create the possibility of a new or different kind of accident from any accident previously evaluated; or
- (3) Involve a significant reduction in a margin of safety.”

The following evaluation is provided for the no significant hazards consideration standards:

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

Response: No.

The proposed changes eliminate the TS requirement to control the operating water level in the gap between the fuel storage pool liner and the pool concrete structure and delete the TS sections that are applicable to Limiting Conditions for Operation (LCO).

Elimination of the TS requirements to control liner gap water level will not increase the probability or consequences of the previously analyzed (and recently updated) fuel storage pool rupture accident. The basis of TS 3.1.3 is to preclude both pool leakage to the surrounding groundwater and groundwater leakage into the pool. The radiological consequences of pool leakage are conservatively bounded by the fuel storage pool rupture analysis, an analysis which demonstrates that the consequences of a breach of the fuel storage pool are insignificant.

Additionally, the proposed changes will not result in the modification of any systems, structures or components and will not affect any parameters or conditions that could contribute to the initiation of an accident.

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

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

Response: No

The proposed changes will not result in the modification of any systems, structures or components and will not affect any parameters or conditions that could contribute to the initiation of an accident.

Therefore, the proposed changes will not create the possibility of a new or different kind of accident from those previously evaluated.

3. Does the change involve a significant reduction in a margin of safety?

Response: No

The design basis and accident assumptions within the Humboldt Bay Power Plant (HBPP) Unit 3 Defueled Safety Analysis Report and the TS relating to spent fuel are no longer applicable. The proposed changes do not affect remaining plant operations, nor structures, systems, or components supporting decommissioning activities. In addition, the proposed changes do not result in a change in initial conditions, system response time, or in any other parameter affecting the course of a decommissioning activity accident analysis. Therefore, the proposed changes will not involve a significant reduction in the margin of safety.

Based on these considerations, it is concluded that the proposed changes will not endanger the public health and safety.

5.2 No Limiting Conditions for Operation (LCO) Requirements

10 CFR 50.36(d)(2)(ii), specifies the criteria for a limiting condition for operation as follows;

"A technical specification limiting condition for operation of a nuclear reactor must be established for each item meeting one or more of the following criteria:

(A) *Criterion 1.* Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary.

(B) *Criterion 2.* A process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

(C) *Criterion 3.* A structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

(D) *Criterion 4.* A structure, system, or component which operating experience or probabilistic risk assessment has shown to be significant to public health and safety."



The following evaluation is provided to justify no LCO requirements.

(A) *Criterion 1.* Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary.

HBPP Unit 3 is a permanently shutdown facility with the fuel removed, thus there is no active reactor coolant pressure boundary, only a radiological control boundary.

(B) *Criterion 2.* A process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

HBPP Unit 3 is a permanently shutdown facility with the fuel removed, thus there are no longer any reactor design basis accidents or transient conditions that present a challenge to a fission product barrier.

(C) *Criterion 3.* A structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

HBPP Unit 3 is a permanently shutdown facility with the fuel removed, thus there are no longer any reactor design basis accidents or transient conditions that present a challenge to a fission product barrier.

(D) *Criterion 4.* A structure, system, or component which operating experience or probabilistic risk assessment has shown to be significant to public health and safety.

HBPP Unit 3 fuel has been removed from the spent fuel pool and, in accordance with PG&E Calculation NX-356, dose consequences of not maintaining the liner gap has been shown not to present a significant risk to public health and safety.

Based on the above evaluation, it is concluded that the proposed changes will not endanger the public health and safety.

### 5.3 Applicable Regulatory Requirements/Criteria

The proposed changes have no effect on any plant systems or on maintaining the plant in a safe condition. Therefore, the proposed changes are not considered to have any adverse safety significance. HBPP would continue to satisfy applicable regulatory and safety criteria.

In conclusion, based on the considerations above:

- (1) There is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner;
- (2) Such activities will be conducted in compliance with the Commission's regulations; and
- (3) The issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

## **6.0 ENVIRONMENTAL CONSIDERATION**

PG&E has evaluated the proposed changes and determined that the changes do not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed changes meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(10)(ii). Therefore, pursuant to 10 CFR 51.22(b), an environmental impact statement or environmental assessment of the proposed changes is not required.

