

# Water Authority Position Description

## ELECTRICAL ENGINEER

Status	Position Code	Level	Date
APPROVED	EENG	P29	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

RESEARCH, DESIGN, AND MANAGE INSTALLATION AND MAINTENANCE OF ELECTRICAL AND CONTROLS EQUIPMENT, COMPONENTS, OR SYSTEMS FOR WATER DISTRIBUTION, WASTEWATER COLLECTION OR ASSIGNED FACILITY. SUPERVISE OR LEAD STAFF RESPONSIBLE FOR PERFORMING A WIDE VARIETY OF ENGINEERING, ELECTRICAL, CONTROLS, INSTRUMENTATION OR SCADA WORK.

### MIN EDUCATION & EXPERIENCE REQ

BACHELOR'S DEGREE FROM AN ACCREDITED COLLEGE OR UNIVERSITY IN ELECTRICAL ENGINEERING OR RELATED FIELD, PLUS SIX (6) YEARS PROFESSIONAL ELECTRICAL ENGINEERING EXPERIENCE.

### ADDITIONAL REQUIREMENTS

POSSESSION OF A PROFESSIONAL ENGINEER (PE) LICENSE IN STATE OF NEW MEXICO BY SUCCESSFUL COMPLETION OF NCEES ELECTRICAL ENGINEERING PRACTICE EXAMINATION PREFERRED.  
ABILITY TO OBTAIN AND MAINTAIN A VALID AUTHORITY OPERATOR PERMIT.  
POSSESSION OF A VALID NEW MEXICO DRIVER'S LICENSE.

### SUPERVISION RECEIVED/EXERCISED

RECEIVE ADMINISTRATIVE DIRECTION FROM HIGHER LEVEL ENGINEERING STAFF.  
EXERCISE DIRECT SUPERVISION OF SUPPORT STAFF.

### ESSENTIAL FUNCTIONS

1. SERVE AS PROJECT MANAGER OR COORDINATE WITH ENGINEERS ON A VARIETY OF ENGINEERING PROJECTS. PARTICIPATE IN THE DEVELOPMENT OF POLICIES AND PROCEDURES. PARTICIPATE IN THE PREPARATION AND ADMINISTRATION OF THE PROJECT BUDGET.
2. PLAN, DIRECT AND PARTICIPATE IN THE REVIEW AND APPROVAL OF A WIDE VARIETY OF ENGINEERING PLANS, SPECIFICATIONS AND DRAWINGS. CONFER WITH ENGINEERS OR OTHERS TO DISCUSS EXISTING OR POTENTIAL ENGINEERING PROJECTS.
3. PERFORM DETAILED ELECTRICAL CALCULATIONS OR VERIFY THE WORK OF ASSIGNED EMPLOYEES TO COMPUTE AND ESTABLISH CONSTRUCTION OR INSTALLATION STANDARDS OR SPECIFICATIONS. ENSURE WORK METHODS COMPLY WITH APPLICABLE STANDARDS AND SPECIFICATIONS.
4. PERFORM SITE INVESTIGATIONS TO CONFIRM AND/OR IDENTIFY EXISTING CONDITIONS. DESIGN, IMPLEMENT, MAINTAIN OR IMPROVE ELECTRICAL, CONTROLS, INSTRUMENTS, EQUIPMENT, FACILITIES AND COMPONENTS.
5. DESIGN OR REVIEW LOW AND MEDIUM VOLTAGE WATER AND WASTEWATER TREATMENT PLANT AND LIFT STATION SYSTEMS.
6. COORDINATE THE MAINTENANCE, REPAIR AND REHABILITATION OF WATER AND/OR WASTEWATER COLLECTION SYSTEMS. EVALUATE EQUIPMENT, METHODS AND PROCEDURES USED TO MAINTAIN SYSTEMS. ADDRESS TECHNICAL ISSUES FROM STAFF FOR POWER DISTRIBUTION AND MOTOR STARTING INCLUDING ASSISTANCE WITH TROUBLESHOOTING.
7. MANAGE THE WATER AUTHORITY'S SCADA PROGRAM FOR WATER SYSTEM OPERATIONS INCLUDING MONITORING SCADA OPERATIONS, TELEMETRY, AND RADIO COMMUNICATIONS, MAKING SURE THESE SYSTEMS ARE PERFORMING PROPERLY, AND PLANNING FOR LONG-TERM SYSTEM IMPROVEMENTS.
8. PARTICIPATE IN THE DESIGN AND CONSTRUCTION OF WATER SYSTEM FACILITIES INCLUDING RESERVOIRS, PUMP STATIONS, WELL AND TREATMENT FACILITIES BY PROVIDING GUIDANCE RELATED TO ELECTRICAL, CONTROLS AND INSTRUMENTATION ASPECTS OF PROJECTS.
9. ANALYZE SYSTEM PERFORMANCE DATA FOR ENERGY CONSUMPTION, AND THE MIX OF SURFACE WATER/ GROUNDWATER BEING SUPPLIED TO EACH OF 9 POTABLE WATER DISTRIBUTION TRUNKS. PREPARE REPORTS AND GRAPHS THAT DESCRIBE KEY ASPECTS OF SYSTEM PERFORMANCE AND MEET WITH SENIOR MANAGEMENT TO DISCUSS FINDINGS AND RECOMMENDATIONS.

