MISSIONZERO
Zero harm to people, environment and assets.

EHS TOPIC

HEAT EXPOSURE

Heat stress occurs when hot working conditions have the potential to harm a worker. This is particularly a concern in the warmer weather months of the year, although there are certain areas that are a concern throughout the year.

Exposure to heat stress conditions can lead to an increase risk of incidents, or to a variety of medical disorders that range from a mild rash to a medical emergency.

Working in the Heat

The human body works at its best within a narrow temperature range. The body's core temperature is 37^0 C and if the temperature increases or decreases 20^0 C either way then problems can start to develop.

The body controls its core temperature in a few ways. Sweating lowers the temperature; shivering raises it. Increasing blood flow to the skin helps remove heat; reducing the flow of blood helps conserves heat. To keep cool, the body sweats. The sweat then evaporates and cools the body. If the fluid lost as sweat is not replaced, the person becomes dehydrated and unable to sweat.

The human body can adapt or acclimatize to hot conditions and work safely and comfortably.

Some consequences to over exposure to hot working conditions are heat rash, heat cramps, fainting, heat exhaustion and heat stroke.

Factors affecting how hot we feel

Air temperature: measured with a normal thermometer, this is the temperature of the air around us.

Humidity: this is the amount of water in the air. Under hot conditions, people feel hotter when the air is more humid than when it is drier.

Radiant heat: this is heat given off by anything that is hot, such as the sun, molten metal, hot piping, or a heater.

Air speed: also known as wind speed, moving air that is cooler than the skin cools a person.

Physical activity: body temperature increases with physical activity.

Clothing: clothing can shield a worker from radiant heat, prevent sweat from evaporating, or help to transfer heat.

Other factors that may affect a person's ability to work in the heat include their age, health status, level of fitness, body weight, level of hydration, and their use of prescription and non-prescription drugs.

Controlling Hot Conditions

Lowering the Air Temperature

- Air conditioning
- Ventilation
- If a possible open windows and doors to allow air to circulate

Lower the Humidity.

- Ventilation
- If the work process allows it, try to capture as much of the humidity at its source with air evacuation units.
- Dehumidifiers
- Where possible, wear clothing that allows sweat to evaporate easily.

Reduce Worker Exposure to Radiant Heat

- Provide workers with shade from the sun or move to a shaded location.
- Shield workers from any hot process or relocate equipment that gives off heat.
- Use blinds, curtains, or reflective coatings on windows to reduce the direct sunlight.

Increase Air Speed or Move Air

- Increase air speed.
- Use fans or air blowers to circulate the air.
- Increase the number of air exchanges per hour.

Controlling physical activity

- Have workers do less physical intense activities.
- Where possible choose a time of day to carry out physical tasks, do them early in the morning or when its cooler in the evening.
- Use additional workers for the job.
- Rotate workers to fewer demanding activities.
- Reduce the pace of work.
- Implement a schedule of work and rest.
- Drink water every 20 minutes

Wear Appropriate Clothing

- If possible, wear loose – fitting clothing that is light in weight.
- Try to wear clothing made of fabrics that wick sweat away from the skin and allows sweat to evaporate.
- Aluminized reflective clothing near sources of radiant heat such as furnaces.
- Insulated or cooled clothing such as cooling vests may be required.
- Sunglasses and sunscreen may be needed to reduce sun exposure.

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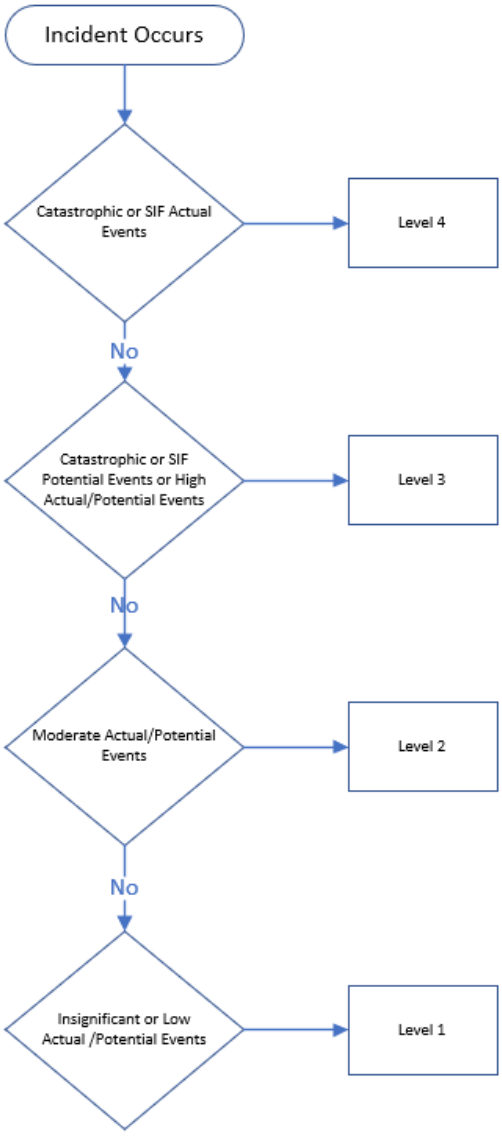
Health problems resulting from heat exposure

