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HOUSTON LIGHTING AND POWER COMPANY
SOUTH TEXAS PROJECT
ELECTRIC GENERATING STATION
PLANT PROCEDURES MANUAL

DEPARTMENT PROCEDURE

DQS27

SAFETY-RELATED (Q)

Maintenance Work Practices and Requirements

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PROCEDURE USE CONTROL: AVAILABLE

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1.0 Purpose and Scope

1.1 Purpose

1.1.1 The purpose of this procedure is to provide guidelines for:

1.1.1.1 Conduct of Corrective and Preventive Maintenance activities in accordance with applicable site procedures and policies.

1.1.1.2 Conduct of post implementation testing activities for verification of function and operability.

1.1.1.3 Performing Minor Maintenance work activities.

1.2 Scope

1.2.1 This procedure shall apply to all work activities (without regard to implementing organization) on plant systems, structures and components, non-plant facilities, and requests for general manpower support services.

1.2.2 This procedure does not apply to periodic or conditional testing activities performed in accordance with OPGP03-ZE-0004 (Plant Surveillance Program).

2.0 Definitions

Terms and acronyms used in this procedure are the same as those defined in OPGP03-ZA-0090 (Work Process Program) and will not be repeated in this procedure. Additional definitions are as follows:

2.1 CONTRACTOR: Any organization under contract for furnishing equipment, material, or services. It includes the terms vendor, supplier, subcontractor, fabricator, and subtier levels of these, where appropriate. Prime contractor is used to indicate either the architect engineer, NSSS supplier, constructor, or nuclear fuel supplier.

2.2 INDEPENDENT VERIFICATION: The act of checking a condition, such as a component position, completely separate from activities related to establishing the condition of component's position. Independent Verification shall apply to valves, breakers, switches, jumpers, lifted wires, blind flanges, plugs, electrical equipment links, control cards, field instruments and transmitters, or any other component that could if improperly installed or mispositioned, degrade a safety function.

2.2.1 The Independent Verification shall be performed by one or more individual(s) not involved in and separate from the establishment of the condition or component position.

2.3 KEY MAINTENANCE PERSONNEL: Personnel in key staff positions who perform safety-related functions, and who must have the Plant Manager's approval of overtime in excess of regulatory guidelines. (Reference OPGP02-ZA-0060 Overtime Approval Program.) This policy applies to both ML&P employees and contract employees in these positions. The following are considered key maintenance personnel:

1) Electricians and their crewleader

2) Mechanics and their crewleader

3) I&C Technicians and their crewleader

4) Other Craftsmen and their crewleader

2.4 VERIFICATION: The act of checking a condition or activity by an individual other than the person performing the activity. The individual performing the verification may do so in the company of the person performing the activity.

2.4.1 When installing/removing electrical/mechanical jumpers, verification shall consist of positively identifying connection point prior to the installation/removal of the jumper as well as the proper placement and removal of the jumper (SPR-880088).

2.4.2 When removing/installing fuses, verification shall consist of positively identifying the fuse and its required location prior to the removal/installation of the fuse as well as the removal/installation of the fuse (SPR-880088).

2.4.3 When installing/removing test equipment, verification shall consist of positively identifying the test point prior to the installation/removal of the test lead/device as well as the proper placement of the test lead/device (SPR-880088).

2.4.4 When manipulating switches, verification shall consist of positively identifying the switch prior to its manipulation as well as the proper positioning of the switch (SPR-880088).

3.0 Responsibilities

3.1 The Maintenance Department Manager is responsible for implementing this procedure.

3.2 The Responsible Maintenance Authority (RMA) is responsible for:

3.2.1 Reviewing and approving Work Packages, Preventive Maintenance Packages and Test Packages prior to issuance and adding Maintenance Verification Points (MVPs) to packages, as required and assigning Minor Maintenance Work activities.

3.3 The Work Supervisors are responsible for:

3.3.1 Reviewing Work Packages, Preventive Maintenance Packages, Test Packages and verifying prerequisite actions have been performed prior to work start including the following:

3.3.1.1 Pre-staging of parts, tools and equipment.

3.3.1.2 Ensuring assigned craftsmen are certified to perform the work activity, or have adequate Work Direction.

3.3.1.3 Ensure all documentation (prints, procedures, forms and documents) are the current revision.

3.3.1.4 Performing a pre-job briefing with the assigned craftsmen.

3.3.2 Returning Work Packages and Preventive Maintenance Packages to the Owner/Planner whenever any revisions are required. Specific actions/suggestions necessary to aid the Owner/Planner in package revision development should be provided by the Work Supervisor/Craft to expedite turn around time.

3.3.3 Signing Maintenance Verification Points (MVP) after personally performing the required inspection or after personally contacting another group required by the MVP and ensuring the required inspection has been completed.

3.3.4 Obtaining approval from the Responsible Maintenance Authority to separate Test Package(s) from a Work Package to schedule required Post-Maintenance Tests or Post-Modification Tests as plant conditions warrant.

3.3.5 Ensuring work areas are maintained and left in an improved condition following completion of all work activities.

3.3.6 Identifying Repeat Maintenance resulting from the reperformance of an entire maintenance activity or steps in a Maintenance Work Package before returning the component to service. These occurrences should be documented on a Repeat Maintenance Identification Sheet (Addendum 1) and forwarded to Maintenance Planning.

3.3.7 Reviewing completed Work Packages, Preventive Maintenance Packages and Test Packages for completeness, accuracy and legibility, and ensuring all actions required subsequent to completion of the work activity are performed.

3.4 The Craftsmen are responsible for:

3.4.1 Performing and documenting work activities in accordance with approved Work Packages, Preventive Maintenance Packages and Test Packages.

3.4.2 Ensuring work areas are maintained and left in an improved condition following completion of all work activities.

3.4.3 Identifying Repeat Maintenance resulting from the reperformance of an entire maintenance activity or steps in a Maintenance Work Package before returning the component to service to the Work Supervisor.

3.5 The General Maintenance Supervisor (GMS) is responsible for:

3.5.1 Performing the duties of the Responsible Maintenance Authority or the Owner when they are not available.

3.5.2 Performing the duties of the PM Planner/Scheduler, as required to issue off-shift PMs.

4.0 Work Practices and Controls

NOTE

The Work Practices and Controls Section provides the information necessary to comply with the procedures which impact the performance of all work activities covered by Sections 4.0 through 7.0 of this procedure. Specific references are made to the appropriate procedures which further detail the acceptable work practices and controls necessary to perform work activities safely and in accordance with commitments made to regulatory agencies and internally as a result of operating experience. Work Supervisors and Craftsmen shall consult the referenced procedures whenever necessary to ensure adherence with all work practices and controls.

4.1 Procedural Adherence and Verification

NOTE

All Maintenance Personnel, who are performers in an evolution requiring the use of a procedure, shall have in their possession a working copy of the procedure except where specified by OPGP03-ZA-0010 (Plant Procedure Adherence and Implementation and Independent Verification). (SPR 920098)

4.1.1 The requirements for complying with written procedures are detailed in OPGP03-ZA-0010 (Plant Procedure Adherence and Implementation and Independent Verification). This procedure includes instructions for:

4.1.1.1 Verifying correct revisions of procedures prior to use.

4.1.1.2 Control of working copies.

4.1.1.3 Performance of procedural steps in sequence.

4.1.1.4 Independent Verification requirements and methods.

4.2 Work Coordination

4.2.1 The requirements for coordinating work activities between all departments are detailed in OPGP03-ZA-0080 (Work Coordination Program).

4.3 Maintenance Shift Conduct and Communications

4.3.1 Proper verbal and written communication techniques are necessary for effective and efficient interface between organizations, groups, and personnel during performance of maintenance activities.

4.3.1.1 The use of two-way FM radios may create interference or generate errant signals in electronic control systems. Personnel should heed posted areas where radios are prohibited.

4.3.1.2 Ensure that actions of a temporary or permanent nature that may affect the integrity of the physical barriers used to control access to Protected or Vital Area, Material Access Area or other portions of the overall security program, are coordinated with the Security Department prior to being implemented (IEN 85-079).

4.3.2 Shift Turnover, when applicable, shall be conducted in a manner to ensure all pertinent information is reviewed and understood by the on-coming shift (IEN 86-007).

4.3.3 A shift turnover log shall be kept by each Maintenance Discipline. The log should be a narrative summary of significant shift maintenance activities, problems encountered, precautions, pertinent items of interest that may assist others, status of equipment, etc.. The shift Work Supervisor(s) are responsible for maintaining the log current.

4.3.4 Supervisory personnel shall frequently observe maintenance activities under their direct responsibility to ensure plant maintenance is being conducted in a safe and efficient manner, consistent with good maintenance practices and in compliance with the operating license and approved procedures.

4.4 Equipment Clearance and Caution Tagging Programs

4.4.1 The requirements for removing equipment from service and placing the equipment in a condition that is safe to perform maintenance activities are detailed in Section 9.0 of OPGP03-ZO-0039 (Operations Configuration Management).

4.4.2 The requirements for placing restrictions or precautions on the operation of components are detailed in Section 4.0 of OPGP03-ZO-0039 (Operations Configuration Management), and include instructions for personnel to comply with all restrictions or precautions specified on the applied Caution Tags.

4.5 Deficiency Control Programs

4.5.1 The requirements for identifying equipment failures or deficiencies, including those which are a result of a nonconformance, are detailed in OPGP03-ZA-0090 (Work Process Program).

4.5.2 The requirements for identifying significant equipment failures and programmatic concerns which significantly impact performance of a work activity or Operability of equipment important to safety are detailed in OPGP03-ZX-0002 (Corrective Action Program).

4.6 Configuration Control Programs

4.6.1 Overall Configuration Management - The requirements for configuration management are detailed in OPGP03-ZA-0109 (Configuration Management Program).

4.6.2 Plant Modification - The requirements for the implementation of Plant Modifications are detailed in IP-3.01Q (Plant Modifications).

4.6.3 Engineering Change Notice Packages - The requirements for the design, approval, issuance and implementation of Engineering Change Notice Packages are detailed in IP-3.24Q (Engineering Change Notice Package) and OPGP03-ZE-0031 (Design Change Implementation).

4.6.4 Temporary Modifications - The requirements for the implementation and restoration of Temporary Modifications are detailed in OPGP03-ZO-0003 (Temporary Modifications).

4.6.5 Temporary Configuration Changes During Maintenance - The requirements for control of temporary configuration changes during maintenance activities are detailed in OPGP03-ZM-0021 (Control of Configuration Changes).

4.6.6 Instrumentation Installation - OPGP03-ZE-0056 (Instrumentation Installation) shall be used when major Tubing Support/Rework requires new layout or Tubing/Supports are installed under the Plant Modification Program.

4.6.7 Temporary Hose Control - The requirements for controlling the installation, use and removal of temporary hoses connected to permanent plant system drains, vents or other connections are detailed in OPGP03-ZO-0031 (Temporary Hose Control). This procedure also provides exceptions of temporary hose installations not covered.

4.7 Material Control Program

4.7.1 During the performance of maintenance activities, spare parts, material and equipment are to be controlled in accordance with OPGP03-ZG-0001 (Material Control), and include the following requirements:

4.7.1.1 When permanent plant material is not installed in a plant system and it is not marked or tagged with a Requisition Document, UTRCP, Impound Storage Tag or other source document, a Maintenance Hold Tag shall be attached to the material during times that maintenance is not being performed on the material. The "Maintenance Hold Tag" shall be completed identifying the work control document number, the storage location, the TAG/TPNS number, part number, and the name of the individual applying the tag.

4.7.1.2 Items that are to be impounded shall be appropriately identified, contained, and protected to prevent loss or damage. All items shall be tagged with an Impound Storage Tag identifying the Impound Storage number, item description, HL&P part number (if applicable), Work Document number, name of individual placing in impound storage, date and other pertinent information.

4.7.1.3 The quality class of replacement parts shall be the same quality class as the parent component unless properly identified through approved specification, technical evaluation or other design document. (DR 91-027)

4.7.1.4 Items to be reworked shall be identified by initiating a new Service Request, and shall be properly labeled at all times. The new Service Request number shall be referenced in the existing Work Package.

4.7.1.5 Items to be held for root cause analysis shall be properly tagged and placed in impound storage and documented in Work Package.

4.8 Expendable Materials - The requirements for the handling and use of expendable materials are detailed in OPGP03-ZI-0008 (Control of Expendable Materials). These procedures include instructions for obtaining expendable materials, precautions in the use of specific expendable materials, and obtaining approval to use newly identified or alternative expendable materials during maintenance activities. (OMR 82-093)

4.9 Procurement of Materials - The requirements for procuring materials are detailed in OPGP03-ZP-0011 (Procurement of Material) and associated Nuclear Purchasing and Materials Management procedures.

4.10 Hazardous Materials - The requirements for proper packaging of hazardous and non-hazardous waste materials and the cleanup and reporting of spills involving hazardous and non-hazardous materials are detailed in OPGP03-ZH-0003 (Packaging of Hazardous/Non-hazardous Waste Materials for Disposal) and OPGP03-ZH-0006 (Hazardous and Non-hazardous Materials Spill Cleanup and Reporting). This procedure does not address radioactive material spills.

4.11 Onsite Certification of Items - The requirements for requesting and receiving approval to use alternative materials which are not certified in accordance with original requirements are detailed in IP-3.11Q (Onsite Certification of Items). In order for onsite certification to occur the originator must supply as much detailed information as possible about the item to be certified as well as specific detail about the end use of the proposed upgrade.

4.12 Control of Stainless Steel - The requirements for the handling and use of stainless steel during maintenance activities are detailed in OPGP03-ZM-0013 (Control of Stainless Steel).

4.13 Quality Assurance and Quality Control Programs

4.13.1 Quality Assurance Program - The requirements for meeting the minimum acceptable standards for an effective Quality Assurance Program in the areas of interest to Maintenance Department Work Supervisors and Craftsmen are detailed in Operations Quality Assurance Plan (OQAP), Section 5.0 (Maintenance, Installation of Modifications, and Related Activities).

4.13.1.1 It is the responsibility of all workers, NOT Nuclear Quality Control personnel, to ensure quality in the performance of their work activities, and to understand this responsibility and fully implement this responsibility in a competent manner.

4.13.2 Quality Assurance Program for Non Safety-Related Activities - In addition to the Quality Assurance Program, additional Quality Assurance requirements for activities involving Non Safety-Related equipment are detailed in IP-2.10 (Quality Program for Non Safety-Related Equipment and Activities).

4.13.3 Quality Control Inspections - The requirements for inspections of activities covered by the Quality Assurance Program and Quality Assurance Program for Non Safety-Related Activities performed by Quality Control personnel are detailed in QCP-2.0 (Quality Control Procedure Inspection Activity).

4.13.4 Regulatory Guide 1.75 Quality Control Inspections

4.13.4.1 Whenever a work activity (both Quality and Non-Quality Related) involving Non-Class 1E items that are related to Regulatory Guide 1.75 (Physical Independence of Electrical Systems) is performed which may affect electrical circuit independence or physical separation, Quality Control must be notified to perform an inspection (ST-HL-HS-2111).

4.14 Housekeeping and System Cleanness Program

4.14.1 Housekeeping Program - The requirements for maintaining acceptable levels of housekeeping during maintenance activities are detailed in OPGP03-ZA-0098 (Station Housekeeping).

4.14.2 System Cleanness Program - The requirements for controlling system cleanness during maintenance activities are detailed in OPGP03-ZM-0006 (Control of System Cleanness During Maintenance).

4.15 Radiation Protection Programs

4.15.1 Overall Radiation Protection Program - The requirements for implementing the Radiation Protection Programs are detailed in OPGP03-ZR-0001 (Radiation Protection Program).

4.15.2 ALARA Program - The requirements for implementing the "As Low As Reasonably Achievable" (ALARA) program are detailed in IP-2.03Q (Radiation Protection and ALARA Programs) and OPGP03-ZR-0008 (ALARA Program).

4.15.3 Radiation Work Permit Program - The requirements for requesting and using Radiation Work Permits (RWP) are detailed in OPGP03-ZR-0002 (Request and Use of Radiation Work Permits).

4.15.4 Radioactive Material and Waste Control Program - The requirements for controlling radioactive material and waste are detailed in OPGP03-ZR-0012 (Radioactive Material and Waste Control Program).

4.15.5 Contamination Control Program - The requirements for controlling and minimizing radioactive contamination are detailed in OPGP03-ZR-0044 (Contamination Control Program).

4.15.6 Radiological Controls for Diving Operations - The requirements for controlling exposure to radiation and contamination during diving operations are detailed in OPRP07-ZA-0001 (Performance of High Exposure Work).

4.16 Control of Special Processes

4.16.1 Overall Control of Special Processes - The requirements for controlling performance of special processes are detailed in IP-3.15Q (Control of Special Processes), and include instructions in procedural requirements for special processes, personnel qualifications and certification to perform special processes, implementation of special processes, tests and inspections required during and following completion of special processes.

4.16.2 Welding and Heat Treatment - The overall requirements for performing welding and heat treatment operations are detailed in IP-3.10Q (STPEGS Welding Program).

4.16.2.1 The requirements for controlling welding, brazing and soldering activities are detailed in OPMP02-ZW-0001 (General Welding Requirements).

4.16.2.2 The requirements for controlling weld filler materials are detailed in OPMP02-ZW-0004 (Control of Filler Materials).

4.16.2.3 The requirements for controlling post weld heat treatment are detailed in OPMP02-ZW-0005 (Control of Postweld Heat Treatment).

4.17 Tool and Measuring & Test Equipment Program

4.17.1 The requirements for controlling the issuance and use of tools, control of hoses issued from RCA Tool room issue area and Measuring and Test Equipment (M&TE) are detailed in OPGP03-ZM-0007 (Tool and Measuring & Test Equipment Control) and IP-1.54Q (Measuring & Test Equipment Control Program).

4.18 Fastener Torquing and Detensioning - The requirements for controlling fastener torquing and detensioning activities are detailed in OPMP02-ZG-0004 (Fastener Torquing and Detensioning).

4.18.1 Torquing of fasteners on Safety-Related equipment or systems shall be performed using torque values and sequences specified in accordance with approved procedures, instructions, drawings, vendor manuals, vendor specifications, or the alternate specifications contained in OPMP02-ZG-0004 (Fastener Torquing and Detensioning).

4.18.2 The Torquing Worksheet (OPMP02-ZG-0004-1) is an optional means for documenting the determination of torque values, increments and sequences as well as the actual results of torquing operations and inspection to be used when documentation requirements are not already included in an approved procedure or specific work instructions.

4.18.3 The Torquing Value Verification Worksheet (OPMP02-ZG-0004-2) provides optional means for the craftsman to verify and document torque values prior to and after torquing operations, using the Torque Sensor System.

4.19 ASME Section XI Programs

4.19.1 ASME Section XI Repairs and Replacements - The requirements for controlling ASME Section XI Repairs and Replacements are detailed in IP-3.07Q (ASME Section XI Repair/Replacement Program).

4.19.2 ASME Section XI Post-Maintenance Pressure Tests - The requirements for controlling the performance of ASME Section XI Post-Maintenance Pressure Tests are detailed in OPGP03-ZE-0027 (ASME Section XI Repair, Replacement and Post-Maintenance Pressure Testing).

4.20 Industrial Safety Programs

4.20.1 Overall Industrial Safety Program - The requirements for the Industrial Safety Program are detailed in IP-1.40 (Industrial Safety Program) and OPGP03-ZI-0001 (Industrial Safety Program).

4.20.2 Temporary Scaffolding and Ladders Program

4.20.2.1 The requirements for ensuring that temporary scaffolding is erected and maintained in a safe condition are detailed in OPGP03-ZI-0002 (Industrial Safety Criteria For Temporary Scaffolding) and OPGP03-ZM-0028 (Erection and Use of Temporary Scaffolding).

4.20.2.2 The requirements for ensuring that ladders are used correctly and are maintained in a safe condition are detailed in OPGP03-ZI-0017 (Use of Portable Ladders).

4.20.3 Personal Protective Equipment Program - The requirements for selecting and using appropriate personal protective equipment are detailed in OPGP03-ZI-0003 (Personal Protective Equipment).

4.20.4 Hearing Conservation Program - The requirements for protection and conservation of hearing of site personnel are detailed in OPGP03-ZI-0013 (Hearing Conservation Program).

4.20.5 Heat Stress Protection - The requirements for protection of site personnel from heat stress are detailed in OPGP03-ZI-0005 (Heat Stress Program).

4.20.6 Asbestos Abatement Program - The requirements for protection of site personnel from inadvertent exposure to asbestos are detailed in OPGP03-ZI-0006 (Asbestos Abatement Program).

4.20.7 Confined Space Entry Program - The requirements for control of entry into confined spaces are detailed in OPGP03-ZI-0007 (Confined Space Entry Program).

4.20.8 Warning Signs and Barriers - The requirements for the erection and use of warning signs and barriers are detailed in OPGP03-ZI-0011 (Warning Signs and Barriers).

4.20.9 Hazard Communication Program - The requirements for reporting of physical hazards onsite to the Industrial Safety Department for corrective action are detailed in OPGP03-ZI-0012 (Hazard Communication Program).

4.20.10 First Report of Injury - The requirements for reporting injury to personnel onsite are detailed in OPGP03-ZI-0010 (Industrial Safety Accident/Incident Investigation).

4.20.11 Reporting Industrial Safety Concerns - The requirements for reporting concerns related to the implementation of the Industrial Safety Program onsite, including procedure problems or program compliance, are detailed in OPGP03-ZI-0019 (Reporting Industrial Safety Concerns).

4.20.12 Industrial Compressed Air and Gases - The requirements for the use of industrial compressed air and gases are detailed in OPGP03-ZI-0015 (Industrial Compressed Air and Gases).

4.20.13 Hand and Power Tool Safety - The requirements for the use of hand and power tools are detailed in OPGP03-ZI-0016 (Hand and Power Tool Safety).

4.20.14 Transportation of Personnel On Site - The requirements for transporting personnel onsite in any of the allowed vehicle types are detailed in OPGP03-ZI-0018 (Transportation of Personnel On Site).

4.20.15 Electrical Safety - The requirements for performing work activities involving electrical components are detailed in OPGP03-ZI-0021 (Electrical Safety).

4.20.16 Chemical Safety - The requirements for performing work activities involving the use of chemicals or exposure to chemicals are detailed in OPGP03-ZI-0023 (Chemical Safety), and include instructions for understanding the precautions for the use of hazardous chemicals as described by the Material Safety Data Sheets (MSDS) available from the Industrial Safety Department and using personal protective equipment appropriate for the type of chemical exposure anticipated.

4.20.17 General Rigging - The requirements for using rigging during maintenance activities are detailed in OPGP03-ZI-0026 (General Rigging).

4.21 Fire Protection Program

4.21.1 Overall Fire Protection Programs - The requirements of the Fire Protection Program are detailed in OPGP03-ZF-0001 (Fire Protection). All personnel are required to comply with the requirements of the Fire Protection Program and the requirements of the procedures controlling activities which may impact fire detection of fire protection systems and equipment.

4.21.2 Breaching of Fire Barriers - The requirements of performing work activities which result in breaching a fire barrier are detailed in OPGP03-ZF-0003 (Breaching of Fire Barriers), and include instructions for initiating a Permit to Breach Fire Barrier Form and ensuring appropriate actions are taken when a fire barrier is breached.

4.21.3 Breaching of HVAC Boundaries - The requirements of performing work activities which result in breaching a HVAC boundary are detailed in OPGP03-HZ-0001 (Breaching of HVAC Boundaries), and include instructions for initiating a permit to breach a HVAC boundary form and ensuring appropriate actions are taken when a HVAC boundary is breached.

4.21.4 Control of Transient Fire Loads

4.21.4.1 The requirements for minimizing or eliminating the introduction and accumulation of transient combustible material onsite and in the power plant structures are detailed in OPGP03-ZF-0004 (Control of Transient Fire Loads).

4.21.4.2 The Combustible Material Storage Authorization Form is required for storing combustible materials unattended in a power plant structure for longer than 24 hours. It shall be forwarded by the Owner or Work Supervisor to the Fire Protection Coordinator for approval, and a copy of the approved form shall be posted in the area where the combustible material is to be stored, until renewal of permit is required or area is no longer needed as a storage area.

4.21.5 Use of Flammable Liquids and Gases - The requirements for using and handling combustible and flammable liquids and gases are detailed in OPGP03-ZF-0005 (Use of Flammable Liquids and Gases), and include instructions for initiating a Storage of Liquids and Gases Form, limiting the quantity of flammable or combustible liquids which personnel performing work activities shall possess, storing flammable or combustible liquids in appropriate containers, and using flammable gas cylinders.

4.21.6 Control of Ignition Sources - The requirements for ensuring fire prevention during work activities involving ignition sources are detailed in OPGP03-ZF-0006 (Control of Ignition Sources), and include instructions for initiating a Hot Work Permit Form, initiating an Open Burn Permit Form, and establishing fire prevention methods when using ignition sources.

4.21.7 Control of Solvents, Paints, and Painting Processes - The requirements for ensuring fire prevention, protection of smoke detectors, protection of HVAC filters, and protection of the Toxic Gas Analyzer System during work activities involving painting or solvents are detailed in OPGP03-ZF-0007 (Control of Solvents, Paints, and Painting Processes), and include instructions for initiating a Painting Permit Form, establishing fire prevention methods when using paints or solvents, and ensuring precautions are taken and approvals obtained to use paints or solvents in an area affecting smoke detectors, HVAC filters, or the Toxic Gas Analyzer system.

4.21.8 Use of Fire Protection Equipment - The requirements for obtaining and using fire protection equipment are detailed in OPGP03-ZF-0008 (Use of Fire Protection Equipment), and include instructions for using automatic suppression systems, hydrants and hose stations, portable extinguishers, and Fire Brigade equipment.

4.21.9 Fire Watch Program - The requirements for establishing a fire watch are detailed in OPGP03-ZF-0013 (Fire Watch Program), and include instructions for establishing and completing a Fire Watch Log, establishing the minimum training requirements for the fire watches. The duties and responsibilities of a fire watch are also described.

4.21.10 Fire Protection Unanticipated Impairment - The requirements for responding to unanticipated impairments of a fire protection system or component are detailed in OPGP03-ZF-0017 (Fire Protection Unanticipated Impairment), and include instructions for immediately notifying the Shift Supervisor upon discovery of the impairment.

4.22 Security Programs

4.22.1 Overall Security Program - It is the responsibility of all personnel to IMMEDIATELY notify Security if a violation or suspected violation of any security procedure, security barrier, or security feature is discovered. (DR 90-030) (ST-HL-AE-2593)

4.22.2 Vehicle and Material Access to the Protected Area - The requirements for transporting vehicles and materials into the Protected Area of the site are detailed in OPGP03-ZS-0002 (Vehicle and Material Access to the Protected Area).

4.22.3 Control of Security Related Keys, Locks, Cores and Key Cards - The requirements for accountability and control of keys, locks, cores and key cards are detailed in IP-7.10 (Site Administrative Lock and Key Control) and OPGP03-ZS-0005 (Control of Security Related Keys, Locks, Cores and Key Cards).

4.22.4 Breaching of Security Barriers - A breach of a security barrier is defined as any work activity which results in degradation of a security barrier to a point where the barrier loses all or part of its ability to preclude unauthorized access to the area it protects.

