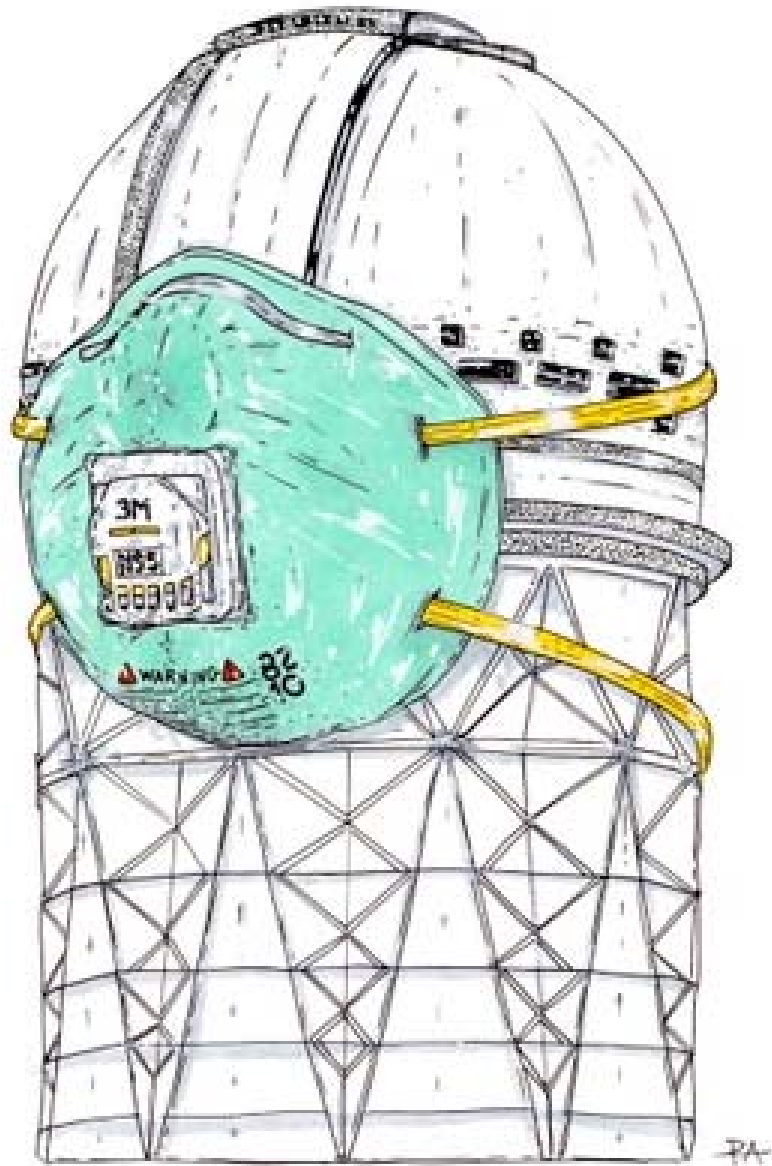# Kitt Peak National Observatory (KPNO) Restart Plan

"Masked Mayall" - Original artwork by Panteha Abareshi

Change Record

Version	Date	Description	Change Owner
1.0	2020-06-02	Initial Draft, assembled to match outline	KPNO Restart Team
2.0	2020-06-03	Draft for Review, last minute corrections and formatting	KPNO Restart Team
2.1	2020-06-17	Fix rev table entries, and header to reflect version #.	Dee Stover
3.0	2020-06-19	Updated content addressing FAQ and feedback regarding task planning. [Not yet approved by CCB. DO NOT DISTRIBUTE.]	KPNO Restart Team
3.1	2020-06-23	Draft reviewed by the CCB	CCB
3.2	2020-06-30	Addition in section 7.2 regarding critical tasks during Phase 0.	CCB
3.3	2020-07-31	Addition of section 7.2.1 – Preparation for Restart	CCB
3.4	2020-08-21	Approved by NOIRLab. Removed "draft" watermark	Heidi Schweiker
3.5	2020-09-04	Clarified Section 7.3 to emphasize that limits are on size of task groups per RAT, not on total building occupancy	David Sprayberry
3.6	2020-10-02	Added KP access form and building sign-in sheets. Updated check-in procedure.	Heidi Schweiker

Table of Contents

1. Introduction

Kitt Peak National Observatory (KPNO) was shut down in mid-March 2020 due to the COVID-19 pandemic. This document is a plan to restart and maintain operations on Kitt Peak under a new set of guidelines focused primarily on protecting the staff during the ongoing pandemic. Adjusting to the new conditions brought about by the pandemic will require significant changes to observatory work routines. This Plan outlines these changes.

The goal of the KPNO Restart Plan is to resume a level of on-site activities to further the observatory missions without endangering the health of staff or damaging equipment.

Although the goal of the KPNO Restart Plan is to resume some level of operations, at no time shall any activity be detrimental to employee well-being. Employee well-being outweighs any and all other concerns. If any person or organization engages in activities which compromise the health or welfare of any Kitt Peak employee, they will be immediately referred to the Mid-Scale Observatories (MSO) Director. Any NOIRLab employee who feels that they are being pressured to violate this Plan, or the intent of this Plan, is strongly encouraged to bring this concern to their Direct Supervisor, Site Supervisor, Kitt Peak Safety Manager, or directly to the MSO Director. Kitt Peak tenants who feel that they are being pressured to violate this Plan, or the intent of this Plan, are likewise strongly encouraged to bring this concern to their supervisors, the Kitt Peak Safety Manager, or directly to the MSO Director.

The KPNO Restart Plan was written by NOIRLab employees to serve in addition to the policies outlined within the *NSF-Funded Centers COVID-19 Exposure Prevention Plan.* While the NOIRLab Prevention Plan contains general guidelines for all of the NOIRLab centers, the Kitt Peak Restart Plan provides the details for Kitt Peak operations only. The two documents must be used together to inform policy on Kitt Peak.

None of the staff has pandemic experience, nor are they expert in virus transmission; for these reasons the KPNO Restart Plan was developed as a collaborative effort. The staff was given freedom to express ideas, put forward concerns, and otherwise brainstorm until arriving at a consensus. This "crowd-sourcing" technique is intensely time-consuming and very difficult, but by taking diverse ideas and collectively arriving at an agreed upon solution, that solution will be as close to optimal as possible. Not everyone agreed with every decision, but a "general" consensus was achieved, with no individual expressing strong disagreement. The staff deserves considerable credit for undertaking this intense and difficult effort in developing these policies and plan without ever resorting to discourteous behavior. The collective effort involved approximately 3000 person-hours and was completed in four and one-half weeks.

Project management tools were employed to ensure a complete set of deliverables based on a detailed risk assessment. The results of this exercise were then assembled into this Plan. This approach provided a framework to structure the KPNO Restart Plan's deliverables. The pandemic is new to everyone involved, and therefore no one expects the KPNO Restart Plan to be perfect. The KPNO Restart Plan was made adaptable by implementing a **Change Control Board (CCB)**. The CCB will carefully observe the tasks on Kitt Peak in order to learn and adapt the KPNO Restart Plan to optimize policy and procedures over time. In addition, COVID-19 is a new virus and very little is known about it; as this plan was being developed, governments and health officials were rapidly changing advice (and commonly not following their own advice). The CCB is tasked with sifting through this information and adapting the KPNO Restart Plan according to the best science-based advice available.

To facilitate the planning of tasks and operational scenarios, a **Risk Assessment Tool (RAT)** was developed. This tool provides a quantitative method to evaluate the COVID-19-based risk to persons involved in any activity. This tool is designed to be used by planners to help guide risk mitigation efforts.

1.1 Phases and Stages

The COVID-19 risk to Kitt Peak personnel is highly dependent on the prevalence of the disease in the larger community. Recommendations are to drastically lower inter-personnel exposure during times of high or increasing levels of community infection rate. Conversely, inter-personnel exposure is allowed to increase if the community infection rate is low or rapidly decreasing. The highly variable and unpredictable nature of the community infection rate precludes schedule-based planning in favor of event-based planning. In practical terms, the community infection rate is used to determine the *phase* of operation on Kitt Peak. There are four defined phases: 0, 1, 2, and 3. Each *phase* has limitations on the number of people and the types of tasks allowed. In Phase 0, the observatories are shut down. In Phase 1, there is a very small staff performing limited tasks, etc. Phase 2 allows more people per site. Phase 3 is the least restrictive. Phase definitions are aligned with Centers for Disease Control and Prevention (CDC) guidelines but also include additional considerations; the CCB will determine the phase of operations. Planners will develop their plans and sort them into the phase that allows the work to be done. The scheduled tasks will then be carried out according to the current phase of operations. It is expected that the phase may increase or decrease multiple times during the pandemic with no notice. Planned tasks will be performed only as each phase allows. In addition to this, a change from any phase to the next higher phase will require a slow transition and include a gradual increase in personnel and activities.

In addition to phases, this document also makes references to *stages* in the restarting of operations on Kitt Peak. The term *stage* refers to the operational status of the observatory (e.g., day staff only, nighttime operations with remote observers, nighttime operations with visitors, etc.). The transitions between various stages and phases will not necessarily coincide. Some early stage tasks may require waiting until a later phase because of the task requirements and their associated risk(s).

The details in the KPNO Restart Plan, such as the number of people at any site, has been carefully developed for Phase 1 only. As the situation evolves during Phases 1, 2, and 3, details will be finalized based on lessons learned, the changing situation, and the best available science-based advice. The CCB will determine the current phase for Kitt Peak.

2. KPNO Restart Plan Charter

The KPNO Restart Plan is a living document that is Kitt Peak's plan to enable science operations during the COVID-19 pandemic. The goal is to maintain zero COVID-19 transmission while creating a safe work environment in which NOIRLab and tenant staff feel comfortable. The KPNO Restart Plan will be executed in stages, beginning with strictly Technical and Engineering (T&E) and maintenance work to restart and check out observatory instruments and systems. As an example, moving forward, the WIYN 3.5m Telescope will resume continuation of Port Adapter and NEID commissioning work (this work, or at least the pace, will likely be modified from the original commissioning schedule). The WIYN 3.5m Telescope will then add science observations with local and remote observers. For the Mayall Telescope, maintenance and improvements to the telescope and DESI instrument will be followed by a continuation of the DESI commissioning activities. This will include a return to nighttime operations with local and remote observers.

