* Define what a confined space is and review general OSHA program requirements
* Discuss common misconceptions of the confined space program
* Discuss general hazards of working in a confined space and other entry challenges
* Review how LVVWD protects its employees and cover District program highlights
Statistics – The Ugly!

OSHA FATALITY FACTS

- 89% of fatalities occurred with jobs authorized by supervisors
- 80% of fatalities happened in locations that had been previously entered by the same person who later died
- 35% of those who died were supervisors
- Only 7% of locations had warning signs indicating that they were confined spaces
- 65% of confined space fatalities were due to atmospheric hazards
OSHA FATALITY FACTS

- 35% due to electrocution, caught between, crushed by, engulfment and falls
- 100% of fatalities at 139 sites in 17 states in a 2-yr. period had one thing in common--no detector instruments or powered ventilation
- 60% of all who die are rescuers
Confined Space

DEFINITION

* Is large enough and so configured that an employee can bodily enter and perform assigned work
* Has limited means of entry or exit and is not designed for continuous occupancy
General OSHA Requirements

- Identify confined spaces
- Identify potential hazards
- Inform employees by posting signs where feasible
- Prevent entry by unauthorized persons
- Establish procedures and practices to allow safe entry
- Train employees, provide required equipment
Control hazards where possible through engineering or work practices

Ensure procedures and equipment necessary for rescue

Protect entrants from external hazards and enforce established procedures
Common Misconceptions

- A confined space is an enclosed space
- All PRCS must be labeled with a sign
- Confined space recognition
- Permit duration
- Any space can be reclassified
- Rescue
- Atmospheric monitoring
ENGULFMMENT/DROWNING

- Water
- Chemical
- Steam
- Grains
General Hazards (cont.)

ATMOSPHERIC

- Oxygen deficiency or enrichment
- Flammable or explosive
- Hydrogen Sulfide (H₂S)
- Carbon Monoxide (CO)
- Vehicles & Equipment
- Welding Fumes
- Excessive heat
General Hazards (cont.)

- Electrical
- Slips, trips and falls
- Augers, turbines, blades and pumps
- Falling objects and materials
- Converging sections
- Fire/explosion
- Noise
- Heat
Challenges – The Bad!

PIPELINE INSPECTION

* Length of entry
* Internal configuration
* Rescue
* Mitigation
Challenges – The Bad!
Challenges – The Bad!

NON-ROUTINE WORK
Challenges – The Bad!

NON-ROUTINE WORK
Challenges – The Bad!
EMPLOYEE PROTECTION

- Training
- Personal protective equipment
- Engineering measures
- Work practices
- Management oversight
ENVIRONMENTAL, HEALTH & SAFETY PLAN - AP17

* Provides a framework for ensuring compliance
* High priority for all operations and activities
* Total commitment to and responsibilities for safe performance
* Roles & responsibilities
* Compliance
* Implementation
EHS MANUAL

* Classification (permit vs. non-permit)
* Entry procedures
LVVWD’s Program – The Good! (cont.)

ATMOSPHERIC MONITORING PROGRAM
ATMOSPHERIC MONITORING PROGRAM

- Data Collection
- Calibration
- Sensor Failures
- Dash Board Features
LVVWD’s Program – The Good! (cont.)

DASH BOARD
LVVWD’s Program – The Good! (cont.)

AUTOMATED ENTRY PERMIT

[Image of a map with marked locations]
LVVWD’s Program – The Good! (cont.)

AUTOMATED ENTRY PERMIT
LVVWD’s Program – The Good! (cont.)

AUTOMATED ENTRY PERMIT
LVVWD’s Program – The Good! (cont.)

AUTOMATED ENTRY PERMIT
### LVVWD’s Program – The Good! (cont.)

#### AUTOMATED ENTRY PERMIT

[Image of a spreadsheet showing entry permits]

<table>
<thead>
<tr>
<th>Entry #</th>
<th>Site Location</th>
<th>Prepared By</th>
<th>Date Issued</th>
<th>File Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>19401</td>
<td>Leo Ferro</td>
<td>10/19/2019</td>
<td>CPERMIT-19401_17.pdf</td>
</tr>
<tr>
<td>18</td>
<td>19401</td>
<td>Stephanie Cook</td>
<td>10/19/2019</td>
<td>CPERMIT-19401_18.pdf</td>
</tr>
<tr>
<td>19</td>
<td>19402</td>
<td>Bob Cook</td>
<td>10/19/2019</td>
<td>CPERMIT-19402_19.pdf</td>
</tr>
<tr>
<td>20</td>
<td>19402</td>
<td>Bob Cook</td>
<td>10/19/2019</td>
<td>CPERMIT-19402_20.pdf</td>
</tr>
<tr>
<td>22</td>
<td>19402</td>
<td>Bob Cook</td>
<td>10/19/2019</td>
<td>CPERMIT-19402_22.pdf</td>
</tr>
</tbody>
</table>
References

* [https://www.osha.gov/](https://www.osha.gov/)
* [http://www.asse.org/assets/1/7/Taylor_0913.pdf](http://www.asse.org/assets/1/7/Taylor_0913.pdf)