Attachment A

1. Make the following changes in the Technical Specifications.

Remove	Insert
i	i
1-1	1-1 through 1-1a
N/A	3.0-1 through 3.0-4
3.1-2	3.1-2 through 3.1-2a
3.1-4a through 3.1-4b	3.1-4a through 3.1-4b
3.1-26	3.1-26
3.1-31	3.1-31
3.2-1 through 3.2-3	3.2-1 through 3.2-3
3.3-1 through 3.3-7a	3.3-1 through 3.3-7a
3.4-1 through 3.4-2	3.4-1 through 3.4-2a
3.5-1	3.5-1
3.5-3 through 3.5-10	3.5-3 through 3.5-10
3.5-14	3.5-14
3.7-1 through 3.7-2	3.7-1 through 3.7-2a
3.10-1 through 3.10-2	3.10-1 through 3.10-2

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Proposed

TECHNICAL SPECIFICATIONS

1.0 DEFINITIONS

The following terms are defined for uniform interpretation of the specifications.

1.1 Thermal Power

The rate that the thermal energy generated by the fuel is accumulated by the coolant as it passes through the reactor vessel.

1.2 Reactor Operating Modes

Mode	Reactivity Δk/k%	Coolant Temperature (°F)
Refueling	≦-10	T_{avg} ≦ 140
Cold Shutdown	≦-1	T_{avg} ≦ 200
Hot Shutdown	≦-1	T_{avg} ≧ 540
Operating	≧0	T_{avg} ~ 580

1.3 Refueling

Any operation within the containment involving movement of fuel and/or control rods when the vessel head is unbolted.

Proposed

1.4 Operable-Operability

A system, subsystem, train, component or device shall be operable or have operability when it is capable of performing its specified function(s). Implicit in this definition shall be the assumption that all necessary attendant instrumentation, controls, normal and emergency electrical power sources, cooling or seal water, lubrication or other auxiliary equipment that are required for the system, subsystem, train, component or device to perform its function(s) are also capable of performing their related support function(s).

Proposed

3.0 LIMITING CONDITIONS FOR OPERATION

Applicability

3.0.1 In the event a Limiting Condition for Operation and/or associated action requirements cannot be satisfied because of circumstances in excess of those addressed in the specification, within 1 hour action shall be initiated to place the unit in at least hot shutdown within the next 6 hours (i.e., a total of seven hours), and in at least cold shutdown within the following 30 hours (i.e., a total of 37 hours) unless corrective measures are completed that permit operation under the permissible action statements for the specified time interval as measured from initial discovery or until the reactor is placed in a mode in which the specification is not applicable. If the action statement corresponding to the Limiting Condition for Operation that was exceeded contains time limits to hot and cold shutdown that are less than those specified above, these more limiting time limits shall be applied. Exceptions to these requirements shall be stated in the individual specifications.

3.0.2 When a system, subsystem, train, component or device is determined to be inoperable solely because its emergency power source is inoperable, or solely because its normal power source is inoperable, it may be considered operable for the purpose of satisfying the requirements of its applicable Limiting Condition for

Proposed

Operation, provided: (1) its corresponding normal or emergency power source is operable; and (2) all of its redundant system(s), subsystem(s), train(s), component(s) and device(s) are operable, or likewise satisfy the requirements of this specification. Unless both conditions (1) and (2) are satisfied within 1 hour, the unit shall be placed in at least hot shutdown within the next 6 hours, and in at least cold shutdown within the following 30 hours. This specification is not applicable in cold shutdown or refueling modes.

Basis

Specification 3.0.1 delineates the ACTION to be taken for circumstances not directly provided for in the ACTION statements and whose occurrence would violate the intent of the specification. For example, Specification 3.3.2 requires two Containment Spray Pumps to be operable and provides explicit action requirements if one spray pump is inoperable. Under the terms of Specification 3.0.1, if both of the required Containment Spray Pumps are inoperable, the unit is required to be in at least hot shutdown within the following 6 hours and in at least cold shutdown in the next 30 hours. These time limits apply because the time limits for one spray pump inoperable (6 hours to hot shutdown, wait 48 hours then 30 hours to cold shutdown) are less limiting. As a further example, Specification 3.3.1 requires each Reactor Coolant System accumulator to be operable and provides explicit action requirements if one accumulator is inoperable. Under the terms of Specification 3.0.1, if more than one accumulator is

inoperable, within 1 hour action shall be initiated to place the unit in at least hot shutdown within 6 hours and cold shutdown within an additional 6 hours. The time limit of 6 hours to hot shutdown and 30 hours to cold shutdown do not apply because the time limits for 1 accumulator inoperable are more limiting. It is assumed that the unit is brought to the required mode within the required times by promptly initiating and carrying out the appropriate action statement.

Specification 3.0.2 delineates what additional conditions must be satisfied to permit operation to continue, consistent with the action statements for power sources, when a normal or emergency power source is not operable. It allows operation to be governed by the time limits of the action statement associated with the Limiting Condition for Operation for the normal or emergency power source, not the individual action statements for each system, subsystem, train, component or device that is determined to be inoperable solely becuase of the inoperability of its normal or emergency power source.

For example, Specification 3.7.1.d requires in part that two emergency diesel generators be operable. The action statement provides for a maximum out-of-service time when one emergency diesel generator is not operable. If the definition of operable were applied without consideration of Specification 3.0.2, all systems, subsystems, trains, components and devices supplied by the inoperable emergency power source would also be inoperable. This would dictate invoking the applicable action statements for each of the applicable Limiting Conditions for Operation. However,

Proposed

the provisions of Specification 3.0.2 permit the time limits for continued operation to be consistent with the action statement for the inoperable emergency diesel generator instead, provided the other specified conditions are satisfied. In this case, this would mean that the corresponding normal power source must be operable, and all redundant systems, subsystems, trains, components, and devices must be operable, or otherwise satisfy Specification 3.0.2 (i.e., be capable of performing their design function and have at least one normal or one emergency power source operable). If they are not satisfied, shutdown is required in accordance with this specification.

Proposed

c. Except for special tests, when the RCS temperature is at or above 350°F, or when the reactor is at hot shutdown or is critical with the reactor power less than or equal to 130 MWT (8.5%), at least one reactor coolant loop and its associated steam generator and reactor coolant pump shall be in operation. The other loop and its associated steam generator must be operable so that heat could be removed via natural circulation. However, both reactor coolant pumps may be de-energized for up to 1 hour provided (1) no operations are permitted that would cause dilution of the reactor coolant system boron concentration, and (2) core outlet temperature is maintained at least 10°F below saturation temperature.

d. If the conditions of 3.1.1.1.c are not met, then

(i) if one loop is in operation, but the other loop is not operable, restore the inoperable loop to operable status within 72 hours or take the plant to the hot shutdown condition and reduce the RCS temperature to less than 350°F within the next 12 hours, or

(ii) if neither loop is in operation suspend all operation involving a reduction in boron concentration in the Reactor Coolant System and immediately initiate corrective action to return a coolant loop to operation.

e. When the reactor is at cold shutdown or when the RCS temperature is between 200°F and 350°F, at least two of the following coolant loops shall be operable:

(i) reactor coolant loop A and its associated steam generator and reactor coolant pump.

(ii) reactor coolant loop B and its associated steam generator and reactor coolant pump.

Proposed

c. Whenever the reactor is at or above an RCS temperature of 350°F, both pressurizer code safety valves shall be operable with a lift setting of 2485 psig ±1%.

d. If one pressurizer code safety valve is not operable while the reactor is at or above an RCS temperature of 350°F, then either restore the inoperable valve to operable status within 15 minutes or be in at least hot shutdown within 6 hours and below an RCS temperature of 350°F within an additional 6 hours.

