



SMUD

SACRAMENTO MUNICIPAL UTILITY DISTRICT □ 6201 S Street, P.O. Box 15830 Sacramento CA 95852-1830, (916) 452-3211
AN ELECTRIC SYSTEM SERVING THE HEART OF CALIFORNIA

AGM/NUC 89-261

December 4, 1989

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

Docket No. 50-312
Rancho Seco Nuclear Generating Station
License No. DPR-54
TECHNICAL SPECIFICATIONS APPLICABLE IN THE DEFUELED CONDITION

Attention: George Knighton

The District is defueling the Rancho Seco Nuclear Generating Station and is in an extended outage for an as yet undetermined duration. The movement of spent fuel assemblies into the spent fuel pool (SFP) is an activity previously analyzed and described in the Updated Safety Analysis Report (USAR). The removal of all fuel from the Reactor Vessel and the Reactor Building results in the plant being in a condition that, although bounded by the Modes described in Technical Specification Table 1.2-1, is not specifically defined as a Mode in the Technical Specifications. Therefore, the District has evaluated the Technical Specifications to determine which sections apply in the defueled condition. Attachment 2 to this letter presents the results of this evaluation.

The criteria used to determine the applicability of each Technical Specification section in the defueled condition was based, as a minimum, on meeting those Specifications related to the following:

1. Maintain spent fuel pool cooling.
2. Maintain offsite releases as low as reasonably achievable.
3. Provide monitoring of offsite releases to ensure compliance with release limits.

The District will maintain the Spent Fuel Pool Cooling (SFC) system OPERABLE in accordance with Technical Specification 3.9. The SFC has more than adequate capacity to maintain the pool temperature below the Technical Specification required 140°F. The SFC system design capacity of 8.76 million BTU/HR greatly exceeds the decay heat load of 4 million BTU/HR. The system capacity is actually greater than this during the

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Pool

winter months when the outside ambient temperature is below the design maximum temperature, and as the outside ambient temperature increases in the coming summer months, the spent fuel pool heat load is calculated to decrease to 2.78 million BTU/HR by June 7, 1990.

With the reactor defueled and the fuel stored in the SFP the conservative lineup for the Decay Heat Removal (DHR) system is to provide cooling for the SFP. The DHR system must be declared inoperable for purposes other than SFP cooling, pursuant to the requirements of Technical Specification 3.9.2, when the system is being used for cooling of the SFP. In addition, Technical Specification 3.9.3 restricts the use of DHR for SFP cooling to no more than 100 hours per 12-month period when the plant is not in Cold Shutdown. Technical Specification 3.9.3 is not considered applicable when the reactor is defueled since the DHR system is not required to be OPERABLE to satisfy other Technical Specifications. The DHR system will be maintained available in the defueled condition to serve as a backup SFC system.

The Technical Specifications do not require the emergency power sources be OPERABLE when the reactor is defueled. However, as a conservative measure, the Bruce GM diesel generator and related buses associated with the available DHR train will be maintained available. The Bruce GM diesel generator provides emergency power to the major loads associated with DHR (DHR, Nuclear Service Cooling Water (NSW), and Nuclear Service Raw Water (NRW) pump motors). In addition, through the use of the 480-volt cross-tie breakers (breakers 3A21 and 3A203, or 3B21 and 3B203 as presented in Attachment 3), the Bruce GM Diesel generator can supply the remaining loads required to maintain this conservative diesel generator backup ability. These remaining loads are primarily environmental control loads such as the Nuclear Service Electrical Building (NSEB) and Control Room/Technical Support Center (CR/TSC) Heating Ventilation and Air Conditioning (HVAC) systems. As illustrated in Attachment 3, the cross-tie breakers connect the two 480-volt buses within a train, and do not effect the independence of trains. Use of the 480-volt cross-tie breakers was previously analyzed and approved by the NRC as detailed in Technical Specification Amendment Number 68.

