

 ARIZONA DEPARTMENT OF CORRECTIONS DEPARTMENT ORDER MANUAL	CHAPTER: 400 PHYSICAL PLANT/FACILITIES	OPR: OPS SS
	DEPARTMENT ORDER: 403 <i>MAINTENANCE</i>	SUPERSEDES: DO 403 (03/03/99)
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PURPOSE

This Department Order establishes a maintenance program, including preventative maintenance and timely response to maintenance requests, generator maintenance, and operation of wastewater treatment facilities.

APPLICABILITY

This Department Order is exempt, in its entirety, from the operation of contract bed facilities.

PROCEDURES

403.01 GENERAL RESPONSIBILITIES

- 1.1 Wardens or their designee shall be responsible for first-level supervision of Physical Plant Managers.
- 1.2 Physical Plant Managers shall be responsible for the following activities at their assigned institution:
 - 1.2.1 Hiring of qualified maintenance supervisors and trades staff.
 - 1.2.2 Establishing and executing preventative maintenance schedules.
 - 1.2.3 Supervision of trades staff.
 - 1.2.4 Attending Quarterly Maintenance Meetings as necessary.
 - 1.2.5 Establishing priorities for the institution's equipment maintenance.
 - 1.2.6 Overseeing planning, funding, expenditures and assigned budget.
 - 1.2.7 Ensuring code and regulatory compliance.

403.02 MAINTENANCE CATEGORIES AND SCHEDULES

- 1.1 The Physical Plant Manager shall ensure that maintenance staff perform scheduled preventative maintenance of all physical plant facilities and equipment as defined in this Department Order:
 - 1.1.1 Weekly maintenance.
 - 1.1.2 Monthly maintenance.
 - 1.1.3 Quarterly maintenance.
 - 1.1.4 Semi-annual maintenance.
 - 1.1.5 Annual maintenance.
- 1.2 The Physical Plant Manager shall ensure that maintenance staff address repairs or maintenance by assessing the degree of life/safety and security risks within the following categories:
 - 1.2.1 Emergency maintenance.

- 1.2.2 Urgent maintenance.
- 1.2.3 Important maintenance.
- 1.2.4 General maintenance.

403.03 ROUTINE MAINTENANCE - Staff requesting maintenance work shall use the Maintenance Work Order Request, Form 403-2 and, if needed, the Maintenance Work Order Supplement, Form 403-3, and forward the request to the Maintenance Supervisor. If available, staff may request maintenance work by emailing the Maintenance Supervisor for the building or facility in which they work. The Maintenance Supervisor shall:

- 1.1 Implement a tracking system for submitted maintenance work order requests, to include:
 - 1.1.1 Tracking number.
 - 1.1.2 Date received.
 - 1.1.3 Materials used.
 - 1.1.4 Completion date.
- 1.2 Ensure the information listed in 403.03, 1.1.1 through 1.1.4 is distributed to the requestor and also placed in a file.
- 1.3 Record the reason(s) for any incomplete maintenance order requests.
- 1.4 Sign the Maintenance Work Order Request.
- 1.5 Reconcile the work order.

403.04 FUNDING FOR PREVENTATIVE AND ROUTINE MAINTENANCE - Prior to August 15 of each year, Wardens shall:

- 1.1 Provide to the Engineering and Facilities Bureau Administrator written assurance that a sum equal to or exceeding one percent, or other amount determined by the Director, of the institution's replacement value is set aside in operating funds, in the current fiscal year, for routine/preventative maintenance programs. The previous fiscal year's maintenance expenditure record may be used as a basis for this assurance.
- 1.2 Provide a detailed itemization of how routine/preventative maintenance funds will be expended in the current fiscal year.
- 1.3 Request that the Administrative Services Bureau Administrator assign an index code for routine/preventative maintenance programs.
- 1.4 Ensure that all expenditures for routine and preventative maintenance are charged to the assigned index code as they are expended.

403.05 EMERGENCY AND URGENT MAINTENANCE - Staff members shall telephone the Maintenance Supervisor to request emergency or urgent maintenance needs.

- 1.1 Staff members who report emergency or urgent maintenance shall complete an Information Report and make an entry into their Correctional Service Journal, if applicable.

- 1.2 The Maintenance Supervisor shall:
 - 1.2.1 Consult with the Physical Plant Manager to determine the priority of the maintenance request.
 - 1.2.2 Immediately assign a work crew, if the request is determined to be an emergency of urgent need.
 - 1.2.3 Forward completed work orders to the Physical Plant Manager.
 - 1.2.4 Ensure work orders are maintained on file for twelve months.

403.06 PHYSICAL PLANT AND EQUIPMENT INSPECTIONS

- 1.1 The Physical Plant Manager shall inspect the institutional buildings and physical plant systems on a monthly basis.
- 1.2 Inspections shall be recorded on the Inspection Report, Form 403-8. For further information on records retention, see Department Order #103, Correspondence/Records Control.