3.1.1.4 Relief Valves

a. Both pressurizer power operated relief valves (PORVs) and their associated block valves shall be operable whenever the reactor is at or above a RCS temperature of 350°F, or

(i) with one or more PORV(s) inoperable, within 1 hour either restore the PORV(s) to operable status or close the associated block valve(s); otherwise, be in at least hot shutdown within the next 6 hours and below an RCS temperature of 350°F within the following 30 hours, or

(ii) with one or more block valve(s) inoperable, within 1 hour either restore the block valve(s) to operable status or close the block valve(s) and remove power from the block valve(s);

otherwise, be in at least hot shutdown within the next 6 hours and below an RCS temperature of 350°F within the following 30 hours.

3.1.1.5 Pressurizer

a. Whenever the reactor is at or above an RCS temperature of 350°F the pressurizer shall have at least 100 kw of heaters operable and a water level maintained between 12% and 87% of level span. If the pressurizer is inoperable due to heaters or water level, restore the pressurizer to operable status within 6 hrs. or have reactor below an RCS temperature of 350°F and the RHR system in operation within an additional 6 hrs.

b. This requirement shall not apply during performance of RCS hydro test.

Bases

The plant is designed to operate with all reactor coolant loops in operation and maintain the DNBR above 1.30 during all normal

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radioactivity may be out of service for 48 hours provided two other systems are operable.

3.1.5.4 If the conditions of 3.1.5.3 are not met, then be below 5% power in 6 hours.

Basis

Water inventory balances, monitoring equipment, boric acid crystalline deposits, and physical inspections can disclose reactor coolant leaks. Any leak of radioactive fluid, whether or not it is from the reactor coolant system pressure boundary, can be a serious problem with respect to in-plant radioactivity contamination or it could develop into a still more serious problem if the leakage rate is of sufficient magnitude to effect cooling of the reactor core; and, therefore, first indications of such leakage should be investigated as soon as practicable. If leakage is to the containment, its presence may be indicated by one or more of the following methods:

a. The containment air particulate monitor is sensitive to low leak rates. The rate of leakage to which the instrument is sensitive is 0.013 gpm within twenty minutes, assuming the presence of corrosion product activity.

b. The containment radiogas monitor is less sensitive but can be used as a backup to the air particulate monitor. The sensitivity range of the instrument is approximately 2 gpm than 10 gpm.

Proposed

3.1.6 Maximum Reactor Coolant Oxygen, Fluoride, and Chloride Concentration

Specification

3.1.6.1 Concentrations of contaminants in the reactor coolant shall not exceed any one of the following limits when the RCS temperature is above 250°F.

Contaminant	Normal Steady-State Operation (ppm)	Transient Limits (ppm)
Oxygen	0.10	1.00
Chloride	0.15	1.50
Fluoride	0.15	1.50

3.1.6.2 If any of the normal steady-state operating limits as specified in 3.1.6.1 above are exceeded, corrective action shall be taken immediately.

3.1.6.3 If the concentration of any of the contaminants exceeds the transient limits of 3.1.6.1 above, the reactor shall be brought to hot shutdown within 6 hours and to below an RCS temperature of 250°F in an additional 30 hours.

3.1.6.4 If the concentration of any of the contaminants exceeds the normal steady-state limits of 3.1.6.1 above and cannot be returned to within the limits within 24 hours, the reactor shall be brought to hot shutdown within 6 hours and to below an RCS temperature of 250°F in an additional 30 hours and the cause shall be ascertained and corrected.

Proposed

3.2 Chemical and Volume Control System

Applicability

Applies to the operational status of the chemical and volume control system.

Objective

To define those conditions of the chemical and volume control system necessary to assure safe reactor operation.

Specification

3.2.1 When fuel is in the reactor there shall be at least one flow path to the core for boric acid injection. The minimum capability for boric acid injection shall be equivalent to that supplied from the refueling water storage tank.

3.2.2 The reactor shall not be taken above cold shutdown unless the following Chemical and Volume Control System conditions are met.

a. At least two charging pumps shall be operable.

b. Both boric acid transfer pumps shall be operable.

c. The boric acid tanks together shall contain a minimum of 2,000 gallons of a 12% to 13% by weight boric acid solution at a temperature of at least 145°F.

Proposed

d. System piping and valves shall be operable to the extent of establishing two flow paths from the boric acid tanks to the Reactor Coolant System and a flow path from the refueling water storage tank to the Reactor Coolant System.

e. Both channels of heat tracing shall be operable for the above flow paths.

3.2.3 The requirements of 3.2.2 may be modified to allow one of the following components to be inoperable at any one time. If the system is not restored to meet the requirements of 3.2.2 within the time period specified below, the reactor shall be placed in the hot shutdown condition within 6 hours. If the requirements of 3.2.2 are not satisfied within an additional 48 hours the reactor shall be in cold shutdown within the next 30 hours.

a. If only one charging pump is operable, then have two pumps operable within 24 hours.

b. One boric acid pump may be out of service provided the pump is restored to operable status within 24 hours.

c. One boric acid tank may be out of service provided a minimum of 2,000 gallons of a 12% to 13% by weight boric acid solution at a temperature of at least 145°F is contained in the operable tank and provided that the tank is restored to operable status within 24 hours.

Proposed

d. If only one flow path from the boric acid tanks is operable, then restore a total of two paths to operable status within 24 hours.

e. One channel of heat tracing may be out of service provided it is restored to operable status within 24 hours.

3.2.4 Whenever the reactor coolant system is ≥200°F and is being cooled by the RHR system and the overpressure protection system is not operable, at least one charging pump shall be demonstrated inoperable at least once per 12 hours by verifying that the control switch is in the pull-stop position.

Basis

The chemical and volume control system provides control of the reactor coolant system boron inventory.(1) This is normally accomplished by using either one of the three charging pumps in series with one of the two boric acid pumps. An alternate method of boration will be to use the charging pumps directly from the refueling water storage tank. A third method will be to depressurize and use the safety injection pumps. There are two sources of borated water available for injection through three different paths.

(1) The boric acid transfer pumps can deliver the boric acid tank contents (12% concentration of boric acid) to the charging pumps.

(2) The charging pumps can take suction from the refueling water storage tank. (2,000 ppm boron solution)

(3) The safety injection pumps can take their suctions from either the boric acid tanks or the refueling water storage tank.

The quantity of boric acid in storage from either the boric acid tanks or the refueling water storage tank is sufficient to borate the reactor coolant in order to reach cold shutdown at any time during core life. Approximately 1800 gallons of the 12% to 13% solution of boric acid are required to meet cold shutdown conditions.(2) Thus, a minimum of 2000 gallons in the boric acid tanks is specified. An upper concentration limit of 13% boric acid in the tank is specified to maintain solution solubility at the specified low temperature limit of 145°F. Two channels of heat tracing are installed on lines normally containing concentrated boric acid solution to maintain the specified low temperature limit.

Amendment No. 26
Proposed

3.3 Emergency Core Cooling System, Auxiliary Cooling Systems, Air Recirculation Fan Coolers, Containment Spray, and Charcoal Filters

Applicability

Applies to the operating status of the Emergency Core Cooling System, Auxiliary Cooling Systems, Air Recirculation Fan Coolers, Containment Spray, and Charcoal Filters.

Objective

To define those conditions for operation that are necessary:

(1) to remove decay heat from the core in emergency or normal shutdown situations, (2) to remove heat from containment in normal operating and emergency situations, (3) to remove airborne iodine from the containment atmosphere following a postulated Design Basis Accident, and (4) to minimize containment leakage to the environment subsequent to a Design Basis Accident.

