

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS14 - Performance Confirmation System

SSC: General Subsurface Performance Confirmation Assessment System

Level 4: N/A

Level 3: Hydrologic Monitoring

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>					

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The Subsurface Performance Confirmation Assessment Hydrologic Monitoring System acquires pertinent data associated with verifying the performance of the waste isolation system. This system is not associated with the receipt, handling, emplacement, storage, packaging or retrieval of high-level waste.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The Subsurface Performance Confirmation Assessment Hydrologic Monitoring System acquires pertinent data associated with verifying the performance of the waste isolation system. However, this system is not required to function to prevent a DBE that would otherwise result in a radioactive release above the federal limits.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

Direct Failure of the Subsurface Performance Confirmation Assessment Hydrologic Monitoring System would not result in a credible DBE that would lead to a radioactive release above the federal limit.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The Subsurface Performance Confirmation Assessment Hydrologic Monitoring System is not part of the natural or engineered barriers that perform a waste isolation function. However, this SSC monitors the performance of the waste isolation system and can provide data needed to mitigate failure of items important to waste isolation, licensing and closure.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

Direct failure of the Subsurface Performance Confirmation Assessment Hydrologic Monitoring System would not affect the waste isolation functions performed by the natural and engineered barriers.

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PART 4

# Q-List Questions

B00000000-01717-0200-00134 Rev 00  
Attachment IV

**SDD: SS14 - Performance Confirmation System**

**SSC: General Subsurface Performance Confirmation Assessment System**      **Level 4: N/A**

**Level 3: Hydrologic Monitoring**      **Level 5: N/A**

**QA-3 - Important to Radioactive Waste Control:**

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

**Yes?**      **Rationale:**

The Subsurface Performance Confirmation Assessment Hydrologic Monitoring System is not designed for the collection, containment, and/or monitoring of site-generated radioactive waste.

**QA-4 - Important to Fire Protection:**

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

**Yes?**      **Rationale:**

The Subsurface Performance Confirmation Assessment Hydrologic Monitoring System does not perform fire protection functions.

**QA-5 - Important to Potential Interaction:**

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

**Yes?**      **Rationale:**

Failure of the Subsurface Performance Confirmation Assessment Hydrologic Monitoring System would not impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation functions.

**QA-6 - Important to Physical Protection of Facility and Materials:**

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

**Yes?**      **Rationale:**

The Subsurface Performance Confirmation Assessment Hydrologic Monitoring System is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

6.2 Is the SSCs function required for special nuclear material accountability?

**Yes?**      **Rationale:**

The Subsurface Performance Confirmation Assessment Hydrologic Monitoring System is not required for special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS14 - Performance Confirmation System**

**SSC: General Subsurface Performance Confirmation Assessment System**

**Level 4: N/A**

**Level 3: Hydrologic Monitoring**

**Level 5: N/A**

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Subsurface Performance Confirmation Assessment Hydrologic Monitoring System does not have its own radioactive source term and does not provide for personnel radiation shielding or the reduction of dose rates.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Subsurface Performance Confirmation Assessment Hydrologic Monitoring System is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The Subsurface Performance Confirmation Assessment Hydrologic Monitoring System is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.16 Performance Confirmation Facilities, as QA-1.

**Q-List Questions**

**SDD: SS14 - Performance Confirmation System**

**SSC: General Subsurface Performance Confirmation Assessment System**

**Level 4: N/A**

**Level 3: Seal Testing**

**Level 5: N/A**

	QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>					

**QA-1 - Important to Radiological Safety:**

**1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?**

**Yes?** Rationale:

The Subsurface Performance Confirmation Assessment Seal Testing System acquires pertinent data associated with verifying the performance of the waste isolation system. This system is not associated with the receipt, handling, emplacement, storage, packaging or retrieval of high-level waste.

**1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?**

**Yes?** Rationale:

The Subsurface Performance Confirmation Assessment Seal Testing System is not required to function to prevent or mitigate a DBEs that would otherwise result in a radioactive release above the federal limits.

**1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?**

**Yes?** Rationale:

Direct Failure of the Subsurface Performance Confirmation Assessment Seal Testing System would not result in a credible DBE that would lead to a radioactive release above the federal limit.

**QA-2 - Important to Waste Isolation:**

**2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?**

**Yes?** Rationale:

The Subsurface Performance Confirmation Assessment Seal Testing System is not part of the natural or engineered barriers that perform a waste isolation function. However, this SSC monitors the performance of the waste isolation system and can provide data needed to mitigate failure of items important to waste isolation and will be required for licensing and closure.

**2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?**

**Yes?** Rationale:

Direct failure of the Subsurface Performance Confirmation Assessment Seal Testing System would not affect the waste isolation functions performed by the natural and engineered barriers.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

## SDD: SS14 - Performance Confirmation System

SSC: General Subsurface Performance Confirmation Assessment System

Level 4: N/A

Level 3: Seal Testing

Level 5: N/A

### QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The Subsurface Performance Confirmation Assessment Seal Testing System is not designed for the collection, containment, and/or monitoring of site-generated radioactive waste.

### QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The Subsurface Performance Confirmation Assessment Seal Testing System does not perform fire protection functions.

### QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

Failure of the Subsurface Performance Confirmation Assessment Seal Testing System would not impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation functions.

### QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The Subsurface Performance Confirmation Assessment Seal Testing System is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The Subsurface Performance Confirmation Assessment Seal Testing System is not required for special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS14 - Performance Confirmation System**

**SSC: General Subsurface Performance Confirmation Assessment System**

**Level 4: N/A**

**Level 3: Seal Testing**

**Level 5: N/A**

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Subsurface Performance Confirmation Assessment Seal Testing System does not have its own radioactive source term and does not provide for personnel radiation shielding or the reduction of dose rates.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Subsurface Performance Confirmation Assessment Seal Testing System is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The Subsurface Performance Confirmation Assessment Seal Testing System is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.16 Performance Confirmation Facilities, as QA-1.

**Q-List Questions**

**SDD: SS14 - Performance Confirmation System**

**SSC: General Subsurface Performance Confirmation Assessment System**                      **Level 4: N/A**

**Level 3: Thermomechanical Monitoring**                                              **Level 5: N/A**

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>					

**QA-1 - Important to Radiological Safety:**

**1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?**

**Yes?**      **Rationale:**

The Subsurface Performance Confirmation Assessment Thermomechanical Monitoring System acquires pertinent data associated with verifying the performance of the waste isolation system. This system is not associated with the receipt, handling, emplacement, storage, packaging or retrieval of high-level waste.

**1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?**

**Yes?**      **Rationale:**

The Subsurface Performance Confirmation Assessment Thermomechanical Monitoring System is not required to function to prevent a DBE that would otherwise result in a radioactive release above the federal limits.

**1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?**

**Yes?**      **Rationale:**

Direct Failure of the Subsurface Performance Confirmation Assessment Thermomechanical Monitoring System would not result in a credible DBE that would lead to a radioactive release above the federal limit.

**QA-2 - Important to Waste Isolation:**

**2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?**

**Yes?**      **Rationale:**

The Subsurface Performance Confirmation Assessment Thermomechanical Monitoring System is not part of the natural or engineered barriers that perform a waste isolation function. However, this SSC monitors the performance of the waste isolation system and can provide data needed to mitigate failure of items important to waste isolation and licensing and closure.

**2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?**

**Yes?**      **Rationale:**

Direct failure of the Subsurface Performance Confirmation Assessment Thermomechanical Monitoring System would not affect the waste isolation functions performed by the natural and engineered barriers.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

## SDD: SS14 - Performance Confirmation System

SSC: General Subsurface Performance Confirmation Assessment System      Level 4: N/A

Level 3: Thermomechanical Monitoring      Level 5: N/A

### QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes?      Rationale:

The Subsurface Performance Confirmation Assessment Thermomechanical Monitoring System is not designed for the collection, containment, and/or monitoring of site-generated radioactive waste.

### QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes?      Rationale:

The Subsurface Performance Confirmation Assessment Thermomechanical Monitoring System does not perform fire protection functions.

### QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes?      Rationale:

Failure of the Subsurface Performance Confirmation Assessment Thermomechanical Monitoring System would not impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation functions.

### QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes?      Rationale:

The Subsurface Performance Confirmation Assessment Thermomechanical Monitoring System is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes?      Rationale:

The Subsurface Performance Confirmation Assessment Thermomechanical Monitoring System is not required for special nuclear material accountability.

# Warhammer: Dark Omen

## Chapter skip:

Press **R2, R1, L2, R2, R1, R2** at the main menu, then select the "Resume" option.

## Battle skip:

Press **Select, R1(2), L2(2), R1, R2** at the deployment screen. Then, select the "Resume" option.

## Money:

Press **Select, R1, L1, R1, L2, R1, R2** at the deployment screen. Then, select the "Resume" option.

## Instant death:

Press **Select, R1, L1, R2(2), R1(2)** at the deployment screen. Then, select the "Resume" option.

## Fast reload:

Press **Select, R2, R1, R2, R1, L2, R1** at the deployment screen. Then, select the "Resume" option.

## Select opponent:

Press **Select, L2(2), R2, L2, R1(2)** at the deployment screen. Then, select the "Resume" option.

## Small heads:

Press **Select, L2(4), R1, R2** at the deployment screen. Then, select the "Resume" option.

## All cheats:

Highlight the spare book in the caravan. Then hold **Select** and press **R1, L1, L2, R2**.

## View FMV sequences:

### *The Black Grail*

Press **Left, L1, Circle, L2, Triangle, R2** at the main menu.

### *Carnstein and Jewel*

Press **R1, Triangle, R2(2), Square, R1** at the main menu.

### *The Hand of Nagash*

Press **R2, Left, R2, Up, Down, Left** at the main menu.

### *Liber Mortis*

Press **Circle, Triangle, Square, Right, R1, R2** at the main menu.

### *Victory*

Press **L2, Right, Square, Right, R1, R2** at the main menu.

### *Long March*

Press **R1, L2, Triangle, Square, Left, R2** at the main menu.

**View credits:**

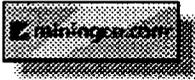
Press **Left, Right, Square, Right, R1, R2** at the main menu.

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**Strategy**

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**GameShark codes**



**Select another game...**

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B00000000-01717-0200-00134 Rev 00

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**SDD: SS14 - Performance Confirmation System**

**SSC: General Subsurface Performance Confirmation Assessment System**                      **Level 4: N/A**

**Level 3: Thermomechanical Monitoring**                                              **Level 5: N/A**

**QA-7 - Important to Occupational Radiological Exposure:**

**7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?**

**Yes?**      **Rationale:**

The Subsurface Performance Confirmation Assessment Thermomechanical Monitoring System does not have its own radioactive source term and does not provide for personnel radiation shielding or the reduction of dose rates.

**7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?**

**Yes?**      **Rationale:**

The Subsurface Performance Confirmation Assessment Thermomechanical Monitoring System is not a radiation monitor.

**Previous QA Classification:**

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

**8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?**

**Yes?**      **Rationale:**

The Subsurface Performance Confirmation Assessment Thermomechanical Monitoring System is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.16 Performance Confirmation Facilities, as QA-1.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS14 - Performance Confirmation System**

**SSC: General Subsurface Performance Confirmation System**

**Level 4: N/A**

**Level 3: Backfill Testing**

**Level 5: N/A**

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>					

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The Subsurface Performance Confirmation Assessment Backfill Testing System acquires pertinent data associated with verifying the performance of the waste isolation system. This system is not associated with the receipt, handling, emplacement, storage, packaging or retrieval of high-level waste.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The Subsurface Performance Confirmation Assessment Backfill Testing System is not required to function to prevent, mitigate, or monitor a DBE that would otherwise result in a radioactive release above the federal limits.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

Direct Failure of the Subsurface Performance Confirmation Backfill Testing System would not result in a credible DBE that would lead to a radioactive release above the federal limit.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The Subsurface Performance Confirmation Assessment Backfill Testing System is not part of the natural or engineered barriers that perform a waste isolation function. However, this SSC monitors the performance of the waste isolation system and can provide data needed for licensing and closure to mitigate failure of items important to waste isolation.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

Direct failure of the Subsurface Performance Confirmation Assessment Backfill Testing System would not affect the waste isolation functions performed by the natural and engineered barriers.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

## SDD: SS14 - Performance Confirmation System

SSC: General Subsurface Performance Confirmation System      Level 4: N/A

Level 3: Backfill Testing      Level 5: N/A

### QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The Subsurface Performance Confirmation Assessment Backfill Testing System is not designed for the collection, containment, and/or monitoring of site-generated radioactive waste.

### QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The Subsurface Performance Confirmation Assessment Backfill Testing System does not perform fire protection functions.

### QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

Failure of the Subsurface Performance Confirmation Assessment Backfill Testing System would not impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation functions.

### QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The Subsurface Performance Confirmation Assessment Backfill Testing System is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The Subsurface Performance Confirmation Assessment Backfill Testing System is not required for special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS14 - Performance Confirmation System

SSC: General Subsurface Performance Confirmation System

Level 4: N/A

Level 3: Backfill Testing

Level 5: N/A

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Subsurface Performance Confirmation Assessment Backfill Testing System does not have its own radioactive source term and does not provide for personnel radiation shielding or the reduction of dose rates.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Subsurface Performance Confirmation Assessment Backfill Testing System is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The Subsurface Performance Confirmation Assessment Backfill Testing System is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.16 Performance Confirmation Facilities, as QA-1.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS14 - Performance Confirmation System

SSC: General Surface Performance Confirmation System Level 4: N/A

Level 3: N/A

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>					

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The General Surface Performance Confirmation Assessment System acquires pertinent data associated with verifying the performance of the waste isolation system. This system is not associated with the receipt, handling, emplacement, storage, packaging or retrieval of high-level waste.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The General Surface Performance Confirmation Assessment System is not required to function to prevent a DBE that would otherwise result in a radioactive release above the federal limits.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

Direct failure of the General Surface Performance Confirmation Assessment System would not result in a credible DBE that would lead to a radioactive release above the federal limit.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The General Surface Performance Confirmation Assessment System is not part of the natural or engineered barriers that perform a waste isolation function. However, this SSC monitors the performance of the waste isolation system and can provide data needed to mitigate failure of items important to waste isolation.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

Direct failure of the General Surface Performance Confirmation Assessment System would not affect the waste isolation functions performed by the natural and engineered barriers.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS14 - Performance Confirmation System**

**SSC: General Surface Performance Confirmation System Level 4: N/A**

**Level 3: N/A**

**Level 5: N/A**

**QA-3 - Important to Radioactive Waste Control:**

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The General Surface Performance Confirmation Assessment System is not designed for the collection, containment, and/or monitoring of site-generated radioactive waste.

