

## Housekeeping, Sanitation and Environmental Control

### Short description

This section provides the guidance for Centennial facilities and project sites to implement effective housekeeping, sanitation, waste disposal and environmental controls.

### Contact person

Andrew Richardson

Name

770-613-2999

Phone number

HSEQ

Functional Department

arichardson@cce-inc.com

Email address

### Responsible

Brent LeVander

Name

HSEQ

Functional Department

### Approval

Mark Bailey

Name

President and CEO

Title

## Content

1	Objective and area of application.....	3
2	Superior and additional applicable documents.....	3
3	Definitions.....	3
4	Housekeeping and sanitation of work areas.....	4
5	Inspection of work areas.....	5
6	Sanitation and environmental controls on project sites.....	6
	6.1 Potable water.....	6
	6.2 Restroom facilities and portable toilets.....	6
	6.3 Eating, drinking and food storage areas.....	7
	6.4 Illumination.....	7
	6.5 Waste disposal.....	7
	6.6 Means of egress.....	8
	6.7 Heat-related illness.....	8
	6.7.1 Provisions for working in hot weather or conditions.....	11
	6.7.2 Training.....	11
	6.8 Cold stress.....	11
	6.8.1 Provisions for working in cold weather or conditions.....	13
	6.8.2 Training.....	13
7	Amendment history.....	13
8	Appendix.....	13

## 1 Objective and area of application

The objective of this procedure is to identify the requirements for Centennial employees and subcontractors working in facilities or on project sites to control the environmental conditions and factors that could lead to unsafe or unsanitary conditions in the workplace. This involves performing a comprehensive risk assessment to identify activities that could lead to potential adverse effects on the environment or cause impairment of health to employees, subcontractors or other affected personnel. The project superintendent is responsible to perform an initial risk assessment and ongoing risk assessments as conditions change. This procedure provides the basic framework for the requirements of the following elements:

- Housekeeping and sanitation
- Potable water
- Toilets
- Eating and drinking areas on project sites
- Illumination
- Waste management and disposal
- Heat related illness
- Cold stress

This procedure applies to all Centennial:

- Construction project sites
- Permanent office facilities
- Temporary office facilities

## 2 Superior and additional applicable documents

1000\_GP\_11\_01\_en\_5.0 Global Policy on Health, Safety, Environment/Sustainability and Quality (HSEQ)

This section of the HSEQ Manual applies to all Centennial employees and subcontractors who are performing work in Centennial facilities and project sites. There may be more stringent requirements than this section as defined by specific State, local or contract specific requirements. If there is a conflict between this section and other applicable regulations, the more stringent will apply.

## 3 Definitions

The following definitions of terms are important for an understanding of this section.

Term	Definition
Centennial	All Centennial employees, joint venture employees, subcontractors and business partners
Housekeeping	All activities related to the cleanliness of facilities, project sites,

	materials, and equipment and the elimination of nonessential materials and hazardous conditions caused by the accumulation of debris, materials or equipment
HSEQ	Health, Safety, Environment and Quality
Potable water	Drinking water that meets the standards of the State or local authority having jurisdiction
Heat stroke	The most serious form of heat-related illness and occurs when the body becomes unable to regulate its core temperature. Sweating stops and the body can no longer rid itself of excess heat. Signs include confusion, loss of consciousness, and seizures
Heat exhaustion	The body's response to loss of water and salt from heavy sweating. Signs include headache, nausea, dizziness, weakness, irritability, thirst, and heavy sweating
Heat cramps	Muscle cramping caused by the loss of body salts and fluid during sweating
Heat rash	A skin irritation caused by sweat that does not evaporate from the skin
NOAA	National Oceanic and Atmospheric Administration
Hypothermia	Occurs when body heat is lost faster than it can be replaced and the normal body temperature (98.6°F) drops to less than 95°F
Frostbite	An injury to the body that is caused by freezing of the skin and underlying tissues
Trenchfoot	A painful condition of the feet caused by long immersion in cold water or mud and marked by blackening and death of surface tissue

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## 4 Housekeeping and sanitation of work areas

Centennial facilities and project sites shall be kept as clean as possible, taking into consideration the nature of the work. Routine maintenance and upkeep of a workplace will be conducted to ensure that hazards are not introduced through work processes. Construction sites can present many hazards to employees when they are performing construction-related activities. Keeping Centennial project sites clean and free of debris will assist in the reduction of work-related hazards and incidents.

