

This Protocol aligns with the guidance and policies issued by the health authorities at the time of writing, but may be revised in response to changing circumstances and conditions related to COVID-19 and updated guidance from public health authorities.

As printed copies of this Protocol are uncontrolled, users are responsible for ensuring they have the most up-to-date version.

# 1 Temperature Screening Protocol

## About this Protocol

This Protocol provides the Requirements for when conducting temperature Screening on Workers to help ensure those who are ill do not infect others.

This Screening is intended to identify Workers with a body temperature of 38° Celsius (100.4° Fahrenheit) or higher, which often indicates that the body is fighting an infection.

Each area should follow local jurisdictional Requirements and develop site-specific practices to meet these Requirements.

**Note:** All capitalized terms in this document are defined in COV19-00014 – COVID-19 Terminology Protocol.

## 1.1 Temperature Screening Requirements

**Self-Assessments** Workers shall perform a Self-Assessment as per COV19-00001 – Pre-Access Screening Protocol.

**PPE** The following PPE is required for personnel administering temperature Screening when 2 meters or less from the test subject:

1. Surgical Style Mask or approved equivalent protection
2. Nitrile gloves
3. Face shield or close-fitting safety glasses/goggles for eye protection
4. Optional: Disposable water-resistant coverall/gown with long sleeves

## Temperature Screening

The following Requirements apply to temperature screening:

- 1.1.1 Testing shall be completed by competent and trained personnel.
- 1.1.2 Third party vendors will be pre-validated by Suncor before conducting screening activities.

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- 1.1.3 Testing shall follow equipment specific manufacturer requirements (refer to the equipment manual).

**Note:** If there is a shortage of plastic disposable thermometer caps from the manufacturer, refer to the interim direction provided in [Appendix C](#).

- 1.1.4 Testing personnel shall be familiar with the COV19-00001 – Pre-Access Screening Protocol and will confirm that workers have completed their self-assessment and have not answered “Yes” to any questions.

- 1.1.5 Testing personnel who identify Workers who appear visibly ill will follow:

- Onsite: On-site processes for managing symptomatic workers or close contacts; or
- Offsite: Develop location-specific procedures for managing symptomatic workers.

- 1.1.6 Self administered temperature checks can be utilised at remote/isolated work sites (for example, in Pipelines & Distribution) if approved by the area RMT.

- 1.1.7 Only Suncor-approved thermal infrared (IR) imaging and medical/clinical grade thermometers shall be used for Screening purposes.

**Note:** Notify Health and Wellness if a medical/clinical grade thermometer is unavailable for an interim approval and action plan development.

- 1.1.8 General guidance for use of non-contact IR thermometers is provided below:

- Only medical grade infrared thermometers for clinical use should be used. See the Approved Thermometer List.
- Both the Worker and medical grade IR thermometer should be acclimatized before testing as per the manufacturer’s specifications.

- 1.1.9 General guidance for use of Suncor-approved thermal IR screening equipment is as follows:

- It requires a successful site-specific pilot as part of the Suncor approval process
- It may be used for indoor screening, in-vehicle screening, and semi-indoor screening

**Note:** Thermal IR Screening Requirements are outlined in [Appendix D](#).

- 1.1.10 If the Worker’s temperature is at or above 38° Celsius (100.4° Fahrenheit) or at the thermal IR threshold, the Worker should be re-evaluated, until which

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time Physical Distancing should be maintained. If the Worker's temperature is verified at 38° Celsius (100.4° Fahrenheit) or higher, follow on-site processes for managing symptomatic workers or close contacts.

- 1.1.11 Contact thermometers must be disinfected immediately following each Screening.

