

**Empire Hospital**  
**Health and Safety Plan (HASP)**  
**September 20, 2017**

## **Mission Statement**

This plan provides necessary guidelines to minimize the risk of injury or illness to hospital personnel who are involved in disaster response, recovery or mitigation operations as a result to a severe winter storm and the damages that have resulted from it. The intent of this plan is to ensure that hospital workers, volunteers and contractors work and reside in as safe and healthful an environment as possible for the duration of their emergency assignment.

This HASP is designed to integrate into the hospital's Emergency Response Plan.

## **Assumptions**

- All accidents and injuries will be reported to the Safety Officer at (\*\*\*) \*\*\*-\*\*\*\* ext \*\*\*.
- Compliance with the following applicable OSHA / Public Employee Safety & Health (PEOSH) standards, including but not limited to Hazardous Materials Emergency Response (1910.120), Personal Protective Equipment (1910.132), Respiratory Protection (1910.134), Permit Required Confined Space Entry (1910.146), Fire Brigade (1910.156), Bloodborne Pathogens (1910.1030) were considered when developing this HASP.
- Employees required to wear respiratory protection will be medically cleared; physically capable, trained and issued the appropriate task specific Personal Protective Equipment (PPE).
- Employees will be assigned the appropriate PPE prior to working on their assigned task.
- Coordination with federal, local and/ or private sector assets will be accomplished through the Incident Command System.
- It is the responsibility of each department to communicate and coordinate work planning as to prevent their work activities from becoming a potential hazard to other workers.
- All participating departments and contractors shall adhere to this HASP and all revisions thereof.

## **Coordinated Safety:**

Given the size and magnitude of this event a coordinated effort will be needed to share critical Safety and Health information between the participating departments, agencies and contractors. Each designated Department Safety and Health Representative (DSHR) is being asked to help in this coordination process by reporting all accidents to the Safety Officer at (\*\*\*) \*\*\*-\*\*\*\* ext \*\*\*. Other useful information critical to this incident would include any sampling and monitoring results, Risk, Hazard, PPE Assessments, accident reports, and equipment needs.

The Safety Officer will process this information, and the Health and Safety Plan will be updated daily to share this information with all response agencies.

## **Work Tasks (Updated Dailey)**

- Snow removal from roads, sidewalks and flat roofs
- Traffic Control, perimeter control, miscellaneous Security operations
- Staff Transportation

## **Risk Assessment**

- For non-conventional tasks a risk assessment is required to be performed by the designated DHSR; if one is unavailable, contact the Safety Officer at (\*\*\*) \*\*\*-\*\*\*\* ext \*\*\*. for assistance.
- Employees or contractors will not enter uncharacterized environments (manholes, sewage lift stations, etc.).

## **Hazard Assessment**

- Employee safety and health is the main priority of the hospital; the designated DHSR is responsible for the on-going PPE evaluation and continued effectiveness of PPE selection for the employees within the jurisdiction. This effort is one of the key components in minimizing exposures to workers. For non-routine task, a Job Hazard Analysis (JHA) shall be performed and used with a PPE Assessment. Consider all other hazards. Example:

### **Snow removal from flat roofs**

- How to gain roof access (is snow preventing normal access from hatches or doors)?
- Is power equipment needed to remove snow, assess how power equipment is to be safely moved to the roof.
- Physical Hazard(s):
  - Falls - from roofs or uneven surfaces, skylights, slip or trip hazards
  - Obstructions - identify and mark the locations of potential hazardous obstructions or changes in elevation, leading edge, skylights, roof drains, vents and other objects prior to use of power equipment or snow removal.
  - Falling snow – assess areas where snow or ice can fall or where it will be discharged to. Protect employee, pedestrians and vehicle traffic through use of hazard tape, signs or a monitor.
  - Cold exposure, ensure staff exposed to the elements are wearing proper clothing to minimize exposed skin. Pre-determine allowable time employees may be exposed to the elements (for example see Wind Chill Chart below). Monitor effectiveness of work/ rest period. List all known physical hazards and their important characteristics. For example, noise,

temperature, electrical hazards, rotating augers, refueling equipment, illumination, etc.