Effective housekeeping and sanitation practices result in the following benefits for Centennial employees, subcontractors and other personnel associated with our facilities or project sites:

- Decreased slip, trip and fall incidents
- Decreased fire hazards
- Lower worker exposures to hazardous substances
- Greater efficiency in equipment cleanup and maintenance
- Improved hygienic conditions
- Reduced probability of property damage incidents

- Improved morale
- Improved productivity

All Centennial employees and subcontractors shall maintain their respective workplace and/or project sites in a clean and orderly manner. Housekeeping and cleanliness during construction operations is a vital function that reduces incidents and improves overall safety performance and efficiency. The housekeeping practice involves proper storage, use and disposal of the various materials used during the construction process.

Subcontractors will ensure that all construction related materials that are stored or actively being used on elevated surfaces are secured at all times. Subcontractors will minimize and limit activities that require materials to be used or stored on elevated surfaces.

The following general housekeeping practices must be applied to all work locations and all areas where employees or subcontractors perform maintenance, construction, or other activities:

- Adequate access and egress must be provided from all work areas
- Walking/working surfaces will be maintained clean and clear of debris and materials
- Stairways, passageways and gangways will be free of materials, supplies and obstructions
- Garbage, scrap, and other trash materials are to be disposed of in containers constructed of noncombustible materials
- Material and equipment will be stored only in appropriate storage or lay-down locations
- Liquid spills are to be cleaned up immediately
- Protruding nails, screws or splinters must be removed from scrap lumber or other materials
- Equipment and tools are to be kept clean and in good working condition
- Individual work areas are to be kept clean to insure that work activity may proceed in an orderly and efficient manner
- Tools, supplies, parts, and equipment will not be used in a manner that would be hazardous or adversely affect the work quality
- Excavations and trenches are to be covered or barricaded at the end of the work day
- Place appropriate trash and recyclable containers at locations for Centennial facilities and project sites
- Storage or accumulation of combustible materials is prohibited
- All workplaces will be maintained in such a manner as to avoid creating harborage of vermin including rodents, insects, etc.

#### **4.1 Waste disposal**

All construction waste must be collected into containers before disposal. These wastes include general waste, trash (nontoxic, non-hazardous) and hazardous wastes. Separate containers must be provided for the collection and separation of waste, trash and other refuse. Additional separate containers must be provided with lids for hazardous wastes to prevent sparks or other ignition sources from coming into contact with hazardous wastes. Hazardous Wastes can include used oil, used oil filters, oily rags and flammable wastes as well as caustics, acids, harmful dusts, etc.

All waste produced by the project shall be packaged, transported, and disposed of according to Federal, State, local or contract specifications. Hazardous waste shall be properly labeled and stored until removed from the project site.

All subcontractors shall provide the Centennial project superintendent with a list of hazardous materials and chemicals along with a copy of the relevant Safety Data Sheet (SDS) for each material that will be used on the project site. All SDSs shall be maintained by the project superintendent and stored in the project safety binder or a separate binder and will be readily accessible to all employees. The SDS will also be used to reference the proper storage and disposal of materials and chemicals. See HSEQ Manual section 16- Hazard Communication for additional information.

Refuse, waste and debris shall not be permitted to accumulate on Centennial project sites. The project superintendent is responsible to ensure the following:

- Trash and recycleable containers are placed and marked for proper use
- Refuse, waste and debris are removed at regular intervals
- Disposal of trash, waste and debris is in accordance with Federal regulations, local codes and contract specifications
- Contaminated materials will be collected, secured and stored in appropriate containers until removed from the project site
- Containers use for disposal of solid or liquid waste shall not leak and must be maintained in a sanitary condition

## 4.2 Means of egress

All Centennial project sites shall be organized and maintained as to provide free and unobstructed egress from all parts of the building, structure or site at all times when it is occupied by employees or subcontractors. Means of egress shall be continually maintained free of all obstructions or impediments to allow immediate evacuation or emergency response. All means of emergency egress shall be clearly marked.

## 5 Inspection of work areas

Centennial facilities and construction work areas shall be inspected for potential hazards of cleanliness and sanitation at least weekly. The assigned facility manager is responsible to inspect all Centennial facilities and locations within the scope of his or her responsibility. Project superintendents are responsible for inspecting all project sites under his or her operational control for cleanliness and sanitation.

Inspection documentation, deficiency tracking and assignment of responsibility for corrective action will follow HSEQ Manual Section 7 - HSEQ Inspections, Surveillance and Monitoring.

