WELCOME

THE MEETING WILL START PROMPTLY AT 08:30
Welcome, Introduction & Agenda

Marc Horn
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Presenter(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:30-08:50</td>
<td>Welcome / Introductions / Safety Orientation / Video</td>
<td>Marc Horn</td>
</tr>
<tr>
<td>08:50-09:35</td>
<td>USPL 18-19 HSE Stats / Incidents &amp; Lessons Learned</td>
<td>John Varner/Matt Sullivan</td>
</tr>
<tr>
<td>09:35-09:50</td>
<td><strong>BREAK</strong></td>
<td></td>
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<tr>
<td>09:50-10:10</td>
<td>Contractor Management</td>
<td>Anar Khalilov</td>
</tr>
<tr>
<td>10:10-10:30</td>
<td>PSCM</td>
<td>John Diendorf</td>
</tr>
<tr>
<td>10:30-10:50</td>
<td>Control of Work Simplification</td>
<td>John Varner</td>
</tr>
<tr>
<td>10:50-11:20</td>
<td>Project Safety</td>
<td>Mary Anderson</td>
</tr>
<tr>
<td>11:20-12:30</td>
<td><strong>LUNCH</strong></td>
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<tr>
<td>12:30-13:20</td>
<td>Group Exercise</td>
<td>ALL</td>
</tr>
<tr>
<td>13:40-13:55</td>
<td><strong>BREAK</strong></td>
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<tr>
<td>13:55-14:15</td>
<td>ISNetworld</td>
<td>ISNetworld Representatives</td>
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<tr>
<td>14:15-14:30</td>
<td>Contractors Presentation – Snelson</td>
<td>Snelson</td>
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<tr>
<td>14:30-14:45</td>
<td>Contractors Presentation – Hanging H</td>
<td>Hanging H</td>
</tr>
<tr>
<td>14:45-15:00</td>
<td>Wrap Up / Q&amp;A / Evaluation Forms</td>
<td></td>
</tr>
</tbody>
</table>
Video – Michels “Promise Me”
Bellingham Incident Overview

- Shell (Equilon) was Operator
- 237,000 gallons of gasoline released into Whatcom Creek
- 3 young people killed and a number injured
- Significant environmental damage
- National media attention and public outrage
- Supply impacts: Northern section shut down “indefinitely”
Bellingham Incident - “Swiss Cheese”

NTSB Probable Causes

- Third Party Damage to Pipe ~5 years prior to incident and Olympics' inadequate inspection of construction activity

- Inadequate evaluation of internal inspection results/information

- Failure to test all safety devices prior to commissioning of Bayview Products Terminal

- Failure to investigate and correct conditions leading to unintended valve closures of Bayviews inlet valve

- SCADA database development work being performed on-line during normal operations (pipeline operated for 21 minutes post rupture – combination of SCADA error and human factor)
Bellingham Incident

*Wake Up Call for the Industry and Regulators*

*Significantly changed Integrity Management expectations*

*Significantly changed Government oversight of the industry*  
(e.g. added IM pipeline assessments requirements, Control Room Management)

*Formation of Pipeline Safety Trust (Advocacy Group)*
## PNW HSSE Performance

**Release numbers are based on DOT criteria > 5 gal.**

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preventable Vehicle Accidents (work / non-work)*</td>
<td>2</td>
<td>0</td>
<td>5*</td>
<td>2*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2 / 3</td>
<td>2 / 0</td>
</tr>
<tr>
<td>OSHA Recordable Injuries</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>DAFW Cases</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>DOT Releases**</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Total Volume (# pipeline releases)
*Does not include non pipeline spills e.g. mobile equipment hydraulic spills

Barrels

- 11.4 gal (6)
- 70.1 gal (1)
- 1.40 gal (7)
- 0.25 gal (1)

2016 2017 2018 2019
USPL Safety Stats and Lessons Learned

John Varner / Matt Sullivan
USPL HSSE Q1 Stats

- What incidents occurred to-date in 2019?

<table>
<thead>
<tr>
<th>Metric</th>
<th>USPL Performance</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>RI *</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>RIF *</td>
<td>0.00</td>
<td>0.19</td>
</tr>
<tr>
<td>G+ LOPC *</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>API Tier 1/2 PSE *</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Spills ≥ 5 Gal</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Spills ≥ 1 Bbl</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>VAp</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>SVA</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>TVA</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>TVAR</td>
<td>2.60</td>
<td></td>
</tr>
</tbody>
</table>

- Patoka Station Leak in Manifold Area (G+ and Spill > 1 Bbl)
- Signs of product on tank 7170’s EFR Manhattan
- Crude oil stain at block valve 1029 Freeman
- Vehicle struck bollard while leaving parking
- Vehicle drove off the road to avoid being hit from behind
- Worker’s personal car rear-ended by 3rd party on interstate
## 2018 - 11 events

<table>
<thead>
<tr>
<th>Year</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>Jan - Contact of two cables causing spark</td>
</tr>
<tr>
<td></td>
<td>Feb - Traffic sign holder almost hit</td>
</tr>
<tr>
<td></td>
<td>Apr - Impact gun connection failure</td>
</tr>
<tr>
<td></td>
<td>Jun - Trip</td>
</tr>
<tr>
<td></td>
<td>Aug - Fall walking</td>
</tr>
<tr>
<td></td>
<td>Aug - Off balance fall</td>
</tr>
<tr>
<td></td>
<td>Sept - 120V LOTO</td>
</tr>
<tr>
<td></td>
<td>Oct - Dog bite</td>
</tr>
<tr>
<td></td>
<td>Oct - Back strain while moving hose</td>
</tr>
<tr>
<td></td>
<td>Oct - Vapor flash when welding</td>
</tr>
<tr>
<td></td>
<td>Nov - Crane</td>
</tr>
</tbody>
</table>

### Human Perf Element

- **Time pressure**
- **HF-Plant**
- **HF-Plant/Process**
- **Culture-Overconfidence**
- **None readily apparent**

## 2018 - 12 month RIF Rate

- **Near miss w/ G+ precursors**
- **First Aid w/ G+ precursors**
- **Recordable Injuries**
- **Near miss w/ E+ precursors**
- **Rolling 12 month RIF Rate**
- **Rolling 12 month RIF & G+ precursor rate**
Incident review and major learnings:
High potential (HiPo) incident – Mokena Station

Incident:
Electrical trainee finished cleaning 480V disconnect, then proceeded to next cabinet which was not LOTOed.

