

Water Authority Position Description

POWER SYSTEMS TECHNICIAN

Status	Position Code	Level	Date
APPROVED	PWRT	B90	Mar 2017

Job descriptions are intended to present a general list of the tasks/duties performed by employees within this job Classification. Job Descriptions are not intended to reflect all duties performed within the job.

POSITION SUMMARY

OPERATE AND PERFORM CORRECTIVE AND PREVENTATIVE MAINTENANCE OF WATER AUTHORITY'S POWER GENERATING EQUIPMENT, INCLUDING NATURAL GAS AND BIOGAS INTERNAL COMBUSTION ENGINES, HIGH AND MEDIUM VOLTAGE DISTRIBUTION SYSTEMS AND ASSOCIATED AUXILIARY EQUIPMENT.

MIN EDUCATION & EXPERIENCE REQ

HIGH SCHOOL DIPLOMA OR GED AND COMPLETION OF AN APPRENTICESHIP PROGRAM IN POWER PLANT OPERATIONS OR A RELATED FIELD OR TWO YEARS TECHNICAL SCHOOL TRAINING IN ELECTRICAL TRADES, INDUSTRIAL INTERNAL COMBUSTION ENGINES, GAS TURBINES OR AC BRUSHLESS GENERATORS PLUS FIVE (5) YEARS' EXPERIENCE IN INDUSTRIAL ENGINE REPAIR AND MAINTENANCE OR WORKING WITH HIGH AND MEDIUM VOLTAGE ELECTRICAL DISTRIBUTION SYSTEMS.

ADDITIONAL REQUIREMENTS

NEW MEXICO DRIVER'S LICENSE
 ABILITY TO OBTAIN AND MAINTAIN AN AUTHORITY OPERATOR PERMIT
 A CONDITION OF CONTINUED EMPLOYMENT IS ATTAINING A NEW MEXICO EE98J OR EL-1J WITHIN 4 YEARS. THE WATER AUTHORITY WILL PROVIDE TRAINING OPPORTUNITIES. FAILURE TO ATTAIN THE REQUIRED LICENSE MAY RESULT IN DISCIPLINARY ACTION UP TO AND INCLUDING TERMINATION. POSSESSION OF EE98J OR EL-1J PREFERRED.
 REQUIRED TO BE ON CALL OUTSIDE OF NORMAL WORKING HOURS.

SUPERVISION RECEIVED/EXERCISED

RECEIVES DIRECTION FROM HIGHER LEVEL SUPERVISORY OR MANAGEMENT STAFF.
 PROVIDES TECHNICAL AND FUNCTIONAL SUPERVISION TO LESS EXPERIENCED STAFF.

ESSENTIAL FUNCTIONS

1. MONITOR, OPERATE AND REPAIR NATURAL GAS AND BIOMASS INTERNAL COMBUSTION ENGINES, GENERATORS, VALVES, PUMPS AND RELATED EQUIPMENT.
2. TROUBLESHOOT AND REPAIR ENGINE CONTROLS INCLUDING VOLTAGE REGULATIONS, ENGINE IGNITION AND ASSOCIATED SWITCHGEAR.
3. REPAIR AND MAINTAIN OPERATING CONDITION OF ROTARY SCREW HIGH PRESSURE GAS COMPRESSORS AND DIGESTER AND NATURAL GAS SYSTEMS.
4. MAINTAIN AND REPAIR WATER SYSTEMS TO INCLUDE: BUILDING HOT WATER, JACKET COOLING, INTERNAL COOLING WATER AND DIGESTER HOT WATER SYSTEMS.
5. INSPECT AND TEST EQUIPMENT TO LOCATE DAMAGE OR WORN PARTS AND DIAGNOSE MALFUNCTIONS, OR READ WORK ORDERS OR SCHEMATIC DRAWINGS TO DETERMINE REPAIRS NEEDED TO ENSURE THE EFFICIENT AND RELIABLE OPERATION OF BOTH MECHANICAL AND ELECTRICAL SYSTEMS.
6. MONITOR INSTRUMENT DATA OR GAUGES FOR OPERATING PROBLEMS. OPERATE THE CO-GENERATION PLANT'S COMPUTER-BASED MANAGEMENT SYSTEM AS IT INTERFACES WITH POWER PLANT EQUIPMENT IN ORDER TO PRODUCE THE OPTIMUM AMOUNT OF ENERGY IN THE MOST COST-EFFECTIVE MANNER.
7. MAINTAIN AND REPAIR ELECTRICAL DISTRIBUTION SYSTEMS, INCLUDING CONDUITS, CABLES, WIRES, AND RELATED EQUIPMENT, SUCH AS TRANSFORMERS, CIRCUIT BREAKERS, AND SWITCHES. OPEN SWITCHES, ATTACH GROUNDING DEVICES OR TAKE OTHER ACTIONS TO REMOVE ELECTRICAL HAZARDS.
8. MONITOR OR INSPECT UNDERGROUND ELECTRICAL TRANSMISSION LINES, CONDUIT, CABLE, VAULTS AND MANHOLES. NOTIFY HIGHER LEVEL PERSONNEL OF NEED TO ARRANGE FOR REPAIRS PERFORMED BY OUTSIDE CONTRACTORS, MAKE MINOR REPAIRS OR MAKE ARRANGEMENTS FOR REPAIRS AS AUTHORIZED.
9. ESTIMATE TIME, MATERIALS AND EQUIPMENT REQUIRED FOR JOBS ASSIGNED. RECORD AND COMPILE OPERATIONAL DATA BY COMPLETING AND MAINTAINING FORMS, LOGS, OR REPORTS.
10. GUARANTEE RELIABLE BACK UP POWER FOR THE SOUTHSIDE WATER RECLAMATION PLANT (SSWRP) OPERATING PERMIT. PLACE STANDBY EMERGENCY GENERATORS ON LINE IN EMERGENCIES.
11. ENSURE ADHERENCE TO SAFE WORK PRACTICES AND PROCEDURES.

