Sanford Underground Research Facility

South Dakota Science and Technology Authority

Emergency Management Standard

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Revision History

Rev	Date	Section	Paragraph	Summary of Change	Authorized by
01	3/28/2022	All	All	Revised in its entirety, combining Emergency Management Plan and the Emergency Response Plan and updated to include ISO format updates	CCR 518
02	4/27/2022	5 & 6	5.2.3 and 6.24	Added document number to IC_ERT Timeline Log	CCR 564
03	7/5/2022	2, 3, 4, 5 & 6	4.1.1, 4.6.8, 4.7.2, 4.7.4, 4.12.4, 5.3.3, 5.8.4, 5.8.5, 5.13.4, 5.13.7 & 6.22	Recommended changes from Science Director	CCR 585

1.0 Purpose

The Emergency Management Standard shall provide the framework to establish management strategies that ensure personnel are trained and equipped in reporting and response procedures. This framework provides a course of action developed to provide for the safety of personnel and, if possible, property and facilities.

2.0 Scope

This standard is applicable to all personnel, regardless of affiliation, at Sanford Underground Research Facility (SURF).

3.0 Definitions

All Clear: The term used to communicate that an emergency has been terminated. It does not represent a Release to Normal Operations.

Brass-In/Brass-Out: A physical check-in and check-out system that provides an accurate record of all persons in the underground.

Command Staff: The staff who report directly to the Incident Commander, including the Public Information Officer, Safety Officer, Liaison Officer, and other positions as required. They may have an assistant or assistants, as needed**.**

Drill/Exercise: A type of operations-based practice that is a coordinated, supervised activity usually employed to test a single specific operation or function in a single agency. They are commonly used to provide training on new equipment, develop or test new policies or procedures, or practice and maintain current skills.

Duty Officer: A South Dakota Science and Technology Authority (SDSTA) individual who is knowledgeable in the facility operations and is assigned to serve as the initial point of contact in managing facility emergencies.

Emergency: A serious situation or occurrence that happens unexpectedly, poses an immediate risk to life, health, property, or environment, and demands immediate action from either internal staff or outside assistance (fire, law enforcement or ambulance).

Emergency Access: A situation in which a group requests immediate access outside of regular business hours. A First Report and Incident Investigation form may be required.

Emergency Operations Center (EOC): A physical location from which coordination and support of incident management activities are directed.

Emergency Response Team (ERT): A group of people who prepare for and respond to any emergency, with a goal of minimizing losses and restoring or maintaining operations during an emergency incident.

Evacuation: The organized, phased, and supervised withdrawal, dispersal or removal of personnel from dangerous or potentially dangerous areas.

Finance/Administration Section: A member of the general staff who monitors costs related to the incident and provides accounting, procurement, time recording, and cost analyses.

Drill/Exercise Debrief: A facilitated discussion held immediately following a drill/exercise among participants from each functional area that is designed to capture feedback about any issues, concerns, or proposed improvements participants may have about the drill/exercise. The debrief is an opportunity for all affected personnel to voice their opinions on the drill/exercise and their own performance.

Incident Commander (IC): The person responsible for all aspects of an emergency response; including quickly developing incident objectives, managing all incident operations, application of resources as well as responsibility for all persons involved.

Note: At SURF, the Duty Officer takes on the role of the initial Incident Commander.

Incident Command System (ICS): A standardized approach to the command, control, and coordination of emergency response providing a common hierarchy within which responders from multiple agencies can be effective.

Incident Command Post (ICP): A physical location in the immediate vicinity of the incident site and is the focus for the conduct of direct, on-scene control of tactical operations.

National Incident Management System (NIMS): A set of principles that provides a systematic, proactive approach guiding government agencies at all levels, nongovernmental organizations, and the private sector to work seamlessly to prevent, protect against, respond to, recover from, and mitigate the effects of incidents, regardless of cause, size, location, or complexity, to reduce the loss of life or property and harm to the environment.

Public Information Officer (PIO): A member of the Command Staff who serves as the conduit for information to internal and external stakeholders, including the media or other organizations seeking information directly from the incident or event.

Release to Normal Operations: Provides defined work activities that may resume post emergency.

Recovery Phase: Returns affected areas back to normal operations. The recovery phase is managed by the IC/Duty Officer with assistance from the Environment, Safety and Health (ESH) Department.

Refuge Chamber: Refuge Chambers are sealed, secure, accessible rooms that preserve life through the monitoring and management of essential gas levels for underground mining. CO_2 and CO scrubber technology monitors and eliminates toxic fumes for an extended period to allow the safe extraction of

personnel from danger. Refuge chambers are commonly available as permanent and semi-permanent chambers, providing an area of safe assembly for personnel during an emergency.