Appropriate routine maintenance and testing will be performed on the Bruce GM diesel generator being maintained to support the available DHR system. This will include testing equivalent to the following Technical Specification tests:

1. 4.6.3.A.1, .2, .3, and .4
2. 4.6.3.A.5, (no fast starts will be performed)
3. 4.6.3.B.1, .2, and .3

Start testing of the Bruce GM Diesel generator will be performed quarterly in lieu of monthly. This frequency reduces unnecessary starts while ensuring the engine is available when needed. The likelihood of needing diesel backup power is very low since the probability of a total loss of offsite power at Rancho Seco, as stated in the District's April 17, 1989 submittal in response to 10 CFR 50.63 Loss Of Offsite Power, is less than once in 20 years.

The auto start and auto load capabilities of the Bruce GM diesel generator are not required to be kept in service since there is a significant amount of time available to start and load the diesel in the unlikely event of a loss of offsite power. District calculations, using the very conservative assumptions of Branch Technical Position APCS 9-2, show that it takes a minimum of 21.3 hours for the SFP to reach 140°F from an initial temperature of 110°F on a loss of SPC (see Attachment 1). This time is valid for December 5, 1989. The 140°F limit is set to minimize thermal stresses on the SFP (see USAR section 5.4.2.1.5) but the pool is capable of withstanding stresses up to and including those resulting from a pool temperature of 212°F.

Out-of-service time for systems being maintained available will be controlled through "Administrative Action Statements" that will be developed through an evaluation of the effects of equipment and system unavailability. Until these evaluations are completed, a conservative 72 hour limit will be set for each of the systems being maintained available. It is expected that the "Administrative Action Statements" will be periodically updated to reflect changes in the plant conditions. The Assistant General Manager, Nuclear shall have the responsibility for determining actions to be taken if one of these "Administrative Action Statements" will not be met.


Those systems not being maintained OPERABLE or "available" as described in this letter, and not required for routine plant activities, will be layed up in accordance with detailed plans developed by the District. These plans incorporate vendor recommendations, industry experience, and sound engineering practices to provide for long-term protection and preservation of the systems for potential future use and are available on site for review and inspection. These plans call for layup activities such as hand rotation of rotating equipment to ensure bearings remain lubricated and free, draining and dehumidification of piping to reduce corrosion during storage, forced dry air ventilation of piping systems to maintain a protective environment, continued purchase of ASTM qualified fuel oil for all four emergency diesel generators, etc.

The Specifications listed on Attachment 2 to this letter will continue to be met which will ensure compliance with the requirements of the Rancho Seco Technical Specification in the defueled condition. It is anticipated that further refinement of the list provided in Attachment 2 will occur as conditions at the plant change. These refinements will be provided in writing to the NRC as they occur. The District will also

submit a set of Defueled Technical Specification for NRC review and approval in the near future to further document the list of systems required in the defueled condition.

Members of your staff with questions requiring additional information or clarification may contact Steve Crunk at (209) 333-2935, extension 4913.

