



# CONTRACTOR BUSINESS MEETING

Mike Kehoe

Plant Engineering

January 31, 2025



# AGENDA

Fire Safety – **Kelly**

Protection of Underground Utilities – **Kelly**

VIS Relocation- **Kehoe**

ISN Overview – **Dixon and ISN**

Silica Requirements During Concrete and Asphalt Demolition - **Demakeas**

Rooftop Fall Protection - **Creekmore**

Excavation Safety – **Cabbell and Harvey**

# Safety Information Cascade – Ignition of Fire-Retardant Materials

- **Incident Description:**

On 7/25/2024, a contractor was performing burning operations on the top level of a fixture. The levels beneath were protected from the falling slag by covering with fire-retardant plywood and Refrasil periodically dampened with water. A fire watch was stationed at floor level. During this operation, a small flame ignited in the covering. Nearby NNS personnel spotted the flame and called for the Hot Work Operator to stop work. Before the contractor could attempt to put out the fire, the flame self-extinguished.

- **Gap:**

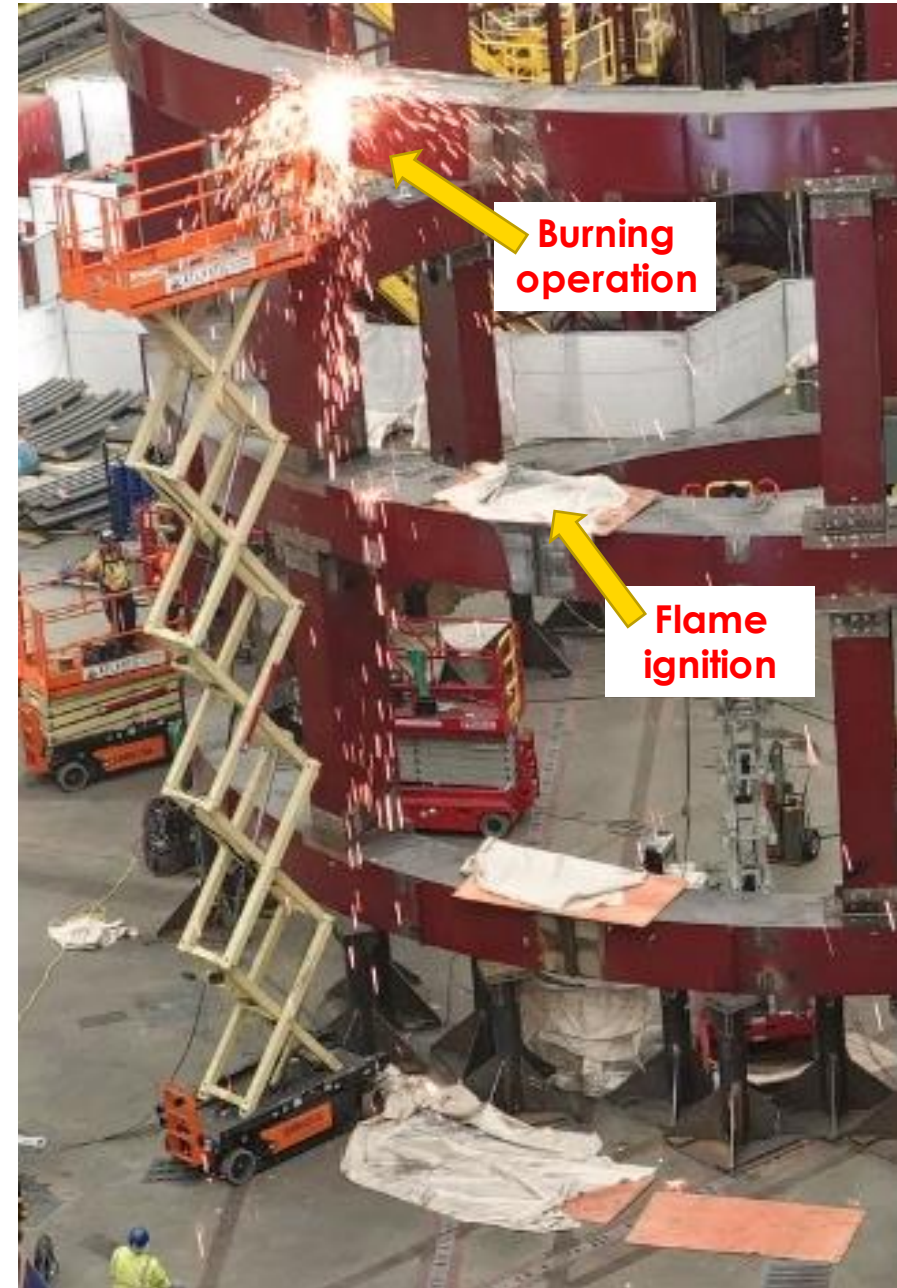
The fire-retardant plywood and Refrasil cover should have been oriented at an angle (tented) in lieu of lying flat so that the slag could have rolled off of the Refrasil onto the floor.

The contractor was not aware that NNS classifies **any** flame as a fire, even if it self-extinguishes quickly. NNS did not discuss this information with them. The contractor was aware of the potential for periodic flames to appear while performing burning operations, but they were not concerned with this risk due to utilization of fire-retardant plywood and dampened Refrasil and the presence of a fire watch.