## **7.0 REFERENCES**

1. Humboldt Bay Power Plant, Unit 3 Calculation NX-356, "Radiological Consequences for Breach of Defueled Spent Fuel Pool, June 2009."

Enclosure 2  
PG&E Letter HBL-10-004

**PROPOSED REVISION TO HBPP  
TECHNICAL SPECIFICATIONS**

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**Technical Specifications**  
**Humboldt Bay Power Plant Unit 3**  
**Eureka, California**

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## 1.0 USE AND APPLICATION

This section is not applicable to a facility with no Limiting Conditions for Operation

### 1.1 Definitions

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#### NOTE

The defined terms of this section appear in capitalized type and are applicable throughout these Technical Specifications and Bases.

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<u>Term</u>	<u>Definition</u>
ACTIONS	ACTIONS shall be that part of a Specification that prescribes Required Actions to be taken under designated Conditions within specified Completion Times.
ELEVATION	All elevations shall apply to a datum of mean lower low water (MLLW) level except where noted.

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## 1.0 USE AND APPLICATION

### 1.2 Logical Connectors

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~~This section is not applicable to a facility with all of the spent nuclear fuel stored in an Independent Spent Fuel Storage Installation (ISFSI). (Page 1.2-2 has been deleted).~~

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1.0 — USE AND APPLICATION

1.3 — Completion Times

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<b>PURPOSE</b>	The purpose of this section is to establish the Completion Time convention and to provide guidance for its use.
<b>BACKGROUND</b>	Limiting Conditions for Operation (LCOs) specify minimum requirements when water in the Spent Fuel Storage Pool or liner is contaminated with radioactive materials. The ACTIONS associated with an LCO state Conditions that typically describe the ways in which the requirements of the LCO can fail to be met. Specified with each stated Condition are Required Action(s) and Completion Times(s).
<b>DESCRIPTION</b>	The Completion Time is the amount of time allowed for completing a Required Action. It is referenced to the time of discovery of a situation (e.g., variable not within limits) that requires entering an ACTIONS Condition unless otherwise specified, providing the unit is in a MODE or specified condition stated in the Applicability of the LCO. Required Actions must be completed prior to the expiration of the specified Completion Time. An ACTIONS Condition remains in effect and the Required Actions apply until the Condition no longer exists or the unit is not within the LCO Applicability.
<b>EXAMPLES</b>	The following examples illustrate the use of Completion Times with different types of Conditions.

(continued)



EXAMPLES  
(continued)

EXAMPLE 1.3-1

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Required Action and associated Completion Time not met.	A.1 Verify.....	6 hours
	<u>AND</u> A.2 Restore	36 hours

Condition A has two Required Actions. Each Required Action has its own separate Completion Time. Each Completion Time is referenced to the time that Condition A is entered. The Required Actions of Condition A are to perform the verification required by ACTION A.1 within 6 hours and to perform the restoration required by ACTION A.2 within 36 hours. A total of 6 hours is allowed for performing ACTION A.1 and a total of 36 hours (not 42 hours) is allowed for performing ACTION A.2 from the time that Condition A was entered. If ACTION A.1 is completed within 3 hours, the time allowed completing ACTION A.2 is the next 33 hours because the total time allowed for completing ACTION A.2 is 36 hours.

IMMEDIATE  
COMPLETION  
TIME

When "Immediately" is used as a Completion Time, the Required Action should be pursued without delay and in a controlled manner.

1.0 USE AND APPLICATION

1.4 Frequency

**PURPOSE** The purpose of this section is to define the proper use and application of Frequency requirements.

**DESCRIPTION** Each Surveillance Requirement (SR) has a specified frequency in which the surveillance must be met in order to meet the associated LCO. An understanding of the correct application of the specified Frequency is necessary for compliance with the SR.

The "Specified Frequency" is referred to throughout this section and each of the Specifications of Section 3.0, "Surveillance Requirement (SR) Applicability." The "Specified Frequency" consists of the requirements of the frequency column of each SR, as well as certain Notes in the surveillance column that modify performance requirements.

**EXAMPLES** The following examples illustrate the various ways that frequencies are specified. In these examples, the applicability of the LCO (LCO not shown) is when irradiated fuel is stored in the fuel pool.

