Approved By

Incident Commander: Goedde, Ed

Incident Action Plan

Notes

Revision 1:

As agreed by Incident Commander and in consultation with Agency Representatives this operational period length has been extended to 48hrs. Revisions in the Period 4 IAP cover planned operations from 5/3/2018 0600hr to 5/5/2018 0600hr.

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Present Conditions

Weather Conditions as of 05/03/2018 06:35

superior, wi us station id: MID_KSUW

Humidity (%):	100	***Pressure:***	29.94 psi
Wind Speed:	0 mph	***Dew Point:***	31
Wind Direction (from):	N	***Feels Like:***	31
Temperature:	31 Fahrenheit	***UV Index:***	
Visibility:	5 mile(s)		

Mostly sunny, with a high near 67. Calm wind becoming northwest around 5 mph in the afternoon.

Forecast Date	*Wind*	*Temp High/Low*	*% Precip*	*Sunrise/ Sunset*	*Notes*
Thu 05/03/2018	3 mph NNE	70 F	8		Mostly sunny, with a high near 67. Calm wind becoming northwest around 5 mph in the afternoon.
	4 mph NNW	38 F	8		Partly cloudy, with a low around 39. North wind around 5 mph becoming west after midnight.
Fri 05/04/2018	11 mph WSW	74 F	3		Sunny, with a high near 71. Breezy, with a west wind 5 to 15 mph, with gusts as high as 20 mph.
	5 mph WNW	40 F	6		Mostly clear, with a low around 40. West wind 5 to 10 mph.
Sat 05/05/2018	7 mph W	63 F	31		A 30 percent chance of showers, mainly after 1pm. Partly sunny, with a high near 62. Southwest wind 5 to 10 mph becoming north in the afternoon. Winds could gust as high as 15 mph.
	6 mph NNE	35 F	9		Partly cloudy, with a low around 37.
Sun 05/06/2018	6 mph NNE	61 F	9		Sunny, with a high near 59.
	5 mph W	38 F	1		Partly cloudy, with a low around 38.

Tides

Incident Map/Sketch

20180502_ImpactedArea.jpg

Incident Map/Sketch

20180502ProcoessingPlantDroneImage.jpg

Incident Map/Sketch

20180503_HotwarmzoneDrone Map.jpg

Incident Map/Sketch

20180503_AirMonitoring Stations.jpg

Objective(s)
Ensure the Safety of the public and Response Personnel
Incident stabilization
Evidence Preservation
Minimize environmental impacts
Keep Stakeholders Informed of Response Activities
Monitor social and local media

Operational Period Command Emphasis (Safety Message, Priorities, Key Decisions/Directions)

Incident Action Plan Components			
x	Weather Report	x	Map/Sketch
x	ICS 202 - Incident Objectives	x	ICS 202b - Critical Information Requirements
x	ICS 204 - Assignment List	x	ICS 205 - Radio Communications
x	ICS 205a - Communications List	x	ICS 206 - Medical Plan
x	ICS 207 - Organization Chart	x	ICS 208 - Site Safety Plan
x	Air Monitoring Plan		

Incident Command Critical Threshold Reporting Criteria

Injury or Death

- OSHA/1st Aid or greater through Safety Officer

Significant change of status of site conditions

Public health impacts

Impacted sensitive areas beyond protection/Any change to trajectories

Loss of major tactical resources

Unplanned VIP visits en-route/planning/arriving

Adverse protest plans or interview requests

Adverse political/influence

Loss or breach of containment

Any breach in safety/investigation zone

Special requests from agencies

Any changes to respiratory requirements (eg: SCBA)

Any evidence wildlife impact

Any exceedance of an air monitoring action level

Operations Personnel

Position	Name	Affiliation	Contact Number(s)	Work Shift
Operations Section Chief	Fredman, Peter	Husky Energy Inc.	320-288-6161	
Deputy Operations Section Chief	Schade, Kollin	Husky Energy Inc.	317-292-6594	
Stabilization Group Supervisor	Thom, Tim	Husky Energy Inc.	715-817-8016	
Flare Purge Task Force Leader	Campbell, Adam	Husky Energy Inc.	218-491-4920	

Resources Required

Area Of Operation	Resource Kind	Description	Quantity	Size
Flare Purge Task Force	Manpower: Responder	Day Shift Responders	16	
Flare Purge Task Force	Miscellaneous	Nitrogen Bottles	43	

Assignments

Continue efforts to identify flare mechanical integrity weaknesses. Including piping, knockout vessels and flare.

Isolate sections as needed to achieve a flare system can be purged with nitrogen. Perform nitrogen purge. Scan flare with FLIR camera to determine any hydrocarbon leaks.

Any purging activities will need prior approval from the Stabilization Branch Director.

Destruction efficiency of flaring method pending a finalize plan from Evergreen

Continue nitrogen purge of flare header. Pump out flare knockout vessels.

Communications

Name / Function	Contact Details
ERT Channel	8
Channel 1 Talk Around	11
Primary	1
Secondary	2
Radio	3 to 7

Special Environmental Considerations

Actions shall be taken to minimize any release of hydrocarbons to the environment. Any liquid hydrocarbon release shall be cleaned up immediately and disposed of properly.
Notification of any venting/release of vapor/liquid hydrocarbon shall be made to the GHD air monitoring group immediately for consideration in air monitoring. Any liquid hydrocarbon release shall be cleaned up immediately.Actions shall be taken to minimize any release of hydrocarbons to the environment. Any liquid hydrocarbon release shall be cleaned up immediately and disposed of properly.
Notification of any venting/release of vapor/liquid hydrocarbon shall be made to the GHD air monitoring group immediately for consideration in air monitoring. Any liquid hydrocarbon release shall be cleaned up immediately.

Special Site-Specific Safety Considerations

If in Hot Zone, follow Hot Zone entry procedures.

If in Warm or Cold Zone, refinery PPE must be worn.

Hazard assessment must be done to plan safe work.

Be cognizant of the hazards of the products in the Flare, as well as nitrogen, fire and similar hazards.

Emergency Alarm system will signal need to evacuate from the site.

Use flashlights, vehicle lights and other lighting during nighttime activities. If warranted, request ligth plants and other larger lighting.

For work in the hot zone or where damage has occurred to equipment, area must be assessed for asbestos and other hazardous materials by an Industrial Hygienist or their designee prior to their work. Safe work permit request must include request for this determination. Any concerns found as part of this assessment must be addressed prior to any work being done.

Additional Information

If impacted wildlife are observed. Do not approach or attempt to capture. Please contact Husky Hill Avenue guard shack at 715-398-8220 or 221

Operations Personnel

Position	Name	Affiliation	Contact Number(s)	Work Shift
Operations Section Chief	Fredman, Peter	Husky Energy Inc.	320-288-6161	
Deputy Operations Section Chief	Schade, Kollin	Husky Energy Inc.	317-292-6594	
Stabilization Group Supervisor	Thom, Tim	Husky Energy Inc.	715-817-8016	
De-Inventory Task Force Leader	Laszewski, Aaron	Husky Energy Inc.	920-883-1992	
De-Inventory Task Force Leader	Ivanca, Erin	Husky Energy Inc.	651-592-6339	

Resources Required

Area Of Operation	Resource Kind	Description	Quantity	Size
De-Inventory Task Force	Manpower: Responder	Day Shift Responders	16	
De-Inventory Task Force	Manpower: Responder	Additional Contractors	5	

Assignments

Assess current site conditions.

Continue to prioritize assets for de-inventory based on current pressure on the vessel and light ends content.

Start the development of de-inventory plan for gascon stripper (15G-V10) and benzout sump and FCC cat gas hydrotreater sump

Report results of site walk-through to Deputy Operation Section Chief and perform any additional walkthroughs as requested. Evergreen to develop final plan based on results of site walk through.

SRS/NRC to review plan.

Communications

Name / Function	Contact Details
ERT Channel	8
Channel 1 Talk Around	11
Primary	1
Secondary	2
Radio	3 to 7

Special Environmental Considerations

Actions shall be taken to minimize any release of hydrocarbons to the environment. Any liquid hydrocarbon release shall be cleaned up immediately and disposed of properly.
Once de-inventory events commence, notification of any venting/release of vapor/liquid hydrocarbon to the environment shall be made to the GHD air monitoring group immediately for consideration in air monitoring.Actions shall be taken to minimize any release of hydrocarbons to the environment. Any liquid hydrocarbon release shall be cleaned up immediately and disposed of properly.
Notification of any venting/release of vapor/liquid hydrocarbon shall be made to the GHD air monitoring group immediately for consideration in air monitoring. Any liquid hydrocarbon release shall be cleaned up immediately.

Special Site-Specific Safety Considerations

If in Hot Zone, follow Hot Zone entry procedures.

If in Warm or Cold Zone, refinery PPE must be worn.

Hazard assessment must be done to plan safe work.

Be cognizant of the hazards of the hazards of Nitrogen, reactor contents, etc.

Use flashlights, vehicle lights and other lighting during nighttime activities. If warranted, request light plants and other larger lighting.

For work in the hot zone or where damage has occurred to equipment, area must be assessed for asbestos and other hazardous materials by an Industrial Hygienist or their designee prior to their work. Safe work permit request must include request for this determination. Any concerns found as part of this assessment must be addressed prior to any work being done.

Additional Information

If impacted wildlife are observed. Do not approach or attempt to capture. Please contact Husky Hill Avenue guard shack at 715-398-8220 or 221

Operations Personnel

Position	Name	Affiliation	Contact Number(s)	Work Shift
Operations Section Chief	Fredman, Peter	Husky Energy Inc.	320-288-6161	
Deputy Operations Section Chief	Schade, Kollin	Husky Energy Inc.	317-292-6594	
Stabilization Group Supervisor	Thom, Tim	Husky Energy Inc.	715-817-8016	
Reactor Task Force Leader	Witherill, Troy	Husky Energy Inc.	218-522-0114	

Resources Required

Area Of Operation	Resource Kind	Description	Quantity	Size
Reactor Task Force	Manpower: Responder	Day Shift Responders	3	
Reactor Task Force	Manpower: Responder	Night Shift Responders	2	
Reactor Task Force	Miscellaneous	Nitrogen Bottles	7	

Assignments

Maintain and document ongoing nitrogen purge. 24hr operations. Report any loss of nitrogen purge immediately to the Reactor Group Supervisor.

Communications

Name / Function	Contact Details
ERT Channel	8
Channel 1 Talk Around	11
Primary	1
Secondary	2
Radio	3 to 7

Special Environmental Considerations

Actions shall be taken to minimize any release of hydrocarbons to the environment. Any liquid hydrocarbon release shall be cleaned up immediately and disposed of properly.
Notification of any venting/release of vapor/liquid hydrocarbon shall be made to the GHD air monitoring group immediately for consideration in air monitoring. Any liquid hydrocarbon release shall be cleaned up immediately.Actions shall be taken to minimize any release of hydrocarbons to the environment. Any liquid hydrocarbon release shall be cleaned up immediately and disposed of properly.
Notification of any venting/release of vapor/liquid hydrocarbon shall be made to the GHD air monitoring group immediately for consideration in air monitoring. Any liquid hydrocarbon release shall be cleaned up immediately.

Special Site-Specific Safety Considerations

If in Hot Zone, follow Hot Zone entry procedures.

If in Warm or Cold Zone, refinery PPE must be worn.

Hazard assessment must be done to plan safe work.

Be cognizant of the hazards of the product in reactor as well as nitrogen, fire and similar hazards.

Use flashlights, vehicle lights and other lighting during nighttime activities. If warranted, request ligth plants and other larger lighting.

Emergency Alarm system will signal need to evacuate from the site.

For work in the hot zone or where damage has occurred to equipment, area must be assessed for asbestos and other hazardous materials by an Industrial Hygienist or their designee prior to their work. Safe work permit request must include request for this determination. Any concerns found as part of this assessment must be addressed prior to any work being done.