Learnings:
• All electrical workers must have NFPA 70E training.
• Reduce likelihood of human factor errors by clearly identifying equipment within LOTO scope and adjacent energized electrical equipment outside LOTO scope.
Incident review and major learnings:
Bradley Road tank 2311 inlet line release

**Incident:**
Residual product in underground piping was pushed out when dry ice gassed off faster than the venting capacity of the vent hose.

**Learnings:**
We need to search local files as well as DRM for facility drawings to plan our work.

Dry ice will expand to 845 times its solid volume when it warms and turns to gas. It’s imperative to verify where that gas will go to prevent unwanted consequences.
Incident review and major learnings: Track hoe contacts overhead electrical line

**Incident:**
Track hoe arm contacted an overhead powerline.

**Learnings:**
Work planning failed to address the powerline in relation to the stopple location because of a change of scope after the project was initially started.

The on-site risk assessment did not mandate help for the track hoe operator while he was trying to address positioning of the track hoe, and obstructions in front, behind and overhead simultaneously.
Incident:
Mini excavator with an auger struck an underground electric cable.

Learnings:
Discrepancy in construction drawing and field locates was not verified before excavating. Drift from procedures covering specific instructions when discrepancies are found leaving decisions to site personnel.
Incident review and major learnings: Wooden Scaffold Plan Failure

**Incident:**
Two workers fell 7’ when the laminated wooden scaffold plank failed under load.

**Learnings:**
A robust equipment inspection program should be in place.
Protection from weather during storage must be considered.
A plan is necessary for communication of load restrictions to users.
Contractor Management

Anar Khalilov
Grading Specifics

<table>
<thead>
<tr>
<th>Grades</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>97-100</td>
</tr>
<tr>
<td>B</td>
<td>85-96.99</td>
</tr>
<tr>
<td>C</td>
<td>75-84.99</td>
</tr>
<tr>
<td>D</td>
<td>0 - 74.99</td>
</tr>
</tbody>
</table>

**Showstoppers**

NCMS Drug and Alcohol Status, Acknowledgement Forms (BP Code of Conduct, BP USPL HSSE Policies, Competent Employees Requirement, Fit for Service)
What affects grading system of contractors:

- We look at the company’s KPI’s in:
  - Recordable Injuries (anything above First Aid Case)
  - Fatalities
  - EMR (Experience Modification Rate) - It is a number used by insurance companies to gauge both past cost of injuries and future chances of risk.
  - Their HSE Management System (Policies and procedures they have, training records, safety culture, etc.)

If some contractors are not in ISNetworld, but are required to work for BP Pipelines, then the Person Responsible for Contracted work (PRCW) has to
- Raise CARF (Contractor Approval Request Form) and get it approved by DOM or EPIC LT so they may use them in electronic Purchase-To-Pay tool.
- Verify contractors meets CSR (Contractor Selection Requirements)
- Verify contractors have OQ employees where necessary

<table>
<thead>
<tr>
<th>Grade Component</th>
<th>Status</th>
<th>Points</th>
<th>Gaps</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSE Program Written</td>
<td>RAVS score is 100</td>
<td>25 / 25</td>
<td></td>
</tr>
<tr>
<td>Safety Culture Questionnaire</td>
<td>Exceptional</td>
<td>25 / 25</td>
<td></td>
</tr>
<tr>
<td>TRIR</td>
<td>Satisfactory</td>
<td>12 / 16</td>
<td></td>
</tr>
<tr>
<td>Fatalities</td>
<td>Exceptional</td>
<td>16 / 16</td>
<td></td>
</tr>
<tr>
<td>DART</td>
<td>Exceptional</td>
<td>8 / 8</td>
<td></td>
</tr>
<tr>
<td>Current Year Experience Modifier</td>
<td>Rate is 0.71</td>
<td>10 / 10</td>
<td></td>
</tr>
<tr>
<td>NCMS Drug &amp; Alcohol Status</td>
<td>NCMS DOT D&amp;A Required and Satisfactory or Not Required</td>
<td>0 / 0</td>
<td></td>
</tr>
<tr>
<td>Insurance</td>
<td>Current Documents are Accepted</td>
<td>0 / 0</td>
<td></td>
</tr>
<tr>
<td>2019 BP Code of Conduct</td>
<td>2019 BP Code of Conduct is Acknowledged</td>
<td>0 / 0</td>
<td></td>
</tr>
<tr>
<td>2019 BP USPL HSSE Policies</td>
<td>2019 BP USPL HSSE Policies is Acknowledged</td>
<td>0 / 0</td>
<td></td>
</tr>
<tr>
<td>2019 Competent Employees Requirement</td>
<td>2019 Competent Employees Requirement is Acknowledged</td>
<td>0 / 0</td>
<td></td>
</tr>
<tr>
<td>2019 Fit for Service</td>
<td>2019 Equipment Fit for Service is Acknowledged</td>
<td>0 / 0</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>96 / 100</td>
<td></td>
</tr>
</tbody>
</table>
Contractors Grading System

- Currently there are 233 primary contractors connected to BP Pipelines in ISNetworld.

- To better understand which contractors have better overall health & safety management system and health & safety records, we utilize ISNetworld’s Overall Company Grading system.

- If contractors fall into “A” or “B” grade categories, BP Pipelines may use them freely.

- If contractors fall into “C” or “D” grade, they are automatically fall into “Do Not Use” category and unless strong justifications are provided, BP Pipelines may not use them.

- CMON (Contractor Management Operations Network) committee decides on case by case basis, whether justifications to utilize “C” or “D” grade contractors are strong enough. If decision is to grant approval, then “Variance” is usually given for 1 year, during which the performance of the contractor is monitored to understand if it is improving.

