Guidelines to Sustaining Safe, Research-Related Activities in the College of Earth and Mineral Sciences during the COVID-19 Pandemic

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This document describes a plan to sustaining safe, research-related activities in the College of Earth and Mineral Sciences as the course and risks of the COVID-19 pandemic evolve. Best practices and procedures are continuously revised and developed in consultation with facility coordinators and the EMS Pandemic Safety Officer. Recommendations will evolve in response to new information becoming available and updates on the guidance from the Office of the Senior Vice President for Research.

Guiding Principles:

1. All research-related activities that can be conducted remotely should continue remotely. All data analysis, computer work not requiring specialized hardware or software, seminars, group meetings, and one-on-one meetings that can be conducted remotely must continue to be remote.

2. All laboratories and research teams should plan for a phased ramp-down that balances safety, community responsibility, and research productivity to best sustain critical research while maintaining the health of individuals.

3. Implementation of ramp-down plan should follow a clear, responsive, and transparent approach to sustaining critical research activities.

4. Human subjects research should continue to adhere to the Revised Standards for Human Subjects Research and related FAQs. This guidance applies to human subjects research that is conducted both on-campus and off-campus, and in-person and remote.

5. All research activities should be consistent with University safety guidance, Office of Physical Plant (OPP) and Environmental Health and Safety (EHS) guidance. Research conducted at off-campus facilities should also comply with any site-specific guidance.

This plan includes both a moderate (50% reduction in personnel density) and an ultimate (75% reduction in personnel density) access to research activities, while maintaining necessary safety and health practices. These two ramp-downs roughly correspond with Off-Ramp 3 and Off-Ramp 4, respectively, of the Off-Ramp Decision Framework being developed by the COVID-19 Operations Control Center (COCC), although it is possible that research may continue in its current state during either of these off-ramps. For example, we may reduce students’ on-campus academic presence, but allow research to remain at current levels (a hybrid of Off-Ramps 2 and 3). In conjunction with decisions by the COCC, the Senior Vice President for Research will provide university-wide guidance if Units need to ramp down in response to pandemic conditions. If a rapid reduction in on-campus research becomes necessary, very limited access to on-campus research facilities will be maintained so that critical research-related activities can continue under stringent social distancing guidelines. The EMS phased ramp-down plan is reversible in its implementation for when research ramps-up, again.
Research Ramp-Down Plan

With each research ramp-down phase, access to research facilities will be increasingly limited. An enhanced strategy for preventing virus transmission throughout the proposed moderate and ultimate occupancy phases can be achieved by actions such as:

a. Increasing social distancing, e.g., decreasing lab occupancy.
b. Scheduling distributed research time, by making use of the 24-hour day for accessing the research spaces (within EHS general laboratory safety guidelines and if it can be done without sacrificing safety).
c. Reducing the number of research teams who are simultaneously in a given building/floor/wing.
d. Implementing a team-based shift plan to isolate groups into separate populations with lower chances of cross-infections.
e. Introducing more rigorous record keeping of space occupancy for individuals to aid in contact tracing.
f. Expanding the unit’s safety committee within each building, with research team representation (graduate student, postdoc, or staff technician) to support adherence to COVID-safety protocols (e.g., sterilization of the space before and after each research occupant) and act as a support for researchers.

Current Phase: current allowable personnel density

<table>
<thead>
<tr>
<th>Total EMS Research Area: 87,083 SQFT</th>
<th>Occupancy: 693 occupants</th>
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<tbody>
<tr>
<td>Physical distancing: 7.14ft (2.2m)</td>
<td>Individual access: 8 hr/day</td>
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<tr>
<td>Personel density: 5,544 research-hours/day</td>
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A recent publication from McMaster University evaluated the relationship between viral transmission risk and physical distancing using data from countries/regions around the world that implement different standards. Their findings are summarized in the chart to the right. The most important inferences are: (1) longer distances are better, but returns are diminishing (on linear evaluation) above 2 meters. In context of this information, 126 ft²/occupant, our current level, corresponds to 2.2m distancing.