Specification

3.3.1 Safety Injection and Residual Heat Removal Systems

3.3.1.1 The reactor shall not be taken above the mode indicated unless the following conditions are met:

Proposed

a. Above cold shutdown, the refueling water storage tank contains not less than 230,000 gallons of water, with a boron concentration of at least 2000 ppm.

b. Above a reactor coolant system pressure of 1000 psig, each accumulator is pressurized to at least 700 psig with an indicator level of at least 50% and a maximum of 82% with a boron concentration of at least 1800 ppm.

c. At or above a reactor coolant system pressure of 1600 psig, except during performance of RCS hydro test, three safety injection pumps are operable.

d. At or above an RCS temperature of 350°F, two residual heat removal pumps are operable.

e. At or above an RCS temperature of 350°F, two residual heat exchangers are operable.

f. At the conditions required in a through e above, all valves, interlocks and piping associated with the above components which are required to function during accident conditions are operable.

g. At or above an RCS temperature of 350°F, A.C. power shall be removed from the following valves with the valves in the open position: safety injection cold leg injection valves 878B and D, and refueling water storage tank delivery valves 856. A.C. power shall be removed from safety injection hot leg injection valves 878A and C with the valves closed. D.C. control power shall be removed from refueling water storage tank delivery valves 896A and B with the valves open.

h. Above a reactor coolant system pressure of 1000 psig, A.C. power shall be removed from accumulator isolation valves 841 and 865 with the valves open.

i. At or above an RCS temperature of 350°F, check valves 853A, 853B, 867A, 867B, 878G, and 878J shall be operable with less than 5.0 gpm leakage each. The leakage requirements of Technical Specification 3.1.5.1 are still applicable.

NRC Order dated
April 20, 1981

Amendment No. 1
Proposed

3.3.1.2 If the conditions of 3.3.1.1a are not met, then be at hot shutdown within 6 hours and at cold shutdown within an additional 30 hours.

3.3.1.3 The requirements of 3.3.1.1b may be modified to allow one accumulator to be inoperable or isolated for up to one hour. If the accumulator is not operable or is still isolated after one hour, the reactor shall be placed in hot shutdown within the following 6 hours and below a RCS pressure of 1000 psig within an additional 6 hours.

3.3.1.4 The requirements of 3.3.1.1.c may be modified to allow one safety injection pump to be inoperable for up to 72 hours. If the pump is not operable after 72 hours, the reactor shall be placed in hot shutdown within 6 hours and at an RCS pressure less than 1600 psig within an additional 6 hours.

3.3.1.5 The requirements of 3.3.1.1d through i may be modified to allow components to be inoperable at any one time. More than one component may be inoperable at any one time provided that one train of the ECCS is operable. If the requirements of 3.3.1.1d through i are not satisfied within the time period specified below, the reactor shall be placed in hot shutdown within 6 hours and at an RCS temperature less than 350°F in an additional 6 hours.

a. One residual heat removal pump may be out of service provided the pump is restored to operable status within 72 hours.

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Proposed

b. One residual heat exchanger may be out of service for a period of no more than 72 hours.

c. Any valve, interlock, or piping required for the functioning of one safety injection train and/or one low head safety injection train (RHR) may be inoperable provided repairs are completed within 72 hours (except as specified in e. below).

d. Power may be restored to any valve referenced in 3.3.1.1 g and h for the purposes of valve testing providing no more than one such valve has power restored and provided testing is completed and power removed within 12 hours.

e. Those check valves specified in 3.3.1.1 i may be inoperable (greater than 5.0 gpm leakage) provided the inline MOVs are de-energized closed and repairs are completed within 12 hours.

3.3.1.6 Except during diesel generator load and safeguard sequence testing, or when the vessel head is removed, or the steam generator primary system manway is open or when the pressurizer manway is open, no more than one safety injection pump shall be operable whenever the temperature of one or more of the RCS cold legs is ≤330°F.

3.3.1.6.1 Whenever only one safety injection pump may be operable by 3.3.1.6, at least two of the three safety injection pumps shall be demonstrated inoperable a minimum of once per twelve hours by verifying that the control switches are in the pull-stop position.

3.3.2 Containment Cooling and Iodine Removal

3.3.2.1 The reactor shall not be taken above cold shutdown unless the following conditions are met:

a. The spray additive tank contains not less than 4500 gallons of solution with a sodium hydroxide concentration of not less than 30% by weight.

b. At least two containment spray pumps are operable.

c. Four fan cooler units including the associated HEPA filter units with demisters are operable.

d. At least two charcoal filter units are operable.

e. All valves and piping associated with the above components which are required to function during accident conditions are operable.

3.3.2.2 The requirements of 3.3.2.1 may be modified to allow components to be inoperable at any one time provided that 1) the time limits and other requirements specified in a through f below are satisfied, and 2) at least 1 containment spray pump, 3 fan cooler units, 3 HEPA filter units with demisters, and 1 charcoal filter unit and all required valves and piping associated with these components are operable. If these requirements are not satisfied, the reactor shall be in hot shutdown within 6 hours. If the requirements are not satisfied within an additional 48 hours, be in cold shutdown within the next 30 hours.

a. One fan cooler may be inoperable for a period of no more than 7 days.

b. One containment spray pump may be inoperable provided the pump is restored to operable status within 3 days.

c. Any valve or piping in a system, required to function during accident conditions, may be inoperable provided it is restored to operable status within 72 hours.

d. One post accident charcoal filter unit or its associated fan cooler may be inoperable provided the unit is restored to operable status within 7 days.

e. The spray additive system may be inoperable for a period of no more than 3 days provided that both charcoal filter units are operable.

f. One HEPA filter unit or demister, or associated fan cooler may be inoperable for a period of no more than 7 days.

3.3.3 Component Cooling System

3.3.3.1 The reactor shall not be taken above cold shutdown unless the following conditions are met:

a. At least two component cooling pumps are operable.

b. At least two component cooling heat exchangers are operable.

c. All valves, interlocks and piping associated with the above components which are required to function during accident conditions are operable.

3.3.3.2 The requirements of 3.3.3.1 may be modified to allow one of the following components to be inoperable at any one time. If the system is not restored to meet the conditions of 3.3.3.1 within the time period specified, the reactor shall be in hot shutdown within the next 6 hours. If the requirement of 3.3.3.1 are not satisfied within an additional 48 hours, the

reactor shall be in the cold shutdown condition within the following 30 hours. If neither component cooling water loop is operable, the reactor shall be maintained below a reactor coolant system temperature of 350°F instead of at cold shutdown.

a. One component cooling pump may be out of service provided the pump is restored to operable status within 24 hours.

b. One heat exchanger or other passive component may be out of service provided the system may still operate at 100% capacity and repairs are completed within 24 hours.

3.3.4 Service Water System

3.3.4.1 The reactor shall not be taken above cold shutdown unless the following conditions are met:

a. At least two service water pumps and one loop header are operable.

b. All valves, interlocks, and piping associated with the operation of two pumps are operable.

3.3.4.2 Any time that the conditions of 3.3.4.1 above cannot be met, the reactor shall be placed in hot shutdown within 6 hours and in cold shutdown within an additional 30 hours.

3.3.5 Control Room Emergency Air Treatment System

3.3.5.1 The RCS temperature shall not be at or above 350°F unless the control room emergency air treatment system is operable.

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Proposed

3.3.5.2 The requirements of 3.3.5.1 may be modified to allow the control room emergency air treatment system to be inoperable for a period of 48 hours. If the system is not made operable within those 48 hours, the reactor shall be placed in hot shutdown within the next 6 hours and the RCS temperature <350°F in an additional 30 hours.

Basis

The normal procedure for starting the reactor is, first to heat the

Amendment No. 34
Proposed

3.4 Turbine Cycle

Applicability

Applies to the operating status of turbine cycle.

Objective

To define conditions of the turbine cycle steam-relieving capacity. Auxiliary Feedwater System and Service Water System operation is necessary to ensure the capability to remove decay heat from the core. The Standby Auxiliary Feedwater System provides additional assurance of capability to remove decay heat from the core should the Auxiliary Feedwater System be unavailable.