- CMON Committee consists of: USPL HSSE Manager, Procurement Manager, Operations TL, DOM, Projects TL, EPIC HSSE Project Coordinator, Contractor Management Spec.
### Upcoming changes

#### Total Recordable Injury Rate (TRIR)

<table>
<thead>
<tr>
<th>TRIR</th>
<th>After</th>
<th>Before</th>
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</thead>
<tbody>
<tr>
<td>&lt;0.24</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>&gt;0.24 – 1.5</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>1.51-2.0</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>&gt;2.01</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Sub-contractors will be connecting to ISNetworld.
Contractor Toolkit

• Where do I find the toolkit?
• How often does the toolkit get published?
• What kind of information is in toolkit?

Contractor Toolkit 1Q 19
Communications

ISN Bulletin Board

- Contractor Toolkit
- USPL HSSE Policies

Contractor Website

- Announcements
- Near Misses
- Golden Rules
- USPL HSSE Policies
- Contractor Toolkits
- Contractor Onboarding Tool
- SSHEP and Safety Improvement Forms
- Videos
- Links

BP believes that business relationships are founded on trust and mutual advantage.

- Choose suppliers based on merit.
- Work only with those who comply with Legal requirements and BP’s commitment to ethics.
- Do not give one supplier’s confidential business information to another.
- Avoid conflicts of interest.
- Only give or accept gifts/entertainment for businesses purposes.
- Annually, the Head of USPL signs an affirmation to London that everyone at the site is in compliance.

We strive to create mutual advantage by understanding the needs of our customers, contractors, suppliers, and joint ventures – and by conducting ourselves honestly, responsibly, and fairly.
BP’s Expectations Of Its Suppliers

- Objective of the Expectations:
  - Minimum standards of behavior
  - In alignment with BP policies and procedures
  - Aligned with BP Code of Conduct
  - Meet BP’s obligation to engage more effectively with our suppliers per requirement in the EPA Admin Agreement
  - Will not replace or substitute for the code, nor override or constitute contracted obligations

The Expectations will be shared with suppliers
2019 PSCM Priorities

- Improve contractor safety
  - Key activity include expansion of Supplier Performance Management (CAM program)
  - Focus will be on the 10 CAM suppliers for CAM and Self Verification

- Improve process safety through rigorous quality management
  - Key activities include establishing consistent non conformance management program and preferred supplier list
  - Key lever is the Supplier Quality Audit Program

- Ensure the silent running of the Procurement operational activity
  - Maintain/Improve P2P metric performance throughout 2019
  - Informing suppliers of 60 day payment terms
USPL has initiated a pilot program with select suppliers for the Contractor Accountable Manager (CAM) Program.

**What is the CAM Program:**
- The CAM program aims to provide quality assurance and support for the USPL HSSE OMS.
- Evaluates contractor performance at defined intervals to provide feedback, lessons learned and a basis for improving performance and future contractor selection.
- The program should be mutually beneficial.
- The feedback provided through the CAM program will focus on the contractors activities and how they can improve their performance in the areas of:
  - HSSE
  - Compliance
  - Reliability
  - Cost Effectiveness

**Program requirements based on:**
- OMS Framework - Sub-element 2.5 *Working with Contractors*
Introduction

• USPL is rolling out a Non Conformance Management program as of June 1st, 2019

• Non Conformance Management is the process of capturing all types of suppliers’ and contractors’ non conformances and delivering systemic corrective actions based on identifying the root cause and having a closed loop feedback process.

• A robust Non Conformance management process enables:
  ✓ Improvements in process safety and reducing operational risk
  ✓ Enhancing the reliability and reducing the cost of poor quality (COPSQ)
  ✓ Improving overall supplier & contractor quality performance supported with data
Control of Work Simplification
Human Factors in Investigations

John Varner
Control of Work simplification

• Benchmarking key actions
  – Move BP CoW process closer to industry with risk assessments, work permits and approval happening closer to the frontline
  – Simplify the planning and scheduling requirements to allow fit for purpose planning
  – Reduce complexity of the permitting process/practice

• Four work packages that authorize work identified by lists
  – Verbal authorization
  – Standard maintenance procedures
  – Permit to Work + checklist / additional forms
  – Permit to Work + L2 HITRA and/or checklist / additional forms
Task Risk Category Table

- Tasks that Require L2 HITRA
- Require a Checklist to Support Permit Risk Assessment
- Can be performed as Standard Maintenance Procedure (SMP)
- Can be performed with no written permit.
Human Factors in investigations

• Carefully define the behavior contributing to the incident.

• Select an Error Type or Intentional Behavior.
  1. Sensory
  2. Memory
  3. Decision
  4. Action, or
  5. Intentional
Human Factors in investigations

• For Errors, select an Error Mechanism

<table>
<thead>
<tr>
<th>Error Mechanisms</th>
<th>Behavior type</th>
<th>Sensory</th>
<th>Memory</th>
<th>Decision</th>
<th>Action</th>
<th>Intentional</th>
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<tr>
<td></td>
<td></td>
<td>Expectation</td>
<td>Confusion</td>
<td>Failure to integrate</td>
<td>Confusion</td>
<td>*Use the ABC analysis</td>
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<tr>
<td></td>
<td></td>
<td>Confusion</td>
<td>Overload</td>
<td>Not considering side effects</td>
<td>Distraction / Preoccupation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Signal strength</td>
<td>Distraction / Preoccupation</td>
<td>Mind set</td>
<td>Human variability</td>
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<tr>
<td></td>
<td></td>
<td>Tunnel vision</td>
<td>Insufficient learning</td>
<td>Knowledge problem</td>
<td>Intrusive thoughts / habits</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Overload</td>
<td>Mental block</td>
<td>Decision freeze</td>
<td>Other action error</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Distraction / Preoccupation</td>
<td></td>
<td></td>
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</tbody>
</table>
Human Factors in investigations

- Select the appropriate Performance Shaping Factors.

