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**Research Continuity Template**

Provided by: Environmental Health & Safety Office

[*Principal Investigator*]

[*Department Name*]

[*Research Program*]

[*Date*]

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# 1.0 Introduction

Continuity of Operations Planning (COOP) is an institutional effort involving individual departments and/or units in an effort to ensure that university critical functions continue during a wide range of emergencies. These emergencies could include localized acts of nature or accidents, or technological or attack-related emergencies resulting in conditions possibly impacting your ability to work in/access your work area, or impacting staff availability. The Environmental Health and Safety Office (EHS) is responsible for managing the institution’s continuity planning efforts, and engaging university units and colleges as necessary to support research and academic continuity. Continuity strategies for maintaining infrastructure, critical administrative functions, and academic activities are conducted at the institutional and department level.

Research continuity planning is conducted at the Principal Investigator (PI) level, and is intended to supplement established department level plans. Given the unique nature of each research activity, only the PI, associated PIs and support staff are capable of documenting the strategies to be taken to preserve individual research. This Research Continuity Template is intended to guide the PI through the process of making research more resilient to preserve or quickly recover research data and associated activities when a crisis affects the university.

Principal Investigators (PI) or their designees are encouraged to complete this document for each independent research project under their guidance, unless the strategies documented herein can apply to multiple projects. This document is designed to satisfy sponsor requirements for continuity planning. The format of this document is designed to guide users through the process of identifying essential personnel, equipment, research materials, and applications. In some instances, technology or engineering solutions may be necessary; users of this document are responsible for negotiating information technology, engineering, or administrative solutions with the appropriate university entity. To complete this form:

* Fill in all fillable fields to the best of your ability;
* Identify vulnerabilities, and consider and implement ways to increase resiliency and redundancy;
* Consult with the EHS – Emergency Management team if assistance is needed;
* Maintain a copy of the completed Research Continuity Templates in a location that can be retrieved if the workspace is no longer able to be occupied or the university’s information technology network is no longer accessible;
* Share this plan with others affiliated with the research as appropriate; and,
* Update *Research Continuity Templates* on a routine basis or at least annually.

For assistance completing this template, please contact EHS at safety@gmu.edu or (703) 993-8448.

# 2.0 Contact and Department/Unit Information

**Contact Information:** Provide the names and contact information of two people responsible for completing and maintaining this plan.

|  |  |  |  |
| --- | --- | --- | --- |
| **Primary Contact Name** | **Email** | **Office Phone** | **Cell Phone** |
|  |  |  |  |
| **Alternate Contact Name** | **Email** | **Office Phone** | **Cell Phone** |
|  |  |  |  |
| **College/ School Name** | **Department/Unit Name** |
|  |  |

**Work Area(s) Information:** Enter the locations where the research is housed or conducted on campus.

|  |  |  |  |
| --- | --- | --- | --- |
| **Building** |  | **Room(s)** |  |
| **Building** |  | **Room(s)** |  |
| **Building** |  | **Room(s)** |  |

## 2.1 Research Project(s)

Provide a name of for each research project and brief description of the activities associated with this research.

|  |  |
| --- | --- |
| **Research Program Name** | **Brief Description** |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

# 3.0 Key Personnel

Key personnel are those individuals absolutely necessary to carry out essential tasks and support critical functions. Critical functions are those activities considered essential to research that cannot be delayed or terminated without causing severe disruptions to research or business functions. Although all members of the university community are valuable, not all individuals fill positions considered absolutely essential to maintaining core critical functions.

## 3.1 Orders of Succession

A leadership successor is a person who would be an appropriate substitute if the PI(s) are absent. This person should be capable of fulfilling most of the PI roles, and coordinating research activities in the event that the PI is unavailable.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Name (Last, First)** | **Cell Phone** | **Alternate Phone** | **Email** | **Alternate Email** |
| **Primary** |  |  |  |  |  |
| **1st Successor** |  |  |  |  |  |
| **2nd Successor** |  |  |  |  |  |
| **3rd Successor** |  |  |  |  |  |

Resist the temptation to list all staff under "Key People". The staff listed here are those to be called first in an emergency – those with the experience, skills, or authority to help "sort things out" and plan the next steps.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name (Last, First)** | **Supports Critical Function(s)\***  | **Cell Phone** | **Email** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

\*Indicate the Critical Function using the priority number in section 5.

## 3.2 Delegations of Authority

A formal delegation of authority is an assignment, usually in writing, of authority and responsibility to perform specific acts on the PI’s or others behalf when absent (e.g., to sign contracts, submit proposals, make executive level decisions).

|  |  |
| --- | --- |
| **Name (Last, First)** | **Holds formal delegation(s) of authority for:**  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

# 4.0 Critical Functions

Critical functions are activities that should be continued in order to avoid negatively affecting other PIs, agencies, institutions, revenue streams, or sponsor funding – or in order to comply with regulations pertaining to the research. Here are some typical examples:

* Provide research deliverables to a sponsoring agency;
* Provide research products that other units or individuals determine to be critical (e.g., for commerce, business, or sponsor funding); and
* Perform activities that are subject to Federal or state regulations (e.g., animal care and use, work with select agents, possess materials regulated by the Department of Defense).