10. DAILY AND WEEKLY REVIEW OF FLOW AND LEVEL SETPOINTS FOR WELL, PUMP STATION, AND RESERVOIR FACILITIES IN EACH TRUNK TO ENSURE EFFICIENT TRANSFERS OF WATER AND DEVISE INTERIM STRATEGIES IN RESPONSE TO EQUIPMENT OUTAGES.

11. COORDINATE ASSIGNED ACTIVITIES WITH THOSE OF OTHER DIVISIONS, OUTSIDE AGENCIES AND ORGANIZATIONS. NEGOTIATE AND RESOLVE SENSITIVE AND CONTROVERSIAL ISSUES.

12. ESTIMATE TIME, MATERIALS AND EQUIPMENT REQUIRED FOR JOBS ASSIGNED. PREPARE DETAILED EQUIPMENT SPECIFICATIONS. RECOMMEND PURCHASE OF NEW EQUIPMENT AND MODIFICATIONS TO EXISTING PROCEDURES. REQUISITION MATERIALS AS REQUIRED.

13. ENSURE COMPLIANCE WITH APPLICABLE ENVIRONMENTAL REGULATIONS. RECOMMEND REVISIONS TO EXISTING POLICIES AND PROCEDURES.

14. PARTICIPATE IN THE EMPLOYEE INTERVIEW/SELECTION PROCESS. TRAIN, MOTIVATE AND EVALUATE ASSIGNED STAFF. PROVIDE OR COORDINATE TRAINING. DIRECT LOWER LEVEL STAFF IN DEVELOPING ELECTRICAL DRAWINGS AND TECHNICAL SPECIFICATIONS FOR THE COMPLETION OF TASKS WITH LESS TECHNICAL COMPLEXITY. WORK WITH EMPLOYEES TO CORRECT DEFICIENCIES. IMPLEMENT DISCIPLINE AS NEEDED.

#### **SUPPLEMENTAL FUNCTIONS**

1. RESPOND TO PUBLIC INQUIRIES IN A COURTEOUS MANNER. PROVIDE INFORMATION WITHIN THE AREA OF ASSIGNMENT. RESOLVE COMPLAINTS IN AN EFFICIENT AND TIMELY MANNER.

2. PARTICIPATE IN PROFESSIONAL GROUP MEETINGS. STAY ABREAST OF NEW ENGINEERING TRENDS AND INNOVATIONS WITHIN THE FIELD OF ASSIGNMENT.