1. Task factors
2. Communication
3. Procedures and Documentation
4. Ambient Environment
5. Training & Experience
6. Human-Machine Interaction
7. Personal Factors
8. Social and Team Factors

- Make SMART recommendations.
Human Factors in investigations

For Intentional Behaviors:

1. Carefully define the problematic behavior you wish to analyze.
2. Identify the antecedents that need to be improved or introduced.
3. Identify the expected consequences and whether they were positive or negative, immediate or future, and certain or uncertain.
4. Carefully define the desired behavior.
5. Clearly list changed or new antecedents that would make the desired behavior more likely.
6. Identify positive consequences which will help to reinforce the desired behavior.
7. List your SMART recommendations.
BP’s Operating Management System

- Applies whenever BP carries out, or uses a contractor to carry out, operating activities.
- It brings together BP requirements on health, safety, security, environment, social responsibilities and operational reliability including related activities such as maintenance, working with contractors, and organizational learning.

OMS helps to deliver safe, reliable and compliant operations
BP’s Operating Management System

**OMS Elements**
- Leadership
- Organization
- Risk
- Procedures
- Assets
- Optimization
- Privilege to Operate
- Results

**Major Projects**
- Project Common Process
  - HSSE Management Plan
  - PHSSE
  - HSSE Legal & Regulatory Requirements
  - HSSE Commitments & Compliance Register
  - Environmental & Social Requirements
  - HSSE Studies
  - Permit Register
  - Contractor HSSE Plan
  - Control of Work

**EMSP**
- Engineered Modification Small Project Process
  - HSSE Management Plan
  - Project HSSE Checklist Review
HSSE Project Review

Provides assurance that HSSE-sensitive issues have been identified and the appropriate project, HSSE, engineering, and operational systems have been or will be developed to prevent, mitigate, or control the identified risks prior to beginning work.

- Hazard & Risk Assessments
- Safety & Construction
- Industrial Hygiene
- Environmental Compliance (Air, Water, Waste, Natural & Cultural Resources)
- Public Lands
- Offshore - Coast Guard Compliance
- Security
- DOT Compliance
- Communications
- Contractor & Subcontractor Management
## HSSE Management Plan

### Engineered Modifications, Small Projects
- Control of Work
- Environmental Permits & Requirements Matrix
- Waste & Recycling Management Plan
- Security Risk Plan
- HSSE Performance Scorecard
- Incident Reporting & Investigation
- Contractor HSSE Plan (USPL SSHEP)

### Major Projects
- Construction Execution Plan, Control of Work
- Environmental Permits & Requirements Matrix
- Environmental & Social Aspects and Impacts Register
- HSSE Commitments & Compliance Register
- HSSE Studies Report
- Waste & Recycling Management Plan
- Security Risk Plan
- HSSE Performance Scorecard
- Incident Reporting & Investigation
- Contractor HSSE Plan (USPL SSHEP)
8. HEALTH, SAFETY, SECURITY AND ENVIRONMENTAL (HSSE)

BP USPL is committed to achieving an injury and incident-free workplace. BP’s goals are simply stated: no accidents, no harm to people, and no damage to the environment. In support of these goals, **BP USPL has made all applicable HSSE policies available to contractors on ISNetworld under the “Bulletin Board” tab and on its contractor webpage** at [https://www.bp.com/en_us/united-states/home/products-and-services/pipelines/contractor-information.html](https://www.bp.com/en_us/united-states/home/products-and-services/pipelines/contractor-information.html)
Contractors shall review and follow all policies applicable to the work they will perform for BP USPL. In preparation for field work, Contractors shall also disseminate BP USPL HSSE Policies to its employees, personnel and any subcontractors it utilizes and document such distribution for BP USPL’s review upon request.

The requirements of the HSSE policies set the minimum requirements for contractor safety. In addition to following BP USPL’s safety policies, the contractor shall follow their own safety policies and comply with all applicable OSHA requirements during the execution of the work.
All contractors shall submit a Site-Specific Safety, Health and Environmental Plan (SSHEP) along with their bids. The SSHEP form is also available in ISNetworld and on the contractor webpage. The SSHEP must include a description of the main job steps, major equipment needed to complete each step, BP USPL Control of Work (CoW) permits needed to perform the work activities as well as any worker certifications required. All certifications shall be current. In many cases third party certifications are required but, for some items, in-house training programs may be used to qualify as certifications. Contact the BP Project Manager or Project HSSE Coordinator with any questions.
The Site Safety, Health and Environmental Plan (SSHEP) is a planning tool used to assess whether contractors are aligned with the Project Work Plan and prepared to conduct work in compliance with BP USPL HSSE Policies and Procedures.

In accordance with the Contractor Management Policy, Primary Contractors shall verify their subcontracted companies meet BP USPL contractor selection requirements:

- **Three-year average Total Recordable Incident Rate (TRIR), as evident by OSHA 300/300A records for the last 3 years.**

- **Current year Workers’ Compensation Experience Modification Rate (EMR), supported by a letter from the company’s workers’ compensation carrier.**

- **Statement attesting no fatalities within the past three years.**
# Site Safety, Health & Environmental Plan

**Company Name:** Sargent Electric  
**Project Name:** Laura Electrical Station Upgrade Project  
**Location:** 18224 IL 73, Laura, IL 61461  
**Work Start Date:** 1/14/2019

## Incident Notification
Contractor employees must immediately notify the BP USPL Site Contact and Contractor Work Site Supervisor of any injury or illness sustained while performing work in the BP environment. They must follow their employer’s medical treatment policies and plans in the event of an injury or illness. Contractor companies shall provide their own case management for their employees’ medical situation and return-to-work status.

**BP USPL Site Contact:** Todd Hansen  
**Contractor Work Site Supervisor:** JEP Miller  
**Contractor Injury Case Manager:** Anna Tristan  
**Workman’s Compensation/Claims Contact:** Chas Destefano

