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O&M Section # 17	SCUD Task # 190
Section: Construction/Operations	Revision Date: 09/06/16

### Backfilling

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#### **SCOPE AND PURPOSE**

This procedure is to ensure that backfill material is selected and placed in a manner that provides firm support for the pipe and that the pipe and pipe coating is not damaged during the backfill process. It describes practices required to comply with §192.319.

#### **RESPONSIBILITY**

The Main Line Supervisor, Service Line Supervisor, Maintenance Supervisor, or other designee, is responsible to ensure that backfilling a ditch is performed as described in this procedure.

#### **PERSONNEL SAFETY**

- The safety of SCUD employees and the public must be top priority on the job site.
- Establish a safety perimeter to prevent bystanders and unauthorized personnel from entering the area of activity.
- Wear a hard hat when working with and around mechanized equipment.
- Wear a high visibility safety vest when near vehicle or equipment traffic.

#### **EQUIPMENT AND MATERIALS**

Mechanized equipment  
 Pipe protective barrier material  
 Routine tools  
 Other equipment and materials as needed  
 Safety equipment

#### **OPERATOR QUALIFICATION**

This activity is a covered task under the Operator Qualification Plan and may only be performed by or directed and observed by an individual who is currently qualified to perform this task. Refer to the OQ Plan for specific qualification requirements.

#### **INSTRUCTIONS**

##### **General**

- Verify that the bottom of the excavation is free of rocks or other debris that may cause damage to the pipeline and have clean material to layer over the top of the pipe. If necessary:
  - Pad the bottom of the excavation with clean debris-free soil or rock shield.
  - Have clean material to layer over the top of the pipe or use rock shield.

##### **Backfilling**

- Prior to backfilling, verify that the pipe is adequately supported so as to minimize stresses and to protect the pipe coating from damage.
- The backfilling operation should be accomplished by “layering” the soil (Adding incremental amounts of backfill material and compacting as needed).
- Using a layer of suitable backfill material (dirt, etc, that is free of rock and other debris that may damage the pipe), or rock shield, begin backfilling, ensuring as much backfill support as needed is placed along the sides and under the pipe to minimize shear and tensile stresses

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- The backfill should be placed in the excavation as evenly as practicable
- Depending on conditions such as pipe size, it may be necessary to compact around the sides of the pipeline being backfilled until a suitable layer of backfill material completely covers the pipeline.
- In the case of steel pipe, care shall be taken when compacting the backfill material to prevent damage to the pipeline or coatings.
- In the case of plastic pipe, heavy tamping or compacting shall not be performed until the pipe has a sufficient amount of cover.
- Once a sufficient amount of clean debris-free backfill material has been placed over the pipeline and sufficiently compacted, continue with the backfilling operation:
  - Backfill material above the initial layer may contain small amounts of rock or other debris.
  - Tamp or compact each layer of backfill material, as needed, as it is placed into the excavation

### REPORTING/NOTIFICATION

Complete documentation in accordance with Operation and Maintenance Manual

### ABNORMAL OPERATING CONDITIONS

<b>AOC Main Category</b> (Examples of Specific AOCs)	<b>Reactions to AOC, as appropriate</b>	
<b><i>Unplanned escape of product from a pipeline</i></b> <ul style="list-style-type: none"> <li>● Blowing/Escaping gas/Grade I leak</li> </ul>	<ul style="list-style-type: none"> <li>➤ Protect life &amp; Property</li> <li>➤ Prevent accidental ignition</li> <li>➤ Notify appropriate personnel</li> <li>➤ Notify Fire/Emergency Responders</li> <li>➤ Initiate Emergency Plan</li> </ul>	<ul style="list-style-type: none"> <li>➤ Locate source/cause of AOC</li> <li>➤ Use appropriate PPE</li> <li>➤ Stop gas flow</li> <li>➤ Make repairs/eliminate AOC</li> </ul>
<b><i>Fire or Explosion</i></b> <ul style="list-style-type: none"> <li>● Fire on a pipeline</li> <li>● Explosion</li> </ul>	<ul style="list-style-type: none"> <li>➤ Protect life &amp; Property</li> <li>➤ Prevent accidental ignition</li> <li>➤ Notify appropriate personnel</li> <li>➤ Notify Fire/Emergency Responders</li> <li>➤ Initiate Emergency Plan</li> </ul>	<ul style="list-style-type: none"> <li>➤ Locate source/cause of AOC</li> <li>➤ Use appropriate PPE</li> <li>➤ Stop gas flow</li> <li>➤ Make repairs/eliminate AOC</li> </ul>
<b><i>Pipeline Damage</i></b> <ul style="list-style-type: none"> <li>● Coating Damage</li> <li>● Corrosion Damage</li> <li>● Dents, Gouges, Scrapes, etc.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Protect life &amp; Property</li> <li>➤ Prevent accidental ignition</li> <li>➤ Notify appropriate personnel</li> </ul>	<ul style="list-style-type: none"> <li>➤ Locate source/cause of AOC</li> <li>➤ Make repairs/eliminate AOC</li> </ul>
<b><i>Inadequate Odorization or Reports of Gas Odor</i></b> <ul style="list-style-type: none"> <li>● Low odorization</li> <li>● Over odorization</li> <li>● Odor complaint</li> </ul>	<ul style="list-style-type: none"> <li>➤ Protect life &amp; property</li> <li>➤ Prevent accidental ignition</li> <li>➤ Notify appropriate personnel</li> </ul>	<ul style="list-style-type: none"> <li>➤ Locate source/cause of AOC</li> <li>➤ Make repairs/eliminate AOC</li> </ul>



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#### **RELATED PROCEDURES**

- CONST013 – Installation of Steel Pipe in a Ditch
- CONST011 – Installation of Plastic Pipe in a Ditch
- CONST015 – Excavation