All stages of this project will operate in accordance with current federal, state, local and Tohono O'odham Nation regulations as well as AURA and NOIRLab policies regarding pandemic precautions. Further, the implementation of Kitt Peak guidelines may extend beyond what is currently in place. For every stage of the project, proposed restart tasks will be filtered through a Risk Assessment process. Only tasks with an acceptably low risk level will be approved. This project will be considered successful when commissioning and science operations have restarted at Kitt Peak to a level possible given the current climate while protecting staff from exposure to COVID-19. It is important to keep in mind that the necessary precautions will slow down work, including emergency repairs, from the usual pace. While we would all like every possible night used for science, we must accept some efficiency losses in order to keep staff safe and healthy.

3. KPNO Restart Plan Scope

- This plan will be applicable to all activity at the Kitt Peak National Observatory.
- This plan will be executed in stages, beginning with strictly Technical and Engineering (T&E) and maintenance work to restart and check out observatory instruments and systems.
- This plan describes these stages and the criteria for moving from one stage to another.
- This plan details the risk evaluation process for activities and tasks and communication of changes to all relevant stakeholders.
- This plan will be updated by the CCB in accordance with current federal, state, local, and Tohono O'odham Nation rules and regulations, in addition to any AURA and NOIRLab policy.
- This plan will outline the stages required to resume science operations.
- This plan will include communication and feedback with our stakeholders in the observatory.

3.1 Definition of Success

1. Minimizing the exposure to Kitt Peak personnel from COVID-19 on-site and in transit to/from the worksite, with the goal of achieving zero COVID-19 transmission.
2. Responding quickly and safely to new or potential exposure on-site.
3. Resuming a level of on-site activities to further the observatory missions to the extent possible given the current COVID-19 threat level and governmental and organizational guidelines.
4. Responding rapidly and efficiently to changing threat levels in the broader community, including reevaluation of the current operations stage.
5. Continued safe handling and operating of observatory equipment and instrumentation while maintaining current personnel safety protocols.
6. Communicating efficiently with all stakeholders.

3.2 KPNO Restart Plan Deliverables

- An adaptable reopening plan that will outline what work can be performed within each of these defined stages:
  - Mountain facilities and infrastructure restart (cleaning, getting supplies to KP, vehicle operation check, cryogens...)
  - Telescope and instrument restart (bring systems online and check out)
  - Telescope and instrument use I, remote observers only (minimize people in control rooms)

- Telescope and instrument use II, remote observers, the potential for access by visitors (*to be determined at a later date*).
- Quality Management Plan:
    o Change Control Board (CCB) that will manage self-audit and change processes
    o Response to sudden changes in COVID-19 threats
    o Communication plan
- Risk management plan:
    o Risk Assessment Tool (RAT)
    o Mitigation strategies
    o Allocation and distribution of appropriate Personal Protective Equipment (PPE)

4. Definitions

Phases

Level of operations based on community transmission.

Due to the rapidly evolving situation, operations on Kitt Peak do not have a planned start date. Rather, operational plans and schedules are based on the current COVID-19 situation and are broken into *phases* — each *phase* is defined by the rate of spread of COVID-19 in the local community. The level of community transmission is roughly determined by published metrics such as the number of cases of COVID-19 in Arizona and Pima County. These metrics are used by the CCB to determine the current *phase* on Kitt Peak. These metrics are closely aligned to the CDC recommendations for re-opening states, but the CCB also has the freedom to consider additional criteria, particularly science-based data. Additionally, Kitt Peak is on the Tohono O'odham Nation and we must follow the tribal guidelines. The intent of allowing the CCB to determine the phase level for Kitt Peak was to allow us to follow CDC guidelines and expert recommendations free from external pressures. Setting our own phase allows us to effectively coordinate and communicate phase transitions.

It is important to note that the *phase* can be different between states, counties, cities, and Kitt Peak. In other words, the current *phase* on Kitt Peak is recommended by the CCB, subject to approval of the NOIRLab Director and AURA Vice President for Operations, and may not be the same *phase* as Pima County or Arizona. If community transmission decreases and Kitt Peak moves to Phase 2, it is entirely possible that Kitt Peak will return (without notice) to Phase 0 because of increasing community transmission, an outbreak on Kitt Peak or the Tohono O'odham Nation, or some other event. The CCB will give as much notice as possible for phase changes

including reverting a phase, but advanced notice is not guaranteed.

Currently the CDC defines phases based on the following metrics:

1) COVID-19-like Symptoms:

a) Has there been a downward trajectory in influenza-like illnesses reported within the period?

-AND-

b) Has there been a downward trajectory in COVID-like syndromic cases reported within the period?

2) COVID-19 Cases:

a) Has there been a downward trajectory of documented cases within the period?

-OR-

b) Has there been a downward trajectory of positive tests as a percentage of the total tests within the period (flat or increasing volume of tests)?

3) Hospital Readiness and Testing Capacity:

a) Has the community implemented robust testing? Is there a testing program in place for at-risk healthcare workers, including emerging antibody testing?

-AND-

b) Can hospitals treat all patients without crisis care?

To meet the criteria, both of the *COVID-19-like Symptoms* criteria, one of the two *COVID-19 Cases* criteria, and both of the *Hospital Readiness and Testing Capacity* criteria must be met.

Phase 1: Meeting the above criteria for a 14-day period.

Phase 2: Meeting the above criteria for a 28-day period (additional 14 days from Phase 1).

Phase 3: Meeting the above criteria for a 42-day period (additional 14 days from Phase 2).

The criteria for both Pima County and the State of Arizona must be met. The CCB will also

consider additional criteria including: Arizona and Tohono O'odham re-opening status, Kitt Peak workers with sick household members, staff illnesses, other safety risks to personnel and property, additional recommendations, etc.

Stages

While *phases* are defined based on the level of community transmission, *stages* have been defined by NOIRLab as the operational readiness and activities of individual observatories as follows:

- **Stage 0:** Mountain facilities and infrastructure restart (e.g., cleaning, getting supplies to Kitt Peak, vehicle operation check, cryogens)
- **Stage 1:** Telescope and instrument restart (bring systems online and check out)
- **Stage 2:** Telescope and instrument use I, remote observers only (minimize people in control rooms)
- **Stage 3:** Telescope and instrument use II, remote observers, the potential for access by visitors (*to be determined at a later date*).

Note: The transitions between various *stages* and *phases* will not necessarily coincide. Some early stage tasks may require waiting until a later phase because of the task requirements and their associated risk.

Site

A Kitt Peak Facility (i.e. WIYN 3.5m Telescope, Mayall Telescope, 2.1m Telescope, etc.)

Task

A piece of work to be done on site. Tasks can vary in length from a few minutes to multiple days.

Work Area

A place where a specific task or set of tasks is to be performed.

Stakeholder

A person with an interest or concern in the operations of Kitt Peak.

Personnel

NOIRLab employees

Participants

Anyone involved in a task, including non-NOIRLab employees, such as Kitt Peak tenants, university partners, vendors, and visitors.

Local Personnel/Participants

People who fall into either category listed below are considered local. All other people are considered non-local and will not be permitted on Kitt Peak in Phase 1 and Phase 2.

- NOIRLab personnel based in Arizona who have not traveled outside the local area, other than their normal commute, within the last 14 days.
- Participants who have self-isolated in Pima County for at least 14 days.

Risk Assessment Tool

The spreadsheet tool used to evaluate the COVID-19 risk of a task.

5. Roles and Responsibilities

5.1 Management Team

- *Mid-Scale Observatories (MSO) Director* (Lori Allen)
- *Safety Manager* - NOIRLab Safety Manager (Tammie Lavoie)
- *Mountain Facilities Supervisor* - NOIRLab KPNO Facilities Supervisor (Larry Reddell)
- *Change Control Board (CCB)*
  - o The Change Control Board is charged with:
    - Enabling the exchange of information between the CCB and stakeholders with the goals of ensuring participants are to be able to work on Kitt Peak as safely as possible and to minimize exposure to COVID-19
    - Reviewing all tasks prior to execution to ensure they adhere to the protocols outlined in this Plan
    - Ensuring the success of the KPNO Restart Plan by implementing and updating the KPNO Restart Plan
  - o CCB Members
    - Tammie Lavoie (Chair)
    - John Donaldson
    - Dick Joyce

- Wilson Liu
- Larry Reddell
- Heidi Schweiker Christopher
- David Sprayberry
- Dee Stover
- Doug Williams

5.2 Site Coordinators

- *Site Supervisor* - Coordinator of tasks within a site, responsible for the following:
  - Communication (e.g., daily briefings, daily log)
  - Safety of site and personnel on a given day
  - Planning/Scheduling of daily activities
  - Point of contact for all activities on a given day
- *Team Leaders* - Manager/Manager's Delegate for each respective group (EM, Facilities Maintenance, Engineering, etc.). This person could be off-site.
- *Task Leader* - Leader of individual tasks within any site, responsible for the following:
  - Cleaning practices as defined by the Task and Phase Level
  - Knowledge of procedures required to complete the task
  - Communicating procedures to all task participants
  - An intimate familiarity with risks and mitigations as developed through the Risk Assessment Tool (RAT)
  - Safety (general and COVID-19 specific) risks associated with the task at hand
  - Note: The Task Leader must be physically present at the work area.
  - Note: There may be multiple Task Leaders at each Kitt Peak facility.

Note: A single person may fill more than one of these three positions (Site Supervisor, Team Leader, Task Leader) on any given day.

5.3 Kitt Peak Safety Team

- *Kitt Peak Screener* - the Point of Contact when employees arrive at and depart from Kitt Peak.
  - The Screener administers a Health Assessment Questionnaire.
  - The Screener tracks who is on Kitt Peak and their work site location.
  - The Screener will ensure the Emergency helicopter Landing Pad is clear of vehicles and available for use.
- *COVID-19 Risk Observer* - Independent observers who watch tasks being performed to remind workers of COVID-19 safety protocols and suggest improvements in processes to the CCB.
  - Depending on the complexity (or newness) of a task, a designated monitor may be assigned to ensure that the COVID-19 exposure protocols are being followed.

