SPICULE/ESCAPE Project Summary and Overview

The Secondary Production of Ice in Cumulus Experiment (SPICULE) project was planned for Spring/Summer 2020 but was postponed due to COVID-19. The Experiment of Sea Breeze Convection, Aerosols, Precipitation, and Environment (ESCAPE), originally requested for the University of Wyoming King Air for 2021, has been moved to the NSF/NCAR C-130 and combined with SPICULE due to a King Air project conflict. SPICULE is planned for four weeks starting 16 May 2021 and will be flown from Rocky Mountain Metro Airport (RMMA) in Broomfield, CO. ESCAPE will begin on 20 June 2021, last for five weeks, and project teams will operate from Houston, TX. The plan is to base the C-130 at the NASA facility located at Ellington Field (KEFD). Should restrictions at NASA make KEFD unfeasible Sugarland Regional Airport (KSGR) is being considered as a backup option.

In addition to the NSF/NCAR C-130, there are other participating institutions in both projects. Both will include flights by the Spec Inc. LearJet, while ESCAPE will include a significant ground-based portion in Houston including radars, sounding systems, a lightning mapping array, a wind profiler, and other surface stations. There are expected to be approximately 30 personnel deployed to Houston at any time for the airborne portion of the campaign.

Assumptions: For the purpose of this safety document, the following assumptions are made:

1) NCAR will still be in the Orange phase (Fig. 3) at the beginning of the upload but may transition to yellow phase sometime during project operations.
2) RAF personnel will not be moved into the new RAF building until June. The temporary trailers will still be available for project participants.
3) All SPICULE/ESCAPE personnel will follow the COVID-19 related guidance and procedures described in this document and those in effect at the operations location (Colorado or Texas).
4) NASA may have their own rules and protocols for entering and operating at their facility during the pandemic. Details on these will be gathered during the planned site survey in February 2021.

5) The C-130 will return from its 4 year major inspection by 31 March 2021.

6) ESCAPE ground operations will be coordinated separately, with their own COVID protocols, and no direct contact between the groups is expected.

7) All participants have not been vaccinated or the full efficacy of the vaccine(s) has not been established as of the campaign start date (e.g. protection against both COVID-19 symptoms and transmission to others; duration of protection).
   a) It is possible that some project participants will have received the vaccine before the projects begin. All participants will be required to follow these COVID protocols regardless of vaccination status.

8) There is no provision for coordinating a medical response to a COVID-19 infection. This will remain the responsibility of the participant and their home institution. Site logs will be maintained to help with contact tracing.

This is a living document that will be regularly updated as information on vaccination rates, efficacy, etc. become available. For example, should the FDA declare that a vaccine(s) is effective for at least one year and that it prevents COVID-19 and the possibility of vaccinated individuals spreading the virus, the requirements in this document would be relaxed for vaccinated individuals.

**Schedule:** The nominal SPICULE/ESCAPE deployment schedule with associated critical activities is shown in Table 1.

**Table 1.** SPICULE/ESCAPE deployment schedule (subject to change based on the final determination of 2021 projects).

<table>
<thead>
<tr>
<th>Activity</th>
<th>Location</th>
<th>Start Date</th>
<th>End Date</th>
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<tbody>
<tr>
<td>SPICULE/ESCAPE Upload</td>
<td>RMMA</td>
<td>1 Apr 2021</td>
<td>7 May 2021</td>
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<td>Test Flights</td>
<td>RMMA</td>
<td>8 May 2021</td>
<td>15 May 2021</td>
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<tr>
<td>SPICULE Flight Operations</td>
<td>RMMA</td>
<td>16 May 2021</td>
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<td>Transit</td>
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<td>C-130 Transit to Houston</td>
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<td>18 Jun 2021</td>
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<tr>
<td>ESCAPE Flight Operations</td>
<td>KEFD</td>
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<td>C-130 Transit to Broomfield</td>
<td>Transit</td>
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<tr>
<td>SPICULE/ESCAPE Download</td>
<td>RMMA</td>
<td>26 Jul 2021</td>
<td>30 Jul 2021</td>
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</table>

RAF has a preliminary personnel schedule for both projects, however, names have not yet been assigned. Personnel from NCAR’s Earth Observing Laboratory (EOL) laboratory will be involved in both campaigns. It is expected that about 36 EOL staff will be involved (approximately 18 personnel per shift). In addition, it is expected that a similar number of scientists from universities and agencies outside of NCAR will be deployed.
**Project Upload, Download, Maintenance, and Preflight Procedures**

**General Information:** During the entire project period, the instrument teams and assigned RAF staff will be required to continue to comply with UCAR guidelines regarding safety and risk management regarding COVID-19, both at the RAF and at home or in their hotel. All personnel will be required to conduct daily health self-assessments with any symptoms or illness reported to the RAF Project Manager (PM) for SPICULE/ESCAPE, who will then activate the COVID-19 Response Plan to determine the next steps.