SUPPLEMENTAL FUNCTIONS

1. ATTEND SEMINARS AND TRAINING PROGRAMS
2. PERFORM RELATED DUTIES AND RESPONSIBILITIES AS REQUIRED

PREFERRED KNOWLEDGE

PRINCIPLES, PRACTICES AND THEORIES OF INTERNAL COMBUSTION ENGINES
PRINCIPLES, PRACTICES AND THEORIES OF ELECTRICITY
HIGH VOLTAGE TRANSFORMERS AND PMH SWITCHES
FIELD MAINTENANCE METHODS AND TECHNIQUES FOR A WIDE RANGE OF ELECTRICAL EQUIPMENT
FIELD MAINTENANCE METHODS AND TECHNIQUES FOR A WIDE RANGE OF MECHANICAL EQUIPMENT SUCH AS ENGINES, PUMPS, RADIATOR FANS, COOLING TOWERS, HEAT EXCHANGERS AND NATURAL GAS BOILERS
PRINCIPLES AND THEORIES OF AC BRUSHLESS GENERATORS AND VOLTAGE REGULATION
PRINCIPLES AND THEORIES OF ELECTRICAL DISTRIBUTION AT THE TRANSMISSION LEVEL AND SUB-TRANSMISSION LEVEL
ELECTRONIC CIRCUIT BOARDS AND LOW VOLTAGE INSTRUMENTS
OCCUPATIONAL HAZARDS AND STANDARD SAFETY PRACTICES
PRINCIPLES AND THEORIES OF ROTARY SCREW HIGH PRESSURE GAS COMPRESSORS

PREFERRED SKILL/ABILITY

INDEPENDENTLY PERFORM THE MOST DIFFICULT MECHANICAL AND ELECTRICAL MAINTENANCE AND REPAIR
INTERPRET SCHEMATICS AND BLUE PRINTS
MUST BE ABLE TO OPERATE A TORQUE WRENCH UP TO 450 FT/LBS.
EVALUATE ELECTRICAL SYSTEMS
OPERATE A SCISSOR LIFT AND FORK LIFT
TROUBLESHOOT INTERNAL COMBUSTION ENGINES AND AUXILIARY EQUIPMENT
TROUBLESHOOT ENGINE CONTROLS AND RELATED SWITCHGEAR FOR ELECTRICAL GENERATION
UNDERSTAND AND FOLLOW ORAL AND WRITTEN INSTRUCTIONS
COMMUNICATE CLEARLY AND CONCISELY, BOTH ORALLY AND IN WRITING
ESTABLISH AND MAINTAIN EFFECTIVE WORKING RELATIONSHIPS WITH THOSE CONTACTED IN THE COURSE OF WORK

WORKING CONDITIONS

OUTDOOR AND INDOOR ENVIRONMENT; EXPOSURE TO ELECTRICAL, PNEUMATIC AND HYDRAULIC ENERGY. VOLTAGES UP TO 12,470V. NOISE, DUST, OIL, FUMES, GASES, INCLEMENT WEATHER CONDITIONS AND CONFINED SPACES.

PHYSICAL REQUIREMENTS

MAINTAIN PHYSICAL CONDITION APPROPRIATE TO THE PERFORMANCE OF ASSIGNED DUTIES AND RESPONSIBILITIES SUCH AS: WALKING, STANDING, SITTING, BENDING, STOOPING, KNEELING, AND CRAWLING FOR PROLONGED PERIODS OF TIME. HEAVY, MODERATE OR LIGHT LIFTING AND CARRYING. PULLING, PUSHING REACHING ABOVE SHOULDERS, CLIMBING WITH BOTH LEGS AND ARMS.
MAINTAIN EFFECTIVE AUDIO-VISUAL PERCEPTION NEEDED FOR MAKING OBSERVATIONS, COMMUNICATING WITH OTHERS, READING, WRITING AND OPERATING ASSIGNED EQUIPMENT.