Date Issued: November 10, 2026	Page No: 1	Document No.: SOP-FIRE-10
Revision: V1	Subject: Fire Pump Inspection	

1. Introduction

The purpose of this Standard Operating Procedure (SOP) is to establish a standardized process for inspecting and, testing fire pumps at Queen's University to ensure that fire protection systems remain operational and deficiencies are identified, tracked, and corrected in a timely manner.

2. Scope

This SOP applies to all University-owned and operated fire pump systems and associated equipment installed to support fire protection systems across Queen's University facilities. It establishes the requirements for the routine inspection, testing, maintenance, documentation, and reporting of fire pump system activities.

This SOP applies to Environmental Health and Safety (EHS) personnel responsible for conducting monthly fire pump inspections, external qualified contractors retained to perform annual inspections, testing, and maintenance, and Facilities personnel responsible for addressing identified deficiencies and corrective actions.

The procedure covers the identification and reporting of deficiencies, work order initiation and tracking, verification of corrective actions, maintenance of required records, and activities necessary to ensure fire pump systems remain operational and compliant with applicable legislative, regulatory, and fire code requirements. This SOP does not replace manufacturer maintenance requirements or govern the work performed by qualified fire protection contractors and service providers.

2. Purpose

The purpose of this SOP is to establish a consistent process for the inspection, testing, maintenance, and documentation of fire pumps at Queen's University. This procedure ensures fire pumps remain operational and reliable, deficiencies are promptly identified and reported, corrective actions are completed through the Client Services (FixIt) work order system, and repairs are verified and documented to support the ongoing effectiveness of the University's fire protection systems.

3. Applicable Legislation and Standards:

The following legislation, regulations, and standards apply to this SOP:

Fire Protection and Prevention Act, 1997 (Ontario), which establishes the legal framework for fire safety requirements in Ontario.

Ontario Fire Code (O. Reg. 213/07) under the Fire Protection and Prevention Act, which requires fire protection systems to be inspected, tested, maintained, and kept in operating condition. The owner is responsible for ensuring compliance with the Fire Code.

Ontario Fire Code, Division B, Section 6.6 – Water Supplies for Fire Protection, which specifically addresses fire protection water supply systems and states that compliance with **NFPA 25** inspection, testing, and maintenance requirements for fire pumps is deemed to satisfy Ontario Fire Code requirements.

NFPA 25: Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems, as referenced by the Ontario Fire Code, which establishes the minimum requirements for the inspection, testing, and maintenance of fire pumps and associated equipment.

5. Definitions

Deficiency - Any condition, fault, impairment, damage, malfunction, or non-compliance identified during an inspection, test, or maintenance activity that may affect the operation, reliability, or performance of a fire pump or associated fire protection equipment.

Fire Pump - A dedicated pump that provides water flow and pressure to fire protection systems, including sprinkler and standpipe systems, when the available water supply is insufficient to meet system demands.

Fire Pump Technician - The designated Queen's University employee responsible for oversight of fire pump systems, review of inspection and testing records, verification of corrective actions, and maintenance of supporting documentation.

Client Services (FixIt) - Client Services group responsible for triaging issues relating to building maintenance, Custodial Support Services and grounds.

Impairment - A condition where a fire pump or associated fire protection system is wholly or partially out of service, operating below its intended capability, or otherwise unable to provide the required level of fire protection.

Inspection - A visual examination of a fire pump and associated equipment conducted to verify that the equipment appears to be in operating condition and free of obvious deficiencies.

Testing - A procedure performed to evaluate the operational performance and functionality of a fire pump or associated equipment under specified conditions.

Qualified Contractor - A company or individual possessing the training, experience, certifications, and qualifications necessary to perform fire pump inspections, testing, maintenance, and repairs in accordance with applicable codes and standards.

Verification Documentation - Records demonstrating that corrective actions have been completed. Examples include completed work orders, service reports, inspection reports, testing results, photographs, and commissioning records.

Work Order - A documented maintenance request generated through the FixIt system to track the investigation, repair, and completion of identified deficiencies.