Resource Bin: Supplies staged for emergency preparedness. Locations and supplies needed are selected, stored, and staged based on risk assessments for various locations and projects at SURF underground and/or surface sites.

Safety Officer: A member of the Command Staff responsible for monitoring incident operations and advising the Incident Commander on all matters relating to operational safety, including the health and safety of emergency responder personnel.

Stench: An olfactory alerting method containing ethyl mercaptan that has a pungent garlic or skunk-like odor, for underground evacuation notification.

Tabletop Exercise: A simulation of an emergency response to a mass casualty in which personnel meet to discuss their ideas but do not physically deploy staff and equipment.

Transfer of Command: The process of moving the responsibility for any Command Staff to another. Transfer of command must include a transfer of command briefing, which may be oral, written, or a combination of both.

Trip Action Plan (TAP): A documented and pre-planned event that is updated throughout the day to reflect any changes to approve individuals or groups to access facility areas.

Visitor Log: A documented list of non-badged individuals who have been given access to SURF property.

4.0 Responsibilities

4.1. SURF Laboratory Director

- 4.1.1. Defines the responsibilities of the position.
- 4.1.2. Ensures all direct reports are familiar with the contents of this Standard.
- 4.1.3. Approves all clear.
- 4.1.4. Approves release to normal operations.
- 4.1.5. Approves internal and external communications regarding the emergency.
- 4.1.6. Approves drills/exercises that can potentially affect scientific experiments.

4.2. Department Directors

- 4.2.1. Ensure all direct reports are familiar with the contents of this Standard.
- 4.2.2. Has knowledge of staff whereabouts each day to manage accountability in the event of an emergency.
- 4.2.3. Verify staff accountability throughout an emergency event.
- 4.2.4. Participate and elicit staff involvement in drills/exercises.
- 4.2.5. Fulfill Command Staff role as required.
- 4.2.6. Ensure Command Staff role is understood and fulfilled by designee they assign.

4.3. Environment, Safety and Health (ESH) Director

- 4.3.1. Follows all requirements in Section 4.2.

4.3.2. Communicates drill/exercise plans to the executive leadership at least two weeks in advance of the drill/exercise.
4.3.3. Provides input to ERT Supervisor for plans related to drills/exercises.
4.3.4. Assesses repair and mitigation needs to maintain safety of personnel, the environment and the facility.
4.3.5. Approves limited work activities in specific areas during or after an emergency.
4.3.6. Consults with the SURF Laboratory Director on the ESH concerns of an emergency, including the decision to terminate the emergency or resume normal operations.
4.3.7. Shares emergency and drill/exercise information with the Communications Director as needed.
4.3.8. Assists the IC/Duty Officer in the recovery phase.
4.3.9. Maintains training documentation as required per this Standard.
4.3.10. Maintains emergency or drill/exercise documentation/reports as required per this Standard.

4.4. Science Director

4.4.1. Follows all requirements in Section 4.2.
4.4.2. Communicates plans of drills/exercises to pertinent affected Users in advance of planned drill/exercise when required.

4.5. Communications Director

4.5.1. Follows all requirements in Section 4.2.
4.5.2. Responds to all communication needs in accordance with the requirements of the OC-(1000-S)-79595 Crisis Communication Standard.
4.5.3. Responds to all media relations in accordance with the requirements of the OC-(1000-S)-79595 Crisis Communication Standard.

4.6. ERT Supervisor

4.6.1. Ensures all direct reports are familiar with the contents of this Standard.
4.6.2. Responds to the emergency and reports to the Duty Officer/IC as needed.
4.6.3. Plans, schedules, and facilitates all required drills/exercises.
4.6.4. Prepares and submits a report to the ESH Director concerning each exercise with lessons learned and actions needed.
4.6.5. Responsible for maintaining safety systems, including resource bins.
4.6.6. Communicates with ESH Director during an emergency or drill/exercise as needed.
4.6.7. Develops procedures for scenarios, prepares response plans and trains to specific emergency categories (as outlined in section 5.3).
4.6.8. Coordinates maintenance of safety systems, such as refuge chambers, resource bins, etc.