Specification

3.4.1 When the RCS temperature is at or above 350°F, the following conditions shall be met:

a. A minimum turbine cycle code approved steam-relieving capability of eight (8) main steam valves available (except for testing of the main steam safety valves).

b. Two motor driven auxiliary feedwater pumps and their associated flow paths (including backup supply from the Service Water System) must be operable.

c. The steam turbine driven auxiliary feedwater pump must be capable of being powered from an operable steam supply system, and the pump's associated flow path (including backup supply from the Service Water System) must be operable. The steam turbine driven auxiliary feedwater pump must be shown to be operable prior to exceeding 5% power.

d. A minimum of 22,500 gallons of water shall be available in the condensate storage tanks for the Auxiliary Feedwater System.

e. Two Standby Auxiliary Feedwater pumps and associated flow path (including flow path from the Service Water System) must be operable.

3.4.2 Actions To Be Taken If Conditions of 3.4.1 Are Not Met

a. With one or more main steam code safety valves inoperable, restore the inoperable valve(s) to operable status within 4 hours or be in at least

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hot shutdown within the next 6 hours and at a an RCS temperature below 350°F within the following 30 hours.

b. With one auxiliary feedwater pump or its flow path inoperable, restore the pump or flow path to operable status within 7 days. If the pump is not restored to operable status within 7 days submit a Thirty Day Written Report in accordance with Specification 6.9.2 outlining the cause of the inoperability and plans for restoring the pump to operable status.

c. With two auxiliary feedwater pumps or their flow paths inoperable, restore two pumps and flow paths to operable status within 72 hours or be in hot shutdown within the next 12 hours and at an RCS temperature below 350°F within the following 24 hours.

d. With one standby auxiliary feed pump or flow path inoperable, restore two pumps and flow paths to operable status within 7 days or be in hot shutdown within the next 12 hours and at an RCS temperature below 350°F within the following 24 hours.

e. With the required 22,500 gallons of water unavailable in the condensate storage tanks, within 4 hours, either:

   1. Restore the required amount of water or be in hot shutdown within 12 hours, or

   2. Demonstrate the operability of the Service Water System as a backup supply to the auxiliary feed system and restore the required amount of water in the condensate storage tanks within 7 days, or

   3. Be in hot shutdown within the following 12 hours and at an RCS temperature of less than 350°F within the following 24 hours.

Basis

A reactor shutdown from power requires removal of core decay heat. Immediate decay heat removal requirements are normally satisfied by the steam bypass to the condenser. Therefore, core decay heat can be continuously dissipated via the steam bypass to the condenser as feedwater in the steam generator is converted to steam by heat absorption. Normally, the capability to return feedwater flow to the steam generators is provided by operation of the turbine cycle feedwater system.

The eight main steam safety valves have a total combined rated capability of 6,580,000 lbs/hr. This capability exceeds the total full power steam flow of 6,577,279 lbs/hr. In the event of complete loss of off-site electrical power to the station, decay heat removal is assured by either the steam-driven auxiliary feedwater pump or one of the two motor-driven auxiliary feedwater pumps, and steam discharge to the atmosphere via the main steam safety valves or atmospheric relief valves.[1][2] The turbine driven pump can supply 200% of the required feedwater and one motor-driven auxiliary feedwater pump can supply 100% of the required feedwater for removal of decay heat from the plant, so any combination of two pumps can remove decay heat with a postulated single failure of one pump. The minimum amount of water in the condensate storage tanks is the amount needed to remove decay heat for 2 hours after reactor scram from full power.[4] An unlimited supply is available from the lake via either leg of the plant service water system for an indefinite time period.

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Proposed

3.5 Instrumentation Systems

Applicability

Applies to plant instrumentation systems.

Objective

To delineate the conditions of the plant instrumentation and safety circuits.

Specification

3.5.1 Operational Safety Instrumentation

3.5.1.1 The Total Number of Channels for instrumentation shown on Tables 3.5-1 through 3.5-3 shall be operable whenever the conditions specified in Column 7 are exceeded.

3.5.1.2 In the event the number of channels of a particular sub-system in service falls below the limits given in the columns entitled Total Number of Channels or Minimum Operable Channels, action shall be taken according to the requirements shown in column 6 of Tables 3.5-1 through 3.5-3.

3.5.2 Accident Monitoring Instrumentation

3.5.2.1 The accident monitoring instrumentation channels shown in Table 3.5-4 shall be operable whenever the reactor is at or above hot shutdown.

3.5.2.2 When required by 3.5.2.1, with the number of operable accident monitoring instrumentation channels less than the Total Number of Channels shown in Table 3.5-4, either restore the inoperable channel(s) to operable status within 7 days, or be in at least hot shutdown within the next 12 hours.

3.5.2.3 When required by 3.5.2.1, with the number of operable accident monitoring instrumentation channels less than the Minimum Channels Operable requirements of Table 3.5-4 either restore the inoperable channel(s) to operable status within 48 hours or be in at least hot shutdown within the next 12 hours.

3.5.3 Engineered Safety Feature Actuation Instrumentation

3.5.3.1 The Engineered Safety Feature Actuation System (ESFAS) instrumentation channels shown in Tables 3.5-2 and 3.5-3 shall be operable with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.5-5.

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Proposed

TABLE 3.5-1
INSTRUMENT OPERATION CONDITIONS

NO.	FUNCTIONAL UNIT	1 TOTAL NO. of CHANNELS	2 NO. of CHANNELS TO TRIP	3 MIN. OPERABLE CHANNELS	4 MIN. DEGREE OF REDUNDANCY	5 PERMISSIBLE BYPASS CONDITIONS	6 OPERATOR ACTION IF CONDITIONS OF COLUMN 1, 3 OR 5 CANNOT BE MET	7 CHANNEL OPERABLE ABOVE
1.	Manual	2	1	1	_*		10	when RCCA is withdrawn**
2.	Nuclear Flux Power Range					2 of 4 power range channels greater than 10% F.P. (low setting only)	2,10	same**
	low setting	4	2	3	2			
	high setting	4	2	3	2			
3.	Nuclear Flux Intermediate Range	2	1	1	_*	2 of 4 power range channels greater than 10% F.P.	10 Note 1	same**
4.	Nuclear Flux Source Range	2	1	1	_*	1 of 2 intermediate range channels greater than 10^{-10} amps.	10 Note 1	same**
5.	Overtemperature Δ T	4	2	3	2		2, 10	same**
6.	Overpower Δ T	4	2	3	2		2, 10	same**
7.	Low Pressurizer Pressure	4	2	3	2		2, 5	Hot Shutdown
8.	Hi Pressurizer Pressure	3	2	2	1		2, 5	Hot Shutdown
9.	Pressurizer-Hi Water Level	3	2	2	1		2, 5	Hot Shutdown
10.	Low Flow in one loop (≥ 50% F.P.)	3/loop	2/loop (any loop)	2	1		2, 5	Hot Shutdown
	Low Flow both loops (10-50% F.P.)	3/loop	2/loop (any loop)	2	1		2, 5	Hot Shutdown

**channels shall be operable any time an RCCA is off bottom.

Amendment No. 14
Proposed

TABLE 3.5-1 (Continued)
INSTRUMENT OPERATION CONDITIONS

NO.	FUNCTIONAL UNIT	1 TOTAL NO. of CHANNELS	2 NO. of CHANNELS TO TRIP	3 MIN. OPERABLE CHANNELS	4 MIN. DEGREE OF REDUNDANCY	5 PERMISSIBLE BYPASS CONDITIONS	6 OPERATOR ACTION IF CONDITIONS OF COLUMN 1, 3 OR 5 CANNOT BE MET	7 CHANNEL OPERABLE ABOVE
11.	Turbine Trip	3	2	2	1		2 - Maintain ≤50% of rated power	50% Power
12.	Steam Flow Feedwater flow mismatch with Lo Steam Generator Level	2 SF-FF and 2 SG level per loop	1 SF-FF coincident w/ 1 Lo SG level in same loop	2 SF-FF or 2 Lo SG level per loop	2 SF-FF or 2 Lo SG level per loop		2, 5	Hot Shutdown
13.	Lo Lo Steam Generator Water Level	3/loop	2/loop	2/loop	1/loop		2, 5	Hot Shutdown
14.	Undervoltage 4 KV Bus	2/bus	1/bus (both busses)	1/bus	_*		2, 5	Hot Shutdown
15.	Underfrequency 4 KV Bus	2/bus	1/bus (both busses)	1/bus	_*		2, 5	Hot Shutdown
16.	Quadrant power tilt monitor (upper & lower ex-core neutron detectors)	1	_*	1	_*		Log individual upper & lower ion chamber currents once/hr & after a load change of 10% or after 30" of control rod motion	Hot Shutdown