Moderate Reduction Phase: 50% reduction in personnel density

<table>
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<tr>
<th>Max. personnel density: 2,772 research-hours/day; 9.68ft (3.0m) average physical distance; maximum 377 occupants; distributed proportionately to available research area as follows, and never exceeding the maximum COVID-19 occupancy of individual research labs</th>
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</thead>
<tbody>
<tr>
<td>Academic Activities: 244 research-hours/day; maximum 33 occupants</td>
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<tr>
<td>Academic Projects Bldg: 164 research-hours/day; maximum 24 occupants</td>
</tr>
</tbody>
</table>

Last revised – 09/21/20
Coal Slurry Prep Facility:  60 research-hours/day; maximum 8 occupants
Coal Utilization Lab:   144 research-hours/day; maximum 21 occupants
Deike Bldg:           636 research-hours/day; maximum 92 occupants
Guion S. Bluford Bldg:  52 research-hours/day; maximum 7 occupants
Hosler Bldg:          324 research-hours/day; maximum 43 occupants
Research Bldg East:   100 research-hours/day; maximum 14 occupants
Research Bldg West:   148 research-hours/day; maximum 19 occupants
Steidle Bldg:         560 research-hours/day; maximum 70 occupants
Pine Hall Bldg:       100 research-hours/day; maximum 13 occupants
Walker Bldg:          240 research-hours/day; maximum 33 occupants

Ultimate Reduction Phase: 75% reduction in personnel density
Max. personnel density:  1,386 research-hours/day; 12.8ft (3.9m) average physical distance; maximum 215 occupants; distributed proportionately to available research area as follows, and never exceeding the maximum COVID-19 occupancy of individual research labs

Academic Activities:  122 research-hours/day; maximum 20 occupants
Academic Projects Bldg:  82 research-hours/day; maximum 14 occupants
Coal Slurry Prep Facility:  30 research-hours/day; maximum 5 occupants
Coal Utilization Lab:   72 research-hours/day; maximum 14 occupants
Deike Bldg:           318 research-hours/day; maximum 44 occupants
Guion S. Bluford Bldg:  26 research-hours/day; maximum 4 occupants
Hosler Bldg:          162 research-hours/day; maximum 25 occupants
Research Bldg East:   50 research-hours/day; maximum 9 occupants
Research Bldg West:   74 research-hours/day; maximum 12 occupants
Steidle Bldg:         280 research-hours/day; maximum 37 occupants
Pine Hall Bldg:       50 research-hours/day; maximum 9 occupants
Walker Bldg:          120 research-hours/day; maximum 22 occupants

In the event of a reduction or increase of on-campus research activity, access to research facilities must be evaluated to determine which activities should discontinue or resume on-campus research access, within the personnel density and maximum occupancy parameters outlined above. If on-campus research activities reside outside the researcher’s home department, the home department head may recommend when research activities require on-campus access and seek approval from department/institute overseeing research facility. Care must be taken to avoid situations in which it is unsafe to have a single person carrying out research in isolation.

If a ramp-down is warranted, then undergraduate students, graduate students, external visitors, and visiting scholars must receive prior approval from the dean for them to continue on-campus research. Faculty members cannot and should not require undergraduate or graduate students to come to campus, and undergraduate and graduate students who conduct on-campus research must be included in the research reductions and approaches to de-densification.

If a shutdown of campus facilities is necessary, the college will reduce access to only allow activities that if discontinued would pose a safety hazard, maintain critical equipment in facilities and laboratories, as
well as critical samples, reagents, data and materials, with prior approval from the dean.

Each department and institute must maintain contact information for their students, postdocs, faculty, and staff, and review contingency plans and emergency procedures within the unit. Contingency plans should include absences of individuals due to COVID-19 or other illnesses, especially for critical work and activities that must be maintained. Departments and institutes managing research space have surrogate authority for overseeing occupancy levels and compliance.

**Key Guidance from EHS –**

- [COVID-19 Updates from EHS](#)
- [Cleaning Guidelines for Laboratories and Research Facilities](#)
- [Guidelines for Cleaning Computer Products](#)
- [EHS Ramp-down checklist](#)
- [Signage for Potential COVID-19 Case Reported](#)

**Non-compliance** – If an individual is aware of any non-compliance or safety violation, they should report it to [safety@ems.psu.edu](mailto:safety@ems.psu.edu). Alternatively, they can report the situation to their facility coordinator who will then communicate with the appropriate department head, institute director and Pandemic Safety Officer. Persistent non-compliance, when confirmed by the Dean, may result in removal of the individual's approval for conducting research on-campus or at other facilities.