Attachment 1

Amended Technical Specification Pages
Quad Cities Unit 1, DPR-29

The following pages have been revised:

3.7/4.7-5
3.7/4.7-16
3.9/4.9-4
3.9/4.9-5

These changes are additional to those proposed in Reference (b).

pression chamber-reactor building vacuum breakers in each line shall be operable at all times when the primary containment integrity is required. The setpoint of the differential pressure instrumentation which actuates the pressure suppression chamber-reactor building air-operated vacuum breakers shall not exceed 0.5 psid. The vacuum breakers shall open fully when subjected to a force equivalent to or less than 0.5 psid acting on the valve disk.

b. From and after the date that one of the pressure suppression chamber-reactor building vacuum breakers is made or found to be inoperable for any reason, the vacuum breaker shall be locked closed and reactor operation be permissible only during the succeeding 7 days unless such vacuum breaker is sooner made operable, provided that the procedure does not violate primary containment integrity.

4. Pressure Suppression Chamber-Drywell Vacuum Breakers

a. When primary containment is required, all pressure suppression chamber-drywell vacuum breakers shall be operable except during testing and as stated in Specifications 3.7.A.4.b, c, and d, below. Pressure suppression chamber-drywell vacuum breakers shall be considered operable if:

1) The valve is demonstrated to open fully with the applied force at all valve positions not exceeding the equivalent to 0.5 psi acting on the suppression chamber face of the valve disk.

2) The valve can be closed by gravity when released after being opened by remote or manual means to within the equivalent of 1/16 inch at all

breakers and associated instrumentation, including setpoint, shall be checked for proper operation every 3 months.

b. During each refueling outage each vacuum breaker shall be tested to determine that the force required to open it does not exceed the force specified in Specification 3.7.A.3.a; each vacuum breaker shall also be inspected and verified to meet design requirements.

4. Pressure Suppression Chamber-Drywell Vacuum Breakers

a. Periodic Operability Tests

1) Once each quarter each pressure suppression chamber-drywell vacuum breaker shall be exercised. Operability of valves, position switches, and position indicators and alarms shall be verified.

2) A drywell to suppression chamber differential pressure decay rate test shall be conducted at least every 3 months.

b. During each refueling outage:

1) The pressure suppression chamber-drywell vacuum breakers shall be tested to determine the force required to open each valve from fully closed to fully open.

multiplying the maximum allowable leak rate by 0.75, thereby providing a 25% margin to allow for leakage deterioration which may occur during the period between leak rate tests.

The primary containment leak rate test frequency is based on maintaining adequate assurance that the leak rate remains within the specification. Allowing the test intervals to be extended up to 8 months permits some flexibility needed to have the tests coincide with scheduled or unscheduled shutdown periods.

The data reduction methods of ANSI N45.4-1972 will be applied for integrated leak rate tests.

The penetration and air purge piping leakage test frequency, along with the containment leak rate tests, is adequate to allow detection of leakage trends. Whenever a double-gasketed penetration (primary containment head equipment hatches and the suppression chamber access hatch) is broken and remade, the space between the gaskets is pressurized to determine that the seals are performing properly. The test pressure of 48 psig is consistent with the accident analyses and the maximum preoperational leak rate test pressure. It is expected that the majority of the leakage from valves, penetrations, and seals would be into the reactor building. However, it is possible that leakage into other parts of the facility could occur. Such leakage paths that may affect significantly the consequences of accidents are to be minimized. The personnel air lock is tested at 10 psig because the inboard door is not designed to shut in the opposite direction.

The results of the loss-of-coolant accident analysis referenced in Section 5.2.4.3 of the SAR indicate that fission products would not be released directly to the environs because of leakage from the main steamline isolation valves due to holdup in the steam system complex. Although this effect would indicate that an adequate margin exists with regard to the release of fission products, a program will be undertaken to further reduce the potential for such leakage to bypass the standby gas treatment system.

Surveillance of the reactor building-pressure suppression chamber vacuum breakers consists of operability checks and leakage tests (conducted as part of the containment leaktightness tests). These vacuum breakers are normally in the closed position and open only during tests or an accident condition. As a result, a testing frequency of 3 months for operability is considered justified for this equipment. Inspections and calibrations are performed during refueling outages, this frequency being based on experience and judgment.

Pressure suppression chamber-drywell vacuum breakers quarterly operability tests are performed to check the capability of the disks to open and close and to verify that the position indication and alarm circuits function properly. The disks must open during accident conditions and during transient additions of energy through relief valves. This periodic operation of the disks and the quality of equipment justify the frequency of operability tests of this equipment.

