

VHA HEALTHCARE ENGINEERING PROGRAM REQUIREMENTS

- 1. SUMMARY OF CONTENT:** This Veterans Health Administration (VHA) directive provides policy, qualifications and responsibilities for VHA Healthcare Engineering Programs.
- 2. RELATED ISSUES:** VHA Directive 1810, Boiler and Boiler Plant Operations, dated January 1, 2023; VHA Directive 1061(1), Prevention of Health Care-Associated Legionella Disease And Scald Injury From Water Systems, dated February 16, 2021; VHA Directive 7515(1), Medical Gas And Vacuum Systems, dated September 27, 2019; VHA Directive 1028, Facility Electrical Power Systems, dated February 24, 2020; VHA Directive 1002.1, Non-Recurring Maintenance Program, dated May 6, 2020; VHA Directive 1002.02, VHA Minor Construction Program, dated August 23, 2022; VHA Directive 1820, Enhanced Sharing Use of Space Program, dated November 7, 2017; VHA Directive 7707, VHA Green Environmental Management System and Governing Environmental Policy, dated April 1, 2021; VA Directive 6500, VA Cybersecurity Program, dated February 24, 2021.
- 3. POLICY OWNER:** The Office of Healthcare Engineering (19HEFE) is responsible for the contents of this directive. Questions may be addressed to the Director, Office of Healthcare Engineering at VHAHealthcareEng@va.gov.
- 4. RESCISSIONS:** VHA Directive 2005-035, Qualifications for Managing VHA Health Care Facilities Engineering Programs, dated August 22, 2005, is rescinded.
- 5. RECERTIFICATION:** This VHA directive is scheduled for recertification on or before the last working day of April 2028. This VHA directive will continue to serve as national policy until it is recertified or rescinded.
- 6. IMPLEMENTATION SCHEDULE:** This directive is effective upon publication.

**BY DIRECTION OF THE OFFICE OF
THE UNDER SECRETARY FOR HEALTH**

/s/ Alfred A. Montoya Jr., MHA, FACHE
Acting Assistant Under Secretary for Health
for Support

April 10, 2023

VHA DIRECTIVE 1811

NOTE: All references herein to Department of Veterans Affairs (VA) and VHA documents incorporate by reference subsequent VA and VHA documents on the same or similar subject matter.

DISTRIBUTION: Emailed to the VHA Publications Distribution List on April 12, 2023.

CONTENTS

VHA HEALTHCARE ENGINEERING PROGRAM REQUIREMENTS

1. POLICY 1

2. RESPONSIBILITIES 1

3. TRAINING 5

4. RECORDS MANAGEMENT 6

5. BACKGROUND 6

6. REFERENCES 6

APPENDIX A

VHA HEALTHCARE ENGINEERING PROGRAM REQUIREMENTS A-1

VHA HEALTHCARE ENGINEERING PROGRAM REQUIREMENTS

1. POLICY

It is Veterans Health Administration (VHA) policy that Department of Veterans Affairs (VA) owned or leased medical facilities establish a Healthcare Engineering Program to ensure and maintain a safe, resilient and efficient environment through operation, maintenance and modernization of VHA infrastructure for delivery of high-quality health care. **AUTHORITY:** 38 U.S.C. § 7301(b).

2. RESPONSIBILITIES

a. **Under Secretary for Health.** The Under Secretary for Health is responsible for ensuring overall VHA compliance with this directive.

b. **Assistant Under Secretary for Health for Support.** The Assistant Under Secretary for Health for Support is responsible for establishing policy and providing guidance and oversight as necessary to ensure the timely and successful implementation of this directive.

c. **Assistant Under Secretary for Health for Operations.** The Assistant Under Secretary for Health for Operations is responsible for:

(1) Communicating the contents of this directive to each of the Veterans Integrated Service Networks (VISNs).

(2) Assisting VISN Directors to resolve implementation and compliance challenges in all VA medical facilities.

