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NAVAL TRAINING CENTER
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CNTC GREAT LAKES
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NTCGLAKESINST 3141.2C
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SEP 25 1996

NTC GREAT LAKES (COMPLEX²) INSTRUCTION 3141.2C

From: Commander, Naval Training Center, Great Lakes

Subj: NAVAL TRAINING CENTER COLD WEATHER INSTRUCTION

Ref: (a) NAVMED Publication 5010-3
(b) NTCGLAKESINST 12610.1D
(c) Annex C of PWC Great Lakes Disaster Preparedness Plan
(d) NTCGLAKESINST 11200.4D

Encl: (1) Effects of Cold Temperatures
(2) Uniform Guidance
(3) Wind Chill Condition Chart
(4) Notification List

1. Purpose. To promote contingency planning for Naval Training Center (NTC) Great Lakes in response to severe and/or unexpected weather events requiring modification from normal operations.

2. Cancellation. NTCGLAKESINST 3141.2B. This is a major revision. Specific additions, deletions and changes have not been annotated. A complete review of this instruction is recommended.

3. Discussion. Winter season in the Great Lakes area has the potential for severe weather conditions capable of disrupting normal operations. The predictability of heavy snowfalls and extremely cold weather allow ample time to implement contingency plans with minimal disruption and danger to our personnel. Extreme weather conditions may produce snowfall accumulations that surpass NTC Great Lakes normal capacity for removal. Such periods of "Snow Emergency" may necessitate modification from normal operations and limit work attendance to designated key personnel of critical activities. The combination of wind and freezing temperatures induces wind chills with dangerous effects on humans and animals, especially unprotected individuals involved in outside activities/duties. Reference (a) addresses cold stress standards. Enclosure (1) summarizes the effects of cold temperatures. It is essential that all personnel, particularly key supervisors, know the extent of the hazards, related emergency plans and exercise prudent judgment. We expect all hands to check on weather conditions prior to leaving home.

4. Applicability. This instruction applies to NTC Great Lakes component and tenant commands (COMPLEX²).

5. Information. As a result of severe winter weather, Commander, NTC may activate a system to modify routine work

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schedules or, in extreme conditions, cancel the workday completely. The following should be considered:

a. Weather Forecasts. Information concerning meteorological conditions is available from the National Weather Service Channel at 162.5 MHz; messages or local radio and television stations.

b. Heating Failures. Interruption of normal heat supply and decreasing workcenter temperatures could hamper personal comfort and performance. Closing of routine activities because of cold workcenter temperatures should be at the discretion of the Commanding Officer, Officer-in-Charge or Director. Consideration should be given to mission essential operations, relocation of personnel to warmer workcenters, availability and safe application of auxiliary heat sources.

c. Key Personnel. Previously identified and designated personnel who are required to report to ensure mission accomplishment.

d. Work Attendance. Issuing administrative leave for civilian personnel as authorized by reference (b).

e. Traffic. Modifying vehicular traffic patterns and parking during snow removal operations per references (c) and (d).

f. Uniform. Modification from the normal uniform of the day will be necessary to prevent cold injuries. Enclosure (2) provides guidelines keyed to wind chill conditions identified in enclosure (3) and should be used when disseminating uniform/clothing guidance for military and civilian personnel. Organizational arctic gear, such as thermal boots, insulated trousers, parkas and lined gloves will be furnished to persons manning sentry stations during wind chill conditions III, IV and V.

6. Action.

a. NTC component Commanding Officers, Officers-in-Charge and tenant commands shall comply with the Cold Weather Bill, specifically ensuring the following elements are anticipated and adequately prepared for:

(1) Personnel protection:

- (a) Clothing requirements
- (b) Outdoor activity limitations
- (c) Cold weather indoctrination

(2) Training of all hands in personal actions to be taken to protect themselves against severe cold weather and to respond initially to medical emergencies involving exposure. Training should include:

- (a) Proper cold weather dress
- (b) Symptoms of cold-induced injuries
- (c) Recommendations for emergency protective clothing

(3) Property Protection:

- (a) Building heating
- (b) Mission essential equipment

- (4) Identification of key personnel
- (5) Method of personnel notification
- (6) Snow and Ice Removal

(7) Vehicle fuel tanks no less than half-full and standard accessories should include ice scraper, snowbrush and snow shovel.

b. All hands shall:

(1) Protect themselves and any animals in their charge from cold exposure.