**Note:** The Temperature Screening Process Flow is outlined in [Appendix A](#).

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### Temperature Stewardship Reporting

The following metrics are to be gathered for daily reporting purposes:

- 1.1.12 Testing personnel shall submit the following information via designated survey tool on a daily basis following your shift:
- Location
  - Date (of testing)
  - Number of workers tested (total number contractors & Suncor Workers)
  - Number of workers requiring secondary screening by medical grade thermometer
  - Number of workers with a verified temperature at or above 38° Celsius (100.4° Fahrenheit)

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### Temperature Screening Refusal

If the Worker refuses the temperature Screening:

- 1.1.13 They will not be allowed to enter the site.
- 1.1.14 The Worker's Leader shall be informed.
- 1.1.15 Leaders shall notify Human Resources to determine next steps.

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## 1.2 Deviations

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**Deviation Process** If sites deviate from this Protocol for site specific reasons, the business will first conduct a risk assessment, engaging subject matter experts as applicable, and release the written results to the site VP for sign off approval.

**Note:** Send all approved deviations to [EntGovDocs@suncor.com](mailto:EntGovDocs@suncor.com).

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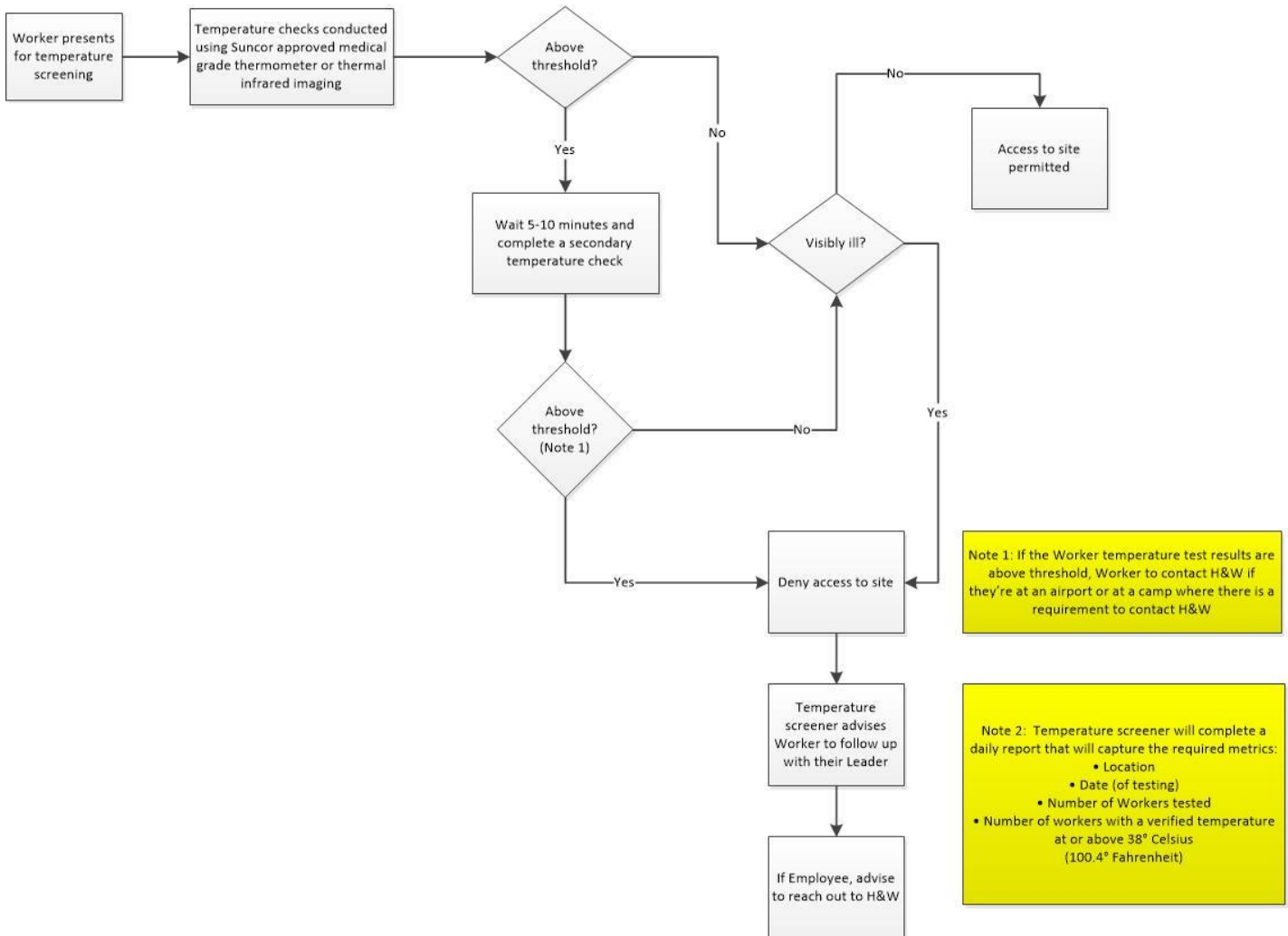
## 2 Revision History