Additional Information

If impacted wildlife are observed. Do not approach or attempt to capture. Please contact Husky Hill Avenue guard shack at 715-398-8220 or 221

Operations Personnel

Position	Name	Affiliation	Contact Number(s)	Work Shift
Operations Section Chief	Fredman, Peter	Husky Energy Inc.	320-288-6161	
Deputy Operations Section Chief	Schade, Kollin	Husky Energy Inc.	317-292-6594	
Stabilization Group Supervisor	Thom, Tim	Husky Energy Inc.	715-817-8016	
Chemical Removal Task Force Leader	McCusker, Brian	Husky Energy Inc.	218-348-9769	

Resources Required

Area Of Operation	Resource Kind	Description	Quantity	Size
Chemical Removal Task Force	Manpower: Responder	Day Shift Responders	3	

Assignments

Inspect HF acid piping (Tank #16a-v4) to confirm mechanical integrity.

HF Alkylation Consultants (Curt Lawrence) to collaborate to develop plan for HF removal and storage/shipment.

Develop de-inventory temporary piping and venting plan. This plan is to be approved by standard refinery MOC process and Operations Section Chief.

Develop de-inventory plan for ammonia storage tank.

Communications

Name / Function	Contact Details
ERT Channel	8
Channel 1 Talk Around	11
Primary	1
Secondary	2
Radio	3 to 7

Special Environmental Considerations

All precautions should be taken to minimize release of any chemical to the environment. If chemical is released the environmental unit leader shall be notified immediately.Actions shall be taken to minimize any release of hydrocarbons to the environment. Any liquid hydrocarbon release shall be cleaned up immediately and disposed of properly.
Notification of any venting/release of vapor/liquid hydrocarbon shall be made to the GHD air monitoring group immediately for consideration in air monitoring. Any liquid hydrocarbon release shall be cleaned up immediately.

Special Site-Specific Safety Considerations

If in Hot Zone, follow Hot Zone entry procedures.

Fixed HF air monitors do not currently work. Rely on personal HF monitors and area monitors for determination of HF within the air.

Determine that water cannons are operational. If not, stage water nozzles and verify attiquate coverage of water spray to mitigate a release.

If in Warm or Cold Zone, refinery PPE must be worn except where HF Akly Gear is required and that must be worn.

Hazard assessment must be done to plan safe work.

Be cognizant of the hazards of the hydrofluoric acid and other hazards of the Alkylation Unit.

Emergency Alarm system will signal need to evacuate from the site.

Use flashlights, vehicle lights and other lighting during nighttime activities. If warranted, request light plants and other larger lighting.

For work in the hot zone or where damage has occurred to equipment, area must be assessed for asbestos and other hazardous materials by an Industrial Hygienist or their designee prior to their work. Safe work permit request must include request for this determination. Any concerns found as part of this assessment must be addressed prior to any work being done.

Additional Information

If impacted wildlife are observed. Do not approach or attempt to capture. Please contact Husky Hill Avenue guard shack at 715-398-8220 or 221

Operations Personnel

Position	Name	Affiliation	Contact Number(s)	Work Shift
Operations Section Chief	Fredman, Peter	Husky Energy Inc.	320-288-6161	
Deputy Operations Section Chief	Schade, Kollin	Husky Energy Inc.	317-292-6594	
Mechanical Group Supervisor	Rikkola, Ken	Husky Energy Inc.	218-343-9538	
Energy Restoration Task Force Leader	Carlson, Brad	Husky Energy Inc.	218-390-5182	
Energy Restoration Task Force Leader	Massie, Nik	Husky Energy Inc.	715-817-1209	

Resources Required

Area Of Operation	Resource Kind	Description	Quantity	Size
Energy Restoration Task Force	Manpower: Responder	Manpower: Responder	4	

Assignments

Energize "R" Building - Contingent on approved plan (MOC)

Prepare MOC and temporary power plan to power sump pumps in benzout.

Continue to identify electrical opportunities and needs to restore normal operating capabilities to the facility.

Continue developing re-energizing plan including priority assets. Plan to be be approved through normal refinery MOC process and Operations Section Chief.

Communications

Name / Function	Contact Details
ERT Channel	8
Channel 1 Talk Around	11
Primary	1
Secondary	2
Radio	3 to 7

Special Environmental Considerations

Considerations of potential hydrocarbon release should be made prior to energizing hydrocarbon containing equipment or their control system in order to minimize the release of hydrocarbons.
Prior to energizing any CEM buildings all building analyzers and sampling equipment shall be turned off.Actions shall be taken to minimize any release of hydrocarbons to the environment. Any liquid hydrocarbon release shall be cleaned up immediately and disposed of properly.
Notification of any venting/release of vapor/liquid hydrocarbon shall be made to the GHD air monitoring group immediately for consideration in air monitoring. Any liquid hydrocarbon release shall be cleaned up immediately.

Special Site-Specific Safety Considerations

If in Hot Zone, follow Hot Zone entry procedures discussed in previous section.

If in Warm or Cold Zone, refinery PPE must be worn.

Hazard assessment must be done to plan safe work.

Follow Refinery Electrical Safety and Lockout Tagout programs.

Be cognizant of downed power lines, overhead hazards and potential for unintentional energization of electrical equipment.

Wear PPE appropriate to the potential electrical energy.

Emergency Alarm system will signal need to evacuate from the site.

Use flashlights, vehicle lights and other lighting during nighttime activities. If warranted, request ligth plants and other larger lighting.

For work in the hot zone or where damage has occurred to equipment, area must be assessed for asbestos and other hazardous materials by an Industrial Hygienist or their designee prior to their work. Safe work permit request must include request for this determination. Any concerns found as part of this assessment must be addressed prior to any work being done.

Additional Information

If impacted wildlife are observed. Do not approach or attempt to capture. Please contact Husky Hill Avenue guard shack at 715-398-8220 or 221

Operations Personnel

Position	Name	Affiliation	Contact Number(s)	Work Shift
Operations Section Chief	Fredman, Peter	Husky Energy Inc.	320-288-6161	
Deputy Operations Section Chief	Schade, Kollin	Husky Energy Inc.	317-292-6594	
Mechanical Group Supervisor	Rikkola, Ken	Husky Energy Inc.	218-343-9538	
Waste Water Treatment Task Force Leader	Amato, Joe	Husky Energy Inc.	715-969-7724	

Resources Required

Area Of Operation	Resource Kind	Description	Quantity	Size
Waste Water Treatment Task Force	Manpower: Operator	WCS Operator	2	
Waste Water Treatment Task Force	Manpower: Operator	WWTP Operator	2	
Waste Water Treatment Task Force	Manpower: Responder	Control Systems Engineer	1	

Assignments

Contingent on the energization plan:

Energize and test DCS control.

Determine vendor to test PSV's

Special Environmental Considerations

All WWTP permit limits will need to be achieved prior to discharge of any water off-site.Actions shall be taken to minimize any release of hydrocarbons to the environment. Any liquid hydrocarbon release shall be cleaned up immediately and disposed of properly.
Notification of any venting/release of vapor/liquid hydrocarbon shall be made to the GHD air monitoring group immediately for consideration in air monitoring. Any liquid hydrocarbon release shall be cleaned up immediately.

Special Site-Specific Safety Considerations

Hydrogen Sulfide may be higher than normal due to water not being processed.
Water on ground will make the work area slippery.
Potential for sludge cleanup. Wear refinery chemcial gear.
Wear hearing protection in the nonoffice areas of WWTP.
Follow Husky Superior Electrical Safety SPI (procedure) for all electrical work.
Complete a PSR5 before staring up the plant

Additional Information

If impacted wildlife are observed. Do not approach or attempt to capture. Please contact Husky Hill Avenue guard shack at 715-398-8220 or 221

Operations Personnel

Position	Name	Affiliation	Contact Number(s)	Work Shift
Operations Section Chief	Fredman, Peter	Husky Energy Inc.	320-288-6161	
Deputy Operations Section Chief	Schade, Kollin	Husky Energy Inc.	317-292-6594	
Mechanical Group Supervisor	Rikkola, Ken	Husky Energy Inc.	218-343-9538	
Asset Stabilization Task Force Leader	Rikkola, Ken	Husky Energy Inc.	218-343-9538	

Resources Required

Area Of Operation	Resource Kind	Description	Quantity	Size
Asset Stabilization Task Force	Manpower: Responder	Day Shift Responders	16	
Asset Stabilization Task Force	Manpower: Responder	Engineer	1	
Asset Stabilization Task Force	Manpower: Responder	Additional Contractors	5	

Assignments

Primary asset of concern for asset stabilization: Stripper tower (15G-V10)

Speciality contractors (Mammoet, Brandenburg Demolition, Barnhart Crane & Rigging) have provided recommend plan for primary asset of concern.

- Above plans to be reviewed and select contractors
- Start 3D imaging of site. (Insite)
- Operations to define process lines.
- Contingent on approval from Bill D. Ed G., remove frac tanks, adler tanks and asphalt from the vicinity (east of) the stripper tower.
- Verify that asphalt does not contain asbestos

Report findings to the Asset Stabilization Group Supervisor

Continue identifying other assets of concern.

Communications

Name / Function	Contact Details
ERT Channel	8
Channel 1 Talk Around	11
Primary	1
Secondary	2
Radio	3 to 7

Special Environmental Considerations

Actions shall be taken to minimize any release of hydrocarbons to the environment. Any liquid hydrocarbon release shall be cleaned up immediately and disposed of properly.
Once stabilization events commence, notification of any venting/release of vapor/liquid hydrocarbon shall be made to the GHD air monitoring group immediately for consideration in air monitoring.Actions shall be taken to minimize any release of hydrocarbons to the environment. Any liquid hydrocarbon release shall be cleaned up immediately and disposed of properly. Notification of any venting/release of vapor/liquid hydrocarbon shall be made to the GHD air monitoring group immediately for consideration in air monitoring. Any liquid hydrocarbon release shall be cleaned up immediately.

Special Site-Specific Safety Considerations

All contractors must be preapproved by Refinery Safety Department.

If in Hot Zone, follow Hot Zone entry procedures discussed in previous section.

If in Warm or Cold Zone, refinery PPE must be worn.

Hazard assessment must be done to plan safe work.

Be cognizant of the hazards of the product in the vessel, fire and similar hazards.

Emergency Alarm system will signal need to evacuate from the site.