All personnel are responsible for providing their own mission specific Personal Protective Equipment (PPE, as defined below) for COVID-19. UCAR will supply cleaning supplies and hand sanitizer on site at the RAF and will restock as necessary. NCAR participants will be required to fill out the health questionnaire on Workday each day they are onsite. All external participants will be provided a copy of the HESS COVID-19 tracking calendar and will be required to document their answers to the questions each day they are on site.

- Personnel will wear face masks at all times when in the hangar or on the C-130, regardless of vaccination status.
- Personnel will be encouraged to wear gloves when working in the aircraft cabin (when possible).
- Hand sanitizer will be readily available at the entrances to the cabin and in the galley.
- Frequent hand washing will be encouraged.
- RAF will provide disinfectant wipes and cleaners that are to be used when a person vacates an area on the plane either after work has been completed or at the end of the day.
  - Cleaning is everyone’s responsibility and all personnel will be expected to clean and disinfect their workspace and help with cleaning of common areas when needed.
- Aircraft cleanings will be scheduled with ServPro prior to and intermittently during the upload.
- Daily personnel site logs/sheets will be available at the C-130. All personnel working on or around the aircraft will be required to sign in each day to help with contact tracing should the need arise.
- Weekly COVID testing will be mandatory and available both during the upload and project operations in Broomfield and in Houston. More information on these services will be provided as the details come together.
  - Boulder County Free Testing Information: [https://www.bouldercounty.org/families/disease/covid-19/testing/](https://www.bouldercounty.org/families/disease/covid-19/testing/)
○ Passport Health will be available in Boulder and Houston as well. More details on that service will be coming soon.

**Travel to RAF:** All instrument teams are responsible for their own travel to and from RAF for the upload and other key activities.

Personnel coming to RAF (from outside of NCAR) must be symptom free and comply with one of the following procedures to gain access to RAF:

For individuals who fly commercially to Colorado:
1) Upon arriving in Colorado, personnel shall undergo a 14 day quarantine at a local hotel.  
   or  
2) Personnel may substitute COVID-19 testing results for quarantine. In this case, members must take a COVID-19 test within 72 hours of their flight and then two more in Colorado after arrival, separated by at least 72 hours. If all three tests are negative, instrument team members will be allowed to come on site to RAF.

For individuals who drive to Colorado:
1) Upon arriving in Colorado, personnel will likely* be granted access to the RAF provided they follow all recommended best practices for avoiding exposure while driving and are not showing COVID-19 symptoms.  
   * UCAR/HESS may institute testing requirements and/or a short quarantine based on the state where personnel are coming from and their home institution’s policies.

Instrument teams should ensure that these activities are factored into their planned travel times to ensure that they are on site for their first day of upload.

**Upload Schedule and Procedures:** The SPICULE/ESCAPE payload is not large (for the C-130), consisting of 13 instruments from six universities/agencies (Fig. 1). To ensure safety of personnel during the upload, the following procedures will be put into place:

- Each instrument team will be allotted a 2-3 day window for installation of their instrument(s) onto the C-130. During this time period a maximum of two additional instrument teams may have access to the NSF/NCAR C-130, due to the size of the cabin, as long as they are not in adjacent racks. Access will be scheduled at the discretion of the Project Manager (Fig. 2).
- The number of people in the cabin at one time will be limited to 10 for SPICULE/ESCAPE (this includes RAF staff and instrument teams).  
  ○ Exceptions to this are allowed for brief periods of time when additional people may be required for lifting or moving heavy objects.
- Access to the C-130 will be scheduled and closely monitored by the PM. The daily access schedule will be sent via email to the project mailing list by COB the day prior and will be posted near the C-130.
● The PM will ensure that instrument teams are scheduled so as to maximize the physical distance between them when working on the plane (i.e., teams sharing a rack will not be given access at the same time).
● Fans and/or air conditioning units will be used to provide strong airflow through the cabin when work is being performed.