6. Responsibilities

6.1 Responsibilities of the Department of Environmental Health and Safety

The Department of Environmental Health and Safety (EHS) is responsible for ensuring that departments are aware of and understand their responsibilities under this procedure. EHS shall conduct monthly fire pump inspections to verify the operational status of fire pump systems and identify any deficiencies or concerns. Inspection findings shall be reviewed, documented, and maintained in accordance with university record retention requirements. Where deficiencies requiring corrective action are identified, EHS shall submit the issue through the FixIt system for tracking and resolution. EHS shall also communicate significant deficiencies, system impairments, or other issues that may impact fire protection system reliability to Facilities and any other affected stakeholders to facilitate timely corrective action and ensure ongoing compliance with applicable fire safety requirements.

6.2 Responsibilities of External Fire Protection Contractor

The external fire protection contractor is responsible for performing annual inspections, testing, and maintenance of fire pump systems in accordance with applicable fire protection standards, regulatory requirements, and manufacturer specifications. Upon completion of inspection and testing activities, the contractor shall provide Queen’s University with written reports

documenting the work performed, test results, identified deficiencies, and any recommended corrective actions. The contractor shall promptly communicate any deficiencies that may impact the reliability or operation of the fire protection system and submit all required documentation to the University to support regulatory compliance, record retention, and corrective action tracking.

6.3 Responsibilities of Client Services (FixIt)

Client Services is responsible for coordinating corrective maintenance activities arising from fire pump inspections, testing, and maintenance activities. Upon notification of identified deficiencies, Client Services shall create and assign the necessary work orders and purchase orders (POs) to facilitate timely corrective actions. Client Services shall monitor the progress and completion of all corrective maintenance activities to ensure deficiencies are addressed appropriately and within required timeframes. In addition, Client Services shall maintain records related to maintenance and repair activities and provide relevant documentation to the EHS Fire Pump Technician to support regulatory compliance, record retention, and verification that corrective actions have been completed.

6.4 Responsibilities of Facilities

Facilities is responsible for supporting the ongoing reliability and compliance of fire pump systems across the University. Facilities shall ensure that fire pump room temperatures are checked daily to verify that environmental conditions remain within acceptable operating parameters. Facilities personnel shall report any observed fire pump system deficiencies through the FixIt system and support the timely completion of required inspections, testing, maintenance, and corrective actions. Facilities shall ensure that deficiencies affecting fire protection systems are assigned an appropriate priority to minimize risk and maintain system readiness. The department shall also allocate the resources necessary to complete corrective maintenance activities and process payments for contractor services associated with fire pump inspections, testing, maintenance, and repairs.

6.5 Responsibilities of Fire Pump Technician

The Fire Pump Technician is responsible for overseeing the fire pump inspection and deficiency management process to ensure the continued reliability of fire protection systems. The Fire Pump Technician shall perform monthly inspections of fire pump systems in accordance with applicable fire protection standards, review inspection reports and deficiency notices, and assess the status of identified deficiencies. The Fire Pump Technician shall verify that corrective actions have been completed, receive and maintain documentation confirming repairs or corrective measures, and

ensure that deficiencies have been adequately addressed and properly documented. In addition, the Fire Pump Technician shall maintain records of completed corrective actions and supporting documentation to demonstrate compliance with applicable regulatory requirements, inspection standards, and University record retention practices.

4. Monthly Fire Pump Inspections

4.1 Inspection Frequency

Monthly fire pump inspections shall be completed by EHS.

Ontario Fire Code Section 6.6.1.5.(2) - Compliance with the **inspection**, **testing** and maintenance provisions of NFPA 25, "Standard for the Inspection, Testing and Maintenance of Water-Based Fire Protection Systems", for fire pumps is deemed to satisfy the requirements of Subsection 6.6.3.

Annual fire pump inspections shall be completed by a qualified contractor.

4.2 Inspection Activities

The inspection shall include, at a minimum:

- Verification that the fire pump room is accessible and secure
- Confirmation that room temperature and environmental conditions are acceptable
- Inspection for leaks, corrosion, damage, or unusual conditions
- Verification that valves are in the proper operating position
- Confirmation that controllers indicate normal operating status
- Inspection of pressure gauges for normal readings
- Verification that electrical power indicators are functioning as intended
- No-flow fire pump operation at rated speed for a minimum of 10 minutes
- Inspection for abnormalities in fire pump operation (i.e. noise, discharge and overheating)
- Inspection for obstruction of equipment or access routes
- Documentation of all observed deficiencies

4.3 Documentation

EHS shall document:

- Building name and location
- Date of inspection
- Inspector name
- Inspection findings
- Corrective actions required
- Deficiencies identified
- Inspection records shall be retained in accordance with Queen's University record retention requirements

5. Annual Fire Pump Inspection and Testing

5.1 Inspection Frequency

A comprehensive annual fire pump inspection and operational test shall be conducted by a qualified external fire protection contractor.