Following each quarterly operability test, a differential pressure decay rate test is performed to verify that leakage from the drywell to the suppression chamber is within specified limits.

Measurement of force to open, calibration of position switches, inspection of equipment, and functional testing are performed during each refueling outage. This frequency is based on equipment quality, experience, and judgment. Also, a more stringent differential pressure decay rate test is performed during refueling outages than is performed monthly. This test is performed to verify that total leakage paths between the drywell and suppression chamber are not in excess of the equivalent to a 1-inch orifice.

This small leakage path is only a small fraction of the allowable, thus integrity of the containment system is assured prior to startup following each refueling outage (Reference 1).

reactor shall be in the cold shutdown condition within 24 hours.

2. Specification 3.9.E.1 shall not apply when a diesel generator has been made inoperable for a period not to exceed 1-1/2 hours for the purpose of conducting preventative maintenance. Additionally, preventative maintenance shall not be undertaken unless two offsite lines are available and the alternate diesel generator is operable.

3. Whenever the reactor is in the Cold Shutdown or Refueling mode, a minimum of one diesel generator (either the Unit diesel generator or the Unit 1/2 diesel generator) shall be operable whenever any work is being done which has the potential for draining the vessel, secondary containment is required, or a core or containment cooling system is required.

3.9 LIMITING CONDITIONS FOR OPERATION BASES

A. The general objective of this specification is to assure an adequate source of electrical power to operate the auxiliaries during plant operation, to operate facilities to cool and lubricate the plant during shutdown, and to operate the engineered safety features following an accident. There are two sources of electrical energy available, namely, the 345-kV transmission system and the diesel generators.

B. The d-c supply is required for control and motive power for switchgear and engineered safety features. The electrical power required provides for the maximum availability of power, i.e., one active offsite source and one backup source of offsite power and the maximum numbers of onsite sources.

A battery charger is supplied with each of the 125-volt and 250-volt batteries, and in addition, a shared battery charger is supplied which can be used for Units 1 and 2. Thus, on the loss of the normal battery charger, the shared charger can be used. Since an alternate charging source is available, one battery charger can be allowed out of service for 30 days without loss of this source of power. The 125-volt battery system shall have a minimum of 105 volts at the battery terminals to be considered operable.

C. Auxiliary power for the Unit is supplied from two sources, either the Unit auxiliary transformer or the Unit reserve auxiliary transformer. Both of these transformers are sized to carry 100% of the auxiliary load. If the reserve auxiliary transformer is lost, the unit can continue to run for 7 days, since the Unit auxiliary transformer is available and both diesel generators are operational. A 7-day period is provided if one source of offsite power is lost. This period is based on having two diesels operable which are adequate to handle an accident assuming a single failure. In addition, auxiliary power from the other unit can be obtained through the 4160-volt bus tie. If both offsite lines are lost, power is reduced to 40% of rated so that the turbine bypass system could accept the steam flow without reactor trip should the generator be separated from the system or a turbine trip occur. In this condition, the turbine-generator is capable of supplying house load and ECCS load if necessary through the unit auxiliary transformer. If the unit were shut down on loss of both lines, fewer sources of power would be available than for sustained operation at 40% power. Attention will be given to restoring normal offsite power to minimize the length of time operation is allowed in a condition where both sources are unavailable.

In the normal mode of operation, the 345-kV system is operable and two diesel generators are operable. One diesel generator may be allowed out of service for a short period of time to conduct preventative maintenance provided that power is available from the 345-kV system through a 4160-volt bus tie to supply the emergency buses, and the alternate diesel generator is operable. Offsite power is quite reliable, and in the last 25 years there has been only one instance in which all offsite power was lost at a Commonwealth Edison Generating Station. When the unit or shared diesel generator is made or found inoperable for reasons other than preventative maintenance, the remaining diesel generator and its associated low-pressure core cooling and containment cooling systems, which provide sufficient engineered safety features equipment to cover all breaks, will be operable.

D. The diesel fuel supply of 10,000 gallons will supply each diesel generator with a minimum of 2 days of full load operation or about 4 days at 1/2 load. Additional diesel fuel can be obtained and delivered to the site within an 8-hour period; thus a 2-day supply provides for adequate margin.

E. Diesel generator operability is discussed in Paragraph 3.9.C above.

Attachment 2

Amended Technical Specification Pages
Quad Cities Unit 2, DPR-30

The following pages have been revised:

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breakers and associated instrumentation, including setpoint, shall be checked for proper operation every 3 months.

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E. Diesel generator operability is discussed in Paragraph 3.9.C above.