- **Take Away**

Any Flame must be called in as a fire

Angle the refrasil to avoid slag collecting on the refrasil



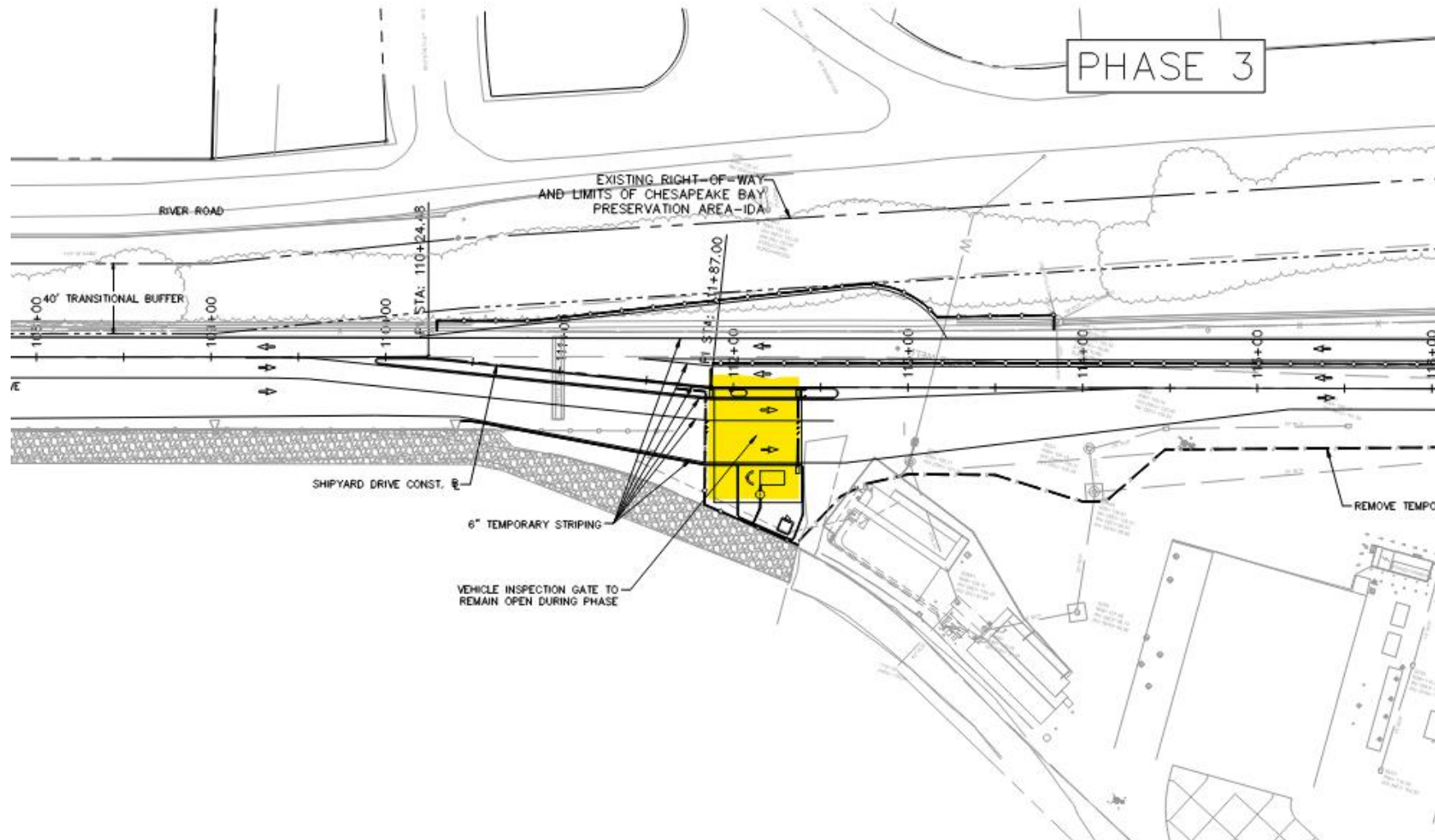
# Protection of Underground Utilities

- Strict adherence to OSHA 1926 Subpart P
  - The estimated location of utility installations, such as sewer, telephone, fuel, electric, water lines, or any other underground installations that reasonably may be expected to be encountered during excavation work, shall be determined prior to opening an excavation.
  - When excavation operations approach the estimated location of underground installations, the exact location of the installations shall be determined by safe and acceptable means.
  - While the excavation is open, underground installations shall be protected, supported or removed as necessary to safeguard employees.
  - Ensure utility markings remain legible throughout the excavation process and must be remarked in the event markings are removed.





