



Carroll County Department of Fire & EMS Standard Operating Procedure

DOCUMENT DETAILS

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| Standard Operating Procedure: 6.07 | Effective Date: June 25, 2025 |
| Subject: Extreme Weather Operations | Section: Health and Safety |
| Authorized: Deputy Chief Paul Supko | Revision Date: September 11, 2025 |

Applicability: Volunteer Career

I. PURPOSE

The purpose of this policy is to establish guidelines related to non-essential outside activities during periods of extreme weather.

II. DEFINITIONS

National Weather Service Air Quality Index: A standardized index used by the National Weather Service to report daily air quality levels, indicating how clean or polluted the air is and the potential health effects associated with various pollutant concentrations.

National Weather Service Heat Index: A measure used by the National Weather Service that combines air temperature and relative humidity to determine the apparent temperature, or how hot it feels to the human body.

National Weather Service Wind Chill: A measure used by the National Weather Service that combines air temperature and wind speed to estimate the apparent temperature, or how cold it feels to exposed skin.

Heavy Work: Physical activity that expends approximately 350 to 500 kilocalories per hour, typically involving intense manual labor such as firefighting, lifting, or extended periods of strenuous movement.

Moderate Work: Physical activity that expends approximately 200 to 349 kilocalories per hour, involving tasks that require sustained effort but are less physically demanding than heavy work, such as equipment setup, walking, or light tool use.

Light Work: Physical activity that expends up to 200 kilocalories per hour, typically involving minimal physical exertion such as monitoring, administrative tasks, or brief periods of walking or standing.

III. POLICY

- A. To ensure the safety of personnel operating in a non-emergency capacity, the weather conditions and heat index will be monitored. Operations will adjust accordingly to provide accommodations for adverse weather and heat conditions for the safety of personnel.
 1. Operational restrictions due to weather or heat do not apply to emergency operations or essential services that involve protecting life or property.
 2. Wind Chill/Heat Index is determined via the National Weather Service for the 21157-zip code. (www.weather.gov)
- B. Environmental Condition Categories.
 1. **Category 1 condition:** Heat Stress Index/Wind Chill temperature is 10.9 degrees F and below.
 - a. Permitted Activities
 - i. **Outside activities are suspended except for those essential to the operations of the department.**
 1. Ex: Snow removal, hydrant/draft tank digging out, applying snow chains, limited building/apparatus maintenance, etc.
 - b. Clothing – Uniform appropriate for the activity with optional uniform items for the level of cold and activities (i.e. knit cap, winter jacket/parka, etc.)
 - c. Work/Rest Cycle:
 - i. 20-25 Minute Work Period with 15-Minute Rest Period.
 - ii. Rest Period should include rewarming in a heated environment, drying out, and changing clothes, if needed. Rehydration is required.
 2. **Category 2 condition:** Heat Stress Index/Wind Chill temperature is 11- 39.9 degrees F.
 - a. Permitted Activities:
 - i. All Outside Activities are permitted.
 - b. Clothing – Uniform appropriate for the activity with optional uniform items for the level of cold and activities.
 - c. Work/Rest Cycle:
 - i. 30-35 Minute Work Period with 15-Minute Rest Period.
 - ii. Rest Period should include rewarming in shelter and a change of dry clothing, if needed. Rehydration is required.
 3. **Category 3 condition:** Heat Stress Index/Wind Chill temperature is 40-79.9 degrees F.
 - a. Permitted Activities:

- i. All Outside Activities are permitted.
- b. Clothing – Uniform appropriate for the activity with optional clothing uniform items appropriate for the activity.
- c. Work/Rest Cycle:
 - i. 45-Minute Work Period to 15-Minute Rest Period each hour.
 - ii. Rest Period should be taken in a well-ventilated shaded area. Rehydration is required.

4. **Category 4 condition:** Heat Stress Index/Wind Chill temperature is 80-89.9 degrees F.

- a. Permitted Activities:
 - i. Outside activities are limited to those with light to moderate workload.
 - 1. Ex.: fire hazard surveys, in-service inspections, washing equipment, etc.
 - ii. Hydration required before, during and after activities.
 - iii. Outside physical training should be limited to a brisk walk.
 - iv. More rigorous outside training requires immediately available and immediately staffed environmental and rehabilitation controls (cooling/hydration station, shaded areas, and medical evaluation).
- b. Clothing – Class “C” Uniform, Department Issued T-Shirt or Polo (if purchased) is authorized.
- c. Work/Rest Cycle:
 - i. 30-Minute Work Period with 30-Minute Rest Period
 - ii. Rest Period should be taken in a shaded, well-ventilated area. Rehydration is required.