Problems and Symptoms	Treatment	Prevention
Heat Rash (prickly heat) Tingling and burning of the skin, red itchy rash. Sweat glands are plugged due to prolonged exposure of skin to heat, humidity, sweat.	• Thorough drying • Cool showers • Calamine lotion	• Keep the skin as dry as possible. • Rest in a cool place • Shower often • Change cloths frequently • Keep skin clean.
Heat cramps Painful spasms of muscles that do the hardest work such as in the arms, legs, abdomen.	• Massage the muscle(s) • Eat salt-containing foods (unless to be avoided for medical reasons)	• Warm up muscles before heavy work • Take rest breaks. • Eat a normal healthy diet.
Fainting Increased flow of blood to the skin to get rid of the heat means less blood to the brain.	• Massage the muscle(s) • Eat salt-containing foods (unless to be avoided for medical reasons)	• Drink water at regular intervals • Avoid standing still in one position – move around.
Heat exhaustion Tired, weak, dizzy, clammy skin, slow pulse. Pale or flushed skin color. Higher than normal heat rate (160-180 beats/minute)	• Lie down in a safe cool place. • Drink cool fluids to lower body temperature • See doctor fainting occurs.	• Take 4-7 days to adjust (acclimatize) to the heat. • Drink water at regular intervals • Take rest breaks in a cool place.
Heat stroke People usually stop sweating; body core temperature is high (40^0C - 43^0 C) Skin is hot and dry. People experience headaches, dizziness, confusion, may lose consciousness or have fits. Fatal if treatment is delayed.	• This is a medical emergency. Person must be taken to hospital as quickly as possible. • Move worker to a cool or shaded area, remove clothing, wrap in a wet sheet, pour on chilled water and fan vigorously. Treat for shock once temperature is lowered.	• Take 4-7 days to adjust (acclimatize) to the heat. • Drink water at regular intervals • Take rest breaks in a safe cool place. • Wear clothing appropriate for the conditions • Follow a work/rest schedule.

INVESTIGATION LEVEL REQUIREMENTS PROCEDURE

The investigation level requirements procedure was developed and introduced this spring to ensure that the level of risk that is associated with an event is considered when determining the level of investigation and causal analysis effort needed for an incident. Using the Gibson O&E Risk Matrix event owners determine actual and potential event consequences and assign one of four investigation levels with the help of the incident investigation decision tree.



The level of investigation will indicate:

1. The causal analysis tool that is selected to complete the investigation
2. The resource to be used to conduct the investigation

The investigation basics training you all received provides an overview of how to apply the procedure that can be found in the record centre. Additional causal analysis training (DNV and 5Why)is being provided to supervisors and some subject matter experts throughout the summer.

V’NV PROCESS

What is it?

“V’nV” is the acronym for the Validation and Verification Process which is a rebranded observation process designed by Gibson Energy to engage leadership and workers in constructive conversations regarding various aspects of safety in the workplace. These conversations will be guided by established assessment criteria and will allow data to be gathered showing how well Gibson’s is doing in each of these areas.

Why are we doing it?

Now is the opportune time for Gibson Energy to initiate a reconnection between Management and the front-line workers. The past year has been all about maintaining distance. The V’nV procedure offers an opportunity to engage in constructive dialogue focused on safety in the workplace that will benefit the workers, and leadership and help improve the company’s overall safety culture.

When will it be here?

