

## 16 TECHNICAL SPECIFICATIONS

### 16.1 Conduct of Review

The Technical Specifications define the conditions that are deemed necessary and sufficient for safe ISFSI use. The objective of the review of the Technical Specifications is to ensure that they are complete, appropriately defined and justified, and supported by the technical disciplines reviewed in the SER.

Requirements for Technical Specifications and for the details that must be included in the Technical Specifications are as follows:

- 10 CFR 72.26 requires that each application include proposed Technical Specifications in accordance with 10 CFR 72.44 and a summary statement of the bases and justifications for these Technical Specifications.
- 10 CFR 72.44(c) requires licenses issued under 10 CFR Part 72 to include Technical Specifications, and those Technical Specifications must include requirements in the following categories: (1) functional and operating limits and monitoring instruments and limiting control settings, (2) limiting conditions, (3) surveillance requirements, (4) design features, and (5) administrative controls.

The storage system to be used at the Diablo Canyon ISFSI is the HI-STORM 100 System, as described in the HI-STORM 100 System Final Safety Analysis Report (FSAR) (Holtec International, 2002), and the Diablo Canyon ISFSI SAR. The Diablo Canyon ISFSI Technical Specifications are based on the approved Technical Specifications for the Holtec HI-STORM 100 System, Appendices A and B of Certificate of Compliance Number 1014, through Amendment 1, which became effective on July 15, 2002 (U.S. Nuclear Regulatory Commission, 2002a). Where applicable, the staff relied on the review carried out during the certification process of the cask system, as documented in the HI-STORM 100 System SER (U.S. Nuclear Regulatory Commission, 2002b).

#### 16.1.1 Functional and Operating Limits

Functional and operating limits are those limits on fuel handling and storage conditions necessary to protect the integrity of the stored fuel, to protect employees against occupational exposure, and to guard against the uncontrolled release of radioactive materials. The functional and operating limits that will be included in the Diablo Canyon ISFSI Technical Specifications are listed in Table 16-1. The table lists the sections of this SER (or, as applicable, the Holtec HI-STORM SER or the Diablo Canyon ISFSI SAR) that address each functional and operating limit.

**Table 16-1: Functional and Operating Limits**

Technical Specification Item	Functional and Operating Limit	Associated SER or SAR Section(s)
2.1.1	Contents To Be Stored	4.1.1, 6.1.2, 8.1.2, SAR 10.2.1.1
2.1.2	Uniform and Preferential Fuel Loading	HI-STORM 100 SER, Amendment 1, Section 4.4, SAR 10.2.1.3
2.1.3	Regionalized Fuel Loading	HI-STORM 100 SER, Amendment 1, Section 4.4, SAR 10.2.1.4
2.2	Functional and Operating Limits Violations	SAR 10.2.1.5

Based on an extensive review of the application, and the staff's previous findings in its review of Amendment 1 to the HI-STORM 100 system, the staff concludes that the functional and operating limits listed in Table 16-1 to be placed on fuel to be stored at the Diablo Canyon ISFSI are necessary to protect the integrity of the stored fuel, to protect employees against occupational exposure, and to guard against the uncontrolled release of radioactive materials. The staff concludes, therefore, that the Diablo Canyon ISFSI Technical Specifications are in compliance with 10 CFR 72.44(c)(1)(i).

### **16.1.2 Limiting Conditions/Surveillance Requirements**

Limiting Conditions for Operation (LCO) are the lowest functional capability or performance levels of equipment required for safe operation. Surveillance Requirements (SRs) provide for inspection and test activities to ensure that the necessary integrity of required systems is maintained, confirmation that operation of the ISFSI is within the required functional and operating limits, and confirmation that the limiting conditions required for safe storage are met. The LCOs and SRs that will be included in the Diablo Canyon ISFSI Technical Specifications are listed in Table 16-2. The table also lists the sections of this SER (or, as applicable, the Holtec HI-STORM SER or the Diablo Canyon ISFSI SAR) that address each LCO and SR.

**Table 16-2: Limiting Conditions for Operation/Surveillance Requirements**

<b>Technical Specification Item</b>	<b>Limiting Condition for Operation</b>	<b>Associated Surveillance Requirement(s)</b>	<b>Associated SER Section(s)</b>
LCO 3.1.1	Multipurpose Canister (MPC)	SR 3.1.1.1, 3.1.1.2, 3.1.1.3	9.1.3, SAR 10.2.2
LCO 3.1.2	Spent Fuel Storage Cask (SFSC) Heat Removal System	SR 3.1.2.1	6.1.1, 6.1.3
LCO 3.1.3	Fuel Cool-Down	SR 3.1.3.1	HI-STORM 100 SER, Amendment 1, Section 4.6
LCO 3.1.4	Spent Fuel Storage Cask (SFSC) Time Limitation in Cask Transfer Facility (CTF)	SR 3.1.4.1	15.1.1.3, HI-STORM 100 SER, Amendment 1, Section 4.6
LCO 3.2.1	Dissolved Boron Concentration	SR 3.2.1.1, 3.2.1.2	HI-STORM 100 SER, Amendment 1, Section 6

The staff confirmed that the LCOs listed in Table 16-2 specify the lowest functional capability for that equipment required for safe operation. In addition, the staff confirmed that the SRs listed in Table 16-2 provide for necessary inspection and testing, confirm operation within appropriate functional and operating limits, and confirm that LCOs for safe storage are met. The staff concludes that the Diablo Canyon ISFSI Technical Specifications are in compliance with 10 CFR 72.44(c)(2) and (c)(3).