## Wind Chill Chart



		Temperature (°F)																	
		40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
Wind (mph)	5	36	31	25	19	13	7	1	5	11	16	-22	-28	-34	-40	-46	-52	-57	-63
	10	34	27	21	15	9	3	-4	-10	-16	-22	-28	-35	-41	-47	-53	-59	-66	-72
	15	32	25	19	13	6	0	-7	-13	-19	-26	-32	-39	-45	-51	-58	-64	-71	-77
	20	30	24	17	11	4	-2	-9	-15	-22	-29	-35	-42	-48	-55	-61	-68	-74	-81
	25	29	23	16	9	3	4	-11	-17	-24	-31	-37	-44	-51	-58	-64	-71	-78	-84
	30	28	22	15	8	1	-5	-12	-19	-26	-33	-39	-46	-53	-60	-67	-73	-80	-87
	35	28	21	14	7	0	-7	-14	-21	-27	-34	-41	-48	-55	-62	-69	-76	-82	-89
	40	27	20	13	6	-1	-8	-15	-22	-29	-36	-43	-50	-57	-64	-71	-78	-84	-91
	45	26	19	12	5	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-79	-86	-93
	50	26	19	12	4	3	10	17	-24	-31	-38	-45	-52	-60	-67	-74	-81	-88	-95
	55	25	18	11	4	-3	-11	-18	-25	-32	-39	-46	-54	-61	-68	-75	-82	-89	-97
60	25	17	10	3	-4	-11	-19	-26	-33	-40	-48	-55	-62	-69	-76	-84	-91	-98	

Frostbite Times:  30 minutes  10 minutes  5 minutes

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

Where, T= Air Temperature (°F) V= Wind Speed (mph) Effective 11/01/01

## Hazard Evaluation for Non-Routine Task

Preplan non-routine/ high consequence work task prior to start of work. Consider all possible risk and hazards when performing the assessment. For example, employees who have never worked around heavy equipment may not have the same awareness of the risks involved than more experienced staff. Employees physical conditioning or health condition may place them at a higher risk when performing strenuous activities. Prior to assigning a work task the employer must ensure that the employees are physically capable, properly trained and have the assigned PPE prior to start of work.

Just in time training is a very effective tool for providing awareness to the workers and other people that may be affected by work operations. Hazard evaluations and assessments will help determine the selection of the appropriate controls or methods of protection to ensure the safety and health of workers. Hazard monitoring will continue for as long as the potential for exposure to the hazard exists. Additionally, any changes in site conditions or work activities, or the introduction of new work activities will require a new hazard assessment and evaluation to document the changes in personal exposure to the new hazards.

During the course of site activities, personnel may need to conduct more intrusive activities than originally planned. No work will be conducted until a re-evaluation of the site has been completed by the DHSR. If any new hazardous conditions are encountered during the course of site activities, notify your DHSR immediately. Work

will be suspended until the hazard can be further evaluated by the DHSR. These situations will also require that the information/ data generated (originating department, DHSR and contact info, work tasks, PPE use, duration of activities, number of workers involved) within the re-evaluation be sent to the Safety Officer at, (email address ..... Fax number.....) updates will then be incorporated within the next operational period's IAP and the attached site specific Health and Safety Plan.

All monitoring equipment used for hazard evaluation will be calibrated daily or before the sample is collected. The flow rates of the air monitoring pumps used for media sampling will be calibrated before and after sample collection. The pre and post calibrations will be averaged to obtain the final flow rate. Direct reading instruments will be calibrated using a zero gas, appropriate span gas or outdoor air, before use or according to the manufacturer's instruction.

## **Examples of PPE Levels**

### Level A

Fully encapsulating chemical suits used with Self Contained Breathing Apparatus (SCBA)

### Level B

Turn out gear used with SCBA

### Level C

Respirator, either Filtering Face Piece, Air Purifying Respirator (APR) or Powered Air Purifying Respirator (PAPR) with appropriate filter cartridge  
Hooded chemical resistant clothing  
Chemical resistant outer gloves

### Level D

Coveralls, work boots, work gloves, safety glasses

## **Medical Considerations**

For task requiring respiratory protection; for example: entry in an unclassified area and working within proximity to a documented overexposure, the worker will have received prior approval by a licensed health care professional (PLHCP). The need to implement a more comprehensive medical surveillance program will be re-evaluated in the event of an over-exposure during an incident.

When assigning strenuous task to workers, attention should be paid to cardiovascular fitness, weight, general condition and any factors which would limit the individual's ability to deal with exertion in general and cold stress. Employees must demonstrate, after they have received medical clearance that they have sufficient physical ability to perform the duties expected of them.

