



**Consumers
Power
Company**

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Region III
US Nuclear Regulatory Commission
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DOCKET 50-255 - LICENSE DPR-20 - PALISADES PLANT -
RESPONSE TO IE BULLETIN 80-10 - CONTAMINATION OF
NONRADIOACTIVE SYSTEM AND RESULTING POTENTIAL
FOR UNMONITORED, UNCONTROLLED RELEASE OF
RADIOACTIVITY OF ENVIRONMENT

IE Bulletin 80-10, dated May 6, 1980, requested specific action to be taken to identify potentially unmonitored, uncontrolled release of radioactivity to the environment.

Our response to these items is as follows:

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, ie, a nonradioactive 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 clean-up system, instrument air system, and the sanitary waste system.

Response to Item 1

The demineralized water system is separated from the condensate and primary makeup systems. The condensate storage tank (T-2) is isolated from demineralized water supply by locking closed valves 171 CDS and 177 CDS and feeding the condensate system (other than aux feed and hot well) with the demineralized water storage tank T-81 through 105-FMV (P&ID M-22). The primary makeup system (T-90) has been isolated from the demineralized water system by removing a spool piece from the tie line (M652, G-7).

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The domestic water supply is fed from four local wells and does not have any connections with other plant systems.

The service air system has many functions associated with radioactive systems. Service air system connections are controlled by manual valves and valving errors would have to occur simultaneously with loss of air to contaminate the air system.

The plant heating boilers system has been contaminated when "B" radioactive evaporator back-fed the M-61 heating boiler due to a failure in the steam bundle. The boiler was and remains isolated from the common steam header which supplies domestic heating load. Condensate returns and boiler blowdown were and remain routed to the heating boiler sump (M-655) which feeds the turbine sump (M-652). The turbine sump is a monitored and sampled release path. The condensate returns from the remaining portions of the boiler system normally are routed to the condensate system which has low level contamination due to small primary to secondary steam generator leakage.

The Feedwater Purity System is contaminated from primary to secondary steam generator leakage. All potentially contaminated systems drain to the dirty waste sump (M-914) which is monitored and fed to the turbine sump (M-652, E-3) or the aux building sump, depending on activity. The heating boiler drains in the feedwater purity building to the oil waste sump which feeds the turbine sump (M-652, D-3).

The condensate system is also contaminated by primary to secondary leakage. The system has feed isolated as described in Paragraph 1. Drains go to the turbine sump.

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 on-site leaching fields or retention ponds.

Response to Item 2

Sampling/Analysis

1. Lake water inlet and discharge are composite sampled daily and analyzed by gross beta activity (H.P.3.7).
2. Service water and the cooling towers are grab sampled daily and analyzed for gross beta on a weekly accumulation (H.P.3.7).
3. A well sample (domestic system feed) is taken and analyzed monthly by the environmental contractor.
4. The steam generator's water is sampled and analyzed daily by gamma analysis (Form F.6.3.1).

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5. The condensate storage tank (T-2), and the heating boilers (M-8) (M-61) and (FWP) are analyzed by gamma spectroscopy and additionally a tritium analysis is performed weekly (Form F.6.3.2).
6. The turbine sump and dirty waste sump are composite sampled and full radwaste batch analysis is performed on a monthly composite (H.P.6.28).

Additional Sampling/Analysis To Be Added

1. The air receiver tanks (service air) T8A, T8B and T8C will be sampled and gamma analysis performed weekly. This will be implemented by 10/1/80 due to potential complications in ability to obtain a sample.
2. The demineralized storage tanks T-81 and T-939 will have weekly gamma analysis performed by 8/1/80.
3. The domestic water tank T-7 will have a gamma analysis performed weekly by 8/1/80.

Response to Items 3 and 4

Items 3 and 4 on IE 80-10 need to be addressed for the potential release from a heating boiler failure such as described in this bulletin. Releases from all systems are being evaluated against 40 CFR 190 limits. A detailed analysis is presently being conducted and will be completed by 7/31/80.

David P Hoffman (Signed)

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Nuclear Licensing Administrator

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