5. **Category 5 condition:** Heat Stress Index/Wind Chill temperature is 90 degrees F and above.

- a. Permitted Activities:
 - i. **Outside activities are suspended except for those essential to the operations of the department.**
 - ii. Only physical training/activities that can be completed in a climate-controlled environment are allowed.
 - iii. Personnel should remain in a cool, shady environment, and maintain adequate hydration in preparation for emergency response.
- b. Clothing – Class “C” Uniform, Department Issued T-Shirt or Polo (if purchased) is authorized.
- c. Work/Rest Cycle:

- i. 15-Minute Work Period with 15-Minute Rest Period.
- ii. Rest Period should be taken in a shaded, well-ventilated area. Rehydration is required.

III. PROCEDURES

A. Weather Alerts:

1. Category 4 Alert:

- a. Issued by the Shift Commander when weather conditions are approaching extreme levels.
- b. The following conditions indicate a Category 4 Alert:
 - i. Environmental Conditions listed in Category 4.
 - ii. Air Quality Index of 151-200.
 - iii. Discretion of the Shift Commander.
- c. The Shift Commander will notify members of Category 4 Alert status and time of implementation in the morning shift briefing memo. At the identified time of the alert the ECC will notify members via the MDT alert notification and Station APS systems. If Category 4 status occurs later in the shift, the shift commander will notify the ECC to implement the alert.
- d. All issued alerts will expire the following day at 0700 hrs.
- e. Operations under Category 4 Alert will follow:
 - i. Reduced outside activity, limited to those with light to moderate workload.
 - ii. Work/Rest Periods in accordance with the current Environmental Condition Category.

2. Category 5 Alert:

- a. Issued by the Shift Commander indicating extreme weather conditions.
- b. The following conditions indicate a Category 5 Alert.
 - i. Environmental Conditions listed in Category 5.
 - ii. Air Quality Index of 201 or greater.
 - iii. Discretion of the Shift Commander.
- c. The Shift Commander will notify members of Category 5 Alert status and time of implementation in the morning shift briefing memo. At the identified time of the alert the ECC will notify members via the MDT alert notification and Station APS systems. If Category 5 status occurs later in the shift, the shift commander will notify the ECC to implement the alert.

- i. Notification will activate “TEMP” mode, adding DECON 30 as a cooling/warming and rehab unit on indicated incidents.
 - ii. All issued alerts will expire the following day at 0700 hrs.
- d. Operations under Category 5 Alert will follow:
 - i. **Outside activities are suspended except for those essential to the operations of the department.**
 - ii. Work/Rest Periods in accordance with the current Environmental Condition Category.

IV. RECISION

This Standard Operating Procedure rescinds all directives regarding Extreme Weather Alerts or similar content previously issued for personnel of the Carroll County Department of Fire & EMS.

V. RELATED STANDARD OPERATING PROCEDURES / DOCUMENTS

- SOP 1.13 "Uniform Policy"

VI. ATTACHMENTS

- Outdoor Activities and Weather Chart.pfd
 - National Weather Service Heat Index Chart
 - National Weather Service Wind Chill Chart
 - Work/Rest Cycle Chart



Carroll County Department of Fire & EMS

Work/Rest Cycle Chart

| Weather Condition | Temperature Range (°F) | Work Period (min) | Rest Period (min) | Recommended Activities |
|-----------------------------|------------------------|-------------------|-------------------|--|
| Category I (Severe Cold) | ≤ 10.9°F | 20-25 | 15 | Snow removal, apparatus maintenance |
| Category II (Relative Cold) | 11°F - 39.9°F | 30-35 | 15 | All outside activities permitted |
| Category III (Mild Heat) | 40°F - 79.9°F | 45 | 15 | All activities, hydration recommended |
| Category IV (Relative Heat) | 80°F - 89.9°F | 30 | 30 | Light to moderate activities, cooling/hydration stations available |
| Category V (Extreme Heat) | ≥ 90°F | 15 | 45 | Limited essential activities, physical training only in climate-controlled areas |