Amendment No. ~~12~~, ~~14~~, ~~40~~
Proposed

TABLE 3.5-1 (Continued)
INSTRUMENT OPERATION CONDITIONS

NO.	FUNCTIONAL UNIT	1 TOTAL NO. of CHANNELS	2 NO. of CHANNELS TO TRIP	3 MIN. OPERABLE CHANNELS	4 MIN. DEGREE OF REDUNDANCY	5 PERMISSIBLE BYPASS CONDITIONS	6 OPERATOR ACTION IF CONDITIONS OF COLUMN 1, 3 OR 5 CANNOT BE MET	7 CHANNEL OPERABLE ABOVE
17.	Circulating Water Flood Protection							
	a. Manual	2	1	2+	_*		Power operation may be continued for a period of up to 7 days with 1 channel inoperable or for a period of 24 hrs. with two channels inoperable. Otherwise be in hot shutdown in an additional 6 hours.	Hot Shutdown
	b. Condenser	2	1	2+	_*		Power operation may be continued for a period of up to 7 days with 1 channel inoperable or for a period of 24 hrs. with two channels inoperable. Otherwise be in hot shutdown in an additional 6 hours.	Hot Shutdown
18.	Loss of Voltage 480V Safeguards Bus	2 sets of 2/bus	1 of 2 in each set per bus	1 of 2 in each set per bus	*		2, 6 or place bus on diesel generator	T_{RCS} = 350°F

Amendment No. ~~14~~, ~~38~~, ~~45~~
(Correction - May 6, 1981)
Proposed

TABLE 3.5-1 (Continued)
INSTRUMENT OPERATION CONDITIONS

NO.	FUNCTIONAL UNIT	1 TOTAL NO. of CHANNELS	2 NO. of CHANNELS TO TRIP	3 MIN. OPERABLE CHANNELS	4 MIN. DEGREE OF REDUNDANCY	5 PERMISSIBLE BYPASS CONDITIONS	6 OPERATOR ACTION IF CONDITIONS OF COLUMN 1, 3 OR 5 CANNOT BE MET	7 CHANNEL OPERABLE ABOVE
19.	Degraded Voltage 480V Safeguards Bus	2/bus	2/bus	2/bus	*		2, 6 or place bus on diesel generator	T_{RCS} = 350°F

NOTE 1: When block condition exists, maintain normal operation.
F.P. = Full Power
* Not Applicable
\+ A channel is considered operable with 1 out of 2 logic or 2 out of 3 logic.

Amendment No. ~~14~~, ~~38~~, ~~45~~
(Correction - May 6, 1981)
Proposed

TABLE 3.5-2
EMERGENCY COOLING

NO.	FUNCTIONAL UNIT	1 TOTAL NO. of CHANNELS	2 NO. of CHANNELS TO TRIP	3 MIN. OPERABLE CHANNELS	4 MIN. DEGREE OF REDUNDANCY	5 PERMISSIBLE BYPASS CONDITIONS	6 OPERATOR ACTION IF CONDITIONS OF COLUMN 1, 3 OR 5 CANNOT BE MET	7 CHANNEL OPERABLE ABOVE
1.	SAFETY INJECTION							
	a. Manual	2	1	1		Primary pressure less than 2000 psig	1	T_{RCS} = 350°F
	b. High Containment Pressure	3	2	2	1		2,1	T_{RCS} = 350°F
	c. Steam Generator Low Steam Pressure/Loop	3	2	2	1		2,1	T_{RCS} = 350°F
	d. Pressurizer Low Pressure	3	2	2	1		2,1	T_{RCS} = 350°F
2.	CONTAINMENT SPRAY							
	a. Manual	2	2	2	--**		2,3	Cold Shutdow
	b. Hi-Hi Containment Pressure (Containment Spray)	2 sets of 3	2 of 3 in ea. set	2 per set	1/set		2,3	Cold Shutdow

** Must actuate 2 switches simultaneously.

Amendment No. 27
Proposed

TABLE 3.5-2 (Continued)
EMERGENCY COOLING

NO.	FUNCTIONAL UNIT	1 TOTAL NO. of CHANNELS	2 NO. of CHANNELS TO TRIP	3 MIN. OPERABLE CHANNELS	4 MIN. DEGREE OF REDUNDANCY	5 PERMISSIBLE BYPASS CONDITIONS	6 OPERATOR ACTION IF CONDITIONS OF COLUMN 1, 3 OR 5 CANNOT BE MET	7 CHANNEL OPERABLE ABOVE
3.	AUXILIARY FEEDWATER							
	Motor and Turbine Driven							
	a. Manual	1/pump	1/pump	1/pump			4	T_{RCS} = 350°F
	b. Stm. Gen. Water Level-low-low							
	i. Start Motor Driven Pumps	3/stm.gen.	2/stm.gen. either gen.	2/stm.gen.	1		2,6	T_{RCS} = 350°F
	ii. Start Turbine Driven Pump	3/stm.gen.	2/stm.gen. both gen.	2/stm.gen.	1		2,6	T_{RCS} = 350°F
	c. Loss of 4 KV Voltage Start Turbine Driven Pump	2/bus	1/bus (both buses)	1/bus			2,6	T_{RCS} = 350°F
	d. Safety Injection Start Motor Driven Pumps		(see Item 1)					
	e. Trip of both Feedwater Pumps starts Motor Driven Pumps	2/pump	1/pump both pumps	1/pump			2,5	5% power
	Standby Motor Driven							
	a. Manual	1/pump	1/pump	1/pump			4	T_{RCS} = 350°F

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TABLE 3.5-3
INSTRUMENT OPERATING CONDITIONS FOR ISOLATION FUNCTIONS

NO.	FUNCTIONAL UNIT	1 TOTAL NO. of CHANNELS	2 NO. of CHANNELS TO TRIP*	3 MIN. OPERABLE CHANNELS	4 MIN. DEGREE OF REDUNDANCY	5 PERMISSIBLE BYPASS CONDITIONS	6 OPERATOR ACTION IF CONDITIONS OF COLUMN 1 OR 3 CANNOT BE MET	7 CHANNEL OPERABLE ABOVE
1.	CONTAINMENT ISOLATION							
1.1	Containment Isolation							
	a. Manual	2	1	1			7	Cold Shutdown
	b. Safety Injection		(See Table 3.5-2, Item 1)					
1.2	Containment Ventilation Isolation							
	a. Manual	2	1	1			8	Cold Shutdown
	b. High Containment Radioactivity	2	1	1			8	Cold Shutdown
	c. Manual Spray		(See Table 3.5-2, Item 2a)					
	d. Safety Injection		(See Table 3.5-2, Item 1)					

* If a functional unit is operating with the minimum operable channels, the number of channels to trip the reactor will be column 3 less column 4.