(3) Providing oversight of VISNs to ensure compliance with this directive and its effectiveness.

d. **Executive Director, Healthcare Environment and Facilities Programs.** The Executive Director, HEFP is responsible for:

(1) Ensuring that the VHA Healthcare Engineering Program and policies support VHA strategic goals and objectives.

(2) Annually assessing the VHA Healthcare Engineering Program for resource needs, currency and effectiveness.

(3) Overseeing, facilitating and aligning the Office of Healthcare Engineering (OHE) to administer the national VHA Healthcare Engineering Program, assess policy compliance and provide technical engineering consults and authoritative interpretations of requirements (e.g., codes, policies, standards).

(4) Coordinating VHA Healthcare Engineering Program assessments, reporting and corrective actions with the Assistant Under Secretary for Health for Operations, national program office directors, VISN Directors and VA medical facility Directors.

e. **Director, Office of Healthcare Engineering.** The Director, OHE is responsible for:

(1) Providing oversight of the VISN and VA medical facility compliance with this directive and ensuring that corrective action is taken when non-compliance is identified.

(2) Developing, maintaining and assessing VHA Healthcare Engineering Program policies, guidelines and standards and providing authoritative guidance and clarification related to their implementation. **NOTE:** For additional information, see <http://vaww.hefp.va.gov>. This is an internal VA website that is not available to the public.

(3) Developing VHA Healthcare Engineering Program performance metrics based on Federal, State and local codes, statutes and regulations; applicable EOs; and VA and VHA standards and directives to assess the performance of Healthcare Engineering Programs at the VISN and VA medical facility levels.

(4) Assigning VHA Healthcare Engineering Program representatives to:

(a) VHA's formal and ad-hoc intra- and inter-agency work groups, committees and boards to ensure input and compliance based on OHE priorities.

(b) Represent VA as subject matter experts on Federal interdepartmental and other Governmental agency and non-governmental organization (NGO) work groups, task forces and committees.

(5) Reviewing and approving, as appropriate, requests for deviations from VA and VHA infrastructure design and operational requirements and standards. **NOTE:** Deviations from public laws, Federal regulations, EOs or national codes are not permitted. This deviation process for requirements and standards is different than the national waiver process outlined in VHA Notice 2023-02, Waivers to VHA National Policy, dated March 29, 2023. Compliance with VHA Notice 2023-02 is also required.

(6) Coordinating VHA Healthcare Engineering Program assessments, reports and corrective actions with national program office directors to ensure concurrence.

(7) Establishing a National Healthcare Engineering advisory board comprising engineering expertise within VISN and VA medical facilities to provide input on national topics and provide expert advice to the Director, OHE. **NOTE:** For additional information, see <https://dvagov.sharepoint.com/sites/VHA10NA5E/Pages/Healthcare%20Engineering%20Advisory%20Board.aspx>. This is an internal VA website that is not available to the public.

f. **Veterans Integrated Service Network Director.** The VISN Director is responsible for:

(1) Ensuring that all VA medical facilities within the VISN comply with this directive and informing the Assistant Under Secretary for Health for Operations when barriers to compliance are identified.

(2) Providing resources needed to comply with VHA Healthcare Engineering Program policies and performance metrics.

(3) Monitoring, enforcing and reporting to OHE on VA medical facility performance in meeting VHA Healthcare Engineering Program policies and performance metrics.

(4) Assigning a VISN Lead Healthcare Engineer.

(5) Ensuring that each VA medical facility assigns a Chief Healthcare Engineer compliant with the requirements defined in paragraph 2.j.

(6) Supporting the full participation of Healthcare Engineers from within the VISN on OHE-approved committees, councils and work groups.

(7) Ensuring required reports and data calls are submitted by the required submission date and are accurate and complete. **NOTE:** For further information, see Appendix A, paragraph 4.

(8) Establishing a VISN-wide process for continuously assessing compliance with this directive.

(9) Annually completing an assessment report of compliance and effectiveness with this directive for all VA medical facilities within the VISN and submitting a summary report of any deficiencies and recommended corrective actions to the Director, OHE for review. **NOTE:** VA medical facilities must be fully compliant with requirements, standards and conditions of any approved deviations (see paragraph 2.e.(5) above).