4.7. Duty Officer

4.7.1. Assumes roles outlined in this Standard as required.
4.7.2. Coordinates emergency access as requested (non-ERT) with operations personnel.
4.7.3. Deploys the ICS if necessary.
4.7.4. Fulfills Command Staff role as required.
4.7.5. Ensures Command Staff role is understood and fulfilled by designee they assign.
4.7.6. Communicates emergency status updates, including “all clear” and “release to normal operations,” after consulting with SURF Laboratory Director and the ESH Director.
4.7.7. Facilitates the recovery phase.

4.8. Hoist Operators

4.8.1. Assume roles outlined in this Standard as required.
4.8.2. Actively monitor communications involving the emergency.

4.9. Surface and Underground Guides

4.9.1. Ensure accountability of personnel they are guiding and reports accountability information to the Hoist Operator/Duty Officer/IC.

4.10. Project Managers

4.10.1. Alert contractors/subcontractors of any emergency event.
4.10.2. Assure accountability of contractors/subcontractors they are responsible for.

4.11. Security

4.11.1. Ensure familiarity with the contents of this Standard.
4.11.2. Assist in securing the facility where required.
4.11.3. Control the visitor log.
4.11.4. Confirm accountability of visitors in the event of an emergency.

4.12. All other Independent Groups at SURF

4.12.1. Ensure familiarity with the contents of this Standard.
4.12.2. Has knowledge of staff whereabouts each day to manage accountability in the event of an emergency.
4.12.3. Verify staff accountability throughout an emergency event.
4.12.4. Actively participate and elicit staff involvement in drills/exercises.

5.0 Instructions

SDSTA will transition between its normal organizational structure to the ICS structure, including the EOC, based on the emergency level. Practicing the ICS structure during drills/exercises provides alignment with NIMS and allows for a consistent and familiar approach to managing emergencies.

5.1. SDSTA Organizational Structure for Emergencies

5.1.1. In the event an emergency does not rise to the level that requires implementing the ICS structure, the Duty Officer will take control of the event. At a minimum, the Duty Officer will work with the SURF Laboratory Director, Operation Division Deputy Director, ESH Director and ERT Supervisor to determine the actions needed to mitigate the event. The Duty Officer will also assess the need for transition to the ICS structure, implement as required, and may initiate the transfer of command.

5.2. ICS Requirements

5.2.1. Some events or emergency drills/exercises may require the implementation of the ICS. In this case, the Duty Officer makes that determination and immediately acts as the IC.

5.2.2. EOC

- SDSTA has established a primary and secondary EOC. The primary EOC is located at the 2nd Floor Vault Conference Room of the Administration Building and the secondary is located at the Large Conference Room in the Sanford Lab Homestake Visitor Center. These locations are equipped with tools and supplies to support the management and facilitation of the EOC.

5.2.3. Command Staff

- The staff who make up the ICS are SDSTA personnel who have been trained in their roles associated with this structure. The roles also include a list of designees if transitioning someone else into a role becomes necessary.
- Are trained in ICS and participates in emergency drill/exercises.
- May transition to outside emergency agency personnel if required.

- Will use ESH-(6000-F)-187314 IC_ERT Timeline Log to track the incident events.
- The staff may utilize the ICS resource forms from the following website https://training.fema.gov/emiweb/is/icsresource/icsforms/ ~ Federal Emergency Management Agency, National Incident Management System – ICS Resource Forms.
- The Command Staff for the ICS is outlined below in Figure 1, Incident Command System Structure;
  - ESH-(6000-F)-186444 Roles and Responsibilities of Command Staff – Scribe
  - ESH-(6000-F)-186447 Roles and Responsibilities of Command Staff – Environmental Coordinator
  - ESH-(6000-F)-186448 Roles and Responsibilities of Command Staff – ERT Supervisor
  - ESH-(6000-F)-186449 Roles and Responsibilities of Command Staff – SURF Laboratory Director
  - ESH-(6000-F)-186450 Roles and Responsibilities of Command Staff – Incident Commander
  - ESH-(6000-F)-186451 Roles and Responsibilities of Command Staff – Logistics Section Chief
  - ESH-(6000-F)-186452 Roles and Responsibilities of Command Staff – Operations Section Chief
  - ESH-(6000-F)-186453 Roles and Responsibilities of Command Staff – Planning Section Chief
  - ESH-(6000-F)-186454 Roles and Responsibilities of Command Staff – Administrative Reception
  - ESH-(6000-F)-186455 Roles and Responsibilities of Command Staff – Relative Liaison Officer
  - ESH-(6000-F)-186456 Roles and Responsibilities of Command Staff – Safety Officer
  - ESH-(6000-F)-186457 Roles and Responsibilities of Command Staff – Science Liaison Officer
  - ESH-(6000-F)-186994 Roles and Responsibilities of Command Staff – Public Information Officer
  - ESH-(6000-F)-186993 Roles and Responsibilities of Command Staff – Finance/Administration Section Chief