Please identify the research functions deemed critical.

|  |  |  |
| --- | --- | --- |
| **Priority** | **Critical Function** | **Description** |
| **1.** |  |  |
| **2.** |  |  |
| **3.** |  |  |
| **4.** |  |  |
| **5.** |  |  |
| **6.** |  |  |
| **7.** |  |  |
| **8.** |  |  |

# 5.0 Contingency Planning and Work Area Resiliency

The following questions are based on an emergency scenario that either impacts the ability to work in or access the work area, or results in a reduction of staffing for days or weeks following an incident. During this time, key resources, such as staff, power, information technology systems (phone, network access, email, MESA), water, or heating and cooling may not be available or may be in limited supply. The following tables are used to document the strategies that are or should be used to manage disruptions in the work/research area.

## 5.1 Work Space Contingency Planning

|  |  |
| --- | --- |
| **Work Space Considerations** | **Comments** |
| **Space:** Where will critical functions be carried out if the usual space is not available (i.e., building fire or earthquake damage)? |  |
| **Staff:** Who will carry out these critical functions if faculty and staff absence rates are 30-50% (i.e., pandemic influenza event)? |  |
| **Unique Skills:** Does the successful performance of critical functions require the skills or knowledge of any one particular staff member (or their files)?  |  |
| **Cross Training:** How is redundancy implemented among staff (i.e., cross-training, outsource, alternative process)? |  |
| **Remote Work:** Can critical functions be conducted with some (or all) staff working from home? What equipment, supplies, and arrangements are needed? |  |
| **Network Access:** How will critical functions be impacted if the university’s data network is not available? |  |
| **Show Stoppers:** Are there any resources so important or irreplaceable that critical functions CANNOT be performed without them (i.e., specialized laboratory equipment, databases, or applications)?  |  |
| **Risk Mitigation:** Will any of the above situations expose the institution to risk? If so, how is this risk mitigated or controlled? |  |
| **Policy and Procedure Exceptions:** What policy or procedural exceptions might be needed to carry the above risk mitigation suggestions? Who has the authority to grant them? |  |
| **Additional Vulnerabilities:** Is there anything not previously mentioned that could prevent critical functions from continuing or restarting? |  |
| **Campus Closure:** In the event of a severe local, campus-wide, or regional emergency, is it possible to suspend critical functions for up to 30 days? If critical functions are temporarily suspected, what are the anticipated impacts? |  |

## 5.2 Laboratory Resiliency

Research continuity is the process of ensuring that research projects can endure after a disruption in services. This is done by planning and establishing mitigation steps that protect the researcher, data, research subjects, equipment, records, and critical supplies potentially impacted by a disruption.

|  |  |
| --- | --- |
| **Vital Equipment Considerations** | **Comment** |
| **Equipment Inventory:** Where is a list of vital equipment maintained? |  |
| **Utility Needs:** Identify critical utility requirements, noting special/non-typical requirements such as process chilled water, high voltage, three phase power, cryogenic liquid consumption rates, etc. |  |
| **Emergency Power Circuit:** Which critical equipment is provided with uninterruptible power supplies (UPS) or other back-up emergency power sources? |  |
| **Impact:** What are the consequences of if critical equipment is damaged or non-operable (e.g., loss of critical specimens)? |  |
| **Contingency Plan:** What is the contingency plan if critical equipment is lost or inoperable? |  |
| **Duplicates:** Are duplicate copies of drawings, diagrams, plans, or specifications of unique equipment or experimental apparatus available in the event that the scientific equipment needs to be reconstructed? |  |
| **Additional Precautions:** What additional mitigation activities can be used to protect vital equipment? |  |

## 5.3 Vital Research Materials Preservation

Research materials may be susceptible to damage or loss depending upon the type of incident and nature of research materials. Contingency plans should be made to maintain duplicate sets of materials when possible, or precautions should be taken to make research material storage areas resilient to anticipated emergencies that could result in loss of power, refrigeration, access controls, incubators, or storage area.

|  |  |
| --- | --- |
| **Vital Research Material Considerations** | **Comment** |
| **Duplicate/Redundant Materials:** Does the research have copies of novel compounds, specimens, primary data, databases, records, etc.? Where can backup copies be maintained? |  |
| **Remote/Off Site Storage Locations:** Are irreplaceable specimens (animals, plants, cell lines, DNA etc.) copied/ duplicated and distributed to sites outside of the work area? |  |
| **Supplies:** Is a list of supplies vital to critical functions with 24-hour contact information available for all vendors (e.g., food for animals, cryogenic liquid, chemicals, specimens, delivery services, etc.)? |  |
| **Alternative Suppliers:** Have one or more alternative sources for supplies been identified, wherever feasible? |  |
| **Inventory:** What is the average amount of inventory of critical supplies maintained in the work area, and how long will this inventory sustain critical function operations?   |  |