(10) Reviewing and concurring on VA medical facility requests for deviations from VA and VHA infrastructure design and operational standards and requirements and forwarding them to the Director, OHE.

g. **Veterans Integrated Service Network Lead Healthcare Engineer.** The VISN Lead Healthcare Engineer is responsible for:

(1) Developing VISN-specific plans and managing VISN-wide implementation and sustainment of Healthcare Engineering Programs at VA medical facilities within the VISN.

(2) Participating in applicant review panels for and providing VISN concurrence on the referred VA medical facility Chief Healthcare Engineer applicants and VA medical facility Assistant Chief Healthcare Engineers.

(3) Prioritizing and coordinating corrective action plans when barriers to compliance are identified.

h. **VA Medical Facility Director.** The VA medical facility Director is responsible for:

(1) Ensuring overall VA medical facility compliance with this directive and that appropriate corrective action is taken if non-compliance is identified.

(2) Ensuring that each VA medical facility assigns a VA medical facility Chief Healthcare Engineer compliant with the requirements defined in paragraph 2.j.

(3) Informing the VISN Director and the VISN Lead Healthcare Engineer when barriers to compliance are identified and coordinating with the VISN Director in the development and prompt resolution of all necessary corrective actions, including funding, to address any identified non-compliance with this directive.

(4) Monitoring, enforcing and reporting on VA medical facility performance in meeting VHA Healthcare Engineering Program policies and performance metrics.

(5) Notifying the VISN Director of changes in the VA medical facility's Healthcare Engineering Program leadership (e.g., VA medical facility Chief Healthcare Engineer, VA medical facility Assistant Chief Healthcare Engineer) within 14 calendar days of the change.

(6) Supporting the full participation of Healthcare Engineers from within the VA medical facility on OHE-approved committees, councils and work groups at the national, inter-agency and NGO levels.

(7) Ensuring each VHA-maintained VA medical facility has a complete current inventory of buildings, structures, site improvements, building systems (including automation/controls) and utility systems, to the equipment and component levels, in the approved maintenance management system. **NOTE:** For details see Appendix A.

(8) Ensuring required reports and data calls are submitted by the required submission date and are accurate and complete. **NOTE:** See Appendix A, paragraph 4 for further information.

(9) Annually completing the compliance and effectiveness assessment of the VA medical facility's Healthcare Engineering Program and submitting a summary report of any deficiencies and recommended corrective actions to the VISN Director for review.

(10) Ensuring the VA medical facility Chief Healthcare Engineer reports directly to a VA medical facility Executive Leadership team member (e.g., the Associate Director or equivalent Chief Operating Officer of the VA medical facility).

i. **VA Medical Facility Associate Director.** The VA medical facility Associate Director or equivalent Chief Operating Officer in accordance with service alignment is

responsible for selecting the VA medical facility Chief Healthcare Engineer upon VISN concurrence.

j. **VA Medical Facility Chief Healthcare Engineer.** *NOTE: For purposes of this directive, the VA medical facility Chief Healthcare Engineer (who may also be known as the Chief Engineer; Chief, Facility & Plant Management; Chief, Facilities Management Service) is the supervisory healthcare engineer meeting qualifications of VA Handbook 5005, Staffing, Appendix G72, dated March 18, 2022. The VA medical facility Chief Healthcare Engineer is responsible for:*

(1) Providing professional engineering leadership to the VA medical facility in all aspects of policy, regulatory, statutory and safety compliance to maintain the VA medical facility's various accreditations and operating permits.

(2) Ensuring the VA medical facility's utility and building systems, physical infrastructure and capital programs are operated and maintained safely and effectively, including compliance with this directive and all VHA Healthcare Engineering Program Requirements detailed in Appendix A.