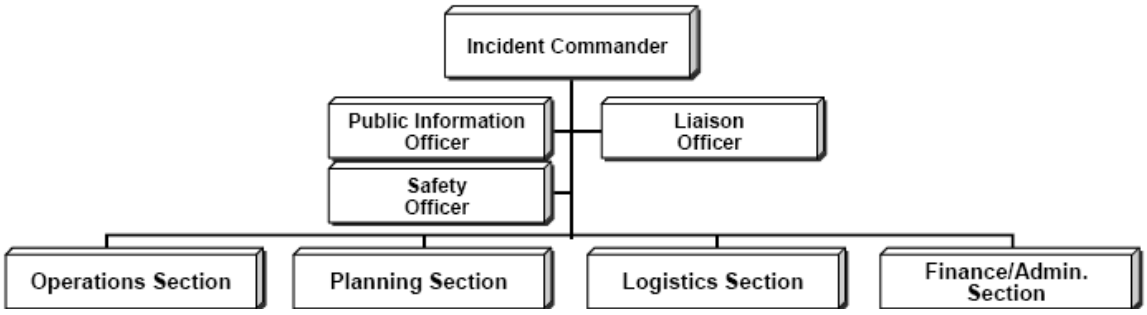

Figure 1. Incident Command System Structure

5.3. Emergency Categories

5.3.1. SDSTA has identified three categories of emergencies: localized emergencies, site-wide emergencies and regional emergencies.

5.3.2. Localized Emergencies

- A minor emergency that is quickly resolved with existing resources or limited outside help are considered localized and may be coordinated through the Duty Officer. A localized emergency has little or no impact to personnel or normal operations outside the locally affected area. Localized emergencies typically do not require the activation of the EOC. Examples may include:
  - Small chemical spills
  - Gas odor
  - Smoke
  - Localized power failure
  - Plumbing or water leak
  - Fire, ambulance, or law enforcement calls
  - High carbon monoxide (CO) or oxygen deficiency hazard (ODH) alarms underground

5.3.3. Site-Wide Emergencies

- A major emergency or potential threat that impacts a sizable portion of the facility is categorized as a site-wide emergency. This is an emergency that could impact the entire facility and may require the activation of the EOC. The Duty Officer will determine if a transition to the ICS structure is required. Examples may include:
  - Large-scale fire on the surface or underground.
  - Substantial damage to infrastructure.
  - Extensive power or utility outage.
  - Active shooter.
  - Significant hazardous material release.
  - Fatality(ies).
  - External emergency that may impact SURF.
  - Cyber-attack.
  - Large-scale water release or pooling on the surface or underground that impacts SURF safe operations.
  - Changes in ventilation that impact SURF safe operations.
  - Severe weather events
    - SDSTA utilizes trigger action response plans found within the Document–76589 Severe Weather Management Chapter for notification and response to severe weather onsite.

5.3.4. Regional Emergencies

- A major disaster or imminent threat that involves SURF where operations are reduced or suspended. The effects of these emergencies are wide ranging and complex. A timely resolution of disaster conditions requires wide cooperation and extensive coordination with external agencies and jurisdiction. Examples may include:
  - Multi-structure or wildland fire
  - Major explosion
  - Major hazardous material release
  - Terrorism activities

5.4. Emergency Reporting and Response

5.4.1. Emergency reporting and response are critical to ensure the safety of personnel and the protection of property.

5.4.2. Incident Specific Responses

- SDSTA has identified specific responses for potential emergencies that are outlined in ESH-(6000-A)-186943 SURF Incident Specific Responses. These emergencies include:
  - Medical emergency
  - Fire
  - Chemical spills/releases - underground and surface
  - Severe weather
  - Natural disaster
  - Water inundation
  - Power outage/hoist failure
  - Entrapment underground
  - Vehicle accident
  - Ventilation failure
  - Security threat (bomb threat, threat to employees, vandalism, computer threat, espionage active threat/shooter)
  - Hazardous gases and ODH

5.5. Procedures for Reporting an Emergency for Surface and Underground

5.5.1. The ESH-(6000-FD)-100304 Emergency Reporting System Flow Diagram is designed to efficiently advise personnel of an emergency to provoke quick, thought-out response and is posted throughout the facility. This flow diagram describes the reporting procedures that shall take place if the reporting party is underground or on the surface. The responder will provide the following information:

- Description of the emergency.
- Number of people injured in the emergency.
- Types of injuries associated with the emergency.
- Name and quantity of hazardous materials involved, where applicable.
- Time of the emergency.
- Address or response location to send help.