EXAMPLE 1.4.1

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
Verify parameter is within limits	12 hours

Example 1.4.1 contains the type of SR most often encountered in the TS. The frequency specifies an interval (12 hours) during which the associated Surveillance must be performed at least one time. Performance of the surveillance initiates the subsequent interval. Although the frequency is stated as 12 hours, an extension of the time interval to 1.25 times the interval specified in the Frequency is allowed by SR 3.0.2 for operational flexibility. The measurement of this interval continues at all times, even when the SR is not required to be met per SR 3.0.1 (such as when a variable is outside specified limits, or the unit is outside the applicability of the LCO). If the interval specified by SR 3.0.2 is exceeded while the unit is in the specified condition in the applicability of the LCO, and the performance of the surveillance is not otherwise modified, then SR 3.0.3 becomes applicable.

(continued)

EXAMPLES  
(continued)

EXAMPLE 1.4-2

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
Verify parameter is within limits	Within 24 hours prior to moving irradiated fuel  <u>AND</u> 24 hours thereafter

Example 1.4-2 has two Frequencies. The first is a one time performance Frequency, and the second is of the type shown in Example 1.4-1. The logical connector "AND" indicates that both Frequency requirements must be met. The use of "prior to" indicates that the surveillance must be performed once before the initiation of fuel handling activities. This type of Frequency does not qualify for the extension allowed by SR 3.0.2. "Thereafter" indicates future performances must be established per SR 3.0.2, but only after a specified condition is first met (i.e., the "prior to" performance in this example).

## 2.0 SAFETY LIMITS

This section is not applicable since Humboldt Bay Power Plant (HBPP) Unit 3 is permanently defueled.

### 3.0 LIMITING CONDITION FOR OPERATION (LCO) APPLICABILITY

This section is not applicable to a facility with no Limiting Conditions for Operation

LCO 3.0.1	LCOs shall be met during the specified conditions in the Applicability, except as provided in LCO 3.0.2.
LCO 3.0.2	Upon discovery of the failure to meet an LCO, the required actions of the associated Conditions shall be met.  If the LCO is met or is no longer applicable prior to expiration of the specified Completion Time(s), completion of the required action is not required unless otherwise stated.

### 3.0 SURVEILLANCE REQUIREMENT (SR) APPLICABILITY

This section is not applicable to a facility with no Limiting Conditions for Operation

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- SR 3.0.1                    ~~SRs shall be met during specific conditions in the Applicability for individual LCOs unless otherwise stated in the SR. Failure to meet a Surveillance, whether such failure is experienced during the performance of the Surveillance or between performances of the Surveillance, shall be failure to meet the LCO. Failure to perform a Surveillance within the specified Frequency shall be failure to meet the LCO except as provided in SR 3.0.3. Surveillances do not have to be performed on inoperable equipment or variables outside specified limits.~~
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- SR 3.0.2                    ~~The specified Frequency for each SR is met if the Surveillance is performed within 1.25 times the interval specified in the Frequency, as measured from the previous performance or as measured from the time a specified condition of the frequency is met.~~
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- SR 3.0.3                    ~~If it is discovered that a Surveillance was not performed within its specified frequency, then compliance with the requirement to declare the LCO not met may be delayed from the time of discovery up to 24 hours or up to the limit of the specified frequency, whichever is less. This delay period is permitted to allow performance of the surveillance.~~
- ~~If the Surveillance is not performed within the delay period, the LCO must immediately be declared not met and the applicable Condition(s) must be entered. The Completion Times of the Required Actions begin immediately upon expiration of the delay period.~~
- ~~When the Surveillance is performed within the delay period and the Surveillance is not met, the LCO must immediately be declared not met and the applicable Condition(s) must be entered. The Completion Times of the Required Actions begin immediately upon failure to meet the Surveillance.~~
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### 3.1 DEFUELED SYSTEMS

#### 3.1.1 Fuel Storage Pool Water Level

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This section is not applicable to a facility with all of the spent nuclear fuel stored in an ISFSI.