![C-130 Layout for SPICULE-ESCAPE](image)

**Figure 1.** C-130 cabin layout for SPICULE/ESCAPE.

● A workspace in Hangar B, away from common movement areas, will be set up for each instrument team.
  ○ There will be a minimum of six feet of separation between each workspace.
  ○ Instrument teams will not be allowed to commingle.
● Instrument team members will have access to Trailer 3 if workspace outside the hangar is needed.
  ○ Personnel working in Trailer 3 shall be separated by a minimum of six feet of distance.
  ○ Access to other trailers is at the discretion of the PM.
● The pre-project safety briefing will occur virtually.
● To the greatest extent possible, mission/flight planning briefings will occur remotely.
● Maintenance days and preflight activities will be conducted in accordance with the procedures outlined in the subsequent sections.
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*Figure 2. SPICULE/ESCAPE upload schedule (subject to change based on the actual C-130 return date).*

**Preflight:** Preflight activities will be highly scripted and access will be closely monitored by the PM.

- All activities will adhere to a maximum of 10 personnel allowed on the C-130.
  - Exceptions are for aircraft maintenance personnel (one only) to enter the cockpit area to discuss maintenance issues with the pilots. However, communication via cell phone is highly encouraged.
- Assuming that one RAF technician is onboard at all times, this leaves a maximum of 9 instrument team personnel on the C-130 at one time.
- During preflight only RAF flight operations crew will have access to the cockpit. Entry and exit from the crew door at the front of the cabin will be restricted to these crew. All
other personnel will use the paratroop doors at the rear of the plane for access.

- Instrument teams will be split into two cohorts for access to the C-130 during preflight.
  - Instrument teams should only plan on one person from their team being on the C-130 at a time whenever possible.
  - Remote access to the C-130 will be provided throughout the duration of pre-flight.
  - Instrument teams are highly encouraged to communicate between personnel on/off the C-130 via cell phone, chat, or other remote methods during preflight.
  - Instrument team personnel are highly encouraged to remain on (or off) the C-130 for as long a duration as possible during their access time (i.e., limit the number of in and out of the cabin).

- A notional schedule will be developed in coordination with instrument teams which will take into account their specific needs for access during preflight. Preflight is likely to be longer than usual due to the increased separation requirements in the cabin. The preflight schedule will be subject to adjustment during flight operations.

- The PM will release the preflight schedule via email by close of business (COB) the day prior to flight. The schedule will also be posted near the C-130 on the day of flight.

**Maintenance Days:** Maintenance days will follow similar procedures to preflight activities with the instrument teams benign broken into two cohorts for access.

- The 10 person maximum C-130 occupancy will be maintained, remote access for the entirety of the maintenance day will be provided, and team members are encouraged to use remote communications as much as possible.

- A notional schedule for maintenance days is:
  - **0800-0830:** RAF access to open C-130 / turn on Aircraft Data System (ADS)
  - **0830-0900:** Access for cohort #2 to turn on instruments
  - **0900-1200:** Access for cohort #1
  - **1200-1500:** Access for cohort #2
  - **1500-1530:** Access for cohort #1 to turn off instruments
  - **1530-1600:** RAF access to shut down ADS / close C-130

- The PM will work closely with instrument teams to develop exceptions to the maintenance day scheduled as needed (i.e., a critical instrument is broken and access is required for a full day).

- In the case of known, consecutive maintenance days, the PM will work with the instrument team to determine if one day of full access for each cohort is preferred over two half days of access.

**COVID-19 Response Plan:** If a member of the project team exhibits symptoms, all project activities will be put on hold. Contract tracing will be conducted by NCAR to determine quarantine and decontamination requirements. Each contact tracing investigation is evaluated on a case-by-case basis and outcomes cannot be determined at this point. It is likely that a suspected or confirmed exposure will result in a temporary hold on all project operations to ensure the safety of RAF staff and participants.
The C-130 download will be conducted in a similar fashion to the upload. Personnel in the cabin will still be limited, except for brief periods in situations where additional people are needed for moving heavy equipment off of the plane. Once the instrumentation has been removed, a full cleaning of the C-130 will be scheduled.

A quarantine period upon return from Houston is likely prior to some personnel gaining access to work at RAF again. As the C-130 has no scheduled projects after ESCAPE a quick download is not required. The PM will work with instrument teams to organize the download, taking quarantines and other requests into account.