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Proposed

TABLE 3.5-3 (Continued)
INSTRUMENT OPERATING CONDITIONS FOR ISOLATION FUNCTIONS

NO.	FUNCTIONAL UNIT	1 TOTAL NO. of CHANNELS	2 NO. of CHANNELS TO TRIP	3 MIN. OPERABLE CHANNELS	4 MIN. DEGREE OF REDUNDANCY	5 PERMISSIBLE BYPASS CONDITIONS	6 OPERATOR ACTION IF CONDITIONS OF COLUMN 1 OR 3 CANNOT BE MET	7 CHANNEL OPERABLE ABOVE
2.	STEAM LINE ISOLATION							
	a. Hi-Hi Steam Flow with Safety Injection	2/loop	1	1	-		2, 1	*T_{RCS} = 350°F w/MSIV's open
	b. Hi Steam Flow and 2 of 4 Low T_{AVG} with Safety Injection	2/loop	1	1	-		2, 1	*same
	c. 20 psi Containment Pressure	3	2	2	1		2, 1	*same
	d. Manual	1/loop	1/loop	1/loop	-		1	*same
3.	FEEDWATER LINE ISOLATION							
	a. Safety Injection	(See Table 3.5-2, Item 1)					1	**T_{RCS} = 350°F
	b. Hi Steam Generator Level	3/loop	2 in either loop	2/loop	1/loop		2, 1	**T_{RCS} = 350°F w/FW Isol valves op

* RCS temperature may be above 350°F if MSIV's are closed.
** RCS temperature may be above 350°F if FW Isol. valves are closed.

ACTION STATEMENTS

ACTION 1 With the number of operable channels one less than the Minimum Operable Channels, restore the inoperable channel to operable status within 24 hours or be in hot shutdown within 6 hours and the RCS temperature less than 350°F within an additional 30 hours.

ACTION 2 With the number of operable channels one less than the Total Number of Channels, operation may proceed until performance of the next required CHANNEL FUNCTIONAL TEST provided the inoperable channel is placed in the tripped condition within 1 hour. If the inoperable channel is not operable by the time of the next Channel Functional Test, be at Hot Shutdown within 6 hours and at a condition where channel operability is not required as specified in column 7 within an additional 30 hours.

ACTION 3 With the number of operable channels one less than the Minimum Operable Channels, restore the inoperable channel to operable status within 24 hours or be in hot shutdown within 6 hours and in cold shutdown within an additional 30 hours.

ACTION 4 With the number of channels one less than the Total Number of Channels, restore the inoperable channel to operable status within 48 hours or be in hot shutdown within 6 hours and an RCS temperature less than 350°F within an additional 30 hours.

ACTION 5 With the number of channels less than the Minimum Operable Channels, be in hot shutdown within 6 hours.

ACTION 6 With the number of channels less than the Minimum Operable Channels, be in hot shutdown within 6 hours and an RCS temperature less than 350°F within an additional 30 hours.

ACTION 7 With the number of operable channels one less than the Total Number of Channels, restore the inoperable channel to operable status within 48 hours or be in hot shutdown within 6 hours and cold shutdown within an additional 30 hours.

ACTION 8 With less than the minimum channels operable, operation may continue provided the containment purge and exhaust valves are maintained closed.

ACTION 9 With less than the minimum channels operable, operation may continue provided power is reduced to less than 50% rated power.

ACTION 10 With less than the minimum channels operable, be in hot shutdown with all RCCA's fully inserted within 6 hours.

TABLE 3.5-5 (Continued)
ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUES
7. LOSS OF VOLTAGE		
a. 480 V Safeguards Bus Undervoltage (Loss of Voltage)	see Figure 2.3-1	
b. 480 V Safeguards Bus Undervoltage (Degraded Voltage)	see Figure 2.3-1	
8. ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INTERLOCKS		
a. Pressurizer Pressure, (block, unblock SI)	≦2000 psig	≦2010 psig

Note 1: A positive 11% error has been included in the setpoint to account for errors which may be introduced into the steam generator level measurement system at a containment temperature of 286°F as determined by an evaluation performed on temperature effects on level systems as required by IE Bulletin 79-21.

Note 2: This setpoint value is from inverse time curve for CVT relay (406C883) with tap setting of 82 volts and time dial setting of 1. Delay at 62% voltage is 3.6 seconds. The allowable values are ±5% of the trip setpoint.

Note 3: The trip setpoints for containment ventilation isolation while purging shall be established to correspond to the limits of 10 CFR Part 20 for unrestricted areas. The setpoints are determined procedurally in accordance with Technical Specification 3.9.2 by calculating effluent monitor count rate limits, which take into account appropriate factors for detector calibration, ventilation flow rate, and average site meteorology.

*Allowable Values are those values assumed in accident analysis.

3.7 AUXILIARY ELECTRICAL SYSTEMS

Applicability

Applies to the availability of electrical power for the operation of plant auxiliaries.

Objective

To define those conditions of electrical power availability necessary (1) to provide for safe reactor operation, and (2) to provide for the continuing availability of engineered safeguards.

Specification

3.7.1 The reactor shall not be maintained above cold shutdown without:

a. The 34.5 KV-4160 Volt station service transformer in service.

b. 480-volt buses 14, 16, 17 and 18 energized.

c. 4160-volt buses 12A and 12B energized.

d. Two diesel generators operable with onsite supply of 10,000 gallons of fuel available.

e. Both batteries and both d.c. systems operable, and at least one 150 amp battery charger or two 75 amp battery chargers in service for each battery.

3.7.2 During reactor operation the requirements of 3.7.1 may be modified as follows:

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Proposed

a. Operation may continue with the station service transformer out of service provided (a) the failure shall be reported to NRC within 24 hours with an outline of the plans for prompt restoration of offsite power and the additional precautions to be taken while the transformer is out of service and (b) both diesel generators are operable. Under conditions of fulfillment of (b) and nonfulfillment of (a), continued operation shall not extend beyond 24 hours. If (b) is not met, the reactor shall be placed in hot shutdown within 6 hours and cold shutdown within an additional 30 hours.

b. Operation may continue if one diesel generator is out of service provided (a) the remaining diesel generator is run continuously, and (b) the station service transformer is in service and (c) such operation is not in excess of 7 days (total for both diesels) during any month.

c. One of the required battery banks may be inoperable provided that within 2 hours either:

   1. restore the inoperable battery bank to operable status, or

   2. verify that the output voltage of the Technical Support Center battery bank is greater than 125 volts and 150 amps of charging capacity is available and substitute it for the inoperable

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battery bank. Operation in this mode may continue for a period of no more than 7 days. If neither 1. or 2. above are satisfied then be in at least hot shutdown within 6 hours and cold shutdown within the following 30 hours.

d. With less than 150 amps of battery charging capacity to one d.c. system, either restore 150 amps of charging capacity within 2 hours or declare the battery bank inoperable.

3.7.3 With the reactor at cold shutdown or during refueling:

a. A 34.5KV-4160 volt station auxiliary transformer (12A or 12B) shall be in service with 4160 volt buses 12A and 12B energized.

b. One diesel generator shall be operable with onsite supply of 5,000 gallons of fuel available.

c. If (a) above cannot be satisfied then both diesel generators shall be operable with an onsite supply of 10,000 gallons of fuel available.

d. Two d.c. systems and associated battery banks shall be operable each with 150 amps of battery charging capacity available. The Technical Support Center battery bank and charger may be used to satisfy this requirement provided the output voltage is greater than 125 volts.

3.7.4 If the requirements of 3.7.3 cannot be satisfied then immediately suspend all operations involving positive reactivity changes, core alteration, and movement of irradiated fuel, and immediately initiate corrective action to restore the required power sources to operable status.

Basis

The electrical system equipment is arranged so that no single contingency can inactivate enough safeguards equipment to jeopardize the plant safety. The 480-volt equipment is arranged

Proposed

3.10 Control Rod and Power Distribution Limits

Applicability

Applies to the operation of the control rods and power distribution limits.

Objective

To ensure (1) core subcriticality after a reactor trip, (2) limited potential reactivity insertions from a hypothetical control rod ejection, and (3) an acceptable core power distribution during power operation.