### 3.1 DEFUELED SYSTEMS

#### 3.1.2 Spent Fuel Pool Load Restrictions

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This section is not applicable to a facility with all of the spent nuclear fuel stored in an ISFSI



### 3.1 DEFUELED SYSTEMS

#### 3.1.3 Fuel Storage Pool Liner Water Level

This section is not applicable in accordance with Humboldt Bay Power Plant, Unit 3 Calculation NX-356, "Radiological Consequences for Breach of Defueled Spent Fuel Pool, June 2009."

LCO 3.1.3 The Fuel Storage Pool Liner Water Level shall be at an ELEVATION less than + 9 inches.

APPLICABILITY: When the water in the pool or liner is contaminated with radioactive materials.

#### ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Fuel Storage Pool Liner Water Level not within limit.	A.1 Restore Fuel Storage Pool Liner Water Level to within limits.	Immediately

#### SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.1.3.1 Verify the Fuel Storage Pool Liner Water Level is at an ELEVATION less than + 9 inches.	24 hours

## 4.0 DESIGN FEATURES

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### 4.1 Site Location

HBPP Unit 3 is located in Humboldt County, California, approximately 4 miles southwest of the center of the city of Eureka, on a site owned and controlled by Pacific Gas & Electric Company.

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### 4.2 Fuel Storage

4.2.1 Fuel assemblies shall not be stored in the Spent Fuel Storage Pool. Fuel assemblies previously stored in the Spent Fuel Storage Pool are now stored in dry casks in the ISFSI.

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## 5.0 ADMINISTRATIVE CONTROLS

### 5.1 Responsibility

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Personnel responsibilities are identified in the Quality Assurance Plan.

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## 5.0 ADMINISTRATIVE CONTROLS

### 5.2 Organization

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This section is not applicable to a facility with all of the spent nuclear fuel stored in an ISFSI.  
(Pages 5.0-3 and 5.0-4 have been deleted).

## 5.0 ADMINISTRATIVE CONTROLS

### 5.3 Facility Staff Qualifications

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Facility staff qualifications are identified in the Quality Assurance Plan.

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## 5.0 ADMINISTRATIVE CONTROLS

### 5.4 Training

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This section is not applicable to a facility with all of the spent nuclear fuel stored in an ISFSI.

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## 5.0 ADMINISTRATIVE CONTROLS

### 5.5 Procedures

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5.5.1 Written procedures shall be established, implemented, and maintained covering the following activities:

- a. (Deleted)
  - b. Fire Protection Program implementation;
  - c. Quality assurance for radiological effluent and environmental monitoring;
  - d. (Deleted)
  - e. All programs specified in Specification 5.6.
-

5.0 ADMINISTRATIVE CONTROLS

5.6 Programs and Manuals

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The following programs shall be established, implemented and maintained.

5.6.1 Offsite Dose Calculation Manual (ODCM)

ODCM requirements are described in the Quality Assurance Plan.

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(Continued)



## 5.6 Programs and Manuals

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### 5.6.2 Technical Specification (TS) Bases Control Program

This section is not applicable to a facility with no Limiting Conditions for Operation

~~This program provides a means for processing changes to the Bases of these Technical Specifications.~~

- ~~a. Changes to the Bases of the TS shall be made under appropriate administrative controls and reviews.~~
- ~~b. Licensees may make changes to Bases without prior NRC approval provided the changes do not involve either of the following:
  - ~~1. a change in the TS incorporated in the license; or~~
  - ~~2. a change to the updated DSAR or Bases that requires prior NRC approval as defined in 10CFR 50.59.~~~~
- ~~c. The Bases Control Program shall contain provisions to ensure that the Bases are maintained consistent with the DSAR.~~
- ~~d. Proposed changes that meet the criteria of Specification 5.6.2b above shall be reviewed and approved by the NRC prior to implementation. Changes to the Bases implemented without prior NRC approval shall be provided to the NRC on a frequency consistent with 10CFR 50.71(e).~~

### 5.6.3 Fuel Storage Pool Water Chemistry Program

This section is not applicable to a facility with all of the spent nuclear fuel stored in an ISFSI.

### 5.6.4 Radioactive Effluent Controls Program (RECP)

RECP requirements are described in the Quality Assurance Plan.

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(Continued)

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## 5.6 Programs and Manuals

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### 5.6.5 Neutron Absorber Surveillance Program

This section is not applicable to a facility with all of the spent nuclear fuel stored in an ISFSI.