5.6. Procedures for Response to a Surface Emergency

5.6.1. Once the emergency has been identified and reported via the flow diagram, the following actions shall occur:

- Survey the scene by:
  - Ensuring safety of affected personnel.
  - Evaluating the need to seek assistance prior to calling additional help or initiating evacuation.
    - Should an emergency on the surface arise that requires evacuation, an audible alarm shall be given. In buildings unequipped with fire alarm systems, an air horn shall be used. Air horns are available near each fire extinguisher.
  - Remove any injured person(s) from the hazard if there is no threat of further injury or further exposure to hazardous conditions. Medical treatment shall be administered if required.
  - The Duty Officer will notify the ERT of the emergency.
  - The ERT will evaluate and respond.
  - Secure the scene if required.
    - The emergency scene should be secured to protect other employees from potential hazards and to preserve the site for potential investigation purposes.
    - Those first responding to an emergency should utilize what is available at the time to restrict access to an emergency scene. This may include equipment, rope, tape,

cones, fencing, or people. These barriers should not be removed except by the Duty Officer/IC, or their designee.

- For emergencies that are not easily defined or involve a large portion of the facility (i.e., site-wide or regional emergencies), SURF shall be secured at the direction of the Duty Officer/IC who will notify the SURF Laboratory Director and the ESH Director.
  - All gates shall be staffed or closed.
  - Major access points shall have a posted security guard.
  - Security shall conduct regularly scheduled rounds to verify site is secure.

5.7. Procedures for Response to an Underground Emergency

5.7.1. Once the emergency has been identified and reported via the ESH-(6000-FD)-100304 Emergency Reporting System Flow Diagram, the following actions shall occur:

- Survey the scene by:
  - Ensuring safety of affected personnel.
  - Evaluating the need to seek assistance prior to calling additional help or initiating evacuations.
    - Should an emergency on the surface arise that requires evacuation, an audible alarm shall be given. In buildings unequipped with fire alarm systems, an air horn shall be used. Air horns are available near each fire extinguisher.
  - The hoist operator will call 911, if necessary, and the Duty Officer to verify the emergency has been reported. The hoist operator will provide the following information:
    - Description of the emergency
    - Number of people affected (or involved) in the emergency.
    - The types of injuries associated with the emergency, if applicable.
    - Time of the emergency.
    - Address or response location to send help.
    - Name and phone number of the hoist operator.
  - Remove any injured person(s) from the hazard if there is no threat of further injury or further exposure to hazardous conditions.
  - Medical treatment will be administered if required.
  - The Duty Officer will notify the ERT of the emergency.
  - The ERT will evaluate and respond.
  - Secure the scene if required:
    - The emergency scene should be secured to protect other employees from potential hazards and to preserve the site for potential investigation purposes.
    - Those first responding to an emergency should utilize what is available at the time to restrict access to an emergency scene. This may include equipment, rope, tape, cones, fencing, or people. These barriers should not be removed except by the Duty Officer/IC or their designee.
    - For emergencies that are not easily defined or involve a large portion of the facility (i.e., site-wide or regional-incident emergencies), SURF shall be secured at the direction of the Duty Officer/IC who will notify the SURF Laboratory Director and ESH Director.
      - All gates shall be staffed or closed.
      - Major access points shall have a posted security guard.
      - Security shall conduct regularly scheduled rounds to verify site is secure.

5.8. Procedures for Emergency Evacuation

5.8.1. An evacuation of the workplace may be required given the circumstances of the emergency. The procedures for a surface/underground evacuation shall be followed to proceed to a safe location.

5.8.2. Surface Emergency Evacuation Procedures

- Evacuation procedures for the surface are very different than that of the underground.
- ESH-(6000-A)-186958 Designated Shelter Areas, describes the severe weather shelters for surface locations.
- Emergency notification systems on the surface may include:
  - Word of mouth
  - Email
  - Text
  - Intercom page
  - Audible alarms (fire/ODH alarm system, air horn, etc.)
  - Digital signage
    - When notification of an evacuation is given, evacuation to designated assembly areas is required via primary or secondary escapeways.
    - The primary and secondary escapeways and areas of assembly, including severe weather shelters, are posted near each exit. See Collection–21140 Surface Emergency Response Plan Maps.
    - When notification of a surface emergency evacuation is given, personnel shall:
      - Remain calm and follow directions.
      - Safely proceed to the designated assembly area via primary or secondary evacuation routes.
      - Contact the surface guide, supervisor or project manager for accountability purposes.
      - Not leave the facility until accounted for and given direction to do so.