4.22.4.1 A security barrier includes those components of construction (walls, roofs, floors, ceilings, penetration seals or closures and security doors and hatches) or equipment (such as pumps drawing water from outside the Protected Area (PA)) which have as a primary or incidental purpose the preclusion of unauthorized access to the area protected by the barrier. (SPR 870374)

4.22.4.2 A breach is any penetration in a security barrier in excess of ninety-six (96) square or more inches with at least one dimension in excess of six (6) inches. Additionally, any activity, work, equipment, location, structure (e.g. scaffolding) or modification which permits access by bypassing a security barrier is considered a breach

4.22.5 Property Permits and Property Removal Control - The requirements for removing company or personal property from the Protected Area are detailed in OPGP03-ZA-0107 (Security of South Texas Project Electric Generating Station).

4.22.6 Material Access to the Reactor Containment Building - Certain materials are controlled by Security upon entry into the Reactor Containment Building for Security reasons, and include the following: (WAR 90-252)

a. Flammable gases and flammable liquids, as defined in OPGP03-ZF-0005 (Use of Flammable Liquids and Gases).

b. Cadweld exothermic powder

c. Oxygen acetylene torches

d. Caustic chemicals such as sodium hydroxide (caustic soda), acids, acetones, and alcohols or other caustic, corrosive or volatile compounds listed in the Expendable Materials Manual.

4.22.6.1 These materials shall be logged into and out of the Reactor Containment Building by Security personnel, and should be minimized to the lowest amounts necessary for the work activity.

4.23 Supporting Programs

4.23.1 Equipment Labeling Program - The requirements for permanent labeling of plant equipment and components are detailed in IP-1.65Q (System and Component Labeling) and OPGP03-ZO-0020 (Equipment Labeling).

4.23.2 Site Environmental Compliance Program - The requirements for complying with commitments and regulatory requirements for the protection of the environment are detailed in OPGP03-ZO-0025 (Site Environmental Compliance).

4.23.3 Lubrication Program - The requirements for controlling the selection and use of lubricants in plant equipment and components are detailed in OPGP03-ZM-0004 (Lubrication Program).

4.23.4 Control of Heavy Loads Program - The requirements for the lifting and movement of heavy loads over equipment important to safety are detailed in OPGP03-ZA-0069 (Control of Heavy Loads). Controls to ensure compliance with the requirement for control of heavy loads include OPGP03-ZO-0002 (Qualifications and Conduct of Operators for Cranes, Hoists, and Monorail Systems).

4.23.5 Bulk Drum and Gas Cylinder Control Program - The requirements for control of bulk drums and gas cylinders are detailed in OPGP03-ZO-0034 (Bulk Drum and Gas Cylinder Control).

4.23.6 Safety/Relief Valve Program - The requirements for maintenance activities involving safety/relief valves are detailed in OPGP03-ZM-0018 (Safety/Relief Valve Program).

4.23.7 Diving Control Program - The requirements for control of diving activities are detailed in OPGP03-ZM-0027 (Acquisition and Control of Diving Activities).

4.24 Equipment Qualification Program - The requirements for maintaining the qualification of equipment important to safety are detailed in IP-1.12Q (Equipment Qualification Program), and include instructions for determining initial qualification requirements for equipment dependent on the expected environment the equipment will experience and determining requirements for performing maintenance on qualified equipment to maintain the appropriate level of readiness for the affected equipment.

4.24.1 To prevent moisture intrusion into safety-related electrical equipment either restore all gaskets, vapor barriers and seals to original condition or replace any gasket, vapor barrier or seal if the integrity of the item is in doubt. Special care must always be taken when performing maintenance activities on qualified equipment to ensure that all equipment qualification requirements are maintained.

4.25 Conduct of Testing

4.25.1 Control of Testing - The requirements for control of testing performed by Maintenance Department personnel are detailed in OPGP03-ZM-0025 (Maintenance Testing Program).

4.25.2 Post-Maintenance Testing - The requirements for post-maintenance testing are detailed in OPGP03-ZE-0020 (Post-Maintenance Testing Program), and include instructions for determining the appropriate testing to be performed and controlling the Post-Maintenance Testing Reference Manual.

5.0 Conduct of Maintenance

5.1 Training/Qualification - Qualification of Plant Staff Personnel (OPGP03-ZA-0065) establishes the requirements for qualification of Nuclear Plant Operations Department (NPOD) personnel. This procedure applies to HL&P and Contract personnel performing quality-related activities as described in Classification of Procedures (OPGP03-ZA-0007) that are within the scope of NPOD. Maintenance activities shall be performed by, or under the direct supervision of qualified personnel (OMR-85-251). Personnel qualified to perform maintenance activities are determined by the Responsible Maintenance Authority.

5.1.1 The Qualification and Certification of Maintenance Personnel (OPMP01-ZA-0035) procedure delineates the guidelines, methods, and responsibilities for qualification and certification of Maintenance and Contract personnel within the Maintenance Department performing maintenance activities and/or testing (other than non-destructive examination) in accordance with ANSI N45.2.6-1978 and ANSI N18.1-1971.

5.1.2 The Maintenance Department Training Programs (IP-8.15Q establishes the training requirements required by Maintenance Department Personnel, along with INPO accreditable I&C, Electrical and Mechanical Maintenance initial training activities conducted for apprentices in the Maintenance Department).

5.1.3 OJT/Qualification Program (IP-8.18) establishes management policies and requirements for developing, approving, and implementing on-the-job training and task qualification programs. This procedure also establishes the method for providing documented evidence that an individual is certified to independently perform a task.

5.1.4 Welding Procedure Specification Preparation and Qualification (OPMP02-ZW-0002) establishes the responsibilities and provides the guidelines by which welding and brazing procedures are prepared and/or qualified for use.

5.1.5 Maintenance Training Bulletins (MTBs) are issued as necessary by Maintenance Management to bring to the attention of Maintenance Department personnel a problem or concern that has been identified. The Bulletins usually identify the problem and present a solution or plan of action to deal with the identified item. All maintenance personnel should review MTB's periodically to maintain familiarization with existing Bulletins.

5.2 Control of Maintenance Activities

5.2.1 The "Work Process Program" (OPGP03-ZA-0090) procedure provides instructions for the following:

5.2.1.1 Originating Service Requests for requesting Maintenance Department, Facilities Management, Communications or contractor work activities, including general manpower support services.

5.2.1.2 Reviewing, evaluating and approving Service Requests, including verifying validity and establishing Priority.

5.2.1.3 Performing and documenting Emergency Maintenance work activities.

5.2.1.4 Determining when a Service Request may be performed as Minor Maintenance or requires a Work Package.

5.2.1.5 Performing and documenting Minor Maintenance work activities.

5.2.1.6 Performing Engineering evaluation and disposition of "Repair", "Use-As-Is" or other nonconforming condition or for providing additional information to the originating department.

5.2.1.7 Performing and documenting Tiger Team work activies.

5.2.1.8 Developing Work Packages and Preventive Maintenance Packages in accordance with approved schedules.

5.2.1.9 Performing and documenting Work Package and Preventive Maintenance Package work activities.

5.2.1.10 Performing Post-Maintenance Tests and Post-Modification Tests, restoring affected components to service, and reviewing documentation after completion of Work Package or Preventive Maintenance Package work activities.

5.2.2 The "Preventive Maintenance Program" (OPGP03-ZM-0002) procedure provides instructions for the implementation of the Preventive Maintenance Program, the process of providing periodic, planned, and predictive maintenance activities to maintain specifications and operability of permanent equipment.

5.2.3 The "Planner's Guide" provides detailed guidance for the planning, approval and completion review of Work Packages. The Guide also provides instructions for the requesting of various permits, materials etc., that may be required during performance of maintenance activities.

5.2.4 The "Maintenance Testing Program" (OPGP03-ZM-0025) procedure provides guidelines for the authorization and documentation of all tests performed by the Maintenance Department and all Post-Maintenance Tests subsequent to Service Request or Preventive Maintenance activities. It also provides guidelines for implementing the requirements of OPGP03-ZE-0020 (Post Maintenance Testing Program).

5.2.5 The "Post-Maintenance Testing Program" (OPGP03-ZE-0020) procedure provides instructions to ensure that Post-Maintenance Tests are performed to verify that maintenance activities are correctly performed, original deficiencies are corrected, and the component, equipment or system affected by the maintenance activity is OPERABLE in accordance with the Technical Specifications, Safety Analysis Report, design requirements, and applicable codes.

5.2.6 The "Control of Configuration Changes" (OPGP03-ZM-0021) procedure provides instructions for the control of temporary configuration changes including lifting and landing electrical leads, installation and removal of electrical/mechanical jumpers, installation and removal of fuses, etc. Any changes are documented on "Configuration Change Log" (OPGP03-ZM-0021-1). Lifted leads shall not be used on safety related systems when other practical means are available to perform the function (ST-HL-AE-2265).

5.2.7 The "Plant Surveillance Program" (OPGP03-ZE-0004) describes the administrative structure and division of responsibilities for implementation and control, and is applicable to those tests, inspections and analysis performed to satisfy Technical Specification requirements.

5.2.8 The "Temporary Modifications" (OPGP03-ZO-0003) procedure provides instructions for the installation, documentation and restoration of temporary changes made to plant equipment that do not conform with drawings or other design documents.

5.2.9 The "Maintenance Department Standing Orders and Night Orders" (OPMP01-ZA-0033) procedure provides instructions for the preparation, approval, and implementation of Maintenance Department Standing Orders and Maintenance Department/Division Night Orders in accordance with the requirements of the Operations Quality Assurance Plan, Section 3.0.

5.2.10 Working under Direct Supervision (Work Direction) (DR 91-059) (SPR 920534) (SPR 920954)

5.2.10.1 Craftsmen performing general work at STP are required to be "task" certified unless the specific exceptions as outlined in IP-8.18Q (OJT/Qualification Program) are met and <u>are documented</u>. Work Supervisors shall be cognizant of the scope of assigned work, and should assign only certified personnel to jobs requiring task certification.

5.2.10.2 If certified personnel are not available, the job must be performed under Work Direction in accordance with OPGP03-ZA-0113 (Work Direction).

NOTE

What is important to understand is that when a work package is signed off by a supervisor, he is testifying by his signature that he has exercised the necessary degree of supervision to ensure the work was performed safely and correctly.

5.2.11 Maintenance Verification Point (MVP)

5.2.11.1 Maintenance Verification Point (MVP) is a work hold point assigned to a work package by the Responsible Maintenance Authority (RMA) or Work Supervisor that requires the craft performing a work function to stop and notify their Work Supervisor that a verification point in the work instructions has been reached and the Work Supervisor is required to witness a specific function or notify "another group" that a support function is required to be performed and verified prior to continuing work activities.

5.2.11.2 When a verification step is signed off, the signature/initials are verifying the step was performed, and the signer is accepting full responsibility for that action step.

NOTE

When a Work Supervisor signs an MVP, this means that the Work Supervisor personally made the inspection or personally contacted another group to perform the inspection. The Work Supervisor cannot designate another individual to perform the task and subsequently sign off the MVP when it is reported back that the task has been completed. The Maintenance Manager is the only person authorized to grant a required/desired exception to this requirement. (Speakout Concern No. 12177)

5.2.11.3 When a Maintenance Verification Point (MVP) is assigned so that "another group" is required to perform a support function (another group-refers to another technical group which is required to support the primary craft responsible for the task due to technical expertise or certification) the Work Supervisor SHALL verify that the designated function required from the "other group" has been completed and acceptable before he signs off the verification point and allows work to continue. (Speakout Concern No. 12177)

5.3 Plant Materiel Condition

5.3.1 Inspections shall be conducted as specified on the Work Control Document or in other procedures to determine materiel condition of plant structures, systems, and equipment such that they are maintained to support safe and reliable operation. Inspections shall include, but are not limited to:

a. Checking that fluid system leaks are minimized.

b. I&C, electrical, and mechanical systems and equipment are in good working condition.

c. Established lubrication programs are followed.

d. Fasteners, supports and insulation are in place and operable.

e. Cleanness and preservation of assigned plant areas is maintained.

f. Electrical leads are not landed under plastic screws.

Service Requests shall be submitted for all deficiencies identified on structures, systems, and components in accordance with OPGP03-ZA-0090 (Work Process Program).

5.3.2 Work Supervisors should periodically observe maintenance activities for adherence to work control programs and to determine the effectiveness of these programs in maintaining plant material conditions.

5.3.3 All personnel involved in the performance of maintenance activities are responsible for reporting any abnormal or unusual conditions found to the cognizant Supervisor for investigation. These include water or steam leaks, conditions indicative of water hammer, erosion or corrosion, pitting, etc. (SER 84-069).

5.3.4 All personnel involved in the performance of maintenance activities are responsible for ensuring that items restored after maintenance are placed back in their original condition. These will include but not be limited to:

5.3.4.1 Replacement fuses shall be proper size and type. (SOER 83-05) (SOER 81-015)

5.3.4.2 Replace gaskets, vapor barriers, and seals to original condition. Do not reuse these items when integrity is in doubt. (IEN 84-57)

5.3.4.3 Label electrical wires, hoses, and air lines prior to disconnecting to minimize improper hookups when reconnecting. (IEN 85-02)

5.3.4.4 Any work activities which involve the "manipulation" of conductors shall adhere to the bend radius criteria as specified in OPMP02-NZ-0013 (Cable Terminations).

5.3.5 Work Requiring Insulation Removal

5.3.5.1 Removal of insulation shall be by a permit issued against the Service Request.

5.3.5.2 Upon completion of the work activity, the lead craft shall remove the SR tag, complete and hang a "Maintenance Work in Process" tag on the component requiring the insulation.

5.3.5.3 When complete the craft reinstalling the insulation shall remove the "Maintenance Work in Process" tag and notify the lead craft.

5.3.6 Component data fields used in the generation of work packages contain information that is supplied from the Master Equipment Database (MED) maintained by the Design Engineering Department (DED). Maintenance Department personnel noting an error or omission in an MED data field should submit a "Master Equipment Database Change Form" to the MED Coordinator in Maintenance Support for disposition.

5.4 Maintenance Procedures

NOTE

When a signature is required on a Maintenance Department document and the designated person is unavailable, his signature may be obtained using the telephone. Requestor shall enter requestors NAME, TIME, DATE and words similar to "Per Telecon with NAME".

5.4.1 Maintenance Procedures shall be developed, reviewed, and approved in accordance with one or more of the following: OPGP03-ZA-0002 (Plant Procedures), OPMP01-ZA-0004 (Maintenance Procedures), or OPGP03-ZA-0039 (Plant Procedures Writer's Guide). Surveillance Procedures are prepared in accordance with OPGP03-ZR-0005 (Plant Surveillance Procedure Preparation).

5.4.2 Written procedures and instructions which govern maintenance activities shall include sufficient detail to ensure satisfactory completion of the work, but will not necessarily include step by step delineation of basic skills normally possessed by certified maintenance personnel.

5.4.3 All personnel are encouraged to provide recommendations for changes to procedures that will aid the user, clarify requirements, or provide information that will enhance job performance. Refer to OPGP03-ZA-0002 (Plant Procedures).

5.4.4 In the event of an emergency situation not covered by a procedure, maintenance personnel shall take action to minimize personnel injury, damage to the plant, and protect the health and safety of the public, as directed by the Shift Supervisor.

5.4.5 It is the responsibility of station personnel, prior to the use of documents issued by ODCC, to review all attachments (drawings, FC's, etc.) that give supplementary direction/instructions against the current revision to ensure that there are no changes that may affect the planned outcome of the work activity to be performed. Any discrepancies between documents should be referred to a Supervisor for evaluation and resolution. (ISEG REPORT (9-87) (SPR 870463) (DR 89-107).

5.4.6 When a work activity requires personnel in different locations to perform the activity, or when a work activity is to be performed in a contaminated area, copies of the required work control document and associated documentation stamped "DUPLICATE" may be issued and shall be controlled per the following guidelines:

5.4.6.1 Work Supervisors shall ensure the total number of copies issued are entered in the work instructions of the original work package.

5.4.6.2 Work Supervisors shall ensure that all changes, initials, signatures, data and information entered on "DUPLICATE" Work Control Documents and "DUPLICATE" working copies of procedures are transferred by the person(s) who performed that task or step to the original Work Control Document and original working copies of procedures upon completion of the work activity.

5.4.6.3 Only WORKING COPIES of procedures or WORKING COPIES of procedures stamped "DUPLICATE" shall be used. The current revision shall be verified prior to work start and during the Work Supervisor's close out review. DO NOT USE any other copies of procedures.

5.5 Safety

5.5.1 Personnel safety is the responsibility of all personnel. Maintenance personnel shall comply with the requirements of the STPEGS Industrial Safety Program.

5.5.2 Safety standards and accident prevention techniques should be used on all jobs to help ensure a safe work place.

5.5.3 Supervisors, Crew Leaders, and Leads shall conduct routine inspection of work sites and work practices to identify safety hazards, and take timely action to resolve safety deficiencies.

5.5.4 Personnel should immediately report any injury, safety hazard, or violation to their Supervisor in accordance with OPGP03-ZI-0010 (Industrial Safety Accident/Incident Investigation).

5.5.4.1 For emergency medical assistance call the appropriate control room emergency extension number. For Unit 1 and all other site areas, call extension 2111. For Unit 2 call extension 2222.

5.5.5 Accidents or near accidents shall be promptly investigated by Station Industrial Safety Representative and cognizant supervisory personnel. Appropriate corrective measures shall be implemented, including dissemination of information concerning the incident to other personnel.

5.5.6 Maintenance activities that are to be performed in a Radiological Area impose additional responsibilities on each individual to minimize his own exposure. Some techniques effective in reducing exposure include, but are not limited to, the following:

5.5.6.1 Review and/or walk procedure and permits through prior to entering radiation area.

5.5.6.2 Spend only time required in High Radiation Areas to accomplish task. Discussions required for performing or planning the activity should be done prior to entering the High Radiation Area when possible. If it is necessary to observe the area do so quickly and move to a nearby lower radiation level area to conduct discussions. If job is temporarily halted for lack of tools, parts, hold points, etc., move to a lower or non-radiation area until work can resume.

5.5.6.3 If extensive work is to be performed on contaminated equipment or areas, they should be decontaminated under the direction of Health Physics personnel prior to performing maintenance.

5.5.6.4 Store (laydown) highly radioactive components which have been removed out of the immediate work area when disassembling equipment.

5.5.6.5 Move parts out of high radiation work areas for cleaning, inspection, etc.

5.5.6.6 Be aware and informed of the radiation and contamination levels present in the work areas.

5.5.6.7 Use shielding materials, as appropriate, to shield high radiation areas or equipment. Obtain verification and approval prior to the installation of shielding to prevent possible overstressing of piping, supports, equipment, etc. due to weight of shield material. Contact Health Physics personnel for assistance, if required.

5.5.6.8 Temporarily cover highly contaminated areas to reduce airborne contamination.

5.5.6.9 Notify Radiological Protection personnel when conditions change in the work area, i.e. opening systems, removal of components or equipment that may have provided shielding, etc.

5.5.7 Maintenance activities that involve welding, burning, open flame, or spark producing grinding shall be conducted under control of procedures and permits designed to minimize fire hazards during performance of these activities. OPGP03-ZF-0006 (Control of Ignition Sources).

5.5.7.1 Areas that have been designated and approved for performance of these activities will be granted an indefinite use permit. Personnel performing work in these areas are responsible for maintaining conditions to prevent development of fire hazards.

5.5.7.2 Welding cables and brazing/cutting hoses should be routed to prevent damage to the cables or hoses and to minimize tripping hazards.

5.5.7.3 Flash screens shall be used as necessary to provide personnel protection against flash burns and/or hot sparks.

5.5.7.4 Provide suitable protection for equipment, cable trays, etc. against hot sparks and slag.

5.6 Maintenance Facilities and Equipment

5.6.1 Facilities shall be kept in a clean and orderly condition to present a businesslike and professional atmosphere.

5.6.2 Equipment and tools shall be properly stored when not in use.

5.6.3 Only authorized personnel shall use maintenance facilities and equipment. Permission to use or operate any equipment or facility shall be given by the Work Supervisor.

5.6.4 Access to shop areas should be limited to those persons on "Official Business Only".

5.6.5 Potentially distracting activities during working hours in shops, tool rooms, labs, offices and work places are prohibited. This includes but is not limited to TV's, tape players/recorders, games, hobbies, horseplay, personal business, phone calls (except for company business and emergencies) and reading that is not job related.

5.6.6 Only documents authorized by the cognizant Supervisor (posters, notes, etc.) are to be used and/or displayed in maintenance facilities, shops, offices and work places for the conduct of maintenance activities.

5.6.6.1 The following documents are authorized for use to provide reference information to assist Maintenance personnel in the conduct of their duties.

a. Equipment specific vendor manuals

b. Published technical reference books and reports.

c. Controlled drawings

d. Safety manuals, posters, bulletins, notices.

e. Company and plant policy, administrative, and regulation notices.

5.7 Work Schedules

5.7.1 Adequate shift coverage shall be maintained without routine heavy use of overtime. Procedure OPGP02-ZA-0060 (Overtime Approval Program) provides guidelines for a nominal 40-hour week and overtime on a temporary basis due to shutdowns for refueling, major maintenance or major plant modifications.

5.7.2 Any deviation from the guidelines in OPGP02-ZA-0060 shall be authorized by the Plant Manager, Duty Plant Manager or Vice President Nuclear Generation.

5.7.3 Work breaks and lunch periods shall be taken at prescribed times unless specifically authorized by the Cognizant Supervisor.

5.7.4 Personnel involved in collateral duties and activities such as recreation committee meetings, safety committee meetings, bargaining unit activities, etc. shall notify and schedule their time for these activities with their Supervisor sufficiently in advance to minimize impact on work schedules.

5.8 Management Inspections - OPGP03-ZA-0073 (Plant Inspection Program) provides a method to ensure the material condition, cleanliness/housekeeping condition, and industrial/safety standards of the plant are maintained through a program of inspection, reporting, follow-up and correction. This procedure applies to Responsible Area Managers and areas as assigned by the Plant Manager.

5.9 Management Involvement

5.9.1 The Maintenance Department Manager or his designee shall, on a routine basis, address Maintenance personnel on topics related to team involvement, productivity, and motivation.

5.9.2 The Maintenance Department Manager or his designee shall periodically review and assess the maintenance program. This review should include input from Operations, Technical Services, and individual Division Managers, as well as personal observation.

5.9.3 Maintenance Feedback

5.9.3.1 Feedback from field personnel to management is an essential tool that can provide needed input and can help to improve maintenance activities. The "Maintenance Feedback Request" is provided for anyone in the Maintenance Department to fill out to identify all types of feedback, such as, but not limited to:

a. Standard Performance Tools: PMs; work packages; procedures.

b. Specific Issues: Safety improvement areas (be specific); process bottlenecks (things which prevent performing eight hours of productive work in an eight hour shift); Maintenance Interface Group support i.e. conflicting processes and/or procedures or perception of lack of support.

c. Maintenance Manager Issues: Process improvements (to help solve bottlenecks); specific modifications which will enhance long term maintenance, e.g., isolation or double isolation valves on a selected component; specific modification or idea which could reduce outage length by moving scope outside of outage, e.g., replacing safety valves with spares during outage, rework removed safety valves after outage and return to warehouse stock.

5.10 Repeat Maintenance

5.10.1 Reporting, tracking and evaluating Repeat Maintenance on components is a valuable maintenance tool. Reducing equipment unavailability due to maintenance or failure helps increase overall plant reliability and reduces operating costs. The data obtained allows management to identify potential design problems, training inadequacies and ineffective repair methods. It is the responsibility of all maintenance personnel to identify Repeat Maintenance (or potential repeat maintenance) either to their supervision or by completing a Repeat Maintenance Identification Sheet (Addendum 1) and forwarding it to Maintenance Planning.

5.10.2 Repeat Maintenance is defined as:

5.10.2.1 Reperformance of an entire maintenance activity or steps in a maintenance work package prior to returning the components to service. Causes of this type of repeat maintenance could be: incorrect reassembly, damage to other components during maintenance, or failure of a post-maintenance test whereby failure is directly attributed to the maintenance performed.

5.10.2.2 Any maintenance activity on a component which has had similar maintenance performed on it within a predetermined time (e.g., twelve (12) months).

6.0 Electrical Work Practices

6.1 Wire and Cable Terminations - The requirements for controlling initial installation or reinstallation of wire and cable terminations are detailed in OPMP02-NZ-0013 (Cable Terminations).

6.2 Raychem Insulation Application - The requirements for controlling application of Raychem heat shrinkable insulating materials are detailed in OPMP02-NZ-0053 (Raychem Insulation Application).

6.3 Design Configuration Control of Electrical Circuit Breakers.

6.3.1 Design configuration control of electrical circuit breakers rated 480V or greater must be maintained during the repair, rework or replacement of electrical circuit breakers to ensure proper operation of these components and design protection/auxiliary functions for system operation. The "Circuit Breaker Configuration Change Form" will be used to accomplish the above control in accordance with the Planner's Guide. The form will be included or added to a work package by the planner as required. The Planner shall complete and verify Sections One (1) and Three (3). The electrical craft shall complete and/or verify Sections Two (2) and Four (4) as applicable. The Work Supervisor shall complete Section Five (5). (SPR 910162)

6.3.2 Transfer of circuit breakers between Facilities shall be performed in accordance with IP-6.01Q (Control of Material) and OPGP03-ZG-0001 (Material Control).

6.3.3 Utilization of circuit breakers under control of Nuclear Purchasing and Materials Management (NPMM) shall be performed in accordance with IP-6.01Q (Control of Material), NPMM-7.03Q (Returning Materials) and NPMM-7.07Q (Removal and Replacement of Components Parts and Pieces of Material in NPMM Control).

6.4 Adjustments to Motor Oil Level, 500HP and Above

****
*
* CAUTION
*
* If sight glasses indicate that oil is not present or the sight glass is completely full while the motor is operating, NOTIFY THE CONTROL ROOM IMMEDIATELY prior to contacting the owner or planner.
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NOTE

Adding or draining of oil is prohibited when the pump is running, except when critical to proper operation of the motor and then only with the specific approval of the Shift Supervisor. The standard practice should be limited to making oil level adjustments when the pump is secured.

6.4.1 If oil level indications on large motors are found out of tolerance, maintenance personnel shall notify the Cognizant Owner or Planner.

6.4.2 The Cognizant Owner or Planner shall contact the responsible system engineer for possible root cause analysis and recommendations prior to performance of any corrective actions, in accordance with the Planner's Guide.

6.4.3 All corrective actions shall be documented on the applicable work document, in accordance with the Planners Guide.

7.0 Mechanical Work Practices

7.1 Alternative Valve Packing and Live-Load Valve Packing.

7.1.1 The requirements for controlling installation of alternative valve packing and live-load valve packing designs are detailed in OPMP02-ZG-0011 (Alternative Valve Packing and Live-Load Valve Packing).

7.1.2 The Valve Packing Data Sheet (Addendum 1 of OPMP02-ZG-0011) shall be used to document valve packing activities whenever the valve packing design has been modified from the original design as specified by the valve manufacture or vendor under specification 5L749TS1018 (Alternative Valve Packing and Live-Load Design) and whenever a valve is to be "live-loaded" in an effort to stop leakage or extend the life of the valve packing.