## Detailed Job Plan

<table>
<thead>
<tr>
<th>Job Plan</th>
<th>Major Equipment Needed for Task</th>
<th>Subcontracted Task</th>
<th>USPL Work Permit(s)</th>
<th>Certificate, License Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Kick off job with BP USPL Representative</td>
<td></td>
<td>Sargent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Conduct Pre-Job safety walk to identify, any additional hazards</td>
<td></td>
<td>Sargent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Assure Good Housekeeping</td>
<td></td>
<td>HW, CW-HE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Mobilize</td>
<td></td>
<td>Sargent, Seiler &amp; Cherry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. PCR and DRA Foundations - Hydro-excavate, Helical Pile, Place Stone, Erect Forms, place rebar, Pour Concrete, Strip Forms, Backfill and Compaction</td>
<td></td>
<td>HW, CW-HE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Structural Steel Erection, PRC Installation, DRA Steel, Platform Hoist JIB Crane</td>
<td></td>
<td>HW, CL, CW-HE, CW-WH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Uninstall 2.4KV Switchgear, MCC, and conduits and cables</td>
<td></td>
<td>Sargent, Seiler &amp; Cherry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Install RM&amp;G Breakers, Conduits, and cables</td>
<td></td>
<td>Sargent</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Detailed Job Plan examples:**
1. Kick off job with BP USPL Representative  
2. Review OTOs, equipment and verify Zero Energy state with BP USPL Operations. Crew to apply individual locks & tags  
3. Remove existing framing and supports  
4. Dry and existing framing and supports  
5. Repair existing framing and supports  
6. Build new back stopper position framing  
7. Repair new powers and primary systems  
8. Reinstall framing and supports to get back into service

---

*Select the permits that apply to the work described in the Detailed Job Plan. Permitting requirements will be validated prior to starting work. USPL HSSE Policies can be reviewed on ISNetworld > Messages > Bulletin Board.*

**Certificate, License Required:**
- COL, AGT, Permit Operator
- DOT, AGT, Excavation Competent
- Crane Operator, Rigging, Signal Person, AGT, Manlift Operator
- GDL, AGT, Manlift Operator

---

**Notes:**
- **ATW** = Authorization to Work (Level 1 MITRA)  
- **CW-8** = Cold Work - Electrical Work  
- **CW-9** = Cold Work - Operating  
- **CW-10** = Cold Work - Operating  
- **ES** = Encasement  
- **FX** = Extradition  
- **HV** = Hot Work (PSI) and/or (SS)  
- **MX** = Cold Work - Encasing Containment  
- **N** = Cold Work - Work on Hull  
- **SV** = Cold Work - Work on Suppliers  
- **SV** = Cold Work - Work on Suppliers  

**List certificates or licenses required to perform task, eg. Crane Operator, Rigging, Permit Operator, DOM DQs, etc.**
In addition to EMR and TRIR, the Primary Contractor shall disclose in the SSHEP the following details about the subcontractors they select.

- The method they used to verify subcontractor’s craft and safety training.
- Estimated ratio of Primary Contractor to Subcontractors on the work site.
- Level of Supervision (e.g. none, part time, or full time) that the Primary Contractor proposes to provide to subcontractors and trades craftsmen.
Subcontractor and Supplemental Craftsman Utilization/Information

All subcontractors shall meet the minimum contractor selection requirements set by USPL, current year EMR ≤ 1.0, three-year average TRR ≤ 3.0; no fatalities in past three years. Documentation as evidence including OSHA logs for the last 3 years and a letter from the workers’ compensation carrier or ISN/SERIS Statistical Summary report must be provided to the BP Person Responsible for Contracted Work (PRCW) and HSSE for formal review prior to work being awarded. Evidence of training, certification and licensing for subcontractors and any craftsman not directly employed by your company. Evidence of training, certification and licensing for subcontractors and any craftsman not directly employed by your company that is performing work on your behalf must also be provided to the BP USPL Representative prior to the commencement of work they perform.

<table>
<thead>
<tr>
<th>Contractor Name or Labor Union</th>
<th>Trade/Area of Expertise</th>
<th>Method Contractor will use to identify and verify crafts/safety training</th>
<th>Contractor to Subcontractor/Craftsman Ratio (e.g., 3:1)</th>
<th>Level of Supervision required</th>
<th>Will the subcontractor prepare their own SSHEP?</th>
<th>Current EMR</th>
<th>TRR 2017</th>
<th>TRR 2016</th>
<th>TRR 2015</th>
<th>Check box if no fatalities in past 3 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selker &amp; Cherry Co</td>
<td>Civil Structural</td>
<td>Sergeant</td>
<td>3:1</td>
<td>Part-Time</td>
<td>YES NO</td>
<td>0.64</td>
<td>0.0</td>
<td>0.25</td>
<td>1.1</td>
<td>X</td>
</tr>
<tr>
<td>Thatcher</td>
<td>Civil Structural</td>
<td>Sergeant</td>
<td>3:1</td>
<td>Part-Time</td>
<td>YES NO</td>
<td>0.77</td>
<td>1.45</td>
<td>1.55</td>
<td>1.29</td>
<td>X</td>
</tr>
<tr>
<td>Badger Daylight</td>
<td>Hydro Excavation</td>
<td>Sergeant</td>
<td>3:1</td>
<td>Part-Time</td>
<td>YES NO</td>
<td>1.0</td>
<td>1.11</td>
<td>0.95</td>
<td>0.79</td>
<td>X</td>
</tr>
</tbody>
</table>

Hazard Communication

- Plans for communicating the hazards of the chemicals you bring on site, including pre-job or pre-task review of chemicals used, and required precautions and PPE for specific chemicals.
- Safety Data Sheets (SDS) that detail flammability, toxicity, exposure limits, environmental, etc. of each product listed below shall be made available to employees and BP USPL for review prior to starting work. All job-specific SDS must be present on site for chemicals used at the job site.
- Upon request, BP USPL shall provide copies of SDS to Contractor for review of any process chemical hazards which may be present in the work area.
- If inhalation (breathing) exposures are likely from gases (e.g. Hydrogen Sulfide), vapors (e.g. benzene), welding fumes (e.g. hexavalent Chromium), or particulate (e.g. lead), data from jobs with similar exposures must be provided along with the respiratory protection to be used. If data is not available, exposure monitoring must be performed (at no expense to BP) during the job with employees using SCBA or supplied air until data is available for respirator selection.

<table>
<thead>
<tr>
<th>Chemical/Product Name</th>
<th>Special Handling - Add notes or comments for each</th>
<th>Estimated Quantity (eg. cft/psig)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
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<tr>
<td>3.</td>
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<tr>
<td>4.</td>
<td></td>
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<tr>
<td>5.</td>
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<td></td>
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<tr>
<td>6.</td>
<td></td>
<td></td>
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<tr>
<td>7.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Work shall not proceed until SSHEP is accepted as verified by signature below.