This person is referred to as the COVID-19 Risk Observer in the Kitt Peak Restart Plan.

- o The COVID-19 Risk Observer will help to identify any improvements to the KPNO Restart Plan and bring any issues to the CCB.
- o The purpose of the COVID-19 Risk Observer is to help the team become more familiar with the new way of doing things and not to punish participants for accidental COVID-19 protocol violations.
- o The COVID-19 Risk Observer, as well as any other employee, may stop a task at any time if they feel it is unsafe. The KPNO Stop Work policy still applies as usual.
- o If the COVID-19 Risk Observer can maintain > 12 feet distance from any task participant, they do not count as an additional task participant in the RAT.
- o An additional safety observer may also be included for non-COVID-19 reasons and will not be counted as an additional task participant if they maintain > 12 feet distance.
- *EMT* - Emergency Medical Technician on Kitt Peak.

5.4 Kitt Peak Workforce

- *Essential Staff* - Staff required on site to keep minimal observatory operations functioning during shutdown. The essential staff is on the mountain during all phases including Phase 0. These staff members are detailed below.
  - o NOIRLab Staff:
    - ▪ Facilities:
      - ▪ Custodial (1 person)
      - ▪ Water Processing (1)
    - ▪ Mountain Facilities Supervisor & Spouse (2)
    - ▪ Electronic Maintenance (1)
    - ▪ Kitchen Staff (1)
    - ▪ EMT (1)
  - o Other:
    - ▪ Steward Observatory Telescopes - The University of Arizona (3)
      - ▪ Note: The Arizona Radio Observatory 12m facility is counted as part of Steward Observatory.
- *WIYN Staff*
  - o Includes engineers and observing support staff
- *Mayall Staff*
  - o Includes engineers and observing support staff
- *Tenant Observatories* - Observatories on Kitt Peak not managed by NOIRLab

6. Kitt Peak Access

As we begin to reopen KPNO, access to Kitt Peak will need to be monitored and regulated to help prevent the spread of COVID-19. These restrictions are applied to all individuals seeking access to Kitt Peak. Protocol restrictions shall be reevaluated as the work environment restrictions change.

- Personnel/participants permitted on Kitt Peak:
    - Personnel/participants who are scheduled to accomplish a defined task or set of tasks necessary to accomplish the observatory mission at the current stage.
    - Personnel who are required for a scheduled shift.
    - Only local personnel/participants are allowed on Kitt Peak for Phase 1 and Phase 2.
- New Hires:
    - Training on Kitt Peak for new hires must be handled on a case-by-case basis, depending on the needs of the position, and must adhere to the current policies.
        - If a new hire is brought onto Kitt Peak for any reason, their point of contact must coordinate with the Mountain Facilities Supervisor to avoid areas where others are doing work so they do not affect the results of the Risk Assessment.

7. Phase Protocols

KPNO is restarting operations in phases, and each phase will have its own protocols for safely executing tasks. Protocols for Phase 0 and Phase 1 are detailed below. The CCB will further define Phase 2 and Phase 3 protocols at a later date.

7.1 Protocols within each Phase

7.1.1 Task Team Work Area(s)

- Team Size: 1-3 people (in Phase 1)
    - COVID-19 Risk Observer: If the COVID-19 Risk Observer can maintain > 12 feet distance from any task participant, they do not count as an additional task participant and do not need to be included in the RAT.
- Teams will avoid contact with other teams/participants outside their individual team whenever possible.
    - Contact will be limited to personnel within an isolated team.

o Communication with individual(s) outside of team will be made via contactless methods such as radio, phone, etc.

7.1.2 Work area/tool use

- Must adhere to the *NSF-Funded Centers COVID-19 Exposure Prevention Plan* Section 5, 6.2, 10.
- Disinfectant approved by the Environmental Protection Agency (EPA) for use against SARS-CoV-2 must be readily available at all sites. The approved disinfectant list is available at: https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2

7.1.3 Personal Hygiene

In addition to the *NSF-Funded Centers COVID-19 Exposure Prevention Plan* Section 3.4, the following protocols apply for Kitt Peak:

- Elevator – Elevator usage is restricted to a single person per ride.
- Bathroom use - Personnel will clean contacted surfaces before and after each use. Doors will remain open when not in use to increase air circulation.

7.1.4 Visual Cues

- Safe distancing practices will be adhered to as defined by the current phase.
- Visual clues include signs, 6 ft distancing markers on the ground.

7.2 Phase 0

o KPNO Facility is Shutdown.
o Only Essential Staff are permitted on Kitt Peak.
o Critical tasks needing to be executed during Phase 0 must be approved by the CCB. Critical tasks are defined as tasks that must be carried out in order to prevent detrimental harm (or loss) to equipment or personnel.

7.2.1 Late Phase 0 – Preparation for Restart

Due to the extended COVID-19 shutdown several important tasks will need to be carried out to prepare the mountain facilities for the return of non-essential staff.

Upon approval of AURA Management:

- It must be taken into account that there will be operational limitations on fire response due to COVID-19 impact on fire teams.

- All Kitt Peak personnel shall refresh their knowledge on fire and emergency response before returning to work on Kitt Peak.
- Each task must be approved by the CCB who will interface with Tohono O'odham Unified Command as needed.
- A limited number of vendor and tenant groups will be allowed on KPNO at one time. A "group" is defined as one person. If determined essential, two people may be permitted by the CCB on a case-by-case basis.
- Tasks will include:
  - o Inspections:
    - § Elevators
    - § Cranes
    - § Fire extinguishers
    - § Air handling systems – The NOIRLab HVAC Working Group will assess the air handling systems on Kitt Peak and determine necessary modifications and improvements. This assessment will inform work areas including office space assignments.
  - o Prep work:
    - § Water treatment
    - § Rodent and insect removal
    - § Brush removal
    - § Propane line replacement
    - § House repairs
- Work Conditions:
  - o Kitt Peak staff must sanitize vendor work areas upon their departure.
  - o All NOIRLab workers must be trained in proper COVID-19 specific training(s) prior to on site work. Access to on-site training will be available.
  - o Each worker will have their own separate work space. There will be no shared work spaces.
  - o All work other than routine single person tasks must be run through the RAT.
- Personnel Added to essential staff:
  - o 2 electricians
  - o Facilities personnel as needed to carry out critical tasks

7.3 Phase 1

Phase 1 will commence upon approval of AURA Management. Below is a detailed breakdown of allowed participants on Kitt Peak. Weeks 3 (and beyond) are included in case Phase 1 extends beyond 2 weeks.

- Additional Facilities personnel will be added at approximately 5/week.
- Limited number of participants at each site on Kitt Peak + Essential Crew
- Shift Length: 5-day work week @ 4-6 hours/day initially, to be increased when site management is comfortable with the administration of the site monitoring and exposure prevention protocols outlined here and in the *NSF-Funded Centers COVID-19 Exposure Prevention Plan*.
  - Weeks 1 - 2: Number of personnel will be determined by the results of the RAT for each task. Multiple tasks may proceed at each site on Kitt Peak provided that the task groups don not come in contact with one another or share common spaces at any time. Daytime operations only.
    - In addition to the essential staff from Phase 0 and the facilities staff the following staff will be permitted on Kitt Peak:
    - EM in addition to Essential Crew (1)
    - Tucson-based WIYN Staff (2)
    - Tucson-based Mayall Staff (2)
  - Week 3: Number of personnel will be determined by the results of the RAT for each task. Multiple tasks may proceed at each site on Kitt Peak provided that the task groups do not come in contact with one another or share common spaces at any time. Daytime operations only.
    - In addition to the essential staff from Phase 0 and the facilities staff the following staff will be permitted on Kitt Peak:
      - EM in addition to Essential Crew (2)
      - Tucson-based WIYN Staff (2)
      - Tucson-based Mayall Staff (2)
  - Week 4+: Number of personnel will be determined by the results of the RAT for each task. Multiple tasks may proceed at each site on Kitt Peak provided that the task groups do not come in contact with one another or share common spaces at any time. Possible limited nighttime operations.
    - In addition to the essential staff from Phase 0 and the facilities staff the following staff will be permitted on Kitt Peak:
      - EM in addition to Essential Crew (2+)
      - Tucson-based WIYN Staff (3)
      - Tucson-based Mayall Staff (3)

Tenant Observatories

Tenants must submit their own safe restart plans to the CCB for approval before they are permitted to begin on-site operations.

Tenant plans must follow the guidelines set forth in the Kitt Peak Restart Plan. *Note:* Immediate

on-site support by NOIRLab is not guaranteed.

7.4 Phase 2 and 3 protocols will be determined at a later date by the CCB.

7.5 Note on testing

Testing for COVID-19 will not be implemented in the initial operations startup. Utilization of testing will be evaluated as a possible tool to be developed at a future date if it becomes readily available.

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8. Risk Assessment Tool (RAT)

8.1 Introduction

The Risk Assessment Tool (RAT) was created to help plan safe procedures and tasks during the COVID-19 pandemic. This tool is to be used by people planning and executing on-site tasks. Running a task through the tool will return a Risk Score. The Risk Score has been scaled to the current Kitt Peak phase, which will be set by the CCB. Scores less than 100 are intended to be acceptable for Phase 1 and scores less than 200 are intended to be acceptable for Phase 2. Please note that the risk score is for a task with no mitigations. The tool is meant to encourage the user to think through each component of the task with respect to COVID-19 related risks, and use the score to guide mitigation strategies if required. Those mitigation strategies can then be reviewed by the user in conjunction with the Safety Manager/CCB to re-assess the safety of the task and whether it can be carried out in the relevant Phase.

Users should note that the Risk Tool is designed to assess the risk of a specific task or subtask involving one work area and one set of workers. If the task involves multiple locations, changes in the number of participants or long duration (including multi-day tasks), the task should be divided into sub-tasks, if possible, and the Risk Tool applied to each sub-task individually. The tasks are then combined for the entire shift and an overall assessment performed to ensure the mitigation is adequate for all tasks and sub-tasks individually as well as the entire shift.