Inspection of work areas will include verification that:

- Cleanliness is being maintained as an integral part of every work operation
- Adequate type and number of receptacles are available for waste and debris
- Cleaning and removal of waste and debris is being performed regularly
- Stairways, aisles, corridors, and passageways are free from loose material and debris and are not used for storage
- Tools, cords, equipment and other materials are not strewn about where they may cause tripping or other hazards

## 6 Environmental controls on project sites

Centennial project sites are to be kept clean and sanitary to protect the health of employees, subcontractors, customers and members of the public. When sanitation hazards exist that cannot be eliminated or controlled through engineering or administrative controls then appropriate PPE will be utilized. Sanitation will be managed properly and integrated effectively with all other site activities.

### 6.1 Potable water

Where potable water is not plumbed or otherwise continuously supplied, it shall be provided in sufficient quantity. During times of heat stress, the requirement for the quantity of potable water may be increased according to Federal, state or local regulations.

The following provisions apply to potable water for employees and subcontractors on Centennial project sites:

- An adequate supply of potable water will be provided on all Centennial project sites
- Each subcontractor is responsible to provide an adequate amount of potable water for his or her workers
- Portable containers used to dispense drinking water will be capable of being tightly closed and equipped with a tap or spigot
- The use of a shared or “common cup” is prohibited
- Containers used to distribute drinking water will be clearly marked as “potable water” or “drinking water” and not used for any other purpose
- Containers containing non-potable water will be clearly marked as “non-potable”
- Potable water shall be dispensed by means that prevent contamination between the consumer and the source
- When single service cups are used the following applies:
  - A sanitary storage container shall be provided to store unused cups
  - A trash receptacle shall be provided for disposal of used cups
- Portable drinking water containers shall be thoroughly cleaned and sanitized daily

### 6.2 Restroom facilities and toilets

Centennial project sites will be adequately equipped with restroom facilities or portable toilets to accommodate the number of personnel assigned to the project site.

The following provisions apply to restroom facilities and portable toilets on Centennial project sites:

- Restroom facilities and portable toilets are cleaned and serviced at regular intervals to prevent an unsanitary condition
- Sewage disposal methods will not create an unsanitary condition or health hazard
- Under temporary field conditions, provisions shall be made to assure not less than one toilet facility is available
- Restroom facilities and portable toilets are equipped with hand soap or other similar cleansing agent

### 6.3 Eating, drinking and food storage areas

Centennial employees and subcontractors will not be permitted to eat, drink or store food in construction areas where toxic substances or potential health hazards exist. Eating, drinking and food storage areas will be identified by the project superintendent prior to beginning work on the project site. Food and drink debris shall be properly disposed of into appropriate waste receptacles and not left undisposed of for possible infestation of vermin.

### 6.4 Illumination

Centennial project sites and work areas will be adequately illuminated according to the task or work activity that is proceeding. Construction areas, aisles, stairs, ramps, runways, corridors, offices, shops, and storage areas where work is in progress shall be lighted with either natural or artificial means, to an illumination intensity equal to or greater than the levels indicated in the following chart:

Foot Candles	Area of Operation
5	General construction area lighting
3	Concrete placement, excavation and waste areas, access ways, active storage areas, loading platforms, re-fueling and field maintenance areas
5	Indoors: warehouses, corridors, hallways and exit discharge areas
5	Tunnels, shafts and general underground work areas
10	General construction plant and shops (batch plants, screening plants, mechanical and electrical equipment rooms, carpenter shops, active store rooms, indoor toilets and workrooms)
30	First aid stations, infirmaries and offices

For areas or operations not covered above, refer to the American National Standard A11.1 1965, R1970, Practice for Industrial Lighting, for recommended values of illumination.

### 6.5 Heat related illness

Periodically, Centennial employees and subcontractors may be required to work in hot environments. If adequate engineering, administrative controls or personal protective equipment (PPE) are not properly implemented or used, the results of this exposure to heat could lead to heat-related illness.

Below are the specific health problems caused heat-related illness:

- Heat stroke
- Heat exhaustion
- Heat cramps
- Heat rash

Heat-related illness is also linked to other injuries that may not be directly related to heat such as falls, equipment operation accidents and other work-related incidents due to the effects of exposure to excessive heat. Such incidents may occur when an individual who is exposed to excessive heat becomes fatigued, dizzy, confused or disoriented. There are several factors that may contribute to an individual be affected by heat-related illness:

- High temperature, humidity and/or limited air movement



- Low fluid consumption
- Direct exposure to a solar load (direct sunlight)
- Physical exertion
- Layering of protective clothing
- Poor physical condition or contributing health problems including certain medications
- Pregnancy
- Acclimatization to heat
- Previous heat-related illness

The chart below depicts health problems associated with heat-related illness, the symptoms of each health problem and the first aid or first responder actions used to minimize the effects of heat-related illness.