**QA-4 - Important to Fire Protection:**

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The General Surface Performance Confirmation Assessment System does not perform fire protection functions.

**QA-5 - Important to Potential Interaction:**

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

Failure of the General Surface Performance Confirmation Assessment System would not impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation functions.

**QA-6 - Important to Physical Protection of Facility and Materials:**

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The General Surface Performance Confirmation Assessment System is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The General Surface Performance Confirmation Assessment System is not required for special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS14 - Performance Confirmation System

SSC: General Surface Performance Confirmation System Level 4: N/A

Level 3: N/A Level 5: N/A

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### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The General Surface Performance Confirmation Assessment System does not have its own radioactive source term and does not provide for personnel radiation shielding or the reduction of dose rates.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The General Surface Performance Confirmation Assessment System is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The General Surface Performance Confirmation Assessment System is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.16 Performance Confirmation Facilities, as QA-1.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS16 - Subsurface Development Transportation System

SSC: Control Devices

Level 4: N/A

Level 3: N/A

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input checked="" type="checkbox"/>						

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The subsurface Development Transportation system supports the development of the repository by providing transportation for personnel and material traveling between the surface and the subsurface development areas. This subsystem is not associated with the emplacement, storage, packaging or retrieval of high-level waste.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The subsurface development transportation system is not required to function to prevent or mitigate DBEs that would otherwise result in a radioactive release above the federal limits.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

Direct failure of the subsurface development transportation system would not result in a credible DBE that could lead to a radioactive release above the federal limit.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The subsurface development transportation system is not part of the natural or engineered barriers that perform a waste isolation function.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

Direct failure of the subsurface development transportation system would not affect the waste isolation functions performed by the natural and engineered barriers.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

### SDD: SS16 - Subsurface Development Transportation System

SSC: Control Devices

Level 4: N/A

Level 3: N/A

Level 5: N/A

#### QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The subsurface development transportation system is not associated with site-generated radioactive waste.

#### QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The subsurface development transportation system does not perform fire protection functions.

#### QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

Failure of the subsurface development transportation system would not impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation functions.

#### QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The subsurface development transportation system is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The subsurface development transportation system is not associated with special nuclear material accountability.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS16 - Subsurface Development Transportation System

SSC: Control Devices

Level 4: N/A

Level 3: N/A

Level 5: N/A

## QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The subsurface development transportation system does not have its own radioactive source term and does not provide for personnel radiation shielding or the reduction of dose rates.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

This SSC is not a radiation monitor.

## Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The subsurface development transportation system is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.1 Transportation System, as QA-1.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS16 - Subsurface Development Transportation System

SSC: Locomotives

Level 4: N/A

Level 3: N/A

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input checked="" type="checkbox"/>						

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The subsurface Development Transportation system supports the development of the repository by providing transportation for personnel and material traveling between the surface and the subsurface development areas. This subsystem is not associated with the emplacement, storage, packaging or retrieval of high-level waste.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The subsurface development transportation system is not required to function to prevent or mitigate DBEs that would otherwise result in a radioactive release above the federal limits.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

Direct failure of the subsurface development transportation system would not result in a credible DBE that could lead to a radioactive release above the federal limit.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The subsurface development transportation system is not part of the natural or engineered barriers that perform a waste isolation function.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

Direct failure of the subsurface development transportation system would not affect the waste isolation functions performed by the natural and engineered barriers.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS16 - Subsurface Development Transportation System**

**SSC: Locomotives**

**Level 4: N/A**

**Level 3: N/A**

**Level 5: N/A**

**QA-3 - Important to Radioactive Waste Control:**

**3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?**

**Yes?** Rationale:

The subsurface development transportation system is not associated with site-generated radioactive waste.

**QA-4 - Important to Fire Protection:**

**4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?**

**Yes?** Rationale:

The subsurface development transportation system does not perform fire protection functions.

**QA-5 - Important to Potential Interaction:**

**5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?**

**Yes?** Rationale:

Failure of the subsurface development transportation system would not impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation functions.

**QA-6 - Important to Physical Protection of Facility and Materials:**

**6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?**

**Yes?** Rationale:

The subsurface development transportation system is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

**6.2 Is the SSCs function required for special nuclear material accountability?**

**Yes?** Rationale:

The subsurface development transportation system is not associated with special nuclear material accountability.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS16 - Subsurface Development Transportation System

SSC: Locomotives

Level 4: N/A

Level 3: N/A

Level 5: N/A

## QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The subsurface development transportation system does not have its own radioactive source term and does not provide for personnel radiation shielding or the reduction of dose rates.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

This SSC is not a radiation monitor.

## Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The subsurface development transportation system is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.1 Transportation System, as QA-1.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS16 - Subsurface Development Transportation System

SSC: Rail Subsystems for Personnel & Equipment

Level 4: N/A

Level 3: N/A

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input checked="" type="checkbox"/>						

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The subsurface Development Transportation system supports the development of the repository by providing transportation for personnel and material traveling between the surface and the subsurface development areas. This subsystem is not associated with the emplacement, storage, packaging or retrieval of high-level waste.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The subsurface development transportation system is not required to function to prevent or mitigate DBEs that would otherwise result in a radioactive release above the federal limits.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

Direct failure of the subsurface development transportation system would not result in a credible DBE that could lead to a radioactive release above the federal limit.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The subsurface development transportation system is not part of the natural or engineered barriers that perform a waste isolation function.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

Direct failure of the subsurface development transportation system would not affect the waste isolation functions performed by the natural and engineered barriers.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00  
Attachment IV

**SDD: SS16 - Subsurface Development Transportation System**

**SSC: Rail Subsystems for Personnel & Equipment** Level 4: N/A

Level 3: N/A Level 5: N/A

## QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The subsurface development transportation system is not associated with site-generated radioactive waste.

## QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The subsurface development transportation system does not perform fire protection functions.

## QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

Failure of the subsurface development transportation system would not impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation functions.

## QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The subsurface development transportation system is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The subsurface development transportation system is not associated with special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS16 - Subsurface Development Transportation System**

**SSC: Rail Subsystems for Personnel & Equipment**                      **Level 4: N/A**

**Level 3: N/A**                                                                              **Level 5: N/A**

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### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes?      Rationale:

The subsurface development transportation system does not have its own radioactive source term and does not provide for personnel radiation shielding or the reduction of dose rates.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes?      Rationale:

This SSC is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes?      Rationale:

The subsurface development transportation system is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.1 Transportation System, as QA-1.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS16 - Subsurface Development Transportation System

SSC: Rolling Stock

Level 4: N/A

Level 3: N/A

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input checked="" type="checkbox"/>						

## QA-1 - Important to Radiological Safety:

- 1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?
- Yes? Rationale:  
The subsurface Development Transportation system supports the development of the repository by providing transportation for personnel and material traveling between the surface and the subsurface development areas. This subsystem is not associated with the emplacement, storage, packaging or retrieval of high-level waste.
- 1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?
- Yes? Rationale:  
The subsurface development transportation system is not required to function to prevent or mitigate DBEs that would otherwise result in a radioactive release above the federal limits.
- 1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?
- Yes? Rationale:  
Direct failure of the subsurface development transportation system would not result in a credible DBE that could lead to a radioactive release above the federal limit.

## QA-2 - Important to Waste Isolation:

- 2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?
- Yes? Rationale:  
The subsurface development transportation system is not part of the natural or engineered barriers that perform a waste isolation function.
- 2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?
- Yes? Rationale:  
Direct failure of the subsurface development transportation system would not affect the waste isolation functions performed by the natural and engineered barriers.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS16 - Subsurface Development Transportation System**

**SSC: Rolling Stock**

**Level 4: N/A**

**Level 3: N/A**

**Level 5: N/A**

**QA-3 - Important to Radioactive Waste Control:**

**3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?**

**Yes?** Rationale:

The subsurface development transportation system is not associated with site-generated radioactive waste.

**QA-4 - Important to Fire Protection:**

**4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?**

**Yes?** Rationale:

The subsurface development transportation system does not perform fire protection functions.

**QA-5 - Important to Potential Interaction:**

**5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?**

**Yes?** Rationale:

Failure of the subsurface development transportation system would not impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation functions.

**QA-6 - Important to Physical Protection of Facility and Materials:**

**6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?**

**Yes?** Rationale:

The subsurface development transportation system is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

**6.2 Is the SSCs function required for special nuclear material accountability?**

**Yes?** Rationale:

The subsurface development transportation system is not associated with special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS16 - Subsurface Development Transportation System**

**SSC: Rolling Stock**

**Level 4: N/A**

**Level 3: N/A**

**Level 5: N/A**

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The subsurface development transportation system does not have its own radioactive source term and does not provide for personnel radiation shielding or the reduction of dose rates.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

This SSC is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The subsurface development transportation system is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.1 Transportation System, as QA-1.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS17 - Waste Emplacement System

SSC: Emplacement Drift System

Level 4: N/A

Level 3: Access Control and Package Transfer Control System

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>					

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes?

Rationale:

The waste emplacement system transports the loaded and sealed waste packages from the surface facilities to the emplacement areas. The access control and package transfer control system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes?

Rationale:

The access control and package transfer control system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. This equipment prevents credible DBEs such as damaging or dropping a waste package or a rail accident.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes?

Rationale:

The access control and package transfer control system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. Failure of this equipment could result in credible DBEs such as damaging or dropping a waste package or a rail accident.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes?

Rationale:

The access control and package transfer control system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. This equipment is not part of the natural or engineered barriers.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes?

Rationale:

The waste emplacement system transports the loaded and sealed waste packages from the surface facilities to the emplacement areas. The access control and package transfer control system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. Failure of this equipment will not impact the natural or engineered barriers.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

### SDD: SS17 - Waste Emplacement System

SSC: Emplacement Drift System

Level 4: N/A

Level 3: Access Control and Package Transfer Control System

Level 5: N/A

#### QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The access control and package transfer control system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. This equipment is not involved with site-generated radioactive waste.

#### QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The access control and package transfer control system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. This equipment does not protect QA-1 or QA-2 SSCs from the effects of fire.

#### QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

The access control and package transfer control system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. Failure of these control systems would not impair a QA-1 or QA-2 SSC from performing its radiological safety or waste isolation function not already covered in Question 1.3.

#### QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The waste emplacement system - access control and package transfer control system is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The waste emplacement system - access control and package transfer control system is not associated with special nuclear material accountability.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS17 - Waste Emplacement System

SSC: Emplacement Drift System

Level 4: N/A

Level 3: Access Control and Package Transfer Control System

Level 5: N/A

## QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The access control and package transfer control system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. This system may need to provide radiation shielding or reduction of dose rates.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The access control and package transfer control system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. This system is not a radiation monitor.

## Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The waste emplacement system - access control and package transfer control system is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.12 Waste Emplacement System, as QA-1.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS17 - Waste Emplacement System**

**SSC: Emplacement Drift System**

**Level 4: N/A**

**Level 3: Doors/Docking System**

**Level 5: N/A**

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>					

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The waste emplacement system transports the loaded and sealed waste packages from the surface facilities to the emplacement areas. The doors and docking system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The doors and docking system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. This system may be required to function, as designed, to prevent credible DBEs such as damaging or dropping a waste package.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

The doors and docking system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. Failure of this system may result in a credible DBEs such as damaging or dropping a waste package.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The doors and docking system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. The doors and docking system is not part of the natural or engineered barriers.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

The doors and docking system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. Failure of the doors and docking system would not impact the natural or engineered barriers.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS17 - Waste Emplacement System**

**SSC: Emplacement Drift System**

**Level 4: N/A**

**Level 3: Doors/Docking System**

**Level 5: N/A**

**QA-3 - Important to Radioactive Waste Control:**

**3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?**

**Yes?** Rationale:

The doors and docking system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. The doors and docking system is not involved with site-generated radioactive waste.

**QA-4 - Important to Fire Protection:**

**4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?**

**Yes?** Rationale:

The doors and docking system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. The doors and docking system does not protect QA-1 or QA-2 SSCs from the effects of fire.

**QA-5 - Important to Potential Interaction:**

**5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?**

**Yes?** Rationale:

The doors and docking system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. Failure of this system would not impair a QA-1 or QA-2 SSC from performing its radiological safety or waste isolation function not already covered in Question 1.3.

**QA-6 - Important to Physical Protection of Facility and Materials:**

**6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?**

**Yes?** Rationale:

The waste emplacement system - doors and docking system is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

**6.2 Is the SSCs function required for special nuclear material accountability?**

**Yes?** Rationale:

The waste emplacement system - doors and docking system is not associated with special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS17 - Waste Emplacement System

SSC: Emplacement Drift System

Level 4: N/A

Level 3: Doors/Docking System

Level 5: N/A

### QA-7 - important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The doors and docking system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. This system does not have its own source term and does not provide radiation shielding or reduction of dose rates.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The doors and docking system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. This SSC is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The waste emplacement system - doors and docking system is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.12 Waste Emplacement System, as QA-1.