The RAT considers the following criteria:

- Number of people working together
- COVID-19 Safety Training of all task participants
- Following CDC guidelines, high risk personnel or personnel with high risk household members will be asked to work from home in Phases 1 and 2

- Personnel closer than 6 ft apart not allowed in Phase 1
- Duration of exposure for task participants (> 6 ft apart) not to exceed 2 hours in Phase 1 (Phases 2 and 3 TBD by CCB)
- Many tasks, including familiar ones, will require mitigation to pass the RAT
- A task with a non-trivial chance of needing emergency response is not allowed in Phase 1 or Phase 2
- Sanitary condition of work area required
- Shared surfaces/tools between personnel are not allowed
- Only scheduled staff are allowed on Kitt Peak each day
- Tasks in violation of current federal, state, local and Tohono O'odham Nation regulations as well as AURA and NOIRLab policies regarding pandemic precautions are not permitted
- Resurgence of COVID-19
    - The CCB will closely monitor the evolving COVID-19 situation. If there is a resurgence of COVID-19 cases, the CCB has the authority to move Kitt Peak back to a previous phase.

8.1.1 Link to Risk Assessment Tool

The RAT is provided as an Excel spreadsheet. In the spreadsheet, users will find the following tabs:

1. Participant Health and Safety: The main tool used to evaluate the safety and feasibility of each task or subtask.
2. Help - Risk Mitigations: Addresses frequently asked questions and suggests possible risk mitigations.
3. Equipment Costs: Evaluates the risk to equipment in the event of a sudden Kitt Peak evacuation or power outage.
4. Local Transmission Phase: Outlines the local phase based on the CDC guidelines. Note: The CCB will determine which phase Kitt Peak operates under.
5. Health Assessment Questionnaire: A copy of the health assessment questionnaire that each participant will answer when arriving at Kitt Peak each day. Participants must pass the questionnaire before they are allowed entry to the worksite.

8.2 Instructions for using the RAT

1. Write down the task and a brief procedure. For routine or very simple tasks, the procedure may be very brief (such as "turn on these 5 computers"). Complex tasks may have more detailed procedures. Examples of a few tasks are provided with this guide. Note: The RAT is designed to assess the risk of a specific task or subtask involving one work area and one set of workers. If the task involves multiple locations or changes in the number of participants, the task should be divided into subtasks and the RAT applied

to each subtask individually. The tasks are then combined for the entire shift and an overall assessment performed to ensure the mitigation is adequate for all tasks and subtasks individually as well as the entire shift.

2. Fill out the main sheet in the RAT spreadsheet, at the tab labeled Participant Health and Safety. Note: There is a Help sheet, which provides additional information for each row (risk factor).

3. Fill out the Equipment Cost sheet. These two questions verify whether the risk to equipment is acceptable for the given task.

4. Choose the CDC local transmission Phase you are evaluating the task for (Participant Health & Safety sheet, cell B18). **The CCB will notify users of the current Phase level for Kitt Peak**, but you may select a different phase level for planning purposes. All Kitt Peak employees will wait for the CCB to decide when to change the phase level. For reference only, a sample of the gating criteria for the CDC Local Transmission Phase are provided on the Local Transmission Phase tab of the Risk Assessment Tool. **The CCB has the authority to remain at a lower phase than the local conditions.**

5. Confirm that all participants have passed the Health Assessment Questionnaire (Participant Health & Safety sheet, cell B19). All participants must pass the Health Assessment Questionnaire each day before they are allowed entry to the worksite. Participant answers will not be entered directly into the risk assessment tool. The Health Assessment Questionnaire is included in the risk assessment tool for your reference.

6. If the Total Participant Health and Safety Risk Score is greater than the acceptable level for the current phase, consider what mitigations could be applied to the task. Some possible mitigations are listed on the Help tab. Write these mitigations down in the task procedure, and consult with the Safety Manager/CCB to determine if the mitigations are sufficient for the task to proceed.

7. Once a task has passed risk assessment, it may be repeated with the same procedures and risk mitigations.

8.3 Example Risk Assessment: WIYN Hydra Gripper Adjustment

1. The Hydra Gripper Adjustment procedure requires one trained person. The telescope must first be moved to azimuth = 180 degrees, then the yellow scissor lift needs to be powered and its safety rails installed. The MOS instrument rotator stay bar is installed, then the lift is raised and the instrument opened. The adjustment is done by tweaking the position of a small knob inside Hydra. The adjustment must be verified by closing Hydra and moving many buttons (fibers) to ensure the gripper is behaving well.

2. Participant Health and Safety: One participant who is familiar with the task

	A	B	C	D	E	F
1	DOES THIS TASK PASS?	YES				
2	Unmitigated Risk Assessment per Task or Operational Scenario - Risk to Participant and Household Members Health and Safety					
3	Risk factor	Value	Units	Formula	Score	Notes
4	Participants	1	Number	[(number) * (number -1)/2] scaled to fail with 11 or more people	0	
5	Have all participants received training (proper COVID-19 safety procedures and PPE)?	Yes	Boolean (yes/no)	If no, the task cannot proceed	0	
6	Participants at high risk or with high-risk household members	0	Number	number * 200	0	High risk people encouraged to work from home in phases 1 & 2
7	Participants who will be less than 6 feet apart	0	Number	number * 50	0	
8	Duration of exposure, same room, > 6ft apart (total minutes)	0	Minutes	(score from # of participants) * minutes * 0.43	0	This is scaled to allow 2 people to work for 2 hours in proximity to each other.
9	Is this a familiar task to the participants, or is there a non-trivial posibility the task will deviate from the procedure or require unplanned assistance?	Familiar Task	Boolean (familiar/unfamiliar)	If unfamiliar, the task cannot proceed unmitigated	0	
10	Is there a non-trivial posibility of needing emergency response or rescue?	No	Boolean (yes/no)	If yes, the task cannot proceed	0	
11	Will all tool, items, and surfaces used during the task be cleaned before the start of the task?	Yes	Boolean (yes/no)	If no, the task cannot proceed unmitigated	0	A blank value is read as "No"
12	Will any tools, items, or surfaces be shared by multiple participants during the task?	No	Boolean (yes/no)	If yes, the task cannot proceed unmitigated	0	A blank value is read as "Yes"
13	Will the task or operational scenario violate any governmental, AURA, TO Nation, WHO, or CDC guidelines?	No	Boolean (yes/no)	If yes, the task cannot proceed	0	A blank value is read as "Yes"
14	Total Participant Health and Safety Risk Score				0	Formulas are set so risk < (100 * Phase level) is acceptable

3. Equipment Cost: The Hydra gripper tensioning may be safely abandoned very quickly; just close and latch the instrument door. This procedure does not increase risk to the equipment in the event of a power loss any more than simply having the instrument powered on.

	A	B	C
1	Risk Assessment per Task or Operational Scenario - Risk to Equipment		
2	Risk Factor	yes/no	Notes
3	In the event of an immediate mountain-wide evacuation, will the facility or equipment be abandoned in a safe state?	Yes	
4	In the event of a power outage, will the equipment be in an safe state?	Yes	
5	Total	Yes	All yes, allowed

4. Phase 1 has been assumed here, however the CCB must announce the phase before this task may be executed.

5. The single participant in this task must pass the Health Assessment Questionnaire before gaining access to the worksite to perform the task.

16	Other Criteria to Pass the Risk Assessment				
17	Are the risks to equipment acceptable?	Yes	Boolean (yes/no)	From Equipment Costs sheet	
18	What is the phase of local transmission?	1	CDC Phases	Set by Change Control Board	Phase definitions found here: https://www.whitehouse.gov/openingamerica/ as well as the Local Transmission Phase sheet.
19	Have all participants passed the Health Assessment Questionnaire?	Yes	Boolean (yes/no)	From Health Assessment Questionnaire	The Health Assessment Questionnaire will be administered to each individual before they are given access to the worksite. Their answers will not be directly logged in this workbook. An example of the HAQ (subject to change by NOIR Lab safety managers) is given at the end of this workbook for your reference.

6. While this task has a low Total Participant Health and Safety Risk Score, other activities that may be occurring at WIYN at the same time are not accounted for in the Risk Assessment Tool. The last step of the Hydra gripper adjustment, moving fibers to verify performance, is usually done by going into the control room to turn on the gripper camera and sitting at the instrument console. If another task was occurring in the control room at the same time as the gripper adjustment, having the gripper adjuster move from

the dome to the control room might bring people together unnecessarily. If someone is working in the control room, the person adjusting the gripper could call them on the radio to ask for the gripper camera to be turned on and then use a laptop in the dome to connect to the downstairs console. This would allow the same work to be done as the usual procedure, but would reduce contact between people.

8.4 Another Example: ODI Cooldown (and completing Row 9)

1. The cooldown of the One Degree Imager (ODI) is a multi-step task that must be completed before the instrument is used at WIYN. The instrument must first be connected to a vacuum pump to evacuate the dewar. The chiller and heat exchanger (large fan) outside WIYN must be turned on. In WIYN's electrical room, the glycol chiller and helium compressors must be turned on. Finally, all supporting computers and software must be started up in the control room and computer room.

2. For the "Participant Health and Safety Sheet": Cooling ODI is a multi-step process, e.g., setting up the vacuum pump for the dewar, starting up the chillers outside of the building, starting up software, etc. Each step is a one-person job, so Line #4 will include one participant. If any of these steps would have required more people, the step with the maximum number of participants (i.e., highest risk) would be used to fill this line. The single participant will need to have been trained in proper COVID-19 safety procedures (line #5 must be "yes" to pass the risk assessment). Lines #6, 7, and 8 will all be set to a value of 0, since this is a one-person task.

   Line #9 for this task requires some thought. It may be difficult to quantify a probability that one may have to call for additional help. If applicable, think about past instances where you have completed the task. The cooldown of ODI has been completed by one person in the past, perhaps 25 to 30 times. There was one incident during previous cooldowns which required non-emergency intervention by an additional staff member. Thus we arrive at a frequency of 1/25 to 1/30, or 3.3% to 4%. Because this is a small probability, and the staff member assigned to this task has done it many times before, "Familiar Task" is selected. If you are completing a new task that has never been done before or has only been done a few times (i.e., you are unable to draw upon a historical probability), you will need to think of scenarios which may require additional unplanned participants, and how likely they may be.

   For line #10, there have been no past instances of emergency response during ODI cooldown, nor are any of the steps for cooling ODI particularly dangerous (no ladders, lifts, high voltages, sharp tools, etc.). So the probability of emergency response is close to zero, and "No" is selected.