Sincerely,



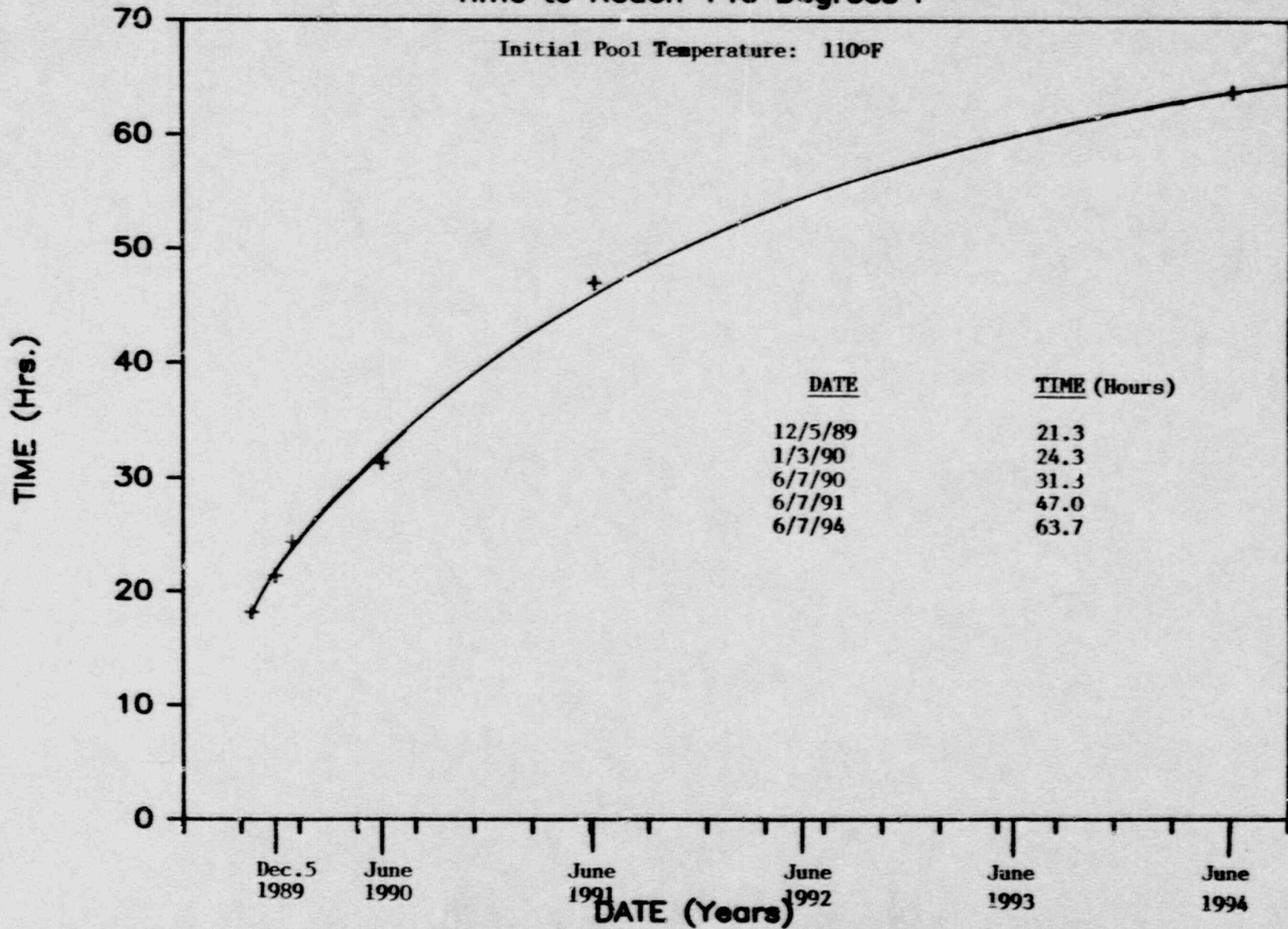
Dan R. Keuter
Assistant General Manager
Nuclear