Rev.	Date	Location	Summary of Change
7.0	May 15, 2020	Throughout doc	Updated links to appendices. Re-ordered appendices to have workflow come first
		1.1.12	Updated requirements for testing personnel
		Appendix A	Added workflow diagram for temperature screening process.
6.0	April 29, 2020	1.1	Added "2 meters or less" to the PPE section Added and revised multiple requirements related to Testing, infrared technology, and other information in the Temperature Screening section
		App. C	Added new appendix on Thermal IR Screening
5.0	April 17, 2020	1.1.4 App. B	Added Appendix to provide direction in the event of a global shortage of plastic disposable thermometer caps. Provide link to appendix in note box in 1.1.4.
		1.1.8	Modified requirement to submit temperature screening metrics following the tester's shift vs. a specific timeframe.
4.0	April 9, 2020	1.1	Replaced description of how to perform Self-Assessment with link to relevant Protocol. Added Requirements for testing personnel to record certain information and provide to Health & Wellness. Revised information on thermometers. Added section on Deviation. Added form in Appendix.
		Entire Document	Moved document content into updated Protocol template.

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## Appendix A – Temperature Screening Process Flow



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## Appendix B – Temperature Screening Metrics

**Instructions:** Please submit the data immediately following your shift before leaving site.

**\* 1. Location**

- Base Plant
- Commerce City Refinery
- Edmonton Refinery
- East Tank Farm
- Firebag
- Fort Hills
- MacKay River
- Montreal Refinery
- Samia Refinery
- Suncor Energy Centre (SEC)
- Terra Nova FPSO
- Thunder Bay Terminal
- Metro Toronto Terminal
- Montreal Terminal
- Edmonton Terminal
- London ON Terminal
- Saskatoon Terminal
- Kamloops Terminal
- Ottawa Terminal
- Rimouski Terminal
- Nanaimo Terminal
- Burrard Terminal
- Oakville Terminal
- Terrace BC Terminal
- Grand Junction CO Terminal
- Fort Lupton CO Pipelines
- Cheyenne WY Pipelines
- Guernsey WY Pipelines
- Pipeline Control Room, Sherwood Park, AB
- Firebag Aerodrome
- Calgary airport (YYC)
- Edmonton airport (YEG)
- Saskatoon airport (YXE)
- Other (please specify)

**\* 2. Date of temperature testing**

Date

Date

**\* 3. Shift?**

- Day shift
- Night shift

**\* 4. Number of workers tested**

**\* 5. Number of workers requiring secondary screening by medical grade thermometer**

**\* 6. Number of workers with a verified temperature at or above 38 degrees Celsius (100.4° Fahrenheit)**

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## Appendix C – Alternative to Use of Disposable Plastic Thermometer Caps

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### Purpose

This appendix provides direction on utilizing Low Density Polyethylene (LDPE) material as an alternative to disposable plastic thermometer caps when conducting temperature screening for workers.

**Note:** This is only an interim solution for the medical grade thermometers that are to be utilized for temperature screening due to supply shortage of plastic disposable thermometer caps.