(3) Participating in or chairing VA medical facility committees that require engineering input and reporting, such as:

(a) The Environment of Care (EOC) Committee and associated reporting on utility and building systems, as well as participation in recurring physical environmental rounds and inspections. *NOTE: For additional information, see VHA Directive 1608, Comprehensive Environment of Care Program, dated June 21, 2021.*

(b) The Water Safety Committee and associated input to VHA policies, plans and reports as well as managing engineering controls and other engineering actions. *NOTE: For additional information about the Water Safety Committee, see VHA Directive 1061(1), Prevention of Health Care-Associated Legionella Disease and Scald Injury from Water Systems, dated February 16, 2021.*

(c) The Construction Safety Committee and associated reporting and rounds. *NOTE: For additional information about the Construction Safety Committee, see VHA Directive 7715, Safety and Health During Construction, dated April 6, 2017.*

(4) Overseeing human resource management for the VA medical facility Healthcare Engineering Department, including development and implementation of succession and workforce plans, managing employee recruitment, development, training, performance and conduct.

3. TRAINING

Healthcare engineering training content and retraining frequency must be established by the VA medical facility in order to maintain competency for the execution of the requirements of this directive. For additional information about VA medical facility training requirements, see Appendix A.

4. RECORDS MANAGEMENT

All records regardless of format (e.g., paper, electronic, electronic systems) created by this directive must be managed as required by the National Archives and Records Administration (NARA) approved records schedules found in VHA Records Control Schedule 10-1. Questions regarding any aspect of records management should be addressed to the appropriate Records Officer.

5. BACKGROUND

The VHA Healthcare Engineering Program ensures the safe, efficient, reliable and resilient operation and maintenance of the VA medical facility infrastructure and systems to support direct patient care. The VHA Healthcare Engineering Program provides technical expertise in managing the medical care environment, including hospital building features, critical utility systems, automated building management and control systems, sustainment, safety systems and fire protection systems.

6. REFERENCES

- a. P.L. 115-182.
- b. 38 U.S.C. § 7301(b).
- c. VA Handbook 5005, Staffing, Appendix G72, dated March 18, 2022.
- d. VHA Directive 1002.02, VHA Minor Construction Program, dated August 23, 2022.
- e. VHA Directive 1002.1, Non-Recurring Maintenance Program, dated May 6, 2020.
- f. VHA Directive 1028, Facility Electrical Power Systems, dated February 24, 2020.
- g. VHA Directive 1061(1), Prevention of Health Care-Associated Legionella Disease and Scald Injury from Water Systems, dated February 16, 2021.
- h. VHA Directive 1608, Comprehensive Environment of Care Program, dated June 21, 2021.
- i. VHA Directive 1810, Boiler and Boiler Plant Operations, dated January 4, 2023.
- j. VHA Directive 1820, Enhanced Sharing Use of Space Program, dated November 7, 2017.
- k. VHA Directive 7515(1), Medical Gas and Vacuum Systems, dated September 27, 2019.
- l. VHA Directive 7715, Safety and Health During Construction, dated April 6, 2017.

m. VHA Notice 2023-02, Waivers to VHA National Policy, dated March 29, 2023.

n. Healthcare Engineering Advisory Board:

<https://dvagov.sharepoint.com/sites/VHA10NA5E/Pages/Healthcare%20Engineering%20Advisory%20Board.aspx>. **NOTE:** *This is an internal VA website that is not available to the public.*

o. Healthcare Environment and Facilities Programs: <http://vaww.hefp.va.gov>. **NOTE:** *This is an internal VA website that is not available to the public.*

VHA HEALTHCARE ENGINEERING PROGRAM REQUIREMENTS

Department of Veterans Affairs (VA) medical facilities must be operated and maintained to ensure safety, security, efficiency and resilience of operations. Each VA medical facility Healthcare Engineering Program must:

1. GENERAL

a. Comply with Federal, State and local codes, statutes and regulations; applicable Executive Orders; and all applicable VA and Veterans Health Administration (VHA) standards and directives. **NOTE:** *When a VA medical facility cannot comply with these standards, a deviation request must be submitted to the Director, Office of Healthcare Engineering (OHE) for approval. In the absence of an approved deviation, compliance is required as noted.*

b. Meet VHA Healthcare Engineering Program performance metrics and compliance standards established by the Director, OHE and report the required documentation of compliance annually to the Veterans Integrated Service Network (VISN).