### **16.1.3 Design Features**

The Design Features portion of the Technical Specifications includes items that could have a significant effect on safety if altered or modified, such as materials of construction or geometric arrangements. The Design Features that will be included in the Diablo Canyon ISFSI Technical Specifications are listed in Table 16-3. The table also lists the sections of this SER that address each Design Feature.

**Table 16-3: Design Features**

<b>Technical Specification Item</b>	<b>Design Feature</b>	<b>Associated SER Section</b>
4.1.1	Criticality Control	8.1.1
4.2	Codes and Standards	9.1.1
4.3.1	Cask Transporter	4.1.2.1, 4.1.3.2, Table 4-8, 5.1.4.1
4.3.2	Storage Capacity	1.1.1
4.3.3	SFSC Load Handling Equipment	5.1.4.1, 5.1.4.2
4.3.4	CTF Structure Requirements	4.1.3.2, Table 4-9, 5.1.4.1

The staff confirmed that the Design Features listed in Table 16-3 are those, which if altered, could have a significant effect on safety. The staff concludes that the Diablo Canyon ISFSI Technical Specifications are in compliance with 10 CFR 72.44(c)(4).

#### **16.1.4 Administrative Controls**

The Administrative Controls portion of the Technical Specifications includes controls on the organization and management, record keeping, review and audit, and reporting processes necessary to assure that the operations involved in storage of spent fuel at the ISFSI are performed in a safe manner. The Administrative Controls included in the Diablo Canyon ISFSI Technical Specifications are listed in Table 16-4. The table also lists the sections of this SER that address those administrative controls.

**Table 16-4: Administrative Controls**

<b>Technical Specification Item</b>	<b>Administrative Control</b>	<b>Associated SER Section</b>
5.1.1	Technical Specifications (TS) Bases Control Program	10.1.3.1
5.1.2	Radioactive Effluent Control Program	11.1.2.5, Chapter 14
5.1.3	MPC and SFSC Loading, Unloading, and Preparation Program	3.1.1, 10.1.2.2, 10.1.3
5.1.4	ISFSI Operations Program	Chapter 3
5.1.5	Cask Transportation Evaluation Program	6.1.5, 15.1.2.4

The staff confirmed that the Administrative Controls listed in Table 16-4 are those necessary to assure that the operations involved in storage of spent fuel at the ISFSI are performed in a safe manner. The staff concludes that the Diablo Canyon ISFSI Technical Specifications are in compliance with 10 CFR 72.44(c)(5) and (d).

### 16.1.5 License Conditions

Section 10 CFR 72.44 requires that each license issued under Part 72 includes license conditions which pertain to design, construction, and operation, or which the Commission may include as it deems appropriate. In addition, 10 CFR 72.44 specifies certain license conditions which apply to each license issued under Part 72 whether or not they are explicitly stated in the license. Those conditions are specified in 10 CFR 72.44(b)(1) through (b)(6) and are binding on the Diablo Canyon ISFSI license but are not explicitly restated in the Diablo Canyon ISFSI license. In addition, the licensee must meet all applicable requirements of 10 CFR Part 72.

Table 16-5 lists the conditions to be included in the Diablo Canyon ISFSI license that the staff identified during its review of the application and associated documents. These license conditions are discussed in their associated SER chapter.

**Table 16-5: License Conditions**

License Condition Description	Associated SER Chapter/Section
Material to be stored, authorized use, authorized place of use	Chapter 1, Sections 2.1.1, 4.1.1
Safeguards and Physical Protection	Section 10.1.6
Quality Assurance Program	Chapter 12
Emergency Plan	Section 10.1.5
Record keeping exemption	Section 10.1.3.2

## 16.2 Evaluation Findings

The staff concludes that the conditions for the Diablo Canyon ISFSI identify necessary Technical Specifications to satisfy the requirements of 10 CFR 72.44(c) and (d). The proposed Technical Specifications provide reasonable assurance that the ISFSI will allow safe storage of spent fuel. This finding is based on the regulation itself, appropriate regulatory guides, applicable codes and standards, and accepted practices.

## 16.3 References

Holtec International. *Final Safety Analysis Report for the Holtec International Storage and Transfer Operation Reinforced Module Cask System Revision 1 (HI-STORM 100 Cask System)*. Volumes I and II. HI-2002444. Docket 72-1014. Marlton, NJ: Holtec International. 2002.

Holtec International. *License Amendment Request 1014-1, Revision 2*, July 2001, including Supplements 1 through 4 dated August 17, 2001; October 5, 2001; October 12, 2001; and October 19, 2001. Marlton, NJ: Holtec International. 2001.

Nuclear Regulatory Commission. 10 CFR Part 72 *Certificate of Compliance No. 1014, Amendment 1, for the HI-STORM 100 Cask System*. Docket No. 72-1014. July 15, 2002a.

U.S. Nuclear Regulatory Commission. *Holtec International HI-STORM 100 Cask System Safety Evaluation Report, Amendment 1*. Docket No. 72-1014. July 15, 2002b.

Pacific Gas and Electric Company (PG&E). *Diablo Canyon ISFSI Safety Analysis Report, Amendment 2*. Docket No. 72-26. Avila Beach, CA: Pacific Gas and Electric Company. October 2003.

Pacific Gas and Electric Company. *Diablo Canyon Independent Spent Fuel Storage Installation: Response to NRC Request for Additional Information Regarding Implementation of Guidance Provided in ISG-11 (TAC No. L23399)*. Avila Beach, CA: Pacific Gas and Electric Company, 2004. DIL-04-002, January 16, 2004.

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