Attachments

cc w/atch: J. B. Martin, NRC, Walnut Creek
A. D'Angelo, NRC, Rancho Seco

SPENT FUEL POOL

Time to Reach 140 Degrees F



ATTACHMENT 2

Technical Specification Number

Section 1. Definitions

3.0

3.8.1 Monitor R15028 only. Applicable When Moving Fuel in the spent fuel storage area.

3.8.12

3.9.1

3.9.5

3.12 Only for systems required to be OPERABLE

3.14

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3.22

3.23

3.24

3.25

3.26

3.29

4.0

Table 4.1-1 Page 4.7b #44a, 44b, 44d, 45, 46, 47, 51, 63

Table 4.1-2 #8, 9, 10, 11

Table 4.1-3 #2, 4, 6, 8

4.14 Only for systems required to be OPERABLE

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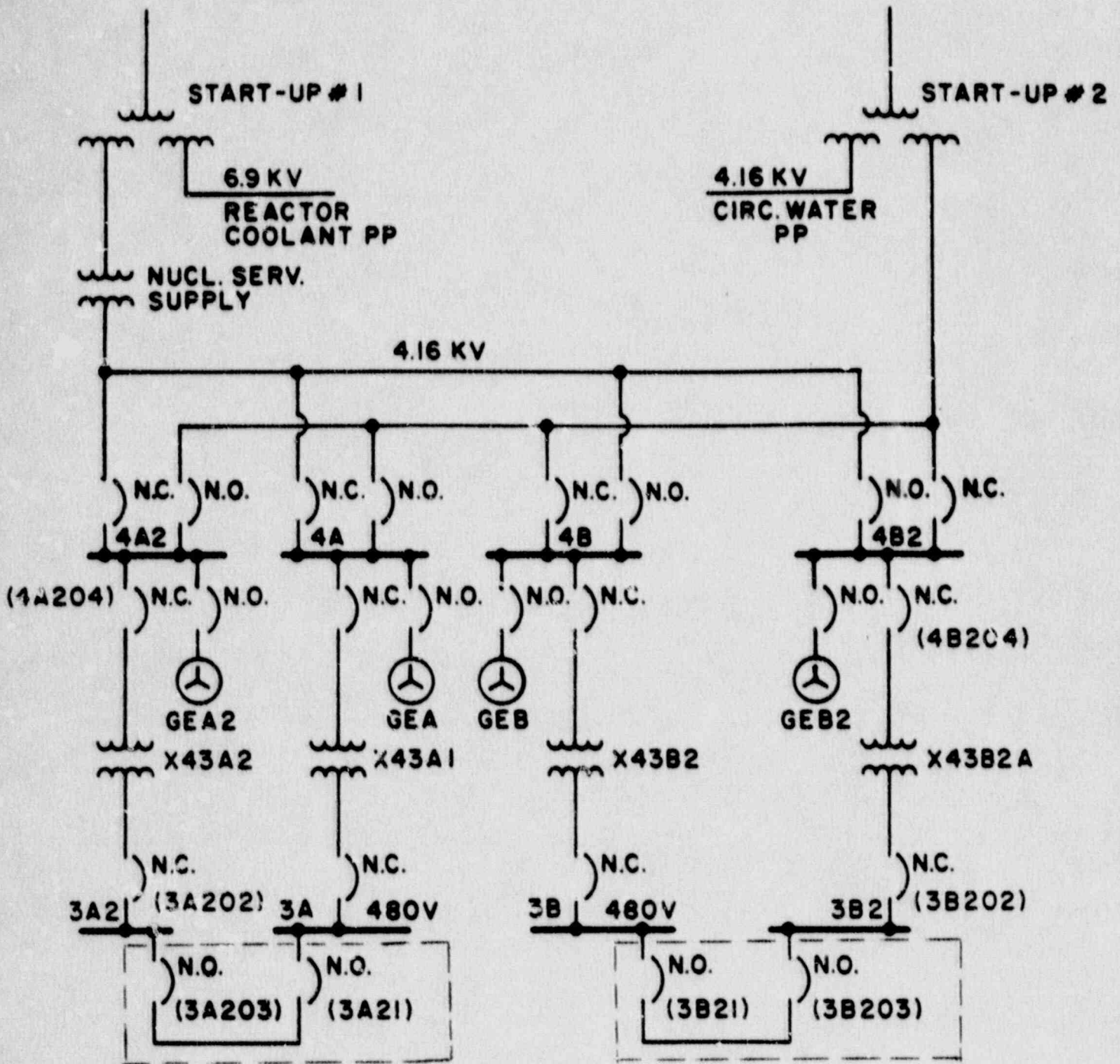
4.29

4.30

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Section 5. Design Features

Section 6.0 Administrative Controls (except 6.18)



**SIMPLIFIED SAFETY BUSES DEPICTION
AT POWER CONFIGURATION**

NOTE: SEE FIG. 8.2-2 OF USAR
FOR DETAILED
DEPICTION.