

breakers, and automatic circuitry⁽¹⁾.

During reactor operation, the instrumentation which is depended on to initiate safety injection and containment spray is generally checked daily and the initiating circuits are tested monthly (in accordance with Specification 4.1). The testing of the analog channel input is accomplished in the same manner as for the reactor protection system. The engineered safety features logic system is tested by means of test switches to simulate inputs from the analog channels. Test switches are also provided down stream of the master relay output contacts. The purpose of these test switches is to prevent actuation of engineered safety features equipment during testing. Verification that the logic is accomplished is indicated by the matrix test light and/or master relay operation.

Other systems that are also important to the emergency cooling function are the accumulators, the Component Cooling System, the Service Water System and the containment fan coolers. The accumulators are a passive safeguard. In accordance with Specification 4.1, the water volume and pressure in the accumulators are checked periodically. The other systems mentioned operate when the reactor is in operation and, by these means, are continuously monitored for satisfactory performance.

For the four flow distribution valves (856 A, C, D and E), verification of the valve mechanical stop adjustments is performed periodically to provide assurance that the high head safety injection flow distribution is in accordance with flow values assumed in the core cooling analysis.

The hydrogen recombiner system is an engineered safety feature which would be used only following a loss-of-coolant accident to control the hydrogen evolved in the containment. The system is not expected to be started until approximately 13 days have elapsed following the accident. At this time the hydrogen concentration in the containment will have reached 2% by volume, which is the design concentration for starting the recombiner system. Actual starting of the system will be based upon containment atmosphere sample analysis. The complete functional tests of each unit at refueling shutdown will demonstrate the proper operation of the recombiner system. More frequent tests of the recombiner control system and air-supply blowers will assure operability of the system. The biannual testing of the containment atmosphere sampling system will demonstrate the availability of this system.

The charcoal portion of the in-containment air recirculation system is a passive safeguard which is isolated from the cooling air flow during normal reactor operation. Hence the charcoal should have a long useful lifetime. The filter frames that house the charcoal are stainless steel and should also last indefinitely. However, the required periodic visual inspections will verify that this is the case. The iodine removal efficiency cannot be measured with the filter cells in place.

ATTACHMENT B

SUPPORTING INFORMATION FOR TECHNICAL SPECIFICATION
BASES CHANGES

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
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TECHNICAL SPECIFICATION 4.5, ENGINEERED SAFETY FEATURES BASES

The bases for this section of the Technical Specifications describes how the engineered safety features logic system is tested. Test switches are used to simulate inputs from the analog instrumentation channels and to interrupt the logic matrix output to the master actuation relays to prevent actuation when the logic matrix is established with the simulated inputs. Test lamps verify that the logic matrix is established. This design allows for on-line testing of the engineered safety features logic system. The bases describe the test methodology in such detail that a change in this description is required to implement any modification to improve this methodology.

A modification is being implemented to replace the existing master actuation relays with new and more reliable relays. This modification also changes the test methodology to provide for on-line testing of the master relays. Presently, the master relays are tested at refueling intervals. Following this modification, the master relays will be tested on-line when the engineered safety features logic system is tested in accordance with the Technical Specifications. A safety evaluation has been performed in accordance with 10 CFR 50.59 for the replacement of the existing master actuation relays and the change of the test methodology. The bases Section 4.5 of the Technical Specifications that describe the test methodology for engineered safety features logic system are being changed to reflect implementation of the modification.