

DESIGN

COMPLETE

PROCUREMENT

MECHANICAL

COMPLETE INSTALLATION OF PROC
PIPING & SPECIALTY ITEMS
CLEAN & INSPECT PIPING & EQUI
INSTALL TEMPORARY PIPE FOR FL
& CHEMICAL CLEANING
INSTALL INSULATION AND COMPLET
PAINTING AS REQUIRED
ADJUST PIPING HANGERS TO COLD
COMPLETE MECHANICAL EQUIPMENT
SERVICE & ADJUST & LUBRICATE
PREPARE SYSTEM PUNCHLISTS
INSPECT PANEL VENTS & LOUVERS
COMPLETE REQUIRED DATA SHEETS
TEST RECORDS, & Q.C. DOCUMENT

ELECTRICAL

INSPECT MCC O/Ls & BREAKERS
CLEAN & INSPECT EQUIPMENT
SERVICE & ADJUST & LUBRICATE
INSPECT SWITCHGEAR & INTERLOC
INSTALL & SERVICE BATTERIES
INSPECT WIRING & CABLE RUNS &
COMPLETE WIRING & CABLE RUNS

PVNGS

SYSTEM

CONSTRUCTION PHASE
BPC RESPONSIBLE

COMPLETE

ENGINEERING SUPPORT

BPC

COMPLETE

BPC

COMPLETE INSTALLATION OF PROCESS
PIPING & SPECIALTY ITEMS
CLEAN & INSPECT PIPING & EQUIPMENT
INSTALL TEMPORARY PIPE FOR FLUSHING
CHEMICAL CLEANING
INSTALL INSULATION AND COMPLETE
PAINTING AS REQUIRED
ADJUST PIPING HANGERS TO COLD SETTINGS
COMPLETE MECHANICAL EQUIPMENT INSTALLATION
SERVICE & ADJUST & LUBRICATE EQUIPMENT
PREPARE SYSTEM PUNCHLISTS
INSPECT PANEL VENTS & LOUVERS
COMPLETE REQUIRED DATA SHEETS,
TEST RECORDS, & Q.C. DOCUMENTATION

PERFORM NON-DESTRUCTIVE TESTING
PERFORM HYDRO TESTS OF UNDERGROUND
& IMBEDDED PIPE
PERFORM PIPING LEAK TEST-AIR
PERFORM ROTATING EQUIPMENT COUPLING ALIGNMENT
INSPECT COMPLETE INSTALLATION TO
APPROVED DESIGN DOCUMENTS
COMPLETE THE REQUIRED DATA SHEETS,
TEST RECORDS & Q.C. DOCUMENTATION
PERFORM TURNOVER WALKDOWN AND
COMPLETE EXCEPTION LIST
PERFORM OIL FLUSHES
COUPLE ROTATING EQUIPMENT

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REQUES

INSPECT MCC O/Ls & BREAKERS
CLEAN & INSPECT EQUIPMENT
SERVICE & ADJUST & LUBRICATE EQUIPMENT
INSPECT SWITCHGEAR & INTERLOCKS
INSTALL & SERVICE BATTERIES
INSPECT WIRING & CABLE RUNS & CONNECTIONS

MECHANICALLY SET LIMIT SWITCHES
PERFORM MOTOR ROTATION TEST WITH
PHASE ROTATION MEYER
MEGGER CABLES & EQUIPMENT
PERFORM TURNOVER WALKDOWN AND
COMPLETE EXCEPTION LIST
INSPECT COMPLETE INSTALLATION TO