I have reviewed and accepted the Contractor SSHEP.

BP USPL HSSE (print): Mary Anderson  Signature: ___________________________ Date: 1/11/2019

BP USPL PRCW (print): Peter Rutherford  Signature: ___________________________ Date: 1/12/2019
The Contractor shall participate in:

- Pre-mobilization construction kick-off meeting.
- Hazard Identification and Task Risk Assessment (HITRA)
- Daily safety meetings as required throughout the duration of the job.
Contractors shall be aware of and ensure compliance with any permits and procedures for environmental management of the project, including, but not limited to, management of excavated soils, groundwater and storm water discharges, erosion and sediment control measures, waste management, air pollution and noise controls, and site restoration as applicable to the job.
Security & DOT

- All employees will be required to have a government-issued picture ID (e.g. driver’s license) to enter the premises and a Transportation Workers Identification Credentials (TWIC) card at MARSEC-designated facilities.

- All contractors performing DOT tasks on the project are required to assign operator qualified individuals to the identified tasks within ISNetworld.
III. Health, Safety, Security, and Environmental (HSSE), Quality Management Systems (QMS)

1. Is your company a participant in OSHA’s Voluntary Protection Programs?

The OSHA Voluntary Protection Programs (VPP) recognize employers and workers in the private industry and federal agencies who have implemented effective safety and health management systems and maintain injury and illness rates below national Bureau of Labor Statistics averages for their respective industries.

2. Describe your onsite safety presence.

3. Does your company have an HSSE audit process for your business location and for jobsites?
   a. Who leads the audit process?
   b. Describe the process and how information gathered is processed and used.
   c. Does your company track the safety record of crew leaders?
   d. How does your company determine the frequency that work sites will be audited?
   e. How does your company verify that client HSSE requirements are being met at all work locations?
RFP HSSE Questionnaire

Safety Programs, Training and Engagement

1. Does your company have a documented HSSE onboarding program for all employees within your organization?

2. Describe how your company educates and/or documents that employees are knowledgeable of client HSSE policies and procedures, as applicable, to the work being performed.

3. Does your company have periodic HSSE meetings for all employees?
   If yes:
   a. Describe the meetings and how remotely-located employees are included in them.
      i. What is the frequency?
      ii. Are Near Misses/Stop Work events discussed?
   b. What level of leadership participates in the meetings?

4. BP USPL requires contractors to include their company's safety programs in ISNetworld that are applicable for the work they will perform. In the event a work task requires a OSHA-required safety program that is not included in ISNetworld, will your company provide documentation of the program to USPL?

5. Does your company have a safety observation program? If so, please provide a short description.

6. Does your company have a safety incentive program? If so, please provide a short description.
Subcontractor and Union Trades Management
1. Describe your company’s onboarding program for subcontractors and tradesmen as it relates to their HSSE performance.

2. Does your program verify subcontractor’s safety training and licensing (when applicable)?

3. How does your company prepare its subcontractors and tradesmen to be able to comply with client HSSE requirements?

4. Describe your company’s requirements for managing subcontractors and tradesmen while they are on the jobsite.

5. What is your company’s expectation for subcontractors in regards to task hazard assessments?

6. Do your subcontractors:
   a. Participate in your company’s hazard analysis? If yes, please describe how this is accomplished.
   b. Conduct their own hazard analysis? If yes, please describe how the hazard analysis is developed and shared.
Incident Reporting and Investigation
1. Describe your company’s injury reporting and injury case management policy/procedure?
2. Do you have occupational case managers that are qualified licensed medical professionals?
   a. If no, describe the training that staff receives to handle an injury or illness report?
3. Does your company have a incident investigation program?
   a. If yes, how are findings, corrective measures, and lessons learned shared within your company and with clients?
Environmental Compliance (Mechanical/Civil Contractors)

1. Describe the measures your company will employ to ensure compliance with environmental permit conditions (e.g. US Army Corp of Engineers Section 10 Permit, Illinois DNR Floodway - Regional Permit #03, Illinois EPA Construction Stormwater General Permit).

2. Does your company provide employees training to make them aware of potential environmental permit requirements associated with pipeline maintenance or construction activities?

3. Does your company have persons trained in the application, installation and maintenance of sediment and erosion control measures?
   a. Do you have certified sediment and erosion control inspectors?

4. Does your company provide employees training to properly restore and stabilize construction areas in compliance with environmental permit conditions? If construction site restoration is subcontracted, please indicate the subcontractor that will perform that task.

5. Describe how your company proposes to dispose the drilling mud. Please name the hauler and provide disposal location information.
## Measuring HSSE Performance

### Whiting Products Electrical and Controls Upgrade Project

#### HSSE Scorecard

<table>
<thead>
<tr>
<th>Leading Indicator KPI</th>
<th>Performance Metric</th>
<th>Actual 11/28/16 – 5/4/18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily HSSE Checks</td>
<td>One per day*</td>
<td>208</td>
</tr>
<tr>
<td>Construction Safety Audits</td>
<td>One per week</td>
<td>51</td>
</tr>
<tr>
<td>All-Hands Safety Meetings</td>
<td>Two per day**</td>
<td>806</td>
</tr>
<tr>
<td>Safety Observations</td>
<td>One per week</td>
<td>373</td>
</tr>
<tr>
<td>Number of Safety Orientations</td>
<td>All jobsite workers</td>
<td>68</td>
</tr>
</tbody>
</table>

#### Lagging Indicator Reporting

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Reporting Method</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Near-Misses</td>
<td>Report All</td>
<td>7</td>
</tr>
<tr>
<td>First Aid Cases</td>
<td>Report All</td>
<td>2</td>
</tr>
<tr>
<td>OSHA Recordable Injuries</td>
<td>Report All</td>
<td>0</td>
</tr>
<tr>
<td>Spills</td>
<td>Report All</td>
<td>1</td>
</tr>
<tr>
<td>Vehicle Accidents</td>
<td>Report All</td>
<td>0</td>
</tr>
<tr>
<td>Process Safety Incidents</td>
<td>Report All</td>
<td>0</td>
</tr>
<tr>
<td>Security, Theft, Vandalism</td>
<td>Report All</td>
<td>1</td>
</tr>
<tr>
<td><strong>Contractor Hours Worked</strong></td>
<td>As reported in DCRs</td>
<td>43,896</td>
</tr>
</tbody>
</table>