8.0 References

8.1 ANSI N18.1 - 1971 - Selection and Training of Nuclear Power Plant Personnel.

8.2 IP-1.12Q (Equipment Qualification Program), Rev. 2.

8.3 IP-1.40 (Industrial Safety Program), Rev. 0.

8.4 IP-1.54Q (Measuring and Test Equipment Control Program), Rev. 3.

8.5 IP-1.65Q (System and Component Labeling), Rev. 0.

8.6 IP-2.03Q (Radiation Protection and ALARA Programs), Rev. 2.

8.7 IP-2.10 (Quality Program for Non Safety-Related Equipment and Activities), Rev. 4.

8.8 IP-3.01Q (Plant Modifications), Rev. 8.

8.9 IP-3.07Q (ASME Section XI Repair/Replacement Program), Rev. 5.

8.10 IP-3.10Q (STPEGS Welding Program), Rev. 2.

8.11 IP-3.11Q (Onsite Certification of Items), Rev. 2.

8.12 IP-3.15Q (Control of Special Processes), Rev. 2.

8.13 IP-3.24Q (Engineering Change Notice Package), Rev. 5.

8.14 IP-6.01Q (Control of Materials), Rev. 12.

8.15 IP-8.15Q (Maintenance Craft Training Program), Rev. 1.

8.16 IP-8.18 (OJT/Qualification Program), Rev. 6.

8.17 NPMM-7.03Q (Returning Materials), Rev. 4.

8.18 NPMM-7.07Q (Removal and Replacement of Components Parts and Pieces of Material in NPMM Control), Rev. 1

8.19 OMR-82-093 (Damaged Seals on Pressure Transmitters)

8.20 OMR-85-251 (Inadvertent Scrams Due to Misoperation of Instrument Valves)

8.21 OPGP02-ZA-0060 (Overtime Approval Program), Rev. 4.

8.22 OPGP03-HZ-0001 (Breaching of HVAC Boundaries), Rev. 0

8.23 OPGP03-ZA-0002 (Plant Procedures), Rev. 22.

8.24 OPGP03-ZA-0007 (Classification of Procedures), Rev. 5.

8.25 OPGP03-ZA-0010 (Plant Procedure Adherence and Implementation and Independent Verification), Rev. 15.

8.26 OPGP03-ZA-0039 (Plant Procedures Writer Guide), Rev. 11.

8.27 OPGP03-ZA-0065 (Qualification of Plant Staff Personnel), Rev. 4.

8.28 OPGP03-ZA-0069 (Control of Heavy Loads), Rev. 6.

8.29 OPGP03-ZA-0073 (Plant Inspection Program), Rev. 2.

8.30 OPGP03-ZA-0080 (Work Coordination Program), Rev. 4.

8.31 OPGP03-ZA-0090 (Work Process Program), Rev. 6.

8.32 OPGP03-ZA-0098 (Station Housekeeping), Rev. 0.

8.33 OPGP03-ZA-0107 (Security of the South Texas Project Electric Generating Station), Rev. 0.

8.34 OPGP03-ZA-0109 (Configuration Management Program), Rev. 0.

8.35 OPGP03-ZA-0113 (Work Direction), Rev. 0.

8.36 OPGP03-ZE-0004 (Plant Surveillance Program), Rev. 11.

8.37 OPGP03-ZE-0005 (Plant Surveillance Procedure Preparation), Rev. 10.

8.38 OPGP03-ZE-0020 (Post-Maintenance Testing Program), Rev. 3.

8.39 OPGP03-ZE-0027 (ASME Section XI Repair, Replacement and Post-Maintenance Pressure Tests), Rev. 5.

8.40 OPGP03-ZE-0031 (Design Change Implementation), Rev. 9.

8.41 OPGP03-ZE-0056 (Instrumentation Installation), Rev. 0.

8.42 OPGP03-ZF-0001 (Fire Protection), Rev. 5.

8.43 OPGP03-ZF-0003 (Breaching of Fire Barriers), Rev. 6.

8.44 OPGP03-ZF-0004 (Control of Transient Fire Loads), Rev. 1.

8.45 OPGP03-ZF-0005 (Use of Flammable Liquids and Gases), Rev. 4.

8.46 OPGP03-ZF-0006 (Control of Ignition Sources), Rev. 4.

8.47 OPGP03-ZF-0007 (Control of Solvents, Paints, and Painting Processes), Rev. 3.

8.48 OPGP03-ZF-0008 (Use of Fire Protection Equipment), Rev. 1.

8.49 OPGP03-ZF-0013 (Fire Watch Program), Rev. 4.

8.50 OPGP03-ZF-0017 (Fire Protection Unanticipated Impairment), Rev. 3.

8.51 OPGP03-ZG-0001 (Material Control), Rev. 7.

8.52 OPGP03-ZH-0003 (Packing of Hazardous/Nonhazardous Waste Materials for Disposal), Rev. 3.

8.53 OPGP03-ZH-0006 (Hazardous/Nonhazardous Materials Spill Cleanup and Reporting), Rev. 1.

8.54 OPGP03-ZI-0001 (Industrial Safety Program), Rev. 1.

8.55 OPGP03-ZI-0003 (Personal Protective Equipment), Rev. 4.

8.56 OPGP03-ZI-0005 (Heat Stress Program), Rev. 1.

8.57 OPGP03-ZI-0006 (Asbestos Abatement Program), Rev. 1.

8.58 OPGP03-ZI-0007 (Confined Space Entry Program), Rev. 5.

8.59 OPGP03-ZI-0008 (Control of Expendable Materials), Rev. 3.

8.60 OPGP03-ZI-0010 (Industrial Safety Accident/Incident Investigation), Rev. 2.

8.61 OPGP03-ZI-0011 (Warning Signs and Barriers), Rev. 2.

8.62 OPGP03-ZI-0012 (Hazard Communication Program), Rev. 1.

8.63 OPGP03-ZI-0013 (Hearing Conservation Program), Rev. 3.

8.64 OPGP03-ZI-0015 (Industrial Compressed Air and Gases), Rev. 1.

8.65 OPGP03-ZI-0016 (Hand and Power Tool Safety), Rev. 1.

8.66 OPGP03-ZI-0017 (Use of Portable Ladders), Rev. 2.

8.67 OPGP03-ZI-0019 (Reporting Industrial Safety Concerns), Rev. 2.

8.68 OPGP03-ZI-0021 (Electrical Safety), Rev. 1.

8.69 OPGP03-ZI-0023 (Chemical Safety), Rev. 1.

8.70 OPGP03-ZI-0026 (General Rigging), Rev. 2.

8.71 OPGP03-ZM-0002 (Preventive Maintenance Program), Rev. 24.

8.72 OPGP03-ZM-0004 (Lubrication Program), Rev. 5.

8.73 OPGP03-ZM-0006 (Control of System Cleanness During Maintenance), Rev. 5.

8.74 OPGP03-ZM-0007 (Tool and Measuring & Test Equipment Control), Rev. 7.

8.75 OPGP03-ZM-0013 (Control of Stainless Steel), Rev. 2.

8.76 OPGP03-ZM-0018 (Safety/Relief Valve Program), Rev. 5.

8.77 OPGP03-ZM-0021 (Control of Configuration Changes), Rev. 4.

8.78 OPGP03-ZM-0025 (Maintenance Testing Program), Rev. 3.

8.79 OPGP03-ZM-0027 (Acquisition and Control of Diving Activities), Rev. 1.

8.80 OPGP03-ZM-0028 (Erection and Use of Temporary Scaffolding), Rev. 3.

8.81 OPGP03-ZO-0002 (Qualifications and Conduct of Operators for Cranes, Hoists, and Monorail Systems), Rev. 3.

8.82 OPGP03-ZO-0003 (Temporary Modifications), Rev. 11.

8.83 OPGP03-ZO-0020 (Equipment Labeling), Rev. 4.

8.84 OPGP03-ZO-0025 (Site Environmental Compliance), Rev. 2.

8.85 OPGP03-ZO-0031 (Temporary Hose Control), Rev. 2.

8.86 OPGP03-ZO-0034 (Bulk Drum and Gas Cylinder Control), Rev. 3.

8.87 OPGP03-ZO-0039 (Operations Configuration Management), Rev. 3.

8.88 OPGP03-ZP-0011 (Procurement of Material), Rev. 0.

8.89 OPGP03-ZR-0001 (Radiation Protection Program), Rev. 4.

8.90 OPGP03-ZR-0002 (Request and Use of Radiation Work Permits), Rev. 9.

8.91 OPGP03-ZR-0008 (Operational ALARA Program), Rev. 5.

8.92 OPGP03-ZR-0012 (Radioactive Material and Waste Control Program), Rev. 6.

8.93 OPGP03-ZR-0044 (Contamination Control Program), Rev. 2.

8.94 OPGP03-ZS-0002 (Vehicle and Material Access to the Protected Area), Rev. 10.

8.95 OPGP03-ZS-0005 (Control of Security Related Keys, Locks, Cores, and Key Cards), Rev. 9.

8.96 OPGP03-ZS-0011 (Site Administrative Lock and Key Control), Rev. 1.

8.97 OPGP03-ZX-0002 (Corrective Action Program), Rev. 0.

8.98 OPMP01-ZA-0004 (Maintenance Procedures), Rev. 6.

8.99 OPMP01-ZA-0033 (Maintenance Department Standing Orders and Night Orders), Rev. 0.

8.100 OPMP01-ZA-0035 (Qualification and Certification of Maintenance Personnel), Rev. 0.

8.101 OPMP02-NZ-0013 (Cable Terminations), Rev. 3.

8.102 OPMP02-NZ-0053 (Raychem Insulation Application), Rev. 2.

8.103 OPMP02-ZG-0004 (Fastener Torquing and Detensioning), Rev. 3.

8.104 OPMP02-ZG-0011 (Alternative Valve Packing and Live-Load Valve Packing), Rev. 4.

8.105 OPMP02-ZW-0001 (General Welding Requirements), Rev. 2.

8.106 OPMP02-ZW-0002 (Welding Procedure Specification Preparation and Qualification), Rev. 3.

8.107 OPMP02-ZW-0004 (Control of Filler Materials), Rev. 6.

8.108 OPMP02-ZW-0005 (Control of Postweld Heat Treatment), Rev. 2.

8.109 OPRP07-ZA-0001 (Performance of High Exposure Work), Rev. 4.

8.110 DR 89-107 (Inadvertent Use of Superseded PM Revision)

8.111 DR 90-030 (Access a Security Barrier)

8.112 DR 91-027 (Use of Non-Quality Bulk Material in Quality-Related Components Without Engineering Approval)

8.113 DR 91-059 (Work Direction)

8.114 IEN 84-57 (Operating Experience Related to Moisture Intrusion in Safety-Related Electrical Equipment at Commercial Power Plants Reconnecting)

8.115 IEN 85-02 (Improper Installation and Testing of Differential Pressure Transmitters)

8.116 IEN 85-079 (Inadequate Communications between Maintenance, Operations, and Security Personnel).

8.117 IEN 86-07 (Lack of Detailed Instruction and Inadequate Observation of Precautions During Maintenance and Testing of Diesel Generator Woodward Governors).

8.118 INPO Good Practice MA-318 (Maintenance Work Packages Planning), December 1990.

8.119 ISEG Report 9-87,(Valve Packing Observation)

8.120 Operations Quality Assurance Plan, Section 3.0 (Conduct of Plant Operations), Rev. 5; Section 5.0 (Maintenance Installation of Modifications, and Related Activities), Rev. 4.

8.121 Planners Guide, Rev. 0

8.122 QCP-2.0 (Quality Control Procedure Inspection Activity), Rev. 5.

8.123 SER 84-069 (Damage in Main Steam and Feedwater Systems Caused by Water Hammer and Rapid Water Transients)

8.124 SOER 81-015 (Partial Loss of D.C. Power)

8.125 SOER 83-05 (Inadvertent Use of Incorrect Replacement Fuses)

8.126 Speakout Concern No. 12177 (Maintenance Verification Points)

8.127 SPR 870374 (Inadvertent Breach of a Security Barrier Due to Removal of a Penetration Seal)

8.128 SPR 870463 (Injected NAOH from spray additive tank into reactor water storage tank)

8.129 SPR 880088 (Independent Verification)

8.130 SPR 900406 (Configuration Control - Temporary Wire Markers)

8.131 SPR 910162 (480V Spare Load Center Breaker)

8.132 SPR 920098 (Reactor Trip Due to False Reactor Coolant Low Flow Trip Signal)

8.133 SPR 920534 (Maintenance Personnel Have Not Been Trained to Revision 5 of IP-8.18Q)

8.134 SPR 920954 (Definition of Work Direction is Inconsistent in IP-8.18A, OPGP03-ZA-0090 and MTB-92-025)

8.135 Specification 5L749TS1018 (Alternative Valve Packing and Live Load Design), Rev. 1

8.136 ST-HL-AE-2265 (Use of Jumpers and Lifted Leads During Routine Maintenance and Testing)

8.137 ST-HL-AE-2593 (Access a Security Barrier)

8.138 ST-HL-HS-2111 (Electrical Separation Problems in the Control Room)

8.139 WAR 90-252 (Material Access to the RCB)

9.0 Support Document

9.1 Addendum 1 - Repeat Maintenance Identification Sheet

ADDENDUM 1
Repeat Maintenance Identification Sheet - Typical
(Page 1 of 1)

DISC. ____ LOG NO. _____

I. Identification: Tag/TPNS No. _____ Unit ____ System ____

New Work Doc. _____ Date Written _____

Old Work Doc. _____ Date Complete _____

Equipment Description: _____

Description of Potential Repeat Maintenance: _____

Identified By _____ Date _____

II. Evaluation/Root Cause: _____

Proposed Disposition: _____

Code Class.: RMS, RMA, RMO, RMN Resp. Organization _____

Evaluator _____ Date _____

III. Corrective Action: _____

PR/NCR/RFA/MATS Initiated: YES/NO DOC. NO. _____

Division Manager
OR
Planning Supv. _____ _____
CONCURRENCE Date

STP 3259A (08/93)
REV 3

SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION
PLANT CHANGE FORM

Q09.11 11-26-93

MJ-308914
WORK DOC. NO

(Page 1 of 3)

308913-AØA
PCF NUMBER

ORIGINAL

1. Problem/Condition: Valve is installed backwards - see attached page

2. TAG/TPNS: N1MTFV7902 System: MD Unit 1 Priority 4A

Component/Part Description: See attached page

3. Recommended Action: See attached page

Est. Instal. Date

Initiated by: Brain Ratte / NA Date: 6/7/93 Phone:
Print Sign

PCF Accepted by TSE Engineer (Name): J. Stanley 10/14/93

4. Disposition/Description of Change:

See attached page 3

STI-94-005069-59

ZE-31 EVAL. REQUIRED? YES ☐ NO ☒ DISPOSITION: INTERIM* ☐ FINAL ☒ Q-RELATED: YES ☐ NO ☒

(*FOR INTERIM, ATTACH PCF-INTERIM 50.59 EVALUATION FORM.)

50.59 EVAL. REQUIRED? YES ☐ NO ☒ (If no, identify the reasons) NO. OF AMENDMENTS 0

50.59 not required for rework dispo. - OPGP03-ZA-0103, Addem. 3.

A. NON CONFORMANCE:		B. PAPER CHANGE	☐	J. Stanley — ENGINEER	10/14/93 — DATE
USE-AS-IS	☐	C. REPLACE EQUIVALENT	☐		
REPAIR	☐	D. BENEFICIAL CHANGE	☐	R. J. [signature] — REVIEWER	10/15/93 — DATE
REWORK	☒	E. INVALIDATE	☐	Dennis R. Stark — ENGINEER SUPV.	10/15/93 — DATE

ORIGINAL

STP 3226A (05/92)
REV 0
OPGP03-ZA-0090

SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION

PLANT CHANGE FORM

PAGE 1 OF 2

308913-A
PCF NUMBER

5C. AFFECTED DESIGN DOCUMENTS

DOCUMENT NUMBER	REV.	KEY?
~~96369 PMD895-450~~	1	2 10/14/93

DOCUMENT NUMBER	REV.	KEY?

1. PROBLEM/CONDITION: Valve is installed backwards - must be installed in the "flow to close" direction. Reference valve data sheet 6Z019Z44816 Sht. 25

2. TAG/TPNS: N1MT FV 7902 UNIT: 1 WK DOC: MT-308913

COMPONENT DESCRIPTION: Main Steam Line Drain from MS 1003

PART DESCRIPTION:

3. RECOMMENDED ACTION: Cut out valve, inspect internals, replace if necessary, install valve in "flow to close" direction and buff off flow arrow if it points in the wrong direction.

INITIATED BY: Brian Ratté DATE: 6/7/93

4. PLANT CHANGE TYPE:

NONCONFORMANCE (NCR) X REPAIR EQUIVALENT CHANGE (REQ) _____ BENEFICIAL CHANGE _____ (ATTACH ECONOMIC EVALUATION)

DEVELOPMENT AUTHORIZATION (FOR BENEFICIAL CHANGES ONLY):

N/A / _____ MAINTENANCE MANAGER / DATE

N/A / _____ DESIGN ENGINEERING MANAGER / DATE

5. DISPOSITION/TECHNICAL JUSTIFICATION: SEE PAGE 3

DJW 10/14/93

A. Q-RELATED? YES ____ NO ✓

B. FOR NONCONFORMANCES, SELECT ONE: USE-AS-IS ____ REPAIR ____ REWORK ✓

C. IDENTIFY AFFECTED DRAWINGS/DESIGN DOCUMENTS IN BLOCK 5C ABOVE.

D. IS ZE-31 REQUIRED? YES ____ NO ✓ IF YES, INITIATE ZE-31 AND ATTACH COPY. (FORWARD ORIGINAL TO DESIGN CHANGE COORDINATOR) INDICATE ON ZE-31 WHETHER ZE-31 RETURN TO SERVICE IS REQUIRED

E. RPE REQUIRED? YES ____ NO ✓

ATTACHMENT TO - PCF 308913-A

TECHNICAL JUSTIFICATION:

Valve N1MTFV7902 was installed backwards (flow under the seat). Installation of the valve to the required flow directions (flow over the seat) as shown on vendor drawing 4449-00004-LV restores the valve to the original design configuration.

This valve opens to permit condensate drainage to the main condenser from downstream of the MSR control valve. This valve is designed to fail open on a loss of air. This valve does not serve any safety function.

DISPOSITION:

REWORK:

Install the valve into the system to the flow direction required in accordance with drawing 4449-00004-LV (flow over the seat). If necessary, the valve can be rotated from vertical in accordance with specification 5A010PS002.

If the flow arrow on the valve is incorrect, based on the new installation configuration, buff off the old arrow and restamp or etch the arrow in the correct direction.

EM422
EA+g [illegible] 2/22/93

STP 486 (08/92) SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION OPGP03-ZX-0002

STATION PROBLEM REPORT

CAQ CATEGORY ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☒ 5 ☐ 6 SPR NO. 930064

PART 1: IDENTIFICATION OF CONCERN

A. UNIT # ☐ 1 ☐ COMMON ☐ 2 ☒ BOTH

INITIATED: NAME Brian Ratté DEPT PED
POSITION System Engineer PHONE NO. 7636
DATE 1/7/93 TIME 10:30

DISCOVERY: DATE 1/5/93 TIME 0700

IMMEDIATE SUPERVISOR CONCURRENCE: NAME [signature]
DATE 1/7/93 TIME 1217

ORIGINATOR

B. PROBLEM DESCRIPTION

Valve N2MT FV7987 was replaced by SR # MJ-146929. Upon receiving the replacement valve, craft personnel noted that the flow arrow was reversed from the one on the old valve. Investigation revealed that the old valve was installed backwards from the required design. Comparison with the other MSR tube bundle drains and ES to the D.A. drain valves showed that they were all installed backwards. Valve numbers - MT FV 7962, 7977, 7979, 7981, 7984, 7985, 7986, 7987 and MD LV 7925, 7926, 7927 and 7928. All of the valves are Conval y-pattern globe valves. All of these valves are installed in accordance with the flow arrow on them, but not according to design. Design requires valves to be "flow to close", installation is "flow to open". All Conval y-globes should be checked for design installation.

[ ] CONTINUATION SHEET ATTACHED

C. IMMEDIATE COMPENSATORY OR REMEDIAL ACTIONS TAKEN

Walked down both units - observed above listed valves installed backwards with regard to design.

SPR Telecopied to Control Rooms.
If review indicates safety related valves have potential to be backwards, then Reportability Review should be initiated immediately. If not, then reportability review can be included in SPR.

[ ] CONTINUATION SHEET ATTACHED

D. IDENTIFICATION

SYSTEM MD, MT COMPONENT NAME Drain valves

COMPONENT NO. See Above BLDG TGB ROOM 55-29

SPR No. _____ REV ____

PAGE ____ OF ____

INSTRUCTIONS FOR PART 1 COMPLETION

ORIGINATOR:

DESCRIBE YOUR CONCERN GIVING AS MUCH INFORMATION AS POSSIBLE. FILL IN ALL APPLICABLE SECTIONS OR ATTACH DOCUMENTATION. INDICATE WHAT, WHEN, WHO, WHY, WHERE, HOW. LIST ANY REFERENCES.

DESCRIBE ANY IMMEDIATE COMPENSATORY/REMEDIAL ACTIONS TAKEN IN ADDITION TO WRITING THE SPR.

IF A COMPONENT, SYSTEM, BUILDING, ETC., IS INVOLVED, THEN COMPLETE THE APPLICABLE PORTION OF PART I.

IF YOU HAVE ENOUGH INFORMATION TO IDENTIFY THE CAUSE AND REMEDIAL ACTION, THEN SO STATE.

OBTAIN IMMEDIATE SUPERVISORS CONCURRENCE IF POSSIBLE. IF NOT POSSIBLE OR IF ORIGINATOR DISAGREES WITH IMMEDIATE SUPERVISORS POSITION, DELIVER TO SHIFT SUPERVISOR OR CAG AS APPROPRIATE.

NOTE: IF POTENTIALLY REPORTABLE, OR IF ANY DOUBT EXISTS REGARDING REPORTABILITY, THEN HAND CARRY IMMEDIATELY TO THE SHIFT SUPERVISOR. OTHERWISE, DELIVER TO THE CAG ADMINISTRATOR.

IF ANY SECTION OR BLANK IS NOT COMPLETED, THEN RECORD N/A IN THE APPROPRIATE SECTION.

SHIFT SUPERVISOR\LICENSING

PART 2: REPORTABILITY

A. PLANT MODE: (CIRCLE ONE) 1 2 3 4 5 6 NO-MODE

Rx POWER _____ Rx TEMP _____ Rx PRESSURE _____ Rx TRIP YES [ ] NO [ ]

ESF ACTUATION _____ INITIATING SIGNAL _____

B. OPERABILITY

[ ] OPERABILITY REVIEW REQUIRED WITHIN 24 HOURS. [ ] JCO REQUIRED [ ] NA

SHIFT SUPERVISOR _____ DATE/TIME _____

C. REPORTABILITY DETERMINATION PER REPORTING MANUAL

[ ] REPORTABLE PER _____ WITHIN _____
LAW/PERMIT/LICENSE TIME: HOURS

NOTIFICATIONS (SS)

DUTY PLANT MANAGER [ ] N/A PERSON CONTACTED _____ DATE/TIME _____ INITIALS ____

NRC RESIDENT INSP [ ] N/A PERSON CONTACTED _____ DATE/TIME _____ INITIALS ____

NRC OPS CENTER [ ] N/A PERSON CONTACTED _____ DATE/TIME _____ INITIALS ____

OTHER [ ] N/A PERSON CONTACTED _____ DATE/TIME _____ INITIALS ____

[ ] ADDITIONAL REPORTABILITY EVALUATION REQUIRED

[ ] NOT REPORTABLE

SHIFT SUPERVISOR _____ DATE/TIME _____

D. FINAL REPORTABILITY REVIEW

[ ] REPORTABLE PER _____ WITHIN _____
LAW/PERMIT/LICENSE TIME: HOURS

[X] NOT REPORTABLE

LICENSING REPRESENTATIVE Jim McFee DATE 1/8/93

[ ] CONTINUATION SHEET ATTACHED

E. WRITTEN REPORT

TYPE _____ DUE DATE _____

F. NUCLEAR NETWORK REQUIRED [ ] YES [X] NO

CAG

PART 3: ACTION ASSIGNMENT

ACTION ORGANIZATION(S)

DEPARTMENT PED ACTION Investigation DUE 2-9-93

DEPARTMENT PED ACTION Reportability Review DUE 2-9-93

DEPARTMENT _____ ACTION _____ DUE _____

[ ] CONTINUATION SHEET ATTACHED

INVESTIGATOR

PART 4: EVENT DESCRIPTION

[ ] CONTINUATION SHEET ATTACHED

A. DESCRIPTION

see attached

B. PROBLEM EVENT CODES

PART 5: SPR CAUSES AND GENERIC IMPLICATIONS

[ ] CONTINUATION SHEET ATTACHED

A. CAUSES

B. GENERIC IMPLICATIONS

[ ] CONTINUATION SHEET ATTACHED

C. CAUSE CODES

EVENT / CAUSE						
#1	PRIMARY	SECONDARY	ADDITIONAL			
#2	PRIMARY	SECONDARY	ADDITIONAL			
#3	PRIMARY	SECONDARY	ADDITIONAL			

INVESTIGATOR

PART 6: REMEDIAL/COMPENSATORY/CORRECTIVE ACTIONS

A. REMEDIAL/COMPENSATORY ACTION COMPLETED (BEYOND PART 1.C)

See attached

[ ] CONTINUATION SHEET ATTACHED

B. CORRECTIVE ACTIONS

C1 _____

_____ DUE DATE _____ RESP. MANAGER _____ DATE _____

C2 _____

_____ DUE DATE _____ RESP. MANAGER _____ DATE _____

C3 _____

_____ DUE DATE _____ RESP. MANAGER _____ DATE _____

[ ] CONTINUATION SHEET ATTACHED

SIGNOFFS

PART 7: APPROVALS/CONCURRENCE

A. INVESTIGATOR D Dickey DATE 2-22 INVESTIGATING MGR W H Humbard Jr. DATE 3-10-93

B. CAC (IF REQ'D) NA DATE _____

C. PORC (IF REQ'D) MTG No. NA

D. PLANT MANAGER (IF REQ'D) NA DATE _____

E. QA (IF REQ'D) NA DATE _____

CAC/QA

PART 8: CLOSEOUT

A. CLOSEOUT SUMMARY

[ ] CONTINUATION SHEET ATTACHED

CLOSURE AUTHORITY _____ DATE _____
QA OR CAC

SPR No. 9J0064 REV A

PAGE 2 OF 5

INVESTIGATOR

PART 6: REMEDIAL/COMPENSATORY/CORRECTIVE ACTIONS

A. REMEDIAL/COMPENSATORY ACTION COMPLETED (BEYOND PART 1.C)

See attached

[ ] CONTINUATION SHEET ATTACHED

B. CORRECTIVE ACTIONS

C1 ______

DUE DATE ______ RESP. MANAGER ______ DATE ______

C2 ______

DUE DATE ______ RESP. MANAGER ______ DATE ______

C3 ______

DUE DATE ______ RESP. MANAGER ______ DATE ______

[ ] CONTINUATION SHEET ATTACHED

SIGNOFFS

PART 7: APPROVALS/CONCURRENCE

A. INVESTIGATOR D [signature] DATE 2-24-93 INVESTIGATING MGR [signature] for DAC DATE 2/26/93

B. CAC (IF REQ'D) NA DATE ______

C. PORC (IF REQ'D) MTG No. ______

D. PLANT MANAGER (IF REQ'D) ______ DATE ______

E. QA (IF REQ'D) ______ DATE ______

CAG/QA

PART 8: CLOSEOUT

A. CLOSEOUT SUMMARY

[ ] CONTINUATION SHEET ATTACHED

CLOSURE AUTHORITY P [signature] DATE 4/23/93

QA OR CAC

Station Problem Report 930064
Various Drain Valves Installed Backwards

PART 4: EVENT DESCRIPTION

A. Description

A Mechanical Maintenance crew was installing a new replacement valve for N2MTFV7987, MSR 21S tube bundle drain, because of seat damage due to continuous leakage. A question arose about the proper orientation of the valve because the new valve had the flow arrow pointing in the opposite direction as compared to the old valve. A check of the design drawings revealed that the old valve had been installed incorrectly with a flow to open orientation. The new valve was installed properly and passed its post-maintenance test. A walkdown of like valves, Conval Y-type globe valves, revealed that all Unit 1 and 2 MSR tube bundle drains, Unit 1 and 2 extraction steam to high pressure feedwater heater drains, and Unit 1 only above seat main steam isolation valve drains are also installed backwards. The valves listed below are known to be installed improperly.

