PACIFIC GAS AND ELECTRIC COMPANY
DOCKET NO. 72-27
HUMBOLDT BAY INDEPENDENT SPENT FUEL STORAGE INSTALLATION
MATERIALS LICENSE NO. SNM-2513

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application filed by the Pacific Gas and Electric Company (the applicant) for a materials license to receive, store, and transfer spent fuel from the Humboldt Bay Power Plant into an independent spent fuel storage installation (ISFSI) located at its Humboldt Bay Power Plant site, meets standards and requirements of the Atomic Energy Act of 1954, as amended (Act), and the Commission's regulations set forth in 10 CFR Chapter I;

   B. The Humboldt Bay ISFSI will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance that (i) the activities authorized by this license can be conducted without endangering public health and safety, and (ii) such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this license will not be inimical to the common defense and security or to public health and safety; and

   E. The issuance of this license is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, based on the foregoing findings, Materials License SNM-2513 is hereby issued to the Pacific Gas and Electric Company to read as follows:

LICENSE FOR INDEPENDENT STORAGE OF SPENT NUCLEAR FUEL AND HIGH-LEVEL RADIOACTIVE WASTE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter 1, Part 72, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, and possess the power reactor spent fuel and other radioactive materials associated with spent fuel storage designated below; to use such material for the purpose(s) and at the place(s) designated below; and to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified herein.

Licensee		
1. Pacific Gas and Electric Company	3. License No.	SNM-2513
	Amendment No.	0
2. Humboldt Bay Power Plant 1000 King Salmon Avenue Eureka, CA 95503	4. Expiration Date	XXXX, 2025
	5. Docket or Reference No.	72-27

6. Byproduct, Source, and/or Special Nuclear Material	7. Chemical and/or Physical Form	8. Maximum Amount That Licensee May Possess at Any One Time Under This License
A. Spent nuclear fuel from the Humboldt Bay Power Plant, Unit 3, and associated radioactive materials related to receipt, transfer and storage of the fuel assemblies.	A. Spent fuel assemblies as UO_2, clad with zirconium alloy. Damaged fuel assemblies, or fuel debris as UO_2, zirconium alloy cladding or stainless steel cladding contained in Damaged Fuel Containers.	A. 31 MTU of intact spent fuel assemblies, damaged fuel assemblies and fuel debris.
B. Greater Than Class C Waste; non-fuel related radioactive material generated as a result of reactor operation and decommissioning, where radionuclide concentrations exceed the limits of 10 CFR 61.55 for Class C Waste.	B. Greater Than Class C Waste, as activated metals comprised of miscellaneous solid waste resulting from reactor operation and decommissioning.	B. 11 MT of Greater Than Class C Waste

9. Authorized Use: The material identified in 6.A., 6.B., 7.A. and 7.B., above is authorized for receipt, possession, storage and transfer using the HI-STAR HB dry cask storage system design as described in the Humboldt Bay ISFSI Safety Analysis Report dated December 15, 2003, as revised or supplemented on October 1, 2004, and as further supplemented and amended in accordance with 10 CFR 72.70 and 10 CFR 72.48.

10. Authorized Place of Use: The licensed material is to be received, possessed, transferred and stored at the Humboldt Bay ISFSI located on the Humboldt Bay Power Plant site in Humboldt County, California, near Eureka, California.

11. The Technical Specifications contained in the Appendix attached hereto are incorporated into the license. The licensee shall operate the installation in accordance with the Technical Specifications in the Appendix. The Appendix contains Technical Specifications related to environmental protection to satisfy the requirements of 10 CFR 72.44(d)(2).

12. The licensee shall follow the physical protection plan entitled, "Humboldt Bay Independent Spent Fuel Storage Installation Physical Security Plan," the "Humboldt Bay Independent Spent Fuel Storage Installation Safeguards Contingency Plan," and the "Humboldt Bay Independent Spent Fuel Storage Installation Security Training and Qualification Plan," dated December 9, 2003, as revised July 11, 2005, and as they may be further amended under the provisions of 10 CFR 72.44(e) and 10 CFR 72.180.

13. Fuel and cask movement and handling activities that are to be performed in the Humboldt Bay Power Plant refueling building will be governed by the requirements of the Humboldt Bay Power Plant Unit 3 Facility Operating License (DPR-7) and associated Technical Specifications.