# Q-List Questions

## SDD: SS17 - Waste Emplacement System

SSC: Emplacement Maintenance System

Level 4: N/A

Level 3: Drift Inspection/Maintenance System

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input checked="" type="checkbox"/>	<input type="checkbox"/>						

### QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The waste emplacement system transports the loaded and sealed waste packages from the surface facilities to the emplacement areas. The emplacement drift inspection and maintenance system monitors the emplacement drifts for any conditions that would preclude storing waste packages in the drifts and performs maintenance on the drifts to allow for continued storage. This system is part of the equipment that provides for the safe emplacement and retrieval of the waste packages.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The emplacement drift inspection and maintenance system monitors the drifts for any conditions that would preclude storing waste packages in the drifts and performs maintenance on the drifts to allow for storage. This system is part of the equipment ensures waste packages are stored in drifts which meet their performance criteria thereby lowering the likelihood of DBEs such as a damaged waste package.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

The emplacement drift inspection and maintenance system monitors the drifts for any conditions that would preclude storing waste packages in the drifts and performs maintenance on the drifts to allow for storage. Failure of an inspection and maintenance system will not directly result in a DBE.

### QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The emplacement drift inspection and maintenance system monitors the drifts for any conditions that would preclude storing waste packages in the drifts and performs maintenance on the drifts to allow for storage. The inspection and maintenance system is not part of the natural or engineered barriers.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

The emplacement drift inspection and maintenance system monitors the drifts for any conditions that would preclude storing waste packages in the drifts and performs maintenance on the drifts to allow for storage. Failure of an inspection and maintenance system will not significantly impact natural or engineered barriers.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS17 - Waste Emplacement System**

**SSC: Emplacement Maintenance System**

**Level 4: N/A**

**Level 3: Drift Inspection/Maintenance System**

**Level 5: N/A**

### QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The emplacement drift inspection and maintenance system monitors the drifts for any conditions that would preclude storing waste packages in the drifts and performs maintenance on the drifts to allow for storage. The inspection and maintenance system is not involved with site-generated radioactive waste.

### QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The emplacement drift inspection and maintenance system monitors the drifts for any conditions that would preclude storing waste packages in the drifts and performs maintenance on the drifts to allow for storage. The inspection and maintenance system is not involved with protection from the effects of fire.

### QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

Failure of the emplacement drift inspection and maintenance system monitors will not impair a QA-1 or QA-2 SSC from performing its radiological safety or waste isolation function.

### QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The waste emplacement system - emplacement drift inspection and maintenance system is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The waste emplacement system - emplacement drift inspection and maintenance system is not associated with special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS17 - Waste Emplacement System**

**SSC: Emplacement Maintenance System**

**Level 4: N/A**

**Level 3: Drift Inspection/Maintenance System**

**Level 5: N/A**

**QA-7 - Important to Occupational Radiological Exposure:**

**7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?**

**Yes?** **Rationale:**

The emplacement drift inspection and maintenance system monitors the drifts for any conditions that would preclude storing waste packages in the drifts and performs maintenance on the drifts to allow for storage. The inspection and maintenance system is not involved with radiation shielding, reduction in dose rates or have its own source term.

**7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?**

**Yes?** **Rationale:**

The emplacement drift inspection and maintenance system monitors the drifts for any conditions that would preclude storing waste packages in the drifts and performs maintenance on the drifts to allow for storage. The inspection and maintenance system is not a radiation monitor.

**Previous QA Classification:**

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

**8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?**

**Yes?** **Rationale:**

The waste emplacement system - emplacement drift inspection and maintenance system is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.12 Waste Emplacement System, as QA-1.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS17 - Waste Emplacement System

SSC: Emplacement Maintenance System

Level 4: N/A

Level 3: Emergency/Recovery Equipment System

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The waste emplacement system transports the loaded and sealed waste packages from the surface facilities to the emplacement areas. The emergency and recovery equipment system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The emergency and recovery equipment system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. This system may be required to mitigate a credible DBE (such as damaging or dropping a waste package, rail accident or transporter accident).

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

The emergency and recovery equipment system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. Failure of this system will not directly lead to a DBE which exceeds the limits.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The emergency and recovery equipment system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. This equipment is not part of the natural or engineered barriers.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

The emergency and recovery equipment system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. Failure of this equipment will not impact the natural or engineered barriers.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

### SDD: SS17 - Waste Emplacement System

SSC: Emplacement Maintenance System

Level 4: N/A

Level 3: Emergency/Recovery Equipment System

Level 5: N/A

#### QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The emergency and recovery equipment system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. This equipment may be involved with site-generated radioactive waste resulting from failure of a waste package due to a DBE.

#### QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The emergency and recovery equipment system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. This equipment does not protect QA-1 or QA-2 SSCs from the effects of fire.

#### QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

The emergency and recovery equipment system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. Failure of this equipment would not impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function.

#### QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The waste emplacement system - emergency and recovery equipment system is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The waste emplacement system - emergency and recovery equipment system is not associated with special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS17 - Waste Emplacement System

SSC: Emplacement Maintenance System

Level 4: N/A

Level 3: Emergency/Recovery Equipment System

Level 5: N/A

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The emergency and recovery equipment system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. This system may provide radiation shielding or reduction of dose rates in area of the emergency.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The emergency and recovery equipment system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. This system is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The waste emplacement system - emergency and recovery equipment system is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.12 Waste Emplacement System, as QA-1.

# Q-List Questions

## SDD: SS17 - Waste Emplacement System

SSC: Emplacement Maintenance System

Level 4: N/A

Level 3: Repair Equipment System

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The waste emplacement system transports the loaded and sealed waste packages from the surface facilities to the emplacement areas. The repair equipment system ensures that the waste emplacement system equipment is operable and available for service to transport the waste to storage but is not required to function.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The repair equipment system ensures that the waste emplacement system equipment is operable and available for service to transport the waste to storage but does not prevent, mitigate, or monitor a credible DBE.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

The repair equipment system ensures that the waste emplacement system equipment is operable and available for service to transport the waste to storage. Failure of the repair equipment system will not lead to a credible DBEs involving the waste emplacement system. This system only repairs the equipment.

### QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The repair equipment system ensures that the waste emplacement system equipment is operable and available for service to transport the waste to storage. The repair equipment system is not part of the natural or engineered barriers.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

The repair equipment system ensures that the waste emplacement system equipment is operable and available for service to transport the waste to storage. Failure of the repair equipment system will not impact the natural or engineered barriers. This system only repairs the equipment.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS17 - Waste Emplacement System**

**SSC: Emplacement Maintenance System**

**Level 4: N/A**

**Level 3: Repair Equipment System**

**Level 5: N/A**

**QA-3 - Important to Radioactive Waste Control:**

**3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?**

**Yes?** Rationale:

The repair equipment system ensures that the waste emplacement system equipment is operable and available for service to transport the waste to storage. The repair equipment system is not involved with site-generated radioactive waste.

**QA-4 - Important to Fire Protection:**

**4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?**

**Yes?** Rationale:

The repair equipment system ensures that the waste emplacement system equipment is operable and available for service to transport the waste to storage. The repair equipment system is not involved with protection from the effects of fire.

**QA-5 - Important to Potential Interaction:**

**5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?**

**Yes?** Rationale:

The repair equipment system ensures that the waste emplacement system equipment is operable and available for service to transport the waste to storage. Failure of the repair equipment system could impair a QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function.

**QA-6 - Important to Physical Protection of Facility and Materials:**

**6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?**

**Yes?** Rationale:

The waste emplacement system - repair equipment system is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

**6.2 Is the SSCs function required for special nuclear material accountability?**

**Yes?** Rationale:

The waste emplacement system- repair equipment system is not associated with special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

### SDD: SS17 - Waste Emplacement System

SSC: Emplacement Maintenance System

Level 4: N/A

Level 3: Repair Equipment System

Level 5: N/A

#### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The repair equipment system ensures that the waste emplacement system equipment is operable and available for service to transport the waste to storage. The repair equipment system may be required to provide radiation shielding for reduction in dose rates.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The repair equipment system ensures that the waste emplacement system equipment is operable and available for service to transport the waste to storage. The repair equipment system is not a radiation monitor.

#### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The waste emplacement system - repair equipment system is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.12 Waste Emplacement System, as QA-1.

# Q-List Questions

## SDD: SS17 - Waste Emplacement System

SSC: Emplacement Rail System

Level 4: N/A

Level 3: Rail Control System

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input checked="" type="checkbox"/>	<input type="checkbox"/>						

### QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes?

Rationale:

The waste emplacement system transports the loaded and sealed waste packages from the surface facilities to the emplacement areas. The rail control system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes?

Rationale:

The rail control system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. The system prevents credible DBEs such as damaging or dropping a waste package or a rail accident.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes?

Rationale:

The rail control system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. Failure of the system could lead to a credible DBEs such as damaging or dropping a waste package or a rail accident.

### QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes?

Rationale:

The rail control system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. The rail control system is not part of the natural or engineered barriers.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes?

Rationale:

The rail control system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. Failure of the system would not impact the natural or engineered barriers.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

### SDD: SS17 - Waste Emplacement System

SSC: Emplacement Rail System

Level 4: N/A

Level 3: Rail Control System

Level 5: N/A

#### QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The rail control system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. The system is not involved in the site-generated radioactive waste.

#### QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The rail control system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. The system does not protect QA-1 or QA-2 SSCs from the effects of fire.

#### QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

The rail control system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. Failure of the system would not impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function already covered in Question 1.3.

#### QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The waste emplacement system - rail control system is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The waste emplacement system - rail control system is not associated with special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS17 - Waste Emplacement System**

**SSC: Emplacement Rail System**

**Level 4: N/A**

**Level 3: Rail Control System**

**Level 5: N/A**

### QA-7 - Important to Occupational Radiological Exposure:

**7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?**

**Yes?** Rationale:

The rail control system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. This system does not have its own source term and does not provide radiation shielding or reduction of dose rates.

**7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?**

**Yes?** Rationale:

The rail control system is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. This system is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

**8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?**

**Yes?** Rationale:

The waste emplacement system - rail control system is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.12 Waste Emplacement System, as QA-1.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS17 - Waste Emplacement System

SSC: Emplacement Rail System

Level 4: N/A

Level 3: Rail, Switches & Hardware

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input checked="" type="checkbox"/>	<input type="checkbox"/>						

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes?

Rationale:

The waste emplacement system transports the loaded and sealed waste packages from the surface facilities to the emplacement areas. The rail, switches and hardware are part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes?

Rationale:

The rail, switches and hardware are part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. This equipment prevents credible DBEs such as damaging or dropping a waste package or a rail accident.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes?

Rationale:

The rail, switches and hardware are part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. Failure of this equipment could result in credible DBEs such as damaging or dropping a waste package or a rail accident.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes?

Rationale:

The rail, switches and hardware are part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. This equipment is not part of the natural or engineered barriers.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes?

Rationale:

The rail, switches and hardware are part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. Failure of this equipment will not impact the natural or engineered barriers.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

### SDD: SS17 - Waste Emplacement System

SSC: Emplacement Rail System

Level 4: N/A

Level 3: Rail, Switches & Hardware

Level 5: N/A

#### QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The rail, switches and hardware are part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. This equipment is not involved with site-generated radioactive waste.

#### QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The rail, switches and hardware are part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. This equipment does not protect QA-1 or QA-2 SSCs from the effects of fire.

#### QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

The rail, switches and hardware are part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. Failure of this equipment would not impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function beyond impacts already covered in Question 1.3.

#### QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The rail, switches and hardware of the waste emplacement system is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The rail, switches and hardware of the waste emplacement system is not associated with special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS17 - Waste Emplacement System**

**SSC: Emplacement Rail System**

**Level 4: N/A**

**Level 3: Rail, Switches & Hardware**

**Level 5: N/A**

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The rail, switches and hardware are part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. This system does not have its own source term and does not provide radiation shielding or reduction of dose rates.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The rail, switches and hardware are part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. This equipment is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The rail, switches and hardware of the waste emplacement system is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.12 Waste Emplacement System, as QA-1.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS17 - Waste Emplacement System

SSC: Emplacement Rail System

Level 4: N/A

Level 3: Rolling Stock

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>					

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The waste emplacement system transports the loaded and sealed waste packages from the surface facilities to the emplacement areas. The rolling stock is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The rolling stock is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. This equipment prevents credible DBEs such as damaging or dropping a waste package or a rail accident.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

The rolling stock is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. Failure of this equipment could result in credible DBEs such as damaging or dropping a waste package or a rail accident.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The rolling stock is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. This equipment is not part of the natural or engineered barriers.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

The rolling stock is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. Failure of this equipment will not impact the natural or engineered barriers.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS17 - Waste Emplacement System**

**SSC: Emplacement Rail System**

**Level 4: N/A**

**Level 3: Rolling Stock**

**Level 5: N/A**

**QA-3 - Important to Radioactive Waste Control:**

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

**Yes?** Rationale:

The rolling stock is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. This equipment is not involved with site-generated radioactive waste.

**QA-4 - Important to Fire Protection:**

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

**Yes?** Rationale:

The rolling stock is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. This equipment does not protect QA-1 or QA-2 SSCs from the effects of fire.

**QA-5 - Important to Potential Interaction:**

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

**Yes?** Rationale:

The rolling stock is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. Failure of this equipment would not impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function beyond what is already covered in Question 1.3.

**QA-6 - Important to Physical Protection of Facility and Materials:**

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

**Yes?** Rationale:

The rolling stock of the waste emplacement system is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

6.2 Is the SSCs function required for special nuclear material accountability?

**Yes?** Rationale:

The rolling stock of the waste emplacement system is not associated with special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS17 - Waste Emplacement System**

**SSC: Emplacement Rail System**

**Level 4: N/A**

**Level 3: Rolling Stock**

**Level 5: N/A**

**QA-7 - Important to Occupational Radiological Exposure:**

**7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?**

**Yes?** Rationale:

The rolling stock is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. The waste emplacement system transporter as part of the rolling stock provides shielding such that other operations may be conducted nearby.

