



STATE OF NEVADA
Department of Administration
Division of Human Resource Management

CLASS SPECIFICATION

<u>TITLE</u>	<u>GRADE</u>	<u>EEO-4</u>	<u>CODE</u>
HVACR SPECIALIST IV	36	G	9.404
HVACR SPECIALIST III	34	G	9.413
HVACR SPECIALIST II	33	G	9.408
HVACR SPECIALIST I	32	G	9.421

SERIES CONCEPT

Heating/Ventilation/Air Conditioning/Refrigeration (HVACR) Specialists perform skilled work in the installation, operation, maintenance and repair of a wide variety of heating, ventilation, air conditioning, and refrigeration equipment.

Perform preventive maintenance on various equipment related to heating, ventilation, air conditioning and refrigeration systems, fuel and combustion systems, forced air furnaces, radiant heaters, chillers, air handlers, window air conditioning units, evaporative coolers and refrigeration units.

Maintain auxiliary equipment such as motors, pumps, fans, pipe systems, compressors, humidifiers, condensers and pneumatic and electronic control units; adhere to established maintenance schedules to replace filters, lubricate motors and fans, replace belts, conduct chemical analysis and add correct proportion of treatment chemicals, and cleaning other mechanical equipment located throughout a facility.

Inspect equipment for proper functioning; check meters, gauges and other instruments; inspect occupied areas for comfort; adjust safety and limit controls; log information related to temperatures, pressures, fuel consumption, water level, time and date, and respond to emergencies such as utility and equipment failure.

Repair and modify equipment and components related to heating and air conditioning systems by repairing or replacing damaged pipes or valves including brazing, soldering, pipe fitting or adding new piping valves and controls.

Troubleshoot electrical circuits associated with heating, air conditioning and refrigeration including tracing dead circuits, rewiring circuits, repairing or replacing electrical components such as starters, contactors, relays and control units; repair or replace burner gun assemblies; recover refrigerant and recharge refrigeration equipment.

Diagnose equipment failure; make repairs and test system functions using common hand and power tools, brazers, solderers, torches, voltmeters, amprobes, oxygen analyzers and precision measuring instruments.

Install new components such as thermostats, timers or insulation to make older equipment more energy efficient.

Make parts and material purchases and maintain inventories according to departmental policies and State regulations; and prepare and maintain records related to work activities.

Store, handle and dispose of coolants and other chemicals in accordance with established policies and regulatory requirements.

Perform related duties as assigned.

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CLASS CONCEPTS

HVACR Specialist IV: Under general supervision, incumbents in this class perform all or part of the duties described in the series concept; supervise a large staff of HVACR Specialists and first line supervisors engaged in operating and maintaining complex heating, air conditioning, and/or refrigeration systems; monitor energy consumption and promote energy conservation.

Incumbents lay out broad work assignments for first line supervisors, establish work priorities, and implement departmental policy and procedures. They also maintain records pertaining to schedules, work activities and personnel actions and may perform field oriented plan checks, prepare equipment specifications and describe system characteristics to engineering or management staff for development of major system modification projects.

Incumbents may operate or oversee a computerized heating/air conditioning management system by programming utility needs for a variety of facilities, recording work schedules, tracking maintenance schedules and monitoring system performance to determine if operating objectives are being met.

Positions in this class are distinguished from those at the lower levels by the scope of administrative duties, the variety and complexity of problem solving, the level of subordinate/supervisory positions and the scope of decision-making associated with the largest heating, ventilation, refrigeration and air conditioning plant setting such as the system at the University of Nevada, Las Vegas.

HVACR Specialist III: Under general supervision, incumbents perform supervisory and technical work in heating, ventilation, air conditioning and refrigeration installation, operation, maintenance and repairs described in the series concept. Incumbents assign work orders to subordinate skilled staff; plan, lay out and inspect their work; prepare estimates of time and material; order and requisition supplies; keep records and prepare reports; establish preventive maintenance schedules; and supervise and evaluate the performance of subordinate HVACR Specialists.

This class is distinguished from the lower levels by the supervision of skilled staff and the overall responsibility for laying out work, tracking and reporting job progress, and planning and scheduling air conditioning and refrigeration maintenance and repair for a large facility.