# VIS Relocation - 2025



# Newport News Shipbuilding

## ISNetworld

January 31, 2025

[Location]

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# Agenda

1. ISN Overview
2. NNS Requirements
3. Contractor Benefits
4. Q&A



# ISN Support Team

## NNS Support Team



**Kayla Gunderman**  
Account Representative



**Sara Stone**  
Senior Associate



**Andie Sue Hernandez**  
Senior Associate



**Alison Ward**  
Sr. Group Supervisor

## Contractor Support Team

### How to Contact ISN

1. Phone
2. Live Chat
3. Web Form

(800) 976-1303 or [Contact Us](#)

### 24 Hour Assistance

From 3pm Sunday to 6pm Friday  
Central time with additional support  
provided as needed

### 3 Global Customer Service Centers

Dallas, London & Sydney

### Award Winning Customer Service



4.43/5 Rating

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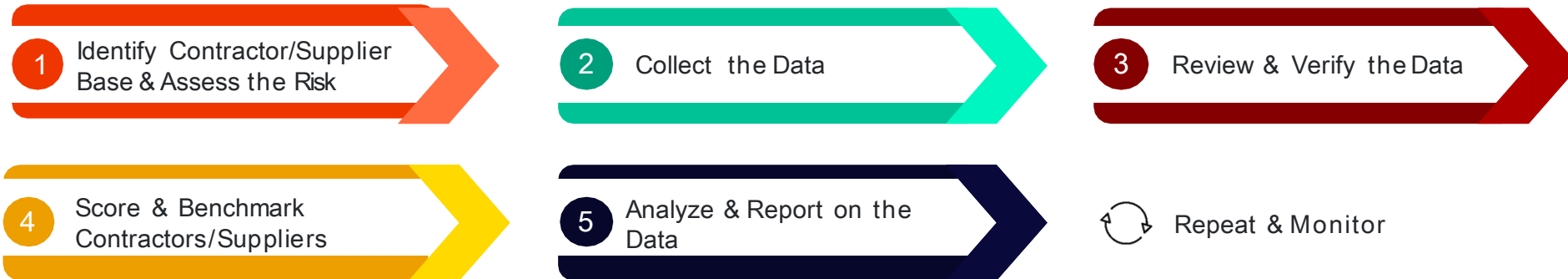



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# ISN's 5-Step Process

ISN provides a world-class platform of data-driven products and services that help manage risk and strengthen relationships with contractors.




			
Company ID: 400-128708		<b>A</b>	
Company Contact: Carl Allen		ACCEPTABLE TO USE	
Site: McKinney Enterprises			
Grade Component	Status	Points	Gaps
HSE & Sustainability Questionnaire	Satisfactory	10 / 10	✓
Written HSEQ Programs	RAVS score is 100	15 / 15	✓
ESG Verify™ Policies and Procedures	RAVS score is 90	8 / 10	1
Implementation Assessment	RAVS Plus score is 90	5 / 10	1
Serious Injury & Fatality Rate	Satisfactory	15 / 15	✓
Post Job Evaluation	Post Job Eval is between 90 and 100	10 / 10	✓
Insurance	Current Documents are Accepted	20 / 20	✓
Commercial Questionnaire	Satisfactory	3 / 5	1
Cybersecurity	Satisfactory	5 / 5	✓
<b>Total</b>		<b>91 / 100</b>	

Company Scorecard




Carl Allen

 Meets My Company's Completion Requirements


KNOX

CONSTRUCTION



Company ID: 400-128708

Company Grade			
STATUS	SITE	GRADE	MINIMUM PASSING GRADE
 Green	Active Contractors	A	C

Online Training (OT)

STATUS	TRAINING NAME	TRAINING STATUS
 Green	Site Orientation	Pass

Training Qualifications (TQ)

STATUS	ACTIVITY	ACTIVITY STATUS
 Green	Scaffolding - Crew	Qualified
 Green	Scaffolding - Supervisor	Qualified

Employee Scorecard

# Shipbuilding & Defense Industry Pres

**15+**

Hiring Clients

**500+**

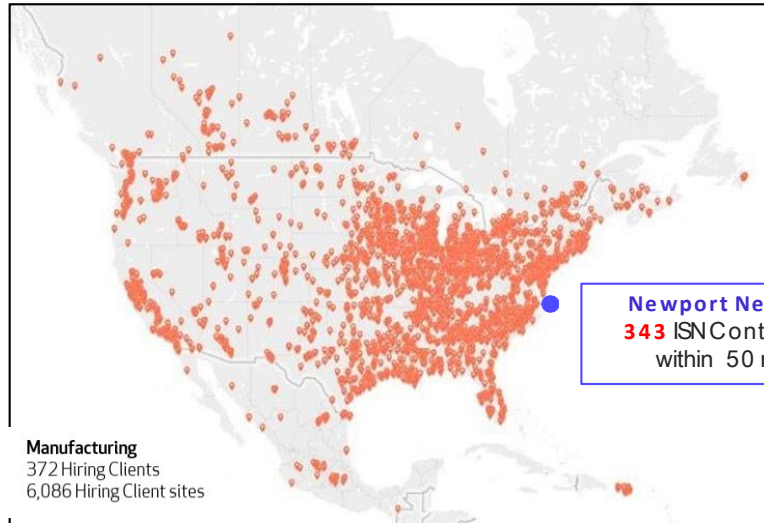
Client Sites  
Managed

**19,000+**

Contractors

**19**

Average Contractor  
Connections



“Anyone that walks through RTX’s doors is important to me. We set high expectations for our contractors, and ISN has been a godsend to us. It has allowed us to put everything in one place.”