   The remaining lines correspond to zero additional risk, i.e. tools and surfaces will be

cleaned before use, not shared (since there is only one participant) and the task will be in compliance with organizational guidelines.

3. For the "Risk to Equipment" sheet: Both the answers (lines #3 and #4) are "yes", as ODI can be safely allowed to warm up by itself without external intervention, in the case of an evacuation or power outage.

4. Phase 1 has been assumed here, however the CCB must announce the phase before this task can be executed.

5. The single participant in this task must pass the Health Assessment Questionnaire before gaining access to the worksite to perform the task.

6. Mitigation: Even though we have an acceptable risk score, it is high enough that we may want to consider what happens to the risk level if an unexpected problem occurs, Line #9, or the probability of needing to call for unplanned additional help. We should reference the "Risk Mitigations" sheet. Line #9 states that a possible mitigation is to ensure that a task can be safely stopped if unexpected risks arise (in order to reassess the risk of, for example, the arrival of a second participant). Since the cooldown of ODI can be safely stopped at any step in the procedure, the risk for #9 is mitigated. If something unexpected should come up which requires a second person, the task would be stopped, and a new risk assessment sheet would be completed to assess additional risk and mitigation.

9. Work Planning

Scheduling tasks will depend on the reopening phase and stage, so a traditional date-oriented schedule will not be possible. Instead, an event-driven schedule will be used. For example: The scheduled tasks for Phase 1 will be prepared (as detailed below) and when Phase 1 begins, the tasks will begin. The Phase 2 tasks will be similarly scheduled to start when Phase 2 begins. Phase 1 tasks may also be performed in Phase 2.

9.1 Task Preparation

1. Determine individual tasks or subtasks
2. Write procedures for each task or subtask
3. Determine task duration
4. Evaluate each task with RAT:
   a. Fill out RAT (detailed above)
   b. Apply any mitigations
   c. Determine in which phase a task is permissible
   d. Obtain CCB approval to complete task (with mitigations, if applicable) in the current phase or wait for appropriate phase

5. Determine task order to develop a daily schedule based on the current phase
6. Assign resources

9.2 Coordination of Tasks

- The *NSF-Funded Centers COVID-19 Exposure Prevention Plan* will be utilized as a guideline for defining operational stages, as outlined at the beginning of the section.
- Site Supervisor(s) and Task Leader(s) will be assigned each day when tasks are planned at respective facilities; one or more personnel may fulfill each role.
- Task Planning: A list of tasks shall be laid out for each stage with input from the following groups. Task planning should be completed well before arrival on Kitt Peak including role assignments, this includes shared resources (EM, Facilities).
  - o Mountain Facilities
  - o Mayall Observatory
  - o WIYN Observatory
  - o Electronic Maintenance
  - o Tenants
- Identified tasks shall be run through the Risk Assessment Tool (RAT).
  - o Identify the resources necessary to complete each task, including the type and quantity of each required resource.
  - o The RAT will dictate what tasks may be completed in each phase.
  - o Tasks in future stages may be pursued prior to moving the facility into that stage if they pass the RAT.
  - o The RAT should be run on each separate task and then on the entire day's set of tasks per site and per participant. This should check for conflicting tasks or if any individual exceeds the maximum acceptable exposure during their shift.

10. Daily Protocols for Kitt Peak Staff

In order to ensure participant health and safety as a result of the COVID-19 pandemic, we will need to adapt our daily Kitt Peak work activities accordingly. The protocols below are established in response to the pandemic and will be applicable to all participants on Kitt Peak. These protocols will be reevaluated as the work environment restrictions change.

10.1 General Safety Rules for Working during COVID-19

10.1.1 Training

In order to return to on-site work at KPNO, all personnel must receive training on COVID-19

protocols. This training will be online to allow as many people as possible to take it before arriving at Kitt Peak for the first time. On-site training will be made available for anyone who does not have internet access at home. This training will include:

- The importance of maintaining physical distance (social distancing)
- Proper hand hygiene techniques
- Proper Personal Protective Equipment (PPE) use

10.1.2 Site Access Form

Each day, before traveling to Kitt Peak, all approved personnel shall complete the online site access form, located at:

https://docs.google.com/forms/d/e/1FAIpQLScKYV7kABlcLLbvrHjsJIHmlWHMIg5MDwORCkPb PiOQS5BARw/viewform?usp=sf_link

10.1.3 Cleaning

- Clean your work area before starting and after completing tasks.
- Clean tool(s) before starting and after completing tasks.
- Sanitize surfaces you come in contact with.
- Items to be cleaned shall include (but are not limited to): phones, chairs, keyboards, and computer mice.

CDC Guidelines are available at: https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/disinfecting-your-home.html

10.1.4 Entrance/Exit

- Practice safe distancing when passing through entryways.
- One person shall ride an elevator at a time
    - Touch high-touch items like handles and buttons with disposable materials, like tissues (NOT gloves).
- When passing through doors:
    - Wipe surfaces before/after contact.
    - Touch high-touch items like doorknobs with disposable materials, like tissues (NOT gloves).
    - Closable receptacles should be placed near doors to dispose of tissues used to open doors and any disposable PPE.
- Identify different doors as entrances and exits to provide separation, where possible.
- Bathroom doors shall be left open when not in use to provide air circulation.

10.1.5 Radios

- Local NOIRLab personnel will be assigned radios with chargers.
- Additional radios will be available on site and may be signed out as needed.
  - Radios signed out must be sanitized when they're assigned and again when returned.

10.1.6 Personal Protective Equipment (PPE)

- Required PPE:
  - AURA will provide surgical masks for standard tasks.
  - Extra masks will be available at each task site. At least two masks for each person on a task will be available before the task begins. Contact supervisor if additional PPE is not available at the task site.
  - Additional PPE (e.g., clean room jackets, gloves, face shields, goggles, etc.) may be required for specific tasks as defined by the needs of the task.
  - For all non-disposable PPE, employees must use their own assigned equipment and not share items such as goggles, jackets, respirators, or gloves.
  - If there is insufficient PPE available at a task site, contact your supervisor.
    - Do Not Take PPE from other job sites unless directed by your supervisor.
  - During task planning, consideration must be made about whether new PPE is required when changing tasks.
- Guidelines for PPE Use:
  - For any PPE in addition to COVID-19 protocols, participants shall continue to follow their routine policies and procedures for PPE (if any) that they would ordinarily use for their job tasks.
  - When cleaning and disinfecting, participants should always wear gloves and gowns appropriate for the chemicals being used.
  - No task is allowed to proceed without appropriate PPE for the given reopening stage and the task based on the Job Hazard Analysis.
  - If PPE is damaged or compromised in any way, including a broken mask strap, or in the event a mask gets wet, it must be changed.
  - Before commencing a task, assure that everyone performing the task can be understood while wearing PPE. Voices may be muffled through masks. Adjust communication strategy as needed so everyone can be heard.
  - Breaks must be scheduled in the work routine for rest and hydration as needed.
  - Remember to isolate yourself or go outside and maintain adequate separation from others when PPE is temporarily removed for any reason.
  - Any concerns with fit, form, or function of PPE should be raised with the Safety Manager.
  - Task leads must ensure that team members know one another, especially if there is uncertainty with PPE in place.

- Additional Protective Gear:
  - o Lidded plastic bins shall be provided to each employee to allow employees to carry a supply of spare personal protective equipment, personal tools, pens, and other necessary items for that person to complete their tasks. These bins must be labeled with the employee's name.
- Disposal of Personal Protective Equipment:
  - o There will be closable receptacles for disposal of PPE, wipes, and tissues per *NSF-Funded Centers COVID-19 Exposure Prevention Plan* Section 5.1
  - o If a closable receptacle is not near the task site, dispose of PPE and cleaning items in a sealable plastic bag for disposal and take to a closable receptacle upon completion of the task.
- Gloves:
  - o Gloves should not be routinely used unless cleaning or caring for someone who is sick; the use of gloves for routine tasks may actually contribute to COVID-19 transmission.
  - o CDC guidelines for gloves: https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/gloves.html
  - o This short, basic video on the subject of food safety shows proper usage of disposable gloves: https://info.eagleprotect.com/don-doff-disposable-gloves-video

10.2 Transportation to/from Kitt Peak

These protocols are applied to NOIRLab Company, Tenant, and Personal Vehicles.

10.2.1 Vehicle Usage

In addition to the restrictions listed in Section 7, "Vehicle Use" of the *NSF-Funded Centers COVID-19 Exposure Prevention Plan*, the following restrictions must also be observed:

- If willing and able, personnel shall use their personal vehicle for commuting and for shuttling themselves across Kitt Peak.
- Drivers of personal vehicles shall adhere to the same protocols as drivers of NOIRLab-provided vehicles.
  - o Personal Vehicle Reimbursement:
    - ▪ Mileage to the work site will be reimbursed to NOIRLab employees using personal vehicles as a result of COVID-19 as per the AURA policy detailed at: https://policies.aura-astronomy.org/B/B19)%20B-XIX-Reimbursement%20for%20Travel%20Expenses.pdf
    - ▪ All travel expense reimbursement is pre-approved.
      - ▪ Check with your supervisor to determine the correct account number to charge.

- In the event of a multi-day shift, submit a single travel request to cover the duration of the shift.
        - If assistance is needed, Jessica Harris is the point of contact regarding travel expenses.
    - Tenants should contact their own administration(s) to see if reimbursement is available.
- The Kitt Peak Bus shall not be used for transportation.
- Only one person is allowed per vehicle.
- If needed, a NOIRLab Company Vehicle shall be assigned to a particular NOIRLab employee for the duration of their shift.
    - Vehicle assignment shall be issued via email/phone; contact Central Operation Services (COS).
        - Facility Personnel shall place assigned vehicle keys within the assigned vehicle before issuance and follow decontamination protocol for any surfaces and items touched within the vehicle.
        - A NOIRLab employee assigned a vehicle shall have their keycard activated for access to parking locations.
    - PPE shall be worn while disinfecting the vehicle before and after each use following NOIRLab Policy.
        - At minimum, gloves and mask must be worn while disinfecting the vehicle to prevent exposure.
        - The personnel placing the key within the vehicle must also wear PPE.
    - The assigned employee will keep the vehicle key for the duration of their shift.
    - The employee will use their assigned vehicle to commute to sites on Kitt Peak.
- In the event of vehicle difficulties (such as a flat tire) between the gate at the base of the Kitt Peak road and the summit, radio Mountain Facilities for assistance.
- All personnel shall be assigned a radio, which shall be carried at all times including within the vehicle. The radios in NOIRLab vehicles may have a greater range than the handheld radios. They should be set to Channel 1 or communication with Kitt Peak.

