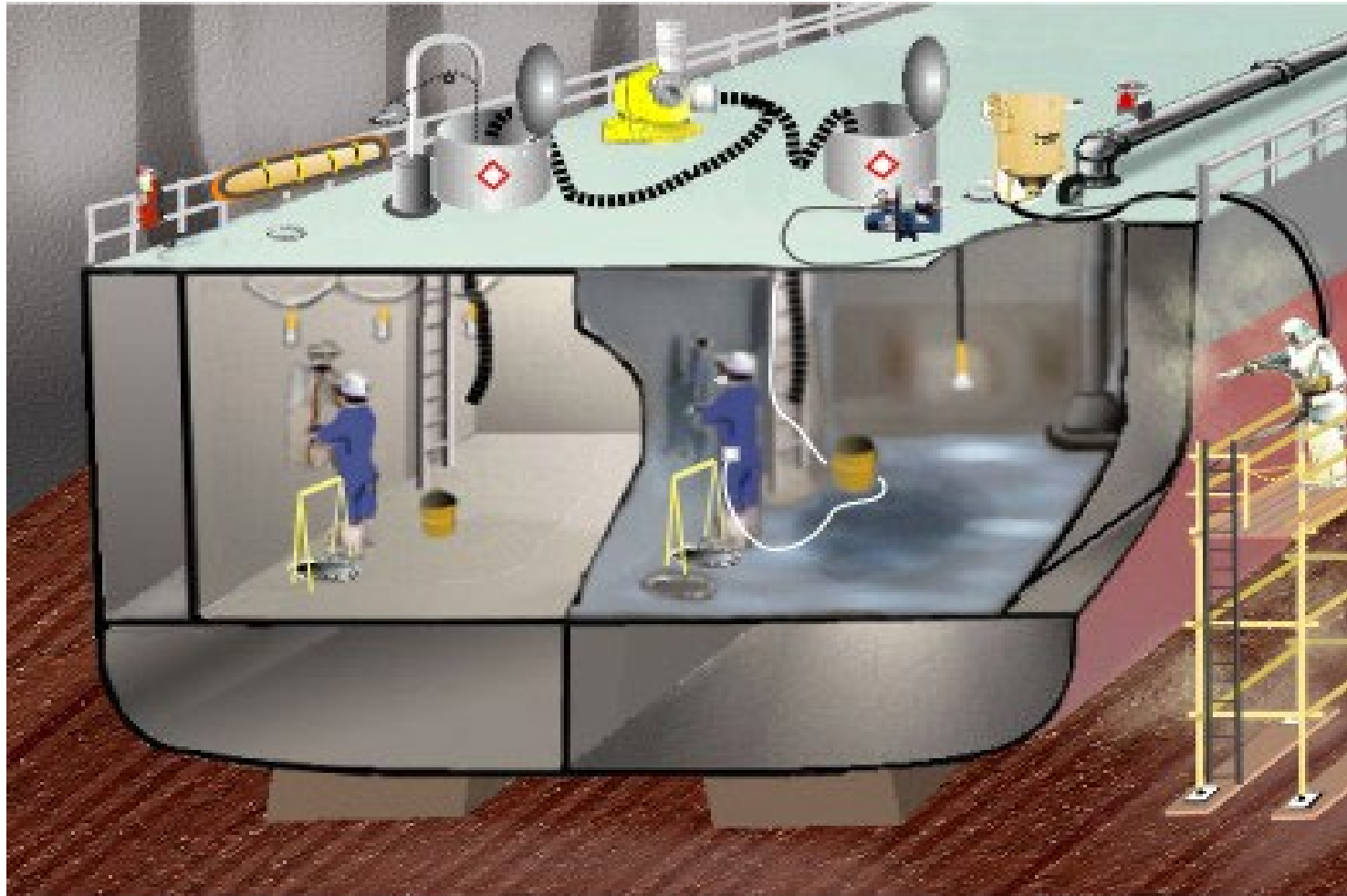


# Shipyard Employment

## Surface Preparation and Preservation - Subpart C

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# Surface Preparation and Preservation

## Subpart C

29 CFR 1915

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- 1915.31 – Scope and application
  - 1915.32 – Toxic cleaning solvents
  - 1915.33 – Chemical paint and preservative removers
  - 1915.34 – Mechanical paint removers
  - 1915.35 – Painting
  - 1915.36 – Flammable liquids
-

# Toxic Cleaning Solvents

1915.32(a)(1)-(3)

- When toxic solvents are used – one or more measures employed
  - Cleaning operation enclosed
  - Natural or mechanical ventilation used
  - Protected against toxic vapors and skin exposure with suitable PPE



# Chemical Paint and Preservative Removers

1915.33(a)

- Employees protected against skin contact
  - During handling and application of chemical paint and preservative removers
  - Protected against eye injury



# Chemical Paint and Preservative Removers

1915.33(b)

- When using chemical paint and preservative removers
  - Precautions taken in accordance with 1915.36 (ventilation, etc.)