	Symptoms	First aid
<b>Heat stroke</b>	<ul style="list-style-type: none"> <li>▪ Confusion</li> <li>▪ Fainting</li> <li>▪ Seizures</li> <li>▪ Excessive sweating or red, hot, dry skin</li> <li>▪ Very high body temperature</li> </ul>	<ul style="list-style-type: none"> <li>▪ Call 911</li> <li>▪ Place worker in shady, cool area</li> <li>▪ Loosen and remove outer clothing</li> <li>▪ Fan air on worker; cold packs in armpits</li> <li>▪ Wet worker with cool water; apply ice packs, cool compresses, or ice if available</li> <li>▪ Provide fluids (preferably water) as soon as possible</li> <li>▪ Stay with worker until help arrives</li> </ul>
<b>Heat exhaustion</b>	<ul style="list-style-type: none"> <li>▪ Cool, moist skin</li> <li>▪ Heavy sweating</li> <li>▪ Headache</li> <li>▪ Nausea or vomiting</li> <li>▪ Dizziness</li> <li>▪ Light headedness</li> <li>▪ Weakness</li> <li>▪ Thirst</li> <li>▪ Irritability</li> <li>▪ Fast heart beat</li> </ul>	<ul style="list-style-type: none"> <li>▪ Have worker sit or lie down in a cool, shady area</li> <li>▪ Give worker plenty of water or other cool beverages to drink</li> <li>▪ Cool worker with cold compresses/ice packs</li> <li>▪ Take to clinic or emergency room for medical evaluation or treatment if signs or symptoms worsen or do not improve within 60 minutes.</li> <li>▪ Do not return to work that day</li> </ul>
<b>Heat cramps</b>	<ul style="list-style-type: none"> <li>▪ Muscle spasms</li> <li>▪ Pain</li> <li>▪ Usually localized in the abdomen, arms, or legs</li> </ul>	<ul style="list-style-type: none"> <li>▪ Have worker rest in shady, cool area</li> <li>▪ Worker should drink water or other cool beverages</li> <li>▪ Wait a few hours before allowing worker to return to strenuous work</li> <li>▪ Have worker seek medical attention if cramps don't go away</li> </ul>
<b>Heat rash</b>	<ul style="list-style-type: none"> <li>▪ Clusters of red bumps on skin</li> <li>▪ Often appears on neck, upper chest, folds of skin</li> </ul>	<ul style="list-style-type: none"> <li>▪ Try to work in a cooler, less humid environment when possible</li> <li>▪ Keep the affected area dry</li> </ul>

### 6.5.1 Provisions for working in hot weather or conditions

Centennial employees and subcontractors should avoid exposure to extremely hot temperatures when possible. When hot environments or temperatures cannot be avoided, the following provisions should be followed to protect themselves from the effects of heat-related illness by:

- Drinking adequate amounts of water
- Recognizing and looking for the signs/symptoms of heat-related illness
- Being aware of forecasted temperatures or activities that may create heat
  - The NOAA website or equivalent will be used for temperature forecasting
- Blocking out direct sun or other heat sources
- Using cooling fans/air-conditioning; rest regularly
- Wearing lightweight, light colored, loose-fitting clothes
- Avoiding consumption of caffeinated drinks and heavy meals

### 6.5.2 Training

Centennial employees will be trained in:

- Environmental factors that contribute to the risk of heat-related illness
- General awareness of personal factors that may increase susceptibility to heat-related illness including, but not limited to:
  - Individual's age
  - Degree of acclimatization
  - Medical conditions
  - Drinking water consumption
  - Caffeine use
  - Nicotine use
  - Medications that affect the body's responses to heat
- Removing heat-retaining personal protective equipment such as non-breathable chemical resistant clothing during all breaks
- Frequent consumption of drinking water or other acceptable beverages
- The different types of heat-related illness, the common signs and symptoms of heat-related illness and methods used to treat heat-related illness
- Immediately reporting signs or symptoms of heat-related illness in either themselves or in others

## 6.6 Cold stress

Centennial employees and subcontractors who are exposed to extreme cold temperatures or work in prolonged cold environments may be at risk of cold stress. Extreme cold weather is a dangerous situation that can create health emergencies in susceptible people, such as those without shelter, outdoor workers, and those who work in an area that is poorly insulated or without heat. What constitutes cold stress and its effects can vary across different regions in the United States. In regions relatively unaccustomed to winter weather, near freezing temperatures are considered factors for cold stress. Whenever temperatures drop significantly below normal temperatures and wind speed increases, heat can more rapidly leave the body.

