SALEM GENERATING STATION

OPERATIONS DEPARTMENT DOCUMENT APPROVAL COVER SHEET

Title: Removal and Return of Safety Related Equipment to an Operable Status

No.: OD-10 **Unit:** 1/2 **Rev.:** 1

Remarks: Expanded safety related equipment list to include SSPS, vital electrical systems, valves, SEC. Added section on Surveillance Procedure Guidelines. Expanded return to service section. Added examples.

Safety Related Review (Ref. AD-13): S/R yes X no ____

Author's Checklist Completed: yes x

Author Howard Onorato HO **Date** 3/13/83

SRO* N/A HO **Date** 3/13/83

Ops. Eng. [signature] **Date** 3/13/83

SOS+ N/A HO **Date** 3/13/83

Ops. Mgr. [signature] **Date** 3/13/83

QA** [signature] **Date** 3/13/83

SORC** [signature] **Date** 3/13/83

General Manager** [signature] **Date** 3/13/83

* required for SPM documents only
\+ required for EOP validation acceptance only
** required for safety related documents and fire protection documents

 MASTER

OPERATIONS DIRECTIVE - 10
REMOVAL AND RETURN OF SAFETY RELATED EQUIPMENT TO AN OPERABLE STATUS

The purpose of this directive is to establish departmental policy on the removal, for planned or unplanned reasons, and return of safety related equipment to an operable status.

The following systems are designated safety related:

AUXILIARY FEEDWATER (AF)
BOILER FEED (BF)
CONTROL AIR (CA)
COMPONENT COOLING (CC)
CHILLED WATER (CH)
CONTAINMENT SPRAY (CS)
CHEMICAL and VOLUME CONTROL (CVCS)
EMERGENCY DIESELS (DA and DF)
FIRE PROTECTION (FP)
MAIN STEAM (MS)
REACTOR COOLANT (RCS)
RESIDUAL HEAT REMOVAL (RHR)
SAFEGUARDS EQUIPMENT CONTROL (SEC)
SAFETY INJECTION (SJ)
SAMPLING (SS)
SOLID STATE PROTECTION (SSPS)
SERVICE WATER-NUCLEAR (SW)
VITAL ELECTRICAL DISTRIBUTION

This directive is concerned with the Safety Related Systems listed above and is specifically focused at the major Safety Related Equipment listed below:

MAJOR SAFETY RELATED EQUIPMENT

A. Rotating Equipment
   1. Emergency Diesels
   2. Diesel Fire Pumps
   3. Containment Fan Coil Units
   4. Charging Pumps
   5. Safety Injection Pumps
   6. Component Cooling Pumps
   7. Auxiliary Feedwater Pumps
   8. Service Water Pumps
   9. Residual Heat Removal Pumps
   10. Boric Acid Transfer Pumps
   11. Chilled Water Pumps
   12. Containment Spray Pumps

B. Valves
   1. Major Valves associated with the systems and equipment listed above and others that are included in the Inservice Inspection Program

C. Electrical
   1. Vital Electrical Distribution Equipment
      Such as:
      Infeed Breakers
      Equipment Breakers
      Transformer Breakers

D. Instrumentation/Control Equipment
   1. Solid State Protection Equipment
   2. Reactor Trip Breakers
   3. Safeguards Equipment Control

REMOVAL OF SAFETY RELATED EQUIPMENT FROM SERVICE

Normally, during power operations, major safety related equipment will not be removed from an operable status for preventive maintenance or surveillance inspections. However if the need does arise, prior to removing any of the above listed equipment from an operable status, the appropriate limiting condition for operation (LCO) in the Technical Specifications shall be consulted to determine the impact of the intended actions.

In all cases, the action statement and any additional surveillance requirements in the Technical Specifications shall be complied with. If the Technical Specifications do not delineate any special surveillance requirements, then as a minimum for Rotating Equipment, a functional test of the remaining redundant equipment shall be conducted to verify operability.

The functional test requirement is that the redundant equipment shall be started and run as long as necessary to ascertain acceptable operating parameters. This does not mean that a formal SP(O)4.0.5-P is required, unless the Technical Specification specifically require this type of test.

After the functional test is completed and found to be satisfactory, an entry shall be made into the narrative section of Operations Log No. 1 to document the performance of this test.

Example:

In preparation for the removal of 11 BAT Pump from service for impeller inspection, 12 BAT Pump was functionally tested IAW OD-10 and was found SAT.

If during the functional test of the redundant equipment, it is discovered that the equipment's performance is unacceptable, the equipment must be declared inoperable and the Technical Specifications complied with. The other piece of equipment, originally scheduled to be removed from service, shall be left in service.

RETURN OF SAFETY RELATED EQUIPMENT TO SERVICE

When any of the listed safety related equipment has been removed, and subsequently returned to an operable status for any reason; such as equipment repair, preventative maintenance, surveillance inspection, trouble shooting or administrative control in accordance with procedures, the equipment shall be tested as required by the Technical Specifications or the Inservice Inspection Program to determine its operability. If the Technical Specifications or the Inservice Inspection Program do not delineate any specific surveillance requirements, the Senior Shift Supervisor/Shift Supervisor shall ensure that the responsible department determine and perform the required testing. As a minimum, if no other requirements exist, an equipment functional test shall be performed.