**7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?**

**Yes?** Rationale:

The rolling stock is part of the equipment that provides for the safe emplacement of the waste packages in the emplacement areas. The rolling stock is not a radiation monitor.

**Previous QA Classification:**

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

**8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?**

**Yes?** Rationale:

The rolling stock of the waste emplacement system is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.12 Waste Emplacement System, as QA-1.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS19 - Subsurface Closure & Sealing System

SSC: Backfill Emplacement System

Level 4: N/A

Level 3: Material Emplacement System

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>					

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The Material Emplacement System, as part of the backfill emplacement system, provides closure barriers for the underground openings, including surface and subsurface boreholes. This system does not include backfill used as a performance enhancement barrier in the emplacement drifts. This system controls fluid flow into the engineered barrier and limits human intrusion. It does not provide for the handling, packaging, emplacement, storage, or retrieval of high-level-waste.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The Material Emplacement System, as part of the backfill emplacement system, provides closure barriers for the underground openings, including surface and subsurface boreholes. There is no credible DBE associated with this system in which it would be required to prevent, mitigate, or monitor a radioactive release.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

The Material Emplacement System, as part of the backfill emplacement system, provides closure barriers for the underground openings, including surface and subsurface boreholes. Direct failure of this SSC would not result in a credible DBE that would lead to a radioactive release above federal limits.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The Material Emplacement System, as part of the backfill emplacement system, provides closure barriers for the underground openings, including surface and subsurface boreholes. This SSC includes the backfill material which performs a waste isolation function by forming part of the natural or engineered barriers.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

The Material Emplacement System, as part of the backfill emplacement system, provides closure barriers for the underground openings, including surface and subsurface boreholes. Failure of this SSC could have potential to significantly affect the hydrological, geochemical, or geomechanical characteristics of the engineered barrier.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS19 - Subsurface Closure & Sealing System**

**SSC: Backfill Emplacement System** Level 4: N/A

**Level 3: Material Emplacement System** Level 5: N/A

### QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The Material Emplacement System, as part of the backfill emplacement system, provides closure barriers for the underground openings, including surface and subsurface boreholes. It is not designed for the collection, containment, or monitoring of site-generated radioactive waste.

### QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The Material Emplacement System does not perform a fire protection function.

### QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

The Material Emplacement System, as part of the backfill emplacement system, provides closure barriers for the underground openings, including surface and subsurface boreholes. Failure of this system would not impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety/waste isolation functions.

### QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The Material Emplacement System, as part of the backfill emplacement system, provides closure barriers for the underground openings, including surface and subsurface boreholes. It does not provide the detection or alarm of unauthorized intrusion or explosives in the restricted area.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The Material Emplacement System, as part of the backfill emplacement system, provides closure barriers for the underground openings, including surface and subsurface boreholes. It does not function to provide for special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS19 - Subsurface Closure & Sealing System

SSC: Backfill Emplacement System

Level 4: N/A

Level 3: Material Emplacement System

Level 5: N/A

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Material Emplacement System, as part of the backfill emplacement system, provides closure barriers for the underground openings, including surface and subsurface boreholes. It does not contain a radioactive source term and is not associated with radiation shielding or the reduction of dose rates in radioactive areas.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Material Emplacement System is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

This SSC was previously analyzed and determined to be QA-2 by Direct Inclusion, as WBS 1.2.4.3., Seals, SSA 3.6.13, Exploratory Borehole Seals.

# Q-List Questions

SDD: SS19 - Subsurface Closure & Sealing System

SSC: Backfill Emplacement System Level 4: N/A

Level 3: Material Segregation, Storage and Blending System Level 5: N/A

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QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
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**QA-1 - Important to Radiological Safety:**

- 1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?  
 Yes? Rationale:  
The Material Segregation, Storage and Blending System provides the materials necessary to perform backfill emplacement operations of the subsurface closure and sealing system. The Material Segregation, Storage and Blending System is not required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits.
  
- 1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?  
 Yes? Rationale:  
The Material Segregation, Storage and Blending System provides the materials necessary to perform backfill emplacement operations of the subsurface closure and sealing system. There is no credible DBE associated with this system in which it would be required to prevent, mitigate, or monitor a radioactive release.
  
- 1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?  
 Yes? Rationale:  
The Material Segregation, Storage and Blending System provides the materials necessary to perform backfill emplacement operations of the subsurface closure and sealing system. Direct failure of this SSC would not result in a credible DBE that would lead to a radioactive release above federal limits.

**QA-2 - Important to Waste Isolation:**

- 2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?  
 Yes? Rationale:  
The Material Segregation, Storage and Blending System prepares the materials necessary to perform backfill emplacement operations of the subsurface closure and sealing system. This SSC does not perform a waste isolation function by forming part of the natural or engineered barriers. The backfill material is part of the material emplacement system
  
- 2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?  
 Yes? Rationale:  
The Material Segregation, Storage and Blending System provides the materials necessary to perform backfill emplacement operations of the subsurface closure and sealing system. Failure of this SSC would not significantly affect the hydrological, geochemical, or geomechanical characteristics of the engineered barrier.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS19 - Subsurface Closure & Sealing System**

**SSC: Backfill Emplacement System**

**Level 4: N/A**

**Level 3: Material Segregation, Storage and Blending System**

**Level 5: N/A**

### QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The Material Segregation, Storage and Blending System provides the materials necessary to perform backfill emplacement operations of the subsurface closure and sealing system. It is not designed for the collection, containment, or monitoring of site-generated radioactive waste.

### QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The Material Segregation, Storage and Blending System does not perform a fire protection function.

### QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

The Material Segregation, Storage and Blending System provides the materials necessary to perform backfill emplacement operations of the subsurface closure and sealing system. Failure of this system would not impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety/waste isolation functions.

### QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The Material Segregation, Storage and Blending System provides the materials necessary to perform backfill emplacement operations of the subsurface closure and sealing system. It does not provide the detection or alarm of unauthorized intrusion or explosives in the restricted area.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The Material Segregation, Storage and Blending System provides the materials necessary to perform backfill emplacement operations of the subsurface closure and sealing system. It does not function to provide for special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS19 - Subsurface Closure & Sealing System**

**SSC: Backfill Emplacement System**

**Level 4: N/A**

**Level 3: Material Segregation, Storage and Blending System**

**Level 5: N/A**

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Material Segregation, Storage and Blending System provides the materials necessary to perform backfill emplacement operations of the subsurface closure and sealing system. It does not contain a radioactive source term and is not associated with radiation shielding or the reduction of dose rates in radioactive areas.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Material Segregation, Storage and Blending System is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

This SSC was previously analyzed and determined to be QA-2 by Direct Inclusion, as WBS 1.2.4.3., Seals, SR 3.6.

# Q-List Questions

SDD: SS19 - Subsurface Closure & Sealing System

SSC: Backfill Emplacement System

Level 4: N/A

Level 3: Material Transport System

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
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## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The Material Transport System provides the transportation of the materials necessary to perform backfill emplacement operations of the subsurface closure and sealing system. The Material Transport System does not contain the material and is not required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The Material Transport System provides for the handling and transportation of the materials necessary to perform backfill operations of the subsurface closure and sealing system. There is no credible DBE associated with this system in which it would be required to prevent, mitigate, or monitor a radioactive release.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

The Material Transport System provides for the handling and transportation of the materials necessary to perform backfill operations of the subsurface closure and sealing system. Direct failure of this SSC would not result in a credible DBE that would lead to a radioactive release above federal limits.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The Material Transport System provides for the handling and transportation of the materials necessary to perform backfill operations of the subsurface closure and sealing system but is not part of the backfill material. The handling and transporting of the materials is not a waste isolation function (does not form part of the natural or engineered barriers).

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

The Material Transport System provides for the handling and transportation of the materials necessary to perform backfill operations of the subsurface closure and sealing system. Failure of this SSC would not significantly affect the hydrological, geochemical, or geomechanical characteristics of the engineered barrier.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS19 - Subsurface Closure & Sealing System**

**SSC: Backfill Emplacement System**

**Level 4: N/A**

**Level 3: Material Transport System**

**Level 5: N/A**

**QA-3 - Important to Radioactive Waste Control:**

**3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?**

**Yes?** Rationale:

The Material Transport System provides for the handling and transportation of the materials necessary to perform backfill operations of the subsurface closure and sealing system. It is not designed for the collection, containment, or monitoring of site-generated radioactive waste.

**QA-4 - Important to Fire Protection:**

**4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?**

**Yes?** Rationale:

The Material Transport System does not perform a fire protection function.

**QA-5 - Important to Potential Interaction:**

**5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?**

**Yes?** Rationale:

The Material Transport System provides for the handling and transportation of the materials necessary to perform backfill operations of the subsurface closure and sealing system. Failure of this system would not impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety/waste isolation functions.

**QA-6 - Important to Physical Protection of Facility and Materials:**

**6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?**

**Yes?** Rationale:

The Material Transport System provides for the handling and transportation of the materials necessary to perform backfill operations of the subsurface closure and sealing system but is not part of the backfill material. It does not provide the detection or alarm of unauthorized intrusion or explosives in the restricted area.

**6.2 Is the SSCs function required for special nuclear material accountability?**

**Yes?** Rationale:

The Material Transport System provides for the handling and transportation of the materials necessary to perform backfill operations of the subsurface closure and sealing system. It does not function to provide for special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS19 - Subsurface Closure & Sealing System**

**SSC: Backfill Emplacement System**

**Level 4: N/A**

**Level 3: Material Transport System**

**Level 5: N/A**

**QA-7 - Important to Occupational Radiological Exposure:**

**7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?**

**Yes?** Rationale:

The Material Transport System provides for the handling and transportation of the materials necessary to perform backfill operations of the subsurface closure and sealing system. It does not contain a radioactive source term and is not associated with radiation shielding or the reduction of dose rates in radioactive areas.

**7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?**

**Yes?** Rationale:

The Material Transport System is not a radiation monitor.

**Previous QA Classification:**

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

**8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?**

**Yes?** Rationale:

This SSC was previously analyzed and determined to be non-Q by exemption, as WBS 1.2.4.3.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS19 - Subsurface Closure & Sealing System

SSC: Borehole Sealing System

Level 4: N/A

Level 3: Material Emplacement System

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>					

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The Material Emplacement System, as part of the borehole sealing system, provides closure barriers for the underground openings, including surface and subsurface boreholes. This system controls fluid flow into the engineered barrier and limits human intrusion. It does not provide for the handling, packaging, emplacement, storage, or retrieval of high-level-waste.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The Material Emplacement System, as part of the borehole sealing system, provides closure barriers for the underground openings, including surface and subsurface boreholes. There is no credible DBE associated with this system in which it would be required to prevent, mitigate, or monitor a radioactive release.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

The Material Emplacement System, as part of the borehole sealing system, provides closure barriers for the underground openings, including surface and subsurface boreholes. Direct failure of this SSC would not result in a credible DBE that would lead to a radioactive release above federal limits.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The Material Emplacement System, as part of the borehole sealing system, provides closure barriers for the underground openings, including surface and subsurface boreholes. The emplacement equipment does not perform a waste isolation function by forming part of the natural or engineered barriers. However, the seal materials form part of the natural barrier.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

The Material Emplacement System, as part of the borehole sealing system, provides closure barriers for the underground openings, including surface and subsurface boreholes. Failure of this emplacement equipment would significantly affect the hydrological, geochemical, or geomechanical characteristics of the engineered barrier.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

### SDD: SS19 - Subsurface Closure & Sealing System

SSC: Borehole Sealing System

Level 4: N/A

Level 3: Material Emplacement System

Level 5: N/A

#### QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The Material Emplacement System, as part of the borehole sealing system, provides closure barriers for the underground openings, including surface and subsurface boreholes. It is not designed for the collection, containment, or monitoring of site-generated radioactive waste.

#### QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The Material Emplacement System does not perform a fire protection function.

#### QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

The Material Emplacement System, as part of the borehole sealing system, provides closure barriers for the underground openings, including surface and subsurface boreholes. Failure of this system would not impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety/waste isolation functions.

#### QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The Material Emplacement System, as part of the borehole sealing system, provides closure barriers for the underground openings, including surface and subsurface boreholes. It does not provide the detection or alarm of unauthorized intrusion or explosives in the restricted area.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The Material Emplacement System, as part of the borehole sealing system, provides closure barriers for the underground openings, including surface and subsurface boreholes. It does not function to provide for special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS19 - Subsurface Closure & Sealing System

SSC: Borehole Sealing System

Level 4: N/A

Level 3: Material Emplacement System

Level 5: N/A

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Material Emplacement System, as part of the borehole sealing system, provides closure barriers for the underground openings, including surface and subsurface boreholes. It does not contain a radioactive source term and is not associated with radiation shielding or the reduction of dose rates in radioactive areas.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Material Emplacement System is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

This SSC was previously analyzed and determined to be QA-2 by direct inclusion, as WBS 1.2.4.3., SSA 3.6.13, Exploratory Borehole Seals.

# Q-List Questions

SDD: SS19 - Subsurface Closure & Sealing System

SSC: Borehole Sealing System

Level 4: N/A

Level 3: Material Handling System

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input checked="" type="checkbox"/>						

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The Material Handling System provides for the handling and transportation of the materials necessary to perform borehole sealing operations of the subsurface closure and sealing system. The Material Handling System is not part of the material and is not required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The Material Handling System provides for the handling and transportation of the materials necessary to perform borehole sealing operations of the subsurface closure and sealing system. There is no credible DBE associated with this system in which it would be required to prevent, mitigate, or monitor a radioactive release.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

The Material Handling System provides for the handling and transportation of the materials necessary to perform borehole sealing operations of the subsurface closure and sealing system. Direct failure of this SSC would not result in a credible DBE that would lead to a radioactive release above federal limits.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The Material Handling System provides for the handling and transportation of the materials necessary to perform borehole sealing operations of the subsurface closure and sealing system but is not part of the sealing material. The handling and transporting of the materials is not a waste isolation function (does not form part of the natural or engineered barriers).

