



# SANFORD UNDERGROUND RESEARCH FACILITY

**SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

## **Severe Weather Management Standard**

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## **Revision History**

<b>Rev</b>	<b>Date</b>	<b>Section</b>	<b>Paragraph</b>	<b>Summary of Change</b>	<b>Authorized by</b>
05	9/3/2025	4 & 5	4.6,4.7, 4.7.1, 4.7.2, 5.0 & 5.2	Added responsibilities, corrected grammar & spacing	CCR 1146
06	2/19/2026	1, 4, 5 & 6	4.4.5 & 6.1-6.3	Updated document due to change to the document numbering of controlled documents due to the change from DocuShare system to SharePoint system	CCR 1224

## 1.0 Purpose

This document describes the processes to be implemented when severe weather is approaching or present at Sanford Underground Research Facility (SURF) to ensure that risks associated with severe weather to personnel and infrastructure are managed to the lowest practicable level.

SDSTA complies with the following:

- <https://www.weather.gov/safety>
- [https://www.osha.gov/dts/weather/winter\\_weather/windchill.html](https://www.osha.gov/dts/weather/winter_weather/windchill.html)
- <https://www.nfpa-780-m.4.2>
- <https://www.nfpa-780-34> Standard 8: Protection of Structure Housing of Explosive Materials 8.1.3 (1,2)
- SDSTA-Manual SDSTA Policy and Policy-Procedure Manual

## 2.0 Scope

This document applies to all personnel when present on SURF property who may be impacted by severe weather.

## 3.0 Definitions

**Risk** – Potential to cause harm or damage to a person, property or environment.

**Severe Weather** – Any dangerous meteorological phenomenon with the potential to cause damage, serious social disruption or loss of human life.

**Suspend** – To temporarily pause an activity.

**Trigger Action Response Plan (TARP)** – A predetermined list of controls aligned with escalating levels of risk.

## 4.0 Responsibilities

### 4.1. SURF Laboratory Director

- 4.1.1. Ensures accountability of the requirements of this document with direct reports.
- 4.1.2. Approves and issues formal communication needs.
- 4.1.3. Supports communication efforts.

### 4.2. Department Directors

- 4.2.1. Follows all requirements as specified in this standard.
- 4.2.2. Ensures direct reports and departmental staff follow the requirements as specified in this Standard.
- 4.2.3. Assists with environmental inspections as requested.

**4.3. Director of Surface Operations and Utilities**

- 4.3.1.** Ensures response equipment and resources are properly maintained for severe weather events.

**4.4. Environment Safety & Health (ESH) Department**

- 4.4.1.** Ensures direct reports and departmental staff follow the requirements as specified in this standard.
- 4.4.2.** Develops and implements training requirements.
- 4.4.3.** Coordinates with the SURF Laboratory Director and the Director of Communications on formal communication requirements.
- 4.4.4.** Reviews and revises the standard for compliance with applicable regulations.
- 4.4.5.** Complete inspections per the ESH-8000-A-003 Stormwater Pollution Prevention Plan.

**4.5. Director of Communications**

- 4.5.1.** Coordinates with the SURF Laboratory Director and the Director of ESH on formal communication requirements.

**4.6. Emergency Response Team (ERT) / Operations and Emergency Response Dispatchers**

- 4.6.1.** Notify affected personnel of severe weather alerts in coordination with the Duty Officer.
- 4.6.2.** Respond to severe weather events as necessary.
- 4.6.3.** Assist with environmental inspections as requested.

**4.7. Duty Officer**

- 4.7.1.** Coordinate with the Operations and Emergency Response Dispatcher on severe weather events for action and communication.
- 4.7.2.** Authorizes deviations based on overall conditions and safety considerations.

## **5.0 Instructions**

SDSTA utilizes TARPs that are designed to provide a proactive and consistent approach to protecting personnel and property in the event of severe weather.

The TARPs utilize three color-coded alert phases to address escalating and de-escalating levels of risk that include pre-determined trigger points that are assigned to a corresponding response associated with each color. The alert shall be cancelled once the threat no longer exists.

Color categories are comprised of blue, yellow and red, with blue being the least serious and red being the most serious. Events can be initiated within any color category and can escalate or de-escalate depending on the severity. Specific responses for surface and underground are listed within each escalating level of risk category and are described in ESH-6000-A-004 Severe Weather TARPs.

**5.1. Severe Weather TARPs**

- Air Quality
  - Allergens
  - Dust Storms
  - Fog
  - Smoke

- Cold Temperatures
  - Ice Storms
  - Snow/Blizzard
- Heat Index
- High Wind
- Lightning
- Thunderstorms
  - Hail
  - Heavy Rains
- Tornado
- Visibility
  - Dust Storms
  - Fog
  - Rain
  - Smoke
  - Snow/Blizzard
  - Wind

TARPs may interact with each other for a comprehensive response plan. For example, if a severe weather event is a blizzard, its components can be found in the cold temperatures and visibility TARPs. Multiple TARPs may be utilized during severe weather event(s), in this case, the most stringent controls will be utilized.

Severe weather events shall be considered during work planning. Refer to ESH-2000-S-001 Work Planning and Control Standard for appropriate documents for work planning.

#### **5.2. Training**

- Personnel shall be provided with training in Severe Weather Management, including:
  - General Safety Basic Training: SDSTA employees, researchers, and contractors, who meet the training requirement, shall complete this training as part of General Safety Basic Training.
  - Annual Refresher Training: SDSTA employees and researchers shall complete this training as part of the Annual Refresher Training.

## **6.0 Documented Information/Related Document**

- 6.1.** ESH-2000-S-001 Work Planning and Control Standard
- 6.2.** ESH-6000-A-004 Severe Weather TARPs.
- 6.3.** ESH-8000-A-003 Stormwater Pollution Prevention Plan