ORF Manual OGD-1107-DTR-1205 Division of Technical Resources
DHHS/NIH/OD/ORF

POLICY AND PROCEDURE UTILITY SHUTDOWN

Approve:	**X**	**Disapprove:**		
Signature: / S / Director, ORF **July 1, 2009**				

1. PURPOSE:

The actions required by this procedure are essential to assure a safe shutdown and to properly plan and allocate resources.
Two types of utility shutdown are available. They are: Emergency Shutdowns and Formal Shutdowns. Both are described in this procedure. No other type of shutdown is permitted.

2. APPLICABILITY

This policy and procedure applies to all shutdowns.
An emergency shutdown is any shutdown required to avoid immediate risk of injury to persons and/or serious damage to the physical plant or the research work being conducted at NIH.
A formal shutdown is done whenever the need is not immediate; i.e. for maintenance, modifications or repair or to deactivate a space for demolition, decontamination, decommissioning or to temporarily abandon a space while waiting for work to start or for a tenant to move in.

3. POLICY:

3.1. GENERAL

Maintaining continuity of utility service within the facilities is the responsibility of the Maintenance Services Branch (MSB) and the Utilities Operations Branch (UOB), and all decisions concerning interruption and restoration of utility service, regardless of the cause, are under those authorities.
This document describes the procedure for requesting and approving a utility shutdown. Procedures on how to do utility shutdowns are found in other documents such as the National Institutes of Health Division of Engineering Services Instruction Manual 1340-5, "Control of Hazardous energy: Lockout and Tagout (LT)" Other related procedures can be found on the ORF website.
https://orfnet.od.nih.gov/

3.2. EMERGENCY (UNSCHEDULED) SHUTDOWNS:

3.2.1 GENERAL

An emergency condition is the presence of immediate risk of injury to persons and/or serious damage to the physical plant or the research work being conducted at NIH. In an emergency situation, there is no time available for obtaining clearances and approvals. All NIH employees are expected to take whatever action they can to eliminate the emergency as quickly as possible.

3.2.2 DRIVERS

Drivers for emergency shutdowns include but are not limited to:
1. Failure of essential part of system (Pipe, belt, bearing, shaft, etc.)
2. Fire
3. Flood

3.2.3 ROLES AND RESPONSIBILITIES

The following are in addition to the roles outlined in the Procedures sections.

1. If an emergency shutdown requires emergency fire or police response then a fire or police incident commander will be assigned. He/she may deem the facility to be unsuitable for occupancy. If this happens, then the Emergency Access Policy is in effect and takes precedence over all other policies until the facility is deemed suitable for occupancy.
2. If an emergency shutdown does not require emergency fire or police response, the DPM person having authority shall determine whether the facility can be occupied or which parts can and can't be occupied and what, if any, limitations must be imposed on the use of the facility.
3. The Division of Emergency Preparedness and Coordination (DEPC) must be notified anytime a facility is unsuitable for occupancy. This is done by the incident commander if fire or police personnel are involved, and if not, it is done by the MSB or UOB person in charge.
4. The MSB or UOB person in charge shall notify the specialist assigned to the facility from Division of Health and Safety (DOHS) whenever the shutdown impacts a biosafety cabinet, fume hood or other containment device. The Building Engineer shall notify the persons whose work area is affected and shall determine what needs to be done for protection of the occupants work. Where appropriate, the Building Engineer helps with protection of the occupants work.

3.3. FORMAL (SCHEDULED) UTILITY SHUTDOWNS:

3.3.1 GENERAL

A formal scheduled utility shutdown is required anytime any utility needs to be shutdown for any reason with two exceptions:

1. Unscheduled emergency shutdowns are a separate procedure.
2. When a contractor is working in an unoccupied area, he may shutdown a contractor-provided and contractor-installed valve, damper or switch located within his jobsite that does not affect any occupied space.

3.3.2 DRIVERS

Drivers for formal scheduled utility shutdowns include but are not limited to:

1. Tie in new building or addition to existing building.
2. Decommissioning an existing lab space.
3. Decontamination of an existing lab space.
4. Demolition of an existing space.
5. Deactivation of an existing space to temporarily abandon.
6. Disconnect an existing piece of equipment prior to removal.
7. Modification of an existing utility system such as rerouting utility lines to improve space efficiency.
8. Shutdown of air system for asbestos removal or other containment.
9. Shutdown of smoke detectors to avoid nuisance alarms due to welding or soldering.
10. Preventive maintenance (changing belts and filters, lubricating, etc.).
11. Tap existing lines to add new equipment.
12. Drain water lines to avoid freezing.