Cold stress occurs by reducing the body's skin temperature and eventually the internal body temperature (core temperature). This leads to serious health problems, and may cause tissue damage, and possibly death.

Below are the specific health problems caused by exposure to cold temperatures:

- Hypothermia
- Frost bite
- Trenchfoot/immersion

Risk factors for cold stress include:

- Temperature of the surrounding air
- Movement of the surrounding air
- Wetness/dampness
- Predisposing health conditions such as hypertension, hypothyroidism, and diabetes
- Poor physical conditioning
- Length of exposure to cold conditions

The chart below depicts health problems associated with cold stress, the symptoms of each health problem and the first aid or first responder actions used to minimize the effects of cold stress.

	Symptoms	First aid
<b>Hypothermia</b>	<ul style="list-style-type: none"> <li>▪ Shivering</li> <li>▪ Fatigue</li> <li>▪ Loss of coordination</li> <li>▪ Confusion</li> <li>▪ Unable to walk or stand</li> <li>▪ Pupils become dilated</li> <li>▪ Breathing slows</li> <li>▪ Loss of consciousness</li> <li>▪ Blue skin</li> </ul>	<ul style="list-style-type: none"> <li>▪ Warm the center of their body first-chest, neck, head, and groin- Call 911 immediately</li> <li>▪ Move the person to a warm and dry area</li> <li>▪ Remove wet clothes, cover the body including head and neck</li> <li>▪ Give warm sweetened drinks</li> <li>▪ If victim has no pulse, begin cardiopulmonary resuscitation (CPR)</li> </ul>
<b>Frostbite</b>	<ul style="list-style-type: none"> <li>▪ Reduced blood flow to hands and feet</li> <li>▪ Reddened skin develops gray and white patches</li> <li>▪ Numbness in affected area</li> <li>▪ Tingling or stinging</li> <li>▪ Skin feels firm or hard</li> <li>▪ Blisters may occur in severe cases</li> </ul>	<ul style="list-style-type: none"> <li>▪ Follow the above first aid for hypothermia</li> <li>▪ Do not rub affected areas</li> <li>▪ Loosely cover and protect the area from contact</li> <li>▪ Do not try to re-warm</li> <li>▪ Give warm sweetened drinks</li> </ul>
<b>Trenchfoot/immersion</b>	<ul style="list-style-type: none"> <li>▪ Reddening of the skin</li> <li>▪ Leg cramps</li> <li>▪ Numbness or Swelling</li> <li>▪ Tingling pain</li> <li>▪ Blisters or ulcers</li> <li>▪ Bleeding under the skin</li> <li>▪ Gangrene</li> </ul>	<ul style="list-style-type: none"> <li>▪ Remove shoes/boots and wet socks</li> <li>▪ Dry the feet</li> <li>▪ Avoid walking on feet, as this may cause tissue damage</li> </ul>

### 6.6.1 Provisions for working in cold weather or conditions

Centennial employees and subcontractors should avoid exposure to extremely cold temperatures when possible. When cold environments or temperatures cannot be avoided, the following provisions should be followed to protect themselves from cold stress:

- Wear appropriate clothing for cold weather
  - Wear several layers of loose clothing
  - When choosing clothing, be aware that some clothing may restrict movement resulting in a hazardous situation
- Make sure to protect the ears, face, hands and feet in extremely cold weather
  - Boots or work shoes should be waterproof and insulated
- Move into warm locations during work breaks
- Limit the amount of time outside on extremely cold days
- Being aware of forecasted temperatures for cold weather or wind-chill
  - The NOAA website or equivalent will be used for temperature forecasting
- Carry cold weather gear, such as extra socks, gloves, hats, jacket, blankets, a change of clothes and a thermos of hot liquid
- Staying as dry as possible

### 6.6.2 Training

Centennial employees will be trained in:

- The environmental factors that contribute to cold stress and the injuries associated with cold weather
- Dressing in layers appropriate for cold weather conditions
- The different types of cold stress injuries, the common signs and symptoms of cold stress injuries and methods used to treat these types of injuries
- Immediately reporting signs or symptoms of cold stress in either themselves or in others

## 7 Amendment history

Date	Version	Revised content
03.12.2014	1.0	Initial Preparation
01.01.2018	2.0	Updates to Paragraph 2 Superior Documents to add the Group Policy and Global Standards, Paragraph 3 Definitions (Centennial) and Paragraph 6 Environmental controls on project sites (removed sanitation from title and moved 6.5 Waste disposal and 6.6 Means of egress to paragraph 4)

## 8 Appendix

There are no appendices to this section.