403.07 PROJECT TRACKING

- 1.1 The Physical Plant Manager shall ensure that a project tracking system is established and maintained for each project to include the following information:
 - 1.1.1 Monthly record of project materials ordered.
 - 1.1.2 Reconciliation of materials received and used.
 - 1.1.3 Balance of materials inventory.
- 1.2 Documentation shall be retained in accordance with Department Order #103, Correspondence/Records Control.

403.08 PHYSICAL PLANT EQUIPMENT INVENTORY - The assigned maintenance staff supervisor shall ensure that:

- 1.1 The maintenance staff conduct an inventory of all new physical plant equipment prior to installation, and all existing equipment not previously inventoried. The inventory shall be recorded on the Equipment Inventory Record, Form 403-6.
- 1.2 Completed Equipment Inventory Records are forwarded to the Physical Plant Manager.
- 1.3 Maintenance staff paint, or otherwise permanently mark, all new physical plant equipment, and existing physical plant equipment not previously identified, with an identification number.
- 1.4 An equipment maintenance record shall be maintained for each piece of plant equipment. The equipment maintenance record shall track the following:
 - 1.4.1 Preventative maintenance.
 - 1.4.2 Routine maintenance.
 - 1.4.3 Emergency/urgent maintenance.

- 1.4.4 Warranty information.
 - 1.4.5 Date of service.
 - 1.4.6 Type of service.
 - 1.4.7 Work order numbers.
 - 1.4.8 Equipment number.
- 1.5 An annual maintenance schedule shall be established for each piece of physical plant equipment. The schedule shall be recorded on a Maintenance Schedule, Form 403-7.

403.09 GENERATOR/BACK-UP GENERATOR OPERATION AND MAINTENANCE

- 1.1 Inspection/Maintenance Service Documentation System Packet - The Physical Plant Manager shall establish an Inspection/Maintenance Service Documentation System Packet for all generators located at the institution. This packet shall include, but not be limited to:
- 1.1.1 Operation and Maintenance Chart - The manufacturer's listing of service/maintenance intervals in accordance with the manufacturer's specifications.
 - 1.1.2 Maintenance Record - Back-up Generator, Form 403-5 - Documentation of operating hours, fuel usage, fuel cost, lubrication, parts used, parts cost, labor hours, labor cost, total hours of down time, and service performed.
 - 1.1.3 Orientation Report - A report that shall include, but not be limited to, the following:
 - 1.1.3.1 Documentation from prior to and following simulated testing of load conditions of engines/generators.
 - 1.1.3.2 Documentation from prior to and following monthly operations to observe the mechanical functioning of engines/generators.
 - 1.1.3.3 Documentation following the operation of engines/generators during emergencies.
 - 1.1.4 Preventative Maintenance Log - Back-up Generator, Form 403-4 - Preventative maintenance information, such as the equipment model, equipment serial number, operating hours, maintenance items, problems and recommendations, which shall be documented and maintained in accordance with this Department Order.
- 1.2 Preventative Maintenance of generators and back-up generators shall be performed by maintenance staff and documented on preventative maintenance records in accordance with this Department Order.

403.10 PEST AND WEED CONTROL

- 1.1 Department institutions shall utilize a contract service vendor, licensed by the Arizona Structural Pest Control Board, that employs state certified application methods for the control and eradication of pests, inclusive of weed control.

- 1.2 Institutions may obtain permission from the appropriate Regional Operations Director to utilize the services of a licensed staff pest controller and certified applicator. DOA Risk Management, Insurance Services, must approve an additional liability insurance rider to cover licensed and/or certified staff prior to using their services.
- 1.3 Inmates **shall not** apply pest control substances, but may place and monitor nonpoisonous, non-lethal traps.

403.11 REFUSE COLLECTION AND REMOVAL

- 1.1 Facilities shall contract Refuse Collection, or shall transport site refuse to approved landfills with Department container vehicles designed to haul refuse.
- 1.2 Refuse materials considered hazardous substances are to be collected, manifested, and transported by state contract hazardous material removal vendors. Institutions that discover a hazardous substance are to contact the Department's Administrative Services Purchasing office for removal vendor/contractor information, and then contact the vendor/contractor for services.
- 1.3 Waste receptacles shall be emptied at the end of each shift and prior to staff departure from structures.
- 1.4 Smoking waste shall be placed in covered receptacles designed for flammable waste storage. Smoking waste receptacles are to be dampened or their contents left undisturbed for at least 8 hours prior to emptying into dumpsters.
- 1.5 All building refuse dumpsters shall have covers and be stored in areas approved by the Warden.
- 1.6 Construction waste dumpsters or containers shall not be used for food or office waste collections.
- 1.7 Institutions are to ensure that collection of food waste refuse occurs a minimum of twice weekly. Removal of food waste may require an increase in frequency during the summer months.
- 1.8 General office refuse collection frequencies will be determined by the institutions waste loadings.
- 1.9 Institutions that are participating in a recycling program may adjust the frequency of waste loading collections as needed.
- 1.10 Recycling is encouraged where it is economically feasible and a program is available.