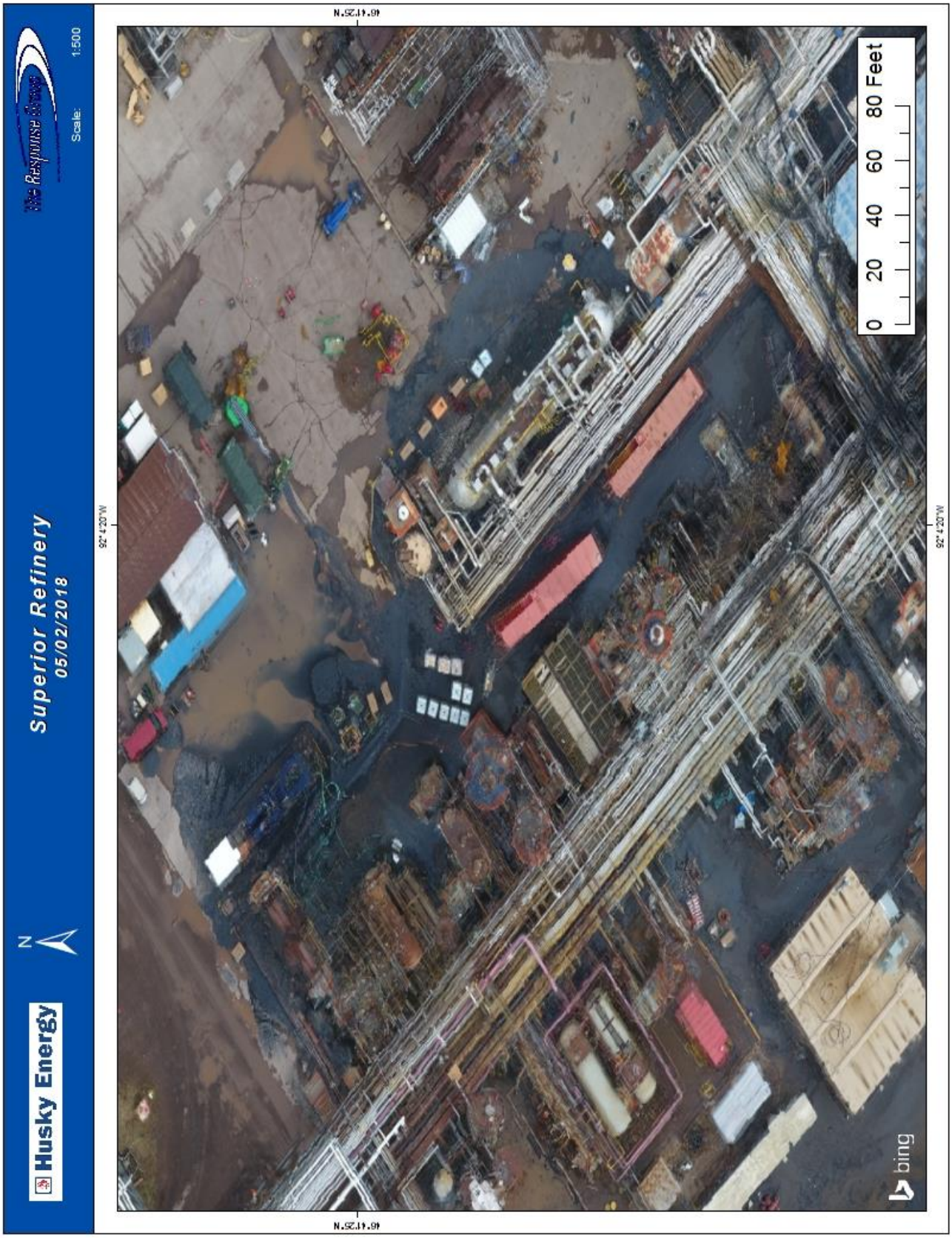
Use flashlights, vehicle lights and other lighting during nighttime activities. If warranted, request ligth plants and other larger lighting.

For work in the hot zone or where damage has occurred to equipment, area must be assessed for asbestos and other hazardous materials by an Industrial Hygienist or their designee prior to their work. Safe work permit request must include request for this determination. Any concerns found as part of this assessment must be addressed prior to any work being done.

Additional Information

If impacted wildlife are observed. Do not approach or attempt to capture. Please contact Husky Hill Avenue guard shack at 715-398-8220 or 221

20180502_MapforCranezoomed.jpg



Operations Personnel

Position	Name	Affiliation	Contact Number(s)	Work Shift
Operations Section Chief	Fredman, Peter	Husky Energy Inc.	320-288-6161	
Deputy Operations Section Chief	Schade, Kollin	Husky Energy Inc.	317-292-6594	
Emergency Response Group Supervisor	Quimby, Jerome	Husky Energy Inc.	218-428-5190	
ERT Task Force Leader	Hunker, Johnny	Husky Energy Inc.		
ERT Task Force Leader	VanHornweder, Brian	Husky Energy Inc.	218-428-5210	

Resources Required

Area Of Operation	Resource Kind	Description	Quantity	Size
ERT Task Force	Fire Fighting Foam	Fire Fighting Foam	1500	
ERT Task Force	Tanker Truck	Tanker Truck	1	
ERT Task Force	Foam pumper	Foam pumper	1	
ERT Task Force	Manpower: Responder	Manpower: Responder	35	

Assignments

Maintain 24hr readiness to respond to any incidents on-site. Follow guidelines as defined in existing Superior Refinery Emergency Response Plan.

Escort all approved individuals into the hot zone area as needed. All approvals to go through Maintenance Supervision.

See attached map for warm and hot zone locations.

Equipment manager for ERT will ensure serviceability and organization of ERT building and equipment

Communications

Name / Function	Contact Details
ERT Channel	8
Channel 1 Talk Around	11
Primary	1
Secondary	2
Radio	3 to 7

Special Environmental Considerations

Actions shall be taken to minimize any release of hydrocarbons to the environment. Any liquid hydrocarbon release shall be cleaned up immediately and disposed of properly.
Notification of any venting/release of vapor/liquid hydrocarbon shall be made to the GHD air monitoring group immediately for consideration in air monitoring. Any liquid hydrocarbon release shall be cleaned up immediately.

Special Site-Specific Safety Considerations

If in Hot Zone, follow Hot Zone entry procedures discussed in previous section.

If in Warm or Cold Zone, refinery PPE must be worn.

Emergency Alarm system will signal need to evacuate from the site.

Use flashlights, vehicle lights and other lighting during nighttime activities. If warranted, request ligth plants and other larger lighting.

For work in the hot zone or where damage has occurred to equipment, area must be assessed for asbestos and other hazardous materials by an Industrial Hygienist or their designee prior to their work. Safe work permit request must include request for this determination. Any concerns found as part of this assessment must be addressed prior to any work being done.

Additional Information

If impacted wildlife are observed. Do not approach or attempt to capture. Please contact Husky Hill Avenue guard shack at 715-398-8220 or 221

Operations Personnel

Position	Name	Affiliation	Contact Number(s)	Work Shift
Operations Section Chief	Fredman, Peter	Husky Energy Inc.	320-288-6161	
Deputy Operations Section Chief	Schade, Kollin	Husky Energy Inc.	317-292-6594	
Emergency Response Group Supervisor	Quimby, Jerome	Husky Energy Inc.	218-428-5190	
Fire Pump Task Force Leader	Peterson, John	Husky Energy Inc.	218-428-6160	

Resources Required

Area Of Operation	Resource Kind	Description	Quantity	Size
Fire Pump Task Force	Manpower: Responder	Manpower: Responder	4	
Fire Pump Task Force	Pumps	Fire Pumps	4	

Assignments

Maintain operational readiness of fire water pumps. Report any issues to the Emergency Response Group Supervisor.

Communications

Name / Function	Contact Details
ERT Channel	8
Channel 1 Talk Around	11
Primary	1
Secondary	2
Radio	3 to 7

Special Environmental Considerations

Release of diesel fuel at the diesel fire water pumps shall be properly cleaned up immediately for proper disposal.Actions shall be taken to minimize any release of hydrocarbons to the environment. Any liquid hydrocarbon release shall be cleaned up immediately and disposed of properly.
Notification of any venting/release of vapor/liquid hydrocarbon shall be made to the GHD air monitoring group immediately for consideration in air monitoring. Any liquid hydrocarbon release shall be cleaned up immediately.

Special Site-Specific Safety Considerations

Refinery require FR clothing, Hard Hat, Safety Glasses and safety boots.

If in Diesel Pump building and pumps are running, hearing protection must be worn.

If working along the pond perimeter, a life jacket must be worn.

Emergency Alarm system will signal need to evacuate from the site.

Use flashlights, vehicle lights and other lighting during nighttime activities. If warranted, request light plants and other larger lighting.

Additional Information

If impacted wildlife are observed. Do not approach or attempt to capture. Please contact Husky Hill Avenue guard shack at 715-398-8220 or 221

Operations Personnel

Position	Name	Affiliation	Contact Number(s)	Work Shift
Operations Section Chief	Fredman, Peter	Husky Energy Inc.	320-288-6161	
Deputy Operations Section Chief	Schade, Kollin	Husky Energy Inc.	317-292-6594	
Emergency Response Group Supervisor	Quimby, Jerome	Husky Energy Inc.	218-428-5190	
Security Task Force Supervisor	Conrad, Curt	Manpower		

Resources Required

Area Of Operation	Resource Kind	Description	Quantity	Size
Security Task Force	Manpower: Responder	Securitas Security Officer	18	
Security Task Force	Vehicle	Security Vehicle	4	

Assignments

Securitas to maintain 24hr security checkpoints at road blocks, command post and control sites. Roving security to patrol between sites and to additional locations as requested.

Security to reference list of (Non-Husky) individuals approved for access.

Sites:
- Road block at Stinson/Hill
- Road block at Stinson/Bardon
- Hill/Stinson Guard Shack

Communications

Name / Function	Contact Details
ERT Channel	8
Channel 1 Talk Around	11
Primary	1
Secondary	2
Radio	3 to 7

Special Environmental Considerations

Immediate notification of a breach in the security of the site should be reported through the ICS system to mitigate the potential for a release of hydrocarbon to the environment.Actions shall be taken to minimize any release of hydrocarbons to the environment. Any liquid hydrocarbon release shall be cleaned up immediately and disposed of properly.
Notification of any venting/release of vapor/liquid hydrocarbon shall be made to the GHD air monitoring group immediately for consideration in air monitoring. Any liquid hydrocarbon release shall be cleaned up immediately.

Special Site-Specific Safety Considerations

Any work on roadways requires a high visibility vest.

Be cognizant of vehicle traffic.

Use flashlights, vehicle lights and other lighting during nighttime activities. If warranted, request light plants and other larger lighting.

Keep truck flashing lights on if manning roadblocks.

Additional Information

If impacted wildlife are observed. Do not approach or attempt to capture. Please contact Husky Hill Avenue guard shack at 715-398-8220 or 221

Operations Personnel

Position	Name	Affiliation	Contact Number(s)	Work Shift
Operations Section Chief	Fredman, Peter	Husky Energy Inc.	320-288-6161	
Deputy Operations Section Chief	Schade, Kollin	Husky Energy Inc.	317-292-6594	
Environmental Monitoring Group Supervisor	Beattie, Dave	Husky Energy Inc.	218-348-9051	
Air Monitoring Task Force Leader	Armes, Will	GHD	519-497-8054	

Resources Required

Area Of Operation	Resource Kind	Description	Quantity	Size
Air Monitoring Task Force	Equipment: Air Monitoring	AreaRaes	14	
Air Monitoring Task Force	Equipment: Air Monitoring	MultiRaes	10	
Air Monitoring Task Force	Equipment: Air Monitoring	UltraRaes	6	
Air Monitoring Task Force	Equipment: Air Monitoring	Dust Track	5	
Air Monitoring Task Force	Manpower: Operator	Air Monitoring Supervisors	2	
Air Monitoring Task Force	Manpower: Responder	Industrial Hygienist	20	

Assignments

1. Continue to maintain a fixed perimeter air monitoring system that has been deployed to the area currently delineated as the hot zone. This monitoring will be conducted in accordance with the Site action levels described in the Air Monitoring Plan

2. Continue to maintain a fixed perimeter air monitoring system that has deployed to the perimeter of the refinery process area at or near the fenceline. This monitoring will be used to provide information regarding air quality in close proximity to potential sources of emissions of COI during the cleanup and recovery phases of the project.

3. Mobile community monitoring teams will continue to conduct monitoring in the area outside the facility, with a focus on downwind monitoring, while the cleanup and recovery phases of the project are ongoing.

Communications

Name / Function	Contact Details
ERT Channel	8
Channel 1 Talk Around	11
Primary	1
Secondary	2
Radio	3 to 7

Special Environmental Considerations

Actions shall be taken to minimize any release of hydrocarbons to the environment. Any liquid hydrocarbon release shall be cleaned up immediately and disposed of properly.
Notification of any venting/release of vapor/liquid hydrocarbon shall be made to the GHD air monitoring group immediately for consideration in air monitoring. Any liquid hydrocarbon release shall be cleaned up immediately.