**Travel to/from Houston**

ESCAPE will be flown from Houston. There are three modes of travel for ESCAPE personnel to/from Houston: i) Ferry via the NSF/NCAR C-130; ii) Commercial air travel; or iii) Driving.

**Ferry Aboard the NSF/NCAR C-130:** The crew ferrying the C-130 will be limited to RAF staff and minimized to the following personnel:

2 RAF Pilots  
1 RAF Flight Engineer  
1 RAF Technician  
1 RAF Mechanic  
7 Project Participants in the Cabin

Since the ferry will be made in one day, no other requirements will be necessary. Those who fly on the C-130 will be able to begin work in Houston with no quarantine or testing restrictions. The PM will work with RAF and the instrument teams to determine those who will take the ferry.

**Commercial Air Travel to Houston:** Members of the ESCAPE team who fly commercially should travel to Houston in the most expedite way possible, minimizing the number of connecting flights. Airlines who are leaving middle seats open should be prioritized for bookings. While traveling personnel will obey all FAA and airline COVID-19 safety protocols.

- Personnel will wear face coverings at all times in the airport and on the aircraft, except when eating/drinking.
- Care should be taken to avoid crowded areas as much as possible.
- Travelers should wear N95 masks for their flights if possible.

**Driving:** Driving from Broomfield to Houston takes approximately 16 hours and must be done solo or in groups of two. It is expected that drivers will need to stop for one night at a hotel while enroute. Stops for gas, food, restrooms, and general breaks will also be required. When stopping, personnel will follow these procedures:

- Staff will follow the most restrictive guidelines associated with minimizing social contact with hotel/restaurant/gas station staff and will avoid crowds.
- Personnel will wear face coverings at all times, except when eating or when inside their
hotel room. If a person is driving solo a mask is not required in the car.

- Personnel will avoid eating meals in restaurants while traveling to and from Houston.
- Personnel will sanitize frequently touched areas in hotel rooms as much as possible.
- When switching drivers all touched surfaces will be disinfected.

Prior to travel all team members should check with their health insurance provider to verify their coverage.

A short quarantine period with testing in Houston is likely to be required for staff who fly commercially and may be required for those who drive. The length will be determined by requirements set forth by the location where the C-130 bases and may be augmented by UCAR/HESS. More information will be provided after the site survey.

Protocols during the deployment itself, including COVID-19 incident procedures, can be found in the “Flight Operations” section below and will be followed during the ferry trips.

**Houston Specific Information**

The upcoming ESCAPE site survey (planned for March 2021) will gather more information on C-130 logistics including the basing location. Currently, ESCAPE is planning to base from Ellington Field and work out of the NASA facility there. However, it is possible that NASA will not be allowing outside visitors when the project commences, so backup options will also be explored. Working from the civilian part of Ellington Field or Sugarland Regional Airport (KSGR) are the most likely backup options.

Hotel options will also be explored during the site survey. Because of the concerns surrounding COVID-19 the hotel will need to have a documented cleaning and sanitation plan that is approved by HESS. Hotels with in-room kitchens will also be prioritized as this will allow staff to prepare their own meals and reduce interactions with restaurant and/or delivery workers.

Convenient health care and COVID testing facilities for ESCAPE personnel will be identified during the forthcoming site survey.

The ESCAPE team will interact with non-project participants during the deployment. These interactions will include, but are not limited to, airport security, rental car companies, hotel staff, airport operations, consumable delivery, food delivery, and others during the normal course of project operations and are unavoidable. ESCAPE personnel will be required to wear masks and keep the maximum distance possible during these interactions.

Should a positive diagnosis be confirmed the severity of the case, exposure to other team members, and compliance with local protocols will determine the next steps for crew evacuation, hospitalization, and/or project cancellation.
Deployment Hotel / Restaurant Procedures: The majority of personnel will be housed at a to-be-determined hotel for the duration of the project. While deployed, ESCAPE personnel shall follow the following guidance:

- Deployed personnel will follow the most restrictive guidelines associated with minimizing social contact with hotel/restaurant staff and will avoid crowds in the lobby and other gathering places.
- Personnel will wear face coverings at all times when outside individual hotel rooms.
- Personnel will avoid eating meals in restaurants. Ordering pick up or delivery or cooking in the hotel room will be done as much as possible.
- Personnel will limit in-room hotel housekeeping service when possible.
- Personnel will sanitize frequently touched areas in hotel rooms as much as possible.
- Personnel will only leave the hotel for project related activities, to obtain supplies/food, or for other low risk activities such as exercising outdoors or hiking.