## **Post Exposure Evaluation and Follow-Up**

The PLCHP Designated by Dr. Smith from \_\_\_\_\_ will determine the need for, content of and the extent of the post exposure evaluation and follow-up based on the specifics of the incident. Post exposure evaluation and follow-up will be provided at no expense to employees.

Each employer is responsible for maintaining employee exposure records in accordance with 29 CFR 1910.1020.

## Sample Job Hazard Analysis Form – Snow Removal from Flat Roofs

<b>Job Title:</b> Maintenance mechanic	<b>Job Location:</b> Main Hospital Roof	<b>Analyst:</b> J. Reeves	<b>Date:</b> 9/20/2017 @ 0800
<b>Task:</b> Snow removal from flat roofs	<b>Task Description:</b> Use both hand shoveling and snow blower to remove snow accumulation on hospital roof. Snow will be discharged to designated areas and ultimately removed from ground level.		
<b>Hazard Type:</b> 1) Roof overloading 2) Falls from elevated surfaces  3) Falls through skylights  4) Cold exposure	<b>Hazard Description:</b> <ul style="list-style-type: none"> <li>• Determine roof load stresses prior to employee action</li> <li>• Assess benefits from positioning/ fall protection equipment, Hi-Vis hazard warning tape, an assigned safety monitor WITH loud audible device or administrative policies designating a safe zone from the leading edge.</li> <li>• Share skylight locations with workers prior to start of work, as conditions allow mark off dangerous areas with warning tape or other effective means.</li> <li>• Determine work rest periods, and ensure employees wear appropriate cold weather clothing and stay hydrated.</li> </ul>		
<b>Consequences:</b> Roof Collapse  Slips, Trips, Falls  Hyperthermia	<b>Hazard Controls:</b> <ul style="list-style-type: none"> <li>• When determined safe to proceed, reduce snow load from hospital roof.</li> <li>• Identify and mark the locations of potential hazardous obstructions or changes in elevation; leading edge, skylights, roof drains, vents and other objects prior to use of power equipment or snow removal.</li> <li>• Wear proper clothing to minimize exposed skin, state work rest periods, provide warming stations with warm non- diuretic liquids.</li> </ul>		
<b>Rational or Comments:</b>			
<p>The hospital is a multi-story building; a fall from the main roof would result in death or serious physical harm. Fall prevention is a top priority! Monitor weather report and consider changing temperatures and wind conditions. Salt or sand ice patches to reduce slip hazards in walk/ work areas. Wear tinted safety glasses to reduce the effects from snow blindness. Develop the following administrative policies for this task:</p> <ul style="list-style-type: none"> <li>• Work rest periods are dependent of temperature and wind chill</li> <li>• Fall Prevention Policy – Develop safe zone at leading edge, define use of positioning devices and hazard warning tape.</li> </ul>			