13. Repair of leaks or other repair.
14. Testing and commissioning.
15. Switch-over between different equipment or sources.

16. Switch-over to bypass a work area or piece of equipment.

3.3.3 ROLES AND RESPONSIBILITIES

The term Project Officer (PO), where used in this document, refers to the person leading whatever undertaking requires a shutdown.

The following are in addition to the roles and outlined in the Procedures sections.

1. The shutdown webpage is owned by MSB. The Chief, MSB is responsible for designating someone to maintain the webpage and check the queue and for communication of requests to UOB where appropriate. The Chief, MSB is accountable to the Director, DPM for all activities associated with accomplishing the shutdown and subsequent restarting.
2. All anticipated shutdowns will be identified to MSB at the earliest possible date.
3. When project design and construction documentation is involved, the PO is responsible for preparing the documentation to clearly indicate all utility tie-in points, all associated valves or disconnects, and all areas serviced by the utilities to be shutdown. Often the Building Engineer must be consulted to determine this information. The PO shall invite the Building Engineer to planning and review meetings early in the design phase to review the shutdown procedures. During the course of the work, the PO will consult with the building Engineer to confirm that any planned shutdown can be done and verify the extent of the impact. Additionally, any constraints on the duration, season, time of day, or time of week of the shutdown will be noted in the documentation.
4. The PO is accountable to the Chief, MSB for activities by a contractor during the shutdown. 5. The PO shall notify the specialist assigned to the facility from Division of Health and Safety (DOHS) whenever the shutdown impacts a biosafety cabinet, fume hood or other containment device.
6. All formal shutdown requests shall be submitted through the shutdown webpage. This shall be done as soon as the requestor has adequate information (start time, end time, type or utility, location, etc.) and no later than the minimum lead time as designated under Section 4.B, “Implementation Procedures.” If an unusual circumstance justifies accelerating the schedule, the PO should discuss with the applicable Branch Chief. Lead times will not be accelerated to correct planning or scheduling problems.
7. Formal scheduled utility shutdowns shall be either minor or major shutdowns as described below.
8. Minor Formal Shutdown:

One of the following must apply in order for a shutdown to be considered minor:

1. Shutdown affects only vacant areas.
2. Areas affected are small and either in or adjacent to the worksite and shutdown last no more than 2 hours.
3. Shutdown affects only the work area regardless of whether the area remains

occupied.

In addition, the Building Engineer must concur with any decision to do a minor shutdown and a minor shutdown may only be done where the shutdown does not include outdoor utilities, fire alarm or fire protection sprinkler systems or smoke detection, or require involvement of any personnel outside the Building Maintenance Team.

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In addition, the Building Engineer must concur with any decision to do a minor shutdown and a minor shutdown may only be done where the shutdown does not include outdoor utilities, fire alarm or fire protection sprinkler systems or smoke detection, or require involvement of any personnel outside the Building Maintenance Team.

9. Major Formal Shutdown**:**

Any shutdown request that is neither an emergency nor minor shutdown request shall be a major formal shutdown.

4. PROCEDURES

4.1 PROCEDURE FOR EMERGENCY SHUTDOWNS

Emergency shutdowns shall be done as follows:

1. The first responder shall immediately get him/herself and others out of harms way, call the fire department or police if necessary, notify the central call-in desk, phone 301-4358000,

and begin taking whatever actions are necessary to mitigate damages. If the first responder wasn't the Building Engineer the central call-in desk will dispatch the Building Engineer to the scene.