5.8.3. Personnel Accountability for the Surface

- Verifying accountability includes contacting and recording the names of those evacuated. Once accountability has been 100% achieved, those responsible shall notify the Duty Officer/IC.
- Department directors or a designee will ensure personnel accountability within their work area.
- Surface guides will maintain accountability for any personnel they are guiding.
- Project managers shall maintain accountability for their assigned contractors/subcontractors.
- Leased areas shall establish a point of contact for their responsible areas.
- Security or the receptionist at the Yates Administration Building will utilize the visitor log to confirm accountability of visitors onsite.

5.8.4. Underground Emergency Evacuation Procedures

- Document–147091 Facility Access Underground - describes the required procedures for personnel gaining access to the underground. For personnel accountability purposes, SDSTA utilizes the TAP as well as the brass-in/brass-out procedure. Correct use of the TAP is crucial for accountability measures during an emergency.
- Personnel shall brass-in at the location they enter the underground (Yates Shaft or Ross Shaft). This becomes that person's primary escapeway, whereas the other shaft (Ross Shaft or Yates Shaft) becomes that person's secondary escapeway. The underground provides signage and reflectors that designate each escapeway.

- SURF has two shafts that serve as the escapeways from the lowest levels of the underground that are positioned such that damage to one does not reduce the effectiveness of the other. All primary work areas can be accessed by both shafts while some infrequently entered areas may only have access to one shaft. Levels served with only one shaft are equipped with refuge chambers and/or resource bins.
- In the event of an underground emergency, SDSTA utilizes the following methods for notification:
  - Stench
  - Push-to-talk radio
  - Telephone (Voice-Over Internet Phone, Communicator III, etc.)
  - Email
  - Word of mouth
  - Digital signage
  - Personnel in less accessible areas may not have access to phones or radios and may need to be notified in person. An Infrastructure Technician(s) or ERT members may need to find them. Usually, two Technicians or ERT members should go together to retrieve personnel in remote areas, however the situation may dictate sending only one.
- If there is a notification to evacuate the underground, the guide shall contact the Hoist Operator for further instructions. Personnel shall:
  - Follow their guide's instructions.
  - Safely proceed to the primary escapeway unless notified that an alternate route must be taken (i.e., secondary escapeway, area of assembly, refuge chamber).
  - Enter the cage in an orderly fashion, following directions from the technician.
  - When the cage arrives at the surface, brass-out and proceed to the assembly area in an orderly fashion.
  - Remain at the assembly area until they have been accounted for.
  - In the event the primary escapeway is unattainable, personnel shall proceed to the secondary escapeway and follow the same procedures as above. Since the brass-out procedure will not be possible in this case, a representative will be available at the surface to record names and compare to the TAP.
- Some underground emergencies may not require evacuation or evacuation may not be possible. In these cases, personnel will be instructed by their guide to gather at designated assembly areas and/or refuge chamber and await further instructions.
  - Maps are posted at various locations that identify assembly areas and evacuation routes for respective underground level. These assembly areas and routes shall be reviewed prior to entering the level. See Collection–15237 Underground Emergency Response Plan Maps.
  - Refuge chambers and/or resource bins are available where two escapeways may not be provided. All SURF guides are trained in the use of the refuge chambers and resource bins. Operational procedures are also provided.
- Ladderways are provided at pump levels in the Ross Shaft extending up and down to the nearest level that would allow access to the Yates Shaft. The ladders do not connect all levels. These are considered ancillary emergency escapeways only and shall not be considered a primary or secondary escapeway. As such, these are not considered in determining underground occupancy.
  - Underground occupancy in areas with two means of escape to the surface is based on the number of personnel that can be evacuated from the underground safely within one hour.
  - Underground occupancy in areas with only one means of escape are based on the amount of emergency supplies within the applicable resource bins or capacity limits of the refuge chamber(s).

5.8.5. Personnel Accountability for the Underground

- Once personnel have reached the surface assembly area, the TAP will be utilized in conjunction with the brass board system to account for all personnel. This information is conveyed to the Duty Officer/IC.
- If the emergency requires a shelter in place (i.e., refuge chamber or underground assembly area) the TAP will be utilized by the guide to account for personnel. This information is conveyed to the Duty Officer/IC.