N1MDLV7925	N1MTFV7962	N1MTFV7984	N1MTFV7900
N1MDLV7926	N1MTFV7977	N1MTFV7985	N1MTFV7901
N1MDLV7927	N1MTFV7979	N1MTFV7986	N1MTFV7902
N1MDLV7928	N1MTFV7981	N1MTFV7987	N1MTFV7903
N2MDLV7925	N2MTFV7962	N2MTFV7984	
N2MDLV7926	N2MTFV7977	N2MTFV7985	
N2MDLV7927	N2MTFV7979	N2MTFV7986	
N2MDLV7928	N2MTFV7981		

The affect of flow to open installation is that the pneumatic operators on these valves are not exerting enough closing force to prevent leakage. Thermal Performance surveys show these valves to be continuous leakers. The Conval valves take main steam from the HP turbine and could cause as much as 2 MWe loss per unit. These valves contribute to main steam leakage problems during start up operations.

B. Problem Event Code

EA4g

PART 6: REMEDIAL/COMPENSATORY/CORRECTIVE ACTIONS

A. Remedial/Compensatory Action Completed

1. Valve N1MTFV7987 was repaired under SR MT-146929.

2. PED will evaluate the best method to repair the valves. Possible repairs are 1) cut the valve out and install with proper orientation 2) install a larger operator 3) increase the pressure on the actuator. Repair will include inspection of the seats due to long term leakage. PED will initiate required documentation to implement the recommended fix. This action will be completed by 3/17/93.

G. E. Schinzel G E Schinzel 2/12/93

Rev A

3. PED will resolve acceptance of corrective action 2 by 2/25/93.

W H Humble Jr. 2-10-93

OK CB 2/12/93

PCJ 2-24-93

Rev A

HL&P 1008A (8-91)

Houston Lighting & Power Company

OFFICE MEMORANDUM

To CAG Administrator

From D. A. Leazar

Subject Reportability Review for SPR 930064

February 9, 1993
ST-HS-[illegible]023385
PFN Z23-[illegible]

On January 5, 1993 a Thermal Performance Engineer discovered that several air operated Y-type Conval drain valves were installed backwards during construction. Valve drawings indicate that the valves should be flow to close but were installed in a flow to open orientation. With system operating pressure underneath the disc the pneumatic operator will not provide sufficient closing force causing the valves to leak by continually.

There are 8 MSR tube bundle drains and 4 HP turbine extraction steam drains in each unit installed backwards. The leakage past the seat on these valves is not reportable. The Unit 1 above seat main steam isolation valve (MSIV) drains are also installed in the flow to open orientation. These valves TAGTPNS numbers are N1MTFV7900, 7901, 7902, and 7903. The Technical Specifications and 10CFR50 Regulations do not require NRC notification for leakage greater than design on theses drain valves. The justification is that MSIV above seat drain valves are not safety related or containment isolation valves.

Nuclear Licensing 2/9/93

DCS

cc: C. A. Ayala N5010
K. J. Christian N2017
Unit 1 Control Room M1001
Unit 2 Control Room M1001
RMS Correspondence N2002

Concur
2/10/93

SPR ACTION COMPLETION VERIFICATION FORM

1. SPR#: 930064 Action Item # (If Known): R2 and one other

2. ACTION #(s) STATEMENT(s) a) R2 - Eval. best method to repair valves - includes inspection of seats.

b) other - Eval. best method to repair valves. Possible repairs are - 1) Cut valve out 2) Install larger operator 3) Increase actuator pressure.

3. THE ABOVE ACTION HAS BEEN VERIFIED COMPLETE BY:

		Attached* Yes	No
a) Document(s)	# U-1- PCF 174762-A	[X]	~~[X]~~ (4-2-93)
	# U-2 - PCF 174763 - A	[X]	~~[X]~~
	#	[ ]	[ ]
	#	[ ]	[ ]
	#	[ ]	[ ]

b) Describe

Summary attached - PCFs recommend design changes.

4. DATE(s) COMPLETE: 4/2/93 Brian Ratte

5. AUTHORIZING SIGNATURE:

The undersigned have verified that the above action(s) have been completed as described. This complete form is subject to QA Audit and SHALL be filed with the SPR file.

D.C. Kea [signature], 4/7/93

Department Manager (Required) Date

* VERIFICATION DOCUMENTS SHALL BE PROVIDED FOR NRC RELATED ISSUES

	INDIVIDUAL	ACTION DUE	SOURCE DOC	TYPE	DESCRIPTION	EXT	STATUS	INT
G.E. SCHINZEL		03/15/93			- GUIDANCE TO CHECK GOVERNOR RESPONSE TO ENSURE ALL AIR IS REMOVED FROM THE GOVERNOR.			
	MLC	03/17/93	910143/LER	CX	004A) COMPLETION FOR THE FORCED AIR PORTION OF MOD 90021 TO ENSURE THE JCO WILL NOT BE REQUIRED WHEN THIS PORTION OF THE MOD IS NEEDED TO ENSURE HYDRAULIC FLUID INTEGRITY.(EDIT)	LC		1-91 -011
*	BDR	03/17/93	930064	C	R2) EVALUATE THE BEST METHOD TO REPAIR THE VALVES WHICH INCLUDES INSPECTION OF THE SEATS DUE TO LONG TERM LEAKAGE. INITIATE REQUIRED DOCUMENTATION TO IMPLEMENT THE RECOMMENDED FIX.	0	CHANGED FROM WRH TO GES 3/31/93	
	BDR	03/17/93	930064	CX	EVALUATE THE BEST METHOD TO REPAIR THE VALVES. POSSIBLE REPAIRS ARE 1) CUT THE VALVE OUT AND INSTALL WITH PROPER ORIENTATION 2) INSTALL A LARGER OPERATOR 3) INCREASE THE PRESSURE ON THE ACTUATOR. REPAIR WILL INCLUDE INSPECTION OF THE SEATS DUE TO LONG TERM LEAKAGE. PED WILL INITIATE REQUIRED DOCUMENTATION TO IMPLEMENT THE RECOMMENDED FIXS.	0		
		03/18/93	921140	CX	INITIATE A PM TO RECALIBRATE THE MONITOR AND REPLACE/RECALIBRATE THE PROBE CONSIDERING THE RECOMMENDATION OF THE VENDOR MANUAL.	0	TO CAG 3/30/93	
*	BDR	03/23/93	930377/LER 2-93-004	CX	006) COMPLETE AND ISSUE DESIGN FOR MODIFICATION FOR THE STEAM DRIVE N PUMP SHAFTS TO USE CHROME PLATING.	0		
*	BDR	03/23/93	930377/LER 2-93-004	CX	007) ISSUE SRS FOR MODIFICATION OF THE STEAM DRIVEN FEEDWATER PUMP SHAFTS TO USE CHROME PLATING.	0		
*	BDF	03/23/93	930377/LER 2-93-004	CX	014) COMPLETE AND ISSUE DESIGN FOR MODIFICATION OF THE STARTUP FEEDWATER PUMP SEALS TO INSTALL A DEIGN THAT PRECLUDES WATER INTRUSION. ADDITIONALLY, THE COALESCING FILTRATION DESIGN WILL BE CHANGED TO PLACE THE FILTRATION ELEMENT IN A PARALLEL LOW PATH SUCH THAT CLOGGED FILTERS WILL NOT CAUSE A PUMP TRIP.	0		
*	BDG	03/23/93	930377/LER 2-93-004	CX	015) ISSUE SRS FOR MODIFICATION OF THE STARTUP FEEDWATER PUMP SEALS TO INSTALL A DESIGN THAT PRECLUDES WATER INTRUSION. ADDITIONALLY, THE COALESCIN G FILTER DESIGN WILL BE CHANGED TO PLACE THE FILTRATION ELEMENTS IN A PARALLEL LOW PATH SUCH THAT CLOGGED FILTERS WILL NOT CAUSE A PUMP TRIP.	0		
		03/30/93	921455	CX	003) AN EVALUATION OF THE SDG DESIGN WILL BE PERFORMED TO IDENTIFY OTHER COMPONENTS OR LOCATIONS NOT CURRENTLY BEING LUBRICATED WHICH MAY WARRANT LUBRICATION.	0	TO CAG 3/30/93	
*		03/31/93	930431/LER 1-93-007	LC	001) TESTING WILL BE CONDUCTED PRIOR TO DECLARING TOAFWP 24 OPERABLE. TESTING WILL INCLUDE: VERIFICATION OF THE DRAIN	0	TO CAG EXT. TO 5/5/93	

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SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION

PLANT CHANGE FORM

PAGE 1 OF 2

174762-A
PCF NUMBER

5C. AFFECTED DESIGN DOCUMENTS

DOCUMENT NUMBER	REV.	KEY?
6280192 44816	N/A	N
Sheet 77-84	4	N
Sheet 303	3	N
Sheet 304	4	N
Sheet 73-76	4	N

DOCUMENT NUMBER	REV.	KEY?

1. PROBLEM/CONDITION: Several drain valves are not installed in accordance with design. Design is inadequate. See attached.

2 TAC/TPNS: See attached UNIT: 1 WK DOC:

COMPONENT DESCRIPTION: See attached

PART DESCRIPTION:

3 RECOMMENDED ACTION: Make changes to valves and Data Sheets or calculations using attached as guidance.

INITIATED BY: Brian D. Matte DATE: 4/1/93

4. PLANT CHANGE TYPE

NONCONFORMANCE (NCR) _____ REPAIR EQUIVALENT CHANGE (REC) _____ BENEFICIAL CHANGE ✓
(ATTACH ECONOMIC EVALUATION)

DEVELOPMENT AUTHORIZATION (FOR BENEFICIAL CHANGES ONLY)

MAINTENANCE MANAGER / DATE

DESIGN ENGINEERING MANAGER / DATE

5 DISPOSITION/TECHNICAL JUSTIFICATION:

A Q-RELATED? YES ____ NO ____

B FOR NONCONFORMANCES, SELECT ONE: USE-AS-IS ____ REPAIR ____ REWORK ____

C IDENTIFY AFFECTED DRAWINGS/DESIGN DOCUMENTS IN BLOCK 5C ABOVE

D IS ZE-31 REQUIRED? YES ____ NO ____ IF YES INITIATE ZE-31 AND ATTACH COPY (FORWARD ORIGINAL TO DESIGN CHANGE COORDINATOR) INDICATE ON ZE-31 WHETHER ZE-31 RETURN TO SERVICE IS REQUIRED

E RPE REQUIRED? YES ____ NO ____

BENEFICIAL CHANGE TO SELECTED DRAIN VALVES

1. PROBLEM/CONDITION: Below listed valves are installed contrary to design. Data Sheets indicate valves are "flow to close", but they are installed the other way around. Additionally, the original design data seems to be invalid, so that even if the valves were turned around, the actuators would be improperly sized.

2. TAG/TPNS: N1MDLV7925, 7926, 7927, 7928; N1MTFV7962, 7977, 7979, 7981, 7984, 7985, 7986, 7987; N1MTFV7900, 7901, 7902, 7903

3.* RECOMMENDED ACTION: For valves N1MDLV7925-7928 (HP Turbine to HPFWH Extraction Line Drains) recommend changing the actuator spring from size 1F1771 to 1E8049, and leaving the valves as is.

For valves N1MTFV7962-7987 (MSR Tube Bundle Drains) recommend turning valves around and changing spring from size 1E8057 to 1E8051. Leaving the valves in their current configuration would require changing actuator size.

For valves N1MTFV7900-7903 (Above Seat Drain Line Level Valves), recommend changing spring size from 1F1773 to 1E8266, and leaving the valves as is.

See attached for more information. Recommend continuing to use Conval valves in this application, as the valve performance has been very good, considering the design inadequacies.

Even if the valves were to be "use-as-is", the paperwork associated with these valves must be updated to show the correct information.

* When the recommended actions are implemented, the valve seats will be inspected and repaired as necessary.

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SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION

PLANT CHANGE FORM

PAGE 1 OF 2

174763-A
PCF NUMBER

5C. AFFECTED DESIGN DOCUMENTS

DOCUMENT NUMBER	REV.	KEY?	DOCUMENT NUMBER	REV.	KEY?
6Z0192448 16	N/A	N			
Sheet 77-84	4	N			
Sheet 303	3	N			
Sheet 304	4	N			

1. PROBLEM/CONDITION: Several drain valves are not installed in accordance with design. Design is inadequate. See attached.

2. TAG/TPNS: See attached UNIT: 2 WK DOC:

COMPONENT DESCRIPTION: See attached

PART DESCRIPTION:

3. RECOMMENDED ACTION: Make changes to valves and Data sheets or calculations using attached as guidance.

INITIATED BY: Brian D. Matte DATE: 4/1/93

4. PLANT CHANGE TYPE:

NONCONFORMANCE (NCR) _____ REPAIR EQUIVALENT CHANGE (REC) _____ BENEFICIAL CHANGE ✓ (ATTACH ECONOMIC EVALUATION)

DEVELOPMENT AUTHORIZATION (FOR BENEFICIAL CHANGES ONLY):

MAINTENANCE MANAGER / DATE

DESIGN ENGINEERING MANAGER / DATE

5. DISPOSITION/TECHNICAL JUSTIFICATION:

A. Q-RELATED? YES ____ NO ____

B. FOR NONCONFORMANCES, SELECT ONE: USE-AS-IS ____ REPAIR ____ REWORK ____

C. IDENTIFY AFFECTED DRAWINGS/DESIGN DOCUMENTS IN BLOCK 5C ABOVE

D. IS ZE-31 REQUIRED? YES ____ NO ____ IF YES, INITIATE ZE-31 AND ATTACH COPY (FORWARD ORIGINAL TO DESIGN CHANGE COORDINATOR) INDICATE ON ZE-31 WHETHER ZE-31 RETURN TO SERVICE IS REQUIRED

E. RPE REQUIRED? YES ____ NO ____

BENEFICIAL CHANGE TO SELECTED DRAIN VALVES

1. PROBLEM/CONDITION: Below listed valves are installed contrary to design. Data Sheets indicate valves are "flow to close", but they are installed the other way around. Additionally, the original design data seems to be invalid, so that even if the valves were turned around the actuators would be improperly sized.

2. TAG/TPNS: N2MDLV7925, 7926, 7927, 7928; N2MTFV7962, 7977, 7979, 7981, 7984, 7985, 7986, 7987

3.* RECOMMENDED ACTION: For valves N2MDLV7925-7928 (HP Turbine to HPFWH Extraction Line Drains) recommend changing the actuator spring from size 1F1771 to 1E8049, and leaving the valves as is.

For valves N2MTFV7962-7987 (MSR Tube Bundle Drains) recommend turning valves around and changing spring from size 1E8057 to 1E8051. Leaving the valves in their current configuration would require changing actuator size.

See attached for more information. Recommend continuing to use Conval valves in this application, as the valve performance has been very good, considering the design inadequacies.

Even if the valves were to be "use-as-is", the paperwork associated with these valves must be updated to show the correct information.

* When the recommended actions are implemented, the valve seats will be inspected and repaired as necessary.

PORC Review Evaluation

SPR 980064
Subject _____

Does the subject SPR meet any of the following criteria:

		YES	NO
1)	Concerns a REPORTABLE EVENT?	___	✓
2)	Concerns a significant operating abnormality or significant deviation from normal and expected performance of plant equipment or systems that affect nuclear safety?	___	✓
3)	Concerns unanticipated deficiencies in the design or operation of structures, systems, or components that affect nuclear safety?	___	✓
4)	Concerns any accidental, unplanned, or uncontrolled radioactive release?	___	✓
5)	Concerns the violation of: • Codes • Regulations • Orders • Technical Specifications • Operating Licensing Requirements having nuclear safety significance?	___	✓
6)	Concern the abnormal degradation of systems designed to contain radioactive material?	___	✓
7)	Should be otherwise reviewed by PORC? Explain: _____	___	✓

If any of the above questions are answered YES, THEN the subject SPR SHALL be submitted to PORC.

P Fillingame
Evaluator

2/28/93
Date

NB

STP 8259A (08/93)
REV 3

SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION
PLANT CHANGE FORM

ORIGINAL 909.11

MT-146934-A
WORK DOC. NO

(Page 1 of 3)

146934-B
PCF NUMBER

1. Problem/Condition: VALVE N2 MTFV7977 IS ENSTALLED BACKWARDS. FLOW IS REQUIRED TO BE OVER THE SEAT.

2. TAG/TPNS: N2MTFV7977 System: MT Unit 2 Priority 3
Component/Part Description: STEAM TO M&R 72N DRAIN

3. Recommended Action:
CUT-OUT AND ROTATE VALVE

Est Install. Date

Initiated by: Craig Murray / [signature] Date: 3-16-94 Phone: P285
Print Sign

PCF Accepted by TSE Engineer (Name): [signature]

4. Disposition/Description of Change:

SEE THE ATTACHED DISPOSITION.

THIS PCF SUPERSEDES PCF's 146934-A AND 212051A

STI-94-007485-6

2E-31 EVAL. REQUIRED? YES ☐ NO ☑ DISPOSITION: INTERIM* ☐ FINAL ☑ Q-RELATED: YES ☐ NO ☑
(*FOR INTERIM, ATTACH PCF-INTERIM 50.59 EVALUATION FORM.)

50.59 EVAL. REQUIRED? YES ☑ NO ☐ (If no, identify the reasons) NO. OF AMENDMENTS 0

A. NON CONFORMANCE:		B. PAPER CHANGE	☐	[signature] ENGINEER	3/16/94 DATE
USE-AS-IS	☐	C. REPLACE EQUIVALENT	☐	R.W. Brown SUPERVISOR	3/16/94 DATE
REPAIR	☐	D. BENEFICIAL CHANGE	☐	[signature] ENGINEER SUPV	3/16/94 DATE
REWORK	☑	E. INVALIDATE	☐		

ATTACHMENT

PCF 146934-B
PAGE 2 OF 3

March 16, 1994

BLOCK 4 DISPOSITION / TECHNICAL JUSTIFICATION

REWORK DISPOSITION:

This disposition shall supersede PCF's 146934-A & 212051-A in their entirety. The scope of this PCF is to cut and rotate valve N2MTFV7977. This subject valve was installed backwards (flow under the seat). Install the subject valve with the flow over the seat. If required, grind the flow arrow off the valve body using care not to infringe on the minimum wall thickness, and reinstall the flow arrow in the correct direction.

TECHNICAL JUSTIFICATION:

This disposition will enhance the operational characteristics of the valve. The valve is non-quality and non-safety and this disposition was discussed with B. Ratte' of PED. This does not impact or affect the FSAR or Technical Specifications associated with this system. This does not affect the ability of the component to perform its intended function, nor does it entail any experiments or tests not previously reviewed in the FSAR. This change does not reduce the margin to safety of this component nor will it require changes to Technical Specifications or the FSAR.

STP 0614 (07/02) SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION ATTACHMENT 0-3.200-2

10CFR50.59 SCREENING FORM (TYPICAL)

P. 3 of 3

PAGE 1 of 1

UNIT #1 ☐
UNIT #2 ☑
BOTH ☐

☐ PROCEDURE ☐ PLANT MODIFICATION ☐ ECNP ☐ DCN
☐ UFSAR ON ☑ OTHER PCF

ORIGINATING DOCUMENT NO.: PCF 146934-B REV. NO.: 0

DESCRIPTION OF CHANGE: REVERSE ORIENTATION OF THE VALVE TO MATCH THE REQUIREMENTS GIVEN BY THE VENDOR

REASON FOR CHANGE: LOSS OF MEGAWATTS TO THE CONDENSOR

PRELIMINARY SCREENING

	YES	NO
1. Does the proposed change represent a change to the Plant Technical Specifications?	☐	☑
2. If an Unreviewed Safety Question is known to be associated with the subject change, then further screening is not required: refer to IP-1.190.		

If "Yes" refer to IP-1.190. Further screening is not required.

Does the proposed change represent:

	YES	NO
3. A change to correct a typographical, editoral or drafting error?	☐	☑
4. A change which is identical to and addressed in its entirety by an existing approved 10CFR50.59 Screening/USQE?	☑	☐
5. A procedure change in which the format or text changed without changing actions or intent?	☐	☑
6. A spare or replacement part/component change with an equivalent part/component? (see Section 3.16 for a definition of equivalent)	☐	☑

If all answers to the above questions are "No" perform the final screening and mark N/A in the approval blocks below.

If the answer to any question (3) through (6) is "Yes" a final screening is not necessary. Sign approval blocks below and discard pages 2 thru 4.

Provide an explanation/justification and references if any of items (3) through (6) are answered "Yes".

PREVIOUSLY INITIATED BY PCF 308913-A

Prepared by: _____ Originator — Date: 3/16/04

Approved by: _____ Section Supervisor — Date: 3/18/04

ORIGINAL

Z2.31

146934A

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STP 322OA (05/92)
REV 0
OPGP03 ZA 0000

SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION

PLANT CHANGE FORM

PAGE 1 OF 2

146934A
PCF NUMBER

5C. AFFECTED DESIGN DOCUMENTS

DOCUMENT NUMBER	REV.	KEY?	DOCUMENT NUMBER	REV.	KEY?
2N49-00002 LV	D	N	9G369PMD845 SH A46	1	N
6G369PMD845 SH A47	2	N			
9G369PMD845 SHA59	4	N	STI-94-001511-1		
9G369PMD845 SH A57	3	N			
9G361PMD845 SHA45	0	N			

1. PROBLEM/CONDITION: VALVE REMOVED FROM SYSTEM & VALVE TO BE INSTALLED IN SYSTEM HAVE FLOW ARROWS IN DIRECT CONFLICT. REMOVED VALVE HAS FLOW ARROW UNDER VALVE SEAT - NEW VALVE & ABOVE DRAWING SHOW FLOW ON TOP OF DISC.

2. TAG/TPNS: N2MTFV7977 UNIT: 2 WK DOC: MT-2-146934

COMPONENT DESCRIPTION: CONVAL CLAMPSEAL GLOBE VALVE WITH ACTUATOR

PART DESCRIPTION: CLASS 900 FORGED ALLOY STEEL.

3. RECOMMENDED ACTION: NEED INFORMATION ON DIRECTION OF FLOW, UNDER DISC OR ON TOP OF DISC.
(NOTE: BOTH NEW & OLD VALVE IN MM WELD BOOTH IN SHOP)

INITIATED BY: Jim [signature] DATE: 5/5/93

4. PLANT CHANGE TYPE

NONCONFORMANCE (NCR) ✓ REPAIR EQUIVALENT CHANGE (REC) ____ BENEFICIAL CHANGE ____ (ATTACH ECONOMIC EVALUATION)

DEVELOPMENT AUTHORIZATION (FOR BENEFICIAL CHANGES ONLY)

N/A / ____ MAINTENANCE MANAGER DATE

N/A / ____ DESIGN ENGINEERING MANAGER DATE

5. DISPOSITION/TECHNICAL JUSTIFICATION: SEE PAGES 3 & 4

SUPERSEDED BY PCF 146934-B
[initials] 3-16-94

A. Q RELATED? YES ____ NO X

B. FOR NONCONFORMANCES, SELECT ONE: USE-AS-IS ✓ REPAIR ____ REWORK ____

C. IDENTIFY AFFECTED DRAWINGS/DESIGN DOCUMENTS IN BLOCK 5C ABOVE.

D. IS ZE-31 REQUIRED? YES ____ NO ✓ IF YES, INITIATE ZE-31 AND ATTACH COPY. (FORWARD ORIGINAL TO DESIGN CHANGE COORDINATOR). INDICATE ON ZE-31 WHETHER ZE-31 RETURN TO SERVICE IS REQUIRED.

E. [illegible]

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SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION

PLANT CHANGE FORM

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146934-A
PCF NUMBER

NOTE: PART B IS NOT REQUIRED FOR REWORK DISPOSITIONS NOR FOR BENEFICIAL CHANGES WHICH USE MODIFICATION PACKAGES.

B PCF SCREENING QUESTIONS (IF ANY ARE "YES", THE PCF CANNOT BE AUTHORIZED FOR IMPLEMENTATION AS A NONCONFORMANCE DISPOSITION OR REPAIR EQUIVALENT CHANGE UNDER 7A BELOW):

A. DOES THE SCOPE OF THIS CHANGE EXCEED THE LIMITATIONS FOR A REPAIR EQUIVALENT CHANGE AS DEFINED IN OPGP03-ZA-0103, ADDENDUM 5? YES ____ NO ✓

B. DOES THE CHANGE REPRESENT OR REQUIRE A CHANGE TO PLANT TECHNICAL SPECIFICATIONS? YES ____ NO ✓

QUESTIONS C, D, E, & F MAY BE OMITTED IF IP-3200-2 IS PREPARED AND ATTACHED, OR IF THE CHANGE IS IDENTICAL TO AND ADDRESSED IN ITS ENTIRETY BY AN EXISTING APPROVED 10CFR50.59 SCREENING/USQE (PROVIDE REF: N/A)

C. DOES THE PROPOSED CHANGE INVOLVE A CHANGE TO FACILITY AS DESCRIBED IN THE SAFETY ANALYSIS REPORT (SAR)? YES ____ NO ✓

D. DOES THE PROPOSED CHANGE INVOLVE A CHANGE TO THE PROCEDURES AS DESCRIBED IN THE SAR? YES ____ NO ✓

E. DOES THE CHANGE PROPOSE THE CONDUCT OF TESTS OR EXPERIMENTS NOT DESCRIBED IN THE SAR? YES ____ NO ✓

F. DOES THE PROPOSED CHANGE AFFECT CONDITIONS OR BASES ASSUMED IN THE SAFETY ANALYSIS REPORT OR SAFETY-RELATED FUNCTIONS OF EQUIPMENT/SYSTEMS, EVEN THOUGH THE PROPOSED CHANGE DOES NOT ENTAIL ANY PHYSICAL CHANGE IN EXISTING STRUCTURES, SYSTEMS, OR PROCEDURES AS DESCRIBED IN THE SAR? YES ____ NO ✓

7. IMPLEMENTATION APPROVAL: DESIGNATE APPROVAL CLASSIFICATION (CHECK ONE):

✓ A. THIS IS A NONCONFORMANCE DISPOSITION OR A REPAIR EQUIVALENT CHANGE APPROVED FOR IMPLEMENTATION AND RETURN TO SERVICE.

(PLANNERS - REFER TO ATTACHED ZE-31 FOR ANY SPECIAL POST-MODIFICATION TEST REQUIREMENTS, AND TO SEE IF ZE-31 RETURN TO SERVICE IS REQUIRED)

____ B. THIS IS A NONCONFORMANCE WHICH REQUIRES DETAILED ENGINEERING EVALUATION, AND IS NOT AUTHORIZED FOR IMPLEMENTATION.