*Daily HSSE Checks and Weekly Safety Audits began April 4, 2017.*  
**As of April 17, 2017, the number of All Hands Safety Meetings have increased from 2 to 3 times per day.*
Measuring HSSE Performance

Safety Observation Trends

Summary: 328 Positive safety observations
170 Hazards identified and corrected through safety observations and audits
498 Total reported safety observations
If you have any questions:

RC Strain: robert.strain@bp.com
Alex Crooks: Alexandria.crooks@bp.com
Mary Anderson: andersm3@bp.com
GROUP EXERCISE
Group Exercise - Contractors and BP employees to be divided into 4 groups

- Brainstorming the idea of **how to improve the Near Miss / Observations by Contractors**
  - Contractors make up 66% of total manhours (BP only 34%)
  - Contractors are our eyes and ears on the worksite
  - Focus is to have contractors report more so that we can proactively find the gaps in our system and prevent accidents from reoccurring.

  - HOW TO IMPROVE NEAR MISS AND OBSERVATIONS REPORTING BY CONTRACTORS (THROW YOUR IDEAS/ WHAT HELP DO YOU NEED FROM BP IN TERMS OF REPORTING?)

- Brainstorming the idea of **how to better convey BP messages back to all contractors workforce**. Any communication improvement needed? How will you convey today’s message back to your workforce? What needs to be done more/better?
Reporting Incidents and Observations

Robert Strain (RC)
Reporting Observations and Incidents

What to report?
• Anything
  • See something, Say something

Who to report to?
• AO, AOD or Site Supervisor
• Safety Coordinator or Environmental Coordinator

Why report?
• With more Observations and Incidents reported, we can identify regional trends and take proactive steps.
What is a ‘safe act’?

An observed behavior/act that an entity chooses to record which either conforms to or exceeds the expected safe way of working or contributes to the safety of others.

Examples:
• Stop Work implement after a fall hazard was identified (1227514)
• Coworker reminding another about their missing hard hat (1257741)
• Spreading de-icer at a job site (contributory to 1105103)
What is an ‘unsafe act’?

An observed behavior that differs from the expected safe way of working that did not, but could have, either resulted in an incident or made an incident more likely and/or severe.

i.e. you see somebody doing something that may result in an incident.

Examples:

• A worker is preparing to carry a air filter in their hand while using a ladder (1247851)
• Contractor boom truck operator showed up for work with arm in sling (1246152)
What is an ‘unsafe condition’?

Any performance or condition of equipment, procedure, process operations, or working environment that did not, but could have either resulted in an incident or made an incident more likely and/or severe.

i.e. you see *something* that may result in an incident.

Examples:

- Extension cord placed across a vehicle pathway without protection (1257771)
- Repeated driving over snow to and from a site created slipping hazard (contributory to 1105103)
What is an Incident

An unplanned event or chain of events that affects, or has the potential to affect, the health, safety and/ or security of:

• people, or
• assets, or
• the environment.

Incidents include:

• Incidents with consequence (accident).
• Incidents without consequence (near miss).

Examples:

• Air hose disconnected from impact air gun (600735)
• Workers slip on ice (1105103)
• Metal Storm drain struck by excavator (721025)
• Worker bitten by an escaped aggressive dog (902494)
Reporting Observations and Incidents

PWN

• 2018 Incident Reporting (24)
  • Near Misses – 9
  • Damages – 6
  • Releases – 5
  • Security - 3
  • Injury – 1

• 2019 Incident Reporting (11)
  • Near Misses – 5
  • Damages – 3
  • Releases – 3
Record a Observation - Safe Act

Number: 1257741
Title: A coworker was reminded that they needed their hard hat
Recorded by: Robert C. Strain
Submitted on: 09/May/2019

1. When did the Safe Act happen

   Observation date: 29/04/2019

   Observation time (24-hour clock): 09:30

2. Where did the Safe Act happen

   Location of the observation:

   Site/Asset: United States, Washington, Pipeline - Washington, Onshore, Pipeline
   Location: area - Olympic, Pipeline area - Valve station / Site Castle Rock
   More details: Station
3. Safe Act

A coworker was reminded that they needed their hard hat

What activity was in progress when the observation happened?

Audit

What was the mode of operation?

Normal
Please share the facts about your observation

When I was approaching a block valve work area inside the facility, I noticed an employee that had forgotten their hard hat while having project discussions closer to the work area. I reminded the coworker that they were missing their hard hat and they returned to the kick off location.

Please categorise your observation using the most appropriate option

Communicates and warns others
Head protection
Did you have a conversation?

Yes

Detail any commitments made as a result of the conversation. If a conversation didn’t take place, please explain why?

The coworker committed to getting and wearing their hard hat. The coworker was talking with other workforce members at the time of the intervention and the other parties recognized that they had missed the fact that the individual was not wearing a hard hat. A hard hat is not normally required at the location of the observation. A hard hat was required only due to proximity to the active work.
ISN
Contractor Overview

2019
ISN OVERVIEW

The Process

1. Contractor Entered Information
   - Company Level
   - Project/Site Level
   - Employee Level

2. Verified Information
   - ISN Review & Verification Services (RAVS)
     - Written Programs
     - Implementation Assessments (RAVS Plus)
     - Injury & Illness Records
     - Experience Modifier
     - Company Licenses
     - Citation
     - Training
     - Insurance
   - Hiring Client
     - Post Job Evaluation
     - Field Feedback
     - Working Relationship
     - Competency Assessments
     - Contracts/Agreements
   - 3rd Party (Data Providers)
     - On-Site Inspections
     - D&A & Background Checks
     - Training & Operator Qualifications
     - Financial Risk

3. Configurable Qualification Criteria
   - Status: Allowed on Site

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ISN OVERVIEW

USPL Grading & Requirements

Grading Details

- **A (97-100%)**: Approved for Use With Exceptional Safety Performance.
- **B (85-96.99%)**: Approved for Use.
- **C (75-84.99%)**: Complete Variance Process Before Continuing Work on USPL Site.
- **D (-500-74.99%)**: Work on USPL Site Not Permitted.