Special Site-Specific Safety Considerations

If in Hot Zone, must follow Hot Zone Procedures including Bunker Gear, ERT escort, 4-Gas Monitor and sign in at ERT Response Center.

All other areas in the refinery require FR clothing, Hard Hat, Safety Glasses and safety boots.

If working along the permiter fence or other Husky property outside of refinery, contact security guards at 715-398-8220 to make them aware of your presence. Otherwise, the police will be called.

When working along the refinery perimeter, be cognizant of slip, trip and fall hazards.

Use flashlights, vehicle lights and other lighting during nighttime activities. If warranted, request ligth plants and other larger lighting.

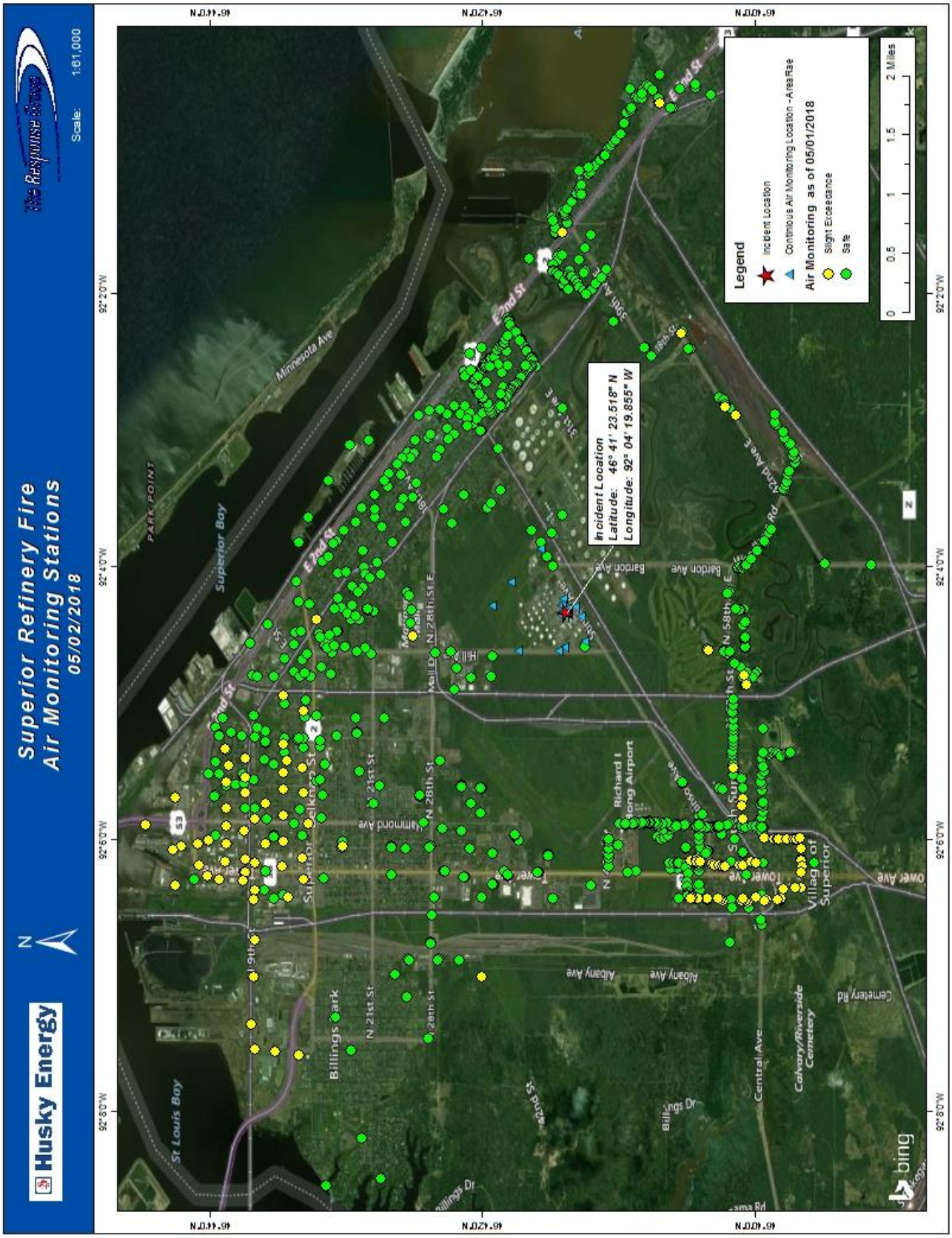
Emergency Alarm system will signal need to evacuate from the site.

For work in the hot zone or where damage has occurred to equipment, area must be assessed for asbestos and other hazardous materials by an Industrial Hygienist or their designee prior to their work. Safe work permit request must include request for this determination. Any concerns found as part of this assessment must be addressed prior to any work being done.

Additional Information

If impacted wildlife are observed. Do not approach or attempt to capture. Please contact Husky Hill Avenue guard shack at 715-398-8220 or 221

20180502_AirMonitoring Stations.jpg



Operations Personnel

Position	Name	Affiliation	Contact Number(s)	Work Shift
Operations Section Chief	Fredman, Peter	Husky Energy Inc.	320-288-6161	
Deputy Operations Section Chief	Schade, Kollin	Husky Energy Inc.	317-292-6594	
Environmental Monitoring Group Supervisor	Beattie, Dave	Husky Energy Inc.	218-348-9051	
Water Sampling Task Force Leader	Turner, Matt	Husky Energy Inc.	715-969-4873	

Resources Required

Area Of Operation	Resource Kind	Description	Quantity	Size
Water Sampling Task Force	Miscellaneous	Long-Handled Surface water Sampler	4	
Water Sampling Task Force	Miscellaneous	Lab Sample Containers	24	
Water Sampling Task Force	Miscellaneous	Water-Proof Shipping Containers	4	
Water Sampling Task Force	Manpower: Responder	Water Sampling Techs	3	

Assignments

1. Continue to collect water samples at designated sites utilizing appropiate water sampling equipment and techniques.

2. Package and arrange water samples for delivery to selected labs for analysis.

3. Report findings to EUL and appropiate govenment environmental agencies.

4. Seven (7) sample sites determined in Newton Creek. Two (2) sample sites within refinery (Pond 2, 3, 4)

Communications

Name / Function	Contact Details
ERT Channel	8
Channel 1 Talk Around	11
Primary	1
Secondary	2
Radio	3 to 7

Special Environmental Considerations

Follow existing water sampling plan developed by GHD and approved by applicable agencies. All precautions should be taken to ensure proper sampling.Actions shall be taken to minimize any release of hydrocarbons to the environment. Any liquid hydrocarbon release shall be cleaned up immediately and disposed of properly.
Notification of any venting/release of vapor/liquid hydrocarbon shall be made to the GHD air monitoring group immediately for consideration in air monitoring. Any liquid hydrocarbon release shall be cleaned up immediately.

Special Site-Specific Safety Considerations

Please refer to GHD Health and Safety Plan for water sampling.

Emergency Alarm system will signal need to evacuate from the site.

Use flashlights, vehicle lights and other lighting during nighttime activities. If warrented, request ligth plants and other larger lighting.

For work in the hot zone or where damage has occurred to equipment, area must be assessed for asbestos and other hazardous materials by an Industrial Hygienist or their designee prior to their work. Safe work permit request must include request for this determination. Any concerns found as part of this assessment must be addressed prior to any work being done.

Additional Information
If impacted wildlife are observed. Do not approach or attempt to capture. Please contact Husky Hill Avenue guard shack at 715-398-8220 or 221

20180430_watersamplingsites_NoDate.jpg

Operations Personnel

Position	Name	Affiliation	Contact Number(s)	Work Shift
Operations Section Chief	Fredman, Peter	Husky Energy Inc.	320-288-6161	
Deputy Operations Section Chief	Schade, Kollin	Husky Energy Inc.	317-292-6594	
Environmental Monitoring Group Supervisor	Beattie, Dave	Husky Energy Inc.	218-348-9051	
IH Monitoring Task Force Supervisor	Thiel, Jason	Husky Energy Inc.	419-296-6310	

Resources Required

Area Of Operation	Resource Kind	Description	Quantity	Size
IH Monitoring Task Force	Manpower: Responder	Industrial Hygienist	2	
IH Monitoring Task Force	Pumps	Asbestos Monitoring and Pump Filter Cassette	5	

Assignments

Continue asbestos monitoring on-site as directed by Safety Officer.

Identify locations of presumed asbestos containing debris within the refinery including admin building, lab, warehouse and marketing

Personal monitoring for air contaminants. (VOC, Asbestos)

Begin picking up insulation outside of the fence line and in the asphalt truck loading areas.

Additional mitigation portions of this work assignment contingent on final approval of Asbestos Management Plan

Communications

Name / Function	Contact Details
ERT Channel	8
Channel 1 Talk Around	11
Primary	1
Secondary	2
Radio	3 to 7

Special Environmental Considerations

Debris shall be assumed to be asbestos containing unless testing or other means of identification confirms otherwise.Actions shall be taken to minimize any release of hydrocarbons to the environment. Any liquid hydrocarbon release shall be cleaned up immediately and disposed of properly.
Notification of any venting/release of vapor/liquid hydrocarbon shall be made to the GHD air monitoring group immediately for consideration in air monitoring. Any liquid hydrocarbon release shall be cleaned up immediately.

Special Site-Specific Safety Considerations

If in Hot Zone, must follow Hot Zone Procedures including Bunker Gear, ERT escort, 4-Gas Monitor and sign in at ERT Response Center.

All other areas in the refinery require FR clothing, Hard Hat, Safety Glasses and safety boots.

If working along the permiter fence or other Husky property outside of refinery, contact security guards at 715-398-8220 to make them aware of your presence. Otherwise, the police will be called.

When in the refinery, be congnizant of hazards associated with a fire zone.

When working along the refinery perimeter, be cognizant of slip, trip and fall hazards.

Use flashlights, vehicle lights and other lighting during nighttime activities. If warranted, request light plants and other larger lighting.

Emergency Alarm system will signal need to evacuate from the site.

For work in the hot zone or where damage has occurred to equipment, area must be assessed for asbestos and other hazardous materials by an Industrial Hygienist or their designee prior to their work. Safe work permit request must include request for this determination. Any concerns found as part of this assessment must be addressed prior to any work being done.

Additional Information

If impacted wildlife are observed. Do not approach or attempt to capture. Please contact Husky Hill Avenue guard shack at 715-398-8220 or 221

Operations Personnel

Position	Name	Affiliation	Contact Number(s)	Work Shift
Operations Section Chief	Fredman, Peter	Husky Energy Inc.	320-288-6161	
Deputy Operations Section Chief	Schade, Kollin	Husky Energy Inc.	317-292-6594	
Environmental Monitoring Group Supervisor	Beattie, Dave	Husky Energy Inc.	218-348-9051	
Environmental Support Task Force Leader	Turner, Matt	Husky Energy Inc.	715-969-4873	

Resources Required

Area Of Operation	Resource Kind	Description	Quantity	Size
Environmental Support Task Force	Manpower: Responder	Manpower: Responder	3	
Environmental Support Task Force	Boom	Boom	400	
Environmental Support Task Force	Sorbent: Boom	Sorbent: Boom	400	
Environmental Support Task Force	Vehicle	Vehicle	4	

Assignments

Boom Maintenance:
The team will travel to the current boom sites along Newton Creek to assess the condition of the boom. The morning crew will replace all absorbent boom that appears to have petroleum contamination. Any containment boom that is compromised will be put into 55 gallon steel drums that are labeled with a non-hazardous waste label filled in with "Oily Absorbent Booms". Full drums will be brought to the 90 day storage building. Pictures of each boom site should be taken both before and after any upkeep for documentation. Report to acting shift foreman for any additional work he may have for them.