c. Develop, update, communicate and verify compliance with VA medical facility Healthcare Engineering standards and procedures to ensure department operations are consistent and verifiable. This must include:

- (1) Utility system management and maintenance program.
- (2) Lock Out Tag-Out program and associated procedures for all equipment.
- (3) Boiler program requirements.
- (4) Electrical program requirements.
- (5) Water safety program requirements.
- (6) Medical gas program requirements.
- (7) Energy management program requirements.
- (8) Fleet program requirements (as applicable to the VHA Healthcare Engineering Program).
- (9) Infrastructure documentation program, including maintenance of as-built drawings for buildings, structures, site improvements, building systems (including automation/controls) and utility systems (to the equipment and component levels), utilities and equipment, Operations and Maintenance manuals, testing documents, life safety and other required Environment of Care (EOC) documentation.

(10) Aboveground and underground storage tanks and associated components and systems.

d. Develop the budget for the Healthcare Engineering Program, requesting funds through the VA medical facility budget process and tracking the status of the budget. The budget management system must include processes for internal department fund requests and review process, as well as an annual call and budget review.

e. Ensure that staff administering contracts maintain competency in the activity and current Contracting Officers Representative certification. A central system must be used to track and manage all Healthcare Engineering Program contracts to ensure continuity, tracking of budget and responsivity.

f. Establish a written training program for all healthcare engineering staff to ensure competencies are maintained through regular documented training as applicable to the positions, including verification of competency. **NOTE:** See VA Handbook 5005, Staffing, Appendix G72, Healthcare Engineer Qualification Standard GS-0801, dated March 18, 2022, for knowledge, skills and abilities related to competencies.

g. Ensure that information technology (IT) assets utilized in the operation and support of VA medical facility infrastructure follow VA and VHA IT procurement and security policies to ensure the proper acquisition and secure implementation and maintenance of Healthcare Engineering Program related IT special purpose systems in close collaboration with VA medical facility, VISN and VA Office of Information Technology staff.

2. UTILITY SYSTEM MANAGEMENT

a. Operate and maintain a utility system management program that addresses the installation, operation and maintenance of utility systems and equipment, inclusive of associated automation/controls systems, and identifies and prioritizes utilities critical to the VA medical facility's operation.

b. Establish written preventive maintenance and work order programs that use VHA standard maintenance management system and associated standards, including:

(1) Ensuring the maintenance and work order programs are based on the VA medical facility utility system management program, including identifying critical utilities and sub-elements.

(2) Ensuring the program is based on preventive maintenance concepts focused on maximizing equipment and system reliability and uptime. **NOTE:** Preventive maintenance is the regular and routine maintenance of equipment and assets to keep them running and prevent costly unplanned downtime due to unexpected equipment failure.

(3) Ensuring written procedures are in place for the execution of maintenance activities for all equipment and systems.

c. Maintain an inventory and establish programs for critical utilities considering the priority and risk of the systems and equipment.

d. Conduct and document an annual risk assessment of the following systems to prioritize based on risk to operations and resilience (e.g., American Society of Healthcare Engineers template or equivalent). At a minimum, the following utility system groups listed below must be analyzed, with the appropriate sub-elements included in the program. Each group must be broken down into sub-elements to provide sufficient detail of performance and analyze effectiveness:

- (1) Fire safety equipment and systems.
- (2) Life safety features of the building.
- (3) Heating, ventilation and air conditioning (HVAC) systems.
- (4) Electrical systems.
- (5) Potable and critical water and sewer systems.
- (6) Medical gas systems.
- (7) Steam, heating hot water and chilled water.
- (8) Vertical Transport.

e. Establish a process to evaluate and report on critical utility system or equipment failures that result in curtailment of patient care services or otherwise negatively impact patients, including the completion of a root cause analysis and implementation of identified recommendations as a result of that evaluation.