Showstoppers

- Acknowledgment Forms (4)
- NCMS Drug & Alcohol Status

Grade Components

- **25%**: Safety Culture Questionnaire
- **25%**: Written Program Review
- **16%**: Fatalities
- **16%**: Total Recordable Incident Rate
- **10%**: Experience Modifier
- **8%**: Days Away/Restricted Transfer Rate
- **16%**: Tracked Insurance

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Additional Tools
**What’s New?**

**SERVICE**
- Expansion of Chat Feature
- 15% More ISN Employees Supporting Contractor Customers
- Contractor Certified User Program
- Montreal Office Opening

**FUNCTIONALITY**
- SmartSearch
- Streamlined RAVS Plus process
- Improved Work Type List & Definitions
- Document Submission Enhancements
- Updated Contractor Member Logo

**UPCOMING EVENTS**
- **May 15th & 16th** – ISNetworld from a Hiring Client Perspective Webcast
- **May 22nd** – Minneapolis Users Group Meeting
- **June 13th** – New Orleans Users Group Meeting

Additional information on upcoming ISNetworld Webcasts & Events can be found on our website.

25 New Hiring Clients YTD
80 New Hiring Clients in 2018
**Insurance Agent/Broker Tool**

Allows insurance agents and brokers to submit insurance documents on behalf of contractors at no additional cost

- **5,400 Agencies**
- **20,000** contractors using the tool
- **22%** High compliance
- **No fees**

**Agent/Broker Locations**

United States • Canada • United Kingdom • Australia • Trinidad & Tobago • South Korea • Iraq • New Zealand • Norway • Aruba • Lebanon • Egypt

**Agents/Brokers Submit**

3.5*

**Contractors Submit**

0.5

DAYS PRIOR TO EXPIRATION
ADDITIONAL TOOLS

Smart Log

Step-by-step process for managing near miss and injury/illness records

• Aligns with OSHA 300 Log and 300A Summary
• Decision tree to assist with classifying events
• Signature ready forms
• Optional, permission based and not shared with Hiring Clients
Training Manager

Training Manager is a configurable database that assists contractors/suppliers in managing in-house trainings, specifying training requirements and generating training reports.

- View individual level status of all required training
- Shows completion percentages by course and employee
- Report can be generated by:
  - Work Classifications
  - Departments
  - Business Units
  - Sites
ISN Mobile Site & App

- Compatible with all smart phones
- Free to download ISNetworld App
- Features – View Only
  - Bulletin Board
  - Online Training Report
  - Company Information
  - Contacts
  - Company ID
  - Address
  - Messages
- My Clients
- View Hiring Client grades
- Employee ID
- OQ/TQ Reports and QuickCheck
ADDITIONAL TOOLS

Member Marketing

Available tools to help show that your company is a member of ISN

- Certificate of Membership – includes company name, ISN ID and years of membership
- Contractor Membership Logo – add to brochures, website, stationary or business cards to show you are a member of ISNetworld
ADDITIONAL TOOLS

ISN Featured Contractor

Written Testimonial
- Letter published on ISN and shared with Hiring Clients
- Marketing information includes:
  - Description of company
  - Use and value of ISNetworld
  - Experience with ISN staff

Success Story
- Highlights contractor’s successes
  - Improved Safety Programs and Statistics
  - Company growth
  - Time savings

Case Study
- Extensive publication featuring a contractor’s history & accomplishments
  - Company timeline
  - Success in ISNetworld
  - Increased efficiency with managing training data and record keeping
ISN Support
Contractor Support

Support Provided

- Skill-based routing of calls
- Chat functionality
- Guided Tour available 24/7
- Pre-recorded video tutorials

- 3,500+ outbound calls per week
- 3,300+ face to face meetings per year
- 32 second average hold time (phone)
- 115,000+ chats handled by the ISN Customer Service Team in 2018
- 35+ languages spoken

24 Hour Assistance

From 5pm Sunday to 6pm Friday Central time (support provided outside of these hours as needed)

Global Customer Service Centers

| Dallas | London | Sydney |

Contractor Assistance Options

Phone: (800) 976-1303
Email: customerservice@isn.com

Chat with ISN

Contact Center of the Year (Up to 100 Seats) – Technology Industries
The Incident

- A 440’ section of 24” pipe suddenly slid 18’ downhill while two welding crews were filling and capping welds near the top.
- The pipe remained on the skids and stopped when it ran into a spoil pile at the bottom of the hill. The incident did not result in any injuries or property damage.
Investigation Findings

- The pipe had been secured in place the night before using equipment and straps.
- The equipment used to secure the pipe was moved to allow the welding trucks access in the morning but was not put back in place.
- The pipe did not have any bends in it to fit the contours of the terrain per the client’s requirements because it was crossing a fault line.
- The slope did not meet our requirement of 15 degrees for a Steep Grade Plan (14 degrees at the top and 9 degrees at the bottom).
- Our Steep Grade Plan addresses personnel, equipment and installation, but does not include anchoring methods.
Lessons Learned

- Instruct Foremen to consider the potential for inadvertent pipe movement when assessing site hazards and conditions that can increase that risk.
- Foremen are to identify the method for securing pipe on their daily JSAs.
- To eliminate the potential for human choice to not re-secure anchors, the use of a dead man style anchor is considered the Best Practice.
- Added pipe anchoring requirement and methods to our Steep Grade Plan.
Near Miss

• **Description**
  – Track hoe was moving a 4”-47’ long pipe with a 10’ leg using 2 spotters, 2 tag lines, 2-12’ chokers spaced approximately 15’ apart. While traveling with the pipe it was approximately 6” off the ground.
  – When using the tag line to move the pipe, employees heard a pop. One end of the pipe hit the ground and one choker put pressure on the safety latch shearing the pin holding it together. The choker then came off dropping the load 6”.
  – There were no injuries and no damage.

• **Actions**
  – Implement the use of longer chokers to keep the choker placement on the met hooks in the right area and not on the safety latch.
  – Inspect equipment before and after each pipe placement.