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## 5.0 ADMINISTRATIVE CONTROLS

### 5.7 Reporting Requirements

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Reporting requirements are described in the Quality Assurance Plan.

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## 5.0 ADMINISTRATIVE CONTROLS

### 5.8 High Radiation Area

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As provided in paragraph 20.1601(c) of 10CFR Part 20, the following controls shall be applied to high radiation areas in place of the controls required by paragraph 20.1601(a) and (b) of 10CFR Part 20:

#### 5.8.1 High Radiation Areas with dose Rates Not Exceeding 1.0 rem/hour at 30 Centimeters from the Radiation Source or from any Surface Penetrated by the Radiation:

- a. Each entryway to such an area shall be barricaded and conspicuously posted as a high radiation area. Such barricades may be opened as necessary to permit entry or exit of personnel or equipment.
- b. Access to, and activities in, each such area shall be controlled by means of a Radiation Work Permit (RWP) or equivalent that includes specification of radiation dose rates in the immediate work area(s) and other appropriate radiation protection equipment and measures.
- c. Individuals qualified in radiation protection procedures and personnel continuously escorted by such individuals may be exempted from the requirement for an RWP or equivalent while performing their assigned duties provided that they are otherwise following plant radiation protection procedures for entry to, exit from, and work in such areas.
- d. Each individual or group entering such an area shall possess:
  1. A radiation monitoring device that continuously displays radiation dose rates in the area, or
  2. A radiation monitoring device that continuously integrates the radiation dose rates in the area and alarms when the device's dose alarm setpoint is reached, with an appropriate alarm setpoint, or
  3. A radiation monitoring device that continuously transmits dose rate and cumulative dose information to a remote receiver monitored by radiation protection personnel responsible for controlling personnel radiation exposure within the area, or
  4. A self-reading dosimeter (e.g., pocket ionization chamber or electronic dosimeter), and
    - (i) Be under the surveillance, as specified in the RWP or equivalent, while in the area, of an individual qualified in radiation protection procedures, equipped with a radiation monitoring device that continuously displays radiation dose rates in the area, who is responsible for controlling personnel exposure within the area, or

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(continued)

## 5.8 High Radiation Area

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### 5.8.1 High Radiation Areas with Dose Rates Not Exceeding 1.0 rem/hour at 30 Centimeters from the Radiation Source or from any Surface Penetrated by the Radiation (continued):

- (ii) Be under the surveillance as specified in the RWP or equivalent, while in the area, by means of closed circuit television, of personnel qualified in radiation protection procedures, responsible for controlling personnel radiation exposure in the area, and with the means to communicate with individuals in the area who are covered by such surveillance.
- e. Except for individuals qualified in radiation protection procedures or personnel continuously escorted by such individuals, entry into such areas shall be made only after dose rates in the area have been determined and entry personnel are knowledgeable of them. These continuously escorted personnel will receive a pre-job briefing prior to entry into such areas. This dose rate determination, knowledge, and pre-job briefing does not require documentation prior to initial entry.

### 5.8.2 High Radiation Areas with Dose Rates Greater than 1.0 rem/hour at 30 Centimeters from the Radiation Source or from any Surface Penetrated by the Radiation, but less than 500 rads/hour at 1 meter from the Radiation Source or from any Surface Penetrated by the Radiation:

- a. Each entryway to such an area shall be conspicuously posted as a high radiation area and shall be provided with a locked or continuously guarded door or gate that prevents unauthorized entry, and, in addition:
  - 1. All such door and gate keys shall be maintained under the administrative control of the shift foreman, radiation protection manager, or his or her designee.
  - 2. Doors and gates shall remain locked except during periods of personnel or equipment entry or exit.
- b. Access to, and activities in, each such area shall be controlled by means of an RWP or equivalent that includes specification of radiation dose rates in the immediate work area(s) and other appropriate radiation protection equipment and measures.
- c. Individuals qualified in radiation protection procedures may be exempted from the requirement for an RWP or equivalent while performing radiation surveys in such areas provided that they are otherwise following plant radiation protection procedures for entry to, exit from, and work in such areas.
- d. Each individual or group entering such an area shall possess:
  - 1. A radiation monitoring device that continuously integrates the radiation dose rates in the area and alarms when the device's dose alarm setpoint is reached, with an appropriate alarm setpoint, or