Deployment Ground Transportation Procedures:

- Public transportation should be avoided. Trains/shuttles associated with commercial airport transport cannot be avoided and are acceptable. Face coverings are required, and your hands should be washed or sanitized as soon as possible afterwards.
- Ridesharing such as Uber or Lyft should be avoided if possible. If they must be used face coverings are required at all times while in the vehicle, and your hands should be washed or sanitized as soon as possible afterwards.
- Rental cars should only be shared with people on your immediate team (e.g. CFDC, RAF pilots, etc.). When riding with others, face coverings are to be worn at all times, and high-touch surfaces in the vehicle’s interior should be sanitized after each trip.

Flight Operations

References:

- FAA Safety Alert for Operators 20009 (11 May, 2020)
- NOAA Operational Risk Assessment for AOC Operations
- CDC Guidance for Implementing Safety Practices for Critical Infrastructure Workers Who May Have Had Exposure to a Person with Suspected or Confirmed COVID-19
- CDC Guidance for Preventing Spread of Disease on Commercial Aircraft: Guidance for Cabin Crew

Pre-deployment Phase:

- Completion of the UCAR Mission Assessment and approval and NSF Dispatch Request.
- NCAR and visiting personnel will observe CDC, local government, and UCAR COVID-19 mitigation procedures.
- Use of face coverings is mandatory at all times; not wearing a mask will terminate the mission and will require staff action, and/or review of the agreement to perform the mission outlined in this document.
● N95 masks are not required but are recommended.
● Social distancing of six (6) feet or greater is required whenever possible.
● Prior to beginning work, a self-health assessment is required. Personnel will not enter the NCAR facility or report for duty at the aircraft, and will immediately contact the RAF Project Manager if any of the following symptoms are present:
  ○ Fever over 100.4 or chills
  ○ Skin rash
  ○ Difficulty breathing
  ○ Persistent cough
  ○ Decreased consciousness or confusion of recent onset
  ○ Headache
  ○ Diarrhea
  ○ Vomiting
  ○ New loss of taste or smell
● All personnel should be prepared to trace all contacts and identify areas where work was performed the previous days.
● Crew and support personnel will wash hands frequently for at least twenty (20) seconds using warm water if available, and soap.
● Sanitizing materials will be provided by UCAR and will be used by personnel throughout the day to ensure keyboards, tools, and workspaces are disinfected.
● Personnel will refrain from touching eyes, nose, mouth and face with unwashed hands.
● Any contact with someone who has tested positive for COVID-19 or showing symptoms must be immediately reported to the RAF Project Manager or UCAR/HESS.
● Personnel must also avoid gatherings with 10+ people and other high risk activities during the project period.

Deployment Flight Operations Phase:
● All personnel are required to accomplish a self-health assessment prior to departing their house or the hotel each day, as described above, and will immediately contact the RAF Project Manager and remain in their residence if any symptoms identified above are present.
● Personnel will perform all preflight activities wearing a face covering.
● UCAR/HESS will provide two N95 masks to each project participant who will be flying on the C-130. These masks are meant to be used for flights, but N95 masks are not mandatory for flying. Should additional masks be required the participant is responsible for procuring them.
● Per FAA recommendations, personnel will not share headsets if at all possible. If this is not possible, NCAR will purchase disposable microphone and earpiece coverings for use during flight operations.
● Personnel will sanitize individual headsets after each flight using supplied sanitizing materials.
● Flight deck visitation will be restricted to mission critical needs only, as determined by the RAF Project Manager and/or Pilot in Command.
● Seating proximity will be monitored and seats will be spaced as far apart as the payload

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allows.
- To the maximum extent possible, personnel will wear face coverings and gloves while inflight.
  - **Note:** masks or face coverings will interfere with donning emergency oxygen masks and may interfere with interphone communications. This must be taken into account prior to commencing flight operations.
  - Flight crew must not allow masks or face coverings to compromise flight duties. For example, face coverings may be removed when necessary to ensure clear communications on the radio and aircraft intercom system, when a mask interferes with the microphone or otherwise prevents clear speech.
- The cabin and flight deck will be disinfected by the C-130 crew and project participants after each flight and after each maintenance day.