10.3 Gate Access to Kitt Peak

The gate at the bottom of the road to Kitt Peak will remain locked.

- Upon arrival, personnel shall clean/disinfect the gate/lock before/after opening the gate for access.
- If multiple personnel arrive at the same time, the first arrival shall allow those behind them through prior to closing/locking the gate.
- The gate and lock must be disinfected before and after use.
- In the event that KPNO is closed, signage will be posted at the gate and additional precautions may be put in place.
- **Emergency personnel have access to the lock on the gate.**

10.4 Arrival on Kitt Peak

10.4.1 Site Check-In

Upon arrival on Kitt Peak, personnel will report to their facilities/offices and check-in with the Kitt Peak Screener via phone or two-way radio.

- o During check-in, all personnel will be required to pass a verbal health assessment in accordance with the *NSF-Funded Centers COVID-19 Exposure Prevention Plan.*
- o During the check-in the participant will give their verbal response to the health assessment questions.
- o If the participant responds No to all questions on the questionnaire, they can remain on Kitt Peak.
- o If the participant responds Yes to any question on the questionnaire, they will be asked to leave Kitt Peak.
- o NOTE: Personnel will not be penalized for answering yes to any of the questions. If you feel sick/uncomfortable, please go home.
- o Any refusal to be screened will disallow further access to Kitt Peak. The Kitt Peak Screener has authority to deny access to Kitt Peak. Any such decision will be backed by the MSO Director.
- o Each participant shall notify the Screener of their work site location(s) for the day.
- o A Morning Briefing will take place over radio, after the check-in screening has been administered.
- o The Kitt Peak Screener is the Point of Contact when participants first arrive on Kitt Peak, and when they leave Kitt Peak.
- o The Screener tracks who is on Kitt Peak, and their work site location, to enable on-site contact tracing. The Screener will share the participant list and their work sites with the Safety Manager and the Kitt Peak Facilities Manager every day.
- o The Screener will ensure the Emergency helicopter Landing Pad is clear of vehicles and available for use.
- o When nighttime work begins, a second shift screening will be implemented.
- o Participants who will be staying on Kitt Peak overnight will still be required to participate in all aspects of the morning check-in (if working days) or the second shift screening (if working nights).

10.4.2 Late Arrival

- Any personnel unable to attend the morning check-in/briefing will contact the Kitt Peak Screener by radio.

- They must go directly to the designated screening area and wait for the Kitt Peak Screener to administer the Health Assessment Questionnaire and give an update on the briefing.

10.5 Working on Kitt Peak

10.5.1 Site Briefings

In addition to the Morning Briefing at the Kitt Peak Check-in Station (led by the Mountain Facilities Supervisor), a briefing will be held at each job site (led by the Site Supervisor) to ensure on-site staff are aware of the work planned for the day. At that time any potential safety issues will be brought up with a clear plan of how to address them.

10.5.2 Work assignments

- Scheduled work assignments will be communicated to Kitt Peak personnel in advance of the required task.
- Once work assignments are complete, and the employee's supervisor agrees, they may leave Kitt Peak. They must check out with the Kitt Peak Screener and complete the end-of-shift questionnaire before they leave.
- If an employee is not comfortable with going to Kitt Peak or with assigned work, the situation should be discussed with their supervisor. If a satisfactory resolution cannot be achieved, this should be taken to Human Resources.
- If a concern arises in the course of completing a work assignment, NOIRLab's standard stop work policies apply.

10.5.3 Late or missed screening

A person who is late is responsible for contacting their supervisor for their daily assignment and instructions and contacting the Kitt Peak Screener as detailed above.

10.5.4 Shifts

Length of shift will be determined by the employee and their supervisor depending on the current reopening stage and task assignments.

10.5.5 Transportation on Kitt Peak

- Use of personal vehicle.
    - If you are able to use your vehicle on Kitt Peak, refer to section 10.2.1 Vehicle Usage

- Use of Kitt Peak vehicles
    - If you are assigned a Kitt Peak vehicle you are able to use that vehicle for mountain top travel.
    - Only the person assigned the vehicle will be allowed to use that vehicle. Before being reassigned to another participant, this vehicle shall be effectively cleaned. See the *NSF-Funded Centers COVD-19 Exposure Prevention Plan.*

10.5.6 Custodial Work

- All facilities should be cleaned/sanitized prior to beginning Stage 1.
- Custodial staff shall continue regular, general cleaning and sanitizing tasks throughout all stages.
- Bathrooms:
    - Following the *NSF-Funded Centers COVID-19 Exposure Prevention Plan*, bathrooms must be cleaned twice daily. Bathroom doors will be left open when not in use to allow air circulation.
- Heavily accessed common areas (e.g., the Administration Building):
    - Partitions and social distance markings will be added where applicable.
- Dorms:
    - Enhanced laundry cleaning/disinfecting as necessary.

10.6 Lunch / Breaks

10.6.1 Food and Beverages

- Food and beverage handling must adhere to the *NSF-Funded Centers COVID-19 Exposure Prevention Plan* Section 6.3.
- Box lunches may be provided to NOIRLab personnel, but appropriate social distancing must be maintained during lunch/food breaks.
- No sharing of food or drink will be allowed.
- Information about the availability of food service will be made available before employees report to work. If food service is not available, participants should be prepared to bring their own food and utensils.
- Common-use appliances such as refrigerators, microwaves, water dispensers, and coffee machines will be off limits.
- Individual water bottles will be provided to staff. When picking up a water bottle, label it for personal use. Participants should bring their own pen or clean any common-use pens before and after use.
- Participants must wash their hands before and after eating.

10.6.2 Physical Distancing and Cleaning

- Participants shall disperse around Kitt Peak during lunch/breaks to decrease exposure risk, but should carry a radio to maintain contact.
- Indoor eating areas must be sanitized after use.

10.7 End of Shift/End of Day

10.7.1 End of Shift Briefing and Questionnaire (also see the Communications Plan Section)

- Task leaders will conduct an end of shift briefing.
  - The intent is to provide feedback to improve policies/procedures or address deficiencies as we learn how best to work under the circumstances.
  - If participants are finished with their work before the end of the day they may leave Kitt Peak prior to the end of shift briefing if they have completed their end of shift questionnaire and notified the Site Supervisor and Kitt Peak Screener of their departure.
  - Participants working day shift and staying on Kitt Peak overnight are expected to attend the end of day briefing every day they are on site.

- During Phase 1 each participant will fill out an end of shift/end of day questionnaire to be submitted to the CCB.
  - Employees are encouraged to discuss any issues with the Site Supervisor or Task Leader.
  - Employees are encouraged to use the anonymous web feedback form.
  - Beginning with Phase 2 task leaders may submit the end of shift questionnaire for the team. Employees are also welcome to individually submit a feedback form if desired.

10.7.2 Departure Notification

Following the end of shift briefing, all personnel will immediately depart Kitt Peak after notifying the Kitt Peak Screener and their Site Supervisor. Personnel should directly depart Kitt Peak and not roam around upon leaving their work site.

11. Communications Plan

Setting up communication to all stakeholders is critical for the success of the CCB as well as the

success of the Kitt Peak Restart Plan. A failure in communications could result in significant risk to personnel; for this reason, a detailed communications plan has been implemented. It is important that all Kitt Peak personnel are familiar with this plan and utilize the communications channels properly to minimize the risk to themselves and others. There will be multiple paths of communication between the stakeholders and the CCB regarding COVID-19 exposure and updated procedures. This section of the Kitt Peak Restart Plan details these communications paths.

11.1 Communications to CCB

Communications to the CCB will be obtained from the following sources:

11.1.1 COVID-19 Updates

The Safety Manager or designee will be responsible for keeping up to date on CDC, OSHA and NOIRLab guidelines and changes, presenting this information to the CCB for review. This information will be communicated to the stakeholders as detailed below.

Communication will be obtained from various stakeholders on a daily basis regarding safety from exposure to COVID-19.

- A short questionnaire will be completed by all Kitt Peak staff at the end of their daily/nightly shift to assess the implementation of new policies and procedures. Responses from the questionnaire will be compiled and reported to the CCB. Any concerns or issues that arise will be evaluated by the CCB and discussed with the task leader to identify potential procedural changes or further mitigation needs. Any critical issues shall immediately be brought to the attention of the safety manager (or designee) as well as any suggestions or feedback.
- Summaries of the daily activities will be sent at the end of each day by the Site Supervisor via a Daily Log (emailed to a wide group).
- Any stakeholder that has concerns regarding the policies and procedures are encouraged to bring those concerns to the CCB.
- At the end of each work day all on-site personnel will meet in the Visitor Center parking lot to brief the Mountain Facilities Supervisor and the Safety Manager (or designees) on the day's activities and any issues that were encountered. This information will then be passed to the CCB. If staff is not available to attend the end of day meeting, information needs to be directly communicated (via email) to the Mountain Facilities Supervisor and Safety Manager (or designees) prior to departure from Kitt Peak.
- Tenants should regularly communicate any feedback, issues or concerns to the Safety Manager or the MSO Director via email or phone as needed.
- The MSO Director will regularly communicate updates to the CCB.

11.1.2 Daily Shift Questionnaire

In reaction to the COVID-19 pandemic we have implemented new procedures and restrictions on Kitt Peak to provide a safe working environment. We'd like to understand how these new procedures are directly affecting your work on Kitt Peak and if these new procedures address your safety concerns.

Please complete the questionnaire below at the end of your daily/nightly shift and email your responses to either Heidi Schweiker (heidis@noao.edu) or Dick Joyce (rjoyce@noao.edu). Your input will help to modify existing procedures to help you work safely and effectively.