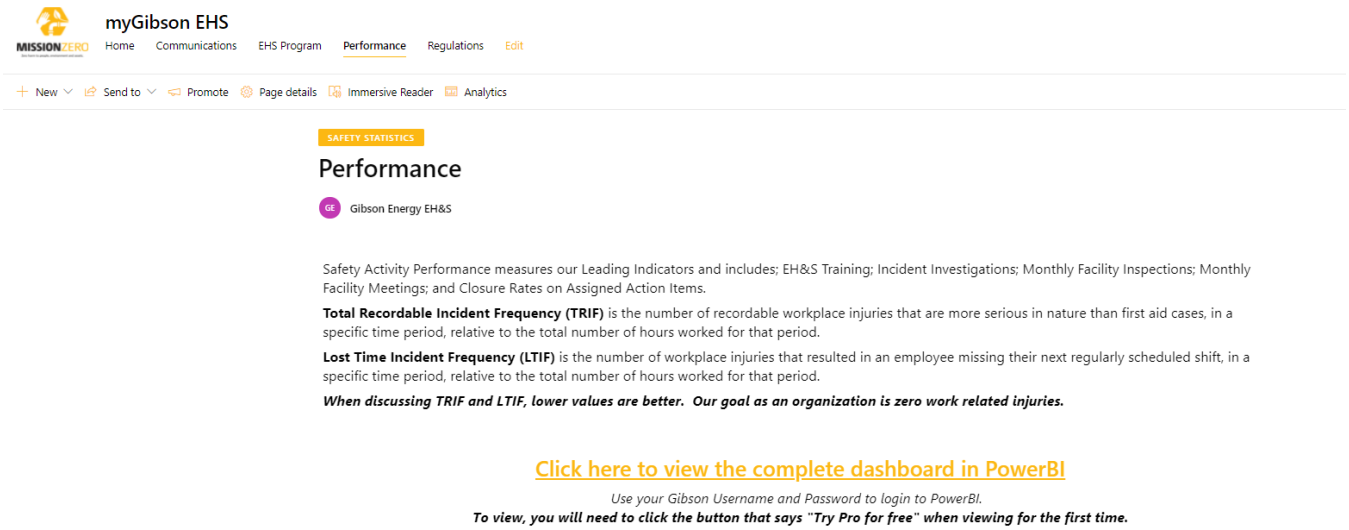
It is here now, Gibson has historically had an observation program, the most significant change with V’nV is the formalization of frequency expectations for leaders. Keeping Covid best practices in mind the V’nV Process will be rolled out in June 2021 with the observations and conversations to quickly follow, so look forward to seeing members of Gibson’s executive leadership team at your facility over the next few months and going forward.

If you have any questions or concerns, please contact your team EHS Advisor.

MAXIMO TIPS AND TRICKS

Action Closure

Each month Action Closure rates for actions required to close gaps related to events recorded in Maximo are reported. Reporting can be found on MyGibson on the EHS Performance page.
https://gibsonenergy.sharepoint.com/sites/myGibsonEHS/SitePages/Performance.aspx



Why do we track Action Closure?

Timely closing of actions that mitigate gaps in our safety systems makes our sites safer and action closure is a good leading indicator to tell us how well we do this.

How can you help ensure good performance as it relates to Action Closure?

Before you assign an action to someone, have a conversation about whether they are the right person to complete that task and if they are the right person what a reasonable time frame is to complete that action. If you are having trouble determining who should complete an action talk to your supervisor or EHS Advisor. Assigning actions without a conversation can create extra work for you and the person who the action is assigned to if it is not the right person or the time frame for completion is not reasonable.

If you are an action owner and you run into issues with completing your action on time due to an inability to receive materials or have issues with scheduling reach out to the person who assigned your action to negotiate a time that will be acceptable to both of you, or have a conversation with your supervisor to see if there are ways that you can meet the originally assigned due date.

How are we doing?

As of the end of April we are tracking at 100% on time completions! Congratulations! Let's keep up the good work as we head through the summer.

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Incident Number 4635

Hazard ID

Description: During a rigging inspection, a 20-foot sling was found with the internal cord exposed and damaged. The sling was tagged and removed from service then cut up for softeners. Other slings were checked and safety shared findings at next morning toolbox. You can see red cord exposed in the picture.

Recommended Preventative Actions:

Before using a sling for any task:

- Always inspect sling prior to using
- Ensure there is a process to remove slings from service
- When the work is completed always store sling properly