**Crew Swap Phase:**
- Both SPICULE and ESCAPE will have a crew swap approximately halfway through the deployment. It is assumed that all RAF staff and most instrument teams will swap staff to rotate fresh people into the projects.
- The crew swap dates will be defined prior to the project, and this will be the only time that new people can be rotated in, unless an emergency arises and someone is unexpectedly removed from participation.
- Crews from each rotation will not be allowed to intermingle so that the total number of people involved in the project remains constant. All information exchange necessary for the new crew should be done using video conferencing, phone calls, or written communication (texts, manuals, shared documents/logs). Exceptions will be considered where access to a specific piece of equipment is necessary, but those will need to be vetted and approved by the PM.
- An example crew swap schedule for ESCAPE is outlined below. A similar approach will be instituted for SPICULE but without the travel days, except for any participants coming from out of state.
  - **Day 1:** Crew 2 arrives in Houston (driving) or exits quarantine (flying).
  - **Day 2:** Crew 1 goes to the plane to perform project functions and prepare for the handoff to Crew 2. Crew 2 gets settled and prepares to take over, either by reading materials or via virtual participation in aircraft activities (e.g. video calls).
  - **Day 3:** Crew 2 goes to the plane and takes over project activities. Crew 1 is available via phone or video call to answer any questions from the hotel.
  - **Day 4:** Crew 1 departs Houston.

**COVID-19 Contact Incident Procedures:** During a deployment, if any crewmember has contact with a person suspected of having COVID-19, or feels unwell, that crewmember will self isolate in their residence, avoid any contact with other people, and immediately contact the RAF Project Manager via telephone or UCAR/HESS (all-hess@ucar.edu).
- The RAF Project Manager will activate the UCAR COVID-19 response protocols:
  - Contact UCAR Health Environment and Safety Services (HESS).
  - Contact EOL/RAF Facility Manager and EOL Director’s Office.
- Seal and quarantine the aircraft for disinfection.
- Isolate the crew and ground support personnel from each other and have them remain in their residences to await further guidance.
- Follow UCAR and State guidance for testing and medical intervention.

**Appendix: Overall UCAR COVID-19 Approach**

UCAR/NCAR puts the health and safety of its staff and visitors as the highest priority. A full operations plan and response processes and procedures will need to be developed to address the risks associated with exposure to COVID-19 or other pandemics. Based on UCAR/NCAR’s current multi-phased COVID-19 Action Plan (see Figure 3 below), travel is suspended in the Red and Orange Phases and in Yellow Phase allows for business-critical only. Travel in Green and Blue Phases has not yet been determined. For NSF missions performed in the Red, Orange, or Yellow Phases, staff members from NCAR and UCAR (Health, Environment, and Safety Services (HESS), Facilities Management, Safety and Sustainability (FMSS), and potentially other departments) would need to be approved to enter the facilities to complete the necessary preparatory work and support. Outside scientific staff would also have to be granted special access to the facilities.

Prior to and after the mission, occupancy thresholds associated with staff inside facilities who are engaging in preparations and concluding actions must be adhered to. In addition, HESS requirements for the use of face masks, screening, protocols, and training, sanitation, and other stipulations must be followed. A thorough cleaning of the aircraft will commence prior to and following the project. Determination will be made by HESS as to the need to quarantine for fourteen (14) days prior to being approved to support the mission should participants arrive from out of state.

During the mission, if any crewmember exhibits signs of COVID-19 or other pandemic, they must immediately self-identify, ensure they are wearing a face mask appropriately at all times when inside hangars, aircraft or office trailers, and isolate themselves as much as practicable until the flight is complete. Immediately upon landing, all staff returning from flight where symptoms are detected must move to a location to be isolated for a period of no less than 14 days. Specific instructions on where to self-isolate, notifications to NSF and potentially impacted NSF PIs, payments to cover expenses, and return to home base plans will be determined by participating institutions for outside staff, and UCAR for NCAR staff and will be determined based on the location the event occurs.
Figure 3. UCAR COVID-19 Phased Approach

I certify that I have read and understand the above protocols for the SPICULE and ESCAPE field campaigns and agree to abide by these protocols for the duration of my time involved in either project. Failure to comply will be reported to my institution and may result in disciplinary action.

________________________________  ______________________________________
Print Name                                                                       Affiliation

________________________________  ______________________________________
Signature                                                                       Date