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

The Material Handling System provides for the handling and transportation of the materials necessary to perform borehole sealing operations of the subsurface closure and sealing system. Failure of this SSC would not significantly affect the hydrological, geochemical, or geomechanical characteristics of the engineered barrier.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

## SDD: SS19 - Subsurface Closure & Sealing System

SSC: Borehole Sealing System

Level 4: N/A

Level 3: Material Handling System

Level 5: N/A

### QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The Material Handling System provides for the handling and transportation of the materials necessary to perform borehole sealing operations of the subsurface closure and sealing system. It is not designed for the collection, containment, or monitoring of site-generated radioactive waste.

### QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The Material Handling System does not perform a fire protection function.

### QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

The Material Handling System provides for the handling and transportation of the materials necessary to perform borehole sealing operations of the subsurface closure and sealing system. Failure of this system would not impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety/waste isolation functions.

### QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The Material Handling System provides for the handling and transportation of the materials necessary to perform borehole sealing operations of the subsurface closure and sealing system. It does not provide the detection or alarm of unauthorized intrusion or explosives in the restricted area.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The Material Handling System provides for the handling and transportation of the materials necessary to perform borehole sealing operations of the subsurface closure and sealing system. It does not function to provide for special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS19 - Subsurface Closure & Sealing System**

**SSC: Borehole Sealing System**

**Level 4: N/A**

**Level 3: Material Handling System**

**Level 5: N/A**

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Material Handling System provides for the handling and transportation of the materials necessary to perform borehole sealing operations of the subsurface closure and sealing system. It does not contain a radioactive source term and is not associated with radiation shielding or the reduction of dose rates in radioactive areas.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Material Handling System is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

This SSC was previously analyzed and determined to be non-Q by exemption, as WBS 1.2.4.3.

# Q-List Questions

SDD: SS19 - Subsurface Closure & Sealing System

SSC: Seal System

Level 4: N/A

Level 3: Composite Material Handling System

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input checked="" type="checkbox"/>						

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The Composite Material Handling System provides for the handling and transportation of the materials necessary to perform sealing operations of the subsurface closure and sealing system. The Composite Material Handling System is not the material and is not required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The Composite Material Handling System provides for the handling and transportation of the materials necessary to perform sealing operations of the subsurface closure and sealing system. There is no credible DBE associated with this system in which it would be required to prevent, mitigate, or monitor a radioactive release.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

The Composite Material Handling System provides for the handling and transportation of the materials necessary to perform sealing operations of the subsurface closure and sealing system. Direct failure of this SSC would not result in a credible DBE that would lead to a radioactive release above federal limits.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The Composite Material Handling System provides for the handling and transportation of the materials necessary to perform sealing operations of the subsurface closure and sealing system but is not part of the sealing material. The handling and transporting of the materials is not a waste isolation function (does not form part of the natural or engineered barriers).

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

The Composite Material Handling System provides for the handling and transportation of the materials necessary to perform sealing operations of the subsurface closure and sealing system. Failure of this SSC would not significantly affect the hydrological, geochemical, or geomechanical characteristics of the engineered barrier.

# O-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS19 - Subsurface Closure & Sealing System**

**SSC: Seal System**

**Level 4: N/A**

**Level 3: Composite Material Handling System**

**Level 5: N/A**

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**QA-3 - Important to Radioactive Waste Control:**

**3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?**

**Yes?** Rationale:

The Composite Material Handling System provides for the handling and transportation of the materials necessary to perform sealing operations of the subsurface closure and sealing system. It is not designed for the collection, containment, or monitoring of site-generated radioactive waste.

**QA-4 - Important to Fire Protection:**

**4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?**

**Yes?** Rationale:

The Composite Material Handling System does not perform a fire protection function.

**QA-5 - Important to Potential Interaction:**

**5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?**

**Yes?** Rationale:

The Composite Material Handling System provides for the handling and transportation of the materials necessary to perform sealing operations of the subsurface closure and sealing system. Failure of this system would not impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety/waste isolation functions.

**QA-6 - Important to Physical Protection of Facility and Materials:**

**6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?**

**Yes?** Rationale:

The Composite Material Handling System provides for the handling and transportation of the materials necessary to perform sealing operations of the subsurface closure and sealing system. It does not provide the detection or alarm of unauthorized intrusion or explosives in the restricted area.

**6.2 Is the SSCs function required for special nuclear material accountability?**

**Yes?** Rationale:

The Composite Material Handling System provides for the handling and transportation of the materials necessary to perform sealing operations of the subsurface closure and sealing system. It does not function to provide for special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS19 - Subsurface Closure & Sealing System

SSC: Seal System

Level 4: N/A

Level 3: Composite Material Handling System

Level 5: N/A

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Composite Material Handling System provides for the handling and transportation of the materials necessary to perform sealing operations of the subsurface closure and sealing system. It does not contain a radioactive source term and is not associated with radiation shielding or the reduction of dose rates in radioactive areas.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Composite Material Handling System is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

This SSC was previously analyzed and determined to be non-Q by exemption, as WBS 1.2.4.3.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS19 - Subsurface Closure & Sealing System

SSC: Seal System

Level 4: N/A

Level 3: Material Emplacement System

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input checked="" type="checkbox"/>						

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The Material Emplacement System, as part of the seal system, provides closure barriers for the underground openings, including surface and subsurface boreholes. This system controls fluid flow into the engineered barrier and limits human intrusion. It is not part of the material and does not provide for the handling, packaging, emplacement, storage, or retrieval of high-level-waste.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The Material Emplacement System, as part of the seal system, provides closure barriers for the underground openings, including surface and subsurface boreholes. There is no credible DBE associated with this system in which it would be required to prevent, mitigate, or monitor a radioactive release.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

The Material Emplacement System, as part of the seal system, provides closure barriers for the underground openings, including surface and subsurface boreholes. Direct failure of this SSC would not result in a credible DBE that would lead to a radioactive release above federal limits.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The Material Emplacement System, as part of the seal system, provides closure barriers for the underground openings, including surface and subsurface boreholes but is not part of the sealing material. The SSC in itself does not perform a waste isolation function by forming part of the natural or engineered barriers.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

The Material Emplacement System, as part of the seal system, provides closure barriers for the underground openings, including surface and subsurface boreholes. Failure of this SSC would not significantly affect the hydrological, geochemical, or geomechanical characteristics of the engineered barrier.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS19 - Subsurface Closure & Sealing System**

**SSC: Seal System**

**Level 4: N/A**

**Level 3: Material Emplacement System**

**Level 5: N/A**

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**QA-3 - Important to Radioactive Waste Control:**

**3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?**

**Yes?** Rationale:

The Material Emplacement System, as part of the seal system, provides closure barriers for the underground openings, including surface and subsurface boreholes. It is not designed for the collection, containment, or monitoring of site-generated radioactive waste.

**QA-4 - Important to Fire Protection:**

**4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?**

**Yes?** Rationale:

The Material Emplacement System does not perform a fire protection function.

**QA-5 - Important to Potential Interaction:**

**5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?**

**Yes?** Rationale:

The Material Emplacement System, as part of the seal system, provides closure barriers for the underground openings, including surface and subsurface boreholes. Failure of this system would not impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety/waste isolation functions.

**QA-6 - Important to Physical Protection of Facility and Materials:**

**6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?**

**Yes?** Rationale:

The Material Emplacement System, as part of the seal system, provides closure barriers for the underground openings, including surface and subsurface boreholes. It does not provide the detection or alarm of unauthorized intrusion or explosives in the restricted area.

**6.2 Is the SSCs function required for special nuclear material accountability?**

**Yes?** Rationale:

The Material Emplacement System, as part of the seal system, provides closure barriers for the underground openings, including surface and subsurface boreholes. It does not function to provide for special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS19 - Subsurface Closure & Sealing System

SSC: Seal System

Level 4: N/A

Level 3: Material Emplacement System

Level 5: N/A

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Material Emplacement System, as part of the seal system, provides closure barriers for the underground openings, including surface and subsurface boreholes. It does not contain a radioactive source term and is not associated with radiation shielding or the reduction of dose rates in radioactive areas.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Material Emplacement System is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

This SSC was previously analyzed and determined to be non-Q by exemption, as WBS 1.2.4.3.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS19 - Subsurface Closure & Sealing System

SSC: Seal System

Level 4: N/A

Level 3: Structural Seal Component System

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes?

Rationale:

The Structural Seal Component System provides the composite materials necessary to perform sealing operations of the subsurface closure and sealing system. The Structural Seal Component System is not required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes?

Rationale:

The Structural Seal Component System provides the composite materials necessary to perform sealing operations of the subsurface closure and sealing system. This SSC is not required to prevent or mitigate a credible DBE which would result in a release above the federal limits.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes?

Rationale:

The Structural Seal Component System provides the composite materials necessary to perform sealing operations of the subsurface closure and sealing system. Direct failure of this SSC would not result in a credible DBE that would lead to a radioactive release above federal limits.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes?

Rationale:

The Structural Seal Component System provides the composite materials necessary to perform sealing operations of the subsurface closure and sealing system. This SSC performs a waste isolation function by controlling fluid flow into the engineered barrier and human intrusion.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes?

Rationale:

The Structural Seal Component System provides the composite materials necessary to perform sealing operations of the subsurface closure and sealing system. This material will function such that it controls fluid flow into the engineered barrier and human intrusion. Therefore, failure of this system could affect the hydrological, geochemical, or geomechanical characteristics of the engineered barrier.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS19 - Subsurface Closure & Sealing System**

**SSC: Seal System**

**Level 4: N/A**

**Level 3: Structural Seal Component System**

**Level 5: N/A**

**QA-3 - Important to Radioactive Waste Control:**

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

This SSC is a subset of the subsurface closure and seal system, which is designed to control fluid intake and human intrusion. It is not designed for the collection, containment, or monitoring of site-generated radioactive waste.

**QA-4 - Important to Fire Protection:**

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The Structural Seal Component System does not perform a fire protection function.

**QA-5 - Important to Potential Interaction:**

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

The Structural Seal Component System provides the composite materials necessary to perform sealing operations of the subsurface closure and sealing system. Failure of this SSC could result in fluid intake and/or human intrusion. This failure could impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety/waste isolation functions.

**QA-6 - Important to Physical Protection of Facility and Materials:**

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The Structural Seal Component System provides the composite materials necessary to perform sealing operations of the subsurface closure and sealing system. It does not provide the detection or alarm of unauthorized intrusion. However, it is part of a physical barrier used to prevent human access.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The Structural Seal Component System provides the composite materials necessary to perform sealing operations of the subsurface closure and sealing system. It does not function to provide for special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS19 - Subsurface Closure & Sealing System

SSC: Seal System

Level 4: N/A

Level 3: Structural Seal Component System

Level 5: N/A

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Structural Seal Component System provides the composite materials necessary to perform sealing operations of the subsurface closure and sealing system. It does not contain a radioactive source term and is not associated with radiation shielding or the reduction of dose rates in radioactive areas.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Structural Seal Component System is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

This SSC is contained in the Q-List by direct inclusion for the Seals, SSA 3.6, as QA-1 and QA-2.

# Q-List Questions

SDD: SS20 - Subsurface Water Collection/Removal

SSC: Development Water Removal

Level 4: N/A

Level 3: Primary Piping and Routing

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The subsurface development water collection/removal system collects and removes water to the underground areas in construction for the development of the repository. This subsystem is not associated with the emplacement, storage, packaging or retrieval of high-level waste.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The subsurface development water collection/removal system is not required to function to prevent or mitigate DBEs that would otherwise result in a radioactive release above the federal limits.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

Direct failure of the subsurface development water collection/removal system would not result in a credible DBE that could lead to a radioactive release above the federal limit.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The subsurface development water collection/removal system is not part of the natural or engineered barriers that perform a waste isolation function.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

Direct failure of the subsurface development water collection/removal system can be mitigated or accounted for in the TSPA and, as such, will not prevent the natural and engineered barriers from performing their waste isolation functions.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS20 - Subsurface Water Collection/Removal**

**SSC: Development Water Removal**

**Level 4: N/A**

**Level 3: Primary Piping and Routing**

**Level 5: N/A**

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**QA-3 - Important to Radioactive Waste Control:**

**3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?**

**Yes?** Rationale:

The subsurface development water collection/removal system is not associated with site-generated radioactive waste

**QA-4 - Important to Fire Protection:**

**4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?**

**Yes?** Rationale:

The subsurface development water collection/removal system does not perform fire protection functions.

**QA-5 - Important to Potential Interaction:**

**5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?**

**Yes?** Rationale:

Failure of the subsurface development water collection/removal system could impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation functions.