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<p>PREREQUISITE TESTING PHASE BECHTEL STARTUP RESPONSIBLE</p>		<p>RELEASE FOR TESTING</p> <p>PRE-OPERATIONAL APS RESPONSIBLE</p>
<p>SUPPORT FOR REPLACEMENT PARTS AND CONSUMABLES</p>		
<p>VALVES TEST</p> <p>LEAK RATE TESTING ON EQUIPMENT &</p> <p>ISTS INSTRUCTION</p> <p>S TO RESPONSIBLE N FOR RESOLUTION</p> <p>UPPORT AS REQUIRED</p>	<p>OPERATE PERMANENT PLANT EQUIPMENT FOR OIL FLUSHING (APS OPERATORS) COMPLETE PREPARATIONS FOR VELOCITY FLUSHING & CHEMICAL CLEANING-AND PERFORM COMPLETE PREOP/ACCPANCE TEST PREREQUISITES LINE UP SYSTEM FOR OPERATION PERFORM CONDENSER VACUUM LEAK TEST REMOVE TEMPORARY PIPING & EQUIPMENT USED FOR FLUSHING MAINTAIN SYSTEM IN LAYUP-DRY, BLANKETED, WET, STATIC OR ON RECIRC. SUPPLY CHEMICALS, GASSES & FLUIDS AS REQUIRED APS OPS DEPARTMENT MONITOR WATER CHEMISTRY LOAD INITIAL RESIN CHARGES & FILTR. INTERVALS PERFORM INITIAL HVAC BALANCING OPERATION OF PERMANENT PLANT SYSTEMS BY APS OPS DEPARTMENT</p>	<p>PERFORM CONTAINMENT STRUCTURE INTEGRITY TEST (B PERFORM PRIMARY HYDRO PERFORM SECONDARY HYDRO RECORD HOT PIPE HANGER SETT ADJUST AS REQUIRED COMPLETE BASE LINE DATA FOR INSERVICE INSPECTIONS PERFORM HOT/COLD FUNCTIONAL PERFORM SYSTEMS PREOPERATION ACCPANCE TESTS COMPLETE INSULATION, PAINT ETC. (BECHTEL CONST.) PERFORM CONTAINMENT INTEGR LEAK RATE TEST PERFORM FINISH HVAC BALANC</p>

ASE FOR TESTING

PRE-OPERATIONAL PHASE
APS RESPONSIBLE

FUEL LOAD AND POWER ASCENSION PHASE
APS RESPONSIBLE

APS

PERFORM CONTAINMENT
STRUCTURE INTEGRITY TEST (BECHTEL CONST.)
PERFORM PRIMARY HYDRO
PERFORM SECONDARY HYDRO
RECORD HOT PIPE HANGER SETTINGS
ADJUST AS REQUIRED
COMPLETE BASE LINE DATA FOR
SERVICE INSPECTIONS
PERFORM HOT/COLD FUNCTIONAL TESTS
PERFORM SYSTEMS PREOPERATIONAL/
ACCEPTANCE TESTS
COMPLETE INSULATION, PAINTING,
E.C. (BECHTEL CONST.)
PERFORM CONTAINMENT INTEGRATED
LEAK RATE TEST
PERFORM FINISH HVAC BALANCING

ESTABLISH ACCESS CONTROL
COMPLETE OPERATOR TRAINING & LICENSING
CONFIRM OPERATING & SURVEILLANCE PROCEDURES
LOAD FUEL & PERFORM CRITICALITY TESTS
PERFORM TRANSIENT TESTS
EVALUATE CORE PERFORMANCE & MARGINS
RISE TO POWER TESTS
RECORD HOT PIPE HANGER SETTINGS
ADJUST AS REQUIRED
PERFORM SHUTDOWN TESTS FROM
OUTSIDE CONTROL ROOM
MONITOR LIQUID & GASEOUS EFFLUENT

CLEAN & INS
SERVICE & AD
INSPECT SWIT
INSTALL & SE
INSPECT WIRE
COMPLETE WIRE
SERVICE & FI
PREPARE SYST
COMPLETE REC
& Q.C. DOCUM