(DISPOSITION AND ASSOCIATED APPROVALS WILL BE PROVIDED VIA PCF, PART II - ENTER "N/A" AND INITIAL/DATE THE BLOCK 7 SIGNATURE BELOW) (PART II OF PCF IS IN OPGP03-ZA-0103)

____ C. THIS IS A NONCONFORMANCE DISPOSITION OR A REPAIR EQUIVALENT CHANGE APPROVED FOR IMPLEMENTATION AT RISK.

IDENTIFY OPERABILITY RESTRAINTS _____

_____

____ D. THIS IS A BENEFICIAL CHANGE TO BE IMPLEMENTED WITHOUT A MODIFICATION PACKAGE.

(PCF PART II MUST BE COMPLETED AND ATTACHED ALONG WITH OTHER ATTACHMENTS REQUIRED PER PCF PART II. PART B OF PCF IS IN OPGP03-ZA-0103)

____ E. THIS IS A BENEFICIAL CHANGE TO BE IMPLEMENTED VIA MODIFICATION PACKAGE. (MODIFICATION PACKAGE NO _____)

(IMPLEMENTATION APPROVALS WILL BE AUTHORIZED VIA THE MODIFICATION PACKAGE AND NOT VIA THIS PCF - ENTER "N/A" AND INITIAL/DATE THE BLOCK 7 SIGNATURE BELOW).

TECHNICAL SUPPORT ENGINEER [illegible] DATE 5/6/93

(FOR APPROVAL CLASSIFICATIONS A & C, FORWARD COPY OF PCF AND SR TO ENGINEERING; ORIGINAL TO REMAIN WITH WORK PACKAGE. FOR APPROVAL CLASSIFICATIONS D, E, & F, FORWARD ORIGINAL PCF TO ENGINEERING WITH SR COPY)

NOTE: THE FOLLOWING STEP SHALL BE COMPLETED AT THE DIRECTION OF THE WORK SUPERVISOR AFTER WORK IMPLEMENTATION PRIOR TO RETURN OF WORK PACKAGE TO WORK START AUTHORITY.

8. IF DRAWINGS/DESIGN DOCUMENTS ARE AFFECTED (SEE BLOCK 5C), FORWARD COPY TO THE TSE FOR FORWARDING TO DOCUMENT CONTROL UPON COMPLETION OF THE WORK FOR ISSUANCE AS A DESIGN CHANGE DOCUMENT. ALSO PLACE A COPY IN PCF BOOK IN THE CONTROL ROOM OF THE AFFECTED UNIT(S).

5. DISPOSITION/TECHNICAL JUSTIFICATION

Valve N2MTFV7977 which was removed from the field because the seat is leaking, and the replacement valve taken from the warehouse for installation in the field, have flow directional arrows mismatched. The removed valve has flow arrow indicating that the flow comes under the valve seat. The new valve has flow arrow indicating that the flow goes over the valve seat. The vendor drawing, 8449-00002-DLV, indicates that the flow is over the valve seat. This valve is an air operated globe-wye type valve.

The valve functions to permit condensate drainage to the main condenser from downstream of the MSR control valve. It is designed to fail open on a loss of air. This valve does not serve safety function.

The valve was purchased in accordance with the control valve data sheet, which indicates that the valve requires the flow to close the valve (over the seat). Vendor drawing 4449/8449-00002 LV Rev. D shows that the flow direction arrow is over the valve seat. Vendor submittal "A" does not indicate a flow direction. Submittal "B" indicated a flow direction under the seat, but Bechtel comment, based on the data sheet, changes the flow to over the seat.

There are sixteen (16) valves installed in the plant which are identical to N2MTFV7977. All these valves are installed with the flow direction under the valve seat. The vendor drawing and the piping isometric drawings do not agree with the valves' installation orientation.

Per discussion with Paul Mosley of Conval Inc. (203-763-3551 ext.220), Mr. Mosley said that in most application of this type of valve, the pressure is under the seat when the valve is closed and the flow comes under the seat. He said that this valve can also be used with flow going over the seat, but such application requires careful consideration. According to Mr. Mosley the change performed on the reverse flow was per Bechtel request during construction time, however he cannot locate such request.

In the present installation orientation the down stream pressure is condenser vacuum (3.6 psia per data sheet). This orientation minimizes steam leak problem coming through the valve packing however air may leak to the main condenser through a weak valve packing.

The drawings show that the down stream pressure is main steam pressure which has a design pressure of 1285 psig. If these valves have to be re-oriented per the drawings, the valve packing will constantly be subjected to this high pressure and the air pressure to the actuator has to be re-analyzed to account for the pressure drop.

Per Ray Richardson of Mechanical Maintenance, one of these type of valve (N2MTFV7987) has been installed with the flow over the seat. This valve was replaced because the system pressure under the seat had caused the valve to open and allow steam to damage the seat.

Valve N2MTFV7977 was disassembled and inspected to determine what was been causing the valve to leak. The inspection found that there was no damage to the seat or disc. No other reasons for the leakage were found.

Review of the SR's issued for the Unit 2 identical valves, indicates that all of the valves leak by the seat and require repair.

DISPOSITION: USE-AS-IS

Install the replacement valve (N2MTFV7977) to the orientation where design flow direction is under the seat. This valve was originally designed to flow under the seat. The reversal of flow direction was not properly addressed.

All the affected drawings and data sheets have to be revised to agree with the as-built configuration.

The flow direction markings on all 1-1/2" Conval valves purchased under class bin 501-25075 have to be grounded and remarked to show the flow direction under the seat. (see Note 1)

Valve N2MTFV7987 has to be removed and re-oriented. (see Note 1)

DED to review the Instrument and Valve Data Sheets to confirm the specified closing air pressure for the valve operators is attained.

Note 1: The scope of this package shall be extended to include the two steps above.

WAN# 97 007083

PCF 146934H PAGE 5 of 6 PAGE 1 of 3

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STP 322CA (05/97)
REV 0
OPGP03-ZA-0090

PLANT CHANGE FORM

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146934A
PCF NUMBER

5C. AFFECTED DESIGN DOCUMENTS

DOCUMENT NUMBER	REV.	KEY?	DOCUMENT NUMBER	REV.	KEY?
8A449-00002 LV	D	N	9G369PMD 845 SH A46	✓	N
6G369PMD 845 SHA67	2	N			
9G369PMD 845 SHA57	4	N			
9G369PMD 845 SH A57	3	N			
9G361 PMD 845 SH A45	Ø	N			

WORKING COPY
ISSUE DATE 12-3-97 TIME 1000h
ISSUING DEPT. TSE
ISSUED BY R.M. Rivers

1. PROBLEM/CONDITION: VALVE REMOVED FROM SYSTEM & VALVE TO BE INSTALLED IN SYSTEM HAVE FLOW ARROWS IN DIRECT CONFLICT. REMOVED VALVE HAS FLOW ARROW UNDER VALVE SEAT - NEW VALVE & ABOVE DRAWING SHOW FLOW ON TOP OF DISC.

2. TAG/TPNS: N2 MTFV 7937 UNIT: 2 WK DOC: MT-2-146934

COMPONENT DESCRIPTION: CONVAL CLAMPSEAL GLOBE VALVE WITH ACTUATOR.

PART DESCRIPTION: CLASS 900 FORGED ALLOY STEEL.

3. RECOMMENDED ACTION: NEED INFORMATION ON DIRECTION OF FLOW, UNDER DISC OR ON TOP OF DISC.
(NOTE: BOTH NEW & OLD VALVE IN MM WELD BOOTH IN SHOP)

INITIATED BY: Jim [signature] DATE: 5/3/95

Superseded by Rev. B 12/2/97

4. PLANT CHANGE TYPE:

NONCONFORMANCE (NCR) ✓ REPAIR EQUIVALENT CHANGE (REC) ____ BENEFICIAL CHANGE ____ (ATTACH ECONOMIC EVALUATION)

DEVELOPMENT AUTHORIZATION (FOR BENEFICIAL CHANGES ONLY):

N/A ____ / ____ N/A ____ / ____
MAINTENANCE MANAGER DATE DESIGN ENGINEERING MANAGER DATE

5. DISPOSITION/TECHNICAL JUSTIFICATION: SEE PAGES 3 & 4

A. DUPLICATED? YES ____ NO X

B. FOR NONCONFORMANCES SELECT ONE: USE-AS-IS ✓ REPAIR ____ REWORK ____

C. IDENTIFY AFFECTED DRAWINGS/DESIGN DOCUMENTS IN BLOCK 5C ABOVE

D. IS ZE-31 REQUIRED? YES ____ NO ✓ IF YES, INITIATE ZE-31 AND ATTACH COPY. (FORWARD ORIGINAL TO DESIGN CHANGE COORDINATOR) INDICATE ON ZE-31 WHETHER ZE-31 RETURN TO SERVICE IS REQUIRED

E. ... REQUIRED? YES ____ NO ✓

PCF 146934A
PAGE 6 OF 6

RESPONSES TO SARGENT AND LUNDY COMMENTS

PACKAGE #014A

Part 1 of 1 part

PCF 146934A:

This is additional information that has been requested on the final disposition of this PCF.

The earlier response, PKG 014, Part 1 of 3, had a note in it stating that the PCF had been revised, yet no revision could be found.

A review of the documentation trail revealed that this PCF had been voided and superseded by PCF 212051A on 9/9/93.

This concern is therefore closed.

Responses approved : DK 12/3/93 (Init/Date)

Delivered to D&L Engr (closed): VCJ 12/3/93 (Init/Date)

146934A

ORIGINAL

Z2.3

STP 3276A (05/92)
REV 0
OPGP03-ZA-0090

SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION

PLANT CHANGE FORM

PAGE 1 OF 2

146934A
PCF NUMBER

CB3.31.94

5C AFFECTED DESIGN DOCUMENTS

DOCUMENT NUMBER	REV.	KEY?	DOCUMENT NUMBER	REV.	KEY?
8449-00002 LV	D	N	96367PMD875 SH A46	1	N
6G341PMD845 SH A47	2	N			
96369PMD845 SH A59	4	N	ST1-94-001511-1		
96369PMD845 SH A57	3	N			
96361PMD845 SH A45	0	N			

1. PROBLEM/CONDITION VALVE REMOVED FROM SYSTEM & VALVE TO BE INSTALLED IN SYSTEM HAVE FLOW ARROWS IN DIRECT CONFLICT. REMOVED VALVE HAS FLOW ARROW UNDER VALVE SEAT - NEW VALVE & ABOVE DRAWING SHOW FLOW ON TOP OF DISC.

2. TAG/TPNS N2MTFV7977 UNIT 2 WK DOC MT-2-146934

COMPONENT DESCRIPTION CONVAL CLAMPSEAL GLOBE VALVE WITH ACTUATOR

PART DESCRIPTION CLASS 900 FORGED ALLOY STEEL.

3. RECOMMENDED ACTION NEED INFORMATION ON DIRECTION OF FLOW, UNDER DISC OR ON TOP OF DISC.
(NOTE: BOTH NEW & OLD VALVE IN MM WELD BOOTH IN SHOP)

INITIATED BY Jim Sohn DATE 5/3/93

4. PLANT CHANGE TYPE

NONCONFORMANCE (NCR) ✓ REPAIR EQUIVALENT CHANGE (REQ) _____ BENEFICIAL CHANGE _____ (ATTACH ECONOMIC EVALUATION)

DEVELOPMENT AUTHORIZATION (FOR BENEFICIAL CHANGES ONLY)

N/A / _____ MAINTENANCE MANAGER DATE

N/A / _____ DESIGN ENGINEERING MANAGER DATE

5. DISPOSITION/TECHNICAL JUSTIFICATION SEE PAGES 3 & 4

SUPERSEDED BY PCF 146934-B
3-16-94

A. D-RELATED? YES ____ NO X

B. FOR NONCONFORMANCES, SELECT ONE USE-AS-IS ✓ REPAIR ____ REWORK ____

C. IDENTIFY AFFECTED DRAWINGS/DESIGN DOCUMENTS IN BLOCK 5C ABOVE

D. IS 2E-31 REQUIRED? YES ____ NO ✓ IF YES, INITIATE 2E-31 AND ATTACH COPY. (FORWARD ORIGINAL TO DESIGN CHANGE COORDINATOR) INDICATE ON 2E-31 WHETHER 2E-31 RETURN TO SERVICE IS REQUIRED

E. IRPS REQUIRED? YES ____ NO ✓

STP 3226B (05/92)
REV 0
OPGP03-ZA-0090

SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION

PLANT CHANGE FORM

PAGE 2 OF 2

146934-A (93.2.97)
PCF NUMBER

NOTE: PART B IS NOT REQUIRED FOR REWORK DISPOSITIONS NOR FOR BENEFICIAL CHANGES WHICH USE MODIFICATION PACKAGES.

6 PCF SCREENING QUESTIONS (IF ANY ARE "YES", THE PCF CANNOT BE AUTHORIZED FOR IMPLEMENTATION AS A NONCONFORMANCE DISPOSITION OR REPAIR EQUIVALENT CHANGE UNDER 7A BELOW):

A. DOES THE SCOPE OF THIS CHANGE EXCEED THE LIMITATIONS FOR A REPAIR EQUIVALENT CHANGE AS DEFINED IN OPGP03-ZA-0103, ADDENDUM 5? YES ____ NO ✓

B. DOES THE CHANGE REPRESENT OR REQUIRE A CHANGE TO PLANT TECHNICAL SPECIFICATIONS? YES ____ NO ✓

QUESTIONS C, D, E, & F MAY BE OMITTED IF 4P-3.200-2 IS PREPARED AND ATTACHED, OR IF THE CHANGE IS IDENTICAL TO AND ADDRESSED IN ITS ENTIRETY BY AN EXISTING APPROVED 10CFR50.59 SCREENING/USQE (PROVIDE REF: N/A)

C. DOES THE PROPOSED CHANGE INVOLVE A CHANGE TO FACILITY AS DESCRIBED IN THE SAFETY ANALYSIS REPORT (SAR)? YES ____ NO ✓

D. DOES THE PROPOSED CHANGE INVOLVE A CHANGE TO THE PROCEDURES AS DESCRIBED IN THE SAR? YES ____ NO ✓

E. DOES THE CHANGE PROPOSE THE CONDUCT OF TESTS OR EXPERIMENTS NOT DESCRIBED IN THE SAR? YES ____ NO ✓

F. DOES THE PROPOSED CHANGE AFFECT CONDITIONS OR BASES ASSUMED IN THE SAFETY ANALYSIS REPORT OR SAFETY-RELATED FUNCTIONS OF EQUIPMENT/SYSTEMS, EVEN THOUGH THE PROPOSED CHANGE DOES NOT ENTAIL ANY PHYSICAL CHANGE IN EXISTING STRUCTURES, SYSTEMS, OR PROCEDURES AS DESCRIBED IN THE SAR? YES ____ NO ✓

7. IMPLEMENTATION APPROVAL: DESIGNATE APPROVAL CLASSIFICATION (CHECK ONE):

✓ A. THIS IS A NONCONFORMANCE DISPOSITION OR A REPAIR EQUIVALENT CHANGE APPROVED FOR IMPLEMENTATION AND RETURN TO SERVICE.

(PLANNERS – REFER TO ATTACHED ZE-31 FOR ANY SPECIAL POST-MODIFICATION TEST REQUIREMENTS, AND TO SEE IF ZE-31 RETURN TO SERVICE IS REQUIRED)

____ B. THIS IS A NONCONFORMANCE WHICH REQUIRES DETAILED ENGINEERING EVALUATION, AND IS NOT AUTHORIZED FOR IMPLEMENTATION.

(DISPOSITION AND ASSOCIATED APPROVALS WILL BE PROVIDED VIA PCF, PART II – ENTER "N/A" AND INITIAL/DATE THE BLOCK 7 SIGNATURE BELOW) (PART II OF PCF IS IN OPGP03-ZA-0103)

____ C. THIS IS A NONCONFORMANCE DISPOSITION OR A REPAIR EQUIVALENT CHANGE APPROVED FOR IMPLEMENTATION AT [illegible]

IDENTIFY OPERABILITY RESTRAINTS _____

_____

____ D. THIS IS A BENEFICIAL CHANGE TO BE IMPLEMENTED WITHOUT A MODIFICATION PACKAGE.

(PCF PART II MUST BE COMPLETED AND ATTACHED ALONG WITH OTHER ATTACHMENTS REQUIRED PER PCF PART II. PART B OF PCF IS IN OPGP03-ZA-0103)

____ E. THIS IS A BENEFICIAL CHANGE TO BE IMPLEMENTED VIA MODIFICATION PACKAGE. (MODIFICATION PACKAGE NO _____)

(IMPLEMENTATION APPROVALS WILL BE AUTHORIZED VIA THE MODIFICATION PACKAGE AND NOT VIA THIS PCF – ENTER "N/A" AND INITIAL/DATE THE BLOCK 7 SIGNATURE BELOW)

TECHNICAL SUPPORT ENGINEER [signature] DATE 5/6/93

(FOR APPROVAL CLASSIFICATIONS A & C, FORWARD COPY OF PCF AND SR TO ENGINEERING; ORIGINAL TO REMAIN WITH WORK PACKAGE; FOR APPROVAL CLASSIFICATIONS D, E, & F, FORWARD ORIGINAL PCF TO ENGINEERING WITH SR COPY)

NOTE: THE FOLLOWING STEP SHALL BE COMPLETED AT THE DIRECTION OF THE WORK SUPERVISOR AFTER WORK IMPLEMENTATION PRIOR TO RETURN OF WORK PACKAGE TO WORK START AUTHORITY.

8 IF DRAWINGS/DESIGN DOCUMENTS ARE AFFECTED (SEE BLOCK 5C), FORWARD COPY TO THE TSE FOR FORWARDING TO DOCUMENT CONTROL UPON COMPLETION OF THE WORK FOR ISSUANCE AS A DESIGN CHANGE DOCUMENT. ALSO PLACE A COPY IN PCF BOOK IN THE CONTROL ROOM OF THE AFFECTED UNIT(S)

5. DISPOSITION/TECHNICAL JUSTIFICATION

Valve N2MTFV7977 which was removed from the field because the seat is leaking, and the replacement valve taken from the warehouse for installation in the field, have flow directional arrows mismatched. The removed valve has flow arrow indicating that the flow comes under the valve seat. The new valve has flow arrow indicating that the flow goes over the valve seat. The vendor drawing, 8449-00002-DLV, indicates that the flow is over the valve seat. This valve is an air operated globe-wye type valve.

The valve functions to permit condensate drainage to the main condenser from downstream of the MSR control valve. It is designed to fail open on a loss of air. This valve does not serve safety function.

The valve was purchased in accordance with the control valve data sheet, which indicates that the valve requires the flow to close the valve (over the seat). Vendor drawing 4449/8449-00002 LV Rev. D shows that the flow direction arrow is over the valve seat. Vendor submittal "A" does not indicate a flow direction. Submittal "B" indicated a flow direction under the seat, but Bechtel comment, based on the data sheet, changes the flow to over the seat.

There are sixteen (16) valves installed in the plant which are identical to N2MTFV7977. All these valves are installed with the flow direction under the valve seat. The vendor drawing and the piping isometric drawings do not agree with the valves' installation orientation.

Per discussion with Paul Mosley of Conval Inc. (203-763-3551 ext.220), Mr. Mosley said that in most application of this type of valve, the pressure is under the seat when the valve is closed and the flow comes under the seat. He said that this valve can also be used with flow going over the seat, but such application requires careful consideration. According to Mr. Mosley the change performed on the reverse flow was per Bechtel request during construction time, however he cannot locate such request.

In the present installation orientation the down stream pressure is condenser vacuum (3.6 psia per data sheet). This orientation minimizes steam leak problem coming through the valve packing however air may leak to the main condenser through a weak valve packing.

MATS 9400237-869

STP 486 (04/93) REV 3

SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION

OPGP03-ZX-0002

STATION PROBLEM REPORT

CAG | CATEGORY ☐1 ☐2 ☐3 ☒4 ☐5 ☐6 | SPR NO. 940252

PART 1: IDENTIFICATION OF CONCERN

A. UNIT # ☐ 1 ☐ COMMON ☒ 2 ☐ BOTH

INITIATED: NAME Michael Head DEPT Ebasco
POSITION Supervisor PHONE NO. 8972
DATE 2-2-94 TIME 1630

DISCOVERY: DATE 2-2-94 TIME 1430

EVENT: DATE 2-2-94 TIME 1430

IMMEDIATE SUPERVISOR: _____ DATE _____ TIME _____
SIGNATURE (NOT REQUIRED)

COMMENTS _____

B. PROBLEM DESCRIPTION While using the polar crane to support SR JC-212836 (repair rusted welds on the polar crane support beams) the orbital bridge angle iron, which supports the power cables from the buss bars, contacted a stationery buss bar support clip and broke the clip. The orbital bridge was connected to the polar crane when the event occurred. Approximate azimuth location - 185°. Contact may have occurred at other locations, also.

C. IMMEDIATE COMPENSATORY OR REMEDIAL ACTIONS TAKEN [ ] CONTINUATION SHEET ATTACHED

Contacted outage management.

CAG NOTE: SR 315406 INITIATED ~~DAH~~

D. IDENTIFICATION [ ] CONTINUATION SHEET ATTACHED

SYSTEM JC COMPONENT NAME Polar Crane

COMPONENT NO. 7C1Ø2NCP2ØIA BLDG RCB ROOM N/A

ORIGINATOR

INSTRUCTIONS FOR PART 1 COMPLETION

DESCRIBE YOUR CONCERN GIVING AS MUCH INFORMATION AS POSSIBLE.
FILL IN ALL APPLICABLE SECTIONS OR ATTACH DOCUMENTATION.
INDICATE WHAT, WHEN, WHO, WHY, WHERE, HOW. LIST ANY REFERENCES.

DESCRIBE ALL IMMEDIATE COMPENSATORY/REMEDIAL ACTIONS TAKEN

NOTE: IF POTENTIALLY REPORTABLE, OR IF ANY DOUBT EXISTS REGARDING REPORTABILITY, THEN DELIVER IMMEDIATELY TO THE SHIFT SUPERVISOR. OTHERWISE, DELIVER TO THE CAG ADMINISTRATOR.

SPR No. 940252

PART 2: REPORTABILITY

A.

	MODE	Rx Power	Rx Press	Rx Temp	Trip ?
UNIT 1	5	0	375	180°F	N/A
UNIT 2	Defueled	0	vented	Drained	N/A

ESF ACTUATION N/A INITIATING SIGNAL N/A

B. OPERABILITY/REPORTABILITY DETERMINATION

[ ] OPERABILITY REVIEW REQUIRED [ ] WITHIN 24 HOURS [ ] OTHER (See Comments)

[ ] REPORTABLE PER ______ (LAW/PERMIT/LICENSE) WITHIN ______ TIME:HOURS

[ ] REPORTABILITY REVIEW REQUIRED [✓] NOT REPORTABLE

COMMENTS ______

NOTIFICATIONS

DUTY PLANT MANAGER [✓] N/A PERSON CONTACTED ______ DATE/TIME ______ INITIALS ______

NRC RESIDENT INSP [✓] N/A PERSON CONTACTED ______ DATE/TIME ______ INITIALS ______

NRC OPS CENTER [✓] N/A PERSON CONTACTED ______ DATE/TIME ______ INITIALS ______

OTHER [✓] N/A PERSON CONTACTED ______ DATE/TIME ______ INITIALS ______

SHIFT SUPERVISOR H.M. Allgeyer DATE/TIME 2/3/94 0554

C. REPORTABILITY REVIEW

[ ] REPORTABLE PER ______ (LAW/PERMIT/LICENSE) WITHIN ______ TIME:HOURS [X] NOT REPORTABLE

LICENSING REPRESENTATIVE [signature] DATE 2/3/94

D. WRITTEN REPORT TO NRC TYPE ______ DUE DATE ______

SHIFT SUPERVISOR\LICENSING

PART 3: ACTION ASSIGNMENT

CAG RECIEVED DATE 2/3/94 TIME 0648

EVENT CODES EH2J ENIL

DEPARTMENT Maint. Support ACTION Investigation DUE 4-2-94

DEPARTMENT ______ ACTION ______ DUE ______

DEPARTMENT ______ ACTION ______ DUE ______

CAG

PART 4: ACTIONS TO BE COMPLETED

[Remedial/Compensatory (R) or corrective (C)]

PRIORITY ______ DUE DATE ______ APP. AUTHORITY ______ DATE ______

PRIORITY ______ DUE DATE ______ APP. AUTHORITY ______ DATE ______

CATE. 5 CLOSURE ______ APPROVAL AUTHORITY ______ DATE ______ QA/QC ______ DATE

CATE. 5/6 CLOSURE ______ CAG ______ DATE [ ] CONTINUATION SHEET ATTACHED

CAG/QA/QC/APPROVAL AUTHORITY

STP 486 (04/93)
REV 3

SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION

OPGP03-ZX-0002

STATION PROBLEM REPORT

CAG | CATEGORY ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 | SPR NO. ~~940273~~ 940252

Part 2

PART 1: IDENTIFICATION OF CONCERN

A. UNIT # ☐ 1 ☒ 2 ☐ COMMON ☐ BOTH

INITIATED: NAME James Byrd DEPT E/M

POSITION Electrician PHONE NO. X 8372

DATE 2-5-94 TIME 2300

DISCOVERY: DATE 2-5-94 TIME 1930

EVENT: DATE ____ TIME ____

IMMEDIATE SUPERVISOR: Keith Bowles DATE ____ TIME ____

SIGNATURE (NOT REQUIRED)

COMMENTS See attached REF PCF copy attached, Pictures attached Found problem under SR# JC 315406, copy attached

B. PROBLEM DESCRIPTION

Orbital Bridge wheels almost running off the support rail between 170° → 270°. The only thing stopping this is inside stop. when the wheels move to the outside rail position to an extreme it causes damage to collector arms and insulators. If this happens while moving load the crane is inoperative with load swinging, If the stop failed could cause personell injury and equipment damage.

C. IMMEDIATE COMPENSATORY OR REMEDIAL ACTIONS TAKEN [ ] CONTINUATION SHEET ATTACHED

Polar crane left in safe position and danger tagged for safety concerns.

D. IDENTIFICATION [ ] CONTINUATION SHEET ATTACHED

SYSTEM JC

COMPONENT NAME Containment Polar Crane

COMPONENT NO. JC102 NCP201A

BLDG RCB ROOM C501

ORIGINATOR

INSTRUCTIONS FOR PART 1 COMPLETION

DESCRIBE YOUR CONCERN GIVING AS MUCH INFORMATION AS POSSIBLE.
FILL IN ALL APPLICABLE SECTIONS OR ATTACH DOCUMENTATION.
INDICATE WHAT, WHEN, WHO, WHY, WHERE, HOW. LIST ANY REFERENCES.

DESCRIBE ALL IMMEDIATE COMPENSATORY/REMEDIAL ACTIONS TAKEN

NOTE: IF POTENTIALLY REPORTABLE, OR IF ANY DOUBT EXISTS REGARDING REPORTABILITY, THEN DELIVER IMMEDIATELY TO THE SHIFT SUPERVISOR. OTHERWISE, DELIVER TO THE CAG ADMINISTRATOR.

