



UNITED STATES
 NUCLEAR REGULATORY COMMISSION
 REGION II
 101 MARIETTA STREET, N.W.
 ATLANTA, GEORGIA 30323

Report Nos.: 50-348/91-21 and 50-364/91-21

Licensee: Southern Nuclear Operating Company, Inc.
 42 Inverness Center Parkway
 Birmingham, AL 35242

Docket Nos.: 50-348 and 50-364

License Nos.: NPF-2 and NPF-8

Facility name: Farley 1 and 2

Inspection Conducted: November 25, 1991 through January 1, 1992

Inspection at Farley site near Dothan, Alabama

Inspectors: G. F. Maxwell 1/13/92
 G. F. Maxwell, Senior Resident Inspector Date Signed

Joel J. Morgan for 1/13/92
 M. J. Morgan, Resident Inspector Date Signed

Approved by: F. S. Cantrell 1/13/92
 F. S. Cantrell, Section Chief Date Signed
 Division of Reactor Projects

SUMMARY

Scope:

This routine onsite inspection involved review of operational safety verifications, emergency preparedness, fire protection, monthly surveillance and maintenance observations, actions on previous inspection findings and licensee event reports, cold weather preparation items, visits to local government officials and a continuing evaluation of licensee self-assessment capability. Deep backshift inspections were conducted December 31, 1991 and January 1, 1992.

Results:

Unit 1 operated at approximately 100 percent power for the reporting period. On December 11, an emergency preparedness exercise was conducted, paragraph 2.b.(1). On December 9 and 10, a cold weather preparation inspection was conducted, paragraph 6. On December 10 and 11, management personnel from NRR and Region II and the resident inspectors met with local government officials, paragraph 7. On October 8, diesel driven fire pump "1B" failed to start due to low cranking voltage of the battery bank, paragraph 5.b. On December 12, the motor driven fire pump was returned to service after correction of low pump flow problems, paragraph 5.a. No violations or deviations were identified for this unit.

Unit 2 operated at approximately 100 percent power for most of the reporting period. On November 26, the "2A" steam generator feedwater pump experienced governor valve problems which, in turn, created a moderate but controllable transient in the feedwater system, paragraph 2.b.(2). On December 13, mechanical maintenance personnel noted that the valve stem for a service water to component cooling water pump room cooler isolation valve was deteriorated due to corrosion of the metal, paragraph 4.a. Also, during this reporting period, research was conducted by the licensee to determine which tanks at the facility have diaphragms and to note which of these tanks have outlet lines containing baskets, screens, strainers or other filtering-type devices. This action was taken in response to diaphragm material pump clogging problems found at the V.C. Summer nuclear plant, paragraph 4.b. A non-cited violation was identified concerning the "2B" containment spray pump being rendered inoperable due to the unauthorized manipulation of the pump circuit breaker door by a non-licensed operator. On December 16, a plant systems operator opened, then slammed shut, the "2B" containment spray pump breaker cubical door. This door was shut in this manner in an attempt to place the breaker relay flags in a "dropped out" condition in order to set up a situation for showing a trainee how to reset the flags, paragraph 2.b.(3).

REPORT DETAILS

1. Licensee Employees Contacted

R. M. Coleman, Modification Manager
L. W. Enfinger, Administrative Manager
W. R. Bayne, Supervisor Safety Audit and Engineering Review
L. M. Stinson, Assistant General Manager - Plant Operations
D. N. Morey, General Manager - Farley Nuclear Plant
C. D. Nesbitt, Operations Manager
J. K. Osterholtz, Technical Manager
R. D. Hill, Assistant General Manager - Plant Support
J. J. Thomas, Maintenance Manager
L. S. Williams, Training Manager

Other licensee employees contacted included, technicians, operations personnel, maintenance and I&C personnel, security force members, and office personnel.

Acronyms and abbreviations used throughout this report are listed in the last paragraph.

Other Inspections:

December 5 and 6, Mr. Jon Johnson, Deputy Director, Division of Reactor Projects (DRP), Region II, visited the site in order to discuss general DRP matters with the plant resident inspectors and to meet with various FNP management personnel.

December 9 - 13, Region II Emergency Preparedness (EP) Section Personnel observed an FNP "in-house" EP drill exercise. The results of this inspection/observation are outlined in inspection report 50-348,364/91-23.