I&C

INSTALL INS
COMPLETE INS
CLEAN & INS
COMPLETE WIR
SERVICE & AD
INSPECT WIRE
PREPARE SYST
COMPLETE THE
TEST RECORDS

QA/QC

<p> & ADJUST & LUBRICATE EQUIPMENT SWITCHGEAR & INTERLOCKS & SERVICE BATTERIES WIRING & CABLE RUNS & CONNECTIONS WIRE & CABLE RUNS & FILL TRANSFORMERS SYSTEM PUNCHLISTS REQUIRED DATA SHEETS, TEST RECORDS, DOCUMENTATION </p>	<p> FIRST SWITCHES PERFORM MOTOR ROTATION TEST WITH PHASE ROTATION METER MEGGER CABLES & EQUIPMENT PERFORM TURNOVER WALKDOWN AND COMPLETE EXCEPTION LIST INSPECT COMPLETE INSTALLATION TO APPROVED DESIGN DOCUMENTS COMPLETE REQUIRED DATA SHEETS, TEST RECORDS, & Q.C. DOCUMENTATION PERFORM HI-POT TEST (HIGH VOLTAGE MOTORS AND POWER CABLES) BUMP 480 V AND LESS MOTORS FOR ROTATION INITIALLY VERIFY DIGITAL CONTROL CIRCUITS PER SCHEMATIC (WIRE CHECK) INITIALLY ENERGIZE AND TRY DIGITAL CONTROL CIRCUITS </p>	<p> AS REQUIRED INITIALLY RUN IN & V MEGGER AS R PERFORM HI TEST C.T.'S TEST POWER EQUIPMENT CALIBRATE M VERIFY DIGI SCHEMATIC ENERGIZE AN CIRCUITS SET MOV'S, ELECTRICAL PERFORM RO AND SYSTEMS IDENTIFY DE ENGINEERING PROVIDE CLE WORK ACTIVE REQUEST COM INITIATE ST </p>
<p> ALL INSTRUMENTS INSTRUMENT PIPING & TUBING & INSPECT EQUIPMENT WIRE & CABLE RUNS & ADJUST & LUBRICATE EQUIPMENT WIRING & CABLE RUNS & CONNECTIONS SYSTEM PUNCHLISTS THE REQUIRED DATA SHEETS, RECORDS & Q.C. DOCUMENTATION </p>	<p> MEGGER CABLES & EQUIPMENT PERFORM TURNOVER WALKDOWN AND COMPLETE EXCEPTION LIST INSPECT COMPLETE INSTALLATION TO APPROVED DESIGN DOCUMENTS COMPLETE REQUIRED DATA SHEETS, TEST RECORDS, & Q.C. DOCUMENTATION </p>	<p> INSTALL TEM AS REQUIRED INSPECT STA REQUEST CON CALIBRATE M RETRY DIGIT INITIALLY E INSPECT TES INITIATE ST IDENTIFY DE ENGINEERING PROVIDE CLE WORK ACTIVE PERFORM RO EQUIPMENT </p>

<p>TEST EQUIPMENT</p> <p>TEST ANALOG LOOPS MOTOR UNCOUPLED</p> <p>VIBRATION TEST SECONDARY CIRCUITS & MAJOR ELECTRICAL</p> <p>S</p> <p>CIRCUITS PER</p> <p>CONTROL</p> <p>AND ADJUST LIMIT SWITCHES</p> <p>ANCE ON EQUIPMENT</p> <p>S TO RESPONSIBLE FOR RESOLUTION INSTRUCTION FOR</p> <p>SUPPORT AS REQUIRED LISTS</p>	<p>INITIALLY ENERGIZED SECTOR POWER SYSTEMS SYSTEMS INCLUDING PHASE CHECKS RUN IN & VIBRATION TEST ROTATING EQUIPMENT COMPLETE PREOPERATIONAL/ACCEPTANCE TEST PREREQUISITES VERIFY DIGITAL & ANALOG CONTROL CIRCUITS AND INTERLOCKS LINE UP SYSTEM FOR OPERATION COMPLETE PREOPERATIONAL/ACCEPTANCE TEST PREREQUISITES OPERATION OF PERMANENT PLANT SYSTEMS BY APS OPS DEPARTMENT</p>	<p>ACCEPTANCE TESTS</p>
<p>UP TEST EQUIPMENT</p> <p>ERS & DIFF. GAUGES SUPPORT AS REQUIRED AYS</p> <p>SCHEMES AS DESIRED TEST ANALOG LOOPS TE INSTRUMENTS LISTS</p> <p>MS TO RESPONSIBLE ON FOR RESOLUTION ONSTRUCTION FOR</p> <p>NANCE ON</p>	<p>TRY INSTRUMENT & CONTROLS AS SYSTEMS COMPLETE PREOPERATIONAL/ACCEPTANCE TEST PREREQUISITES LINE UP SYSTEM FOR OPERATION APS PERFORM INSTRUMENT CALIBRATION ON BOP SYSTEMS OPERATION OF PERMANENT PLANT SYSTEMS BY APS OPS DEPARTMENT</p>	<p>PERFORM SYSTEM PREOPERATIONAL ACCEPTANCE TESTS INSPECT & TEST NEUTRON IN PERFORM CALIBRATION OF NS</p>

MENTATION
SYSTEMS

CALIBRATE NUCLEAR INSTRUMENTATION
COMPLETE THERMAL EXPANSION SURVEYS
CONDUCT RADIATION SURVEYS & EVALUATE
SHIELDING
PERFORM CHEMICAL & RADIOLOGICAL TESTS,
FINAL ADJUSTMENT & FINE TUNING OF INSTRUMENTS
& CONTROLS & MOV'S UNDER OPERATING CONDITIONS