

Subject: Preventive Maintenance Program	Effective Date: July 26, 2012	Initiated by: Associate Director, Engineering and Infrastructure
	Supersedes: Rev 3, Dated 10/21/11	Approved: Director

Applicability

This procedure is applicable to all Laboratory experimental and facilities equipment.

Introduction

This procedure describes the Laboratory Preventive Maintenance (PM) program. The program is to be implemented using a graded approach, consistent with DOE requirements and guidance associated with PM. Availability and reliability is the goal of the Preventive Maintenance Program.

Preventive Maintenance includes: periodic maintenance, predictive maintenance arising from measured indicators, condition maintenance arising from inspection of deterioration or degraded performance, recommended maintenance per OEM guidance, and other forms of maintenance performed prior to a fault to avoid down time.

The responsibilities for implementing the PPPL Preventive Maintenance Program are as follows:

1. The Engineering & Infrastructure Department is responsible for preventive maintenance of the Laboratory's technical infrastructure and experimental devices and equipment that support experimental device operations via assigned Systems Engineers (e.g. MG, AC Power, etc.). Note: the Systems Engineer list is maintained on the Engineering Department web page.
2. The Facilities & Site Services Division (Facilities) of the Engineering and Infrastructure Department is responsible for preventive maintenance of non-experimental systems and equipment, such as the central plant, D-Site Cooling Tower, fire protection system and general plant facilities.
3. The Operations Center and its designated satellite stations maintain records. System Engineer and Facilities logs and records are considered as designated satellite stations.

Note: Subcontracted PM shall be reviewed, documented, and tracked in like fashion to internal PM activities including verification that actions were completed and recommendations are tracked.

Reference Documents

DOE Order 430.1B Real Property Asset Management
ENG-030 Technical Procedures

Procedure

A. Technical Infrastructure and Experimental Devices and Equipment

<u>Responsibility</u>	<u>Action</u>
Associate Director for Engineering and Infrastructure	1. Develops and maintains list of Systems Engineers responsible for the preventive maintenance of Laboratory equipment. The list will be posted at < http://engineering.pppl.gov/System_Engineers.pdf >
Systems Engineer	2. Develops preventive maintenance requirements (or procedure) which includes frequency of performance per Attachment 1. 3. Documents requirements for System and periodically reviews document for changes. (Annual review or review after major changes or upgrades is recommended.) Note: if no PM is required per Attachment 1, this result should be documented as not applicable. 4. Develops procedures for preventive maintenance per ENG-030. 5. Coordinates preventive maintenance activities with the Authorized Individual performing the preventive maintenance per approved procedures. 6. Reviews the preventive maintenance activity for completeness. 7. Returns completed Procedure to the Operations Center. 8. For experiment and infrastructure equipment the System Engineer may maintain records, preventive maintenance cycles, and offer data and issue reports as needed. The appropriate RLM shall be informed of the location of records if kept outside the Ops Center. 9. Periodically reviews list for completeness and evaluate frequency of performance.
Responsible Line Managers	10. Reviews and approves procedures. 11. Submits the procedure to the Operations Center for use per ENG-030 Note: System Engineer and Facilities records are satellites of the Operations Center for Records Management purposes.

B. Non-experimental Systems and Equipment

Responsibility

Action

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| Facilities Division Head | 1. Assigns responsibility for maintenance of non-experimental system and other facilities and equipment that falls under the auspices of the Facilities Division and periodically reviews the list for completeness and to evaluate frequency of performance. |
| Facilities Engineer | 2. Develops procedures for preventive maintenance per ENG-030 which includes frequency of performance per Attachment 1.

3. Submits the procedure to the Operations Center for use per ENG 030. |
| Facilities Data Systems Administrator | 4. Enters preventive maintenance requirements/procedure into the Facilities Preventive Maintenance System. |
| Facilities Data Systems Administrator | 5. Notifies System Engineer/Authorized Individual when preventive maintenance is required. The appropriate Work Order needs to be submitted.

6. Updates the Facility Preventive Maintenance System. |
| Facility Engineer/Authorized Individual | 7. Performs preventive maintenance and returns the Work Order to the Facility Systems Data Administrator

8. Performs preventive maintenance as required and notifies System Engineer of completion. |
| Facilities Data Systems Administrator | 9. Updates the Facilities Preventive Maintenance System |
| Operations Center | 10. Maintains preventive maintenance records including periodic review of satellite records for records management. |

Note: System Engineer and Facilities records are satellites of the Operations Center for Records Management purposes.

Attachment

1. Guidelines for Items Requiring Preventive Maintenance

Preventive Maintenance shall be required whenever one or more of the following criteria is met:

1. Failure of an item could be made less likely by performing routine preventive maintenance and there is a cost, schedule, or program benefit to performing routine PM as opposed to repairing or replacing upon failure.
2. Manufacturer's recommendation specifies a routine preventive maintenance activity cycle or frequency.
3. Item requires periodic calibration.
4. Applicable Standards or Code require preventive maintenance.
5. Expert judgment and experience
6. Experience with similar equipment or systems