bc: Messrs. Williams/Lindblad, Broehl, Durham, Heider, Yundt, Lentsch, Zimmerman, Christensen, Gaidos, Sullivan, L. Damon (Bechtel), L. Cunningham (W), L. Weislogel (PP&L), D. Axtell (EWEB), R. Nyland (BPA), M. Axelrad, C. Trammell, M. Malmros, LIS, Reading File, TNP:GOV REL F:NRC, IE Bulletins, Chrono

Portland General Electric Company

Charles Goodwin Jr. Assistant Vice President

July 1, 1980

Trojan Nuclear Plant
Docket 50-344
License NPF-1

Mr. R. H. Engelken, Director
U. S. Nuclear Regulatory Commission
Region V
Suite 202, Walnut Creek Plaza
1990 N. California Blvd.
Walnut Creek, CA 94596

Dear Sir:

IE Bulletin 80-10 "Contamination of Nonradioactive Systems and Resulting Potential for Unmonitored, Uncontrolled Release of Radioactivity to the Environment" was issued on May 6, 1980. Attached is Portland General Electric's evaluation requested by IE Bulletin 80-10.

Sincerely,

C. Goodwin, Jr.
Assistant Vice President
Thermal Plant Operation and
Maintenance

CG/TDW/MQH/4mg7A13
Attachment

c: Mr. Lynn Frank, Director
State of Oregon
Department of Energy

for J. W. Lentsch

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S. 1/1

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121 S.W. Salmon Street Portland, Oregon 97204

Trojan Nuclear Plant
Response to IE Bulletin 80-10

INTRODUCTION

NRC IE Bulletin 80-10 required a review of facility design and operation to identify systems that are considered as nonradioactive but that could possibly become radioactively contaminated through interfaces with radioactive systems due to leakage, abnormal system operations or valving errors. This review was completed prior to June 20, 1980 and the results are detailed below.

RESPONSE TO ITEMS

Item 1

Review your facility design and operation to identify systems that are considered as nonradioactive (or described as nonradioactive in the FSAR) but could possibly become radioactive through interfaces with radioactive systems, i.e., a radioactive system that could become contaminated due to leakage, valving errors, or other operating conditions in radioactive systems. In particular, special consideration should be given to the following systems: Auxiliary Boiler System; Demineralized Water System; Isolation Condenser System; PWR Secondary Water Cleanup System; Instrument Air System; and the Sanitary Waste System.

Response

The review was divided into two segments: Primary Plant Interfaces and Secondary Plant Interfaces.

1. Primary Plant Interfaces

   Primary Plant Interfaces between radioactive and nonradioactive systems were examined for potential of cross-contamination due to valving errors. All interfaces are provided with check valves or pressure-reducing valves. Experience has shown that these valves provide an adequate barrier to prevent cross-contamination.

   Primary Plant Interfaces were also examined for points where leakage between components could result in cross-contamination. The potential exists for contamination of the Process Steam System and the Startup Boiler System should leaks develop in the boric acid evaporator or radwaste evaporator heat exchangers. This could result in an unmonitored release due to boiler bottom blow and steam dump (dummy load); however, because steam systems are maintained at a

higher pressure, cross-contamination would be unlikely. Nevertheless, boiler blowdown from these systems will be sampled weekly for radioactivity when in operation.

2. Secondary Plant Interfaces

The secondary Plant systems are normally not radioactively contaminated. However, during periods of steam generator tube leakage, minor contamination is present. Assuming that the secondary plant is contaminated, the following systems have a potential to be cross-contaminated due to mechanical failure or operator error:

a. Oily Water Separator (OWS) - The OWS receives potentially radioactive water from the Turbine Building sump and the Condensate Demineralizer Building Sumps. A temporary system and sump pump has been installed in the OWS to pump the effluent to the Discharge and Dilution Structure. This system is sampled for contamination daily when the secondary system is contaminated (steam generator blowdown activity exceeding 10^{-5} µCi/cc). Modifications are under way to make this system permanent and it will incorporate a permanent radiation monitor on the OWS discharge line.