1. In the course of your work day did you have any safety concerns (working with equipment or personnel)?
2. Were you unable to complete your assigned tasks successfully and safely today? (If you answered yes, what changes need to be made?)
3. If not, what changes need to be made?
4. Were there any newly implemented procedures or restrictions (due to COVID-19) that prevented you from completing your job today?
5. What changes, if any, to these newly implemented procedures would you suggest to make you more effective or efficient at your job?

The above questionnaire shall be completed by any employee or tenant working on Kitt Peak at the end of their daily/nightly shift and submitted to Heidi Schweiker (heidis@noao.edu) or Dick Joyce (rjoyce@noao.edu). Dick and Heidi will solicit missing responses.

If there is a safety issue (equipment or personnel), all participants should immediately stop work and notify Tammie Lavoie or your supervisor (who will then notify Tammie).

Responses to this questionnaire will be compiled and sent to the CCB at the end of each day (or early the next). Any issues that arise from the questionnaire will be immediately communicated to Tammie (either via phone or email) and be included in the compilation.

11.2 Communications from the CCB

Communications from the CCB will be disseminated to stakeholders through the following methods:

11.2.1 MSO Director

The MSO Director will be updated on the current status at the end of each day either via email or direct phone call by the Mountain Facilities Supervisor (or designee).

11.2.2 Kitt Peak NOIRLab Staff

The Mountain Facilities Supervisor will be directly notified daily by the Safety Manager, who can then circulate these updates. A dedicated phone number will also be available for Kitt Peak staff to stay informed of current working conditions. Updates will be posted to an internal web page and to the phone messaging system, available by calling (520) 318-8010, at the end of each day with critical updates made by 5AM MST the following day. All personnel are required to check this information before heading to Kitt Peak. The CCB will be responsible for ensuring this information remains current.

The Mountain Facilities Supervisor will communicate information to all NOIRLab employees on site at the morning briefing (in the Visitor Center parking lot) every work day. They will review any safety issues/concerns from the previous day and the resulting mitigations or changes. They will also provide an overview of the upcoming Kitt Peak tasks for the day and any safety concerns for those tasks. Any questions and concerns can be raised by the staff at any time and the Mountain Facilities Supervisor can request help from the CCB to address the issues.

At the beginning of each daily/nightly shift the Site Supervisor will hold a daily briefing at each job site detailing the day's activities, procedural changes, COVID-19 related safety concerns and proposed mitigation plans. At this briefing any conflicts of space or resources will be negotiated by the team members, mediated by the Site Supervisor.

11.2.3 Kitt Peak Tenants

Information will be frequently disseminated to tenants on Kitt Peak by the MSO Director (or designee) to keep them up to date on all Kitt Peak activities that will impact stakeholders.

11.2.4 External Stakeholders

External Stakeholders will be updated on a regular basis, as needed.

11.2.4.1 Kitt Peak Service Providers and Vendors – The MSO Director (or designee) will communicate major work changes on Kitt Peak to service providers (e.g., Tohono O'odham Police Department, Tohono O'odham Executive Offices, Tohono O'odham Unified Command, Arizona Department Of Transportation, Wildfire Management, etc.) and vendors.

11.2.4.2 DESI Collaboration – A NOIRLab DESI representative will forward the daily log emails to necessary DESI collaboration management and engineers.

11.2.4.3 NEID Commissioning Team – The NEID Instrument Scientist will be in regular

communication with the NEID team (via phone or email) to update them on the current observatory status.

11.2.4.4 ODI Working Group (WG) and Pervasive Technologies Institute (PTI) – The ODI Instrument Scientist will be in regular communication with the ODI WG and PTI (via phone or email) to update them on the current observatory status.

11.2.4.5 WIYN Science Steering Committee (SSC)/Board Members – The WIYN Executive Director will be in regular communication with the SSC and Board members to keep them apprised of the current status.

11.2.4.6 WIYN Observers – The WIYN Operations Coordinator will be in regular communications with potential observers via email.

11.2.4.7 Kitt Peak Visitors – Public visitors to Kitt Peak will be notified via the Kitt Peak web site or by calling the Kitt Peak Visitor Center.

11.2.5 Electronic Communication

Both internal and external websites will be developed for communicating current observatory status to all stakeholders.

The internal website will include:

- Daily/Nightly Shift Questionnaire
- Current Kitt Peak working status (current Kitt Peak protocols - PPE required, restrictions on group sizes, etc.)
- Current *NSF-Funded Centers COVID-19 Exposure Prevention Plan*
- Current Phase for Kitt Peak listed and implications for on-site activities
- Current Stage for individual sites and implications for on-site activities
- Estimated time of next update
- Who to contact (and how) for more information or questions
- Contact information for emergencies
- Amenities being offered on Kitt Peak (e.g., cafeteria offerings)
- Links on proper PPE usage
- Link to social distancing poster
- Links to CDC and OSHA guidelines
- Link to proper hand washing
- Anonymous feedback web form:
  https://www.noao.edu/kpno/forms/KP_anonymous_feedback.html

The external website will include:

- Note that we are following the *NSF-Funded Centers COVID-19 Exposure Prevention Plan*
- Current phase for Kitt Peak listed and description of the phase
- Estimated time of next update
- Who to contact (and how) for more information or questions
- Contact information for emergencies
- Amenities being offered on Kitt Peak (e.g., cafeteria offerings)
- Links on proper PPE usage
- Link to social distancing poster
- Link to proper hand washing
- Links to CDC and OSHA guidelines

11.3 Kitt Peak Communications Methods

Kitt Peak Check-In (All park in Visitor Center parking lot before screening)

- o All employees will pass through this checkpoint
- o Update from Kitt Peak Screener
- o Update from the Mountain Facilities Supervisor
- o Frequency: Once daily at check-in

Once Daily Briefings for all on-site staff (per daily/ nightly shift)

- Held at each job site in a spacious location
- Daily Activities Plans Communicated
- Update from Safety Manager (or designee) and Site Supervisor
- Safety Hazards and Mitigation Plans Detailed
- Remote connection available via phone/video conference for off-site personnel
- Frequency: Once daily, before work starts in the morning/evening depending on shift hours

Kitt Peak Check-Out

- Fill out the Daily Shift Questionnaire
- Attend end of shift meeting if present
- Notify the Site Supervisor and Kitt Peak Screener of your departure

Daily Logs distributed via Email

- Details of the day's activities and any modifications to planned work
- Frequency: Once daily, at the end of the working day (afternoon)

Email (one-on-one, team, newsletters)

- Non-emergency information communicated
- Frequency: As needed.

Slack

- Non-emergency information communicated.
- Internal Team Communications

Mountain Service System / DESI 'trac' system

- Daily and Nightly end of shift Updates posted
- Equipment Issue Reporting (Instruments, Computers, Telescope, Facility)
- Frequency: Daily and as needed

Telecon platforms: BlueJeans/Zoom

- (Bi)weekly Team Meetings

Phone

- Routine Communication
- Emergency Communication
- **Kitt Peak Information line (520) 318-8010** after 5AM that morning for updates

Weekly/Monthly Reports

- Updates and Changes from Management and the CCB to staff
- Update External Stakeholders as needed

Handheld Radios/Radio Patch

- Routine Communication
- Emergency Communication
- On-site team internal communications

Safety/Emergency Procedures

- In case of an emergency Radio call to EMT or call 911
- Kitt Peak ambulance transport to bottom of Kitt Peak with hand-off to local ambulance

Wildfire Emergency

- Follow Kitt Peak Wildfire Emergency plan in the Kitt Peak Emergency Manual.
  http://www-kpno.kpno.noao.edu/Safety/kitt_peak_emergency_manual.pdf
- Listen to radio announcements if there is a fire on Kitt Peak
- If told to evacuate, leave Kitt Peak immediately and notify your Site Supervisor as you exit the site. The Site Supervisors will then notify the Kitt Peak Screener of their site's evacuation status.
- If unable to evacuate, go to the emergency gathering location in the Mayall pier.

11.4 Detailed Kitt Peak Tenant Communications Plan

11.4.1 On Kitt Peak

Tenants must submit their own safe restart plans to the CCB for approval before they are permitted to begin on-site operations. Tenants are responsible for running all Kitt Peak tasks through the Risk Assessment Tool and must successfully mitigate the risks before executing any tasks. Tenants will submit any plans utilizing NOIRLab Staff to the CCB for approval. Note: The CCB will be available to answer questions regarding RAT use or any safety concerns.

11.4.2 Off-Site Staff

Tenants are responsible for providing an off-site contact name and phone number to the CCB.

11.4.3 CCB/Safety Manager

The CCB will provide assistance in risk mitigation and review if requested.

11.5 Detailed WIYN Communications Plan

11.5.1 Internal stakeholders

11.5.1.1 On Kitt Peak WIYN Staff

WIYN Staff will be the ones working on site and will have first-hand knowledge of the daily activities, through a limited-personnel set each day. Morning briefings will be held at each job site (led by the Site Supervisor) to ensure on site staff are aware of the work planned for the day. At that time any potential safety issues will be brought up with a clear plan of how to address them. Summaries of the daily activities will be sent at the end of each day (by the Site Supervisor) via a Daily Log (emailed to a wide group).

11.5.1.2 Off-Site WIYN Staff

Off-site personnel will be updated on observatory activities via the end of day Daily Log or via direct phone communication.

11.5.1.3 CCB/Safety Manager

Task planners will run all tasks through the Risk Assessment Tool and the CCB will review all tasks and mitigations. The CCB may suggest additional mitigations. Any new procedures will be put into place via direct communications (phone/email) with the CCB. Close communication will be maintained with the CCB to relay any issues that have arisen or to discuss ways to address upcoming (new) activities. If critical safety issues arise the Safety Manager will be contacted immediately.

11.5.1.4 WIYN/KPNO management

The WIYN Executive Director (ED) will be updated daily via phone by the Site Supervisor (or designee) on progress and any potential issues that arise. The MSO Director will be updated on daily status via email or direct phone call from the WIYN ED (or designee).

11.5.1.5 EM & OAs

The Electronic Maintenance and Observing Associate groups will be an integral part of planning and executing the project and have direct knowledge of the daily activities. Updates will also be posted to the Mountain Service Request system. Both groups will also be included on the Daily Logs emailed out by the WIYN Site Supervisor.

11.5.2 External Stakeholders

11.5.2.1 NEID Commissioning Team

The NEID Instrument Scientist will be in regular communication with the NEID team (via email or phone) to update them on the observatory status.