December 9 - 13, Mr. Robert Carrion, Region II Radiological Effluents and Chemistry Section, performed an inspection of, 1) FNP's handling of radiological waste and effluents, 2) chemistry environment, 3) shipping of radiological material and waste and 4) overall organization and staffing levels of FNP's chemistry, waste and decon and environmental groups. The specifics of this inspection are outlined in report 50-348,364/91-22.

During the week of December 9, Mr. Floyd Cantrell, Region II, DRP Project Section Chief, Ms. Elinor Adensam, NRR Project Directorate II-1, Mr. Steve Hoffman, NRR Project Manager - Farley, NRR intern program personnel and the resident inspectors, performed visits with local government officials and observed portions of the EP exercise described above.

December 16 - 20, Region II Division of Reactor Safety, Operational Programs Section personnel, Mr. Larry Mellen and Mr. Larry King, and NRR Human Factors group representative, Mr. David Desaulniers, conducted a follow-up inspection of an EOP inspection conducted in March of 1990. As

a result of this inspection, all seven of the 50-348,364/90-02 open items identified in the March 1990 EOP inspection, were closed. Specifics of this EOP follow-up inspection are outlined in report 50-348,364/91-24.

2. Operational Safety Verification (71707) and Evaluation of Licensee Self-Assessment (40500)

a. Plant Tours

The inspectors conducted routine plant tours during this inspection period, in accordance with guidance provided by NRC inspection procedure MC71707 to verify licensee requirements and commitments were being implemented. Inspection tours included review of site documentation, interviews with plant personnel and an on-going evaluation and observation of site security.

Some points of special interest noted by the inspectors included continued improvements in supervisory oversight of day-to-day plant operations and continued emphasis on housekeeping and general plant cleanliness. However, it was noted by the inspectors that many areas of the plant are dark and that replacement of lighting fixture light bulbs is needed in these areas. Farley plant staff have received new industrial safety equipment and clothing, (i.e., new hardhats and security personnel uniforms), displaying the Southern Nuclear Operating Company logo. Transition from the former licensee, Alabama Power Company to the new licensee, Southern Nuclear, appears to be proceeding without significant disruption in overall plant operation.

b. Plant Events and Observations

(1) Emergency Preparedness Exercise - Unit 1

On December 11, an emergency preparedness exercise was conducted by the licensee and observed by Region II emergency preparedness personnel. The exercise scenario started with a failed open steam generator safety valve, which, in turn, created an overpower condition and minor core damage. Condition degraded to a simulated LOCA and a general emergency was declared. A radioactive release was assumed to have occurred from the containment. The release was terminated at about 12:52 p.m., following successful repair activities.

Exercise weaknesses and concerns will be addressed in Region II emergency preparedness group report 50-348,364/91-23.

(2) Steam Generator Feed Pump "2A" Erratic LP Governor Valve Operation - Unit 2

On November 26, at about 11:22 a.m., SGFP "2A" governor systems began to swing due to continuing governor valve problems. (Similar to the condition discussed in last month's report, 348,

364/91-20). Feedwater pump RPM began swinging and a shift foreman and turbine building systems operator were dispatched to check for any obvious problems or abnormalities which could account for the erratic operation of the governor. The RPM swing was again stabilized by manually throttling the steam supply isolation valve for the HP governor and the "A" feedwater pump speed was lowered. Plant power was reduced to approximately 50 percent power and feedwater pump "A" was removed from service. Further inspection and repairs were conducted on the governor system components. The high pressure governor was dismantled and then reassembled with new internals. The SGFP was returned to service at about 6:14 p.m., November 28. No further problems have been noted with this pump and its governor systems.

- (3) Containment Spray Pump Rendered Inoperable Due To Unauthorized Manipulation of the Pump Circuit Breaker Door By a Non-Licensed Operator - Unit 2

On December 16, a personnel error type event placed Unit 2 in a condition of unnecessary risk. A plant systems operator standing the rover position watch opened and then firmly closed the door for the "2B" containment spray (CS) pump breaker in an attempt to bring in one of the relay flags so he could in turn show his trainee the method for resetting the flags. The "2B" containment spray (CS) system was rendered inoperable for about three minutes when the breaker door was closed with enough force to "jar" and actuate the "86" lockout relay. This actuation of the relay caused a "CS PUMP OVERLOAD" alarm on the unit main control board and the amber CS pump handswitch light was illuminated.

