

ENCLOSURE 2
Summary of Changes – 10 CFR 50.54(q)(5)

Change 1

Description: Remove use of Reactor Coolant Loop Radiation Monitors, 1 (2)R-70/71 from the Emergency Plan, referenced EIPs, and the REC/RPSS handbook.

- F3-17, Core Damage Assessment
- F3-17 .1, Core Damage Determination
- REC/RPSS handbook

Doc ID or (Procedure Number) / Revision Number: EPLAN, F3.17, F3.17.1 and REC/RPSS Handbook

Document Title: Emergency Preparedness, Core Damage Assessment, Core Damage Determination and REC/RPSS Handbook

PCR Number: 602000019099, 602000019055, 602000015508, 602000015507

Licensing/Basis Affected

The use of the Reactor Coolant Loop Radiation Monitors, 1 (2)R-70/71 was not included in the approved emergency plan but was put into place by Prairie Island under 10CFR 50.54(q).

The purpose of the plant design change was to be able to detect fuel cladding failures immediately" and that "this system is to satisfy NSP's commitment for sampling in response (Not formal) to Reg Guide 1.97, Rev 2, fuel cladding" The Design Change also states that "the RCS Loop High Radiation Monitoring System is above and beyond the system in use, which meets the NRC Reg Guide 1.97 requirements." And that "The installation of high radiation monitors near each of the RCS Loop Hot Legs will improve the response time to the sampling commitment to Reg Guide 1.8.7for fuel cladding deterioration.

Evaluation Determination:

Regulatory Compliance Basis

Based on the language in the Design Change it's clear that the addition of the Reactor Coolant Loop Radiation Monitors was a matter of exceeding the regulatory minimum as an operating philosophy and was not done to compensate for an inability to meet the regulatory requirements.

- As referenced in the Design Change Prairie Island is committed to NRC Regulatory Guide 1.97, Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident, Revision 2 (12/1980).
- Table 2 of Reg Guide 1.97 lists the PWR variables that provide information to indicate the potential for being breached or the actual breach of the barriers to fission product release, i.e., fuel cladding, primary coolant pressure boundary, and containment.
- The variables listed for fuel cladding are Core Exit Temperature, Radioactivity Concentration or Radiation Level in Circulating Primary Coolant, and Analysis at Primary Coolant. No specific method for determining radioactivity concentration in the primary coolant is listed in Table 2.
- Information provided to the NRC in the letter dated 9/15/1983 indicates that Reactor Coolant chemistry sampling was the method being used to measure the variable for Radioactivity Concentration or Radiation Level in Circulating Primary Coolant.
- The statement in the design change that "the installation of high radiation monitors near each of the RCS Loop Hot Legs will improve the response time to the sampling commitment to Reg Guide 1.97" is incomplete. The ion chambers in the Reactor Coolant Loop Radiation Monitors are not able to identify the type or concentration of any specific radioactive isotope. The radiation monitor reading must be compared to a table in the applicable core damage assessment procedure to determine an estimate of core damage. The same types of steps are required for the Containment Radiation Monitors, Core Exit Thermocouples, and Hydrogen Monitors. There is no effective improvement in response time and there would be no decline in response time if these Reactor Coolant Loop Radiation Monitors were removed.

Emergency Plan Effectiveness Basis

Removing the Reactor Coolant Loop Radiation Monitors from the Prairie Island Emergency Plan maintains the regulatory requirements, does not result in a reduction in effectiveness, and can be performed without prior approval from the NRC.