f. Develop an annual report on the performance of the utility system management program and review the risk analysis and update as applicable. The report and recommended corrective actions must be submitted to VA medical facility leadership and presented to the EOC Committee. **NOTE:** For additional information about the EOC committee, see VHA Directive 1608, *Comprehensive Environment of Care Program*, dated June 21, 2021.

g. Ensure the Healthcare Engineering program includes the testing, verification, calibration and adjustment of critical systems. Documentation must be maintained for historical reference and shared with the appropriate service. These activities must include:

- (1) Ensuring the HVAC system for critical areas such as Operating Rooms, Isolation Rooms, Pharmacy compounding area and Sterile Processing Service area are tested to confirm compliance with VHA standards for airflow and pressure relationship for each room in the area and adjusted if necessary. Testing must be performed annually except Pharmacy compounding area which must be performed twice a year. The test must

verify flow from each diffuser to confirm compliance with designed conditions along with overall air change and pressure verification.

(2) Conducting and documenting generator, Automatic Transfer Switches and electrical system testing as defined in VHA Directive 1028, Facility Electrical Power Systems, dated February 24, 2020.

(3) Conducting and documenting medical gas system inspection and testing as defined in VHA Directive 7515(1), Medical Gas and Vacuum Systems, dated September 27, 2019.

(4) Conducting and documenting steam system and boiler inspection and testing as defined in VHA Directive 1810, Boiler and Boiler Plant Operations, dated January 4, 2023.

(5) Conducting and documenting fire alarm and life safety inspections and testing as defined by National Fire Protection Association requirements.

(6) Conducting and documenting water system inspections and testing as defined by VHA Directive 1061(1), Prevention of Health Care-Associated Legionella Disease and Scald Injury from Water Systems, dated February 16, 2021, and applicable Association for the Advancement of Medical Instrumentation standards.

3. CAPITAL PROGRAM REQUIREMENTS

NOTE: For additional information about capital program requirements, see VHA Directive 1810; VHA Directive 7515(1); VHA Directive 1028; VHA Directive 1061(1); VHA Directive 1002.1, Non-Recurring Maintenance Program, dated May 6, 2020; VHA Directive 1002.02, VHA Minor Construction Program, dated August 23, 2022; and VHA Directive 1820, Enhanced Sharing Use of Space Program, dated November 7, 2017.

a. Conduct internal information gathering sessions to establish a necessary and justified reasonable capital investment plan for at least the next 3 years of expected funding, to establish a near-term capital master plan.

b. Address VA medical facility conditions and needs consistently as part of the capital master plan.

c. Ensure that the capital master plan is consistent with the workload, space and market-level projections and analysis.

d. Provide information and details on the capital master plan to the VISN Capital Asset Manager in the desired format.

e. Assist in the data entry of projects comprising the capital master plan into the department-approved collection system in the required manner.

f. Prepare capital submissions in advance of the need to ensure processing and action.

g. Establish a minimum necessary period of performance for each capital contract deliverable.

h. Review and respond to activities or submissions as part of the project development, bidding, obligation, execution and delivery phases to minimize VA medical facility downtime and disruption.

i. Ensure project closeout, including capitalization, is completed within 45 business days of financial closeout, through beneficial occupancy or project completion, as needed.

j. Ensure salient and accurate feedback is provided for official contractor performance documentation.

k. Comply with directives, policies and standards issued by the HEFP-Capital Asset Management Program.

4. REPORTING REQUIREMENTS

Collect information and complete reports as required by this directive, VHA Healthcare Engineering and Capital Programs policy and ad hoc data calls and surveys by the required submission date, including:

- a. Annual Capital Resource survey.
- b. Annual Electrical survey.
- c. Quarterly boiler reporting.
- d. Quarterly water safety sampling and annual program review.
- e. Quarterly deferred maintenance.
- f. Quarterly environmental liabilities.
- g. Quarterly energy consumption and cost.
- h. Annual EOC Program Reviews.