The shift supervisor was unaware of any activities associated with breaker and was only alerted to the problem by the above main control board indications. The shift supervisor immediately dispatched the unit shift foreman to the breaker area where the the systems operator demonstrated what he had done by, again, opening and firmly shutting the breaker door. The shift foreman was not forewarned nor was he in a position to stop the systems operator from performing the second demonstration of "jarring" the breaker flags. The ground relay flag displayed a tripped condition and was immediately reset. The main control board annunciator and the handswitch amber light cleared.

The operations manager, as part of the corrective actions in this matter, by memorandum, informed the operations staff and directed the following to the systems operator involved in the incident:

"The monitoring of plant equipment to ensure continued reliability is an operations responsibility, and one of the primary functions of the systems operator position."

"The shift supervisor must be aware of the overall status of his unit at all times. Administrative controls have been established to ensure his cognizance of activities which could affect equipment operability. It is the responsibility of all plant personnel to ensure that the shift supervisor is aware of any activity which may affect equipment operability. We must constantly strive to recognize these activities."

This is a licensee identified violation and is not cited because the criteria specified in Section V.G.1 of the NRC Enforcement Policy was satisfied, NCV 50-364/91-21-01, CS pump rendered inoperable due to unauthorized manipulation of the pump circuit breaker door by a non-licensed operator.

Except as noted, no deviations or other violations were identified in this area.

3. Month¹: Surveillance Observation (61726)

The inspectors witnessed surveillance test activities performed on safety-related systems and components, in accordance with guidance contained in NRC inspection procedure MC61726, in order to verify that such activities were performed in accordance with facility procedures and regulatory requirements, specifically, technical specifications.

Portions of the following surveillance activities were observed:

- 0-STP-54.1 Motor Driven Fire Pump Flow Test
- 0-STP-80.1 Diesel Generator 1-2A Operability Test
- 1-STP-5.0 Control Rod Operability Test
- 1-STP-62.0 Main Turbine Governor Valve Operability Test
- 1-STP-80.6 Diesel Generator 1C 24 Hour Load Test
- 2-STP-1.0 Operations Daily/Shift Surveillance Reqts Modes 1, 2, 3, 4
- 2-STP-80.2 Diesel Generator 2C Operability Test

No violations or deviations were identified. The results of inspections in the surveillance area indicate that both operations and maintenance personnel conducted the above tests in accordance with applicable procedures.

4. Monthly Maintenance Observation (62703)

The inspectors reviewed various licensee preventative and corrective maintenance activities in accordance with guidance provided by NRC inspection procedure MC62703, to determine conformance with facility procedures, plant work requests and regulatory requirements.

Portions of the following maintenance activities were observed:

- MWR-242593 "86" relay actuated by slamming breaker DG-11 door and reset when door was shut again.
- MWR-243050 Replace motor driven fire pump impeller. Test in accordance with post-maintenance test procedure PMT-99.10.
- MWR-245242 Air leak on "1-2A" DG "A" air compressor - repair.
- MWR-245594 Replace clogged floor drain tank filter.
- MWR-246416 Investigate and repair electrical penetration room 139 ft. elevation air handling unit (AHU).
- WA-W00360158 Inspect EDG "2B" in accordance with maintenance procedures MP-12.3 and MP-14.6 for quarterly inspections

a. Service Water to Component Cooling Water Pump Room Cooler Isolation Valve Problem - Unit 2

On December 13, mechanical maintenance personnel discovered, during disassembly of the SWS to the "2B" CCW pump room cooler isolation valve (QZP16V022B), that the valve stem had become detached from the valve disk. Although the stem was found in the open position, the disk was found in the closed (seated) position.