## 5.4 Alternate Work Area Considerations

In the event the primary work area is inaccessible due to damage, utility failure, or other circumstance, alternative or remote work areas may be feasible; however, planning to relocate to an alternative work location requires planning and preparation.

|  |  |
| --- | --- |
| **Alternate Work Area Considerations** | **Comment**  |
| **Remote Work Location:** Can operations resume elsewhere at a pre-arranged or similar workspace under appropriate supervision or within the department? |  |
| **Ad Hoc Work Location Requirements:** If an alternative work location cannot be prearranged, what resources are needed to resume operations (e.g., space requirements, equipment, information technology systems, computer applications)? |  |
| **Partnerships:** Is it possible to relocate graduate students, postdocs, and research to a facility or work area managed by a peer or colleague outside of the university to continue research projects? |  |
| **Contingency Planning:** What plans are in place today that would help reconstitute necessary operations elsewhere if the primary work area is unavailable? |  |

## 5.5 Telework Capabilities

Some research functions can be performed entirely or partially from home. Please list the names of faculty and staff who can do part or all of the research-related work from home if they have adequate computers and high-speed internet access. Permanent or contingency telework arrangements must comply with *University Policy #2202 Flexible Work.*

|  |  |  |  |
| --- | --- | --- | --- |
| **Name (Last, First)** | **Reliable home internet connection?** | **Remote desktop and/or MESA access (VPN)?** | **Computer must be running to connect from home?** |
|  | Yes [ ]  No [ ]  | Yes [ ]  No [ ]  | Yes [ ]  No [ ]  |
|   | Yes [ ]  No [ ]  | Yes [ ]  No [ ]  | Yes [ ]  No [ ]  |
|  | Yes [ ]  No [ ]  | Yes [ ]  No [ ]  | Yes [ ]  No [ ]  |
|  | Yes [ ]  No [ ]  | Yes [ ]  No [ ]  | Yes [ ]  No [ ]  |
|  | Yes [ ]  No [ ]  | Yes [ ]  No [ ]  | Yes [ ]  No [ ]  |
|  | Yes [ ]  No [ ]  | Yes [ ]  No [ ]  | Yes [ ]  No [ ]  |
|  | Yes [ ]  No [ ]  | Yes [ ]  No [ ]  | Yes [ ]  No [ ]  |

## 5.6 Critical Software Applications Management

List the applications that are essential to the research, and may not be supported by Information Technology Services (e.g., Microsoft office, MESA, Stata, SPSS, etc.); please list only those applications maintained by the department required for the research (e.g., NVivo, proprietary engineering software, database application, etc.)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Priority** | **Application Name** | **Location** *(Remote, Local CPU, Local Server, ITS Server)* | **Licensed application**  | **Resiliency Comments (see questions below)**  |
|  |  |  | Yes [ ]  No [ ]  |  |
|  |  |  | Yes [ ]  No [ ]  |  |
|  |  |  | Yes [ ]  No [ ]  |  |
|  |  |  | Yes [ ]  No [ ]  |  |
|  |  |  | Yes [ ]  No [ ]  |  |
| 6. |  |  | Yes [ ]  No [ ]  |  |
| 7. |  |  | Yes [ ]  No [ ]  |  |
| 8. |  |  | Yes [ ]  No [ ]  |  |

For each application listed above:

1. Is the license retrievable, and can the software be reinstalled, or will a new license need to be purchased?
2. Can the application be installed on multiple computers or servers?
3. Is there an offsite location (e.g., at home, another institution, colleagues research work area) where this application can be maintained?
4. If the application is hosted locally on a desktop, laptop, or local server, can it be migrated to an Information Technology Services supported server in the Aquia Data Center?

## 5.7 Data and Workstation Practices

Please estimate and describe the current workstation backup procedures for the necessary research activities.

|  |  |
| --- | --- |
| **Backup Method for Workstations** | **Percentage of users associated with the research who back up files this way** |
| Files are stored on department server, which is backed up regularly  |  |
| Automated backup by central Information Technology Services (i.e., MESA or M: drive) |  |
| Local backup of workstation by user (automatic) |  |
| Local backup of workstation by user (manual) |  |
| Other – please describe (i.e., remote hard drive or thumb drive automatically or manually) |  |
| No backup process |  |

# Appendix A: Definitions

***Critical Functions****:* are functions critical to research or preservation of research.

This may include activities required of sponsored research.

***Critical Records Management****:* are the strategies used to identify, protect, preserve, and recover electronic and hard copy documents, references, records, information systems, database, and other files essential to research operations.

***Delegations of Authority:*** provides personnel with the authority to make key decisions during a continuity situation when the primary decision maker is not available.

***Key Personnel:*** are faculty and staff that are essential to one or more critical functions; without this individual’s knowledge, skills, or abilities, the critical function is compromised.

***Orders of Succession****:* is an essential part of a research continuity to ensure that personnel know who assumes authority and responsibility if the principal investigator is unavailable during a continuity event.