Specification

3.10.1 Control Rod Insertion Limits

3.10.1.1 When the reactor is subcritical prior to startup, the hot shutdown margin shall be at least that shown in Figure 3.10-2. The shutdown margin as used here is defined as the amount by which the reactor core would be subcritical at hot shutdown conditions (547°F) if all control rods were tripped, assuming that the highest worth control rod remained fully withdrawn, and assuming no changes in xenon or boron.

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March 30, 1976
Proposed

3.10.1.2 When the reactor is critical except for physics tests and control rod exercises, the shutdown control rods shall be fully withdrawn.

3.10.1.3 When the reactor is critical, except for physics tests and control rod exercises, each group of control rods shall be inserted no further than the limits shown by the lines on Figure 3.10-1 and moved sequentially with a 100 (±5) step overlap between successive banks.

3.10.1.4 During control rod exercises indicated in Table 4.1-2, the insertion limits need not be observed but the Figure 3.10-2 must be observed.

3.10.1.5 During measurement of control rod worth and shutdown margin, the shutdown margin requirement, Specification 3.10.1.1, need not be observed provided the reactivity equivalent to at least the highest estimated control rod worth is available for trip insertion. Each control rod not fully inserted, that is, the rods available for trip insertion, shall be demonstrated capable of full insertion when tripped from at least the 50% withdrawn position within 24 hours prior to reducing the shutdown margin to less than the limits of Specification 3.10.1.1. The position of each control rod not fully inserted, that is, available for trip insertion, shall be determined at least once per 2 hours.

Amendment No. 19
Proposed

Attachment B

In April, 1980 the NRC requested that all licensees review their Technical Specifications to insure that the term "OPERABLE" was appropriately employed to preserve the single failure criterion for safety-related systems and components.[1] A review of the Ginna Technical Specifications revealed a lack of specific ACTION statements and an inconsistency between the Limiting Condition for Operation (LCO's) of the various system and components. RG&E requested[2] a delay in the incorporation of additional clarification of the term OPERABLE because of impending changes due as a result of the Systematic Evaluation Program (SEP). This delay was acceptable to the NRC.[3]

This proposed change to the Technical Specification responds to the original NRC requirement of April 10, 1980. Additional clarification of OPERABLE was incorporated with changes to some LCO's and ACTION statements.

Most of the changes are one of the three types listed below:

1. The LCO was changed to require the system or component to be operable at a lower temperature or condition, i.e. operable at an RCS temperature greater than 350°F versus requiring the equipment to be operable in order to be critical or at hot shutdown.

2. The action statement was changed to reflect the change in the LCO, i.e. if the LCO required the component to be operable at an RCS temperature greater than 350°F, then to clear the LCO, RCS conditions must be brought to below 350°F.

3. Time limits to hot shutdown and cold shutdown or to an RCS temperature less than 350°F were added to action statements where required.

In the case of change 1, requiring a component to be operable at a lower condition is inherently more conservative. In the case of change 2, if a component is not required in the LCO to be operable until a certain mode of operation, there is no reason for the Action Statement to require that RCS condition be reduced to modes below that referenced in the LCO. Therefore, action statements were changed to be consistent with the LCO.

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1. NRC Letter, D. G. Eisenhut, April 10, 1980.

2. Letter, L. D. White to D. M. Crutchfield, August 25, 1980.

3. Letter, D. M. Crutchfield to J. E. Maier, April 9, 1981.

A safety evaluation on a section-by-section basis is outlined below.

1.0

The section provides the expanded definition of OPERABLE that incorporates all attendant systems required for the basic system to operate. The proposed definition is the same as that contained in the April 10, 1980 letter from the NRC.

3.0

The Limiting Condition for Operation (LCO) preserves the single failure criterion by requiring redundancy in safety-related systems and components except for temporary specific out-of-service times. The proposed section incorporates required actions if the LCO is exceeded and additional guidance if normal or emergency power supplies are lost. This section is consistent with Standard Technical Specifications dated July 27, 1981.

3.1.1.1c

The LCO change for reactor coolant loop operability to include 350°F makes it consistent with 3.1.1.1e which includes temperatures between 200°F and 350°F.

3.1.1.1d(i)

This adds an action statement to c. for one loop being inoperable. The other operable loop would be available to remove reactor heat. The time limit of 72 hours for operation in this mode is brief considering the low power level, and therefore provides adequate conservatism.

3.1.1.1d(ii)

This is unchanged from the current Technical Specifications.

3.1.1.1e

Reference to average coolant temperature replaced with RCS temperature. Tavg is not indicated below 540°F.

3.1.1.3c,d

This changes the LCO for pressurizer safety valves from hot shutdown to ≧350°F and is therefore more conservative. The action statement is changed to be consistent with the LCO.

3.1.1.4

The LCO for pressurizer power operated relief valves is changed from hot shutdown to ≧350°F which is more conservative. Subsequent action statements were changed to reflect the LCO of 350°F.

3.1.1.5

The LCO for the pressurizer was changed from hot shutdown to ≧350°F. The action statement was changed to reflect this LCO. 3.1.1.5b was added to reflect that the RCS hydro test required by Appendix B of the Ginna Quality Assurance Manual is conducted in a water solid condition at temperatures that are above 350°F.

3.1.5.4

This adds an action statement consistent with the LCO in 3.1.5.3 regarding primary coolant leak detection systems. The time limit of six hours to be less than 5% power allows for a rapid, controlled reduction in power.

3.1.6.3

This provides a specific action statement for the LCO of 3.1.6.1 regarding primary coolant contaminants. The time limits of 6 hours to hot shutdown and 30 hours to a temperature less than 250°F allows for a rapid, controlled reduction in power and temperature.

3.1.6.4

This change provides specific times to hot shutdown and to less than 250°F. The time limits specified are consistent with the time dependent nature of adverse effects which could result. The final RCS conditions were changed from cold shutdown to 250°F to be consistent with the LCO.

3.2.2

This change requires that the CVCS be operable above cold shutdown rather than prior to critical. This insures adequate capability to maintain shutdown margin and protection against boron dilution.

3.2.3

This change provides specific time limits to hot and cold shutdown allowing for a rapid, controlled reduction in power and temperature if the conditions of 3.2.2 are not met.

3.2.3a

This change does not change the requirement but more clearly reflects that only two out of three pumps are required to be operable.

3.2.3d

This was added to provide an out-of-service time for one flow path of 24 hours. This is consistent with the out-of-service time allowance for other CVCS components stated in section 3.2.3a, b, c, e. One flow path from the boric acid tanks provides adequate boron injection capability.

3.3.1

The proposed change would require the components of the Safety Injection and Residual Heat Removal Systems to be operable at cold shutdown or 350°F instead of at critical. The exceptions to this are in paragraphs b, c, h. In b and h, the accumulators and their isolation valves are referenced to an RCS pressure of 1000 psig. This pressure is selected to be acceptably low but still provide sufficient margin above the minimum required accumulator pressure of 700 psig. The minimum condition for criticality and Figure 3.1-1 of the Technical Specifications insures that this LCO is more conservative than the current LCO of critical.

In paragraph c, the LCO for the safety injection pumps were changed from critical to an RCS pressure 1600 psig. This pressure was chosen to be acceptably low but still provides sufficient margin above the shutoff head of the pumps to prevent injection of water in the primary system when system testing, which is required to demonstrate operability, is performed.

In 3.3.1.1g, changes were made to reflect modifications that have been completed in valve control circuitry.

3.3.1.2 added an action statement for the refueling water storage tank LCO in 3.3.1.1a.

3.3.1.3 added an action statement for the accumulator LCO in 3.3.1.1.b.

3.3.1.4 was added to provide an action statement consistent with the LCO of 3.3.1.1c.

3.3.1.4 and 3.3.1.5 a and c were changed to delete the requirement to demonstrate operability of redundant components prior to initiating repairs. This testing requirement only delays the initiation of the necessary repair. The deletion will place reliance on the periodic surveillance requirements, and is consistent with Standard Techical Specifications.