## HICS 261 – INCIDENT ACTION SAFETY ANALYSIS

<b>1. Incident Name:</b> 2017 Severe Storm Sample Assessment		<b>2. Date Prepared:</b> 9/20/2017		<b>3. Date &amp; Time Prepared:</b> 0800	
<b>4. Risk and Hazard Assessment</b>				<b>5. Prepared By:</b> Jim Reeves	
<b>Job Task</b>	<b>Hazards</b>	<b>Hyperlink</b>	<b>Potential Injury and Health Effect</b>	<b>Controls: Engineering, Administrative, PPE</b>	
Snow removal (access roads and sidewalks) using hand and power equip.	Exposure to cold, slips, trips, falls, moving augers, heavy lifting, traffic and possibly snow blindness	<a href="#">Cold Exposure</a>	Sprains, strains, hyperthermia, frostbite, trench foot, loud noises from small engines	Wear appropriate clothing, Hi-Vis apparel, PPE, safety sunglasses, evaluate work area prior to start, read and become familiar with ALL operator’s manuals for power equipment, keep hydrated and avoid diuretics such as coffee and alcohol. Limit employee exposure through work rotation. LO/TO and removal tool for power equipment snow jams.	
Snow removal from flat roofs	Cold exposure, strains, sprains, potential falls from elevated work areas (during roof clearing).	<a href="#">Falls from elevated surfaces</a>	Sprains, strains, broken bones, torn ligaments, bruises, contusions other serious physical injury or death in the event of a falls	Leading edge work; assess current conditions for, (handrails, does leading edge blend with ground level) Assess benefits from positioning/ fall protection equipment, hazard warning tape, an assigned safety monitor or administrative policies designating a safe zone from the leading edge. Secure lower level where snow is being moved to.	
Slips, trips and falls due to excessive snow (2” + per hour)	Slippery or uneven surfaces, hidden obstructions; curbs, change in elevation	<a href="#">Snow covered walkways</a>	Sprains, strains, broken bones, torn ligaments, bruises, contusions other serious physical injury or death in the event of a fall	Assess the facilities ability to maintain clear unobstructed walkways and access roads. Use salt and sand for gritting, monitor weather forecast and apply gritting material prior to start of a major snow fall.	
Traffic Control	Possible exposure to vehicle traffic and heavy equipment	<a href="#">Workzone Safety</a>	Impact injuries including broken bones, torn ligaments, bruises, contusions other serious physical injury or death in the event of impact from a motor vehicle or from heavy equipment	Level D PPE - Hi-Vis apparel / reflective clothing. Steel toe boots, hard hat and work gloves, flags, paddles or traffic signs. Ensure work zone is MUTCD (Manual on Uniform Traffic Control Devices) compliant. Maintain awareness of surroundings, stay hydrated, and observe work rest periods.	
Staff Transport	Vehicle Accidents, cold exposure	<a href="#">Winter weather driving tips</a>	Impact injuries including broken bones, torn ligaments, bruises, contusions other serious physical injury or death in the event of impact from a motor vehicle or from heavy equipment	Drivers to perform a pre-driving vehicle check, check for working lights, inflated spare tire, vehicle jack and tools. Ensure vehicle contains a cold weather emergency kit. Ensure driver has a smart phone pre-loaded with emergency numbers and capable of sharing their current location	

# HICS 261 – INCIDENT ACTION SAFETY ANALYSIS

1. Incident Name:	2. Date Prepared:	3. Time Prepared:
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4. Risk and Hazard Assessment	5. Prepared By:
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Job Task	Hazards	Hyperlink	Potential Injury and Health Effect	Controls: Engineering, Administrative, PPE



# **Common Hazards to Consider and Identified Control Measures**

## **Cold Stress:**

- **When the body is unable to warm itself, serious cold-related illnesses and injuries may occur, leading to permanent tissue damage and even death.**
- **Symptoms begin with shivering, blue lips and poor coordination. More serious symptoms include mental impairment, confusion, poor decision-making, and disorientation, inability to take precautions from the cold, heart slowdown and slow breathing.**

## **Cutting and Burning:**

- **When operating cut off saws ensure operator has a firm grip on the saw with elbows locked to prevent kick back or rotation of the saw.**
- **Wear appropriate PPE including hearing protection, eye and face protection and cut resistant gloves when there are laceration hazards when operating power tools.**
- **Avoid dry cutting as dust may contain crystalline silica. Use misting or wet methods whenever possible.**
- **If cutting or burning on painted surfaces, paint may contain lead or other heavy metals. Stay up wind if possible from the dust generated and wear respiratory protection for particulates.**

## **Carbon Monoxide**

- **If using gasoline powered tool in confined areas, ensure adequate mechanical or natural ventilation is available.**
- **Be aware of carbon monoxide exposure symptoms including headaches, nausea and fatigue.**

## **Electrical**

- **Assume all downed wires are live until verified. If uncertain report to your agency safety and health representative.**
- **Temporary power should be protected using ground fault circuit interrupters (GFCI's).**

## **Noise**

- **Excessive exposure to noise can result in hearing loss which will not be regained. When noise levels require you to raise your voice to be heard- use hearing protection!**

## **Bloodborne Pathogens**

- **When exposed to blood or other potentially infectious materials wear adequate PPE including gloves, eye and face protection if splash or spray hazard is likely.**
- **Use protective clothing to prevent street clothing or uniforms from being contaminated.**
- **If blood or other potentially infectious material gets on non-intact skin, report it immediately to your agency safety and health representative.**

## **Fall Protection**

- **When working from articulating aerial lifts, use personal fall arrest systems including full body harness, lanyard, attached to the manufacturer's designated attachment point.**
- **When working from ladders ensure ladders are secured from being displaced.**