Maintenance personnel further noted that the stem had deteriorated from apparent metal corrosion. The valve stem and packing were replaced, the valve was stroke tested and then placed back into service. The resident inspectors noted that this valve, manufactured by William Powell company, contained stainless steel/carbon steel internals and suspects that galvanic action may be a contributor to the corrosion process. MESHG personnel have been contacted to further evaluate the cause of the deterioration and to note if this problem may be generic to other valves in the SWS system. The inspectors will continue to evaluate this incident and will present a follow-up in the next monthly report.

b. Problems With Diaphragms In Safety-Related Tanks

During this inspection period, the inspectors noted the licensee's response to concerns with diaphragms in safety-related tanks. This concern was present in such tanks at another facility and is further

described in NRC Information Notice IN 91-82, dated December 18, 1991. In an FNP, July 18, 1991, maintenance memorandum to the plant maintenance manager, Mr. J.J. Thomas, it was noted that:

- (1) The tanks with diaphragms are the condensate storage tanks, reactor makeup water storage tanks, waste evaporator condensate tanks, recycle holdup tanks, and the boric acid tanks. Those with rubber diaphragms are the condensate storage tanks, the reactor makeup water storage tanks and the waste evaporator condensate tanks. The other tanks have diaphragms made of PVC material. Both units are similar with respect to which tanks have diaphragms and the type of diaphragms.
- (2) None of the stop/regulating valves were found to have any type of basket, screen, or strainer material. The valves on the outlet lines from all diaphragm-tanks (rubber and PVC) were looked at; they are either gate or diaphragm valves.
- (3) Currently the site does not have a preventative maintenance program which requires the checking of all tank diaphragms. Of the tanks with diaphragms, only the CST's have annual tank inspections; however, this inspection does not include checking the diaphragms.

The resident inspectors provided a copy of the information notice to facility personnel. Discussions of the concerns and possible corrective actions are on-going between the inspectors, Region II supervisory personnel and plant management.

The inspectors will continue to evaluate the facility's response to Information Notice 91-82.

In the areas inspected, no violations or deviations were identified.

J. Fire Protection/Prevention Program (64704)

a) Motor-Driven Fire Pump Problems

The inspectors have continued to note maintenance-related material condition problems with the licensee's Fire Protection System (FPS), i.e., the condition of the system motor driven fire pump (MDFP).

The inspectors noted that this particular pump was removed from operation after failing to meet the acceptance criteria found in FNP-O-STP-54.1, Motor Driven Fire Pump Operability Test. The acceptance criteria calls for a "delta P" of greater than or equal to 125 psid with an operating output of greater than or equal to 2500 gpm.

The facility maintenance group has performed repairs of discharge flow components and dismantled and reassembled the pump with new internals, and the pump was returned to service December 9.

Test calculations, were reworked using an updated formula for psid. This formula incorporates velocity head in determining the "delta-P" since velocity head is used in calculating the total dynamic head the pump produces. The pump satisfactorily met the new acceptance criteria on December 13. For a long term solution to this pump performance problem, the plant systems performance group is in the process of having the pump vendor and the facility's Southern Services group determine the reason for pump performance degradation and provide assistance to restore performance.

A follow-up review of repairs, modification and corrective actions will continue in later reports.

b) Diesel-Driven Fire Pump Problems

As noted in FMP incident report 1-91-324, on October 3, 1991, during the performance of FNF-0-STP-52.2, the "18" Diesel Driven Fire Pump (DDFP) failed to start. Electrical maintenance personnel performed EMP-1346.02, a battery test procedure, and determined that a low cranking voltage existed in the bank "D", number 2 battery. The acceptance criteria for this battery is 8.4 VDC and the as-found voltage was 6.01 VDC. Maintenance personnel stated that the continuous "trickle" charging of the batteries may be the cause of the low cranking voltage conditions.

The failed battery was replaced and the DDFP was returned to an operable condition. A plant change request has been submitted to add a timer between the battery charger and the battery terminals in order to allow a charging of the batteries up to the point of bringing the terminal voltage "back into spec" and after engine cranking. This modification is expected to eliminate continuous charging of the batteries and thus increase the life of the batteries.

No violations or deviations for fire protection were identified during this reporting period.

6. Cold Weather Preparations (71714)

The inspectors conducted a review of licensee's cold weather preparations to ascertain if effective measures were implemented for protection of safety related systems from extreme cold weather.

Procedures 1/2-EMP-1383.01, Freeze Protection Inspections, were completed by WA-357242 for Unit 1 and by WA-357351 for Unit 2 on November 2. These procedures require inspections and tests to demonstrate operability of the freeze protection heat tracing, heaters and insulation installed to protect the system from freezing during severe cold weather.