(2) Be attentive to local weather forecasts for road and base conditions prior to leaving home.

(3) Adhere to uniform requirements of enclosure (2).

7. Notification Procedures:

a. Assistant Chief of Staff (ACOS) for Base Operations Support shall upon receipt of information indicating adverse weather conditions brief Chief of Staff, Operations, Chief of Staff, Training and Commander, NTC.

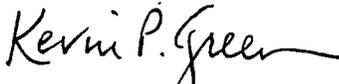
b. Commander, NTC will make a determination based on weather reports and actual weather conditions if normal work operations should be modified.

c. ACOS for Base Operations or the NTC Command Duty Officer (CDO) after normal working hours will initiate enclosure (4) notification list.

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d. Activity CDO's shall notify key command personnel upon receipt of information indicating adverse weather conditions.

e. PAO shall monitor weather reports throughout the day and notify the ACOS for Base Operations of adverse weather conditions. PAO will also release base closure information to the local radio and television stations as necessary.


KEVIN P. GREEN

Distribution:
NTCGLAKESINST 5216.5M
List I, II (case A), III-A, B, C

Copy to:
NTC CDO

EFFECTS OF COLD TEMPERATURES

1. The adverse effects of low environmental temperatures may be localized or generalized or a combination of both. They may occur under wet or dry conditions. The effects of cold on personnel depend on temperature, exposure time, wind velocity and individual susceptibility. Precautionary measures against cold-injury must be planned to ensure optimum personnel safety.

2. DEFINITIONS:

a. WIND CHILL INDEX. Cooling effect of wind on exposed flesh expressed as an equivalent temperature.

b. NON-FREEZING INJURY. Occur at temperatures above 32°F and are most frequently chilblain and trench foot. Exposure time is usually a few hours. High moisture favors non-freezing of injuries by accelerating heat loss. Prolonged exposure can lead to severe physical impairments.

c. FREEZING INJURY (FROSTBITE). Freezing of cellular fluids resulting in formation of ice crystals which physiologically disrupt cell membranes.

d. HYPOTHERMIA. Total body cooling from severe or prolonged exposure to cold. The heat loss exceeds heat production resulting in reduced body core temperatures. Discomfort or pain in extremities, such as fingers and toes are early signs of exposure to dangerous cold conditions. Additional warning signs may include violent shivering, fatigue and stubbornness. As body temperatures continue to decrease, rational decision making and alertness decrease with loss of consciousness possible.

3. FACTORS INFLUENCING COLD INJURY:

a. WEATHER. Prevention of cold injury is facilitated by availability of accurate meteorologic information, including air temperature, humidity and wind velocity. The effects of wind and temperature have been combined in a Wind Chill Chart, enclosure (3).

b. PHYSICAL WORK. Heavy physical activity may accentuate heat loss by perspiration. In addition, the moisture becomes trapped in clothing and reduces its insulating capacity. Prolonged excessive activity leads to physical and mental fatigue and may lead to fatal hypothermia in a cold environment.

c. CLOTHING. It is essential that protective clothing be available and properly worn for protection of the skin and conservation of body heat. Enclosure (2) outlines clothing requirements. The head is a predominant source of heat loss,

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warranting the need to wearing head gear. Clothing should be loose-fitting to avoid constricting and impairing circulation. Hands and feet require special attention to avoid skin injury and secondary infections. This is best accomplished through adequate changes to clean dry gloves and socks. When possible, foot gear should be dried between periods of use.

d. TRAINING. As preventive education, all personnel should be oriented to their individual responsibility in the prevention of cold injuries.

4. TREATMENT OF LOCAL COLD INJURIES. Reference (a) addresses the effects of cold in detail. The following are essential for safety and survival in cold temperatures:

a. FIRST AID:

(1) Frozen body parts should be warmed by immersion in a tepid water bath of 100°F to 105°F. At this temperature, a finger can be in the water without experiencing discomfort. Temperatures above this level should be strictly avoided. Where water is not available, the part may be warmed in the armpit of a nonaffected companion.

(2) Wet clothing should be removed and body parts gently dried and protected from trauma.

(3) Blisters should be left intact.

(4) Body core temperature should be maintained with blankets and warm liquids.