**QA-6 - Important to Physical Protection of Facility and Materials:**

**6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?**

**Yes?** Rationale:

The subsurface development water collection/removal system is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

**6.2 Is the SSCs function required for special nuclear material accountability?**

**Yes?** Rationale:

The subsurface development water collection/removal system is not associated with special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS20 - Subsurface Water Collection/Removal

SSC: Development Water Removal

Level 4: N/A

Level 3: Primary Piping and Routing

Level 5: N/A

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The subsurface development water collection/removal system would not have its own radioactive source term and is not required to provide for personnel radiation shielding or the reduction of dose rates.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

This SSC is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The subsurface development water collection/removal system is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.7 Water Collection and Disposal System, as QA-1.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS20 - Subsurface Water Collection/Removal

SSC: Development Water Removal

Level 4: N/A

Level 3: Primary Sump and Pumping Station

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The subsurface development water collection/removal system collects and removes water to the underground areas in construction for the development of the repository. This subsystem is not associated with the emplacement, storage, packaging or retrieval of high-level waste.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The subsurface development water collection/removal system is not required to function to prevent or mitigate DBEs that would otherwise result in a radioactive release above the federal limits.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

Direct failure of the subsurface development water collection/removal system would not result in a credible DBE that could lead to a radioactive release above the federal limit.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The subsurface development water collection/removal system is not part of the natural or engineered barriers that perform a waste isolation function.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

Direct failure of the subsurface development water collection/removal system can be mitigated or accounted for in the TSPA and, as such, will not prevent the natural and engineered barriers from performing their waste isolation functions.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS20 - Subsurface Water Collection/Removal**

**SSC: Development Water Removal**

**Level 4: N/A**

**Level 3: Primary Sump and Pumping Station**

**Level 5: N/A**

**QA-3 - Important to Radioactive Waste Control:**

**3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?**

**Yes?** Rationale:

The subsurface development water collection/removal system is not associated with site-generated radioactive waste.

**QA-4 - Important to Fire Protection:**

**4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?**

**Yes?** Rationale:

The subsurface development water collection/removal system does not perform fire protection functions.

**QA-5 - Important to Potential Interaction:**

**5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?**

**Yes?** Rationale:

Failure of the subsurface development water collection/removal system could impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation functions.

**QA-6 - Important to Physical Protection of Facility and Materials:**

**6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?**

**Yes?** Rationale:

The subsurface development water collection/removal system is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

**6.2 Is the SSC's function required for special nuclear material accountability?**

**Yes?** Rationale:

The subsurface development water collection/removal system is not associated with special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS20 - Subsurface Water Collection/Removal

SSC: Development Water Removal

Level 4: N/A

Level 3: Primary Sump and Pumping Station

Level 5: N/A

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### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The subsurface development water collection/removal system would not have its own radioactive source term and is not required to provide for personnel radiation shielding or the reduction of dose rates.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

This SSC is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The subsurface development water collection/removal system is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.7 Water Collection and Disposal System, as QA-1.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS20 - Subsurface Water Collection/Removal

SSC: Development Water Removal

Level 4: N/A

Level 3: Secondary Collection Sumps/Pumping

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The subsurface development water collection/removal system collects and removes water to the underground areas in construction for the development of the repository. This subsystem is not associated with the emplacement, storage, packaging or retrieval of high-level waste.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The subsurface development water collection/removal system is not required to function to prevent or mitigate DBEs that would otherwise result in a radioactive release above the federal limits.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

Direct failure of the subsurface development water collection/removal system would not result in a credible DBE that could lead to a radioactive release above the federal limit.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The subsurface development water collection/removal system is not part of the natural or engineered barriers that perform a waste isolation function.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

Direct failure of the subsurface development water collection/removal system can be mitigated or accounted for in the TSPA and, as such, will not prevent the natural and engineered barriers from performing their waste isolation functions.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS20 - Subsurface Water Collection/Removal**

**SSC: Development Water Removal**

**Level 4: N/A**

**Level 3: Secondary Collection Sumps/Pumping**

**Level 5: N/A**

### QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The subsurface development water collection/removal system is not associated with site-generated radioactive waste.

### QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The subsurface development water collection/removal system does not perform fire protection functions.

### QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

Failure of the subsurface development water collection/removal system could impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation functions.

### QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The subsurface development water collection/removal system is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The subsurface development water collection/removal system is not associated with special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS20 - Subsurface Water Collection/Removal

SSC: Development Water Removal

Level 4: N/A

Level 3: Secondary Collection Sumps/Pumping

Level 5: N/A

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The subsurface development water collection/removal system would not have its own radioactive source term and is not required to provide for personnel radiation shielding or the reduction of dose rates.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

This SSC is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The subsurface development water collection/removal system is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.7 Water Collection and Disposal System, as QA-1.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS20 - Subsurface Water Collection/Removal

SSC: Development Water Removal

Level 4: N/A

Level 3: Temporary Piping and Routing

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The subsurface development water collection/removal system collects and removes water to the underground areas in construction for the development of the repository. This subsystem is not associated with the emplacement, storage, packaging or retrieval of high-level waste.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The subsurface development water collection/removal system is not required to function to prevent or mitigate DBEs that would otherwise result in a radioactive release above the federal limits.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

Direct failure of the subsurface development water collection/removal system would not result in a credible DBE that could lead to a radioactive release above the federal limit.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The subsurface development water collection/removal system is not part of the natural or engineered barriers that perform a waste isolation function.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

Direct failure of the subsurface development water collection/removal system can be mitigated or accounted for in the TSPA and, as such, will not prevent the natural and engineered barriers from performing their waste isolation functions.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS20 - Subsurface Water Collection/Removal**

**SSC: Development Water Removal**

**Level 4: N/A**

**Level 3: Temporary Piping and Routing**

**Level 5: N/A**

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**QA-3 - Important to Radioactive Waste Control:**

**3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?**

**Yes?** **Rationale:**

The subsurface development water collection/removal system is not associated with site-generated radioactive waste.

**QA-4 - Important to Fire Protection:**

**4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?**

**Yes?** **Rationale:**

The subsurface development water collection/removal system does not perform fire protection functions.

**QA-5 - Important to Potential Interaction:**

**5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?**

**Yes?** **Rationale:**

Failure of the subsurface development water collection/removal system could impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation functions.

**QA-6 - Important to Physical Protection of Facility and Materials:**

**6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?**

**Yes?** **Rationale:**

The subsurface development water collection/removal system is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

**6.2 Is the SSCs function required for special nuclear material accountability?**

**Yes?** **Rationale:**

The subsurface development water collection/removal system is not associated with special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS20 - Subsurface Water Collection/Removal**

**SSC: Development Water Removal**

**Level 4: N/A**

**Level 3: Temporary Piping and Routing**

**Level 5: N/A**

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The subsurface development water collection/removal system would not have its own radioactive source term and is not required to provide for personnel radiation shielding or the reduction of dose rates.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

This SSC is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The subsurface development water collection/removal system is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.7 Water Collection and Disposal System, as QA-1.

# Q-List Questions

SDD: SS20 - Subsurface Water Collection/Removal

SSC: Operations Water Removal

Level 4: N/A

Level 3: Piping and Routing

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes?

Rationale:

The subsurface operations water collection/removal system collects and removes water to the underground areas in operation of the repository. This subsystem is associated with the safe emplacement, storage, packaging or retrieval of high-level waste.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes?

Rationale:

The subsurface operations water collection/removal system may be required to function to prevent or mitigate DBEs that would otherwise result in a radioactive release above the federal limits.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes?

Rationale:

Direct failure of the subsurface operations water collection/removal system could result in a credible DBE such as flooding, that could lead to a radioactive release above the federal limit.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes?

Rationale:

The subsurface operations water collection/removal system is not part of the natural or engineered barriers that perform a waste isolation function.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes?

Rationale:

Direct failure of the subsurface operations water collection/removal system could affect the waste isolation functions performed by the natural and engineered barriers.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS20 - Subsurface Water Collection/Removal**

**SSC: Operations Water Removal**

**Level 4: N/A**

**Level 3: Piping and Routing**

**Level 5: N/A**

### QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

**Yes?** Rationale:

The subsurface operations water collection/removal system may be required to collect and remove site-generated radioactive waste.

### QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

**Yes?** Rationale:

The subsurface operations water collection/removal system does not perform fire protection functions.

### QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

**Yes?** Rationale:

Failure of the subsurface operations water collection/removal system would not impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation functions.

### QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

**Yes?** Rationale:

The subsurface operations water collection/removal system is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

6.2 Is the SSCs function required for special nuclear material accountability?

**Yes?** Rationale:

The subsurface operations water collection/removal system is not associated with special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS20 - Subsurface Water Collection/Removal

SSC: Operations Water Removal

Level 4: N/A

Level 3: Piping and Routing

Level 5: N/A

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The subsurface operations water collection/removal system may have its own radioactive source term if required to collect and remove radioactive liquid and may be required to provide for personnel radiation shielding or the reduction of dose rates.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

This SSC is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The subsurface operations water collection/removal system is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.7 Water Collection and Disposal System, as QA-1.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS20 - Subsurface Water Collection/Removal

SSC: Operations Water Removal

Level 4: N/A

Level 3: Primary Sump and Pumping Station

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes?

Rationale:

The subsurface operations water collection/removal system collects and removes water to the underground areas in operation of the repository. This subsystem is associated with the safe emplacement, storage, packaging or retrieval of high-level waste.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes?

Rationale:

The subsurface operations water collection/removal system may be required to function to prevent or mitigate DBEs that would otherwise result in a radioactive release above the federal limits.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes?

Rationale:

Direct failure of the subsurface operations water collection/removal system could result in a credible DBE such as flooding, that could lead to a radioactive release above the federal limit.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes?

Rationale:

The subsurface operations water collection/removal system is not part of the natural or engineered barriers that perform a waste isolation function.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes?

Rationale:

Direct failure of the subsurface operations water collection/removal system could affect the waste isolation functions performed by the natural and engineered barriers.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS20 - Subsurface Water Collection/Removal**

**SSC: Operations Water Removal**

**Level 4: N/A**

**Level 3: Primary Sump and Pumping Station**

**Level 5: N/A**

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**QA-3 - Important to Radioactive Waste Control:**

**3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?**

**Yes?** Rationale:

The subsurface operations water collection/removal system may be required to collect and remove site-generated radioactive waste.

**QA-4 - Important to Fire Protection:**

**4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?**

**Yes?** Rationale:

The subsurface operations water collection/removal system does not perform fire protection functions.

**QA-5 - Important to Potential Interaction:**

**5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?**

**Yes?** Rationale:

Failure of the subsurface operations water collection/removal system would not impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation functions.

**QA-6 - Important to Physical Protection of Facility and Materials:**

**6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?**

**Yes?** Rationale:

The subsurface operations water collection/removal system is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

**6.2 Is the SSCs function required for special nuclear material accountability?**

**Yes?** Rationale:

The subsurface operations water collection/removal system is not associated with special nuclear material accountability.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS20 - Subsurface Water Collection/Removal

SSC: Operations Water Removal

Level 4: N/A

Level 3: Primary Sump and Pumping Station

Level 5: N/A

## QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The subsurface operations water collection/removal system may have its own radioactive source term if required to collect and remove radioactive liquid and may be required to provide for personnel radiation shielding or the reduction of dose rates.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

This SSC is not a radiation monitor.

## Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The subsurface operations water collection/removal system is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.7 Water Collection and Disposal System, as QA-1.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS20 - Subsurface Water Collection/Removal

SSC: Operations Water Removal

Level 4: N/A

Level 3: Secondary Collection Sumps/Pumping

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes?

Rationale:

The subsurface operations water collection/removal system collects and removes water to the underground areas in operation of the repository. This subsystem is associated with the safe emplacement, storage, packaging or retrieval of high-level waste.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes?

Rationale:

The subsurface operations water collection/removal system may be required to function to prevent or mitigate DBEs that would otherwise result in a radioactive release above the federal limits.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes?

Rationale:

Direct failure of the subsurface operations water collection/removal system could result in a credible DBE that could lead to a radioactive release above the federal limit.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes?

Rationale:

The subsurface operations water collection/removal system is not part of the natural or engineered barriers that perform a waste isolation function.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes?

Rationale:

Direct failure of the subsurface operations water collection/removal system could affect the waste isolation functions performed by the natural and engineered barriers.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS20 - Subsurface Water Collection/Removal

SSC: Operations Water Removal

Level 4: N/A

Level 3: Secondary Collection Sumps/Pumping

Level 5: N/A

## QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The subsurface operations water collection/removal system may be required to collect and remove site-generated radioactive waste.

## QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The subsurface operations water collection/removal system does not perform fire protection functions.

## QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

Failure of the subsurface operations water collection/removal system would not impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation functions.

## QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The subsurface operations water collection/removal system is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The subsurface operations water collection/removal system is not associated with special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS20 - Subsurface Water Collection/Removal

SSC: Operations Water Removal

Level 4: N/A

Level 3: Secondary Collection Sumps/Pumping

Level 5: N/A

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The subsurface operations water collection/removal system may have its own radioactive source term if required to collect and remove radioactive liquid and may be required to provide for personnel radiation shielding or the reduction of dose rates.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

This SSC is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The subsurface operations water collection/removal system is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.7 Water Collection and Disposal System, as QA-1.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS21 - Waste Retrieval System

SSC: Waste Retrieval Equipment System

Level 4: N/A

Level 3: Emplacement Drift Remediation Equipment

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input checked="" type="checkbox"/>	<input type="checkbox"/>						

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The subsurface waste retrieval system removes some or all of the waste packages from the emplacement drifts and transports them to the surface. This system includes any special equipment necessary to enable retrieval operations to occur in the underground. The Emplacement Drift Remediation Equipment is part of the equipment necessary for the retrieval of the waste packages.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The subsurface waste retrieval system removes some or all of the waste packages from the emplacement drifts and transports them to the surface. The Emplacement Drift Remediation Equipment, as part of the equipment necessary for the retrieval of the waste packages, may be used to mitigate a credible DBE.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

The subsurface waste retrieval system removes some or all of the waste packages from the emplacement drifts and transports them to the surface. Failure of the Emplacement Drift Remediation Equipment, which is part of the equipment necessary for the retrieval of the waste packages, may result in a credible DBE which could lead to a radioactive release above federal limits.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The Emplacement Drift Remediation Equipment is part of the equipment necessary for the retrieval of the waste packages. It does not perform a waste isolation function by forming part of the natural or engineered barriers.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

The Emplacement Drift Remediation Equipment is part of the equipment necessary for the retrieval of the waste packages. Direct failure of this SSC would not significantly affect the characteristics of the natural or engineered barriers such that it would prevent them from performing their waste isolation function.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS21 - Waste Retrieval System**

**SSC: Waste Retrieval Equipment System**

**Level 4: N/A**

**Level 3: Emplacement Drift Remediation Equipment**

**Level 5: N/A**

### QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The Emplacement Drift Remediation Equipment is part of the equipment necessary for the retrieval of the waste packages. It is not associated with the collection, containment, or monitoring of site-generated radioactive waste.

### QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The Emplacement Drift Remediation Equipment is part of the equipment necessary for the retrieval of the waste packages. It does not serve a fire protection function.

### QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

Failure of the Emplacement Drift Remediation Equipment would not impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation functions.

### QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The Emplacement Drift Remediation Equipment is part of the equipment necessary for the retrieval of the waste packages. It does not provide the detection or alarm of unauthorized intrusion or explosives in the restricted area.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The Emplacement Drift Remediation Equipment is part of the equipment necessary for the retrieval of the waste packages. It is not associated with the accountability of special nuclear materials.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS21 - Waste Retrieval System

SSC: Waste Retrieval Equipment System

Level 4: N/A

Level 3: Emplacement Drift Remediation Equipment

Level 5: N/A

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Emplacement Drift Remediation Equipment is part of the equipment necessary for the retrieval of the waste packages. It does not contain a radioactive source term and is not associated with radiation shielding or the reduction of dose rates in radioactive areas.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Emplacement Drift Remediation Equipment is part of the equipment necessary for the retrieval of the waste packages. This SSC is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

This SSC is contained in the Q-List by direct inclusion for the Waste Emplacement and Retrieval System, SSA 3.5 12, as QA-1.

# Q-List Questions

SDD: SS21 - Waste Retrieval System

SSC: Waste Retrieval Equipment System

Level 4: N/A

Level 3: Off-Normal Conditions Equipment

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input checked="" type="checkbox"/>	<input type="checkbox"/>						

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:  
The subsurface waste retrieval system removes some or all of the waste packages from the emplacement drifts and transports them to the surface. This system includes any special equipment necessary to enable retrieval operations to occur in the underground. The Off-Normal Conditions Equipment is part of the equipment necessary for the retrieval of the waste packages.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:  
The subsurface waste retrieval system removes some or all of the waste packages from the emplacement drifts and transports them to the surface. The Off-Normal Conditions Equipment, as part of the equipment necessary for the retrieval of the waste packages, may mitigate a credible DBE.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:  
The subsurface waste retrieval system removes some or all of the waste packages from the emplacement drifts and transports them to the surface. Failure of the Off-Normal Conditions Equipment, which is part of the equipment necessary for the retrieval of the waste packages, could result in a credible DBE which could lead to a radioactive release above federal limits.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:  
The Off-Normal Conditions Equipment is part of the equipment necessary for the retrieval of the waste packages. It does not perform a waste isolation function by forming part of the natural or engineered barriers.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:  
The Off-Normal Conditions Equipment is part of the equipment necessary for the retrieval of the waste packages. Direct failure of this SSC would not significantly affect the characteristics of the natural or engineered barriers such that it would prevent them from performing their waste isolation function.

# Q-List Questions

SDD: SS21 - Waste Retrieval System

SSC: Waste Retrieval Equipment System

Level 4: N/A

Level 3: Off-Normal Conditions Equipment

Level 5: N/A

**QA-3 - Important to Radioactive Waste Control:**

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The Off-Normal Conditions Equipment is part of the equipment necessary for the retrieval of the waste packages. It is not associated with the collection, containment, or monitoring of site-generated radioactive waste.

**QA-4 - Important to Fire Protection:**

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The Off-Normal Conditions Equipment is part of the equipment necessary for the retrieval of the waste packages. It does not serve a fire protection function.

**QA-5 - Important to Potential Interaction:**

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

Failure of the Off-Normal Conditions Equipment would not impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation functions.

**QA-6 - Important to Physical Protection of Facility and Materials:**

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The Off-Normal Conditions Equipment is part of the equipment necessary for the retrieval of the waste packages. It does not provide the detection or alarm of unauthorized intrusion or explosives in the restricted area.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The Off-Normal Conditions Equipment is part of the equipment necessary for the retrieval of the waste packages. It is not associated with the accountability of special nuclear materials.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS21 - Waste Retrieval System

SSC: Waste Retrieval Equipment System

Level 4: N/A

Level 3: Off-Normal Conditions Equipment

Level 5: N/A

## QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Off-Normal Conditions Equipment is part of the equipment necessary for the retrieval of the waste packages. It does not contain a radioactive source term and is not associated with radiation shielding or the reduction of dose rates in radioactive areas.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Off-Normal Conditions Equipment is part of the equipment necessary for the retrieval of the waste packages. This SSC is not a radiation monitor.

## Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

This SSC is contained in the Q-List by direct inclusion for the Waste Emplacement and Retrieval System, SSA 3.5.12, as QA-1.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS21 - Waste Retrieval System

SSC: Waste Retrieval Equipment System

Level 4: N/A

Level 3: Retrieval Gantry

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input checked="" type="checkbox"/>	<input type="checkbox"/>						

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes?

Rationale:

The subsurface waste retrieval system removes some or all of the waste packages from the emplacement drifts and transports them to the surface. This system includes any special equipment necessary to enable retrieval operations to occur in the underground. The Retrieval Gantry is part of the equipment necessary for the retrieval of the waste packages.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes?

Rationale:

The subsurface waste retrieval system removes some or all of the waste packages from the emplacement drifts and transports them to the surface. The Retrieval Gantry, as part of the equipment necessary for the retrieval of the waste packages, could be required to prevent a credible DBE (such as a dropped waste package).

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes?

Rationale:

The subsurface waste retrieval system removes some or all of the waste packages from the emplacement drifts and transports them to the surface. Failure of the Retrieval Gantry, which is part of the equipment necessary for the retrieval of the waste packages, could result in a credible DBE (such as a dropped waste package) which could lead to a radioactive release above federal limits.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes?

Rationale:

The Retrieval Gantry is part of the equipment necessary for the retrieval of the waste packages. It does not perform a waste isolation function by forming part of the natural or engineered barriers.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes?

Rationale:

The Retrieval Gantry is part of the equipment necessary for the retrieval of the waste packages. Direct failure of this SSC would not significantly affect the characteristics of the natural or engineered barriers such that it would prevent them from performing their waste isolation function.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS21 - Waste Retrieval System**

**SSC: Waste Retrieval Equipment System**

**Level 4: N/A**

**Level 3: Retrieval Gantry**

**Level 5: N/A**

### QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The Retrieval Gantry is part of the equipment necessary for the retrieval of the waste packages. It is not associated with the collection, containment, or monitoring of site-generated radioactive waste.

### QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The Retrieval Gantry is part of the equipment necessary for the retrieval of the waste packages. It does not serve a fire protection function.

### QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

The Retrieval Gantry is part of the equipment necessary for the retrieval of the waste packages. Failure of this SSC (such as dropping a WP), as a result of a DBE, would not impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function beyond what was already evaluated in Question 1.3.

### QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The Retrieval Gantry is part of the equipment necessary for the retrieval of the waste packages. It does not provide the detection or alarm of unauthorized intrusion or explosives in the restricted area.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The Retrieval Gantry is part of the equipment necessary for the retrieval of the waste packages. It is not associated with the accountability of special nuclear materials.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS21 - Waste Retrieval System

SSC: Waste Retrieval Equipment System

Level 4: N/A

Level 3: Retrieval Gantry

Level 5: N/A

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Retrieval Gantry is part of the equipment necessary for the retrieval of the waste packages. It does not contain a radioactive source term and is not associated with radiation shielding or the reduction of dose rates in radioactive areas.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Retrieval Gantry is part of the equipment necessary for the retrieval of the waste packages. This SSC is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

This SSC is contained in the Q-List by direct inclusion for the Waste Emplacement and Retrieval System, SSA 3.5.12, as QA-1.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS21 - Waste Retrieval System

SSC: Waste Retrieval Transport Equipment System

Level 4: N/A

Level 3: Rolling Stock

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>					

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The subsurface waste retrieval system removes some or all of the waste packages from the emplacement drifts and transports them to the surface. This system includes any special equipment necessary to enable retrieval operations to occur in the underground. The Rolling Stock is part of the equipment necessary for the retrieval of the waste packages.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The subsurface waste retrieval system removes some or all of the waste packages from the emplacement drifts and transports them to the surface. The Rolling Stock, as part of the equipment necessary for the retrieval of the waste packages, could be required to prevent a credible DBE (such as a dropped waste package).

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

The subsurface waste retrieval system removes some or all of the waste packages from the emplacement drifts and transports them to the surface. Failure of the Rolling Stock, which is part of the equipment necessary for the retrieval of the waste packages, could result in a credible DBE (such as a dropped waste package) which could lead to a radioactive release above federal limits.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The Rolling Stock is part of the equipment necessary for the retrieval of the waste packages. It does not perform a waste isolation function by forming part of the natural or engineered barriers.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

The Rolling Stock is part of the equipment necessary for the retrieval of the waste packages. Direct failure of this SSC would not significantly affect the characteristics of the natural or engineered barriers such that it would prevent them from performing their waste isolation function.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS21 - Waste Retrieval System**

**SSC: Waste Retrieval Transport Equipment System**                      **Level 4: N/A**

**Level 3: Rolling Stock**                                                              **Level 5: N/A**

**QA-3 - Important to Radioactive Waste Control:**

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

**Yes?**      **Rationale:**

The Rolling Stock is part of the equipment necessary for the retrieval of the waste packages. It is not associated with the collection, containment, or monitoring of site-generated radioactive waste.

**QA-4 - Important to Fire Protection:**

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

**Yes?**      **Rationale:**

The Rolling Stock is part of the equipment necessary for the retrieval of the waste packages. It does not serve a fire protection function.

**QA-5 - Important to Potential Interaction:**

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

**Yes?**      **Rationale:**

The Rolling Stock is part of the equipment necessary for the retrieval of the waste packages. Failure of this SSC (such as dropping a WP), as a result of a DBE, would not impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function beyond what is already covered in Question 1.3.

**QA-6 - Important to Physical Protection of Facility and Materials:**

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

**Yes?**      **Rationale:**

The Rolling Stock is part of the equipment necessary for the retrieval of the waste packages. It does not provide the detection or alarm of unauthorized intrusion or explosives in the restricted area.

6.2 Is the SSCs function required for special nuclear material accountability?

**Yes?**      **Rationale:**

The Rolling Stock is part of the equipment necessary for the retrieval of the waste packages. It is not associated with the accountability of special nuclear materials.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS21 - Waste Retrieval System

SSC: Waste Retrieval Transport Equipment System      Level 4: N/A

Level 3: Rolling Stock      Level 5: N/A

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes?      Rationale:

The Rolling Stock is part of the equipment necessary for the retrieval of the waste packages. It is associated with radiation shielding or the reduction of dose rates in radioactive areas.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes?      Rationale:

The Rolling Stock is part of the equipment necessary for the retrieval of the waste packages. This SSC is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes?      Rationale:

This SSC is contained in the Q-List by direct inclusion for the Waste Emplacement and Retrieval System, SSA 3.5.12, as QA-1

# Q-List Questions

**SDD: SS24 - Subsurface Emplacement Transportation System**

**SSC: Access Rail System**

**Level 4: N/A**

**Level 3: Rail Control System**

**Level 5: N/A**

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**QA-1 - Important to Radiological Safety:**

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The subsurface emplacement transportation system provides transportation for personnel and material travelling between the surface and the emplacement side of the subsurface repository to support performance confirmation and maintenance activities. This system provides only for non-waste related transport equipment and this system does not transport waste packages. Therefore, the subsurface emplacement transportation system and its SSCs (such as access rail system - rail control system) are not associated with the receiving, handling, packaging, storage, emplacement or retrieval of high-level waste.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The subsurface emplacement transportation system - access rail system - rail control system is only involved with transporting personnel and materials and not waste packages. Therefore, the system is not required to function to prevent, mitigate, or monitor a credible DBE that would otherwise result in a radioactive release above the federal limits.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

The subsurface emplacement transportation system - access rail system - rail control system is only involved with transporting personnel and materials and not waste packages. Therefore, failure of the SSC will not result in a credible DBE which would lead to a radioactive release above the federal limits.

**QA-2 - Important to Waste Isolation:**

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The subsurface emplacement transportation system - access rail system - rail control system is only involved with transporting personnel and materials and not waste packages. The system is not part of the natural or engineered barriers.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

The subsurface emplacement transportation system - access rail system - rail control system is only involved with transporting personnel and materials and not waste packages. Failure of the system will not impact the natural or engineered barriers.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS24 - Subsurface Emplacement Transportation System**

**SSC: Access Rail System**

**Level 4: N/A**

**Level 3: Rail Control System**

**Level 5: N/A**

### QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The subsurface emplacement transportation system - access rail system - rail control system is only involved with transporting personnel and materials and not waste packages. This system is not involved with site-generated radioactive waste.

### QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The subsurface emplacement transportation system - access rail system - rail control system is only involved with transporting personnel and materials and not waste packages. This system does not protect QA-1 or QA-2 SSCs from the effects of fire.

### QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

The subsurface emplacement transportation system - access rail system - rail control system is only involved with transporting personnel and materials and not waste packages. Failure of this system could impair QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function.

### QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The subsurface emplacement transportation system - access rail system - rail control system is only involved with transporting personnel and materials and not waste packages. This system is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The subsurface emplacement transportation system - access rail system - rail control system is only involved with transporting personnel and materials and not waste packages. This system is not associated with special nuclear material accountability.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS24 - Subsurface Emplacement Transportation System**

**SSC: Access Rail System**

**Level 4: N/A**

**Level 3: Rail Control System**

**Level 5: N/A**

## QA-7 - Important to Occupational Radiological Exposure:

**7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?**

**Yes?** Rationale:

The subsurface emplacement transportation system - access rail system - rail control system is only involved with transporting personnel and materials and not waste packages. This system does not have its own source term, or provide radiation shielding or reduction in dose rates.