# Chemical Paint and Preservative Removers

1915.33(d)

- Paint and rust removers containing strong acids or alkalis
  - Protected by suitable face shields



# Chemical Paint and Preservative Removers

1915.33(e)

- When steam guns used – employees within range
  - Protected by suitable face shields
  - Metal parts of steam gun insulated



# Mechanical Paint Removers

1915.34(a)(1)

- Removal of paints, rusts, preservatives, etc. by power tools
  - Protected against eye injury
  - Use goggles or face shields





# Mechanical Paint Removers

1915.34(b)(2)

- Flame or heat not used to remove soft and greasy preservative coatings



# Mechanical Paint Removers

1915.34(c)(1)(ii)

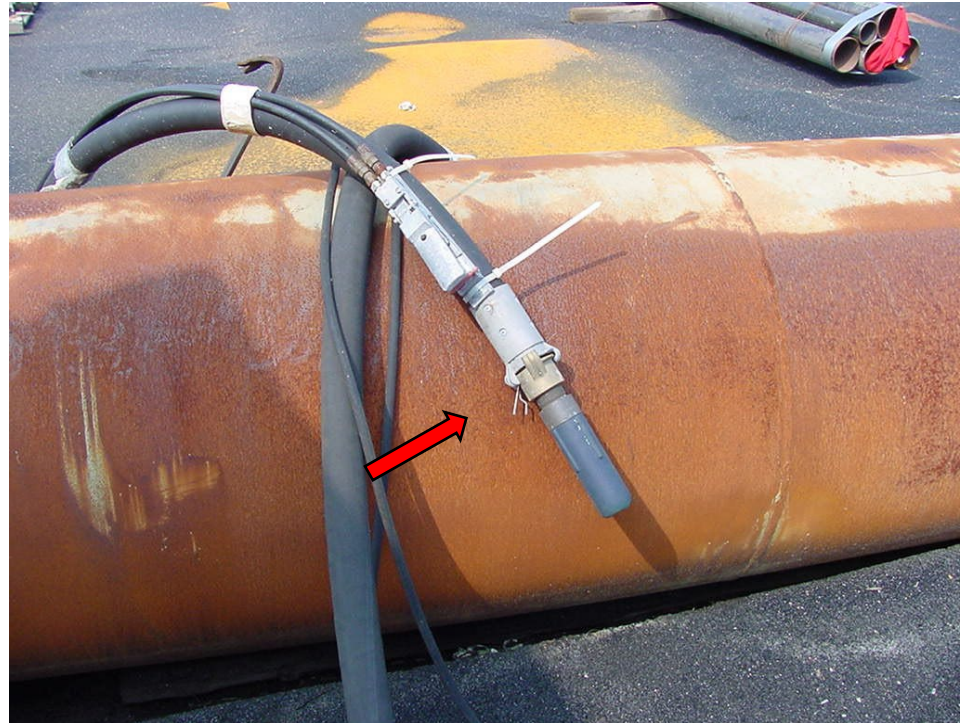
- Hose lengths joined by metal couplings
  - Secured to outside of hose



# Mechanical Paint Removers

1915.34(c)(1)(iii)

- Nozzles attached to hose by fittings
  - Prevent unintentionally becoming disengaged



# Mechanical Paint Removers

1915.34(c)(1)(iv)

- Abrasive blasting equipment
  - Dead man control device provided at end of nozzle
  - Provide direct cutoff or signal pot tender





# Mechanical Paint Removers

1915.34(c)(3)(i)