3.3.2

This proposed change would require components of the Containment Cooling and Iodine Removal systems to be operable above cold shutdown rather than prior to critical conditions.

The requirement for the four HEPA filter units to be operable along with the fan coolers was added to 3.3.2.1c, and 3.3.2.1f was deleted. 3.3.2.2f was added to allow one HEPA filter unit to be out of service for 7 days. The current Technical Specification requires only 2 HEPA filters, therefore the proposed change is conservative.

3.3.2.2

The proposed change insures that the minimum requirements for containment cooling and iodine removal following a design basis event are satisfied for the various combinations of systems analyzed in the FSAR 14.3.5 and the Technical Specification Basis.

In addition, specific times to hot and cold shutdown were added to the action statement.

In 3.3.2.2c, piping was added to the components that must be repaired in 24 hours.

3.3.2.2d

If the associated fan cooler is inoperable, the charcoal filter cannot perform its function, therefore the specification

has been revised to refer to a filter and its associated fan cooler. This formalized past plant understanding of the requirements. The requirement that the containment spray pumps must be demonstrated to be operable if a charcoal filter is inoperable was deleted. This testing requirement only delays the initiation of the necessary repair. 3.3.2.2 describes the minimum operable systems that are required. Normal surveillance requirements will assure that these necessary systems are available. This is consistent with Standard Technical Specifications.

3.3.2.2e

The provision that both charcoal filters be operable, if the spray additive system was not operable, insures adequate iodine removal capability. This adds an additional restriction to the specification.

3.3.2.2f

The HEPA filter cannot perform its function without an operable fan cooler, therefore the specification was revised to add the associated fan cooler.

3.3.3

This change specifies time limits to hot and cold shutdown that are consistent with a rapid, controlled cooldown of the RCS. With no component cooling water loop available, cooldown cannot continue beyond 350°F, therefore the indicated change was made.

3.3.4

Components of the Service Water System would be required above cold shutdown, instead of at critical, under this change. Time limits to hot and cold shutdown were added. These are consistent with a rapid but controlled cooldown of the RCS.

3.3.5

The LCO was changed from critical to greater than 350°F. Specific time limits to hot shutdown and a temperature less than 350°F were added. These time limits are consistent with a normal cooldown of the plant, as required in the current Specification.

3.4.1

The proposed change separates the requirement for the motor driven auxiliary feedwater pumps and the steam turbine driven pump. The motor driven pumps can be demonstrated to be operable at 350°F. However, the steam turbine pump must have sufficient steam pressure. Therefore, the proposed specification requires the steam turbine pump to be capable of being powered, and supplied with feedwater when RCS temperature exceeds 350°F. The steam turbine driven pump must be demonstrated to be operable prior to exceeding 5% power. This is also specified in the surveillance requirements if the time since the last test exceeded one month. Since one motor driven auxiliary feedwater pump can supply feedwater to satisfy all assumptions of the plant accident analysis, adequate feedwater supply would be available.

The remainder of the changes to 3.4 modify the action statements to make the final required RCS condition consistent with the LCO, and to specify time limits. Return to cold shutdown is not required because cooldown beyond 350°F is due to RHR and not heat removal through the steam generators.

3.5.1

Tables 3.5-1 through 3.5-3 were changed to add a column which indicated the condition above which certain instrumentation must be operable. The condition for functional units 1 through 6 were changed from hot shutdown to whenever an RCCA is off bottom. Since the shutdown margin requirements specify at least a 1% shutdown margin, the core could not exceed hot shutdown without having a rod off bottom. Therefore, this proposed condition is more limiting than hot shutdown.

Action statements were added for the situation where the number of operable channels is one less than the total number. The time limits specified are consistent with a controlled cooldown of the plant.

Action statements were added to Circulating Water Flood Protection instrumentation requiring proceeding to Hot Shutdown if channels are not returned to operation within the times specified.

Loss of Voltage - Degraded voltage was separated into two functional units. This change in format is only for purposes of clarification.

A qualification was added to the LCO for Steam Line Isolation in that the RCS temperature can exceed 350°F with less than minimum channels operable if the MSIV's are closed therefore providing required steam line break protection. A similar qualification was added to the feedwater line isolation.

Other changes made to these tables consisted of minor changes to format and have no safety significance.

3.5.2

The LCO was amended to delete critical, therefore requiring the instrumentation to be operable at hot shutdown.

3.7

The LCO for auxiliary electrical systems was changed to require the systems to be operable above cold shutdown instead of critical. The action statement of 3.7.2a was amended to add time limits to hot and cold shutdown consistent with a rapid, controlled cooldown of the plant.

3.7.2c

This was added to specify actions if one battery bank was inoperable. This action statement allows for substitution of the Technical Support Center (TSC) battery bank for a brief period (7 days) before proceeding to cold shutdown. The justification for this substitution is based on three factors.

1. Even though the TSC battery bank is not classified 1E, the period of time allowed for the substitution is sufficiently brief so that the probability of failure due to a seismic event is small.

2. The capacity of the TSC battery bank is larger than the 1E battery bank (2000 amp-hr vs 1050 amp-hr) and would be sufficient to supply required emergency d.c. power.

3. There would remain one 1E battery bank operable which would be capable of supplying 8 hours of emergency power.

3.7.3

This was added to specify minimum electrical power requirements at cold shutdown and during refueling. The reduced requirements at cold shutdown and below reflect the lower potential for accidents to occur and the much lower stored energy of the RCS. The 5,000 gallons of fuel required for one diesel provides the 40 hours of operation for 1 diesel at design load referenced in the FSAR.

In 3.10.1.1 the reference to part length control rods was deleted since they have been removed. This also applies to 3.10.1.5. A safety evaluation for this plant modification was previously performed pursuant to 10 CFR 50.59.

Attachment C

In accordance with 10CFR 50.91, this change to the Technical Specifications has been evaluated against three criteria to determine if the operation of the facility in accordance with the proposed amendment would:

1. involve a significant increase in the probability or consequences of an accident previously evaluated; or

2. create the possibility of a new or different kind of accident from any accident previously evaluated; or

3. involve a significant reduction in a margin of safety.

As outlined below, Rochester Gas & Electric submits that the issues associated with this amendment request are outside the criteria of 10CFR 50.91, and therefore, a no significant hazards finding is warranted.

This change in the Technical Specification was prepared in response to a letter dated April 10, 1980 from Mr. Darrell G. Eisenhut and in response to discussion with members of the NRC staff. The proposed amendment incorporates the term "operable" and makes changes to the LCO's of various components. In all cases, the changes resulted in an LCO as least as conservative as the condition referenced in current Technical Specification. Other changes made the action statements consistent with the LCO and added time limits to conditions where the LCO did not apply. These changes, therefore, are similar to the Commission's example (ii) of changes that do not involve a significant hazards consideration.

There are two changes not associated with the above category. These deal with substitution of the Technical Support Center (TSC) Battery for one inoperable IE battery bank, and the deletion of references to part length control rods.

With the proposed change to 3.7.2c, if one IE battery bank is inoperable, the TSC battery can be substituted for a period of 7 days to provide time for repair. Since the TSC battery has almost twice the amp-hr capacity of one IE battery bank, the only issue concerns a potential seismic event and the possible loss of the TSC battery capacity. This does not present a significant hazard concern because 1) there would remain one IE battery capable of supplying 8 hours of emergency load, and 2) the period of time allowed for the substitution is brief so that the increase in probability of a loss of emergency D.C. power due to a seismic event is negligible.

The deletion of reference to part length rods is necessary because they have been removed from the reactor. A safety evaluation was performed pursuant to 10CFR 50.59. This change is purely administrative and therefore, is similar to the Commission's

example (i) of changes that do not involve a significant hazards consideration.

A description and safety evaluation of each of the changes is contained in Attachment B.