HVACR Specialist II: Under general supervision, incumbents perform the duties described in the series concept and either:

- 1) in a correctional setting, function as a leadworker for an inmate crew on a regular basis and document inmate performance through completion of periodic performance reports. Incumbents are also responsible for implementing security procedures which include securing the work area from unauthorized inmates and accountability for assigned inmates, staff, tools, and equipment; or
- 2) serve as leadworker for HVACR Specialists I's and provide training, work direction and technical assistance to subordinate staff to solve heating and air conditioning problems associated with system failures, design required system modifications; or
- 3) have sole responsibility for the operation, maintenance, repair and modification of a major facility's heating, ventilation, air conditioning, and/or refrigeration related systems.

Positions in this class provide assistance to higher level staff in determining air conditioning and refrigeration needs and are distinguished from positions at the lower level by leadworker responsibilities that require judgments and decisions of a supervisory nature and the independence with which duties are performed.

HVACR Specialist I: Under general supervision, incumbents perform the duties described in the series concept, typically functioning as a member of a crew of HVACR Specialists. Incumbents perform skilled maintenance, repair and diagnostic duties associated with heating, ventilation, air conditioning and refrigeration equipment. This is the journey level in the series.

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MINIMUM QUALIFICATIONS

SPECIAL REQUIREMENTS:

- * Pursuant to NRS 284.4066, some positions in this series have been identified as affecting public safety. Persons offered employment in these positions, must submit to a pre-employment screening for controlled substances.
- * Some positions are required to be EPA certified to recover refrigerant and recharge equipment at the time of appointment and as a condition of continuing employment.

HVACR SPECIALIST IV

EDUCATION AND EXPERIENCE: Completion of a recognized HVACR apprenticeship program followed by four years of journey level experience in the installation, operation, maintenance and repair of a wide variety of heating, ventilation, air conditioning, and refrigeration equipment. One year of the required experience must have been at the supervisory level; **OR** an equivalent combination of education and experience as described above. *(See Special Requirements)*

ENTRY LEVEL KNOWLEDGE, SKILLS AND ABILITIES (required at time of application):

Working knowledge of: principles and practices associated with energy conservation; principles of supervision and training. **Ability to:** prioritize and delegate the diverse and complex work assignments associated with a large multi-unit facility; analyze HVACR needs of the facility and develop cost-effective recommendations regarding system maintenance and enhancements; coordinate maintenance and repair activities with facility users; *and all knowledge, skills and abilities required at the lower levels.*

FULL PERFORMANCE KNOWLEDGE, SKILLS AND ABILITIES (typically acquired on the job):

Working knowledge of: regional and facility energy resources; departmental policies and procedures related to energy management and recordkeeping. **Ability to:** review and analyze written and computerized data to solve problems related to equipment efficiency and energy consumption.

HVACR SPECIALIST III

EDUCATION AND EXPERIENCE: Completion of a recognized HVACR apprenticeship program followed by two years of journey level experience in the installation, operation, maintenance and repair of a wide variety of heating, ventilation, air conditioning, and refrigeration equipment; **OR** one year of experience as a HVACR Specialist II in Nevada State service; **OR** an equivalent combination of education and experience as described above. *(See Special Requirements)*

ENTRY LEVEL KNOWLEDGE, SKILLS AND ABILITIES (required at time of application):

Ability to: use testing equipment to diagnose malfunctions in electrical systems, electronic or pneumatic control units, boiler operating limit indicators and refrigeration units; establish work and maintenance schedules, prepare reports and keep accurate records; read and interpret equipment service manuals, technical references, complex blueprints and wiring diagrams; operate and maintain a computerized energy management system; establish, oversee and track preventive maintenance schedules; plan and lay out maintenance and repair work for a crew of skilled workers; report job progress orally and in writing; *and all knowledge, skills and abilities required at the lower levels.*

FULL PERFORMANCE KNOWLEDGE, SKILLS AND ABILITIES (typically acquired on the job):

Working knowledge of: a computerized energy management system; principles and practices of supervision; departmental and State purchasing policies and procedures. **Ability to:** supervise and direct the work of other skilled personnel; train subordinate staff in work techniques and safety procedures; plan and schedule work to accommodate staff, agency needs and seasonal demands; provide technical assistance in all phases of

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MINIMUM QUALIFICATIONS (cont'd)

HVACR SPECIALIST III (cont'd)

FULL PERFORMANCE KNOWLEDGE, SKILLS AND ABILITIES: (cont'd)

heating and air conditioning to engineering, administrative and subordinate staff; design appropriate system modifications, prepare plans or specifications and perform or supervise their implementation.