Escort Surface Water Sampling teams:
The team will provide escort inside the facility to ponds 2,3 & 4 to conduct surface water samples.

Respond to any immediate actions, environmental concerns. (ie: Cleanup of contaminants at boom locations, address contamination issues at stinson avenue, conduct visual assessments of Nemadji River) as directed by Matt Turner.

Communications

Name / Function	Contact Details
Primary	1
Secondary	2
Radio	3 to 7
ERT Channel	8
Channel 1 Talk Around	11
Channel 2 Talk Around	12

Special Equipment / Supplies Needed for Assignment

Steel Drums, wheelbarrow

Special Environmental Considerations

Presence of sheen/oil at any location shall be relayed to the boom maintenance task force leaderActions shall be taken to minimize any release of hydrocarbons to the environment. Any liquid hydrocarbon release shall be cleaned up immediately and disposed of properly.
Notification of any venting/release of vapor/liquid hydrocarbon shall be made to the GHD air monitoring group immediately for consideration in air monitoring. Any liquid hydrocarbon release shall be cleaned up immediately.

Special Site-Specific Safety Considerations

Be aware of slipping hazards on sides of banks of creek and other areas.

When work involves roadways, utilize Hi Viz vest.

Wear a life jacket when working in areas of deeper water. Consider slipping hazards and what might happen if you were to slip into creek while deploying boom.

Utilize proper lifting techniques and utilize mechanical lifting techniques on heavy boom or other objects.

Inspect for ticks when traveling in grassy or wooded areas.

Use flashlights, vehicle lights and other lighting during nighttime activities. If warranted, request light plants and other larger lighting.

For work in the hot zone or where damage has occurred to equipment, area must be assessed for asbestos and other hazardous materials by an Industrial Hygienist or their designee prior to their work. Safe work permit request must include request for this determination. Any concerns found as part of this assessment must be addressed prior to any work being done.

Additional Information

If impacted wildlife are observed. Do not approach or attempt to capture. Please contact Husky Hill Avenue guard shack at 715-398-8220 or 221

Operations Personnel

Position	Name	Affiliation	Contact Number(s)	Work Shift
Operations Section Chief	Fredman, Peter	Husky Energy Inc.	320-288-6161	
Deputy Operations Section Chief	Schade, Kollin	Husky Energy Inc.	317-292-6594	
Environmental Monitoring Group Supervisor	Beattie, Dave	Husky Energy Inc.	218-348-9051	
Oil Recovery Task Force Leader	Turner, Matt	Husky Energy Inc.	715-969-4873	

Resources Required

Area Of Operation	Resource Kind	Description	Quantity	Size
Oil Recovery Task Force	Frac Tank	Frac Tank	2	
Oil Recovery Task Force	Vacuum Truck	Vacuum Truck	1	
Oil Recovery Task Force	Manpower: Operator	Vac Truck Operators	2	

Assignments

Complete testing to ensure fluid can be collected with vac trucks and placed into steam coiled frac tanks.

Proceed with recovery of oil within containment area of tank 54 and adjacent containments.

Install wildlife fencing around Tank 54.

Special Environmental Considerations

Actions shall be taken to minimize any release of hydrocarbons to the environment. Any liquid hydrocarbon release shall be cleaned up immediately and disposed of properly.
Notification of any venting/release of vapor/liquid hydrocarbon shall be made to the GHD air monitoring group immediately for consideration in air monitoring. Any liquid hydrocarbon release shall be cleaned up immediately.

Special Site-Specific Safety Considerations

Hydrogen Sulfide gas may be present. Pay attention to H2S air monitors and evacuate if exposure is 10 PPM or greater.

Verify that prior product held is compatible with 6 Oil, Therminol, or any other product that might be found in the diked area.

Avoid potential creation of static electricity by provide grounding and/or bonding as necessary.

Be cognizant of slip, trip and fall hazards.

Use flashlights, vehicle lights and other lighting during nighttime activities. If warranted, request light plants and other larger lighting.

For work in the hot zone or where damage has occurred to equipment, area must be assessed for asbestos and other hazardous materials by an Industrial Hygienist or their designee prior to their work. Safe work permit request must include request for this determination. Any concerns found as part of this assessment must be addressed prior to any work being done.

Additional Information

If impacted wildlife are observed. Do not approach or attempt to capture. Please contact Husky Hill Avenue guard shack at 715-398-8220 or 221

Operations Personnel

Position	Name	Affiliation	Contact Number(s)	Work Shift
Operations Section Chief	Fredman, Peter	Husky Energy Inc.	320-288-6161	
Deputy Operations Section Chief	Schade, Kollin	Husky Energy Inc.	317-292-6594	
Decon Group Supervisor	Raiha, John	Husky Energy Inc.	218-390-4078	

Resources Required

Area Of Operation	Resource Kind	Description	Quantity	Size
Decon Group	Manpower: Responder	Decon Personnel	4	
Decon Group	Equipment: Decon	Decon Station	1	

Assignments

Conduct personnel decon as per standard procedure outlined in Refinery ERP.

Communications

Name / Function	Contact Details
ERT Channel	8
Channel 1 Talk Around	11
Primary	1
Secondary	2
Radio	3 to 7

Special Environmental Considerations

Actions shall be taken to minimize any release of hydrocarbons to the environment. Any liquid hydrocarbon release shall be cleaned up immediately and disposed of properly.
Notification of any venting/release of vapor/liquid hydrocarbon shall be made to the GHD air monitoring group immediately for consideration in air monitoring. Any liquid hydrocarbon release shall be cleaned up immediately.

Special Site-Specific Safety Considerations

Decon personnel must wear chemical gear over FR coveralls.

Use flashlights, vehicle lights and other lighting during nighttime activities. If warranted, request light plants and other larger lighting.

Four station boot Decon:
1. Simple Green and/or Orange Peel used to decon at Wash Station #1
2. Water rinse at station #2
3. Water rinse at station #3
4. Clean water tub at station #4

Additional Information

If impacted wildlife are observed. Do not approach or attempt to capture. Please contact Husky Hill Avenue guard shack at 715-398-8220 or 221

Radio Channel Information

Ch #	*Function*	*Channel Name/ Trunked Radio System Talkgroup*	*Assignment*	*Rx Freq N or W*	*Rx Tone/NAC*	*Tx Freq N or W*	*Tx Tone/NAC*	*Mode (A, D, or M)*	*Remarks*
1	Primary	Primary Radio Channel - Repeated							
2	Secondary	Secondary Radio Channel - Repeated							Secondary Repeated Channel Unit and Use s
3 to 7	Radio	Radio to Radio Channels							Working Channel
8	ERT Channel	Emergency Response Channel							Emergency Response Team Channel
11	Channel 1 Talk Around	Channel 1 Talk Around							Use this channel in case of failure of repeated Channel 1
12	Channel 2 Talk Around	Channel 2 Talk Around							Use this channel in case of failure of repeated Channel 2

Special Radio Instructions

Local Communications Information

Name	***Incident Assigned Position***	***Mobile Phone***	***Work Phone***	***Email***	***Notes***
Goedde, Ed	Incident Commander	Non-Responsive		ed.goedde@huskyenergy.com	
Logsdon, Paul	Deputy Incident Commander	[redacted]		paul.logsdon@huskyenergy.com	
Morrison, Dave (EPA)	Agency Representative	[redacted]		morrison.david@epa.gov	
Syphard, Dan	Legal Officer	[redacted]		dan.syphard@huskyenergy.com	
Obery, John	Liaison Officer	[redacted]		john.obery@huskyenergy.com	
O'Brien, John	Safety Officer	[redacted]		john.obrien@huskyenergy.com	
Bachhuber, Julie	HR Officer	[redacted]		julie.bachhuber@huskyenergy.com	
Yuill, Carla	Public Information Officer	[redacted]		carla.yuill@huskyenergy.com	
Williams, Blake	ICS Process Advisor	[redacted]		blake.williams@huskyenergy.com	
Fredman, Peter	Operations Section Chief	[redacted]		peter.fredman@huskyenergy.com	
Schade, Kollin	Deputy Operations Section Chief	[redacted]		kollin.schade@huskyenergy.com	
Tokarz, Christina	Planning Section Chief	[redacted]		Christina.Tokarz@huskyenergy.com	
Harris, Paul	Deputy Planning Section Chief	[redacted]		Paul.Harris@huskyenergy.com	
Choate, Jerry	Logistics Section Chief	[redacted]		jerry.choate@huskyenergy.com	
Bruckelmyer, Jason	Support Branch Director	[redacted]		jason.bruckelmyer@huskyenergy.com	
Black, Jason	Supply Unit Leader	[redacted]		jason.black@huskyenergy.com	
Kowitz, Kim	Finance Section Chief	[redacted]		kim.kowitz@huskyenergy.com	
Verrill, John	Deputy Finance Section Chief	[redacted]		john.verrill@huskyenergy.com	
Tokarz, Christina	Situation Unit Leader	[redacted]		Christina.Tokarz@huskyenergy.com	
Buckley, Joe	Resource Unit Leader	[redacted]		jbuckley@responsegroupinc.com	
Roden, Mary Kay	Documentation Unit Leader	[redacted]		mary.roden@huskyenergy.com	
Darby, Mark	Environmental Unit Leader	[redacted]		mark.darby@huskyenergy.com	
Shook, Anthony	GIS Specialist	[redacted]		AShook@responsegroupinc.com	

Medical Aid Stations

Name	*Location*	*Paramedic On Site*	*Phone*	*Radio*
Superior Refinery Medical Aid Station	-92.07578 46.68889	x		

Transportation (Ground and/or Air Ambulance Services)

Ambulance Service	*Location*	*Phone*	*Radio*	*Air*	*ALS*
Global Air Ambulance	3500 Tower Ave. Superior, WI 54888 -92.07202 46.68952	Ph1: (305) 514-0942		x	
Gold Cross Ambulance Service	4505 W. Michigan St. Duluth, MN -92.15475 46.74444	Ph1: (218) 628-9323			

Hospitals

Hospital	*Location*	*Phone*	*Radio*	*Air Travel Time*	*Ground Travel Time*	*Trauma Center*	*Helipad*	*Burn Center*
Essentia Health St. Mary's Hospital	3500 Tower Ave Superior, MN -92.10236 46.69748	Ph1: (715) 817 -7000		min	15 min	II	x	
Essentia Health Duluth (Miller Dwan) Thermal or Chemical Burns	502 E 2nd St Duluth, MN -92.09367 46.79244	Ph1: (218) 727-8762		min	30 min	II		x
St Luke's Duluth	915 East First Street Duluth, MN -92.08762 46.79718	Ph1: (218) 249-5555		min	30 min	II	x	
				min	min			

Special Medical Emergency Procedures

All injured employees who require more than in-house first aid, (i.e. lacerations requiring stitches, severe eye problems, severe strains/sprains or fractures) will be sent to the following medical facility:
Essentia St. Mary's Occupational Medicine Clinic
3500 Tower Ave
Superior, WI
(715) 817-7100

INJURIES INVOLVING EXPOSURE TO HYDROFLUORIC ACID
For minor exposures, the employee may be transported to Essentia St. Mary's Emergency Room in Superior, the Essentia Duluth Clinic Occupational Medicine Clinic or the Essentia St. Mary's Hospital Emergency Room in Duluth.
For all but minor exposures, the employee should be transported by ambulance to:
St. Mary's Hospital Emergency Room in Duluth:
407 East 3rd Street
Duluth. MN
218-786-4000

INJURIES INVOLVING THERMAL OR CHEMICAL BURNS
For injuries involving all but minor thermal or chemical burns, employees should be transported by ambulance to:
Essentia Miller-Dwan Burn Center 502 E. Second St., First Floor
Duluth, MN
(218) 786-2815

MEDICAL SERVICES/EMPLOYEE MEDICAL RECORDS/ WORKER'S COMPENSATION

SCOPE

This Standard Practice Instructions is to be considered Husky Superior company policy and minimum acceptable standards under normal conditions. Stricter requirements may apply under certain situations. If a problem is encountered, consultation with a safety professional should be considered before proceeding. Keep in mind that any alternative procedure must be at least as effective as these instructions in providing a safe workplace.