SPR No 940223

SHIFT SUPERVISOR\LICENSING

PART 2: REPORTABILITY

	MODE	Rx Power	Rx Press	Rx Temp	Trip ?
A. UNIT 1	5	NA	≥400 LBS	<200°F	NA
UNIT 2	Defueled	NA	NA	NA	NA

ESF ACTUATION NA INITIATING SIGNAL NA

B. OPERABILITY/REPORTABILITY DETERMINATION

[ ] OPERABILITY REVIEW REQUIRED [ ] WITHIN 24 HOURS [ ] OTHER (See Comments)

[ ] REPORTABLE PER _____ (LAW/PERMIT/LICENSE) WITHIN _____ (TIME: HOURS)

[ ] REPORTABILITY REVIEW REQUIRED [X] NOT REPORTABLE

COMMENTS Operability and Reportability Reviews Not Required

NOTIFICATIONS

DUTY PLANT MANAGER	[ ] N/A	PERSON CONTACTED _____	DATE/TIME _____	INITIALS _____
NRC RESIDENT INSP	[ ] N/A	PERSON CONTACTED _____	DATE/TIME _____	INITIALS _____
NRC OPS CENTER	[ ] N/A	PERSON CONTACTED _____	DATE/TIME _____	INITIALS _____
OTHER	[ ] N/A	PERSON CONTACTED _____	DATE/TIME _____	INITIALS _____

SHIFT SUPERVISOR WP Sowa DATE/TIME 2/5/94 @ 2330

C. REPORTABILITY REVIEW

[ ] REPORTABLE PER _____ (LAW/PERMIT/LICENSE) WITHIN _____ (TIME: HOURS) [X] NOT REPORTABLE

LICENSING REPRESENTATIVE Brian DATE 2/7/94

D. WRITTEN REPORT TO NRC TYPE _____ DUE DATE _____

CAG

PART 3: ACTION ASSIGNMENT

CAG RECIEVED DATE 2/7/94 TIME 0716

EVENT CODES EN222. ORBITAL BRIDGE CRA

DEPARTMENT _____ ACTION _____ DUE _____

DEPARTMENT _____ ACTION _____ DUE _____

DEPARTMENT _____ ACTION _____ DUE _____

CAG/QA/QC/APPROVAL AUTHORITY

PART 4: ACTIONS TO BE COMPLETED

[Remedial/Compensatory (R) or corrective (C)]

PRIORITY _____ DUE DATE _____ APP. AUTHORITY _____ DATE _____

PRIORITY _____ DUE DATE _____ APP. AUTHORITY _____ DATE _____

CATE. 5 CLOSURE _____ (APPROVAL AUTHORITY) _____ (DATE) _____ (QA/QC) _____ (DATE)

CATE. 5/6 CLOSURE _____ (CAG) _____ (DATE) [ ] CONTINUATION SHEET ATTACHED

I. Event Description:

At 1430 on February 2, 1994 while Ebasco was using the Unit 2 Polar Crane to repair rusted welds on the Polar Crane support beams (SR JC-212836), the orbital bridge angle iron which supports the power cables from the busbars contacted a stationary busbar support clip (power rail clip) and broke it. The Orbital Bridge was connected to the Polar Crane when the event occurred. The Polar Crane was at azimuth 185*. Service Request JC-315406 was initiated by Electrical Maintenance on February 3, 1994 to replace the broken power rail clip. This Station Problem Report, (SPR) 940252 was originated by Ebasco on February 2, 1994 to document the broken power rail clip and to identify that contact may also have occurred at other locations. It was observed that applying the brakes on the Polar Crane caused sudden stops and jarred the Polar Crane and Orbital Bridge.

At 1930 on February 5, 1994, while performing Service Request JC-315406, Electrical Maintenance discovered the following as-found conditions between azimuth 170* and 270*:

1. The orbital wheels were almost running off the rail, the only thing keeping them on track was the safety stops;

2) The cantilevered tube steel support for the collector arm was rubbing on the end of the flat bar supports, busbar insulators and jumper cables;

3) There was a broken power rail clip. Electrical Maintenance personnel successfully replaced the broken power rail clip at azimuth 245*. The Polar Crane (and Orbital Bridge) was left in a safe position and danger tagged for safety concerns. The electricians initiated Plant Change Form (PCF) 315406 to request Design Engineering to evaluate the as-found conditions. Station Problem Report 940273 was subsequently combined with SPR 940252.

On February 10, 1994, the System Engineer in conjunction with Design Engineering evaluated the operation of the Orbital Bridge and issued a Conditional Release Authorization to use the Polar Crane and Orbiter with the following restrictions:

- Use the polar crane and orbiter is allowed only when the polar crane pulls the orbiter for all major movements. Some allowance is provided for only minor adjustment (say less than 10') in the opposite direction.

II. Event Significance:

This event had no significant effect on the plant.

III. **Event Analysis:** (or Apparent Cause for Category 4 SPRs)

The apparent cause of this event was the Polar Crane brakes were not adjusted properly. Reference the disposition to Plant Change Form 315406-A.

V. **Generic Implication:** (Category 1-3 SPRs Only)

None

VI. **Corrective Actions:**

R1. Service Request JC-315706 successfully replace the broken power rail clip. This action was completed February 5, 1994.

R2. Plant Change Form 315706-a was initiated on February 5, 1994, to request Design Engineering to evaluate the abnormal tracking of the wheels of the Orbital Bridge and the interference with the Orbital Bridge bus supports.

R3. A Conditional Release authorization was issued by the System Engineer and Design Engineering on February 10, 1994, to operate the Orbital Bridge when being pulled by the Polar Crane. The restricted operation will continue in effect until final disposition of Plant Change Form 315406-A, subsequent corrective actions and release by Engineering to normal rotation.

R4. The System Engineer and Design Engineering observed the orbital bridge tracking/interferences on March 21, 1994, after the following inspections and adjustments were performed on the Orbital Bridge and Polar Crane:

- Inspection of the Orbital Bridge wheel bearings per SR 208942.
- Diagnostic evaluation on the operation of the Orbital Bridge brakes per SR 208942, and
- Adjustment of the Polar Crane brakes per SR 208943.

Completion of the above actions indicated:

- The Orbital Bridge wheel bearings were acceptable,
- The Orbital Bridge brakes were operating appropriately, and
- The Polar Crane brakes were operating properly after being adjusted.

VI. Corrective Actions: (continued)

C1. Revise 0PMP05-JC-0002, Polar Crane Inspection procedure, to include steps to properly adjust the Polar Crane brakes by May 15, 1994.

C2. Maintenance Support will provide a note in the remarks section of the MED stating that PCF 315406-A has a approved design change to modify the supports in the future if rubbing of the supports reoccurs. This will allow the planner to see that this engineering disposition is available if needed. This note will be added by June 15, 1994 to TPNS# 76102NCP201A and 7C101NCP201A.

T. E. Underwood ~~TE Und~~ Date 4/5/94

above signature for both actions C1 + C2, per G. Sandlin. [signature] 4/15/94

SPR ACTION COMPLETION VERIFICATION FORM

1. SPR#: 940252 Action Item # (If Known): C1
NRC Related [ ] Yes [x] No
Priority N/A

2. ACTION #(s) STATEMENT(s)

See Attached

3. THE ABOVE ACTION HAS BEEN VERIFIED COMPLETE BY:

		Attached*. Yes	No
a) Document(s)	# OPMP05-IC-0002	[]	[X]
	#	[]	[]
	#	[]	[]
	#	[]	[]
	#	[]	[]

b) Describe

Approved 05/13/94

4. DATE(s) COMPLETE: 05/13/94

AUTHORIZING SIGNATURE: [signature] 5/13/94 Date

* VERIFICATION DOCUMENTS SHALL BE PROVIDED FOR NRC RELATED ISSUES.

SPR ACTIONS FOR SPR 940252

Department:	#:	Due Date:	NRC Commitment:	Complete Date:
MAINTENANCE SUPPORT		04/02/94	no	04/04/94

SMITH, M.G.

CA Description:
INVESTIGATION

Department:	#:	Due Date:	NRC Commitment:	Complete Date:
MAINTENANCE SUPPORT	C 1	05/15/94	no	

KELLY, L.E.

CA Description:
REVIEW OPMP05-JC-0002, POLAR CRANE INSPECTION PROCEDURE, TO INCLUDE STEPS TO PROPERLY ADJUST THE POLAR CRANE BRAKES.

Department:	#:	Due Date:	NRC Commitment:	Complete Date:
MAINTENANCE SUPPORT	C 2	06/15/94	no	04/27/94

KELLY, L.E.

CA Description:
MAINTENANCE SUPPORT WILL PROVIDE A NOTE IN THE REMARKS SECTION OF THE MED STATING THAT PCF 315406-A HAS A APPROVED DESIGN CHANGE TO MODIFY THE SUPPORTS IN THE FUTURE IF RUBBING OF THE SUPPORTS REOCCURS. THIS WILL ALLOW THE PLANNER TO SEE THAT THIS ENGINEERING DISPOSITION IS AVAILABLE IF NEEDED. THIS NOTE WILL BE ADDED BY 6/15/94 TO TPNS #76102NCP201A AND 7C101NCP201A.

SPR ACTION COMPLETION VERIFICATION FORM

1. SPR#: 940252 Action Item # (If Known): C2
NRC Related [ ] Yes [X] No
Priority N/A

2. ACTION #(s) STATEMENT(s) _____

See Attached

3. THE ABOVE ACTION HAS BEEN VERIFIED COMPLETE BY:

		Attached*. Yes	No
a) Document(s) #	MED Printout	[ ]	[X]
#		[ ]	[ ]
#		[ ]	[ ]
#		[ ]	[ ]
#		[ ]	[ ]

b) Describe _____

4. DATE(s) COMPLETE: 04-27-94

AUTHORIZING SIGNATURE: _____ 4/29/94 Date

* VERIFICATION DOCUMENTS SHALL BE PROVIDED FOR NRC RELATED ISSUES.

(This report keys off the Department Internal Due Date)
OPEN SPR INVESTIGATIONS AND CORRECTIVE ACTIONS ASSIGNED TO KELLY, L.E.*
DUE FROM 01/01/94 TO 01/01/95

SPR 920394 | CA Number R 1A | Int Due Date 06/09/94 | NRC Commitment: no
Unit | Cat 4 | To CAG | Mode Restraint:

SPR Description:
OBERABILITY CONCERN RELATING TO ACOT BEING PERFORM DURING REFUELING.

Action Description:
WRITE PROCEDURE TO VERIFY TS. 4.3-1 FUNCTIONAL UNIT FOR P-13.

Comments:

CAG Due Date: 06/15/94
Responsible Mgr: WADDELL, W.T.

SPR 940252 | CA Number C 2 | Int Due Date 06/09/94 | NRC Commitment: no
Unit | Cat 4 | To CAG | Mode Restraint: no

SPR Description:
WHILE USING THE POLAR CRANE TO SUPPORT SR JC-212836 (REPAIR RUSTED WELDS ON THE POLAR CRANE SUPPORT BEAMS) THE ORBITAL BRIDGE ANGLE IRON, WHICH SUPPORTS THE POWER CABLES FROM THE BUSS BARS, CONTACTED A STATIONARY BUSS

Action Description:
MAINTENANCE SUPPORT WILL PROVIDE A NOTE IN THE REMARKS SECTION OF THE MED STATING THAT PCF 315406-A HAS A APPROVED DESIGN CHANGE TO MODIFY THE SUPPORTS IN THE FUTURE IF RUBBING OF THE SUPPORTS RE-OCCURS. THIS WILL ALLOW THE PLANNER TO SEE THAT THIS ENGINEERING DISPOSITION IS AVAILABLE IF

Comments:

CAG Due Date: 06/15/94
Responsible Mgr: WADDELL, W.T.

JPB

SPR 931013 | CA Number C 7 | Int Due Date 06/21/94 | NRC Commitment: no
Unit | Cat 3 | To CAG | Mode Restraint: no

SPR Description:
THE DC INPUT BREAKER CLOSED, THEN IMMEDIATELY TRIPPED OPEN. THE SUPPLY BREAKER FOR THIS INVERTER FROM 125VDC SWBD 1B ALSO TRIPPED OPEN.

Action Description:
INCORPORATE ADJUSTING THE NON-CLASS 1E INVERTER OUTPUT SHUTDOWN SETPOINTS PER THE TECHNICAL MANUAL IN PROCEDURE 0PMP05-VA-0003, INVERTER/RECTIFIER MAINTENANCE ELGAR MODEL UPS 253-1-112 AND ELGAR MODEL INV 253-1-105, WHENEVER CIRCUIT CARDS ARE REPLACED.

Comments: MATS 9302104-843

CAG Due Date: 06/24/94
Responsible Mgr: WADDELL, W.T.

SPR 932716 | CA Number C 1 | Int Due Date 06/24/94 | NRC Commitment: no
Unit | Cat 4 | To CAG | Mode Restraint: no

SPR Description:
DISCREPANCIES FOUND IN PROCEDURE 0PMP05-ZE-0044, CALIBRATION OF ITE-59G RELAYS.

Action Description:
REVISE PROCEDURE 0PMP05-ZE-0044 TO UPDATE INSTRUCTIONS FOR THE TEST EQUIPMENT CURRENTLY IN USE. REFERENCE MATS ITEM 9302401-869 AND 9202357-869.

Comments: MATS 9302401-843

CAG Due Date: 06/30/94
Responsible Mgr: WADDELL, W.T.

SPR SCREENING CRITERIA FOR START-UP ISSUES

SPR NUMBER 940252

YES	NO	CRITERIA
[ ]	[X]	Is the problem described in the SPR needed to comply with the STP Technical Specifications or other license commitments?
[ ]	[X]	Do the consequences of not correcting the problem affect the ability of a safety system to satisfy its design function?
[ ]	[X]	Do the consequences of not correcting the problem create or could create a condition that jeopardizes the safe or reliable operation of the Units?
[ ]	[X]	Do the consequences of not correcting the problem create or have the potential to create a condition that will or could affect the station's ability to effectively support unit operation or mitigate emergency situations?
[ ]	[X]	Does the problem described in the SPR impact the reliability of the system to perform its design function?
[ ]	[X]	Is the problem described in the SPR considered to be a mode restraint? (which mode - 1[ ], 2[ ], 3[ ], 4[ ], 5[ ])

If the answer to any of the above criteria is YES, the problem described in the SPR needs to be corrected prior to mode change or unit start-up, unless justification for deferral is provided.

COGNIZANT DEPT. ME Jim (Maintenance) OPERATIONS R. Redd

CAG DATABASE UPDATED D Williams DATE 2-3-94

STATION PROBLEM REPORT

SPR # 940252

REGARDING

Category 4
Priority _____

Unit 2 Orbital Bridge

APPROVALS

	ORIGINAL (Signature/Date)	REV 1 (Signature/Date)	REV 2 (Signature/Date)
PREPARER	4/18/94		
APPROVAL AUTHORITY	4/18/94		

REVIEW/APPROVAL

PORC
[✓]YES [ ]NO

	ORIGINAL (Signature/Date)	REV 1 (Signature/Date)	REV 2 (Signature/Date)
CAG	4/15/94		
QA (IF APPLICABLE)			
PORC (Mtg No./Date)			
PLANT MGR			

CLOSURE APPROVALS

	ORIGINAL (Signature/Date)	REV 1 (Signature/Date)	REV 2 (Signature/Date)
CAG ADMIN.	6/16/94		
QA (IF APPLICABLE)			

STI-94-006874-18

Cat 6 since problem already corrected at time of identification

223

STP 486 (08/92) SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION OPSP03-ZX-0002

STATION PROBLEM REPORT

CAG | CATEGORY ☐1 ☐2 ☐3 ☐4 ☐5 ☒6 | SPR NO. 920414

PART 1: IDENTIFICATION OF CONCERN

A. UNIT # ☐ 1 ☐ 2 ☐ COMMON ☒ BOTH

INITIATED: NAME GA McBurnett DEPT IPS
POSITION Mgr PHONE NO. 8530
DATE 9-16-92 TIME 1215

DISCOVERY: DATE 9-1-92* TIME 0800

IMMEDIATE SUPERVISOR CONCURRENCE: NAME ____
DATE ____ TIME ____

ORIGINATOR

B. PROBLEM DESCRIPTION

OPMP02-ZG-0003 Rev 6 sections 6.1.5 and 6.1.4.1 require the yearly inspection to be performed on the polar crane prior to use in each refueling. This has not been done in prior outages.

*This problem was originally identified on SPR 920414 on 9-1-92. Upon further review the problems had been corrected. This

[ ] CONTINUATION SHEET ATTACHED

C. IMMEDIATE COMPENSATORY OR REMEDIAL ACTIONS TAKEN

OPMP02-ZG-0003 Rev 8 section 6.1.5 corrects the procedure to have specific requirements determined by the designated inspector and polar crane maintenance to be performed at the end of the outage.

This revision is being applied to 1RE04 & Future outages.

STI-92-011025-3

[ ] CONTINUATION SHEET ATTACHED

D. IDENTIFICATION

SYSTEM ____ COMPONENT NAME RCB Polar Crane
COMPONENT NO. ____ BLDG RCB ROOM ____

A11g ~~A6H~~ A6g

INSTRUCTIONS FOR PART 1 COMPLETION

ORIGINATOR:

DESCRIBE YOUR CONCERN GIVING AS MUCH INFORMATION AS POSSIBLE. FILL IN ALL APPLICABLE SECTIONS OR ATTACH DOCUMENTATION. INDICATE WHAT, WHEN, WHO, WHY, WHERE, HOW. LIST ANY REFERENCES.

DESCRIBE ANY IMMEDIATE COMPENSATORY/REMEDIAL ACTIONS TAKEN IN ADDITION TO WRITING THE SPR.

IF A COMPONENT, SYSTEM, BUILDING, ETC., IS INVOLVED, THEN COMPLETE THE APPLICABLE PORTION OF PART I.

IF YOU HAVE ENOUGH INFORMATION TO IDENTIFY THE CAUSE AND REMEDIAL ACTION, THEN SO STATE.

OBTAIN IMMEDIATE SUPERVISORS CONCURRENCE IF POSSIBLE. IF NOT POSSIBLE OR IF ORIGINATOR DISAGREES WITH IMMEDIATE SUPERVISORS POSITION, DELIVER TO SHIFT SUPERVISOR OR CAG AS APPROPRIATE.

NOTE: IF POTENTIALLY REPORTABLE, OR IF ANY DOUBT EXISTS REGARDING REPORTABILITY, THEN HAND CARRY IMMEDIATELY TO THE SHIFT SUPERVISOR. OTHERWISE, DELIVER TO THE CAG ADMINISTRATOR.

IF ANY SECTION OR BLANK IS NOT COMPLETED, THEN RECORD N/A IN THE APPROPRIATE SECTION.

SHIFT SUPERVISOR\LICENSING

PART 2: REPORTABILITY

A. PLANT MODE: (CIRCLE ONE) 1 2 3 4 5 6 NO-MODE

Rx POWER _____ Rx TEMP _____ Rx PRESSURE _____ Rx TRIP YES [ ] NO [ ]

ESF ACTUATION _____ INITIATING SIGNAL _____

B. OPERABILITY

[ ] OPERABILITY REVIEW REQUIRED WITHIN 24 HOURS. [ ] JCO REQUIRED [ ] NA

SHIFT SUPERVISOR _____ DATE/TIME _____

C. REPORTABILITY DETERMINATION PER REPORTING MANUAL

[ ] REPORTABLE PER _____ WITHIN _____
LAW/PERMIT/LICENSE TIME: HOURS

NOTIFICATIONS (SS)

DUTY PLANT MANAGER [ ] N/A PERSON CONTACTED _____ DATE/TIME _____ INITIALS _____

NRC RESIDENT INSP [ ] N/A PERSON CONTACTED _____ DATE/TIME _____ INITIALS _____

NRC OPS CENTER [ ] N/A PERSON CONTACTED _____ DATE/TIME _____ INITIALS _____

OTHER [ ] N/A PERSON CONTACTED _____ DATE/TIME _____ INITIALS _____

[ ] ADDITIONAL REPORTABILITY EVALUATION REQUIRED

[ ] NOT REPORTABLE

SHIFT SUPERVISOR _____ DATE/TIME _____

D. FINAL REPORTABILITY REVIEW

[ ] REPORTABLE PER _____ WITHIN _____
LAW/PERMIT/LICENSE TIME: HOURS

[ ] NOT REPORTABLE

LICENSING REPRESENTATIVE _____ DATE _____

[ ] CONTINUATION SHEET ATTACHED

E. WRITTEN REPORT

TYPE _____ DUE DATE _____

F. NUCLEAR NETWORK REQUIRED [ ] YES [ ] NO

CAG

PART 3: ACTION ASSIGNMENT

ACTION ORGANIZATION(S)

DEPARTMENT _____ ACTION _____ DUE _____

DEPARTMENT _____ ACTION _____ DUE _____

DEPARTMENT _____ ACTION _____ DUE _____

[ ] CONTINUATION SHEET ATTACHED

INVESTIGATOR

PART 6: REMEDIAL/COMPENSATORY/CORRECTIVE ACTIONS

A. REMEDIAL/COMPENSATORY ACTION COMPLETED (BEYOND PART 1.C)

B. CORRECTIVE ACTIONS [ ] CONTINUATION SHEET ATTACHED

C1 _____

_____ DUE DATE _____ RESP. MANAGER _____ DATE _____

C2 _____

_____ DUE DATE _____ RESP. MANAGER _____ DATE _____

C3 _____

_____ DUE DATE _____ RESP. MANAGER _____ DATE _____

[ ] CONTINUATION SHEET ATTACHED

SIGNOFFS

PART 7: APPROVALS/CONCURRENCE

A. INVESTIGATOR _____ DATE _____ INVESTIGATING MGR _____ DATE _____

B. CAG (IF REQ'D) _____ DATE _____

C. PORC (IF REQ'D) MTG No. _____

D. PLANT MANAGER (IF REQ'D) _____ DATE _____

E. QA (IF REQ'D) _____ DATE _____

CAG/QA

PART 8: CLOSEOUT

A. CLOSEOUT SUMMARY

Remedial actions appropriate
Recategorized as Cat 6

[ ] CONTINUATION SHEET ATTACHED

CLOSURE AUTHORITY G Boerner DATE 10/1/92

QA OR CAG

STP 486 (12/91) SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION IP-1.45Q-02(R8)

STATION PROBLEM REPORT

SEVERITY LEVEL ☐ 1 ☒ 2 ☐ 3 (SC) SPR NO. 920414

ORIGINATOR

1. UNIT # ☐ 1 ☐ COMMON ☐ 2 ☒ BOTH

INITIATED: NAME Ron Thompson DEPT IPS/OMP
DATE 9/1/92 TIME 17:30

DISCOVERY: DATE 9/1/92 TIME 08:00

2. PROBLEM DESCRIPTION AND IMMEDIATE ACTIONS TAKEN: Refueling outage RCB polar Crane preventive maintenance inspections for units 1 and 2 were apparently not performed as ~~per~~ RAT 9/1/92 required by procedure OPMP02-ZG-0003 rev 6, Pages 3&5, sections 6.1.4.1 & 2 and section, (6.1.5). Cranes classified as not in regular use per ASME/ANSI B30.2 requirements yearly preventive maintenance inspections are required to be performed prior to the crane being placed into service to support maintenance activities, (ie, using the manbasket for the Equipment hatch PM's, davit installation etc.), as identified in the above referanced rev. 6 OPMP02-ZG-0003 Procedure for daily inspection and maintenance for cranes, hoists, monorail systems and lifting devices.

Activities were planned, scheduled and performed that conflict with section 6.1.4.1 that states, Yearly inspections and lubrication shall be performed in accordance with preventive maintenance & lube requirements for the specific crane, hoist or lifting device, (Attachment 1 & 2). *NOTE: the above referanced procedure conflicts have been resolved by the revision and approval of OPGP02-ZG-0003 rev. 8 which allows the daily inspection to be used to verify operability [illegible]

SHIFT SUPERVISOR

3. (RCVNG) UNIT: 1 MODE 1 RX PWR(%) 86
RCS PRESS 2235 RCS TEMP 589
ACTIVITY Coastdown

3A. (OTHER) UNIT: 2 MODE 1 RX PWR(%) 100
RCS PRESS 2235 RCS TEMP 593
ACTIVITY Power Ops

4. NOTIFICATION DETERMINATION:
☒ NOT REQUIRED
☐ NEED FURTHER INFO/REVIEW
☐ NRC CALLED ______ (DATE/TIME)
☐ OTHER (PL. MGR., E-PLAN, ETC)

TECH. SPEC. ACTIONS ______
JCO (IP-1.58Q) NEEDED? Y (N) (CIRCLE ONE)
COMMENTS: ______

SS SIG.: [signature] DATE 9-2-92 TIME 1150

SPR COORDINATOR

5. ASSIGNMENT:
REPORTABILITY REVIEW ASSIGNED TO: ______ DUE: ______
INVESTIGATION ASSIGNED TO: MANAGER, MNT DUE: 10/5/92
COMMENTS: ______
SPR COORD.: [signature] DATE: 9/3/92

6. NRC REPORTABLE?
☒ NO
☐ YES TYPE/NO. ______

NUCLEAR NETWORK NEEDED? ☐ YES ☒ NO
☐ RPT TO OTHERS (TWC, ETC.) ______ DUE: ______
DUE: ______

SPR COORD: [signature] DATE: 9/3/92

Record

6.1.2 Daily Inspection

6.1.2.1 Daily inspection is required prior to crane use only if the requirements have not been met within the previous 24 hour period.

6.1.2.2 Daily inspection shall be performed using the Crane/Hoist/Monorail Inspection Checklist Data Sheet Form (-1).

Record

6.1.3 Monthly Inspection

6.1.3.1 The monthly inspection requirements identified in this procedure shall be performed prior to crane operation only if the requirements have not been met within the previous four week period.

6.1.3.2 Monthly inspection, shall be performed using the Crane/Hoist/Monorail Inspection Checklist Data Sheet Form (-1) in conjunction with the requirements identified below.

6.1.3.3 As applicable, the following shall be inspected for unsatisfactory conditions and damage, with inspection results recorded in the "Comments" section of Form (-1).

a) Hoist chains, if applicable, including end connections, for wear, twist, distorted links interfering with proper function, or stretch beyond acceptance criteria as specified in Subsection 6.5.

b) Lubrication levels

c) Rope reeving for noncompliance with crane manufacturer's recommendations.

Record

6.1.4 Yearly Inspection

6.1.4.1 Yearly inspection and lubrication shall be performed in accordance with the Preventive Maintenance and Lubrication Programs required for the specific crane, hoist or lifting device.

6.1.4.2 Yearly inspections shall be performed in accordance with the Preventive Maintenance Program, if applicable.

1) Worn, cracked or distorted parts, such as pins, bearings, shafts, gears, wheels, rollers, locking, clamping devices, bumpers, switch baffles, interlock bolts and stops, as applicable.

m) Brake system parts, linings, pawls and ratchets for wear.

n) Drive sprockets for wear and stretch of chain.

o) Electrical apparatus such as controllers, master switches, contacts, limit switches and pushbutton stations, for signs of any deterioration.

p) Wire rope (refer to subsection 6.2).

q) Wear of drive tires, for monorails and underhung cranes.

r) Wear or deformation of lower load carrying flange of all track sections in the system, both straight and curved, for monorail and underhung cranes.

6.1.5 Cranes Not in Regular Use

6.1.5.1 Standby cranes shall be inspected prior to each refueling in accordance with Preventive Maintenance Program requirements.

6.2 Wire Rope (Other than slings) Inspection and Replacement

6.2.1 Inspection

NOTE

Sections of rope which are normally not visible i.e., sections that pass over sheaves should be examined carefully.

6.2.1.1 Any deterioration resulting in appreciable loss of original strength, such as described below, shall be noted and determination made as to whether further use of the rope would constitute a hazard.

p) Wire rope (refer to subsection 6.2).

q) Wear of drive tires, for monorails and underhung cranes.

r) Wear or deformation of lower load carrying flange of all track sections in the system, both straight and curved, for monorail and underhung cranes.