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(continued)

## 5.8 High Radiation Area

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### 5.8.2 High Radiation Areas with Dose Rates Greater than 1.0 rem/hour at 30 Centimeters from Radiation Source or from any Surface Penetrated by the Radiation, but less than 500 rads/hour at 1 Meter from the Radiation Source or from any Surface Penetrated by the Radiation: (continued)

2. A radiation monitoring device that continuously transmits dose rate and cumulative dose information to a remote receiver monitored by radiation protection personnel responsible for controlling personnel radiation exposure within the area with the means to communicate with and control every individual in the area, or
  3. A self-reading dosimeter (e.g., pocket ionization chamber or electronic dosimeter), and
    - (i) Be under the surveillance, as specified in the RWP or equivalent, while in the area, of an individual qualified in radiation protection procedures, equipped with a radiation monitoring device that continuously displays radiation dose rates in the area, who is responsible for controlling personnel exposure within the area, or
    - (ii) Be under the surveillance as specified in the RWP or equivalent, while in the area, by means of closed circuit television, of personnel qualified in radiation protection procedures, responsible for controlling personnel radiation exposure in the area, and with the means to communicate with and control every individual in the area, or
  4. In those cases where options (2) and (3), above, are impractical or determined to be inconsistent with the "As Low As is Reasonably Achievable" principle, a radiation monitoring device that continuously displays radiation dose rates in the area.
- e. Except for individuals qualified in radiation protection procedures or personnel continuously escorted by such individuals, entry into such areas shall be made only after dose rates in the area have been determined and entry personnel are knowledgeable of them. These continuously escorted personnel will receive a pre-job briefing prior to entry into such areas. This dose rate determination, knowledge, and pre-job briefing does not require documentation prior to initial entry.
- f. Such individual areas that are within a large area, such as the refueling building, where no enclosure exists for the purpose of locking and where no enclosure can reasonably be constructed around the individual area, need not be controlled by a locked door or gate nor continuously guarded, but shall be barricaded, conspicuously posted, and a clearly visible flashing light shall be activated at the area as a warning device.
-

**RETYPE (CLEAN) VERSION OF PROPOSED CHANGES  
TO THE HBPP UNIT 3 TECHNICAL SPECIFICATIONS**

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**All**

**Insert Page**

**All**



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**Technical Specifications**  
**Humboldt Bay Power Plant Unit 3**  
**Eureka, California**

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## 1.0 USE AND APPLICATION

This section is not applicable to a facility with no Limiting Conditions for Operation

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## 2.0 SAFETY LIMITS

This section is not applicable since Humboldt Bay Power Plant (HBPP) Unit 3 is permanently defueled.

### 3.0 LIMITING CONDITION FOR OPERATION (LCO) APPLICABILITY

This section is not applicable to a facility with no Limiting Conditions for Operation

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### 3.0 SURVEILLANCE REQUIREMENT (SR) APPLICABILITY

This section is not applicable to a facility with no Limiting Conditions for Operation

---

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### 3.1 DEFUELED SYSTEMS

#### 3.1.1 Fuel Storage Pool Water Level

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This section is not applicable to a facility with all of the spent nuclear fuel stored in an ISFSI.

### 3.1 DEFUELED SYSTEMS

#### 3.1.2 Spent Fuel Pool Load Restrictions

---

This section is not applicable to a facility with all of the spent nuclear fuel stored in an ISFSI



### 3.1 DEFUELED SYSTEMS

#### 3.1.3 Fuel Storage Pool Liner Water Level

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This section is not applicable in accordance with Humboldt Bay Power Plant, Unit 3 Calculation NX-356, "Radiological Consequences for Breach of Defueled Spent Fuel Pool, June 2009."

## 4.0 DESIGN FEATURES

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### 4.1 Site Location

HBPP Unit 3 is located in Humboldt County, California, approximately 4 miles southwest of the center of the city of Eureka, on a site owned and controlled by Pacific Gas & Electric Company.

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### 4.2 Fuel Storage

4.2.1 Fuel assemblies shall not be stored in the Spent Fuel Storage Pool. Fuel assemblies previously stored in the Spent Fuel Storage Pool are now stored in dry casks in the ISFSI.