5.9. Procedures for Declaring an All Clear or Release to Normal Operations

5.9.1. After consulting with the SURF Laboratory Director and the ESH Director, the Duty Officer/IC will communicate an "All Clear" for emergencies once it is determined that conditions leading to the event are alleviated, mitigated or contained, and that all individuals are accounted for.

5.9.2. If dangerous conditions still exist, or if an investigation is planned, the affected area of SURF's property shall be secured and access limited to authorized personnel. Resumption of normal work activities is not allowed until the "Release to Normal Operations" has been communicated by the Duty Officer/IC. Limited work activities may be allowed in affected areas if approved by the SURF Laboratory Director and the ESH Director.

5.10. Recovery Phase

5.10.1. If necessary, the Duty Officer/IC will facilitate the recovery phase in cases where significant oversight and recovery time is anticipated. All dates, times, and essential personnel involved in recovery operations must be documented and included in a final emergency summary report.

- The recovery phase returns affected areas back to normal operations. The recovery phase is managed by the IC/Duty Officer with assistance from the ESH Department. The recovery process may include the following steps:
  - **Safety and Damage Assessment**
    Once the emergency has been terminated, the affected areas are assessed for damage and safety concerns, including environmental issues. If necessary, any structural damage is evaluated by qualified engineers to determine the appropriate repairs. If necessary, industrial hygiene and environmental testing is conducted to determine the extent of any chemical or biological contamination.
  - **Incident Investigation and Reporting**
    Concurrent with the safety and damage assessment, an incident investigation is conducted per the ESH-(2000-S)-73314 Incident Reporting, Response and Investigation Standard.
  - **Repair and Mitigation**
    Safety issues or damages identified in the safety and damage assessment and incident investigation are prioritized for completion. Those items deemed critical to employee health and safety or essential for normal operations must be repaired or mitigated prior to the start of normal operations. The ESH Director or his/her designee makes this determination.
  - **Release to Normal Operations**
    Once the IC/Duty Officer has determined all safety concerns have been addressed and necessary repairs have been completed, a "Release to Normal Operations" is issued.

5.11. Final Report and Record Preservation

5.11.1. A final report is generated for all emergencies. The Duty Officer/IC, ERT Lead and the ESH Director are responsible for assembling this report.

5.11.2. The basis of the final report is an investigation report, as defined in the ESH-(2000-S)-73314 Incident Reporting, Response and Investigation Standard.

5.11.3. The final report also includes all other information and data associated with the emergency, including details and findings from the safety and damage assessment. Pertinent information includes as applicable:

- Event logs.
- Description of the emergency event.
- Time and place of the event.
- Names of people involved.
- Names of witnesses.
- Exposure or injuries.
- Property damage.
- Remedial action proposed to rectify the situation.
- Modifications to proposed remedial action implemented.
- success of remedial measures
- Follow-up activities.
- Communication, verbal and written, with any legal personnel, regulatory agencies, emergency services, news media or general public.
- Other pertinent documentation.

5.12. Media Relations

5.12.1. All media inquiries shall be directed to the Communications Director and will be managed in accordance with OC-(1000-S)-79595 Crisis Communication Standard. Only under the direction of the SURF Laboratory Director shall anyone release written or verbal information to the public or social media. The SURF Laboratory Director or Communications Director is the spokesperson for SURF.

5.13. Drills/Exercises

5.13.1. SDSTA employs drills/exercises to prepare and train for emergency situations. The purpose of an emergency drill/exercise is to improve emergency response, recovery, and operations. The ERT and other members of the ESH Department are responsible for:

- Establishing objectives.
- Ensuring the involvement, as appropriate, of other stakeholders.
- Conducting the drills/exercises according to the objectives.
- Evaluating the objectives.
- Following-up from lessons learned.

5.13.2. Examples of objectives may include:

- Evacuation and accountability of personnel.
- Proper functioning of alert system(s).
- Time required to assemble the members of the ERT.
- ERT's overall performance to the exercise.

5.13.3. Drills/exercises will be planned and scheduled by the ERT Supervisor along with input from the ESH Director.

5.13.4. Drills/exercises that can potentially affect scientific experiments must have approval from the SURF Laboratory Director prior to commencing.

- All personnel are expected to participate in the drill/exercise, but allowances are possible if the evacuation occurs at a critical time and key individuals need to remain at the work site. Those that remain need to check in (or have others from the crew report). For the debrief, pass along important information such as when communication was received and other relevant feedback. Crew members that cannot participate, should conduct a short tabletop discussion." This is the direction I give researchers, so would be good to reinforce the same message in the standard. Could also add something to the effect that:

"Drills/exercises scheduled immediately before a period of limited access (such as a weekend) may result in less participation.