6.1.5 Cranes not in regular use

6.1.5.1 Preventive maintenance requirements shall be determined by the designated inspector.

6.1.5.2 Standby cranes shall be inspected, prior to being placed into service, in accordance with this procedure.

6.1.5.3 RCB located standby cranes preventive maintenance shall be performed prior to entering MODE 4, (plant heat up) at the completion of outage.

6.2 Wire Rope (other than slings) inspection and replacement

6.2.1 Inspection

NOTE

Sections of rope which are normally not visible i.e., sections that pass over sheaves should be examined carefully.

6.2.1.1 All wire rope which has been idle for a month or more due to shutdown or storage of a crane on which it is installed, shall be inspected for proper lubrication and deterioration by a qualified inspector, prior to crane being placed into service. This inspection shall be performed on all of the wire rope that is visible and accessible to the inspector.

HL&P 1008A (6-91)

Houston Lighting & Power Company

OFFICE MEMORANDUM

To G.L. Parkey

Maint. 92-9-0653

From J.D. Sharpe

Subject SPR 92-0414 Reassignment for Investigation

Reference: (a) IP-1.45Q (Station Problem Reporting), Sect. 6.

Per reference (a), the subject SPR is forwarded to you for investigative action. Preliminary review has determined that this is an IPS Department scheduling issue. The procedure identified in this SPR had previously been revised adding the necessary steps.

If you require additional information regarding this subject, please contact L.B. Taylor at extension 7070.

Concur: _____
M.A. McBurnett

JLB/cg

Attachment: (1) SPR 92-0414

c: D.L. Musick
L.B. Taylor
K.D. Richards
C.A. Ayala
P.G. Billingham
SPR 92-0414 File

TECHSUP-JLB/RESIGN.INV

SPR APPROVAL CLOSURE FORM

STATION PROBLEM REPORT
REGARDING

SPR # 94-0621
Category 5
Priority _____

UNIT 1 STEAM GENERATOR
TUBE INSPECTION DATA
WITH INCORRECT IDENTIFICATION

APPROVALS

	ORIGINAL (Signature/Date)	REV 1 (Signature/Date)	REV 2 (Signature/Date)
PREPARER	Jim Hanning 5-10-94		
Approval Authority	MPoey 5-10-94		

REVIEW/APPROVAL

PORC [ ] YES [ ] NO	ORIGINAL (Signature/Date)	REV 1 (Signature/Date)	REV 2 (Signature/Date)
CAG	5/11/94		
QA (IF APPLICABLE)			
PORC (Mtg No./Date)			
PLANT MGR			

STI-94-011002-01

CLOSURE APPROVALS

	ORIGINAL (Signature/Date)	REV 1 (Signature/Date)	REV 2 (Signature/Date)
CAG ADMIN.	5/11/94		
QA (IF APPLICABLE)			

Eng Prog (Cobey)

STP 406 (04/93)
REV 3

SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION

OPCP03-ZX-0002

STATION PROBLEM REPORT

CAG | CATEGORY ☐1 ☐2 ☐3 ☐4 ☒5 ☐6 | SPR NO. 940621

ORIGINATOR

PART 1: IDENTIFICATION OF CONCERN

A. UNIT ☒ 1 ☐ 2 ☐ COMMON ☐ BOTH

INITIATED: NAME Jim Haning DEPT Eng Programs
POSITION Staff Eng PHONE NO. 8983
DATE 3-9-94 TIME 11 00

DISCOVERY: DATE 3-3-94 TIME UNKNOWN
EVENT: DATE SEPT-OCT 1993 TIME UNKNOWN

IMMEDIATE SUPERVISOR J. Turnage DATE 3/9/94 TIME 11:30 AM
SIGNATURE (NOT REQUIRED)

COMMENTS It should be noted that since the examinations were not required by Tech. Spec., so, in our opinion, the problem is not a operability or reportability issue.

B. PROBLEM DESCRIPTION

During a reanalysis of Unit 1 Summer 1993 Eddy Current data in 1994 by the vendor (B&W NT), B&W NT identified that the identifing number on the data for 5 tube examinations was suspected to be incorrect.

The vendor informed HL&P 3-7-94.

C. IMMEDIATE COMPENSATORY OR REMEDIAL ACTIONS TAKEN [ ] CONTINUATION SHEET ATTACHED

The vendor has performed an initial evaluation (See attached memo)

HL&P reviewed past data for these tubes and found no indication of degradation which would have prompted monitoring in 1993. None of the 5 examinations detected degradation.

D. IDENTIFICATION [ ] CONTINUATION SHEET ATTACHED

SYSTEM SG COMPONENT NAME Steam Generator Tubes

COMPONENT NO. 1R12NSG101A,B,C,D BLDG RCB ROOM 201

INSTRUCTIONS FOR PART 1 COMPLETION

DESCRIBE YOUR CONCERN GIVING AS MUCH INFORMATION AS POSSIBLE.
FILL IN ALL APPLICABLE SECTIONS OR ATTACH DOCUMENTATION.
INDICATE WHAT, WHEN, WHO, WHY, WHERE, HOW. LIST ANY REFERENCES.

DESCRIBE ALL IMMEDIATE COMPENSATORY/REMEDIAL ACTIONS TAKEN

NOTE: IF POTENTIALLY REPORTABLE, OR IF ANY DOUBT EXISTS REGARDING REPORTABILITY, THEN DELIVER IMMEDIATELY TO THE SHIFT SUPERVISOR. OTHERWISE, DELIVER TO THE CAG ADMINISTRATOR.

SPR No 940621

SHIFT SUPERVISOR\LICENSING

PART 2: REPORTABILITY

	MODE	Rx Power	Rx Press	Rx Temp	Trip ?
A. UNIT 1	5	0	0	90	No
UNIT 2	Defueled				

ESF ACTUATION No INITIATING SIGNAL Man

B. OPERABILITY/REPORTABILITY DETERMINATION

[ ] OPERABILITY REVIEW REQUIRED [ ] WITHIN 24 HOURS [ ] OTHER (See Comments)

[ ] REPORTABLE PER _____ (LAW/PERMIT/LICENSE) WITHIN _____ (TIME: HOURS)

[ ] REPORTABILITY REVIEW REQUIRED [X] NOT REPORTABLE

COMMENTS _____

NOTIFICATIONS

DUTY PLANT MANAGER	[-] N/A	PERSON CONTACTED _____	DATE/TIME _____	INITIALS _____
NRC RESIDENT INSP	[-] N/A	PERSON CONTACTED _____	DATE/TIME _____	INITIALS _____
NRC OPS CENTER	[ ] N/A	PERSON CONTACTED _____	DATE/TIME _____	INITIALS _____
OTHER	[ ] N/A	PERSON CONTACTED _____	DATE/TIME _____	INITIALS _____
SHIFT SUPERVISOR			DATE/TIME 3/9/94	1305

C. REPORTABILITY REVIEW

[ ] REPORTABLE PER _____ (LAW/PERMIT/LICENSE) WITHIN _____ (TIME: HOURS) [X] NOT REPORTABLE

LICENSING REPRESENTATIVE _____ DATE 3/10/94

D. WRITTEN REPORT TO NRC TYPE _____ DUE DATE _____

CAG

PART 3: ACTION ASSIGNMENT

CAG RECIEVED DATE 3/10/94 TIME 0707

EVENT CODES EHIC ELSW EN2R

DEPARTMENT Eng. Programs ACTION Action DUE _____

DEPARTMENT _____ ACTION _____ DUE _____

DEPARTMENT _____ ACTION _____ DUE _____

CAQ/QA/QC/APPROVAL AUTHORITY

PART 4: ACTIONS TO BE COMPLETED

[Remedial/Compensatory (R) or corrective (C)]

SEE ATTACHED

PRIORITY _____ DUE DATE _____ APP. AUTHORITY _____ DATE _____

PRIORITY _____ DUE DATE _____ APP. AUTHORITY _____ DATE _____

CATE 5 CLOSURE _____ (APPROVAL AUTHORITY) _____ (DATE) _____ (QA/QC) _____ (DATE)

CATE 5/6 CLOSURE _____ (CAG) _____ (DATE) [ ] CONTINUATION SHEET ATTACHED

BW BABCOCK & WILCOX NUCLEAR SERVICE COMPANY

TO:	TA RICHARDS, MANAGER NDE TECHNOLOGY		
FROM:	RJ HIMMELSPACH, DATA ANLAYSIS GROUP	FILE:	CHRON
SUBJ:	STP UNIT 1, 09/93 OUTAGE - TUBE MISENCODES	DATE:	03/03/94

Following are details on tubes that had encodes changed in the data base for the STP Unit 1, 09/93 Outage without a message. These tubes have been verified to be different from the tube number originally encoded.

S/G "A" - OK - No encode changes without messages.

S/G "B" - Tube 08-94 on Cal 61 was encoded on the cal as 11-102, but was changed by Secondary and kept by Resolution. Primary analysis kept the tube number as 11-102. The T-list shows that the tubes were acquired in descending-row order, and 08-94 would be the correct next tube, not 11-102. This tube was changed to 08-94 on the profile data base also. No message.

S/G "C" - Tube 5-76 was encoded as 999-999 with no message on the Cal 83. On the previous Cal 81 the tubes were run in descending row order and the last tube was 6-76. The next entry on Cal 83 after the "999-999" tube is 4-76. This would make the 999-999 tube encode as 5-76. No message.

Tube 22-73 on Cal 81 was encoded as 21-73. The T-list shows that the tubes were acquired in increasing-row order, which would make this tube 22-73. No message.

Tube 35-78 on Cal 83 was encoded as 36-78. This cal was run in descending-row order. Primary and Secondary changed the encode to 35-78 in their reports. No message.

Tube 46-75 on Cal 67 was encoded as 45-75. This cal was run in increasing-row order, which would make the tube 46-75. No message.

S/G "D" - OK - No encode changes without a message.

STP 466 (04/93)
REV 3

SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION

OPGP03-ZX-0002

STATION PROBLEM REPORT

CAG | CATEGORY ☐1 ☐2 ☐3 ☐4 ☒5 ☐6 | SPR NO ~~940622~~ 940621 Part 2

PART 1: IDENTIFICATION OF CONCERN

A. UNIT ☒ 1 ~~☒ COMMON~~ JH 3-9-94 ☐ 2 ☐ BOTH

INITIATED: NAME JIM HANING DEPT ENG PROGRAMS

POSITION STAFF ENG PHONE NO. 8983

DATE 3-9-94 TIME 0800

DISCOVERY: DATE 3-3-94 TIME UNKNOWN

EVENT: DATE SEPT - OCT 1993 TIME UNKNOWN

IMMEDIATE SUPERVISOR: [signature] SIGNATURE (NOT REQUIRED) DATE 3/9/94 TIME 11:30 AM

COMMENTS IT SHOULD BE NOTED THAT SINCE THE EXAMINATIONS WERE NOT REQUIRED BY TECH SPEC, SO, IN OUR OPINION, THE PROBLEM IS NOT A OPERABILITY OR REPORTABILITY ISSUE.

B. PROBLEM DESCRIPTION

DURING A REANALYSIS IN 1994 OF UNIT 1 STEAM GENERATOR TUBE EDDY CURRENT DATA, THE VENDOR (BWNT) DISCOVERED THAT 14 TUBES IN STEAM GENERATOR D HAD NOT BEEN EXAMINED IN THE SUMMER OF 1993 BY THE BOBBIN COIL TECHNIQUE JH 3-9-94. THE TECHNICAL SPEC. DID NOT REQUIRE THAT THESE TUBES BE EXAMINED. HOWEVER, THEY WERE IN THE VENDOR'S SCOPE. THE NRC WAS TOLD THAT ALL TUBES WERE EXAMINED (AS A MATTER OF INFORMATION).

THE VENDOR INFORMED HL&P ON 3-7-94.

C. IMMEDIATE COMPENSATORY OR REMEDIAL ACTIONS TAKEN [ ] CONTINUATION SHEET ATTACHED

THE VENDOR HAS PERFORMED AN INITIAL INVESTIGATION (SEE ATTACHED MEMO)

HL&P REVIEWED PAST DATA FOR THESE TUBES AND FOUND NO INDICATION OF DEGRADATION WHICH WOULD HAVE PROMPTED MONITORING IN 1993. THE 14 EXAMINATIONS IN 1993 DETECTED NO PLUGGABLE CONDITION.

D. IDENTIFICATION [ ] CONTINUATION SHEET ATTACHED

SYSTEM SG

COMPONENT NAME STEAM GENERATOR TUBES

COMPONENT NO. 1R121NSG101D

BLDG RCB ROOM 201

ORIGINATOR

INSTRUCTIONS FOR PART 1 COMPLETION

DESCRIBE YOUR CONCERN GIVING AS MUCH INFORMATION AS POSSIBLE.
FILL IN ALL APPLICABLE SECTIONS OR ATTACH DOCUMENTATION.
INDICATE WHAT, WHEN, WHO, WHY, WHERE, HOW. LIST ANY REFERENCES.

DESCRIBE ALL IMMEDIATE COMPENSATORY/REMEDIAL ACTIONS TAKEN

NOTE: IF POTENTIALLY REPORTABLE, OR IF ANY DOUBT EXISTS REGARDING REPORTABILITY, THEN DELIVER IMMEDIATELY TO THE SHIFT SUPERVISOR. OTHERWISE, DELIVER TO THE CAG ADMINISTRATOR.

SPR No 9410622

SHIFT SUPERVISOR\LICENSING

PART 2: REPORTABILITY

	MODE	Rx Power	Rx Press	Rx Temp	Trip ?
A. UNIT 1	5 Ref'd	0	0	90	NO
UNIT 2					

ESF ACTUATION No INITIATING SIGNAL N/A

B. OPERABILITY/REPORTABILITY DETERMINATION

[ ] OPERABILITY REVIEW REQUIRED [ ] WITHIN 24 HOURS [ ] OTHER (See Comments)

[ ] REPORTABLE PER _____ (LAW/PERMIT/LICENSE) WITHIN _____ (TIME: HOURS)

[ ] REPORTABILITY REVIEW REQUIRED [X] NOT REPORTABLE

COMMENTS _____

NOTIFICATIONS

DUTY PLANT MANAGER	[✓] N/A	PERSON CONTACTED _____	DATE/TIME _____	INITIALS _____
NRC RESIDENT INSP	[✓] N/A	PERSON CONTACTED _____	DATE/TIME _____	INITIALS _____
NRC OPS CENTER	[✓] N/A	PERSON CONTACTED _____	DATE/TIME _____	INITIALS _____
OTHER	[✓] N/A	PERSON CONTACTED _____	DATE/TIME _____	INITIALS _____

SHIFT SUPERVISOR _____ DATE/TIME 3/9/94 1305

C. REPORTABILITY REVIEW

[ ] REPORTABLE PER _____ (LAW/PERMIT/LICENSE) WITHIN _____ (TIME: HOURS) [X] NOT REPORTABLE

LICENSING REPRESENTATIVE _____ DATE 3/10/94

D. WRITTEN REPORT TO NRC TYPE _____ DUE DATE _____

CAG

PART 3: ACTION ASSIGNMENT

CAG RECIEVED DATE 3/10/94 TIME 0709

EVENT CODES EHIC EL3N EN2I

DEPARTMENT Eng. Programs ACTION _____ DUE _____

DEPARTMENT _____ ACTION _____ DUE _____

DEPARTMENT _____ ACTION _____ DUE _____

CAG/OA/OC/APPROVAL AUTHORITY

PART 4: ACTIONS TO BE COMPLETED

[Remedial/Compensatory (R) or corrective (C)]

SEE ATTACHED

PRIORITY _____ DUE DATE _____ APP. AUTHORITY _____ DATE _____

PRIORITY _____ DUE DATE _____ APP. AUTHORITY _____ DATE _____

CATE 5 CLOSURE _____ (APPROVAL AUTHORITY) _____ (DATE) _____ (OA/OC) _____ (DATE)

CATE 5/6 CLOSURE _____ (CAG) _____ (DATE) [ ] CONTINUATION SHEET ATTACHED

BWNS BABCOCK & WILCOX NUCLEAR SERVICE COMPANY

TO:	TA RICHARDS, MANAGER - NDE TECHNOLOGY		
FROM:	RJ HIMMELSPACH - DATA ANALYSIS GROUP	FILE:	CHRON
SUBJ:	STP UNIT 1 - 09/93 OUTAGE S/G "D" MISSED TUBES	DATE:	03/03/94

In S/G "D" there are 14 tubes on Cal 12 that were not examined during the fall 1993 bobbin inspection. It appears that, at the start of Cal 12, the Roger operator was off by one column of tubes, starting with tube 26-17. Acquisition order was by increasing rows and when they got to 40-17 they started acquiring by decreasing rows in column 18. They started at 41-18 and continued in decreasing-row order. The last tube in the cal group was 23-18. Tubes 40-17 and 40-18 are the same tube, and 39-17 and 39-18 are also the same tube, as verified by comparison of the tubesheet profiles. This matching sequence continued through tubes 26-17 and 26-18.

In the previous Cal 10 the last three tubes (23-17, 24-17 and 25-17) did not match the last three tubes on Cal 12 (23-18, 24-18 and 25-18). This shows that in Cal 10 the tubes were indeed acquired from column 17, and that in Cal 12 tube encoded as column 17 were not actually from that column.

The thirty tubes involved were then tube-searched in the data base to see if any had been examined on another cal group. Two tubes (40-17 and 40-18) had been run in Cal 227. Comparing the tubesheet profile of tube 40-18 on Cals 12 and 227 verified the two tubes are the same tube. Comparing the tubesheet profile of 40-17 on Cals 12 and 227 verified that these two tubes are not the same tube.

Based on the above comparisons it is concluded that tubes acquired in column 18 on Cal 12 are the correct tubes, and the tubes encoded as column 17 were really column 18 and; therefore, the corresponding tubes in column 17 were not examined. These tube are:

26-17	33-17
27-17	34-17
28-17	35-17
29-17	36-17
30-17	37-17
31-17	38-17
32-17	39-17

SPR SCREENING CRITERIA FOR START-UP ISSUES

SPR NUMBER 940622

YES	NO	CRITERIA
[ ]	[X]	Is the problem described in the SPR needed to comply with the STP Technical Specifications or other license commitments?
[ ]	[X]	Do the consequences of not correcting the problem affect the ability of a safety system to satisfy its design function?
[ ]	[X]	Do the consequences of not correcting the problem create or could create a condition that jeopardizes the safe or reliable operation of the Units?
[ ]	[X]	Do the consequences of not correcting the problem create or have the potential to create a condition that will or could affect the station's ability to effectively support unit operation or mitigate emergency situations?
[ ]	[X]	Does the problem described in the SPR impact the reliability of the system to perform its design function?
[ ]	[X]	Is the problem described in the SPR considered to be a mode restraint? (which mode - 1[ ], 2[ ], 3[ ], 4[ ], 5[ ])

If the answer to any of the above criteria is YES, the problem described in the SPR needs to be corrected prior to mode change or unit start-up, unless justification for deferral is provided.

COGNIZANT DEPT. [signature] OPERATIONS [signature]

CAG DATABASE UPDATED Brenda Williams DATE 3-10-94

PART 1: IDENTIFICATION OF CONCERN
B. PROBLEM DESCRIPTION (CONT'D)

Between September 14 and October 6, 1993, B&W Nuclear Technologies (BWNT) performed eddy current testing (ET) of STPEGS Unit 1 steam generator tubing. Between January and March 1994, BWNT reprocessed the previously recorded ET data in order to identify anomalous tube roll expansions in the tubesheet region. Identification of such anomalies was not within the scope of the surveillance conducted in 1993. During the reprocessing, BWNT discovered the following problems regarding the condition of the previously recorded data.

Problem 1

An analysts noticed that the tube inner diameter profile that he was reviewing was identical to one he had reviewed shortly before. However, when he investigated, he discovered that the identification recorded on the data indicated that the tubes were different. The analyst discovered that tube numbers 26-18 through 40-18 (along the same column) were tested but identified on the data as 26-17 through 40-17. Later the correct tube 40-17 was retested. Thus, fourteen (14) tubes were planned to be tested but were not tested.

The BWNT procedure which the technician was using, ISI-424 Revision 20, requires position verification periodically. Position verification is not defined in the procedure. However, it is typically performed by moving the probe to a recognizable tube location and confirming that the correct tube number appears on the probe manipulator (Roger) control console. These position verifications were performed. So, the Roger controller was probably displaying the correct tube number during the time the incorrect tube numbers were recorded on the data.

The hardware configuration which was used has the Roger controller software on a HP9836 computer and the ET data acquisition software on a different computer. The two computers may be linked via a cable so that the tube location as determined by the Roger controller software is automatically transferred to the data acquisition software and entered on the data. A software timing problem caused the Roger controller/data acquisition system to "lock up" occasionally when using the connecting cable. So, BWNT decided not to use the cable at STPEGS. Therefore it was necessary for the technician to obtain the tube number from the Roger console and type it on the acquisition console.

Ideally, this system is operated by two (2) technicians. It is possible that, at the time of the event, the work station was being operated by one (1) technician.

Based on the facts available, it appears that the problem was caused by random human error. It is likely that the human error was caused by or made worse by the repetition of the task.

Verifying position by moving the manipulator to known locations will detect a malfunction of Roger. However, it will not work for detecting whether the tube number is correctly read and entered into the data acquisition computer. On the surface, it would seem that periodically verifying the location of the actual tube just tested (as opposed to a remote tube of known location) would be effective. This concept may discover a string of fourteen (14) tubes with data entry errors. However, it has the following significant limitations:

(1) It is common to test a large number of tubes, none of which are a readily recognizable landmark.

(2) Counting the tubes to the nearest landmark is time consuming and also subject to human error.

(3) Periodic verification will not reliably detect a single event (e.g. making a single error and then performing correctly).

The error could have been detected and prevented simply by careful reference to the list of tubes to be examined or the Roger console. The risk of this type of mistake can be eliminated by removing the manual data entry step.

Problem 2

While the data was being reprocessed to identify roll profiles, the results for each tube were entered into the BWNT "TUBAN2" data base. At the conclusion of the ET data reprocessing, the results were reviewed to assure that everything was in order. Tuban 2 indicated that profiles had not been acquired for a small number of tubes. On investigation it was found that the ET data for some tubes was encoded with the wrong tube number. Whenever a technician acquiring data discovers an error of this type he is supposed to generate a message on the data indicating the correct tube number. Initially all of the STPEGS Unit 1 bobbin coil data from the Summer 1993 inspection was reviewed to identify tubes examined out of sequence. Five (5) tubes with incorrect tube numbers and no clarifying

message were identified in Unit 1. Later, the 2RE03 ET data was reviewed. One (1) similar encoding error was discovered in Unit 2.

The root cause of the problem is inattention by the operator in encoding the tube numbers.

C. IMMEDIATE COMPENSATORY OR REMEDIAL ACTIONS TAKEN (CONT'D)

The problems identified in SPR 940621 regard services which were performed under the jurisdiction of the BWNT Quality Assurance program. Letter No. ST-HS-2U-12 entitled "Response to Site Problem Reports on the Condition of Optical Disks Containing Eddy Current Data" was prepared and transmitted to BWNT on March 15, 1994. This letter transmitted the SPR 940621 to BWNT. It also requested that actions be taken to address these problems in accordance with their Quality Assurance program requirements. BWNT transmitted with the attached letter entitled "Station Problem Reports 940515 and 940621" on April 27, 1994 three (3) BWNT Non-conformance Reports (NCR's) Nos. 94-00185, 94-00186, and 94-00187. Each of these NCR's contain BWNT-approved dispositions. The following additional compensatory or remedial actions were immediately taken:

Problem 1

The BWNT analyst reported the scope of the problem in the attached memorandum entitled "STP Unit 1 - 09/93 Outage S/G "D" Missed Tubes" dated March 3, 1994.

It was determined that there is a record of the position verification performed immediately prior to testing tube 26-17 (actually tube 26-18). It was determined that there is also a record of position verification performed seven (7) tubes after testing tube 40-17 (actually tube 40-18). This indicates that the Roger controller was probably displaying the correct tube number during the time the incorrect tube numbers were recorded on the data.

The scope of bobbin coil ET during the Summer 1993 Unit 1 and 2 was intended to include all tubes. Therefore, the bulk of ET data was recorded sequentially up and down the rows or columns. Errors in encoding of the tube number in the ET data will be evident sometimes when the sequence of encoded tube numbers is abruptly disrupted. That is, a tube number is repeated or skipped in the logical progression. In response to Problem 1 and 2 of this SPR, BWNT reviewed the order of all tubes tested by the bobbin coil method in Unit 1 and 2 to attempt to identify any other encoding errors. BWNT compared tube profiles of the data discovered out of sequence to data taken in the same tubes on other

occasions to verify their identity. Otherwise there is no way to determine whether this error occurred elsewhere.

HL&P determined that the fourteen (14) tubes which were not tested were not required by the STPEGS Technical Specifications to be tested. HL&P determined that none of the fourteen (14) tubes which were tested twice contained a condition which required repair. So, no plug was installed in an incorrect location.

Problem 2

The BWNT analyst reported the scope of the problem in the attached memorandum entitled "STP Unit 1, 09/93 Outage - Tubes Misencodes" dated March 3, 1994. BWNT reviewed the Unit 1 Summer 1993 and 2RE03 bobbin coil data and identified six (6) tubes where the test sequences were disrupted and there were no error messages recorded. BWNT compared tube profiles of the data in question to data taken in the same tubes on other occasions to verify their identity. BWNT concluded that the correct tubes were tested but the data was encoded incorrectly. The five (5) Unit 1 cases were previously discovered by the data analyst in 1993. It was verified that the analysis results stored in the TUBAN2 data base for Unit 1 are correct. However, the case for 2RE03 Steam Generator A tube 22-86 was apparently not noted previously. It was determined that the TUBAN2 entry for this tube with index number 66 is incorrect.

HL&P determined that none of the six (6) tubes contained a condition which required repair. So, no plug was installed in an incorrect location.

In the process of conducting the review of 2RE03 data the working copy of Steam Generator B Optical Disc 5 Side A and Steam Generator D Optical Disc 7 Side A could not be read by the analysis software. They were corrected by BWNT by copying the original discs to the working copy.

PART 4: ACTIONS TO BE COMPLETED (CONT'D)

C1. BWNT committed in the disposition to their NCR No. 94-00187 that the Roger Operating Instruction will be corrected by July 31, 1994 to require the use of the cable linking the Roger and ET data acquisition computers. Mr J. L. Haning in HL&P Engineering Programs will verify that the Roger Operating Instruction has been corrected by AUGUST 15, 1994 M. Pacy
(M. Pacy)

C2. BWNT committed in the disposition to their NCR Nos. 94-00186 and 94-00187 that Mr. T. A. Richards, BWNT NDE Technology Manager, will issue a memorandum by May 1, 1994 to all BWNT

(and vendors in the future) certified ET personnel emphasizing the importance of encoding correct tube numbers. Mr. J. L. Haning in HL&P Engineering Programs will verify that the memorandum has been issued by MAY 20, 1994 M Pacy (M. Pacy)

C3. BWNT will correct the STPEGS files in their "TUBAN2" data base management system for the 15 Unit 1 tubes addressed in Problem 1 and for Steam Generator A tube 22-86 from the 2RE03 outage addressed in Problem 2. They will transmit an update of the TUBAN2 files to STPEGS by June 15, 1994 along with uploading instructions. Mr. J. L. Haning in HL&P Engineering Programs will load the updated Tuban2 files into the STPEGS Tuban2 data base by JULY 1, 1994 M Pacy (M. Pacy)

After the completion of the Summer 1993 Unit 1 inspection, BWNT developed a Roger controller and ET data acquisition console design which places both functions on the same computer. This configuration possesses the automatic encoding feature and requires no connecting cable. The new system is designed for one person operation.