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## 5.0 ADMINISTRATIVE CONTROLS

### 5.1 Responsibility

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Personnel responsibilities are identified in the Quality Assurance Plan.

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## 5.0 ADMINISTRATIVE CONTROLS

### 5.2 Organization

---

This section is not applicable to a facility with all of the spent nuclear fuel stored in an ISFSI. (Pages 5.0-3 and 5.0-4 have been deleted).

5.0 ADMINISTRATIVE CONTROLS

5.3 Facility Staff Qualifications

---

Facility staff qualifications are identified in the Quality Assurance Plan.

---

5.0 ADMINISTRATIVE CONTROLS

5.4 Training

---

This section is not applicable to a facility with all of the spent nuclear fuel stored in an ISFSI.

---

## 5.0 ADMINISTRATIVE CONTROLS

### 5.5 Procedures

---

5.5.1 Written procedures shall be established, implemented, and maintained covering the following activities:

- a. (Deleted)
  - b. Fire Protection Program implementation;
  - c. Quality assurance for radiological effluent and environmental monitoring;
  - d. (Deleted)
  - e. All programs specified in Specification 5.6.
-

5.0 ADMINISTRATIVE CONTROLS

5.6 Programs and Manuals

---

The following programs shall be established, implemented and maintained.

5.6.1 Offsite Dose Calculation Manual (ODCM)

ODCM requirements are described in the Quality Assurance Plan.

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(Continued)



## 5.6 Programs and Manuals

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### 5.6.2 Technical Specification (TS) Bases Control Program

This section is not applicable to a facility with no Limiting Conditions for Operation

### 5.6.3 Fuel Storage Pool Water Chemistry Program

This section is not applicable to a facility with all of the spent nuclear fuel stored in an ISFSI.

### 5.6.4 Radioactive Effluent Controls Program (RECP)

RECP requirements are described in the Quality Assurance Plan.

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## 5.6 Programs and Manuals

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### 5.6.5 Neutron Absorber Surveillance Program

This section is not applicable to a facility with all of the spent nuclear fuel stored in an ISFSI.

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## 5.0 ADMINISTRATIVE CONTROLS

### 5.7 Reporting Requirements

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Reporting requirements are described in the Quality Assurance Plan.

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## 5.0 ADMINISTRATIVE CONTROLS

### 5.8 High Radiation Area

---

As provided in paragraph 20.1601(c) of 10CFR Part 20, the following controls shall be applied to high radiation areas in place of the controls required by paragraph 20.1601(a) and (b) of 10CFR Part 20:

#### 5.8.1 High Radiation Areas with dose Rates Not Exceeding 1.0 rem/hour at 30 Centimeters from the Radiation Source or from any Surface Penetrated by the Radiation:

- a. Each entryway to such an area shall be barricaded and conspicuously posted as a high radiation area. Such barricades may be opened as necessary to permit entry or exit of personnel or equipment.
- b. Access to, and activities in, each such area shall be controlled by means of a Radiation Work Permit (RWP) or equivalent that includes specification of radiation dose rates in the immediate work area(s) and other appropriate radiation protection equipment and measures.
- c. Individuals qualified in radiation protection procedures and personnel continuously escorted by such individuals may be exempted from the requirement for an RWP or equivalent while performing their assigned duties provided that they are otherwise following plant radiation protection procedures for entry to, exit from, and work in such areas.
- d. Each individual or group entering such an area shall possess:
  1. A radiation monitoring device that continuously displays radiation dose rates in the area, or
  2. A radiation monitoring device that continuously integrates the radiation dose rates in the area and alarms when the device's dose alarm setpoint is reached, with an appropriate alarm setpoint, or
  3. A radiation monitoring device that continuously transmits dose rate and cumulative dose information to a remote receiver monitored by radiation protection personnel responsible for controlling personnel radiation exposure within the area, or
  4. A self-reading dosimeter (e.g., pocket ionization chamber or electronic dosimeter), and
    - (i) Be under the surveillance, as specified in the RWP or equivalent, while in the area, of an individual qualified in radiation protection procedures, equipped with a radiation monitoring device that continuously displays radiation dose rates in the area, who is responsible for controlling personnel exposure within the area, or

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(continued)