2. For shutdowns within utility plants or in the central distribution, the ranking UOB person present shall assume authority. For shutdowns within buildings other than utility plants, the ranking MSB person present shall assume authority. The only exception is if the shutdown requires a fire department or police response, an on-scene incident commander shall assume authority. The person who assumes authority shall direct all actions to eliminate the immediate risk. All ORF employees shall cooperate with and assist the person having authority.
3. The MSB or UOB person in charge is authorized to call in additional ORF employees if he/she deems it necessary to protect the facilities and/or the occupants work.
4. When the immediate risk has been controlled, the DPM person who lead the shutdown effort shall immediately notify his/her supervisor.
5. The supervisor shall designate responsibilities for clean-up or other activities that need to continue and shall report the incident to the next level supervisor and to Directors or Division of Environmental Protection (DEP) and DOHS. These reports will either be done immediately or if the shutdown was done outside normal business hours and no immediate hazard exists, the report can be done first thing on the next business day.
6. The incident shall be reported up the chain of command to the Chief, MSB or UOB. The applicable branch chief will assume, or designate somebody else to assume authority for follow-up work and the authority will involve all other necessary persons and/or groups in resolving the situation which created the emergency.
7. Within one business day, the applicable branch chief shall notify the Director, DPM of the situation including cause, action taken, damage and current status.

4.2 PROCEDURES FOR FORMAL SHUTDOWNS:

4.2.1 GENERAL

All requests for formal scheduled utility shutdowns shall be entered at the following website: https://orfnet.od.nih.gov/Utility/scripts/shutdown_request_part_a.asp

A specific date must be requested. "ASAP" requests are not acceptable.

All formal utility shutdown requests shall be electronically routed to a queue and shall be pulled from the queue by MSB personnel. The person who pulls the request is responsible for evaluation of the request, notification of the facility users, planning, communication with the PO, Facility Manager FM and others and in general identifying and doing or delegating and managing whatever tasks are necessary to make the shutdown run smoothly. The responsible MSB person shall identify and implement (delegate, manage or provide oversight on) any unique requirements. The responsible MSB person may request that the PO manage the implementation of a unique requirement. For example, the MSB person may request that the PO arrange for temporary services to the affected area so the critical functions can continue uninterrupted.

4.2.2 PROCEDURE FOR MINOR FORMAL SHUTDOWNS:

1. The PO shall discuss the shutdown with the Building Engineer before submitting it

and both will have agreed that the shutdown is minor. Request shall be submitted through the shutdown webpage no less than two working days in advance and shall be in the "approved" status for no less than one day.

2. When a request is entered at the webpage, it goes into a queue. All shutdown requests that are labeled as minor shall be taken from the shutdown queue by building maintenance within a day.

4.2.3 PROCEDURE FOR MAJOR FORMAL SHUTDOWNS:

1. The PO shall submit shutdown requests through the shutdown webpage no less than 18 calendar days in advance. The request shall be in "approved" status for no less than 14 days.
2. For any work involving underground utilities, the PO shall discuss the project with the Director of the Central Systems Team and the Director shall assign a contact person for the project. Whenever considering an underground utilities shutdown, the PO must discuss the shutdown with the contact person before submitting the request. The Central Systems Team contact person shall begin scheduling underground utility shutdowns after discussing with the PO. The Building Maintenance Team shall notify the Central Systems Team when the request has been received electronically.
3. For all major formal shutdowns, upon entry in the web based system, the system will automatically put the request in "submitted" status and move it to a queue. Support Services Team (SST) within the MSB shall pull all fire alarm and sprinkler requests from the queue for processing. Building Maintenance Team shall pull all other request. Building Maintenance shall coordinate with the Utilities Operations Branch for underground utilities shutdowns. Whichever shutdown group pulls the request shall plan the shutdown and move the request to the "approved" status no less than 14 days in advance of the event. Each group shall have internal office procedures covering how requests are handled. These procedures will include bringing in Utilities Operations Branch, Automatated Systems Unit, Shops or other ORF personnel as appropriate. In all cases the appropriate MSB Facility Manager will be kept apprised of any shutdown(s) scheduled for his/her assigned buildings.
4. The responsible group from MSB must make all reasonable efforts to provide shutdowns as requested. If a requested shutdown can't be done or must be delayed, the group responsible for the shutdown must immediately notify the PO and discuss the impact and alternatives.
5. The PO is responsible for checking on the status of shutdown requests and contacting the appropriate authority if the status doesn't shift to "approved" 14 days in advance.

5. BACKGROUND AND REFERENCES

1. This policy and procedure was based on NIH Division of Engineering Services Instruction Manual Code 1340-17-1, "Utility Shutdowns".
2. Emergency Access Policy

6. MANAGEMENT CONTROLS

1. Office Responsible for Review: DPM, ORF
2. Frequency of Review: Whenever substantive changes are needed or every three years.