HVACR SPECIALIST II

EDUCATION AND EXPERIENCE: Completion of a recognized HVACR apprenticeship program followed by one year of journey level experience in the installation, operation, maintenance and repair of a wide variety of heating, ventilation, air conditioning, and refrigeration equipment; **OR** one year of experience as a HVACR Specialist I in Nevada State service; **OR** an equivalent combination of education and experience as described above. (*See Special Requirements*)

ENTRY LEVEL KNOWLEDGE, SKILLS AND ABILITIES (required at time of application):

Ability to: estimate material and labor needed to complete a job; secure technical advice and diagnose system failures; design system modifications and installation; *and all knowledge, skills and abilities required at the lower level.*

FULL PERFORMANCE KNOWLEDGE, SKILLS AND ABILITIES (typically acquired on the job):

Working knowledge of: prison security and custody procedures, if applicable. **General knowledge of:** supervisory techniques and procedures; departmental and State purchasing procedures. **Ability to:** establish and monitor security measures necessary to perform work in a correctional setting; industry publications and manufacturers supporting the heating and air conditioning industry; direct the work of other skilled personnel; plan and schedule seasonal maintenance on heating and air conditioning systems.

HVACR SPECIALIST I

EDUCATION AND EXPERIENCE: Completion of a recognized HVACR apprenticeship program; **OR** an equivalent combination of education and experience. (*See Special Requirements*)

ENTRY LEVEL KNOWLEDGE, SKILLS AND ABILITIES (required at time of application):

Working knowledge of: tools, methods and materials used in operating, maintaining and repairing high and low pressure steam and hot water boilers, heating, air conditioning, refrigeration, ventilation and related auxiliary equipment; occupational hazards and safety procedures associated with heating, air conditioning and refrigeration operation; standard practices, techniques, materials, tools and equipment of the air conditioning and refrigeration trade such as chillers, water towers, pumps, airhandlers, thermostats, pneumatic and electric controls, condensers and heat pumps. **Ability to:** perform electrical, plumbing and welding tasks associated with heating and air conditioning equipment; use a wide variety of hand and power tools, welding equipment and specialty tools associated with heating and air conditioning repairs; prepare and maintain maintenance reports, daily logs and purchasing documents; read and interpret equipment service manuals and technical references. **Skill in:** the use of tools and test equipment used in air conditioning/refrigeration repair such as ammeters, voltmeters, ohmmeters, leak detectors, pneumatic calibrating gauges, water flow meters, air measuring devices, welding equipment and refrigerant charging devices.

FULL PERFORMANCE KNOWLEDGE, SKILLS AND ABILITIES (typically acquired on the job):

Working knowledge of: physical properties of fuel, fuel combustion and fuel safety limits associated with heating/air conditioning systems; methods and applications of temperature and humidity control. **General knowledge of:** departmental purchasing procedures; local and State regulations affecting heating and air conditioning; technical manuals, building blueprints, equipment schematics and vendors and manufacturers supporting the heating and air conditioning industry.

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This class specification is used for classification, recruitment and examination purposes. It is not to be considered a substitute for work performance standards for positions assigned to this class.

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ESTABLISHED:	10/24/80	7/1/91P 11/29/90PC	4/1/66	7/1/91P 11/29/90PC
REVISED:			4/1/70	
REVISED:	7/1/91P 11/29/90PC		7/1/91P 11/29/90PC	
REVISED:	9/19/03PC	9/19/03PC	9/19/03PC	9/19/03PC
REVISED:	2/10/06PC	2/10/06PC	2/10/06PC	2/10/06PC