- Kelly Hyatt, EHS Manager, RTX

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# NNS Requirements



# NNSISNetworldRequirement



**Initial Deadline to Subscribe:** January 31, 2025

## Expectations:

1. Subscribe to ISNetworld
2. Once Subscribed, begin submitting your information within the database

## What to Expect:

- ISN will continue outreach to those that have not yet subscribed to discuss the requirement and help with next steps.



Newport News Shipbuilding  
A Division of HII  
4101 Washington Avenue  
Newport News, VA 23607  
Telephone 757-380-2000  
Hii.com

November 26, 2024

**Action Required**

Dear Newport News Shipbuilding Contractor,

We are pleased to announce Newport News Shipbuilding (NNS) has recently established a business relationship with ISN ([www.isn.com](http://www.isn.com)) to further enhance our contractor management program. Effective immediately, ISNetworld will begin serving as NNS's primary contractor information management system. As a result of this action, contractors performing services for NNS are required to become subscribers to ISNetworld.

If your company is a current subscriber to ISNetworld, there is no additional fee; however, please ensure your company has completed the requirements specific to NNS. If your company is new to ISNetworld, there is an annual fee for this service. NNS believes the benefits to both parties will far exceed any associated costs. A comprehensive list of contractor benefits and a subscription quick start guide are included from ISN.

NNS requires your company to complete/submit the following information in ISNetworld:

- Company Profile
- Questionnaires
  - Health, Safety and Environmental (HSE)
  - Environmental, Social and Governance (ESG)
- HSE Programs – Desktop Review & Implementation Assessment
- Document Submittal\*: OSHA Forms and Experience Modifier

\*Your company's agent or broker can submit experience modifier documents on your behalf via ISN's Agent/Broker Tool

In order to be considered by NNS during the contractor selection process, your company's subscription must be in place and all required data must be posted **January 31, 2025**. For further details about ISNetworld, **please contact the ISN Customer Service Team at (800) 976-1303 or visit their website at [www.isn.com](http://www.isn.com).**

Your company's cooperation and participation in bringing this cost-effective technology solution to our business relationship is appreciated.

Sincerely,

Newport News Shipbuilding Procurement and EHS



# Contractor Scorecard Requirements

## Grading Details:


**Approved: 71 to 100 Points -**  
Approved for Use.


**Not Approved: -200 to 70.99 Points -**  
Not approved for use. Please contact site EHS to receive a grade variance.

Newport News Shipbuilding Contractor Grading	
Written Health & Safety Programs	25
TRIR (Total Recordable Incident Rate)	20
EHS Pre-Questionnaire	15
Experience Modifier Rate Statement	10
Citations	10
NNS Contractor HSE Manual	10
Fatalities*	-100/10
Total Point Value	100

*\*Showstopper Requirement – Contractor won't be able to achieve approved grade if outstanding.*

## Subscription Information

 November 26, 2025  
Implementation Date

 January 31, 2025  
Initial Subscription Deadline

 February 2025  
Conformance Outreach

 March 2025  
Enforce Consequences for Non-Conformance





# How to Begin Submitting Requirements

2

## Scorecard

**Approved**

Approved for Use.  
Grading Details

Grade Since 12/23/2024

[View Questionnaire Buckets](#)

Grade Component	Status	Points	Edit
<a href="#">RAVS Written Program Score</a>	RAVS score is <b>87.04</b>	20 / 25	
<a href="#">TRIR (Total Recordable Incident Rate)</a>	TRIR is less than or equal to BLS industry average TRIR	20 / 20	
<a href="#">EHS Pre-Qualification</a>	Satisfactory	15 / 15	
<a href="#">Fatalities</a>	No fatalities in the past 3 years	10 / 10	
<a href="#">Citations</a>	Satisfactory - No OSHA citations found	10 / 10	
<a href="#">Experience Modifier Documents</a>	Rate is <b>0.89</b>	10 / 10	
<a href="#">NNS Contractor HSE Manual</a>	NNS Contractor HSE Manual is <b>Not Submitted</b>	0 / 10	
Total		85 / 100	

## Requirements

Required Item	Requirement	View / Edit
<a href="#">General Questionnaire</a>	Required	
<a href="#">United States Questionnaire</a>	Required	
<a href="#">Experience Modifier Documents</a>	Required	
<a href="#">OSHA Forms</a>	Required	
<a href="#">Owner Specific Documents</a>	Required	
<a href="#">RAVS Plus Implementation Assessment</a>	Required	
<a href="#">RAVS Written Program</a>	Required	

1

## My Clients

Conformance Deadlines

All Grades

Newport News Shipbuilding

Newport News, VA

Approved

[View All Clients](#)



# Contract or Benefits



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# Contractor Advantage

## Streamlined Qualification Process



Collect, track and share company safety statistics with **Incident Management Tool**



Simplify insurance compliance with ISN's **Agent/Broker Tool**



Benchmark and analyze data with **ISN Analytics** and **Account 360**

## Drive Improvement



Help workers get qualified with our free mobile app, **Empower**



Complementary access to on-demand training through ISN's **Learning Management System (LMS)**



Safety culture surveying & reporting with **CultureSight for Contractors**

## Increased Visibility & Support



**No fee** to report information to additional hiring clients  
55% of contractors added an additional Hiring Client Connection in 2023



Network & stay informed with **ISN Events** hosted in-person and virtually  
In 2023, we hosted 80+ events with 10,500+ attendees



**24/5 Customer Support** via 3 global customer service centers

**25+ member-exclusive tools included with one annual subscription.**

*Smart Log • Site Tracker • Mobile App • RAVS Plus*

*Job Bid • Training Manager • ISN ID Cards*

*ESG Assure • Online Training • Permit To Work*

Empower lets my workers be more involved in the whole process... they can always access what they need, when they need it."