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### C1.1 Requirements

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#### Overview

The utilization of LDPE material as an alternative due to the global shortage of disposable plastic thermometer caps will require a variance testing process to verify the testing effectiveness, then a sustainment component as part of program assurance.

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#### Variance Testing

The following outlines the Requirements for the LDPE material variance testing prior to full implementation of interim measures.

**Note:** Variance testing will be required for each specific medical/clinical grade thermometer model.

C1.1.1 When selecting LDPE material, ensure material is new and contaminant free.

**Note:** Thinner LDPE materials have reduced temperature measurement variance

C1.1.2 Ensure LDPE material is applied in a manner that the thermometer can effectively be utilized as per normal operating parameters and that it:

- Does not impact the use of the device; and
- Will be properly disposed of between tests.

C1.1.3 All temperature tests will be verified:

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- Utilizing a second test without the LDPE material;
- Using the same thermometer, or an approved medical/clinical thermometer.

**Note:** Complete validation tests well before running out of disposable plastic caps.

C1.1.4 All testing and verifications must be documented and submitted to Health and Wellness to statistically determine variance criteria when utilizing the LDPE material. Tracking to include:

- Test date and location.
- Type of LDPE material specifications (brand, make, style, thickness, etc.).
- Equipment make and model for testing.
- Test results with and without LDPE material.
- Notes from personnel conducting test (ease of use, tester feedback, etc.).

C1.1.5 To adequately evaluate effectiveness, the variance testing must be conducted for a minimum of 2 days with a minimum sampling of 60 subjects where:

- A minimum daily sample size of 20 or as otherwise approved by Health and Wellness; and
- Acceptable temperature variance criteria is equal to or below 0.3° Celsius.

**Note:** Variance is the average temperature difference (Temperature with LDPE material – Temperature without LDPE material) of all data collected (60 data points or more).

C1.1.6 Health and Wellness will be responsible for final approval of LDPE material as an alternative.

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**Sustainment of utilizing LDPE material**

The following outlines the Requirements for the sustainment of utilizing LDPE material following the variance testing approval by Health and Wellness.

C1.1.7 Using the initial variance testing results, implement the following as part of sustainment process:

- The type of LDPE material to be utilized;

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- The secondary testing criteria developed based on variance level; and
  - Procedures to assure proper operation of equipment.
- C1.1.8 Ensure a minimum of 10% of all temperature tests will be verified, utilizing a second test without the LDPE material where:
- Temperature verifications will be completed using the same thermometer, or an approved medical/clinical thermometer;
  - Frequency of verifications may be decreased upon evaluation and approval by Health and Wellness.
- C1.1.9 Any deviations from the original variance testing will require approval by Health and Wellness.
- C1.1.10 Only utilize this alternative measure to mitigate the supply shortage of disposable plastic thermometer caps.
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## Appendix D – Thermal Infrared Screening

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### Purpose

This appendix provides direction on using Suncor-approved infrared (IR) thermal screening technology. Understanding the limitations and specifications for thermal imaging is vital to ensuring accuracy and interpretation in temperature screening.

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### Summary of IR Thermal Imaging

The following outlines a summary of IR thermal imaging.

- D1.1.1 Thermal images are visual displays of the amount of infrared energy emitted, transmitted, and reflected by an object.
- The camera uses multiple sources of data based on the areas surrounding the object to determine a temperature value.
  - The thermal imaging camera employs a series of mathematical algorithms to determine a temperature value.
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### Types of IR Technology

Two types of technology are currently used for IR thermal screening:

D1.1.2 Black Body Infrared Screening

- Utilizes a continuous reference of temperature calibration/verification for the unit
- Utilized indoors in a stable environment

D1.1.3 Thermal Fever Screening Cameras

- Utilizes a screening algorithm to determine if a subject's temperature is elevated based on equipment calibration
  - Can be utilized semi-indoors if the ambient environmental conditions are controlled/mitigated
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### Thermal Imaging Considerations/ Limitations