The functional test of rotating equipment requires that the equipment be made ready for service, started and run as long as necessary to ascertain acceptable operating parameters.

The functional test of other equipment shall be the minimum necessary to ensure that the portion of the system which was inoperable will fulfill its desired function when required. Examples:

Valves will seat properly.
Valve operators will stroke freely.
Circuit breakers will open and close on their designed functions and within their required time.
Instrumentation performs its design functions.
Control and Protection Systems perform their design functions.

After completion of the testing, an entry shall be made into the narrative section of Operations Log No. 1 to document the completion of the testing. This entry shall include the procedure number or a description of the type of test performed. Only after satisfactory completion of the required testing, shall the equipment be declared operable and the Action Statement terminated.

Examples:

1. No. 11 Charging pump was tagged out for Maintenance to change the impeller-functional test on No. 12 required before 11 is removed from service, SP(O)4.0.5-P is required on No. 11 before it is declared operable.

2. No. 11 Charging pump was removed from service for Maintenance to work on the breaker-functional test on No. 12 required before No. 11 is removed from service, functional test on No. 11 is required before it is declared operable.

3. No. 23 Service Water pump was removed from service for Maintenance to repack it-functional test on No. 24 (other pump on that bus) required before No. 23 is removed from service, functional test on No. 23 is required before it is declared operable.

4. No. 12 Boric Acid Transfer pump tagged out to replace seal and flush internals-functional test on No. 11 BAT pump required before No. 12 is removed from service, SP(O)4.0.5-P is required on No. 12 before it is declared operable.

5. No. 21 RHR pump tagged out to replace impeller lockwasher--functional test on No. 22 required before No. 21 is removed from service, SP(O)4.0.5-P is required on No.21 before it is declared operable.

6. No. 23 Auxiliary Feedwater pump removed from service to replace turbine governor valve-functional test required on both No. 21 & No. 22 before No. 23 can be removed from service, SP(O)4.0.5-P required on No. 23 before it is declared operable.

7. No. 21 Safety Injection pump tagged out to replace outer thrust bearing-functional test required on No. 22 before No. 21 is removed from service, SP(O)4.0.5-P is required on No. 21 before it is declared operable.

8. No. 15 Containment Fan Coil unit tagged out to replace leaking coil-functional test is required on all fan coil units not in service (run CFCUs in low speed), SP(O)4.6.2.3.a is required on No. 15 before it is declared operable.

9. No. 2A Diesel removed from service to replace prelube pump-SP(O)4.8.1.1.2 required on 2B & 2C before 2A is removed from service and every eight hours thereafter, when 2A is ready SP(O)4.8.1.1.2 is required before 2A diesel is declared operable.

10. No. 12 Auxiliary Feedwater pump is removed from service for Performance to work on the controls circuitry-functional test required for No. 13 before No. 12 can be removed from service, functional test required on No. 12 before it is declared operable.

11. No. 15 Service Water pump removed from service to replace broken pin in screen-functional test on No. 16 (other pump on bus) required before No. 15 is removed from service, function test on No. 15 required before it is declared operable.

12. No. 1 Diesel Fire pump removed from service to change oil-functional test required on No. 2 before No. 1 is removed from service, functional test required on No. 1 before it is declared operable.

13. No. 21 Containment Spray pump removed from service to replace packing on valve 21CS2-functional test required on No. 22 before No. 21 is removed from service, functional test required on No. 21 before it is declared operable.

14. No. 21 Charging pump 4kv breaker racked out for inspection-functional test required on No. 22 before No. 21 is removed from service, functional test required on No. 21 before it is declared operable.

15. No. 11 Service Water pump 4kv breaker 125 VDC control power breaker racked out for inspection-functional test required on No. 12 (other pump on bus) before No. 11 is removed from service, functional test on No. 11 required before it is declared operable.

16. No. 11 & 12 Containment Spray pump returned to service when the plant goes from Mode 5 to Mode 4-function test required on pumps before they are declared operable.

17. Reactor Trip Breaker removed from service for inspection - No pretest is required - Functional test (including manual and automatic actuation) required before it is declared operable.

18. 11CC16 is removed from service to inspect the motor - No pretest is required - SP(O)4.0.5-V (including stroke time) is required before it is declared operable.

19. 11CC16 is removed from service to repack the valve - No pretest is requried - SP(O)4.0.5-V (including stroke time) is required before it is declared operable.

END OF PROCEDURE

FINAL PAGE

Appendix H

Field Directive S-C-A900-NFD-077,
Use of the Master Equipment List,
Salem Units 1 and 2

FINK

PUBLIC SERVICE ELECTRIC AND GAS COMPANY
NUCLEAR DEPARTMENT

DATE: March 11, 1983

TO: H. J. Midura
General Manager - Salem Operations

FROM: D. J. Jagt
Assistant General Manager - Nuclear Engineering

SUBJECT: FIELD DIRECTIVE S-C-A900-NFD-077, REV. 0
USE OF THE MASTER EQUIPMENT LIST
SALEM UNITS 1 & 2

Attached is the subject Field Directive which provides:

(a) Detailed instructions regarding utilization of the Salem Master Equipment List by Station personnel, and

(b) Requirements for Salem Administrative Procedure revisions.

DJagt

JDC:dlf

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