3. PERFORM RELATED DUTIES AND RESPONSIBILITIES AS REQUIRED.

#### **PREFERRED KNOWLEDGE**

INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE), AND NATIONAL FIRE PROTECTION AGENCY (NFPA) AND OTHER INDUSTRY TECHNICAL STANDARDS  
LOW AND MEDIUM VOLTAGE ELECTRICAL DISTRIBUTION DESIGN FOR WATER AND WASTEWATER FACILITIES AND INFRASTRUCTURE  
DESIGN, TROUBLESHOOTING, OPERATION AND INTEGRATION OF CONTROLS AND INSTRUMENTATION SYSTEMS  
DESIGN, TROUBLESHOOTING AND OPERATION OF ELECTRICAL AND POWER SYSTEMS  
OPERATION AND TROUBLESHOOTING OF RADIO TELEMTRY COMMUNICATION SYSTEMS  
OPERATIONS, SERVICES AND ACTIVITIES OF A PROFESSIONAL ENGINEERING PROGRAM  
PRINCIPLES OF LEADERSHIP, SUPERVISION AND TRAINING  
PRINCIPLES AND PRACTICES OF PROGRAM ADMINISTRATION  
PRINCIPLES AND PRACTICES OF BUDGET PREPARATION AND CONTROL  
OPERATIONAL PROCEDURES AND MAINTENANCE OF WASTEWATER TREATMENT PLANTS, AND LIFT STATION FACILITIES, WATER COLLECTION, TREATMENT, AND DISTRIBUTION SYSTEMS  
METHODS AND TECHNIQUES OF EVALUATING SYSTEM PERFORMANCE AND RECOMMENDING MODIFICATIONS  
OCCUPATIONAL HAZARDS AND STANDARD SAFETY PRACTICES

PERTINENT FEDERAL, STATE AND LOCAL LAWS, CODES, REGULATIONS AND ORDINANCES INCLUDING NATIONAL ELECTRICAL AND STATE OF NEW MEXICO ELECTRICAL CODES

#### **PREFERRED SKILL/ABILITY**

DEVELOP PROTECTIVE RELAYING SCHEMES FOR LOW AND MEDIUM VOLTAGE DISTRIBUTION SYSTEMS  
INDEPENDENTLY PERFORM THE MOST DIFFICULT PROFESSIONAL ENGINEERING DUTIES  
REVIEW AND APPROVE A VARIETY OF ENGINEERING PLANS, SPECIFICATIONS AND DRAWINGS  
PREPARE AND ADMINISTER BUDGETS  
COORDINATE THE CONSTRUCTION, OPERATION, MAINTENANCE AND REPAIR OF VARIOUS ELECTRICAL SYSTEMS  
INTERPRET, APPLY AND ENFORCE APPLICABLE FEDERAL, STATE AND LOCAL POLICIES, LAWS AND REGULATIONS  
COORDINATE ASSIGNED ACTIVITIES WITH THOSE OF OTHER DIVISIONS, OUTSIDE AGENCIES AND ORGANIZATIONS  
RESPOND TO REQUESTS AND INQUIRIES FROM THE GENERAL PUBLIC  
ANALYZE PROBLEMS, IDENTIFY ALTERNATIVE SOLUTIONS, PROJECT CONSEQUENCES OF PROPOSED ACTIONS AND IMPLEMENT RECOMMENDATIONS IN SUPPORT OF GOALS  
COMMUNICATE CLEARLY AND CONCISELY, BOTH ORALLY AND IN WRITING

#### **WORKING CONDITIONS**

FIELD AND OFFICE ENVIRONMENT; TRAVEL FROM SITE TO SITE; EXPOSURE TO NOISE, DUST, GREASE, SMOKE, FUMES, GASES; MAY WORK IN OR WITH WATER OR AROUND HEAVY CONSTRUCTION EQUIPMENT. EXPOSURE TO NOISE, DUST, GREASE, SMOKE, FUMES, GASES AND ORGANIC/INORGANIC REGULATED ENVIRONMENTAL CONTAMINANTS; MAY WORK IN OR WITH WATER, AROUND HEAVY CONSTRUCTION EQUIPMENT AND WITH LOW AND MEDIUM VOLTAGE ELECTRICITY.

**PHYSICAL REQUIREMENTS**

MAINTAIN PHYSICAL CONDITION APPROPRIATE TO THE PERFORMANCE OF ASSIGNED DUTIES AND RESPONSIBILITIES SUCH AS SITTING, WALKING OR STANDING FOR PROLONGED PERIODS BOTH IN AN OFFICE AND FIELD ENVIRONMENT.  
MAINTAIN EFFECTIVE AUDIO-VISUAL DISCRIMINATION AND PERCEPTION TO THE DEGREE NECESSARY FOR THE SUCCESSFUL PERFORMANCE OF ASSIGNED DUTIES.