

January 22, 1998

MEMORANDUM L. Joseph Callan
TO: Executive Director for Operations
FROM: John C. Hoyle, Secretary /s/
SUBJECT: STAFF REQUIREMENTS - SECY-97-244 - WASTE CLASSIFICATION OF THE TROJAN REACTOR VESSEL

The Commission has approved the staff's proposed response to the State of Washington requesting additional information and analysis for the Trojan reactor vessel subject to incorporation of the changes indicated in the attachment.

(EDO)

(SECY Suspense: 1/30/98)

Attachment: As stated

cc: Chairman Jackson
Commissioner Dicus
Commissioner Diaz
Commissioner McGaffigan
OGC
CIO
CFO
OCA
OIG
Office Directors, Regions, ACRS, ACNW, ASLBP (via E-Mail)
PDR
DCS

SECY NOTE: THIS SRM, SECY-97-244, AND THE COMMISSION VOTING RECORD CONTAINING THE VOTE SHEETS OF ALL COMMISSIONERS WILL BE MADE PUBLICLY AVAILABLE AFTER THE LETTER IS SIGNED AND DISPATCHED.

Mr. John L. Erickson, Director
Division of Radiation Protection
Department of Health
Airdustrial Center Building #5
P.O. Box 47827
Olympia, WA 98504-7827
Dear Mr. Erickson:

On March 31, 1997, Portland General Electric Company (PGE) requested the U.S. Nuclear Regulatory Commission to issue a Type B Certificate of Compliance under our transportation regulations to allow a one-time shipment of the Trojan Nuclear Plant's reactor vessel with its internals for disposal at the U.S. Ecology site in Hanford, Washington. Prior to beginning a full review of this transportation package application, it is our intent to address the waste classification of the waste shipment ~~and make sure of its suitability for disposal~~. Under the 10 CFR 20 waste manifesting requirements, a waste generator must classify wastes in accordance with 10 CFR 61.55. It is our goal to ensure that the waste shipment is properly classified.

On June 18, 1997, PGE submitted responses to several of our questions relating to the classification of the waste shipment (Attachment 1). PGE acknowledges that some of the internals are Greater-Than-Class C (GTCC), but is proposing to classify the wastes by averaging the reactor internals with the pressure vessel. The core baffle plates, the core former plates, and the lower core plate substantially exceed the recommended ratios for classifying activated metals given in Section 3.3 of the Branch Technical Position (BTP) on Concentration Averaging and Encapsulation dated January 17, 1995. However, PGE indicated that the one-piece shipment of the RV with the internals would allow contact handling of the shipment, would result in 39 to 44 fewer waste cans requiring storage until a GTCC waste disposal site is developed, would reduce contamination control problems, would reduce occupational exposures from 134 to 154 person-rem to 67 person-rem (out of 591 person-rem estimated for the entire Trojan decommissioning), and would reduce waste shipments from 44 to 1.

PGE also provided a pathway analysis performed by U.S. Ecology, which was previously submitted to the State of Washington. This pathway analysis addresses groundwater impacts and doses from direct exposure. Other intruder pathways such as construction and resident-farmer scenarios are not addressed, nor is there a justification for assuming that the package will remain intact over the hazard lifetime of the nuclides that are critical to the waste classification: C-14, Ni-59, Ni-63, and Nb-94.

The NRC staff will consider alternative approaches to waste nuclide averaging if it can be shown that the wastes will meet the performance objectives in

10 CFR Part 61 (see 10 CFR 61.58 and Section 3.9 of the ~~Branch Technical Position~~ **BTP** on Concentration Averaging and Encapsulation). The evaluation should include a comprehensive and defensible pathway analysis that includes all relevant pathways. The draft ~~Branch Technical Position~~ **BTP** on a Performance Assessment Methodology for Low-Level Radioactive Waste Disposal Facilities could be used as guidance for this analysis. **The draft BTP has been made available for public comment and review and does not represent a final agency position.**

We request that your staff ask U.S. Ecology, in coordination with PGE, to perform a comprehensive and defensible pathways analysis to demonstrate the suitability of the proposed wastes for disposal at the Hanford disposal site. Specifically, the analysis should be based on intruder-construction and intruder resident-farmer scenarios carried out for ~~a 10,000 year period~~ **the timeframe proposed in the BTP.**

If the waste package is assumed to be intact for a period greater than 500 years, justification needs to be provided. The draft "~~Branch Technical Position~~ **BTP** on a Performance Assessment Methodology for Low-Level Radioactive Waste Disposal Facilities" ~~sh~~ could be used as guidance. Sections 3.2.2, 3.2.3, 3.3.4, and 3.3.5 of this ~~Branch Technical Position~~ **BTP** provide guidance on the time frames for the performance assessment, use of engineered barriers, and evaluation of waste forms for the performance assessment.

After your review of this information, if you conclude that the reactor vessel with internals is suitable for disposal under the State of Washington's regulations, we will consider allowing the shipment to be classified under the alternative averaging provisions of the ~~Branch Technical Position~~ **BTP** on Concentration Averaging and Encapsulation. We are also willing to provide any technical assistance you may desire for the review of the submitted pathway analyses.

Sincerely,
Richard L. Bangart,
Director Office of State Programs