- Abrasive blasters working in enclosed spaces

- Protected by hoods and air line respirators

*Or*

- Air helmets of a positive pressure type



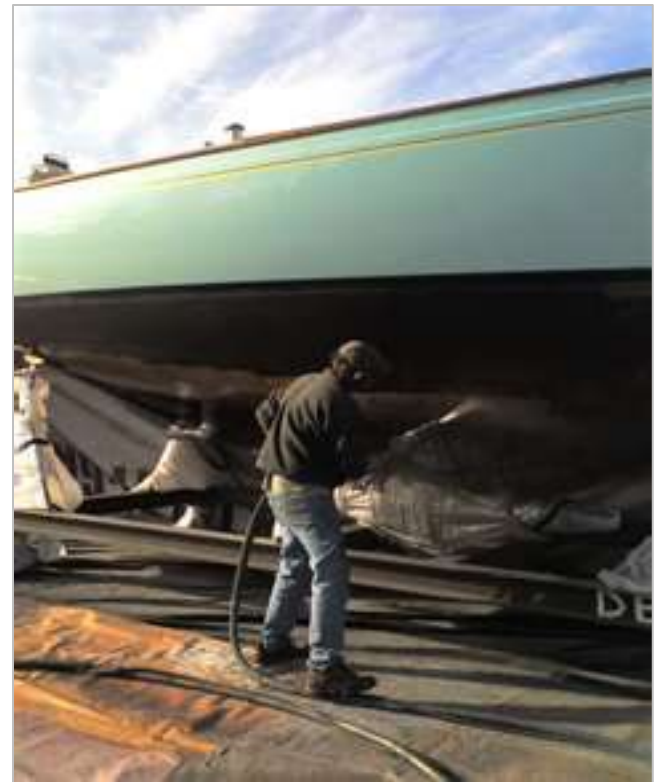
# Mechanical Paint Removers

1915.34(c)(3)(ii)

- Abrasive blasters working in the open
  - Protected as indicated in 1915.34(c)(3)(i)

## *Except*

- Synthetic abrasive containing >1% free silica
  - » Approved filter type respirators used



# Mechanical Paint Removers

1915.34(c)(3)(iii)

- Blaster protected from exposure to blast by appropriate protective clothing and gloves



# Painting

1915.35(a)(1)(i) - (ii)

- Paints mixed with toxic vehicles or solvents and sprayed
  - Confined spaces, tanks or compartments
    - » Air line respirators





# Painting

1915.35(b)(1)

- Paints and tank coatings dissolved in highly volatile, toxic and flammable solvents
  - Exhaust ventilation to keep vapors below 10% of LEL



# Painting

915.35(b)(4)

- Exhaust ducts discharge clear of working areas
- Discharge away from possible sources of possible ignition



# Painting

1915.35(b)(5)

- Motors and control equipment explosion-proof type
- Fans nonferrous blades
- Properly maintained and grounded



# Painting

1915.35(b)(6)

- Non-sparking paint buckets, spray guns and tools used



# Painting

1915.35(b)(7)

- Only approved explosion proof lights
  - Used in Class I, Group D atmosphere



# Painting

1915.35(b)(8)

- Competent person inspect all power and lighting cables
  - Insulation free of cracks and worn spots
  - No connections within 50 feet of operation





# Painting

1915.35(b)(9)

- Face, eyes, head, hands, and other exposed parts of body protected
  - When handling highly volatile paints



# Painting

1915.35(b)(12)

- Spray guns, paint pots, and metallic parts of tubing electrically bonded
- Bonded assembly grounded to vessel





# Painting

1915.35(b)(13)

- Employee continuously in compartment where painting is performed
  - Protected by air line respirator
  - Protected with suitable protective clothing



# Painting

1915.35(b)(14)

- Employees doing exterior paint spraying
  - Protected by suitable filter cartridge type respirator



# Flammable Liquids

1915.36(a)(1)

- Smoking, open flames, arcs and spark-producing equipment
  - Prohibited in area

The image shows a handwritten safety permit form. At the top, it is titled "SAFETY PERMIT" and "WORK CERTIFICATE". The form contains several sections with handwritten text:

- Job Location:** LITTON, ARIZONA, INDUSTRIAL
- Job Description:** Change Pump Assembly
- Date:** 10/20/2011
- Time:** 10:00 - 12:00
- Safety Precautions:** No open flames, No smoking, No hot work, No welding.
- Permit Number:** 10002
- Signatures:** Chief Officer and Safety Officer.

# Flammable Liquids

1915.36(a)(2)

- Ventilation provided to keep concentration of vapors below 10% of LEL
- Frequent tests by competent person
  - Ascertain concentration



# Flammable Liquids

1915.36(a)(3)

- Scrapings and rags soaked with liquid solvents, paint, etc.
  - Kept in covered metal container



# Flammable Liquids

1915.36(a)(4)

- Only approved explosion proof lights used in Class I, Group D atmospheres



# Flammable Liquids

1915.36(a)(5)

- Competent person inspect all power and lighting cables
  - Insulation free of cracks and worn spots
  - No connections within 50 feet of operation



# Flammable Liquids

1915.36(a)(6)

- Suitable fire extinguishing equipment immediately available
  - In work area
  - Maintained in state of readiness for instant use





# Thank You For Attending!

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## Final Questions?

**1-800-NC-LABOR**

(1-800-625-2267)

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