B&W NUCLEAR TECHNOLOGIES
Special Products & Integrated Services

155 Mill Ridge Road
Lynchburg, VA 24502-4341
Telephone: 804-832-3700
Telecopy 804 832-0622

April 27, 1994
SGBM-94-3361

Mr. J. Haning
Houston Lighting & Power Company
South Texas Project
P.O. Box 289
Wadsworth, TX 77483

Subject: Station Problem Reports 940515 and 940621

Reference: (1) HL&P Letter No. ST-HS-2U-12 dated March 15, 1994

(2) BWNT Letter No. SGBM-94-3351

Dear Jim:

Enclosed for your review and concurrence are three B&W Nuclear Technologies (BWNT) Non-conformance Reports (NCR) which address the two Houston Lighting & Power Company Station Problem Reports (SPR) that are identified as the subject of this letter. The Specifically these NCR's are:

(1) NCR No. 94-00185 which addresses SPR No. 940515
(2) NCR No. 94-00186 which addresses SPR No. 940621
(3) NCR No. 94-00187 which addresses SPR No. 940621

These NCR's address the root cause of the non-conformances and corrective actions that will be taken by BWNT to minimize the chance of such problems recurring in the future.

After you have completed your review of the NCR's please sign and date each NCR as identified in Section of the NCR and return the original to BWNT. If you have any questions or comments on the attached, please contact me at (804) 832 3464.

Very truly yours,

Dennis W. Renner

Dennis W. Renner
Manager, Marketing
Steam Generator Services

dwr165

ATTACHMENT

B&W Nuclear Service Company
Nonconformance Report

NCR # 94-00185

(Typical Form) QCIR # ______

1. Purchase Order # ST-400999 (HLAP) Contract # 1011113 Supplier BWNT/SPES
   Customer HL&P Site STP Unit 1
   Item Name ______ BWNS Tech. Doc. # Drawing # ______ Part # ______ Serial # ______
   Process Traveler/Procedure # ______ Sequence/Step # ______
2. Item Classification: ☒ Safety-Related ☐ Non-Safety-Related ☐ ASME Code
3. Description of NonConformance: Raw data missing from optical disk
4. Originator RJ Hummelbrauch Date 4/5/94 Time 18:45
5. Cause of NCR: ☒ Personnel ☐ Material ☒ Procedure ☐ Design ☒ Equipment ☐ Other ______
   Explain: See 1, 2, and 3 of attached response.
6. Disposition of NCR: ☒ Use As Is ☐ Repair/Reinspect ☐ Replace
   Basis: See item 4 of attached response.
   Approval Required: ☐ ANI ☒ Customer
7. Preventative Action: See item 5 of attached response.
   Comments: ______
8. Applicable to Other Contracts ☐ No ☒ Yes Resolution: Included in item 5 of attached response.

Distribution		NCR Disposition Approval
NCR Log	Division QA Manager	Cognizant Engineer [signature]
Cognizant Engineer	Purchasing	Reviewer RE Nyman
Project Engineer	Document Control	Unit Manager [signature]
Project Manager	NCR Originator	*Project Manager [signature]
BWNS Section Manager	VP&GM (Close Out Only)	*If customer approval is required

9. Customer Review (if required) ______ Date ______
   ANI Review (if required) ______ Date ______
   Disposition Completed: BWNS ______ Date ______

RESPONSE TO BWNT NCR #94-00185

1. WHEN DISCOVERED: This nonconformance was discovered in February 1994 during the South Texas Project MRPC wave analysis of data from the September 1993 outage.

2. DESCRIPTION OF NONCONFORMANCE: On optical disk #1STP12A, the raw data for 696 tubes is missing from side A for Unit #1 MRPC hotleg examinations during the September 1993 outage. This is contrary to the usual data management practice for administering and storing eddy current data during an outage. The primary, secondary, and resolution results, however, are present on both sides of this optical disk showing that no tubes were missed. The raw data is present on side B, but is missing only from side A.

   The nonconformance is that there are no requirements in ISI-69, Revision 18, for the administration and storing of the eddy current data during an outage.

   The following is a brief explanation of the data flow between data acquisition and data analysis during the South Texas Project work. Acquisition personnel acquired the data and recorded it on an optical disk. The acquisition software program also copied the raw data from the optical disk to a hard drive on the data analysis server via a fiber optic cable. After both sides A and B of the acquisition optical disk reached the maximum raw data limit, the disk was hand carried to the data analysts.

   The data on the analysis server hard drive was then analyzed and the results temporarily stored to a results directory on the analysis server hard drive. After the analysis and resolutions were completed, the acquisition optical disk was mounted on the analysis server and checked to see that all of the raw data is intact. The results were then copied from the analysis hard drive to the acquisition optical disk. Finally, the raw data was erased from the analysis server hard drive to make room for more raw data. The acquisition optical disks then became working copies and are now typically used for changing the resolution results and subsequent analyses, such as the tubesheet profilometry project.

3. NONCONFORMANCE VIOLATES: The root cause is an inadvertent erasure of the raw data during the writing or correction of the results on the optical disk. This violates a requirement of the customer's Purchase Order, but not any present requirement of BWNT Administrative Procedures or the QA Program.

RESPONSE TO BWNT NCR #94-00185
(CONTINUED)

4. CORRECTIVE ACTION: The primary, secondary, and resolution results are present on both sides of this optical disk showing that no tubes were missed. No further corrective action is required.

5. PREVENTIVE ACTION: By July 31, 1994, a new BWNT Administrative Procedure will be prepared and approved describing the requirements for administration and storing of data by data management personnel, including making a duplicate of the acquisition optical disk when first received at analysis.

(302-NCR94185)

ATTACHMENT 1

B&W Nuclear Service Company
Nonconformance Report

NCR # 94-00186

(Typical Form) QCIR #

1. Purchase Order # HL&P SI-400999 Contract # 1012113 Supplier BWNT/SPES
Customer HL&P Site STP Unit 1 & 2
Item Name RCT Analysis BWNS Tech. Doc. # Drawing # Part # Serial #
Process Traveler/Procedure # Sequence/Step #
2. Item Classification: ☒ Safety-Related ☐ Non-Safety-Related ☐ ASME Code
3. Description of Nonconformance: Analyst changed encode on tubes which should have been RXG'd.
4. Originator E J HUDDLESTON Date 4/5/94 Time 13:45
5. Cause of NCR: ☒ Personnel ☐ Material ☐ Procedure ☐ Design ☐ Equipment ☐ Other
Explain: See items 1, 2, and 3 of attached response
6. Disposition of NCR: ☒ Use As Is ☐ Repair/Reinspect ☐ Replace
Basis: See item 4 of attached response.
Approval Required: ☐ ANI ☒ Customer
7. Preventative Action: See item 5 of attached response.
Comments:
8. Applicable to Other Contracts ☐ No ☒ Yes Resolution: Included in item 5 of attached response.

Distribution

NCR Log
Cognizant Engineer
Project Engineer
Project Manager
BWNS Section Manager
Division QA Manager
Purchasing
Document Control
NCR Originator
VP&GM (Close Out Only)

NCR Disposition Approval

Cognizant Engineer
Reviewer
Unit Manager
*Project Manager
*If customer approval is required

9. Customer Review (if required) Date
ANI Review (if required) Date
Disposition Completed: BWNS Date

RESPONSE TO BWNT NCR #94-00186

1. WHEN DISCOVERED: This nonconformance was discovered in February 1994 during the South Texas Project bobbin tubesheet profile analysis of data from the September 1993 outage.

2. DESCRIPTION OF NONCONFORMANCE: Six (6) errors were made in the encoding of tube numbers during data acquisition in Units #1 and 2 during the September 1993 outage. By Unit, Steam Generator, and tube number, the tubes were:

Unit	Steam Generator	Correct Tube No.	Encoded Tube No.
1	B	8-94	11-102
1	C	5-76	999-999
1	C	22-73	21-73
1	C	35-78	36-78
1	C	46-75	45-75
2	A	22-87	22-86

The actual tube numbers have been verified to be different from the encoded tube numbers. For Unit #1, this was done during the outage at the site by the data analysts, based on the order in which the tubes were run. During the tubesheet profile analysis in February, 1994, baseline and other pre-1993 data were compared to the 1993 profile data, and confirmed the tube identifications assigned to the data by the analysts. For Unit #2, on Cal 84, two tubes were encoded as 22-86. The first (Index #65) is 22-86; the second (Index #66) is 22-87. Tube 22-87 was verified in February, 1994, to have been rerun on Cal 92 during the outage. This was also verified against baseline data. The data for tube 22-86, however, is entered in the final report under the wrong Index number.

3. NONCONFORMANCE VIOLATES: The root cause is inattention by the operator in encoding the tube number. In each case, however, the acquisition operator did not correct his encoding error with a message, as required by ISI-424, Revision 20, Paragraph 9.4 --- "Corrections to any tube identity shall be made using the message function following the completion of the tube run."

4. CORRECTIVE ACTION: During the eddy current data analysis at the site, the reported tube numbers were corrected based on the increasing or decreasing row order in which data was taken. Subsequent comparison of tubesheet profile data from the 1993 data with baseline or pre-1993 data shows clearly that the tubes as renumbered are correct and were examined. The Tuban II database must be annotated to show that the correct run of tube 22-86 is Index #65, not #66. No other corrective action is required.

RESPONSE TO BWNT NCR #94-00186
(CONTINUED)

5. PREVENTIVE ACTION: TA Richards, NDE Technology Manager, will issue a memorandum by May 1, 1994, to all BWNT (and vendors in the future) certified eddy current personnel emphasizing the importance of encoding correct tube numbers and the requirement in Paragraph 9.4 of ISI-424, Revision 20.

(302-NCR94186)

ATTACHMENT 1

B&W Nuclear Service Company
Nonconformance Report

NCR # 94-00187

(Typical Form) QCIR #

1. Purchase Order # WLBP SY-400997 Contract # 1016113 Supplier B&W/SPES
   Customer WLBP Site STP Unit 1
   Item Name ____ BWNS Tech. Doc. # Drawing # ____ Part # ____ Serial # ____
   Process Traveler/Procedure # ____ Sequence/Step # ____
2. Item Classification: ☒ Safety-Related ☐ Non-Safety-Related ☐ ASME Code
3. Description of Nonconformance: 14 tubes were not run due to excessive
4. Originator R.J. HIMMELSBACH Date 4/5/94 Time 13:45
5. Cause of NCR: ☒ Personnel ☐ Procedure ☐ Equipment ☐ Material ☐ Design ☐ Other ____
   Explain: See items 1, 2, and 3 in attached response.
6. Disposition of NCR: ☐ Use As Is ☐ Repair/Reinspect ☐ Replace N/A
   Basis: See item 4 of attached response.
   Approval Required: ☐ ANI ☒ Customer
7. Preventative Action: See item 5 of attached response.
   Comments:
8. Applicable to Other Contracts ☐ No ☒ Yes Resolution: Included in item 5 of attached response.

Distribution

NCR Log	Division QA Manager
Cognizant Engineer	Purchasing
Project Engineer	Document Control
Project Manager	NCR Originator
BWNS Section Manager	VP&GM (Close Out Only)

NCR Disposition Approval

Cognizant Engineer [signature]
Reviewer [signature]
Unit Manager [signature]
*Project Manager [signature]
*If customer approval is required

9. Customer Review (if required) ____ Date ____
   ANI Review (if required) ____ Date ____
   Disposition Completed: BWNS ____ Date ____

RESPONSE TO BWNT NCR #94-00187

1. WHEN DISCOVERED: This nonconformance was discovered in February 1994 during the South Texas Project bobbin tubesheet profile analysis of data from the September 1993 outage.

2. DESCRIPTION OF NONCONFORMANCE: Fourteen (14) tubes in Unit #1 Steam Generator D were not examined by bobbin coil during the September 1993 outage, as a result of an error by the ROGER (manipulator) operator. These tubes are:

26-17	33-17
27-17	34-17
28-17	35-17
29-17	36-17
30-17	37-17
31-17	38-17
32-17	39-17

The tube numbers examined in place of those listed above have been verified by tubesheet profiles to be tubes 26-18 through 39-18. When the ROGER operator repeated tubes 26-18 through 39-18, he did not recognize his previous error in encoding 26-17 through 39-17. As a result, the missed tubes listed above were not run, despite the appearance to the contrary at data management.

The following is a brief description of the sequence of events. At the start of Cal 12, the Roger operator was off by one column number, starting with tube 26-18 which was encoded as 26-17. Acquisition was performed in increasing-row order until the operator reached tube 40-18 which was encoded as 40-17. At this point the ROGER operator discovered the error and changed to acquiring data in decreasing-row order in column 18 starting with tube 41-18. The last tube in the Cal 12 was 23-18. Comparison of the tubesheet profiles for tubes 26-17 through 40-17 with 26-18 through 40-18 verifies that they are the same tubes. In addition, a tube search revealed that tubes 40-17 and 40-18 were also run on Cal 227. Comparison of the tubesheet profiles of tube 40-18 on Cals 12 and 227 verified that both were the same tube. Comparison of the tubesheet profiles of tube 40-17 on Cals 12 and 227 verified that these were not the same tube.

3. NONCONFORMANCE VIOLATES: The root cause is the failure of the ROGER operator to detect his error in encoding the tube identities. This is a violation of the Tube Inspection Plan.

RESPONSE TO BWNT NCR #94-00187
(CONTINUED)

4. CORRECTIVE ACTION: Correct the ROGER Operating Instruction to require the Roger and acquisition computers to be connected by the RS-232 9-pin to 25-pin cable. This will automatically make the Roger and acquisition computers show the same row/column identification for a given tube. This change will be made by July 31, 1994. NOTE: The ROGER software and Zetec acquisition both now run on the same computer/operating system. In this case, the tube number encoded by acquisition is the same as the ROGER location.

5. PREVENTIVE ACTION: TA Richards, NDE Technology Manager, will issue a memorandum by May 1, 1994, to all BWNT (and vendors in the future) certified eddy current personnel emphasizing the importance of encoding correct tube numbers.

(302-NCR94187)

SPR ACTION COMPLETION VERIFICATION FORM

1. SPR#: 94-0621 Action Item # (If Known): C1

2. ACTION #(s) STATEMENT(s) C1. VERIFY THAT ROGER OPERATING INSTRUCTION HAS BEEN CORRECTED.

3. THE ABOVE ACTION HAS BEEN VERIFIED COMPLETE BY:

		Attached* Yes	No
a) Document(s) #	U69279A Rev 14 DCN 94-957	[X]	[ ]
#		[ ]	[ ]
#		[ ]	[ ]
#		[ ]	[ ]
#		[ ]	[ ]

b) Describe BWNT DCN CHANGING "ROGER OPERATING INSTRUCTION SDLC COMPUTER SYSTEM

4. DATE(s) COMPLETE: AUG 15, 1994

5. AUTHORIZING SIGNATURE:

The undersigned have verified that the above action(s) have been completed as described. This complete form is subject to QA Audit and SHALL be filed with the SPR file.

JH 8-15-94 _____ / 8/15/94
Department Manager (Required) Date

* VERIFICATION DOCUMENTS SHALL BE PROVIDED FOR NRC RELATED ISSUES

AUG 15 1994

PAGE 1 of 1

PROCEDURE
DOCUMENT CHANGE NOTICE

DATE ISSUED: 8/12/94 SERIAL NO.: 94-957

CHANGE IS: GENERIC ☐ CONTRACT SPECIFIC ☒
CONTRACT NO.(S) (IF CONTRACT SPECIFIC): 647-7941

DISTRIBUTION: RL BOBERG/MR-11 RW HUNDSTAD/MR-11 (OTHER/MR-)
(OTHER/MR-)
PROJ. ENGINEER _____ OTHER _____
COGNIZANT ENGINEER _____

DESCRIPTION OF CHANGE:

Add the following to the end of Step 4.1.11:

In order to implement this, the ROGER computer must be connected to the eddy current acquisition computer by an RS-232 cable.

TITLE: ROGER QI SDLC COMPUTER SYSTEM
AFFECTED DOCUMENT NO(S): 1169279A REV.: 14
_____ REV.: _____

SCHEDULE FOR CHANGES (SITE WORK, TRAINING, TDL, REFURBISHMENT): N/A

PREPARED BY: C R Honey C R Honey DATE: 8/12/94
SG TOOLING ENGR. REVIEWED BY: N/A DATE: / /94

OTHER ENGR. REVIEWED BY (IF APPLICABLE): R W Hundstad R W HUNDSTAD DATE: 8/12/94
Q.A. REVIEWED BY: N/A DATE: / /94

PROCESS ENGR. REVIEWED BY: N/A DATE: / /94
FIELD SERVICE MGR. APPROVED BY: D A Richards Todd A. Richards DATE: 8/12/94

DOCUMENT REVISED BY: N/A DATE: / /94

B&W NUCLEAR TECHNOLOGIES

SPR ACTION COMPLETION VERIFICATION FORM

1. SPR#: 94-0621 Action Item # (If Known): C2

2. ACTION #(s) STATEMENT(s) C2. BWNT committed in the disposition to their NCR 94-00186 and 94-00187 that Mr. T. Richards will issue a memo by 5-1-94 to all BWNT (and vendors in the future) certified ET personnel emphasizing the importance of encoding correct tube numbers. Mr. Hanning (H&P) will verify

3. THE ABOVE ACTION HAS BEEN VERIFIED COMPLETE BY:

	Attached* Yes	No
a) Document(s) # _____	[X]	[ ]
# _____	[ ]	[ ]
# _____	[ ]	[ ]
# _____	[ ]	[ ]
# _____	[ ]	[ ]

b) Describe
Memo from T.A. Richards to "All BWNT AND Vendor ET Personnel" entitled "Encoding of Correct Tube Numbers"

4. DATE(s) COMPLETE: April 28, 1994

5. AUTHORIZING SIGNATURE:

The undersigned have verified that the above action(s) have been completed as described. This complete form is subject to QA Audit and SHALL be filed with the SPR file.

M Parry, 5/19/94
Department Manager (Required) Date

* VERIFICATION DOCUMENTS SHALL BE PROVIDED FOR NRC RELATED ISSUES

TP 486 (04/93)
REV. 3

SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION

OPGP03-ZX-0002

STATION PROBLEM REPORT

CAT | CATEGORY ☐1 ☐2 ☐3 ☒4 ☐5 ☐6 | SPR NO. 940636

PART 1: IDENTIFICATION OF CONCERN

A. UNIT # ☒ 1 ☐ 2 ☐ COMMON ☐ BOTH

INITIATED: NAME S.R. SHOJAEI DEPT PROJECT/SED
POSITION ENG'R. PHONE NO. 7784
DATE 3/10/94 TIME 1010

DISCOVERY: DATE 3/10/94 TIME 0200
EVENT: DATE 3/9/94 TIME 1930

IMMEDIATE SUPERVISOR: V. ALBERT (SIGNATURE (NOT REQUIRED)) DATE 3/10/94 TIME 1025

COMMENTS

B. PROBLEM DESCRIPTION

SEE ATTACHED "THE NIGHT REPORT 3/9-3/10-94"

C. IMMEDIATE COMPENSATORY OR REMEDIAL ACTIONS TAKEN [X] CONTINUATION SHEET ATTACHED

BWNT DCN NUMBER 12.9246-00 IS PROCESSED TO PROGRAM ENGINEERING DEPT FOR REVIEW AND TO INCORPORATE TO SITE PROCEDURE 40099-0029-AZU
SMS 3/10/94

D. IDENTIFICATION [ ] CONTINUATION SHEET ATTACHED

SYSTEM SG COMPONENT NAME STEAM GENERATOR
COMPONENT NO. SG-1C BLDG RCB ROOM EL. 19'

ORIGINATOR

INSTRUCTIONS FOR PART 1 COMPLETION

DESCRIBE YOUR CONCERN GIVING AS MUCH INFORMATION AS POSSIBLE.
FILL IN ALL APPLICABLE SECTIONS OR ATTACH DOCUMENTATION.
INDICATE WHAT, WHEN, WHO, WHY, WHERE, HOW. LIST ANY REFERENCES.

DESCRIBE ALL IMMEDIATE COMPENSATORY/REMEDIAL ACTIONS TAKEN

NOTE: IF POTENTIALLY REPORTABLE, OR IF ANY DOUBT EXISTS REGARDING REPORTABILITY, THEN DELIVER IMMEDIATELY TO THE SHIFT SUPERVISOR. OTHERWISE, DELIVER TO THE CAG ADMINISTRATOR.

The Night Shift Report
(3/9-3/10 - 94)

1.- The B&W DCN Welding Problem:

PROBLEM DESCRIPTION:

a) B & W welding procedure specification/750/plug-01 . HL&P log number 400999-00029-AZU on page 3 of 5 states in part "Use this Weld Procedure Specification in conjunction with: WPN-7".

b) WPN-7 has been superseded by procedure SSP-2 (General Procedure for Arc Welding) and B&W issue DCN 129246-00 to 400999-00029 equivalent number to correct the update.

c) In an effort to update 400999-00029, an HL&P DCN was initiated to reflect change specified on B&W DCN 1229246-00. During approval process of this DCN, procedures SSP-2 or WPN-7 could not be verified being approved by HL&P.

d) Procedure 0PGP04-ZG-0310 states in paragraph 4.3.1.2 that " The contractor procedure and supporting procedure qualification records shall be submitted for review". This step is not clear on how in depth the procedure review needs to be enforced.

DECISION PROCESS:

a) The following personnel were involved in the decision to continue to work:

-Randy Fast
-Mark Kanavos
-Ken Silvertorne
-Jim Halley
-Faramarz Pournia
-Carlos Gonzalez

b) Mr Groth and Mr Rehkugler were informed and agree with the decision made to continue the weld process and to take care of the procedure review in the morning since it was considered an administrative problem.

c) A problem report needs to be generated to document this incident and to review procedures as required.

SPR 940636 B&W DCN WELDING PROBLEM

I. EVENT DESCRIPTION

On the evening of 9 March 1994, during preparations to weld a tube sheet plug in the Unit 1 'C' steam generator, it was identified that a B&W Nuclear Service Company (B&W) welding procedure (51-1205396-01) referenced a superseded document. A B&W Safety Document Change Notice was issued to correct the procedure. During this change process it was noted that the STPEGS Welding Program (0PGP04-ZA-0310) required that:

24.3.1.2

> "The contractor's procedures and supporting procedure qualification records shall be submitted for review and statusing to DED's Codes, Standards and Materials Group prior to the performance of Welding".

Appropriate HL&P management were informed of the situation. a decision was made to proceed with the welding and address this administrative problem on the morning of 10 March, 1994.

II. EVENT SIGNIFICANCE

The reference to a superseded procedure and the subsequent correction had no impact on the quality of the welding performed. The actions taken to correct the procedure and resolve the problem delayed the completion of welding by about 3 hours. This delay did not impact returning the plant to operation.

The superseded B&W procedure (WPN-7) was replaced by B&W procedure (SPP-2). SPP-2 is the B&W: "General Procedure for ARC Welding".

During the subsequent review of this event the HL&P approval authority (for the STPEGS Welding Program) stated the following (see attached):

> The intent of procedure 0PGP04-ZA-0310 is that the contractor's Welding Procedure (WPS) and the supporting procedure qualification records (PQR) shall be submitted for HL&P review and statusing prior to welding. Other supporting procedures such as general welding procedure etc. are not required to be reviewed and statused.

This intent would not be understood unless the question was directed to the approval authority.

III. CAUSE OF EVENT

The cause of the event was that B&W personnel failed to recognize the need to revise the Welding Procedure Specification (51-1205396-01) when the referenced document (WPN-7) was changed to SPP-2.

IV. CORRECTIVE ACTIONS

Immediate Remedial Actions

R1. The B&W procedure was revised to reference the correct document (SPP-2).

R2. A question regarding the need to review the newly referenced document (SPP-2) was deferred until the next work day.

Remedial/Compensatory - None

Corrective Actions

C1. The STPEGS Welding Program (0PGP04-ZA-0310) sponsor will revise the program document to clarify the requirements for review and statusing by DED.

MPacy Due Date: 8/17/94

V. Trend Codes

1. Event Codes - ~~EF322~~ EH322 ~~EKIL~~ CB 5/18/94 Contractor Procedure Accuracy ~~Vendor manual/document problems~~ CB 5/18/94
2. Casual Factors - CB 5/18/94 ~~CJ11~~ CJ1i Change related documents not developed or not revised

STP 1230 (08/90) SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION

VENDOR DOCUMENT COVER SHEET

SUPPLIER DOCUMENT NO.: 51-1205396-01 PACKAGE NO.: 4935H

DOCUMENT TITLE: WELDING PROCEDURE SPECIFICATION/75D/PLUG-01

SUPPLIER NAME: B&W NUCLEAR SERVICE CO.

EQUIPMENT TAG NO'S

HL&P LOG NO.(S)

400999-00029-BZU

IMPORTANT

Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods or materials developed or selected by the supplier and does not relieve supplier from full compliance with contractual obligations.

DATE RECEIVED 3-10-94

HL&P SIGNED S. Thomas

DOCUMENT STATUS

1 [X] APPROVED FOR USE/WORK MAY PROCEED.

2 [ ] APPROVED FOR USE AS NOTED/REVISE AND RESUBMIT, WORK MAY PROCEED SUBJECT TO INCORPORATION OF CORRECTION INDICATED.

3 [ ] NOT APPROVED/REVISE AND RESUBMIT, WORK MAY NOT PROCEED.

4 [ ] REVIEW NOT REQUIRED

DATE 3-10-94

SOUTH TEXAS PROJECT

ST-RM-0147 (02/86)

ORIGINAL PO NUMBER REFERENCE

STP
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MAR 1 0 1994
900
DOCUMENT CONTROL

B&W Nuclear Service Company

SAFETY DOCUMENT CHANGE NOTICE

DISTRIBUTION:

DOCUMENT NO.: 30-1229246-00

PROJECT MGR. DW RENNIE

DATE ISSUED 3/9/94

TECH. UNIT MGR.(S) ME BRIGGS

CONTRACT NO.(S)

EQUIPMENT LOGISTICS/TOOLING MGR.(S) DF MERRELLO

PROJECT ENGINEER KC LEDOUX

COGNIZANT ENGINEER SC COOK

REASON FOR CHANGE DOCUMENT REVISION

DESCRIPTION OF CHANGE:

WPW-7 HAS BEEN REVISED AND IS NOW SPP.2

AFFECTED DOCUMENT NO: 51-1205396-01

IMPACT ON CONTRACT NONE

IMPACT ON FIELD TOOLING NONE

PREPARED BY RB Allen R.B. Allen DATE 3/9/94

REVIEWED BY (Project Engineer) DATE 3/9/94

CHANGE IS:

GENERIC ☒

REVIEWED BY (Weld Engineer) SC Cook DATE 3/9/94

CONTRACT SPECIFIC ☐

REVIEWED BY (NDE LEVEL III) N/A DATE

APPROVED BY (Tech. Unit Mgr.) DATE 3/9/94

DIVISION QA (If Applicable) N/A DATE

ACKNOWLEDGED BY (Production Control) N/A DATE

BWNT...

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DOCUMENT REVISED BY DATE 3-5-94

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