**Barry Hartless, Offshore Oil Services, Inc**

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# Learning Management System (LMS)

**ISN's LMS Platform** provides complimentary\* high-quality, computer-based training material to our Contractor customers to satisfy training needs and Hiring Client requirements

**10+** Training Providers

**150+** Training Topics Available

**137,500+** Total LMS Courses Consumed

**8,000+** Contractor Companies Consumed LMS

## Top Consumed Courses:

1. Marine Trash & Debris – (BSEE)
2. Fall Protection (US) – (NSC)
3. Bloodborne Pathogens (BBP) – (NSC)

### Training Library

Training Library

Welcome, Miranda

Reports Manage Trainings

Training Licenses And Analytics

View Dashboard

Number Assigned/Available	Trainings Expiring in The Next 30 Days	Assigned With No Action Taken	Unassigned and Coming up for Expiration
19/21	6	10	2
To Date	To Date	To Date	To Date

### Trending

#1 in Trending

26 minutes

Hazard Communication - National Safety Council

#2 in Trending

17 minutes

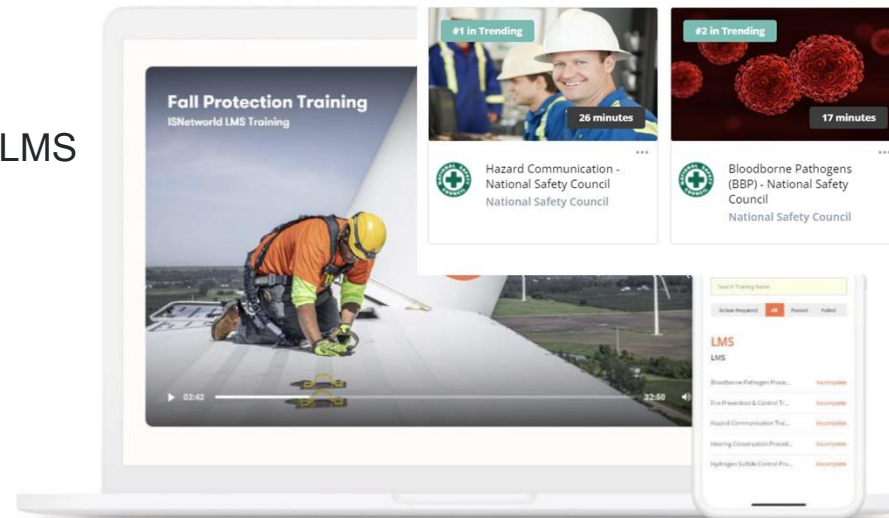
Bloodborne Pathogens (BBP) - National Safety Council

#3 in Trending

45 minutes

Fall Protection - National Safety Council

1 - 3 of 15 < >



**With use of Empower, your 2024 LMS allotment is unlimited! Use [Empower here](#) to unlock Unlimited LMS!**

\*Usage allotment is based on contractor subscription tier size, ranging from 20 - 200 complimentary trainings per company

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# My Company Training

**My Company Training** is a new training delivery tool available for contractors, at no additional fee!

ISN has partnered with EasyGenerator, an e-learning software, to allow contractors to develop company-specific training for workers; to exclusively to take in the Empower app.

## Benefits:

- Save time and resources creating trainings through EasyGenerator
- Ability to upload current SCORM files into the tool
- Workers to complete trainings on the go through Empower

From your Desk to their phones.





# Upcoming ISN Meetings

## Upcoming Virtual Meetings

### **ISNetworld Incident Reporting & Classification Best Practices (US) Webinar:**

- Session 2 – February 11 at 3pm-4pm ET
- Session 3 – February 19 at 11am – 12pm ET

Join us to receive additional information related to incident reporting within your company's ISNetworld account.

This session will be offered over three time slots (each will cover the same content).

## Steps to Register:

[www.ISNetworld.com](http://www.ISNetworld.com) >

**Events > Upcoming Events**

**or**

**Scan QR Code**





# Next Steps



# NextSteps

## **1.Chat:**

- Let us know if you have any questions using the Chat Feature

## **2. Start the Subscription Process Today:**

- Call ISN Customer Service at 1(800) 976-1303
- Go to <https://www.isnetworld.com/en/> and Click Sign-Up or Click “Chat With Us”

## **3. Start Uploading Company Information and Requirements**

*If you have any other questions related to NNS Safety, please follow-up with [Safety@hii-nns.com](mailto:Safety@hii-nns.com)*



# Subscription Process

1

The image shows a screenshot of the ISN website with a navigation bar at the top containing links for Solutions, Our Customers, Events, Newsroom, and About. A red box highlights the 'CUSTOMER SIGN UP' button in the navigation bar. An arrow points from this button to a modal window titled 'ISNetworld Member Sign Up'. The modal window contains a dropdown menu with 'Newport News Shipbuilding' selected, a 'GET STARTED' button, and links for more information.

