DD-80-26

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	Docket No. 50-34[illegible]
	)	
PORTLAND GENERAL ELECTRIC COMPANY (Trojan Nuclear Plant)	)	(10 CFR 2.206)

DIRECTOR'S DECISION UNDER 10 CFR 2.206

By telegram dated May 29, 1980, the Trojan Decommissioning Alliance of Portland, Oregon, requested that the Commission suspend operation of the Trojan Nuclear Plant on the basis of potential dangers posed by recent volcanic activity at Mount St. Helens in Washington State. On June 3, 1980, the Commission referred this request for action to the NRC Staff for consideration under 10 CFR 2.206 of the Commission's regulations. For the reasons stated in this decision, the Alliance's request is denied.

The potential impact of volcanic activity on the safety of the Trojan facility was investigated thoroughly by government geologists (Atomic Energy Commission and the U. S. Geological Survey) before the plant was allowed to be constructed and again before the operating license was issued. This investigation and reassessment of volcanic-related hazards has continued as attested by the enclosed affidavit which was filed with the Atomic Safety and Licensing Board in the Trojan spent fuel pool expansion proceeding in April, 1978.

Although this report was filed prior to the recent volcanic activity, it is with few exceptions considered an accurate assessment today. Exceptions to the report include (1) the underestimation of the volume of debris associated with a potential mudflow, (2) exclusion of a discussion of volcano-induced earthquakes, and (3) the statement that historic data

indicates that the volcano has been substantially more active in the 19th century than the 20th century. Notwithstanding the above exceptions, the report's conclusion that the Trojan site is suitable from a volcanic hazards point of view remains accurate.

The recent massive eruption of May 18, 1980 exceeded that envisioned by the Nuclear Regulatory Commission and by our advisors, the U. S. Geological Survey. Nevertheless, the effects of the recent volcanism (mudflows, earthquakes and ashfall) at the Trojan site have been minimal. Mudflows in the Toutle, Kalama, and Lewis River valleys have not compromised the safety of the Trojan plant. Volcanic-induced earthquakes have been small and have neither been felt nor recorded instrumentally at the site. Ashfall at the Trojan plant resulting from the May 25, 1980 eruption has been slight (not exceeding 1/8 of an inch) and fell at the site in the form of a muddy rain or mist. The only other indication of ash occurred on April 29, 1980 when a thin coating of the ash was noted at the Trojan site.

According to University of Washington seismologists, the volcanic-induced earthquakes mentioned previously have not exceeded Richter Magnitude 5.1 and have been concentrated in an area roughly coincidental with the volcano crater which is 35 miles northeast of the Trojan plant. None of the larger events (Magnitude 5.0 and above) have occurred closer than 35 miles to the plant. For the most part, the volcanic earthquakes have occurred at shallow depths and have consequently been felt only in the immediate vicinity of the seismic event. However, there have been unconfirmed reports of volcanic-related earthquakes (originating at

Mount St. Helens) being felt in the Longview-Kelso, Washington area, roughly five miles north of the Trojan plant. Apparently those feeling the tremors were located in areas where soil overlies bedrock. The plant is designed to safely withstand seismic levels of 0.25g peak ground acceleration. This corresponds to earthquake levels many times greater than those generated by the volcano-induced earthquakes.

We have been in constant contact with numerous state, governmental agency, and university scientists since initiation of earthquake activity and subsequent volcanic activity in the vicinity of Mount St. Helens on March 20, 1980. This surveillance, accumulation of information, and assessment will continue as long as the volcano remains active. In addition, representatives of the NRC staff visited the Trojan site and environs on June 18, 1980 for the specific purpose of assessing the safety of Trojan in light of the recent volcanic activity.

Our conclusion, based upon an evaluation of volcanic phenomena prior to construction, coupled with an assessment of the effects of the activity beginning March 20, 1980, is that the Trojan site remains suitable from a volcanic hazards viewpoint.

As to evacuation under severe ashfall conditions, this can cause transportation problems somewhat similar to those produced by road icing or heavy snowfall. The first protective action to be taken following a radiological emergency at a nuclear facility is to alert the public to take shelter and await further instructions. Seeking shelter in homes is an effective protective measure under most circumstances. A decision to evacuate is based on an assessment of the potential injury to the

public from the accident and must be balanced against the risk to the public from the evacuation itself and against the conditions that prevail at the time. Seeking shelter would have to be given greater weight under ashfall conditions, depending on its severity.

Beyond about five miles, sheltering followed by relocation within several hours is essentially as effective as immediate evacuation. Within five miles, sheltering is still an effective protective measure. Under ashfall conditions, consideration would have to be given to limiting the evacuation area, depending on the exact circumstances. This would reduce the difficulty of evacuating those persons exposed to the greatest risk.

Therefore, if an accident occurred in combination with transportation difficulties due to severe volcanic ashfall, effective protecting measures can still be implemented, albeit with greater difficulty. The probability of these two events occurring simultaneously is, however, extremely low.

Based on the foregoing, your request on behalf of the Trojan Decommissioning Alliance that operation of the Trojan Nuclear Plant be suspended on the basis of the recent volcanic activity at Mount St. Helens is denied.

Edson G. Case, Acting Director
Office of Nuclear Reactor Regulation

Enclosure: Affidavit of
Richard B. McMullen

Dated at Bethesda, Maryland
this 13th day of August, 1980