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APPENDIX 15

15A ANSWERS TO QUESTIONS

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QUESTION 15A.1 (DRL 15.1) Identify those items that will eventually be classified as technical specifications that now affect plant design. Examples include the minimum conditions of operation on: engineered safety features; emergency generators; and in-core flux monitors.

ANSWER The plant design is influenced mainly by the 70 General Criteria for Nuclear Power Plant Construction Permits, together with considerations of performance objectives. Generally, the technical specifications refer to the implementation of many or all of these criteria. However, it is possible to anticipate some specifications which also dictate the design rather than result from limitations of the design. The most significant of the former category are listed below.

<u>Specification Item</u>	<u>Design Area Affected</u>
A. <u>Site</u>	
Statement of exclusion area.	Systems or components for controlling normal or emergency release of radioactivity.
B. <u>Containment</u>	
Leak rate and frequency of testing.	Provisions for testing containment and penetrations at prescribed frequency.
C. <u>Primary Coolant System</u>	
Reactor vessel pressure, temperature, integrated flux limitations, and cooldown rate.	Reactor vessel design for environmental exposure and provision for any special operating procedure which may be necessitated.
Primary coolant water impurity and radioactive contamination limits.	Purification system capability and shielding, limitation on amount of cladding failure which limits operation.
D. <u>Primary Plant Auxiliary Systems</u>	
Minimum core injection capability and system redundancy.	Injection system design.
Requirement for periodic test of safeguards.	Provision for testing and system availability for testing.

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<u>Specification Item</u>	<u>Design Area Affected</u>
E. <u>Secondary Coolant System</u>	
Maximum radioactivity in secondary coolant.	Primary water purification system, steam generator operation with primary to secondary leaks.
F. <u>Reactor Core</u>	
Maximum total mass of fuel in core, maximum power, maximum burnup.	Fuel cycle planning, fuel handling and storage.
Reactivity worth.	Borated water injection system.
G. <u>Control and Safety Systems</u>	
Reactivity worth of control systems.	System for controlling primary water boration.
Minimum hot and cold shutdown margins.	Provision of adequate normal and auxiliary shutdown systems.
Periodic testing of emergency power supply.	Provision for on-line or shutdown demonstrations of availability.
H. <u>Monitoring Systems</u>	
Requirement to determine average activity in primary coolant and in rad-waste system.	Provisions for gaseous waste discharge monitoring, and recording suitable for determining yearly average rates.
I. <u>Waste Disposal Systems</u>	
Maximum waste discharge rates	Waste concentration and holdup facilities.
J. <u>Ventilation Systems</u>	
Frequency and method of maintaining air filtering and air cleaning equipment.	Design of filters and air cleaning equipment.
K. <u>Emergency Cooling &amp; Decay Heat Removal Systems</u>	
Minimum capacity.	Engineered safeguards required to have redundant capabilities.
Requirement for periodic test.	Provision for availability and testing.

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