NWS Heat Index

| | | Temperature (°F) | | | | | | | | | | | | | | | |
|-----------------------|--|------------------|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|
| | | 80 | 82 | 84 | 86 | 88 | 90 | 92 | 94 | 96 | 98 | 100 | 102 | 104 | 106 | 108 | 110 |
| | | 80 | 82 | 84 | 86 | 88 | 90 | 92 | 94 | 96 | 98 | 100 | 102 | 104 | 106 | 108 | 110 |
| Relative Humidity (%) | | 40 | 42 | 44 | 46 | 48 | 50 | 52 | 54 | 56 | 58 | 60 | 62 | 64 | 66 | 68 | 70 |
| | | 45 | 47 | 49 | 51 | 53 | 55 | 57 | 59 | 61 | 63 | 65 | 67 | 69 | 71 | 73 | 75 |
| | | 50 | 52 | 54 | 56 | 58 | 60 | 62 | 64 | 66 | 68 | 70 | 72 | 74 | 76 | 78 | 80 |
| | | 55 | 57 | 59 | 61 | 63 | 65 | 67 | 69 | 71 | 73 | 75 | 77 | 79 | 81 | 83 | 85 |
| | | 60 | 62 | 64 | 66 | 68 | 70 | 72 | 74 | 76 | 78 | 80 | 82 | 84 | 86 | 88 | 90 |
| | | 65 | 67 | 69 | 71 | 73 | 75 | 77 | 79 | 81 | 83 | 85 | 87 | 89 | 91 | 93 | 95 |
| | | 70 | 72 | 74 | 76 | 78 | 80 | 82 | 84 | 86 | 88 | 90 | 92 | 94 | 96 | 98 | 100 |
| | | 75 | 77 | 79 | 81 | 83 | 85 | 87 | 89 | 91 | 93 | 95 | 97 | 99 | 101 | 103 | 105 |
| | | 80 | 82 | 84 | 86 | 88 | 90 | 92 | 94 | 96 | 98 | 100 | 102 | 104 | 106 | 108 | 110 |

NWS Windchill Chart

| | | Temperature (°F) | | | | | | | | | | | | | | | | | | | | | | | | |
|------------|-----------|------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | 95 | 100 | 105 | 110 | 115 | 120 | 125 | 130 | 135 | |
| | | Temperature (°F) | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | 95 | 100 | 105 | 110 | 115 | 120 | 125 | 130 | 135 |
| Wind (mph) | Temp (°F) | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | 95 | 100 | 105 | 110 | 115 | 120 | 125 | 130 | 135 | |
| 0 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | 95 | 100 | 105 | 110 | 115 | 120 | 125 | 130 | 135 | | |
| 10 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | 95 | 100 | 105 | 110 | 115 | 120 | 125 | 130 | 135 | | |
| 20 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | 95 | 100 | 105 | 110 | 115 | 120 | 125 | 130 | 135 | | |
| 30 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | 95 | 100 | 105 | 110 | 115 | 120 | 125 | 130 | 135 | | |
| 40 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | 95 | 100 | 105 | 110 | 115 | 120 | 125 | 130 | 135 | | |
| 50 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | 95 | 100 | 105 | 110 | 115 | 120 | 125 | 130 | 135 | | |
| 60 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | 95 | 100 | 105 | 110 | 115 | 120 | 125 | 130 | 135 | | |
| 70 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | 95 | 100 | 105 | 110 | 115 | 120 | 125 | 130 | 135 | | |
| 80 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | 95 | 100 | 105 | 110 | 115 | 120 | 125 | 130 | 135 | | |
| 90 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | 95 | 100 | 105 | 110 | 115 | 120 | 125 | 130 | 135 | | |
| 100 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | 95 | 100 | 105 | 110 | 115 | 120 | 125 | 130 | 135 | | |

Frostbite Times

30 minutes

10 minutes

3 minutes

Wind Chill (°F) = $35.74 + 0.6215T - 35.75(V^{0.16}) + 0.4275T(V^{0.16})$

Where, T = Air Temperature (°F) V = Wind Speed (mph)

Effective 1/10/01

Caution

Extreme Caution

Danger

Extreme Danger