DEFINITIONS

ANNUAL MAINTENANCE - Service and inspection of equipment that requires attention once a year in accordance with environmental industry standards and/or manufacturers' recommendations, or as indicated by the frequency of operational failures (e.g., drainage of potable water storage systems in order to inspect operational conditions, and to determine requirements for painting and cathodic protection and hydropneumatic servicing).

COOLANT- Usually a mixture of equal amounts of water and ethylene glycol that helps to control internal engine temperature during operation of an internal combustion engine. (Consult the owners manual to determine the proper coolant compounds for the engine to be operated.) Tap water is not recommended unless chlorides are less than 40 parts per million (ppm), sulfates less than 100ppm, total dissolved solids less than 340ppm and hardness less than 170ppm.

EMERGENCY MAINTENANCE - Service or maintenance that requires attention within two hours. Following are examples of emergency maintenance activities:

- Repair of security system failures (e.g., inoperative detection systems and inoperative locks).
- Elimination of hazards concerning fire safety.
- Repair of life-threatening gas, water or electrical failures.

ENGINE - For the purposes of this Department Order, equipment that provides mechanical energy to operate a generator.

GENERAL MAINTENANCE - Service or maintenance that requires action as soon as reasonably possible but not within a specific time requirement.

GENERATOR - A machine that converts mechanical energy provided by an engine into electrical energy.

IMPORTANT MAINTENANCE - Service or maintenance that requires action within twenty-four hours. Following are examples of important maintenance activities:

- Inspection and repair of a security zone with a high rate of false alarms.
- Repair of roof leaks.
- Repair of a broken window in a secure area.

LOAD CONDITION - Actual operating condition, either while simulating full power demand or during a demand for emergency power.

MAJOR MAINTENANCE - An overhaul of the engine/generator, normally provided by a manufacturer's certified service center that constitutes major component replacement/repair and engine/generator disassembly.

MONTHLY MAINTENANCE - Service and inspection of equipment that requires attention once each month in accordance with environmental industry standards and/or manufacturers' recommendations, or as indicated by the frequency of operational failures. Following are examples of monthly maintenance activities:

- Testing of emergency generators under load conditions.
- Servicing of air handler filters, pads, belts, pumps, compressors, timers and other items as determined by qualified maintenance staff.

OPERATOR - An employee assigned to an institution who operates water and wastewater treatment plants in compliance with established regulations.

PREVENTATIVE MAINTENANCE - Maintenance and inspections that are performed at regularly scheduled intervals.

QUARTERLY MAINTENANCE - Service and inspection of equipment that requires attention once each quarter in accordance with environmental industry standards and/or manufacturers' recommendations, or as indicated by the frequency of operational failures. Following are examples of quarterly maintenance activities:

- Servicing, including lubrication of pumps, blowers, motors, engines, compressors, gear cases and transmissions.
- Draining, cleaning, cycling or adjustments of water heaters, small boiler heaters, furnaces, water separators, water filters, water conditioners, evaporative coolers and other equipment as determined by qualified maintenance staff.

SEMI-ANNUAL MAINTENANCE - Service and inspection of equipment and institutional structures that require attention on a semiannual basis. Following are examples of semiannual maintenance activities:

- Inspections of structures to ensure structural integrity, life safety compliance, code compliance and general maintenance requirements.
- Inspection of equipment to determine operational status, necessity of replacement, repair or maintenance, general condition and salvage possibilities.

STORAGE TANK - Fuel storage tanks vary in placement, content and configuration. Some tanks are located on the same skid/platform as the engine/generator, some are above ground and adjacent to the engine/generator, and some are below ground and supported by a day tank. Following are some characteristics of the various types of storage tanks.

- Above-Ground Tanks - Generally considered to be environmentally safer and easier to maintain than tanks that are below ground.
- Below-Ground Tanks - Require annual testing of the tank's tightness, or inspection of electronic leak sensors on tanks so equipped, to determine if leakages have occurred. Tanks that are leaking are repaired or replaced.
- Day Tanks - Subsystems that support below-ground tanks by storing fuel that is transferred from the below-ground tank as an energy source for the generator's engine.

URGENT MAINTENANCE - Service or maintenance that requires attention within eight to sixteen hours. Following are examples of urgent maintenance activities:

- Repair of electric door and gate operators.
- Repair of security perimeter lights.
- Repair of a failed security zone.

WEEKLY MAINTENANCE - Service and inspection of equipment that requires frequent monitoring to ensure proper operation, as indicated by the manufacturer or by the frequency of operational failures. Following are examples of weekly maintenance activities:

- Testing of emergency generators when not under load conditions.
- Checks of oil and fuel levels in such emergency or critical use items as blowers, sump pumps, generators and other equipment as determined by qualified maintenance staff.

{Original Signature on File}

Charles L. Ryan
Director

FORMS LIST

- 403-2, Maintenance Work Order Request
- 403-3, Maintenance Work Order Supplement
- 403-4, Preventative Maintenance Log - Back-up Generator
- 403-5, Maintenance Record - Back-up Generator
- 403-6, Equipment Inventory Record
- 403-7, Maintenance Schedule
- 403-8, Inspection Report