5.13.5. Drills/exercises on the surface will be conducted twice per year, at a minimum.
5.13.6. Drills/exercises underground shall be conducted quarterly, at a minimum.
5.13.7. Drills/exercises will be documented indicating results, lessons learned, and recommendations for response modifications. The ERT Supervisor shall prepare and submit a report to the ESH Director concerning each exercise with lessons learned and actions needed. This report is also distributed to other affected personnel.

- The ESH-(6000-F)-189747 Evacuation Drill Debrief Report will be completed by ERT Supervisor following the completion of the drill.

5.13.8. A review of the response processes and actions shall be executed after each drill/exercise or emergency response to ensure that appropriate updates are made based upon findings and observations.
5.13.9. Any onsite personnel involved in the drill/exercise or emergency are encouraged to provide comments.
5.13.10. Drills/exercises may be in the form of a tabletop exercise only.
5.13.11. All exercises/drills will be announced as such.

5.14. **Emergency Management Training**

5.14.1. All employees, contractors, science users, and visitors of SURF will receive basic emergency response training during orientation.
5.14.2. All SDSTA employees are required to complete the ICS-100 course.
5.14.3. Personnel assigned to the EOC will receive training appropriate to the level of their expected involvement. At a minimum, these personnel will receive the following training:

- ICS-200 & 700

5.14.4. It is recommended that the Emergency Response Team Lead, Incident Commander, and any role required to communicate to outside agencies, complete the following training:

- ICS-300, 400 & 800

5.14.5. ERT Personnel must maintain the training requirements set forth in the ERT training matrix.
5.14.6. Refresher training will be provided annually or as required.

6.0 Documented Information/Related Document

6.1. **ESH-(2000-S)-73314 Incident Reporting, Response and Investigation Standard**
6.2. **Document–76589 Severe Weather Management Chapter**
6.3. **OC-(1000-S)-79595 Crisis Communication Standard**
6.4. **Document–147091 Facility Access - Underground**
6.5. **Collection–15237 Underground Emergency Response Plan Maps**
6.6. **Collection–21140 Surface Emergency Response Plan Maps**
6.7. **ESH-(6000-A)-186958 Designated Shelter Areas**
6.8. **ESH-(6000-F)-186444 Roles and Responsibilities of Command Staff – Scribe**
6.9. **ESH-(6000-F)-186447 Roles and Responsibilities of Command Staff – Environmental Coordinator**
6.10. **ESH-(6000-F)-186448 Roles and Responsibilities of Command Staff – ERT Supervisor**
6.11. **ESH-(6000-F)-186449 Roles and Responsibilities of Command Staff – SURF Laboratory Director**

6.12. **ESH-(6000-F)-186450 Roles and Responsibilities of Command Staff – Incident Commander**
6.13. **ESH-(6000-F)-186451 Roles and Responsibilities of Command Staff – Logistics Section Chief**
6.14. **ESH-(6000-F)-186452 Roles and Responsibilities of Command Staff – Operations Section Chief**
6.15. **ESH-(6000-F)-186453 Roles and Responsibilities of Command Staff – Planning Section Chief**
6.16. **ESH-(6000-F)-186454 Roles and Responsibilities of Command Staff – Administrative Reception**
6.17. **ESH-(6000-F)-186455 Roles and Responsibilities of Command Staff – Relative Liaison Officer**
6.18. **ESH-(6000-F)-186456 Roles and Responsibilities of Command Staff – Safety Officer**
6.19. **ESH-(6000-F)-186457 Roles and Responsibilities of Command Staff – Science Liaison Officer**
6.20. **ESH-(6000-F)-186994 Roles and Responsibilities of Command Staff – Public Information Officer**
6.21. **ESH-(6000-F)-186993 Roles and Responsibilities of Command Staff – Finance/Administration Section Chief**
6.22. **ESH-(6000-F)-189747 Evacuation Drill Debrief Report**
6.23. **ESH-(6000-A)-186943 SURF Incident Specific Responses**
6.24. **ESH-(6000-FD)-100304 Emergency Reporting System Flow Diagram**
6.25. **ESH-(6000-F)-187314 IC_ERT Timeline Log IC_ERT Timeline Log**
6.26. **https://training.fema.gov/emiweb/is/icsresource/icsforms/ ~ Federal Emergency Management Agency, National Incident Management System – ICS Resource Forms**