b. Plant Sewer System - This system could receive potentially radioactive water from the secondary sampling sink during periods of primary-to-secondary leakage. The sample sink drain line is routed to the dirty radwaste system when the secondary Plant contamination is detected. Sewer system effluent and sludge is sampled weekly when the secondary system is contaminated.

c. Plant Stator Water Cooling System - The potential for cross-contamination of the Plant Stator Water Cooling System exists from the Condensate Makeup System. The Plant Stator Water Cooling System is operated as a closed system. When system maintenance or inspection is required, the system is drained to the Turbine Building sump whose effluent is monitored for radioactivity under 2.a, above. Additionally, this system will be sampled semi-annually when the Plant secondary system is contaminated.

d. Turbine Building Bearing Cooling Water System - The potential for cross-contamination of the Turbine Building Bearing Cooling Water System exists via the sample cooler rack, if a cooler coil leak occurs. The Turbine Building Bearing Cooling Water System is operated as a closed system. When system maintenance or inspection is required, the system is drained to the Turbine Building sump whose effluent is monitored for radioactivity under 2.a, above. The Bearing Cooling Water System will be sampled semi-annually when the Plant secondary system is contaminated.

Plant Secondary System contamination is closely monitored and routine sampling of the above-listed systems will detect cross-contamination prior to any significant unmonitored and/or uncontrolled release.

Item 2

Establish a routine sampling/analysis or monitoring program for these systems in order to promptly identify any contaminating events which could lead to unmonitored, uncontrolled liquid or gaseous releases to the environment, including releases to onsite leaching fields or retention ponds.

Response

The routine sampling/analysis or monitoring program described above will promptly identify cross-contamination for each identified system above.

Item 3

If these nonradioactive systems are or become contaminated, further use of these systems shall be restricted until the cause of contamination is identified and corrected and the system has been decontaminated. Decontamination should be performed as soon as possible. However, if it is considered necessary to continue operation of the system as contaminated, an immediate Safety Evaluation of operation of the system as a radioactive system must be performed in accordance with the requirements of 10 CFR 50.59. The 10 CFR 50.59 Safety Evaluation must consider the level of contamination (i.e., concentration and total Curie inventory) and any potential releases (either routine or accident) of radioactivity to the environment. The relationship of such releases to the radioactive effluent limits of 10 CFR 20 and the facility's Technical Specification and to the environmental radiation dose limits of 40 CFR 190 must also be evaluated. The record of the Safety Evaluation must set forth the bases and criteria on which the determination was made.

Response

At the time of this evaluation, detectable activity was not found in any of the systems identified under Item 1, above. If activity is detected in one of these systems, an investigation will be conducted as to the source of the activity. It is not expected that any of the systems identified above could result in substantial activity release. Continued system operation, if contaminated, shall be based on a favorable evaluation per 10 CFR 50.59.

Item 4

If it is determined in the 10 CFR 50.59 Safety Evaluation that operation of the system as a radioactive system is acceptable (i.e., does not involve an unreviewed safety question or a change to the Technical Specifications) provisions must be made to comply with the requirements of 10 CFR 20.201, General Design Criterion 64 to 10 CFR 50, Appendix I to 10 CFR 50 and the facility's Technical Specifications. In specific, any potential release points must be monitored and all releases must be controlled and maintained to (as low as is reasonably achievable) levels as addressed in Appendix I to 10 CFR 50 and within the corresponsding environmental dose limits of 40 CFR 90. However, if in the 10 CFR 50.59 determination it is determined that operation of the system as a radioactive system does constitute an unreviewed safety question or does require a change to the Technical Specifications, the systems shall not be operated as contaminated without prior Commission approval.

Response

If unrestricted system operation is determined to be acceptable per 10 CFR 50.59, compliance to requirements of 10 CFR 20.201, General Design Criteria 64 to 10 CFR 50, Appendix I to 10 CFR 50 and the Trojan Technical Specifications will be demonstrated.

If system operation is determined to be unacceptable per 10 CFR 50.59, operation of that system will be restricted until the cause of contamination has been corrected and the system decontaminated or until NRC approval for continued system operation received.