5.2 Annual Testing Requirements

The contractor shall evaluate:

- Fire pump operation
- Pump controller function
- Alarm and supervisory functions
- Flow and pressure performance
- Mechanical and electrical components
- Fuel systems (where applicable
- Overall system condition

5.3 Reporting

Upon completion of annual testing, the contractor shall provide:

- A formal inspection report
- Testing results
- List of deficiencies
- Recommendations for corrective action

- Reports shall be forwarded to EHS, Facilities, and the EHS Fire Pump Technician

6. Deficiency Management Process

6.1 Deficiency Identification

Deficiencies may be identified through:

- Monthly EHS inspections
- Annual contractor inspections
- Corrective maintenance activities
- Operational observations
    - Examples include:
        - Pump controller faults
        - Leaks or mechanical damage
        - Failed supervisory devices
        - Electrical deficiencies
        - Alarm system deficiencies
        - Impaired fire protection equipment

6.2 Client Services (FixIt) Reporting

When a deficiency is identified:

- EHS shall document the issue
- A service request shall be submitted through the FixIt system or by email to fixit@queensu.ca
- Supporting inspection reports and photographs, where applicable, shall be attached
- The deficiency shall be assigned an appropriate priority level based on risk

6.3 Work Order Creation

Upon receipt of the FixIt request:

- Facilities shall generate a work order
- The work order shall include:
    - Deficiency description
    - Building location

- Recommended corrective action
- Required completion timeframe

6.4 Corrective Action

Assigned personnel or contractors shall:

- Complete required repairs
- Document all corrective actions performed
- Record replacement parts and materials used
- Update the work order upon completion

7. Repair Verification and Close-Out

Following the completion of corrective actions, verification documentation shall be provided to the EHS Fire Pump Technician for review. Acceptable verification documentation may include completed work orders, contractor service reports, test reports, photographs, commissioning records, or other records demonstrating that the required corrective actions have been implemented. The Fire Pump Technician shall review the submitted documentation. Once the corrective action has been verified and all required documentation has been reviewed and accepted, the deficiency may be formally closed. No deficiency shall be considered resolved until satisfactory verification documentation has been received, reviewed, and approved by the EHS Fire Pump Technician.

8. Impairment Management

Where a deficiency affects the reliability, availability, or operation of a fire pump system, the issue shall be treated as a fire protection system impairment. EHS and Facilities shall be notified immediately upon identification of the deficiency so that the potential impact can be assessed and appropriate impairment procedures can be initiated. Where required, building occupants, departmental representatives, Campus Security and Emergency Services, and other affected stakeholders shall be informed of the impairment and any associated risks. Appropriate interim risk mitigation measures shall be implemented and maintained until the deficiency has been corrected and the fire pump system has been restored to normal operation. These measures may include increased monitoring, temporary fire safety precautions, or other actions deemed necessary to maintain an acceptable level of life safety and property protection.

9. Record Retention

The following records shall be retained:

- Monthly inspection reports
- Annual testing reports
- Deficiency reports
- FixIt requests
- Work orders
- Repair verification documentation
- Corrective action records
- Records shall be maintained electronically and made available upon request for compliance, audit, and regulatory purposes

10. Training

NFPA 25 outlines that weekly/monthly inspection shall be completed by Building Owner or Designated Representative. o special license required under the standard, but the following training is recommended.

- NFPA 25, Inspection, Testing and Maintenance of Water-Based Fire Protection Systems Online Training Series
- Shadowing a qualified contractor for training on fire pump systems, including operational procedures, inspection, testing and applicable Ontario regulatory requirements

A licensed contractor is required for all testing and maintenance beyond visual checks and no-flow (churn) testing.

11. Revision History

November 10, 2026 1.0 Initial Release