RATIONALE

This procedure was developed to inform all supervisors of the steps which need to be taken to insure that all injured employees are properly cared for, to explain access to employee medical records, and to explain the worker's compensation procedure.

APPLICATION

This policy describes the procedure that needs to be followed by all Husky Superior employees when it is necessary to obtain medical services, access medical records, or receive worker's compensation.

DEFINITIONS

Minor injury – Any injury that can be properly attended with in-house first aid. This type of injury might include strains/sprains, lacerations not requiring stitches, irrigating eyes or minor burns (either chemical or thermal).

Medical First-Aid Injuries – Any injury that can be properly attended by a physician with first-aid treatment.

Serious Injury – An injury that resulted in an OSHA recordable injury, lost-time injury (either lost workdays or restricted workdays) or fatality.

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PROCEDURE FOR OBTAINING MEDICAL SERVICES

Note: On-Shift Emergency Response Team (ERT) Members should be called to assist on all, but very minor, medical incidents.

DAYTIME HOURS, MONDAY THROUGH FRIDAY

All injured employees who require more than in-house first aid, (i.e. lacerations requiring stitches, severe eye problems, severe strains/sprains or fractures) will be sent to the following medical facility:

Essentia SMDC Occupational Medicine Clinic
Duluth Clinic 3rd Street Building
400 E. Third St.
Duluth, MN
(218) 786-3392

-or-

Essentia St. Mary's Occupational Medicine Clinic
3500 Tower Ave
Superior, WI
(715) 817-7100

A. The immediate supervisor shall contact the Safety Department and advise of the injured employee.

B. The Safety Manager or other member of the Safety Department will notify Essentia that an employee of Husky Superior is in route and give them a brief description of the employee's condition.

   a. If requested by the Employee's Supervisor, the medical facility will also be advised that a drug screen and breath alcohol test according to the Husky Superior Drug and Alcohol Program will be needed.

C. The Safety Manager, other member of the Safety Department or the Shift Foreman/Employee's Supervisor should accompany the injured employee to the medical facility to assure prompt and immediate medical attention is obtained. The medical facility will direct proper medical attention/treatment.

EVENINGS, WEEKENDS, HOLIDAYS

If an employee is injured Monday through Friday, after 5:00 PM, on a Saturday, Sunday, or holiday, the shift supervisor will follow these guidelines.

Minor Injuries

All injured employees who require more than in-house first aid, (i.e. lacerations requiring stitches, severe eye problems, severe strains/sprains or fractures) will be sent to the following medical facility:

Essentia St. Mary's Emergency Room
3500 Tower Ave
Superior, WI 54880
Phone: (715) 817-7100

Serious Injury

Some injuries may be such that immediate outside medical attention is required. If it has been determined that the injury is not life threatening but will require outside medical attention, the injured employee should be transported either by company vehicle or by ambulance. Unless directed by ambulance or other emergency responders, the employee should be transported to the Emergency Room at Essentia St. Mary's Superior or Duluth.

A. The immediate supervisor shall contact the Safety Department and advise of the injured employee.

B. The Supervisor or the Safety Manager will notify Essentia that an employee of Husky Superior is in route and give them a brief description of the employee's condition.

   a. If requested by the Employee's Supervisor, the medical facility will also be advised that a drug screen and breath alcohol test according to the Husky Superior Drug and Alcohol Program will be needed.

C. The Shift Foreman/Employee's Supervisor, Safety Manager/Safety Department Member or other Husky Superior Employee should accompany the injured employee to the medical facility to assure prompt and immediate medical attention is obtained. The medical facility will direct proper medical attention/treatment.

LIFE THREATENING EMERGENCIES

If the injury is life threatening, the injured employee will be transported to the hospital by ambulance. An injured employee under these conditions will not be transported by a Husky Superior or contractor employee. The supervisor in charge shall call or designate someone to call 911.

Examples of Life Threatening Situations

a. Employee is unconscious

b. Severe bleeding

c. Cyanosis (blue lips, fingernails)

d. Severe head injury

e. Severe chest pain, pain radiating down arms

f. Compound fractures (bones exposed)

g. Immediate excessive swelling

h. Hypothermia

i. Heatstroke

j. Stroke

Information for Operator at 911

a. Give a brief description of the problem. This will enable EMT's to prepare the equipment necessary for the immediate care of the injured employee.

b. Give direction to the appropriate gate nearest the accident; advise that there will be someone at the gate to escort the emergency vehicle to the site of the accident.

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After the 911 call, contact the following:

a. Call security and advise them of the pending arrival of the emergency vehicle.

b. Call the Essentia Medical facility that the employee was transported too and advise them that an employee of Husky Superior is in route and give them a brief description of the employee's condition and require a post accident drug/alcohol screen.

c. Notify either the Safety Manager, on-call personnel (weekends/holidays), or any available member of management.

INJURIES INVOLVING EXPOSURE TO HYDROFLUORIC ACID

For minor exposures, the employee may be transported to Essentia St. Mary's Emergency Room in Superior, the Essentia Duluth Clinic Occupational Medicine Clinic or the Essentia St. Mary's Hospital Emergency Room in Duluth.

For all but minor exposures, the employee should be transported by ambulance to:

St. Mary's Hospital Emergency Room in Duluth:
407 East 3rd Street
Duluth. MN
218-786-4000

Follow notification and other procedures as outlined above depending on the time of day that the exposure occurs.

INJURIES INVOLVING THERMAL OR CHEMICAL BURNS

For injuries involving all but minor thermal or chemical burns, employees should be transported by ambulance to:

Essentia Miller-Dwan Burn Center
502 E. Second St., First Floor
Duluth, MN
(218) 786-2815

Follow notification and other procedures as outlined above depending on the time of day that the exposure occurs.

SUPERVISOR'S INCIDENT/INJURY REPORT

The immediate supervisor shall complete the Supervisor's Incident/Injury Report form as soon as possible after the occurrence, but no later than the end of the shift on which it occurred.

NOTE: Husky Superior is required to notify OSHA within 8-hours of any incident that results in a fatality or the hospitalization of three or more employees. This notification will result in an OSHA investigation of the incident.

ACCESS TO RECORDS

The following records shall be made available, upon request, to any employee and to their representatives for examination and copying at a reasonable time and manner:

a. OSHA 300 log;

b. Work Comp First Report of Injury;

c. OSHA 300A Annual Summary of occupational injuries and illnesses;

d. Pulmonary function and audiometric testing.

e. Industrial hygiene sampling records.

Medical records are kept in a confidential file, separate from the personnel file in the general administrative office. These files include the pre-placement physical record and worker's compensation information. Audio and pulmonary medical records are maintained in a separate file in the Safety Department. Employees may inspect their medical records by contacting the Supervisor of Administrative Services.

WORKER'S COMPENSATION

An employee involved in a personal injury has the responsibility to perform the following steps:

1. Receive medical attention if needed.
2. Report injury to supervision immediately!
3. Complete all appropriate forms with supervision.

   NOTE: These forms must be completed as soon as possible after the occurrence, but no later than at the end of the shift on which it occurred.

4. Participate in all investigations as necessary.

If an employee has an injury or illness that has not been reported as an accident but the employee believes it is work related, the employee must inform the company of the circumstance of the injury or illness and how it relates to the work place.

When the employee gives notice of an injury, the employee may see a physician of his/her choice. However, Husky Superior reserves the right to send the employee to another doctor for a second opinion at its discretion. In emergencies, Husky Superior may choose the practitioner without offering a choice, but after the emergency, the employee still has the option of seeing his/her own physician. The employee also may change practitioners once, with notice to Husky Superior.

The employee must provide Husky Superior with a doctor's report that provides evidence that the illness/injury is related to the employee workplace.

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Clinic/Hospital Information

Minor Injuries - Daytime Hours, Monday through Friday (either):

Essentia SMDC Occupational Medicine Clinic
Duluth Clinic 3rd Street Building
400 E. Third St.
Duluth, MN
(218) 786-3392

Essentia St. Mary's Occupational Medicine Clinic
3500 Tower Ave
Superior, WI
(715) 817-7100

Minor Injuries - Evenings, Weekends or Holidays:

Essentia St. Mary's ER - Superior
3500 Tower Ave
Superior, WI 54880
(715) 817-7100

Serious Injuries

Unless directed by ambulance or other emergency responders, the employee should be transported to either:

Essentia St. Mary's ER - Superior
3500 Tower Ave
Superior, WI 54880
(715) 817-7100

Essential St. Mary's Hospital ER - Duluth:
407 East 3rd Street
Duluth. MN
218-786-4000

HF Minor Exposures (any of the following):

Essentia St. Mary's ER - Superior
3500 Tower Ave
Superior, WI 54880
(715) 817-7100

Essentia Occup. Medicine Clinic
Duluth Clinic - 3rd Street Building
400 E. Third St.
Duluth, MN
(218) 786-3392

Essential St. Mary's ER - Duluth:
407 East 3rd Street
Duluth. MN
218-786-4000

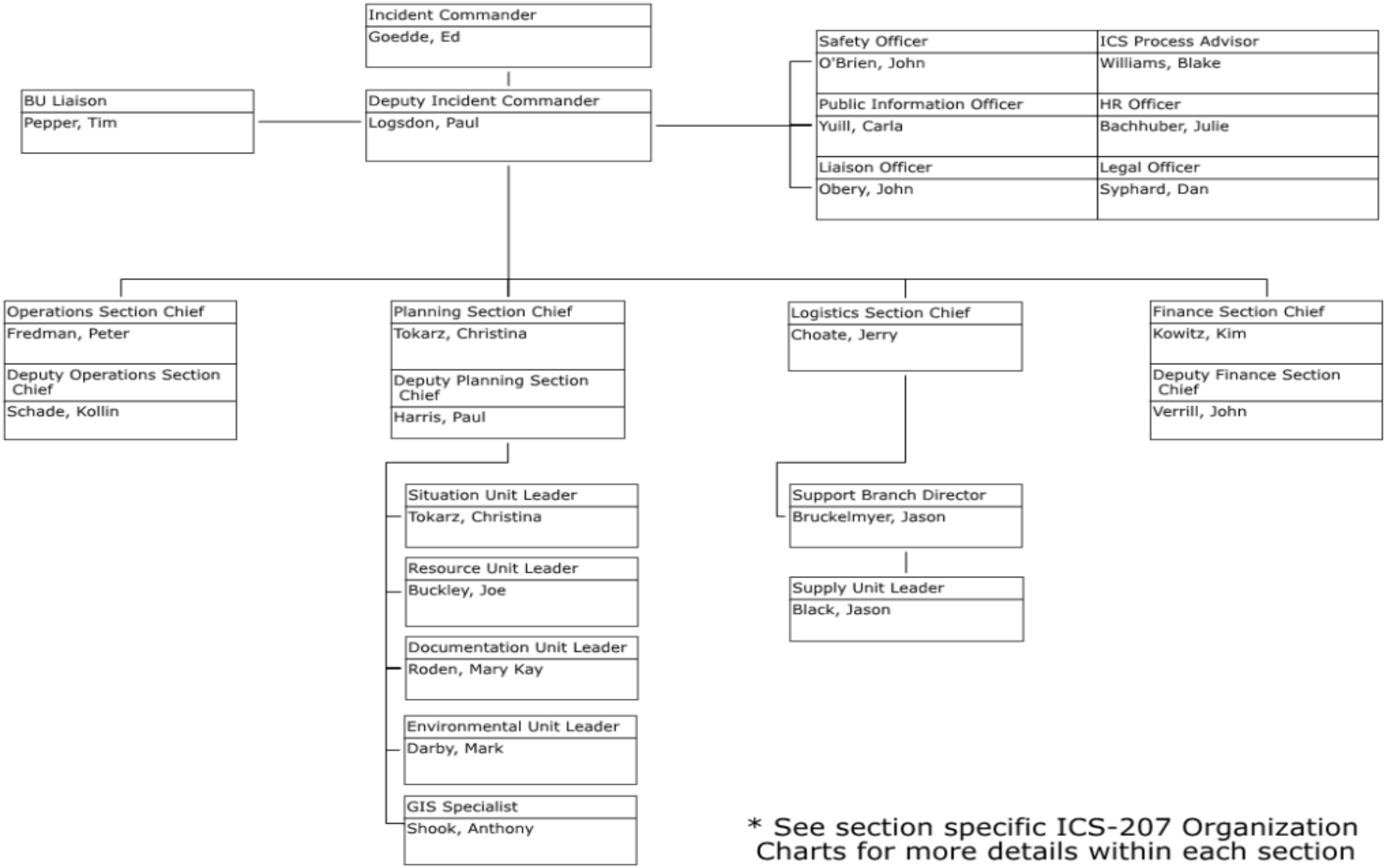
HF Serious Exposures:

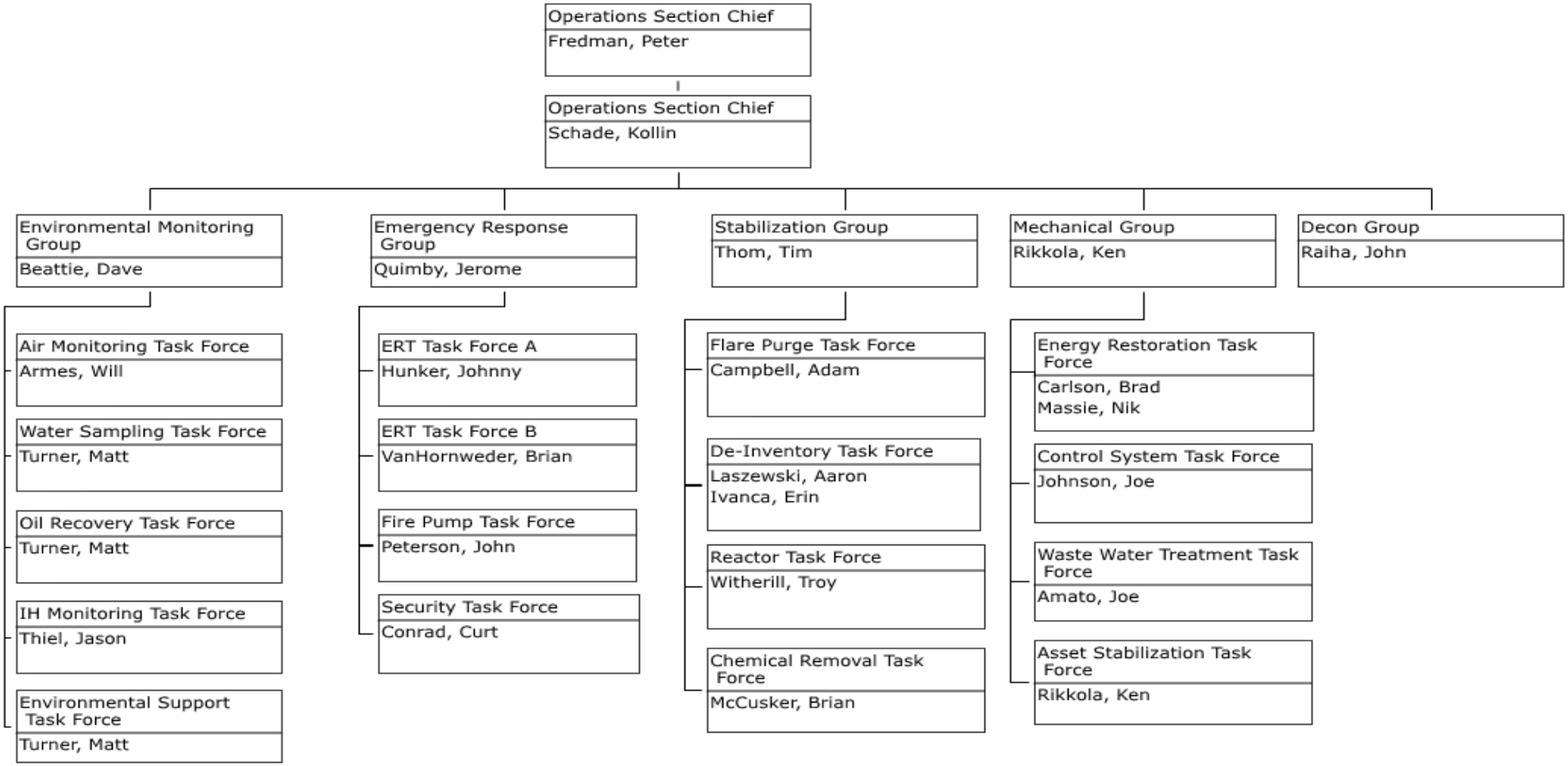
Essential St. Mary's Hospital ER - Duluth:
407 East 3rd Street
Duluth. MN
218-786-4000

Serious Thermal or Chemical Burns

Essentia Miller-Dwan Burn Center
502 E. Second Street, First Floor
Duluth, MN
(218) 786-2815

FOR PRINTED COPY: To ensure the most current information, do NOT use this document without checking that it is the same revision as on the Superior Information Server (SIS Webpage.)


Incident Commander
Goedde, Ed
BU Liaison
Pepper, Tim
Deputy Incident Commander
Logsdon, Paul
Safety Officer
O'Brien, John
ICS Process Advisor
Williams, Blake
Public Information Officer
Yuill, Carla
HR Officer
Bachhuber, Julie
Liaison Officer
Obery, John
Legal Officer
Syphard, Dan
Operations Section Chief
Fredman, Peter
Deputy Operations Section Chief
Schade, Kollin
Planning Section Chief
Tokarz, Christina
Deputy Planning Section Chief
Harris, Paul
Logistics Section Chief
Choate, Jerry
Finance Section Chief
Kowitz, Kim
Deputy Finance Section Chief
Verrill, John
Situation Unit Leader
Tokarz, Christina
Resource Unit Leader
Buckley, Joe
Documentation Unit Leader
Roden, Mary Kay
Environmental Unit Leader
Darby, Mark
GIS Specialist
Shook, Anthony
Support Branch Director
Bruckelmyer, Jason
Supply Unit Leader
Black, Jason
* See section specific ICS-207 Organization Charts for more details within each section


Operations Section Chief
Fredman, Peter
Operations Section Chief
Schade, Kollin
Environmental Monitoring Group
Beattie, Dave
Air Monitoring Task Force
Armes, Will
Water Sampling Task Force
Turner, Matt
Oil Recovery Task Force
Turner, Matt
IH Monitoring Task Force
Thiel, Jason
Environmental Support Task Force
Turner, Matt
Emergency Response Group
Quimby, Jerome
ERT Task Force A
Hunker, Johnny
ERT Task Force B
VanHornweder, Brian
Fire Pump Task Force
Peterson, John
Security Task Force
Conrad, Curt
Stabilization Group
Thom, Tim
Flare Purge Task Force
Campbell, Adam
De-Inventory Task Force
Laszewski, Aaron
Ivanca, Erin
Reactor Task Force
Witherill, Troy
Chemical Removal Task Force
McCusker, Brian
Mechanical Group
Rikkola, Ken
Energy Restoration Task Force
Carlson, Brad
Massie, Nik
Control System Task Force
Johnson, Joe
Waste Water Treatment Task Force
Amato, Joe
Asset Stabilization Task Force
Rikkola, Ken
Decon Group
Raiha, John

ICS 208 - Site Safety Plan	Version Name: Refinery Site
Incident Name: 2018 Superior Refinery Fire	Period: Period 4 [05/03/2018 06:00 - 05/05/2018 06:00]
Applies to Site: Superior Refinery	

Site Characterization

Water	**Land**	**Weather**	Sunny
Wave Height	**Land Use**	**Air Temp**	14.8 Fahrenheit
Speed		**Wind Speed**	13
Direction		**Direction**	WNW

Site Hazards

Yes	No	Hazards	Yes	No	Hazards	Yes	No	Hazards
☐	x	Boat Safety	x	☐	Fire, Explosion, In-situ Burning	x	☐	Pump Hose
x	☐	Chemical Hazards	x	☐	Heat Stress	x	☐	Slips, Trips, and Falls
☐	x	Cold Stress	☐	☐	Helicopter Operations	x	☐	Steam and Hot Water
☐	☐	Confined Spaces	x	☐	Lifting	☐	x	Trenching/Excavation
x	☐	Drum Handling	x	☐	Motor Vehicles	☐	x	UV Radiation
x	☐	Equipment Operations	x	☐	Noise	☐	x	Visibility
x	☐	Electrical Operations	x	☐	Overhead/Buried Utilities	x	☐	Weather
x	☐	Fatigue	☐	x	Plants/Wildlife	x	☐	Work Near Water

Air Monitoring Limits

Oxygen Level	19.5 to 22.5%	Benzene	1 PPM	Hydroflouric Acid	3 PPM
LEL	5%	Total Hydrocarbons		Sulfur Dioxide	2 PPM
Hydrogen Sulfide	10 PPM	Carbon Moxide	35 PPM		

Engineering Controls

☐	Source of release secured	☐	Valve(s) closed	☐	Energy sources locked/tagged out
☐	Site secured	x	Facility shut down		

Personal Protective Equipment Required

☐	Impervious suit	x	Hard hats	x	Boots
☐	Inner gloves	x	Respirators	x	Bunker Gear
x	Outer gloves	x	Eye protection	x	ERT SCBA
x	Flame resistant clothing	x	Personal flotation		

Additional Control Measures Established

x	Decontamination	x	Illumination	☐	Additional stations established
☐	Sanitation	☐	Medical surveillance	☐	Facilities provided

Work Plan

x	Booming	☐	Excavation	☐	Hot work
☐	Skimming	x	Heavy equipment	x	Appropriate permits used
x	Vac trucks	x	Sorbent pads		
x	Pumping	x	Patching		

Training

☐	Verified site workers trained per local/federal regulatory requirements	**Training Requirements**	

Organization

Position	*Name*	*Telephone/Radio*	*Position*	*Name*	*Telephone/Radio*
Incident Commander	Goedde, Ed	235-453-7419	Safety Officer	O'Brien, John	218-390-4367
Deputy Incident Commander	Logsdon, Paul	419-235-7189	Operations Section Chief	Fredman, Peter	320-288-6161

Emergency Plan

x	Fire Prevention Plan	x	Evacuation Plan		
x	Alarm System	x	First Aid Location		

Notifications

	Facility		*Phone*		*Facility*		*Phone*
x	**Hospital**	Essential St. Mary's Hospital	218-786-4000	x	**Fire**	Superior Fire Department	911
x	**Ambulance**	Gold Cross	911	x	**Law Enforcement**	Superior Police Department	911
	Air Ambulance			x	**Emergency Response/Rescue**	ERT	Radio

Initial Briefing

x	Initial safety briefing prepared for each site

Attachments/Appendices

Attachment	***Filename***
SDSs are available on the Refinery Intranet..rtf	SDSs are available on the Refinery Intranet..rtf

Community Air Monitoring Plan - 2018 Superior Refinery Fire

Husky Energy Inc.