ISN Solutions Our Customers Events Newsroom About English CUSTOMER SIGN UP LOGIN

OUR APPROACH OUR MISSION

We believe in a safe and sustainable workplace for everyone.

ISN® connects nearly 700 Hiring Clients and more than 75,000 active contractors and suppliers around the world.

LEARN MORE

ISNetworld Member Sign Up

Find your ISN Hiring Client and enter your company's basic information to begin your membership today.

Newport News Shipbuilding X

GET STARTED

Not sure of Hiring Client? [Click here](#)

For more information about ISNetworld and the services we offer, please [click here](#). [Click here](#) to see what ISN contractor customers say about their ISN experience.

2



# Customer Service Support



4.43/5 Rating



## 24 Hour Assistance

From 3pm Sunday to 6pm Friday Central time with additional support provided as needed



## 3 Global Customer Service Centers

Dallas, London & Sydney



## Award Winning Customer Service



First Call  
Resolution



Customer  
Satisfaction



Knowledge of the  
Representative

## How to Contact ISN

1. Phone
2. Live Chat
3. Web Form

- ✓ 30 second average speed to answer for calls/chats
- ✓ Skill-based routing of calls to subject matter experts  
Customer Experience feedback tracking
- ✓ 35+ Languages spoken
- ✓ ISNetworld Training  
Help Center

"[The ISN Customer Service Team] was very pleasant and polite and quickly and efficiently answered my questions. Frankly, **the other times I've called the service team the service I've received has been excellent!** Your team seems well trained and efficient. It would be nice if many other organizations took "service" as seriously as you do. Cheers & Thanks."





# What is Respirable Crystalline Silica (RCS)?

- Crystalline silica is a common mineral that is found in construction materials such as sand, stone, concrete, brick, mortar, and asphalt. Quartz is most common. Others include Cristobalite and Tridymite.
- When these materials are cut, drilled, or crushed very small particles are created. These tiny particles or “respirable” particles can travel deep into workers’ lungs and cause silicosis, an incurable and sometimes deadly lung disease.
- Respirable crystalline silica also causes lung cancer and other potentially debilitating respiratory diseases such as chronic obstructive pulmonary disease (COPD)
- In most cases, these diseases occur after years of exposure or “chronic exposure”.



# OSHA's Respirable Crystalline Silica Standards

- OSHA Standards include:
  - **29 CFR 1910.1053 (General Industry)**
  - **29 CFR 1915.1053 (Maritime)**
  - **29 CFR 1926.1153 (Construction)\*\***
- Requires employers to limit worker exposures to respirable crystalline silica and take other steps to protect workers
- Gives employers two options for protecting employees
  - **Option 1:** Use a specified exposure control method listed in Table 1 of the standard. This table matches 18 common construction tasks with effective dust control methods. Methods include using tooling with integrated water delivery or dust extraction capability.
  - For example, when using a handheld power saw equipped with integrated water delivery system that continuously feeds water to the blade respiratory protection is not required for tasks performed outdoors  $\leq 4$  hrs./shift.



# OSHA's Respirable Crystalline Silica Standards (Cont.)

- **Option 2:** Use an alternative exposure control method. This option allows employers to choose their own effective controls. Employers using this option must also follow additional requirements such as:
  - Determining the amount of silica that workers are exposed to if it is, or may reasonably be expected to be, at or above the **Action Level (AL) of  $25 \mu\text{g}/\text{m}^3$**  (micrograms of silica per cubic meter of air), averaged over an 8-hour day
  - Protecting workers from silica exposures above the **Permissible Exposure Limit (PEL) of  $50 \mu\text{g}/\text{m}^3$** , averaged over an 8-hour day
  - Use dust controls and safer work methods to protect workers from silica exposures above the PEL
  - Provide respiratory protection to workers when dust controls and safer work methods cannot limit exposures to the PEL



# OSHA's Respirable Crystalline Silica Standards (Cont.)

Regardless of which exposure control method is used, all employers covered by the standard are also required to:

- Establish and implement a written exposure control plan that identifies tasks that involve exposure to RCS and methods used to protect workers
- Designate a competent person to implement the written exposure control plan
- Restrict housekeeping practices that expose workers to silica such as dry sweeping or using compressed air without a ventilation system to catch the dust
- Offer medical exams every three years for workers who are required by the standard to wear respiratory protection for 30 or more days/year
- Train workers on the health effects of silica exposure, workplace tasks that can expose them to silica, and ways to limit exposure.
- Keep silica exposure records (30 yrs.) and medical exam records (employment duration + 30yrs.)