(5) All cold injury victims should be evaluated by qualified medical personnel as quickly as possible.

b. AVOID:

(1) Rubbing cold-injured parts with snow or ice water or otherwise traumatizing the injured part.

(2) Applying ointments and creams because of the rubbing trauma during application and their subsequent removal during medical treatment.

(3) Medications, drugs, alcoholic beverages and tobacco products which decrease the body's ability to withstand cold temperatures.

UNIFORM OF THE DAY COMPONENT WEAR

	CHILL COND. I	CHILL COND. II	CHILL COND. III	CHILL COND. IV	CHILL COND. V
UTILITY JACKETS	O			S	M
PEACOAT: COLLAR UP		S	S	M	M
WATCH CAP (UP) or WHITE HAT	O				
WATCH CAP: DOWN		S	M	M	M
SKI MASK		O	S	M	M
TOWEL UNDER SKI MASK				O	S
UTILITY JACKETS UNDER PEACOAT				S	M
GLOVES	S	M	M	M	M
HANDS IN POCKETS				S	M
SWEATERS UNDER JUMPER/ SHIRT	O	S	S	M	M
ORGANIZATION CLOTHING (SENTRY)		S	M	M	M
BLACK CLOTH/ELASTIC BAND EAR PROTECTORS		S	S	S	S

M = Mandatory

O = Optional

S = Suggested uniform item

NOTE: Wind Chill conditions are defined in enclosure (3).



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WIND SPEED (MPH)	ACTUAL THERMOMETER READING (°F)											
	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
	EQUIVALENT TEMPERATURE (°F)											
CALM	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
5	48	37	27	16	6	-5	-15	-26	-36	-47	-57	-68
10	40	28	16	4	-9	-21	-33	-46	-58	-70	-83	-95
15	36	22	9	-5	-18	-36	-45	-58	-72	-85	-99	-112
20	32	18	4	-10	-25	-39	-53	-67	-82	-96	-110	-124
25	30	16	0	-15	-29	-44	-59	-74	-88	-104	-118	-133
30	28	13	-2	-18	-33	-48	-63	-79	-94	-109	-125	-140
35	27	11	-4	-20	-35	-49	-67	-82	-98	-113	-129	-145
40	26	10	-6	-21	-37	-53	-69	-85	-100	-116	-132	-148
	CHILL CONDITION I		CHILL COND. II	CHILL CONDITION III		CHILL COND. IV	CHILL CONDITION V					
Wind speeds greater than 40 mph have little additional effect	LITTLE DANGER (for properly clothed person) Maximum danger of false sense of security.			INCREASING DANGER Danger from freezing of exposed flesh.			GREAT DANGER					
Trenchfoot and immersion foot may occur at any point on this chart.												

Cooling Power of Wind on Exposed Flesh Expressed as an Equivalent Temperature.

Wind Chill Conditions. Wind Chill Conditions are defined as follows:

- a. Chill Condition I - Comfortable with adequate clothing. Lowest equivalent temperature is approximately 10 degrees Fahrenheit.
- b. Chill Condition II - Cold; heavy clothing required. Frostbite possible. Equivalent temperatures between 10 and -20 degrees Fahrenheit.
- c. Chill Condition III - Extremely cold; exposure allowed only when necessary. Equivalent temperatures between -20 and -40 degrees Fahrenheit.
- d. Chill Condition IV - Increasing danger to exposed flesh. Exposure must be held to an absolute minimum. Equivalent temperatures between -40 and -60 degrees Fahrenheit.
- e. Chill Condition V - Exposed flesh will freeze in less than one minute. Survival techniques necessary. Equivalent temperatures below -60 degrees Fahrenheit.



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NOTIFICATION LIST

<u>PHONE*</u>	<u>TITLE</u>	<u>OFFICE</u>
	Chief of Staff, Operations/Commander, NTC	3400
	Chief of Staff, Training	4485
	CDO, Service School Command	3536
	CDO, Recruit Training Command	4962/4963
	CDO, CBU-401	4937
	Duty Officer, Public Works Center	4820
	CDO, Naval Hospital	4560
	CDO, TPU	3415
	CDO, Naval Hospital Corps School	3413
	NTC Public Affairs Officer	2201
	Director, Security Department	3840

* Home phone numbers are available at the CDO Watch Offices.