There are many considerations related to use of IR thermal imaging as part of a temperature screening process. These elements will affect the accuracy and consistency of the extrapolated temperature value. Some considerations/limitations that need to be considered when evaluating implementation of Screening at a new location include, but are not limited to:

D1.1.4 Sunlight

- Sunlight can cause plenty of noise for a thermal image, especially during the warmer months
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- Operation indoors or at night/early morning recommended

D1.1.5 Wind

- Wind can impact thermal image temperature consistency
- Operation indoors or in low wind conditions recommended

D1.1.6 Rain, snow, and or dense fog

- IR thermal imaging will not accurately read temperatures in these conditions
- Some IR thermal imaging equipment may be damaged from water exposure
- Operation indoors or in an environment where these impacts are controlled/mitigated is required

D1.1.7 Acclimatization

- IR measures surface thermal levels which can be affected when subject being tested is not acclimatized to the ambient environment of the testing equipment

**Note:** The acclimatization factor increases at extreme cold or hot temperatures

D1.1.8 Changes in ambient environment

- Acute changes in the ambient temperatures, such as weather changes or air-conditioning, can affect the thermal temperature consistency
- Operation indoors or in an environment where acute temperature changes are not likely to occur is recommended

D1.1.9 IR Camera Quality

- Low quality IR cameras will often have less pixel array reducing imaging quality
- A resolution of 320 (horizontal) × 240 (vertical) pixel is the minimum requirement is recommended for spatial resolution

D1.1.10 IR Obstructions

- Hats, glasses or other items may interfere with the IR reading and must be removed prior to screening

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**Thermal IR  
Screening  
Implementation**

The following requirements apply to thermal IR screening:

D1.1.11 Thermal IR screening requires initial validation for each testing location/scenario:

- For a minimum of 2 days with a minimum sampling of 60 subjects.
  - o A minimum daily sample size of 20 or as otherwise approved by Health and Wellness
- Unless otherwise approved by Health and Wellness, the temperature thresholds will be:
  - o equal to or below 37.2° Celsius/98.9° Fahrenheit for indoor environments
  - o equal to or below 36.5° Celsius/97.7° Fahrenheit for semi-indoors (in-vehicle)
- IR mean average temperature variance must be less than 1.0° Celsius/1.8° Fahrenheit after the correction factor is applied.

**Note:** The threshold temperature will be developed utilizing a statistical analysis of the initial sampling to ensure a minimum of 10% of subjects undergo secondary screening. The threshold can be adjusted with approval by Health and Wellness following additional sample analysis.

D1.1.12 Testing shall be completed by competent operators following the equipment specific manufacturer requirements. Operators must:

- Be proficient in recognising the proper alignment and positioning of a person in the thermogram.
- Be able to operate the screening thermograph and can recognize common system problems or faults.
- Be familiar with the workflow, safety issues and screening protocol.
- Follow site/area specific temperature screening procedures when the screening thermograph indicates that an individual is
  - o suspected of being Symptomatic; or
  - o at or above the threshold screening temperature.
- Ensure that Physical Distancing Requirements between subjects are maintained.

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D1.1.13 Equipment use and temperature verification:

- All IR thermal equipment must be operated and validated as per manufacturer's specifications. Equipment validations are completed in two ways based on the specific system:

- i. Black Body Thermal equipment is calibrated utilizing different radiant and black body sources.

**Note:** The black body source is a continuous reference of temperature calibration/verification for the unit.

- ii. Thermal fever screening cameras that do not require a black body reference temperature use 10 non-febrile individuals as a reference and will indicate if subjects have an elevated temperature.

**Note:** The 10 non-febrile reference samples will need to be updated as ambient temperatures change as per the manufacturer's specifications.

- iii. All IR thermal equipment that can emit a laser during testing will be put into a 'passive mode' to turn the laser capability off.

D1.1.14 Thermal screening at or above the temperature threshold will require a secondary temperature measurement with a medical/clinical grade thermometer.

D1.1.15 No personal information, thermal images, or personnel results are collected.

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