# NNS Silica Requirements

- Facilities' operations at NNS such as jack-hammering, cutting, sanding or drilling rock, brick, and concrete must be performed IAW Table 1 found in 29 CFR 1926.1153
- All contractors must follow all applicable OSHA Standards
- For each contractor whose employees are exposed to or may be exposed to respirable crystalline silica at or above OSHA regulatory limits, a written copy of their silica program must be provided to the NNS EH&S Department. This must include the contractors program for complying with each element of the applicable OSHA standard(s) and must be provided during the NNS pre-approval process.
- When in doubt contact your Contractor Coordinator





# Rooftop Fall Protection

- Fall protection is not required when employers are inspecting, investigating, or assessing workplace conditions or work to be performed prior to the start of work or after all work has been completed.
- People working less than 6 ft. from the edge must be protected by a guardrail system, safety net system, fall restraint system, or fall arrest system.
- People performing non-roofing work 6 ft. to less than 15 ft. must be protected by a guardrail system, safety net system, fall restraint system, or fall arrest system. The employer may use a designated area/warning line alone when the work is both infrequent and temporary within this distance. When performing roofing work at this distance, a designated area/warning line may be used in combination with a safety monitor-system.
- People working 15 ft. or more from the edge must be protected by a guardrail system, safety net system, fall restraint system, fall arrest system, or a designated area/warning line. The employer is not required to provide any fall protection if non-roofing work is being performed and it is both infrequent and temporary. In this case, a work rule must be implemented prohibiting people from going within 15 ft. from the edge without fall protection. If roofing work is being performed, a warning line must be used in combination with a work rule.
- People working on roofs 50 ft. or less in width may use a safety monitoring system alone without a warning line. Measurement is taken from the smaller roof area to determine the width.



# Rooftop Fall Protection

**Designated Area**-A distinct portion of a walking-working surface delineated by a warning line in which employees may perform work without additional fall protection.

**Infrequent**-The task or job is performed only on occasion, when needed (ex: equipment breakdown), on an occasional basis, or at sporadic or irregular intervals. Infrequent tasks include annual maintenance or servicing equipment, monthly or quarterly replacement of batteries or HVAC filters, and responding to equipment outage or breakdown. Tasks performed or repeated on a daily routine or regular basis are not infrequent. Tasks performed as a primary or routine part of a person's job or repeatedly at various locations duration a work shift are not considered infrequent.

**Temporary**-Duration of the task the worker performs is brief or short. These tasks generally include those that a worker is able to perform in less time than it takes to install or set up conventional fall protection.

**Non-Roofing Work**-Any activity performed on a roof that is not directly related to the installation, repair, or removal of the roof's weatherproofing materials, such as shingles, tile, or tar paper. This includes tasks like installing HVAC equipment, solar panels, satellite dishes, or performing general maintenance on a roof that doesn't involve manipulating the roofing material itself.

**Roofing Work**-The hoisting, storage, application, and removal of roofing materials and equipment, including insulation, sheet metal, and vapor barrier work, but not including the construction of the roof deck.



# Rooftop Fall Protection

## Designated Area/Warning Line Requirements:

- 1) Warning line consists of rope, wire, tape, or chain that has a minimum breaking strength of 200 lbs.
- 2) Warning line is installed 34"-39" above the walking-working surface.
- 3) Warning line shall be flagged every 6 ft. with high-visibility material.
- 4) Warning line is clearly visible from a distance of 25 ft. away and anywhere within the designated area.
- 5) Warning line is erected as close to the work area as possible.
- 6) Points of access, material handling areas, storage areas, and hoisting areas shall be connected to the work area by an access path formed by two warning lines.



# Rooftop Fall Protection

## Safety Monitor Requirements:

- 1) Shall be competent to recognize fall hazards.
- 2) Shall warn the employee when it appears they are unaware of the fall hazard or acting in an unsafe manner.
- 3) Shall be on the same walking/working surface and within visual site of the employee.
- 4) Shall be close enough to communicate with the employee.
- 5) Shall not have any other responsibilities which could take away from his/her attention to monitor.



# Rooftop Fall Protection – cont'd

- 6) Shall not be used in areas where mechanical equipment is being used or stored.
- 7) Shall not allow any other employee to be in the work area that is not protected by the safety monitor.
- 8) Shall direct each employee in the work area to comply promptly with all fall hazard warnings from the monitor.

Mechanical Equipment-All motor or human propelled equipment used for roofing work, except wheelbarrows and mopcars. (Wheelbarrows and mopcars are excluded because they do not require employees to move backwards and they are light in weight. These do not require employees to divide their attention between the equipment and the roof edge.)