11.5.2.2 ODI WG & PTI

The ODI Instrument Scientist will be in regular communication with the ODI WG and PTI (via phone or email) to update them on the current observatory status.

11.5.2.3 WIYN Observers

The WIYN Operations Coordinator will be in regular communication with potential observers via email to relay current observatory status.

11.5.2.4 WIYN SSC/Board Members

The WIYN Executive Director will be in regular communication with the SSC and WIYN Board members to keep them apprised of the current observatory status.

11.6 Detailed Mayall Communication Plan

11.6.1 Internal stakeholders

11.6.1.1 On Kitt Peak Mayall Staff

Mayall Staff are defined to be the limited personnel set working at that site on a particular day and will have first-hand knowledge of the daily activities. After the morning briefings held at the Kitt Peak Check-in Station (led by the Mountain Facilities Supervisor), an on-site briefing led by the Mayall Site Supervisor will be held in the ground floor Garage area of the Mayall building to ensure on-site staff are aware of the work planned for the day. It will be possible for people off site to call in remotely to the on-site meeting. At that time any potential safety issues will be discussed and a clear plan of how to address them will be identified. Each task will have a Task Leader (who may also be the Site Supervisor) responsible for summarizing the work plan for that task, including personnel and risk mitigation. Summaries of the daily activities will be sent at the end of each day (by the Site Supervisor) via a Daily Log (emailed to all Mayall staff and NOIRLab DESI personnel).

11.6.1.2 Off-Site Mayall Staff

NOIRLab DESI personnel and Mayall staff off site will call in to the morning briefing and read all daily activity emails.

11.6.1.3 CCB/Safety Manager

All tasks will be run through the Risk Assessment Tool, and any new procedures must be approved via direct communication (phone/email) with the CCB. The Mayall Site Supervisor will communicate with the CCB at the beginning and end of the work day to relay any issues that have arisen or to discuss ways to address upcoming (new) activities. If critical safety issues arise, the Safety Manager will be contacted immediately.

The Site Supervisor will include the MSO Director and David Sprayberry in the Daily Log distribution, and report additional information which may be considered too confidential for a wide distribution.

11.6.1.4 EM and OA Staff

The Electronic Maintenance and Observing Associate groups will be an integral part of planning and executing the project and have direct knowledge of the daily activities. Updates will also be posted to the DESI 'trac' system. Both groups will also be included on the Daily Logs emailed out by the Mayall Site Supervisor.

11.6.2 External Stakeholders

11.6.2.1 DESI Collaboration

A NOIRLab DESI representative will forward the daily log emails to appropriate DESI collaboration management and engineers.

12 Change Control Board Protocols

The CCB will review any actionable changes to the KPNO Restart Plan communicated via the daily questionnaires, COVID-19 Risk Observer, or other sources. The Board will consist of representatives from all major Kitt Peak groups (i.e., Mayall, WIYN, Electronics Maintenance, OAs, Facilities, and the Visitor Center). Change requests can be submitted by any participant to the CCB at any time. Changes to the KPNO Restart Plan will be communicated to Kitt Peak staff using the methods outlined in the Communications Plan.

12.1 Self-Audit & Change Process

The CCB has a process in place to modify the KPNO Restart Plan and Protocols to adapt to changing circumstances both on Kitt Peak and in the broader community. The details of this process are listed below.

12.1.1 Frequency

The CCB will initially meet daily to review identified changes to the KPNO Restart Plan and any issues that arise. Further frequency of these meetings will be set as needed.

12.1.2 Change approval method

Any identified issues or suggested changes must be brought to the CCB for consideration. The CCB has the responsibility to approve or disapprove proposed changes to the KPNO Restart

Plan. A quorum of (at minimum) two-thirds of the CCB members will be required to vote on and enact any changes by unanimous consent. If the CCB cannot come to a unanimous vote, the MSO Director will make the final decision. At any point the Safety Manager can prohibit any proposed changes. Anyone can suggest changes by bringing those to the attention of the CCB.

12.1.3 Change Request (CR) Form

Any formal change requests to the CCB must be submitted via the CCB Change Request form. This form is available in the Reference Documents section of this plan.

12.1.4 Process

In order to revise a controlled document related to the KPNO Restart Plan:

- Notify the CCB that a change is desired.
- Fill out the Change Request (CR) form and submit to the CCB.
- The CCB will review the requested changes.
- The requestor will be notified of the CCB's decision, including possible requests for additional modifications, in a timely manner.
- If the changes are approved, the document will be modified accordingly.
- The CR will be archived including the CCB decision and comments.

12.1.5 Changes to a task/procedure

- Contact the CCB, as soon as possible, when a necessary change is identified.
- This may be done via phone or email but must have a follow up CR form, noting urgency.
- CCB will review promptly and make a decision to approve or deny.
- Requestor will be notified via phone or email in a timely manner.
- If denied, further discussions can take place to see if more mitigations can be made to perform the job safely.
- The CR will be archived including the CCB decision and comments.
- The procedure may be revised after CCB approval, but all final changes must be documented in a timely manner.
- The Safety Manager has the ability to make urgent on-site modifications that will be documented.

13 Emergency Protocols

In the event of an emergency on Kitt Peak, the following protocols will apply in addition to the standard emergency protocols.

- In the event of any emergency, the Safety Manager and the Mountain Facilities Supervisor are to be notified immediately.
    - o The Safety Manager or Mountain Facilities Supervisor will alert each Site Supervisor to evacuate if necessary.
        - They will contact each site by radio.
        - They will go to each site in person if they don't receive a response via radio.
- If evacuation is not possible due to fire, everyone should assemble in the Mayall pier.
    - o COVID-19 Restrictions may need to be relaxed and are not the priority in life/death circumstances.

13.1 COVID-19 Emergency

In the event someone gets sick or displays COVID-19-like symptoms while on Kitt Peak:

- If there is an EMT on site: Contact the site EMT. The EMT will respond.
- If there is NO EMT on site: Contact First Responder(s) to respond according to *NSF-Funded Centers COVID-19 Exposure Prevention Plan* Section 1.4
    - o Call 911: State that there is a COVID-19 Emergency, request emergency services to meet at the base of Kitt Peak.
    - o Emergency Transport: In addition to *NSF-Funded Centers COVID-19 Exposure Prevention Plan* Section 9.4:
        - An Emergency Transport Vehicle shall be assigned in advance.
            - The Designated Transport Vehicle will be marked. It will be a van that will have a barrier and also allow the patient to lay down.
        - The Emergency Transport Driver must be a volunteer.
        - The Emergency Transport Driver cannot exit the vehicle to make any additional stops.
            - The Emergency Transport Driver shall not venture into any site on Kitt Peak upon returning with the transport vehicle, except their own transportation.
        - After the incident occurs, and the patient is transferred to emergency services, the vehicle then returns to Kitt Peak and is marked for decontamination.
        - The driver will change into clean PPE, already supplied to their commute vehicle, and then immediately self-isolate.

- ▪ No one shall make contact with the driver except through proper, distanced means (e.g., via radio or use of a barrier).
    - o The windows in the Designated Transport Vehicle will be opened enough to provide ventilation.
- In the event NO Emergency Transport Driver is available, or there is an acute emergency, call emergency services and wait for a response to Kitt Peak.
- In the event of suspected COVID-19 exposure, Kitt Peak is to close down and cease all operations until advised by the Safety Manager or Mountain Facilities Supervisor.
- In the event someone who is sick or displaying COVID-19-like symptoms is able to evacuate themselves, they may do so.
    - o Contact Kitt Peak Screener, let them know they are evacuating.
    - o Kitt Peak Screener shall coordinate with on-site personnel to have the affected individual followed to the gate at the bottom of the mountain road (State Route 386).
- On-site contact tracing will be managed internally in Phase 0 and Phase 1. Further contact tracing in later phases will be determined by the CCB.

13.2 Non-COVID-19 Emergency

In the event of a Non-COVID-19 Emergency:

- The Kitt Peak Screener is to be notified to ensure everyone is accounted for.
- Personnel will follow standard KPNO Emergency Procedures.

13.3 Non-COVID-19 Kitt Peak Evacuation

In the event of a Non-COVID-19 Evacuation:

- Kitt Peak will be evacuated per KPNO Evacuation Procedures.
- In addition, all personnel will notify their Site Supervisor as they exit the site. The Site Supervisors will then notify the Kitt Peak Screener of their site's evacuation status.

14 Personnel Issues & Well Being

During these unusual times, personal well-being is particularly important. Please see below for COVID-19 specific guidance on interpersonal issues and further resources for employee well-being. All other AURA guidance on personnel interactions still applies.

14.1 COVID-19 related interpersonal issues

- Employees will follow the AURA code of conduct.
- In the event of suspected COVID-19 exposure or failure to adhere to defined safety guidelines, stop work immediately and contact the Safety Manager and Mountain Facilities Supervisor.

14.2 Employee well-being

- We should recognize that these are unusual and stressful circumstances and be mindful of our well-being and the well-being of our fellow employees.
- If anyone has a concern, they should bring it up with their Supervisor, Safety Manager or Human Resources.
- Supervisors and co-workers should watch for signs of employee stress or fatigue.
- Further Resources:
  - o CDC Guideline on Mental Health: https://www.cdc.gov/coronavirus/2019-ncov/community/mental-health-non-healthcare.html
  - o CDC Guideline on Workplace Fatigue: https://www.cdc.gov/coronavirus/2019-ncov/hcp/managing-workplace-fatigue.html

15 References

15.1 Government Health Guidelines

a. Center for Disease Control
b. White House - Opening Up America Again
c. Occupational Safety and Health Administration (OSHA)
d. Arizona State
e. Pima County
f. Tohono O'odham Nation

15.2 Worksite Plans for other observatories

a. University of Arizona
b. Gemini Observatory

15.3 General NOIRLab Policies

a. *NSF-Funded Centers COVID-19 Exposure Prevention Plan*
b. Posters for physical distancing; health questionnaire, etc.

15.4 PPE Documents

a. Instructions for use
b. World Health Organization (WHO) Hand hygiene posters

15.5 KPNO Procedural Documentation

a. Risk Assessment Tool
b. Change Request Form