The licensee identified some discrepancies during their inspections and work orders were issued to correct the discrepancies. The inspectors verified that the maintenance work orders for these items were completed,

and that the equipment was functionally accepted. The inspectors conducted a walkdown inspection of the freeze protection system and verified that the system for the following areas were operational:

Unit 2	Condensate storage tank
Unit 1	Circulating water pump structure
Unit 2	Emergency diesel generator building
Unit 1	Emergency diesel generator building

During a deep backshift inspection on December 31, the inspectors noted that heat tracing was not functioning as designed in the piping areas associated with the Unit 1 condensate storage tank. This discrepancy was reported to the shift supervisor and work orders were generated to investigate and repair.

Licensee actions indicate that they have an adequate program in place which can prevent plant systems and components from being damaged during severe cold weather.

7. Information Meeting With Local Officials (94600)

During the week of December 8, the senior resident inspector, resident inspector, NRR project management and the Region II Section Chief for the Farley project, conducted information meetings with local public officials for the area surrounding the Farley Nuclear Plant. During the meetings, emphasis was placed on NRC responsibilities and plant status.

The Systematic Assessment of Licensee Performance (SALP) program was discussed and it was explained that presentation of SALP results are at open meetings that the public may attend. Information was exchanged about the increased emphasis on emergency preparedness training by the licensee and emergency support facilities and the previously mentioned emergency exercise which was conducted on December 11. The NRC representatives also toured the emergency response facilities located in Early County, Georgia and Houston County, Alabama.

8. Action on Previous Inspection Findings and LERs (93702, 92701 and TI 2500/27)

(Closed) Inspector Followup Item (IFI) 50-348,364/89-17-01, Clarification whether review and approval authority for modifications meet the intent of T.S. 6.5.3.1.b.

During a previous inspection a question was identified by the inspector regarding the level of review that plant changes made as a "minor departure" would receive. The inspector stated that the intent of T.S. 6.5.3.1.b, may not be met due to the process of reviewing and approving minor departures in effect at that time.

Farley Nuclear Plant Administration Procedure FNP-0-AP-8, Design Modification Control provides instruction and establishes the process for "minor departures" from design. Revision 17, dated August 8, 1991, states that modifications may only encompass non-safety related changes or a change of very limited scope on safety related equipment or systems. The procedure prohibits this method of change when an unreviewed safety question is involved.

Revision 17 states that plant management determines if a non-safety related change may be approved and processed as a plant staff design. Safety related changes require a pre-implementation checklist to be completed. Upon completion of the checklist a determination will be reached as to the level of review and approval needed for the change. These changes to the controlling procedure resolve the inspector's concern and the IFI is closed.

(Open) Inspector Followup Item (IFI) 50-364/90-12-03, Evaluation of cause and corrective action on failure of steam line supports 2MS-R84 and 2MS-R85.

A followup was conducted by Region II personnel during the week of November 5, 1990. Region II personnel were provided with drawings and design documents concerning these support structures. Region II inservice test personnel will evaluate the concerns with these support hangers during the next refueling outage on Unit 2.

(Closed) Unresolved Item 50-348,364/90-12-02, Control room emergency lighting does not provide lighting for BOP panel areas.

The inspectors discussed this item with operations personnel and noted that those safe shutdown systems and components which would start or be started during emergency conditions from the BOP panels are automatic functions and they should not require operator actions or observations at the panels. However, in the event an operator should be required to observe operations at the panels and in the event that emergency lighting failed to provide sufficient lighting in the area, the shift supervisor has readily available charged portable lights for use by the operators. This item is closed.

(Closed) TI 2500/27 Inspection requirements for NRC Bulletin 87-02, Fastener Testing to Determine Conformance with Applicable Material Specifications.

Upon further research by the inspectors, the bolt specified in the temporary instruction, Attachment 2, is not of the identity of any of the bolts which were sampled by an independent test lab for the Farley facility. It appears, based on the sample number identifier in TI 2500/27, Attachment 2 that the bolt listed may have come from one of the San Onofre facilities. Therefore TI 2500/27 is not applicable to the Farley site and the licensee's response to NRC bulletin 87-02

satisfactorily addressed fasteners found at Farley. This temporary instruction is closed.

(Open) Licensee Event Report 364/91-01, Dropped control rod causes reactor trip.

The inspectors reviewed specifics of this LER and noted the following in the "failure analysis report" from Westinghouse:

- o The Slave Cyclor Card, revealed no faults.
- o The I/O Amplifier Card was found to have connector pins which were not making proper contact.
- o The Stationary "B" Firing Card was found to have several cold solder joints which were visually identified prior to testing of the card.