Husky Superior Refinery, Superior, Wisconsin

GHD | 11719 Hinson Road Suite 100 Little Rock, Arkansas 72212

11156937 | Report No 3 | May 1, 2018

Operations Section Chief _____ 5/1/18

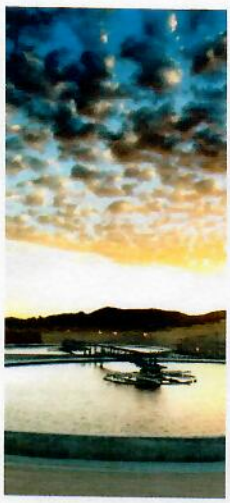
Signature **Date**

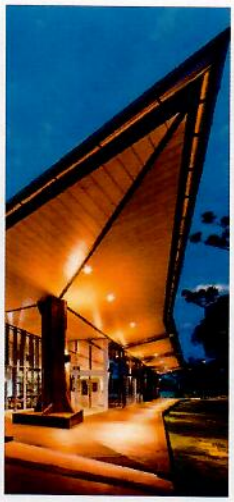
Planning Section Chief _____ 1 MAY 18

Signature **Date**

Incident commander _____ 1 May 18

Signature **Date**





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3. Real-Time Air Monitoring 2
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Appendix A Approximate AreaRAE Monitoring Locations

1. Introduction and Objectives

At the request of Husky Energy Inc. (Husky), GHD Services Inc. (GHD) is providing air monitoring and public health support related to an incident involving an asphalt fire. The incident occurred at the Husky Superior Refinery located in Superior, Wisconsin. These services are provided to assist Husky with ensuring the health and safety of members of the surrounding community and the environment from compounds of interest (COIs) that may be emitted during the incident, and during subsequent response and remediation efforts.

The purpose of this community air monitoring plan is to address air monitoring/sampling during the response and remedial phases of the project. This plan is based upon the overall Site Air Monitoring Plan developed and implemented on Thursday, April 26, 2018, which includes both work-area and community air monitoring strategies. This plan represents the work which has taken place since implementation of the community air monitoring strategies contained in that plan, with additional updates designed to reflect current Site conditions. This plan was prepared to allow agencies with oversight specific to community monitoring only (and not work area monitoring) to approve the entirety of the plan's contents.

The specific objectives of this plan include the following:

- Perform real-time air monitoring for COIs at the perimeter of the incident site, surrounding area, and evacuation zone to characterize potential exposures to members of the community.
- Comply with the air monitoring requirements of the applicable standards and guidelines.
- Establish and implement procedures to ensure appropriate responses to elevated levels of COIs. This may include arranging for a timely evacuation of the area surrounding the site in the event of hazardous concentrations of airborne asphalt vapors or other COIs.
- Communicate the hazards associated with exposures to members of the neighboring community and other potential receptors.
- Respond to citizen concerns regarding re-occupancy of their residences or businesses.

GHD will continue air monitoring services until the project is deemed complete by Unified Command and community exposures to gases/vapors/combustion by-products associated with the incident are eliminated. The air monitoring data will be collected and compiled in accordance with established public health guidelines and practices. In addition, the results will be communicated to Husky and others as required and/or as necessary to ensure the safety and health of potentially affected individuals.

2. Community Exposure Guidelines

Many of the standards or guidelines listed in Table 1 are intended to protect the general public and sensitive community members from lifetime exposures to each COI. Emergency exposures are generally much shorter and therefore different community standards are warranted for action levels

at community locations. Table 1 summarizes the proposed Community Real-time Monitoring Action Levels for this response.

Table 1 Community Real-Time Monitoring Action Levels

COI	Averaging Period	Concentration	Limiting Effect/Basis
Hydrogen Sulfide	1-hour average	0.51 ppm	USEPA AEGL-1
Total VOCs	1-hour average	1 ppm	Based on half of Stoddard Solvent Action Level (100 ppm) divided by 42
Benzene	1-hour average	0.053 ppm	Texas Effects Screening Level – 1 hour averaging period
Hydrogen Fluoride	1-hour average	1 ppm	USEPA AEGL-1
Ammonia	1-hour average	30 ppm	USEPA AEGL-1
Particulate matter – TSP, PM10 or PM2.5	1 hour average	100 $\mu g/m^3$	Adopted from the USEPA Guide for Wildfire Smoke.[1]

Comments:

- Monitoring throughout the community will be conducted for COI and recorded as a 1-minute average. If the one-minute average is above the action level of a COI, monitoring will continue for the averaging period listed for that action level.
- If the action level of a COI is exceeded over the averaging period, exposed community members will be notified as described in the Addendum to the overall Site Air Monitoring Plan and reproduced below.
- Mitigation measures will also be implemented as required, to reduce off-site concentrations. Evacuation or shelter-in-place decisions will be discussed with the appropriate authorities through the channels described.

3. Real-Time Air Monitoring

Community real-time air monitoring will be conducted using real-time air monitoring techniques described below, for the duration of the cleanup and recovery phases of the project. The equipment used for conducting the monitoring is described in Table 2 below.

Table 2 Real-Time Monitoring Equipment

COI	Equipment Model	Detection Limit
Hydrogen Sulfide	MultiRAE Plus 5-gas Monitor	0.1 ppm
	AreaRAE 5-gas Monitor	0.1 ppm
Total VOCs	MultiRAE Plus 5-gas Monitor	0.1 ppm
	AreaRAE 5-gas Monitor	0.1 ppm
Benzene	UltraRAE Benzene Monitor	0.053 ppm

[1] Wildfire Smoke: A Guide for Public Health Officials. Revised May 2016. US Environmental Protection Agency;US Forest Service; US Centers for Disease Control and Prevention; California Air Resources Board.

Table 2 Real-Time Monitoring Equipment

COI	Equipment Model	Detection Limit
Hydrogen Fluoride	Dräger X-am 5100	0.1 ppm
Ammonia	MultiRAE Plus 5-gas Monitor	0.97 ppm
	AreaRAE 5-gas Monitor	0.97 ppm
Particulate matter – TSP, PM10 or PM2.5	DusTrak II and DusTrak DRX	1 $\mu g/m^3$

Instruments will be calibrated and operated in general accordance with the manufacturer's specifications or applicable test/method specifications.

The strategies employed at the site are reflected in the overall Site Air Monitoring Plan, and reproduced here. The community air monitoring plan has specifically been prepared to address the following Site activities:

1. A fixed perimeter monitoring system has been deployed to the area currently delineated as the hot zone. This monitoring is being conducted in accordance with the Site action levels described in Table 2 of the overall Site Air Monitoring Plan, to address work area health and safety. Although the levels indicated in that plan are not the purview of this Community Air Monitoring Plan, the monitoring being conducted in the hot zone will be used as a guide to inform the potential for elevated levels at the refinery perimeter and in the community. A map of AreaRAE locations, including hot zone AreaRAEs, is attached to this Community Air Monitoring Plan as Attachment A.
2. A fixed perimeter monitoring system has been deployed to the perimeter of the refinery, within, but at, the fenceline. This monitoring will be used to provide information regarding air quality in close proximity to potential sources of emissions of COI during the cleanup and recovery phases of the project.
3. Mobile community monitoring teams continue to conduct monitoring in the area outside the facility, with a focus on downwind monitoring, while the cleanup and recovery phases of the project are ongoing.

The communication of any exceedances of community action levels described in Table 1 of this plan, will be conducted as follows:

1. Monitoring teams observing any of the three monitoring systems described in this addendum will communicate exceedances to the GHD on-site shift manager
2. The GHD on-site shift manager will communicate exceedances to the Environmental Unit Lead.
3. The Environmental Unit Lead will communicate with Incident Command, at which point appropriate procedures will be implemented as per IC procedures.

Specifically, if airborne concentrations of the chemicals listed in Table 1 are detected above the community action levels, the following designated public health and environmental personnel will be contacted:

Douglas County Health and Human Services, contact one of the following:

Pat Schanen 218.390.5347

Kathy Ronchi 218.390.3762

Dave Longsdorf 218.340.2060

If no one above can be reached, contact one of the following Douglas County Emergency Management:

Keith Kessler 218.391.1896

Dave Sletten 715.817.1899

If evacuation is recommended, also contact:

WDNR Hotline 800.943.0003

USEPA – call NRC first, 800.424.8802, then USEPA David Morrison – 651.706.4116

In addition to the above notification, if a sustained off-site release occurs during the response, recovery, and cleanup operations, GHD will work with USEPA to determine locations to deploy resources as a team to ensure the best distribution of air monitoring resources.

Daily monitoring summaries and maps will be provided to the local health department for dissemination to the public through their website.

4. Integrated Air Sampling

The real-time air monitoring recommended for the site is sufficient to detect the levels of COI at or below the recommended community action levels. If additional information is needed to determine levels of COI with lower detection limits, or to obtain laboratory data to confirm real-time air monitoring results, or other needs for analytical sampling are identified by Unified Command, air samples will be collected and analyzed in accordance with established laboratory analytical methods. The analytical air sampling methods for the COIs are summarized in Table 3.

Table 3 Summary of Analytical Air Sampling Methods

Analytical Method	List of Analytes	Sample Media	Flow Rate (mL/min)	Typical Sample Volume
OSHA 1005	Total VOCs	3M 3520 OVM Passive Dosimeter	N/A	N/A
NIOSH 1500/1501	Benzene, Total Hydrocarbons	3M 3520 OVM Passive Dosimeter	N/A	N/A
NIOSH 0500	Total or Respirable Dust	2 and 3 Piece Pre-weighed PVC cassettes	2000	960 Liters
Modified EPA-TO-17	VOCs	Radiello™ 130	N/A	N/A
EPA-TO-15	VOCs	Tedlar Bag Grab Sample	N/A	1 Liter

Samples will be shipped to Galson Laboratories, an American Industrial Hygiene Association (AIHA) accredited laboratory, to Pace Analytical Laboratory in Minneapolis, MN (Tedlar bags), or to Eurofins / Air Toxics Laboratory in Folsom, CA. Media will be provided to the laboratory for field blank sample comparison.

5. Quality Assurance/Quality Control (QA/QC) and Reporting

Real-time data collected will be stored in an on-site electronic archive. Manually-collected real-time data and integrated sampling information will be reviewed to ensure accuracy and completeness. The manually-collected monitoring/sampling data will be entered into an electronic database (spreadsheet or equivalent), and will undergo a quality assurance and quality control (QA/QC) review. Data entry forms and field notes will be kept on-site and retained for reference upon completion of the project. If necessary, full laboratory analysis data packages will be provided, and associated data validation processes will be arranged.

During the project, interim reporting of results may be required. This may include data summaries, maps, or other presentations of preliminary monitoring and sampling results. For example, a data summary will be provided to Husky every 24 hours, once data have undergone an initial QA/QC. Such reporting will be considered preliminary, as a final QA/QC of the data will not be complete. At the completion of the project, a report will be prepared in which data collected through real-time monitoring and integrated sampling analyses will be compiled, summarized, and reported to Husky. Data contained in the final report will have been through the QA/QC process, will be reviewed by a Certified Industrial Hygienist (CIH), and will be considered final.

This plan was prepared by GHD based on information available and provided to GHD on April 29, 2018. As additional information becomes available, the plan may be revised as necessary and appropriate to meet the objectives as previously stated.

Sources: 2015 TIGER/Line Shapefiles, prepared by the U.S. Census Bureau, 2015; U.S. Geological Survey, National Geospatial Technical Operations Center - National Elevation Dataset, 2015; Imagery © Google.

0 250 500 750
Feet

Coordinate System:
NAD 1983 HARN StatePlane
Wisconsin North FIPS 4801 Feet

N

Legend

- Perimeter AreaRAE Locations
- Source Zone AreaRAE Locations
- Hot Zone Perimeter

GHD

HUSKY ENERGY – SUPERIOR REFINERY FIRE
SUPERIOR, WISCONSIN

11156937-00
Apr 30, 2018

AIR MONITORING PLAN

FIGURE 1

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