14. The Commission's finding that the Quality Assurance Program complies with the requirements of 10 CFR Part 72, Subpart G is based on the existence of a Quality Assurance Program accepted by the Commission as satisfying the requirements of 10 CFR 50, Appendix B. The Commission has approved the Quality Assurance Program for the Diablo Canyon Power Plant, Units 1 & 2, which will be applied to the Humboldt Bay ISFSI. Prior to the termination of the Part 50 license for the Diablo Canyon Power Plant, Units 1 & 2, the licensee must submit, for Commission approval, a Quality Assurance Program for the Humboldt Bay ISFSI that satisfies each of the elements of Subpart G.

15. The licensee shall follow the Humboldt Bay ISFSI Emergency Plan dated December 15, 2003, as revised or supplemented on October 1, 2004, and as further supplemented and revised in accordance with 10 CFR 72.44(f).

16. Pursuant to 10 CFR 72.7 the licensee is hereby exempted from the provisions of 10 CFR 72.72(d), with respect to maintaining a duplicate set of spent fuel storage records. The licensee may maintain records of spent fuel and high level radioactive waste in storage either in duplicate, as required by 10 CFR 72.72(d), or, alternatively, a single set of records may be maintained at a records storage facility that satisfies the standards of ANSI N45.2.9-1974. All other requirements of 10 CFR 72.72(d) must be met.

17. Prior to loading spent nuclear fuel into any dry storage cask, the following testing must be successfully completed:

    For all fixed neutron absorbers:

    (i) Each plate of neutron absorbers shall be visually inspected for damage (e.g., scratches, cracks, burrs, peeled cladding, foreign materials embedded in the surface, voids, delamination, and surface finish) as applicable.

    (ii) The required Boron-10 content (areal density) of the neutron absorber panels for the MPC-HB shall be verified to be greater than or equal to 0.01 gm/cm^2.

    For BORAL®:

    After manufacturing, a statistical sample of each lot of BORAL® neutron absorber shall be tested using wet chemistry and/or neutron attenuation testing to verify the minimum Boron-10 content (areal density) in samples taken from the ends of the panel.

    For METAMIC®:

    (i) Verification that the boron carbide (B_4C) content in the METAMIC® is not more than 33.0 weight percent

    (ii) Verification that all lots of B_4C powder shall meet particle size distribution requirements

(iii) Qualification testing shall be performed on the first production run of METAMIC® panels to be used in a Holtec MPC to validate the acceptability and consistency of the manufacturing process and verify the acceptability of the METAMIC® panels for neutron absorbing capability.

1. The B_4C powder weight percent shall be verified by testing a sample from 40 different mixed batches. (A mixed batch is defined as a single mixture of aluminum powder and B_4C powder used to make one or more billets. Each billet will produce several panels.) The samples shall be drawn from the mixing containers after mixing operations have been completed. Testing shall be performed using the wet chemistry method.

2. The Boron-10 areal density shall be verified by testing a sample from one panel from each of 40 different mixed batches. The samples shall be drawn from areas contiguous to the manufactured panels of METAMIC® and shall be tested using the wet chemistry method. Alternatively, neutron attenuation tests on the samples may be performed to quantify the actual Boron-10 areal density.

3. To verify the local uniformity of the boron particle dispersal, neutron attenuation measurements of random test coupons shall be performed. These test coupons may come from the production run or from pre-production trial runs.

4. To verify the macroscopic uniformity of the boron particle distribution, test samples shall be taken from the sides of one panel from five different mixed batches before the panels are cut to their final sizes. The sample locations shall be chosen to be representative of the final product. Wet chemistry or neutron attenuation shall be performed on each of the samples.

(iv) For production runs of the panels to be used in the MPC-HB canisters, the following tests shall be performed:

1. Testing of mixed batches shall be performed on a statistical basis to verify that the correct B_4C weight percent is being mixed.

2. Samples from random METAMIC® panels taken from areas contiguous to the manufactured panels shall be tested via wet chemistry and/or neutron attenuation testing to verify the Boron-10 areal density. This testing shall be performed to verify the continued acceptability of the manufacturing process.

18. This license is effective as of the date of issuance shown below.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

, Chief
Licensing Section
Spent Fuel Project Office
Office of Nuclear Material Safety
and Safeguards
Washington, DC 20555

Date of Issuance: XXXX

Attachment: Appendix - Technical Specifications