Each of the 35 pins on the amplifier card were pinched shut by contractor personnel to close the inappropriate gaps between the pin halves and after this "fix" the card was again tested and found to operate satisfactorily.

Contractor personnel resoldered each of the firing card solder joints and the cards were again tested and the results were satisfactory.

The inspectors discussed these rod control system concerns with Region II supervision and the Farley NRR project manager since similar problems may exist on other Westinghouse PWR plants.

The licensee is currently tracking this LER to ensure that further corrective action is taken as necessary for the Farley site. Followup action is continuing, therefore, this item remains open.

9. Exit Interview

The inspection scope and findings were summarized during management interviews throughout the report period, and on December 30, with the plant manager and selected members of his staff. The inspection findings were discussed in detail. The licensee acknowledged the inspection findings and did not identify as proprietary any material reviewed by the inspectors during this inspection.

Licensee was informed that the items discussed in paragraph 8 were closed.

<u>ITEM NUMBER</u>	<u>DESCRIPTION AND REFERENCE</u>
364/91-21-01 (NCV)	CS pump rendered inoperable due to unauthorized manipulation of the pump circuit breaker door by a non-licensed operator - Unit 2

10. Acronyms and Abbreviations

AFW	-	Auxiliary Feedwater
ALARA	-	"As Low As Reasonably Achievable"
AOP	-	Abnormal Operating Procedure
AP	-	Administrative Procedure
APCO	-	Alabama Power Company
ATWS	-	Anticipated Transient Without Scram
BOP	-	Balance of Plant
BTRS	-	Boron Thermal Regeneration System
CFR	-	Code of Federal Regulations
CVCS	-	Chemical and Volume Control System
CCW	-	Component Cooling Water
CSTS	-	Condensate Storage Tank System
CS	-	Containment Spray System
DDFP	-	Diesel Driven Fire Pump
D/G	-	Emergency Diesel Generator
DPM	-	Disintegration Per Minute
ECP	-	Emergency Contingency Procedure
EH	-	Electro Hydraulic
EIP	-	Emergency Plant Implementing Procedure
EQ	-	Environmental Qualifications
ESF	-	Engineered Safety Features
EWR	-	Engineering Work Request
F	-	Fahrenheit
FSP	-	Fire Surveillance Procedure
GPM	-	Gallons Per Minute
HP	-	High Pressure
ISI	-	Inservice Inspection
IST	-	Inservice Test
LCO	-	Limiting Condition for Operation
LOCA	-	Loss of Coolant Accident
MDFP	-	Motor Driven Fire Pump
MESG	-	Maintenance and Engineering Support Group
MOV	-	Motor-Operated Valve
MOVATS	-	Motor-Operated Valve Actuation Testing
MWR	-	Maintenance Work Request
NCR	-	Nonconformance Report
NRC	-	Nuclear Regulatory Commission
NRR	-	NRC Office of Nuclear Reactor Regulation
OATC	-	Operator at the Controls
PAP	-	Primary Access Point
PCCV	-	Positive Closing Check Valve
PCN	-	Plant Change Notice
PCR	-	Plant Change Request
PMD	-	Plant Modifications Department
PORV	-	Power Operated Relief Valve
PPB	-	Parts Per Billion
PPM	-	Parts Per Million
PPT	-	Pressurizer Relief Tank

PSID	-	Pressure per Square Inch Differential
PVC	-	Polyvinyl Chloride
PZR	-	Pressurizer
RCP	-	Reactor Coolant Pump
RCS	-	Reactor Coolant System
RHR	-	Residual Heat Removal
RPM	-	Revolutions Per Minute
RTD	-	Resistance Temperature Detector
SI	-	Safety Injection
S/G	-	Steam Generator
SAER	-	Safety Audit and Engineering Review
SFO	-	Shift Foreman - Operating
SGFP	-	Steam Generator Feedwater Pump
SO	-	Systems Operator
SFP	-	Spent Fuel Pool
SOP	-	Standard Operation Procedure
SPDS	-	Safety Parameter Display System
SS	-	Shift Supervisor
SSPS	-	Solid State Protection System
STP	-	Surveillance Test Procedure
SWS	-	Service Water System
TS	-	Technical Specification
TSC	-	Technical Support Center
VDC	-	Voltage Direct Current
WA	-	Work Authorization