

CHANGE (RTS-283) TO THE DUANE ARNOLD ENERGY CENTER  
TECHNICAL SPECIFICATIONS BASES

The holders of license DPR-49 for the Duane Arnold Energy Center hereby amend the Bases to the Technical Specifications to said license by deleting a current page and replacing it with the attached, new page. The Affected Page is given below.

AFFECTED PAGE

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3.5-20

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SUMMARY OF CHANGES

The following list of changes is in the order that the changes appear in the Technical Specifications.

Page

Description of Changes

3.5-20

This change adds clarification to the Bases for the minimum core cooling requirements specified in TS 3.5.G.4. Specifically, this change adds discussion of the single Core Spray pump OPERABILITY requirement during CORE ALTERATIONS.

postulated failure of the control rod velocity limiter section. Since the system cannot be pressurized during refueling, the potential need for core flooding only exists and the specified combination of the core spray or the LPCI system can provide this. Specification 3.8 must also be consulted to determine other requirements for the diesel generators. To prevent extensive wear and stress on the diesel engines, the diesels are manually started and the speed incrementally increased to synchronous speed.

During plant shutdown, CORE ALTERATIONS may continue with the suppression pool volume below the minimum values specified in Specification 3.7.G, provided certain other conditions are met. These conditions are described in Specification 3.5.G.4 and include one OPERABLE core spray pump with its suction aligned to the condensate storage tank(s). Specification 3.5.G.4 does not require core spray automatic initiation logic to be OPERABLE. The requirement for a single core spray pump to be OPERABLE is a recognition that should some leakage occur, the volume of water is sufficiently large such that significant loss of water level would take a great deal of time. This time period allows manual initiation of core spray as well as actions necessary to terminate the inventory loss. Instrumentation is provided in the control room to monitor pump operation and reactor cavity level.

#### H. Maintenance of Filled Discharge Pipe

If the discharge piping of the core spray, LPCI subsystem, HPCI, and RCIC are not filled, a water hammer can develop in this piping when the pump and/or pumps are started. If a water hammer were to occur at the time at which the system were required, the system would still perform its design function. However, to minimize damage to the discharge piping, Specification 3.5.H requires that the core spray and LPCI discharge piping pressure be restored within one hour after system depressurization when the system is required to be operable. Likewise, for HPCI and RCIC, the discharge piping to the last block valve shall be filled when these systems are required to be operable. If the discharge piping pressure for the core spray and LPCI subsystems cannot be restored within one hour or the discharge piping for HPCI and RCIC cannot be maintained in a filled condition to the last block valve, the operator is required to perform either of the following actions:

- 1) place the affected system(s) in the test mode which will ensure that the discharge piping is filled with water, or
- 2) declare the affected system(s) inoperable in which case the operator will enter the applicable LCO for the affected system(s) as defined in Specification 3.5.A (core spray and LPCI), 3.5.D (HPCI), or 3.5.E (RCIC).

The above actions minimize the possibility of a water hammer and are considered conservative in nature.