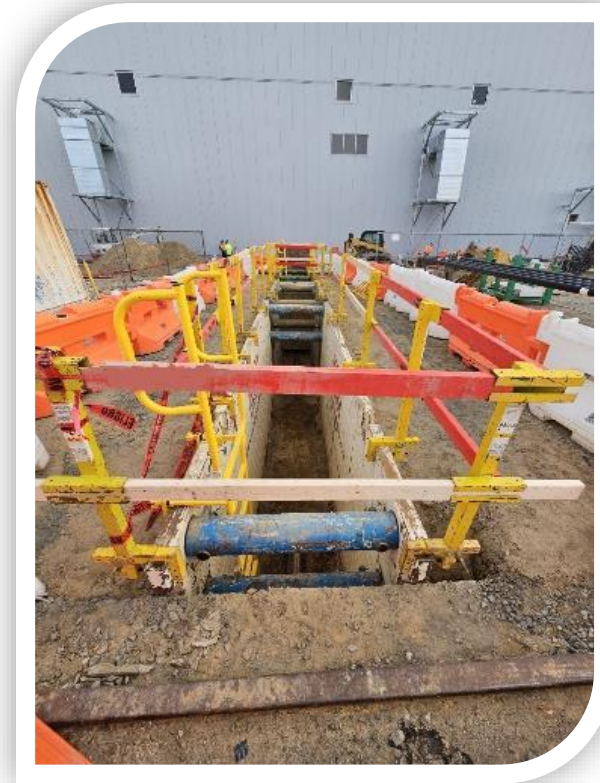


# Excavation Safety

## (Environmental, Health and Safety Contractor Resource Manual)

Any contractor who may be involved with any operation in which earth, rock, or other material in the ground is moved, removed, or otherwise purposely displaced by means of any tools or equipment must not proceed until the nature of possible underground utilities, etc., is determined. Examples of disturbance includes without limitations:

- Intrusive concrete penetration,
- Saw cutting,
- Grading,
- Trenching,
- Digging,
- Ditching,
- Drilling,
- Tunneling,
- Scraping,
- Driving-(such as installing electrical ground rods or foundation piling),
- Augering-(such as soil boring and installing trailer storm anchors),
- Moving or removing any structure or mass of material.





## Excavation Safety (Environmental, Health and Safety Contractor Resource Manual)

**Contractors whose personnel may be exposed to these type activities shall take the following steps:**

- Work with the appropriate NNS Contractor Coordinator to secure an excavation permit
- Mark or map the area to identify each location to be disturbed,
- Do not start operations until the permit is secured and posted at the site.
- Cease or not start operations if, in the judgement of the contractor, the excavation permit is inadequate or incomplete,
- Ensure all personnel at the excavation site have received and understand any special instructions prior to digging,
- Use a spotter if heavy excavation machinery is used at the excavation site. What is a spotter?
  - A spotter is a person assigned by the Excavation Foreman to observe digging performed by heavy machinery and to alert the operator of any potential exposure to utility lines.
- All personnel know the proper procedures to follow if utility signs are discovered or damaged during the digging process,
- Ensure utility markings remain legible throughout the excavation process and must be remarked in the event markings are removed,
- Stop all excavations (digging) at the site, and informs the appropriate Contract Coordinator that an obstruction or utility line has been discovered that is not on the GIMMS Map, Site Sketch, or Markings.
- Ensure that the permit is reissued at least every 35 calendar days for as long as the excavation operations continue.



# Excavation Safety

## Strict adherence to OSHA 1926 Subpart P

- OSHA requires that employers have a competent person to determine the soil type.
- A stairway, ladder, ramp or other safe means of egress shall be located in trench excavations that are 4 feet (1.22 m) or more in depth so as to require no more than 25 feet (7.62 m) of lateral travel for employees
- Trench shall be free of undermining.
- Trenches 5 feet deep or greater require a protective system.
- If excavations are less than 5 feet in depth and examination of the ground by a competent person provides indication of a potential cave-in, provide a protective system.
- Employees shall be protected from excavated or other materials or equipment that could pose a hazard by falling or rolling into excavations. Protection shall be provided by placing and keeping such materials or equipment at least 2 feet (.61 m) from the edge of excavations, or by the use of retaining devices that are sufficient to prevent materials or equipment from falling or rolling into excavations, or by a combination of both if necessary.
- Where the stability of adjoining buildings, walls, or other structures is endangered by excavation operations, support systems such as shoring, bracing, or underpinning shall be provided to ensure the stability of such structures for the protection of employees.



## Guarding of Manholes, Vaults, Pits, and Excavations on Roads and Grounds

- When covers are removed or opened temporarily for work, Facilities or the cognizant contractor shall:
- Install a temporary cover capable of withstanding the anticipated weight applied, including the maximum weight and load of any forklift, crane or other mobile equipment that is capable of accessing the area, or
- Barricade the opening using a safety barrier (e.g. Jersey Style) placed at least three feet back from the edge of the opening. The safety barrier shall meet the requirements of a standard guardrail system.
- The safety barrier shall completely surround all accessible sides of the opening.
- When it is not possible to place a safety barrier three feet back from the opening, take additional precautions to prohibit entry of personnel to the area, such as installing a guardrail system or posting a safety watch.
- Install warning lights on the safety barrier if the barricade is required to remain in place after dark.
- Check temporary covers or barricades at least daily to ensure barriers remain in place and required lights are operational.
- Replace the vault/manway cover or fill, grade, and pave the excavation, as appropriate as soon as work is completed.



# How can we prevent cave-ins?

Protective systems for trenches:

- **SLOPE** or bench trench walls by cutting back the trench wall at an angle inclined away from the excavation. (C-Type Soil shall not be benched)(C-type soil Max allowable slope is 34° or 1.5:1 ratio)
- **SHORE** trench walls by installing aluminum hydraulic or other types of supports to prevent soil movement. Shoring Uprights must be in contact with earth's trench face
- **SHIELD** trench walls by using trench boxes or other types of supports to prevent soil cave-ins.



# QUESTIONS?

If you have questions regarding this presentation, please contact your Contract Coordinator or:

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