## 5.8 High Radiation Area

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### 5.8.1 High Radiation Areas with Dose Rates Not Exceeding 1.0 rem/hour at 30 Centimeters from the Radiation Source or from any Surface Penetrated by the Radiation (continued):

- (ii) Be under the surveillance as specified in the RWP or equivalent, while in the area, by means of closed circuit television, of personnel qualified in radiation protection procedures, responsible for controlling personnel radiation exposure in the area, and with the means to communicate with individuals in the area who are covered by such surveillance.
- e. Except for individuals qualified in radiation protection procedures or personnel continuously escorted by such individuals, entry into such areas shall be made only after dose rates in the area have been determined and entry personnel are knowledgeable of them. These continuously escorted personnel will receive a pre-job briefing prior to entry into such areas. This dose rate determination, knowledge, and pre-job briefing does not require documentation prior to initial entry.

### 5.8.2 High Radiation Areas with Dose Rates Greater than 1.0 rem/hour at 30 Centimeters from the Radiation Source or from any Surface Penetrated by the Radiation, but less than 500 rads/hour at 1 meter from the Radiation Source or from any Surface Penetrated by the Radiation:

- a. Each entryway to such an area shall be conspicuously posted as a high radiation area and shall be provided with a locked or continuously guarded door or gate that prevents unauthorized entry, and, in addition:
  - 1. All such door and gate keys shall be maintained under the administrative control of the shift foreman, radiation protection manager, or his or her designee.
  - 2. Doors and gates shall remain locked except during periods of personnel or equipment entry or exit.
- b. Access to, and activities in, each such area shall be controlled by means of an RWP or equivalent that includes specification of radiation dose rates in the immediate work area(s) and other appropriate radiation protection equipment and measures.
- c. Individuals qualified in radiation protection procedures may be exempted from the requirement for an RWP or equivalent while performing radiation surveys in such areas provided that they are otherwise following plant radiation protection procedures for entry to, exit from, and work in such areas.
- d. Each individual or group entering such an area shall possess:
  - 1. A radiation monitoring device that continuously integrates the radiation dose rates in the area and alarms when the device's dose alarm setpoint is reached, with an appropriate alarm setpoint, or

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(continued)

## 5.8 High Radiation Area

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### 5.8.2 High Radiation Areas with Dose Rates Greater than 1.0 rem/hour at 30 Centimeters from Radiation Source or from any Surface Penetrated by the Radiation, but less than 500 rads/hour at 1 Meter from the Radiation Source or from any Surface Penetrated by the Radiation: (continued)

2. A radiation monitoring device that continuously transmits dose rate and cumulative dose information to a remote receiver monitored by radiation protection personnel responsible for controlling personnel radiation exposure within the area with the means to communicate with and control every individual in the area, or
  3. A self-reading dosimeter (e.g., pocket ionization chamber or electronic dosimeter), and
    - (i) Be under the surveillance, as specified in the RWP or equivalent, while in the area, of an individual qualified in radiation protection procedures, equipped with a radiation monitoring device that continuously displays radiation dose rates in the area, who is responsible for controlling personnel exposure within the area, or
    - (ii) Be under the surveillance as specified in the RWP or equivalent, while in the area, by means of closed circuit television, of personnel qualified in radiation protection procedures, responsible for controlling personnel radiation exposure in the area, and with the means to communicate with and control every individual in the area, or
  4. In those cases where options (2) and (3), above, are impractical or determined to be inconsistent with the "As Low As is Reasonably Achievable" principle, a radiation monitoring device that continuously displays radiation dose rates in the area.
- e. Except for individuals qualified in radiation protection procedures or personnel continuously escorted by such individuals, entry into such areas shall be made only after dose rates in the area have been determined and entry personnel are knowledgeable of them. These continuously escorted personnel will receive a pre-job briefing prior to entry into such areas. This dose rate determination, knowledge, and pre-job briefing does not require documentation prior to initial entry.
- f. Such individual areas that are within a large area, such as the refueling building, where no enclosure exists for the purpose of locking and where no enclosure can reasonably be constructed around the individual area, need not be controlled by a locked door or gate nor continuously guarded, but shall be barricaded, conspicuously posted, and a clearly visible flashing light shall be activated at the area as a warning device.
-