**7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?**

**Yes?** Rationale:

The subsurface emplacement transportation system - access rail system - rail control system is only involved with transporting personnel and materials and not waste packages. This system is not a radiation monitor.

## Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

**8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?**

**Yes?** Rationale:

The subsurface emplacement transportation system - access rail system - rail control system is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.1 Transportation System, as QA-1.

# Q-List Questions

SDD: SS24 - Subsurface Emplacement Transportation System

SSC: Access Rail System

Level 4: N/A

Level 3: Rail, Switches & Hardware

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The subsurface emplacement transportation system provides transportation for personnel and material travelling between the surface and the emplacement side of the subsurface repository to support performance confirmation and maintenance activities. This system provides only for non-waste related transport equipment and this system does not transport waste packages. Therefore, the subsurface emplacement transportation system and its SSCs (such as access rail system - rail, switches and hardware) are not associated with the receiving, handling, packaging, storage, emplacement or retrieval of high-level waste.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The subsurface emplacement transportation system - access rail system rail, switches and hardware is only involved with transporting personnel and materials and not waste packages. Therefore, the system is not required to function to prevent, mitigate, or monitor a credible DBE that would otherwise result in a radioactive release above the federal limits.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

The subsurface emplacement transportation system - access rail system rail, switches and hardware is only involved with transporting personnel and materials and not waste packages. Therefore, failure of the SSC will not result in a credible DBE which would lead to a radioactive release above the federal limits.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The subsurface emplacement transportation system - access rail system rail, switches and hardware is only involved with transporting personnel and materials and not waste packages. The system is not part of the natural or engineered barriers.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

The subsurface emplacement transportation system - access rail system rail, switches and hardware is only involved with transporting personnel and materials and not waste packages. Failure of the system will not impact the natural or engineered barriers.

# O-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS24 - Subsurface Emplacement Transportation System**

**SSC: Access Rail System**

**Level 4: N/A**

**Level 3: Rail, Switches & Hardware**

**Level 5: N/A**

**QA-3 - Important to Radioactive Waste Control:**

**3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?**

**Yes?** Rationale:

The subsurface emplacement transportation system - access rail system rail, switches and hardware is only involved with transporting personnel and materials and not waste packages. This system is not involved with site-generated radioactive waste.

**QA-4 - Important to Fire Protection:**

**4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?**

**Yes?** Rationale:

The subsurface emplacement transportation system - access rail system rail, switches and hardware is only involved with transporting personnel and materials and not waste packages. This system does not protect QA-1 or QA-2 SSCs from the effects of fire.

**QA-5 - Important to Potential Interaction:**

**5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?**

**Yes?** Rationale:

The subsurface emplacement transportation system - access rail system rail, switches and hardware is only involved with transporting personnel and materials and not waste packages. Failure of this system could impair QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function.

**QA-6 - Important to Physical Protection of Facility and Materials:**

**6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?**

**Yes?** Rationale:

The subsurface emplacement transportation system - access rail system rail, switches and hardware is only involved with transporting personnel and materials and not waste packages. This system is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

**6.2 Is the SSCs function required for special nuclear material accountability?**

**Yes?** Rationale:

The subsurface emplacement transportation system - access rail system rail, switches and hardware is only involved with transporting personnel and materials and not waste packages. This system is not associated with special nuclear material accountability.

# Q-List Questions

SDD: SS24 - Subsurface Emplacement Transportation System

SSC: Access Rail System

Level 4: N/A

Level 3: Rail, Switches & Hardware

Level 5: N/A

## QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The subsurface emplacement transportation system - access rail system rail, switches and hardware is only involved with transporting personnel and materials and not waste packages. This system does not have its own source term, or provide radiation shielding or reduction in dose rates.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The subsurface emplacement transportation system - access rail system rail, switches and hardware is only involved with transporting personnel and materials and not waste packages. This system is not a radiation monitor.

## Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The subsurface emplacement transportation system - access rail system rail, switches and hardware is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.1 Transportation System, as QA-1.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS24 - Subsurface Emplacement Transportation System

SSC: Access Rail System

Level 4: N/A

Level 3: Rolling Stock

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The subsurface emplacement transportation system provides transportation for personnel and material travelling between the surface and the emplacement side of the subsurface repository to support performance confirmation and maintenance activities. This system provides only for non-waste related transport equipment and this system does not transport waste packages. Therefore, the subsurface emplacement transportation system and its SSCs (such as access rail system - rolling stock) are not associated with the receiving, handling, packaging, storage, emplacement or retrieval of high-level waste.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The subsurface emplacement transportation system - access rail system - rolling stock is only involved with transporting personnel and materials and not waste packages. Therefore, the system is not required to function to prevent, mitigate, or monitor a credible DBE that would otherwise result in a radioactive release above the federal limits.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

The subsurface emplacement transportation system - access rail system - rolling stock is only involved with transporting personnel and materials and not waste packages. Therefore, failure of the SSC will not result in a credible DBE which would lead to a radioactive release above the federal limits.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The subsurface emplacement transportation system - access rail system - rolling stock is only involved with transporting personnel and materials and not waste packages. The system is not part of the natural or engineered barriers.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

The subsurface emplacement transportation system - access rail system - rolling stock is only involved with transporting personnel and materials and not waste packages. Failure of the system will not impact the natural or engineered barriers.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS24 - Subsurface Emplacement Transportation System**

**SSC: Access Rail System**

**Level 4: N/A**

**Level 3: Rolling Stock**

**Level 5: N/A**

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**QA-3 - Important to Radioactive Waste Control:**

**3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?**

**Yes?** Rationale:

The subsurface emplacement transportation system - access rail system - rolling stock is only involved with transporting personnel and materials and not waste packages. This system is not involved with site-generated radioactive waste.

**QA-4 - Important to Fire Protection:**

**4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?**

**Yes?** Rationale:

The subsurface emplacement transportation system - access rail system - rolling stock is only involved with transporting personnel and materials and not waste packages. This system does not protect QA-1 or QA-2 SSCs from the effects of fire.

**QA-5 - Important to Potential Interaction:**

**5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?**

**Yes?** Rationale:

The subsurface emplacement transportation system - access rail system - rolling stock is only involved with transporting personnel and materials and not waste packages. Failure of this system could impair QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function.

**QA-8 - Important to Physical Protection of Facility and Materials:**

**6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?**

**Yes?** Rationale:

The subsurface emplacement transportation system - access rail system - rolling stock is only involved with transporting personnel and materials and not waste packages. This system is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

**6.2 Is the SSCs function required for special nuclear material accountability?**

**Yes?** Rationale:

The subsurface emplacement transportation system - access rail system - rolling stock is only involved with transporting personnel and materials and not waste packages. This system is not associated with special nuclear material accountability.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS24 - Subsurface Emplacement Transportation System

SSC: Access Rail System

Level 4: N/A

Level 3: Rolling Stock

Level 5: N/A

## QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The subsurface emplacement transportation system - access rail system - rolling stock is only involved with transporting personnel and materials and not waste packages. This system does not have its own source term, or provide radiation shielding or reduction in dose rates.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The subsurface emplacement transportation system - access rail system - rolling stock is only involved with transporting personnel and materials and not waste packages. This system is not a radiation monitor.

## Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The subsurface emplacement transportation system - access rail system - rolling stock is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.1 Transportation System, as QA-1.

# Q-List Questions

SDD: SS24 - Subsurface Emplacement Transportation System

SSC: Ramp Access System

Level 4: N/A

Level 3: Doors & Access Control

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input checked="" type="checkbox"/>						

**QA-1 - Important to Radiological Safety:**

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The subsurface emplacement transportation system provides transportation for personnel and material travelling between the surface and the emplacement side of the subsurface repository to support performance confirmation and maintenance activities. This system provides only for non-waste related transport equipment and this system does not transport waste packages. Therefore, the subsurface emplacement transportation system and its SSCs (such as ramp access system - door and access control) are not associated with the receiving, handling, packaging, storage, emplacement or retrieval of high-level waste.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The subsurface emplacement transportation system - access rail system - door and access control is only involved with transporting personnel and materials and not waste packages. Therefore, the system is not required to function to prevent, mitigate, or monitor a credible DBE that would otherwise result in a radioactive release above the federal limits.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

The subsurface emplacement transportation system - access rail system - door and access control is only involved with transporting personnel and materials and not waste packages. Therefore, failure of the SSC will not result in a credible DBE which would lead to a radioactive release above the federal limits.

**QA-2 - Important to Waste Isolation:**

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The subsurface emplacement transportation system - access rail system - door and access control is only involved with transporting personnel and materials and not waste packages. The system is not part of the natural or engineered barriers.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

The subsurface emplacement transportation system - access rail system - door and access control is only involved with transporting personnel and materials and not waste packages. Failure of the system will not impact the natural or engineered barriers.

# O-List Questions

## SDD: SS24 - Subsurface Emplacement Transportation System

SSC: Ramp Access System Level 4: N/A

Level 3: Doors & Access Control Level 5: N/A

### QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The subsurface emplacement transportation system - access rail system - door and access control is only involved with transporting personnel and materials and not waste packages. This system is not involved with site-generated radioactive waste.

### QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The subsurface emplacement transportation system - access rail system - door and access control is only involved with transporting personnel and materials and not waste packages. This system does not protect QA-1 or QA-2 SSCs from the effects of fire.

### QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

The subsurface emplacement transportation system - access rail system - door and access control is only involved with transporting personnel and materials and not waste packages. Failure of this system does not impair QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function.

### QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The subsurface emplacement transportation system - access rail system - door and access control is only involved with transporting personnel and materials and not waste packages. This system is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The subsurface emplacement transportation system - access rail system - door and access control is only involved with transporting personnel and materials and not waste packages. This system is not associated with special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS24 - Subsurface Emplacement Transportation System**

**SSC: Ramp Access System**

**Level 4: N/A**

**Level 3: Doors & Access Control**

**Level 5: N/A**

**QA-7 - Important to Occupational Radiological Exposure:**

**7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?**

**Yes?** Rationale:

The subsurface emplacement transportation system - access rail system - door and access control is only involved with transporting personnel and materials and not waste packages. This system does not have its own source term, or provide radiation shielding or reduction in dose rates.

**7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?**

**Yes?** Rationale:

The subsurface emplacement transportation system - access rail system - door and access control is only involved with transporting personnel and materials and not waste packages. This system is not a radiation monitor.

**Previous QA Classification:**

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

**8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?**

**Yes?** Rationale:

The subsurface emplacement transportation system - access rail system - door and access control is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.1 Transportation System, as QA-1.

# Q-List Questions

SDD: SS24 - Subsurface Emplacement Transportation System

SSC: Waste Transportation Maintenance System Level 4: N/A

Level 3: Emergency/Recovery Equipment System Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>					

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The subsurface emplacement transportation system provides transportation for personnel and material travelling between the surface and the emplacement side of the subsurface repository to support performance confirmation and maintenance activities. This system provides only for non-waste related transport equipment and this system does not transport waste packages. Therefore, the subsurface emplacement transportation system and its SSCs (such as waste transportation maintenance system - emergency/recovery equipment system) are not associated with the receiving, handling, packaging, storage, emplacement or retrieval of high-level waste.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The subsurface emplacement transportation system - waste transportation maintenance system - emergency/recovery equipment system is only involved with transporting personnel and materials and not waste packages. Therefore, the system is not required to function to prevent, mitigate, or monitor a credible DBE that would otherwise result in a radioactive release above the federal limits.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

The subsurface emplacement transportation system - waste transportation maintenance system - emergency/recovery equipment system is only involved with transporting personnel and materials and not waste packages. Therefore, failure of the SSC will not result in a credible DBE which would lead to a radioactive release above the federal limits.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The subsurface emplacement transportation system - waste transportation maintenance system - emergency/recovery equipment system is only involved with transporting personnel and materials and not waste packages. The system is not part of the natural or engineered barriers.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

The subsurface emplacement transportation system - waste transportation maintenance system - emergency/recovery equipment system is only involved with transporting personnel and materials and not waste packages. Failure of the system will not impact the natural or engineered barriers.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS24 - Subsurface Emplacement Transportation System**

**SSC: Waste Transportation Maintenance System** Level 4: N/A

**Level 3: Emergency/Recovery Equipment System** Level 5: N/A

**QA-3 - Important to Radioactive Waste Control:**

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The subsurface emplacement transportation system - waste transportation maintenance system - emergency/recovery equipment system is only involved with transporting personnel and materials and not waste packages. This system is not involved with site-generated radioactive waste.

**QA-4 - Important to Fire Protection:**

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The subsurface emplacement transportation system - waste transportation maintenance system - emergency/recovery equipment system is only involved with transporting personnel and materials and not waste packages. This system does not protect QA-1 or QA-2 SSCs from the effects of fire.

**QA-5 - Important to Potential Interaction:**

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

The subsurface emplacement transportation system - waste transportation maintenance system - emergency/recovery equipment system is only involved with transporting personnel and materials and not waste packages. Failure of this system does not impair QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function.

**QA-6 - Important to Physical Protection of Facility and Materials:**

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The subsurface emplacement transportation system - waste transportation maintenance system - emergency/recovery equipment system is only involved with transporting personnel and materials and not waste packages. This system is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The subsurface emplacement transportation system - waste transportation maintenance system - emergency/recovery equipment system is only involved with transporting personnel and materials and not waste packages. This system is not associated with special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00  
Attachment IV

SDD: SS24 - Subsurface Emplacement Transportation System

SSC: Waste Transportation Maintenance System                      Level 4: N/A

Level 3: Emergency/Recovery Equipment System                      Level 5: N/A

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes?      Rationale:

The subsurface emplacement transportation system - waste transportation maintenance system - emergency/recovery equipment system is only involved with transporting personnel and materials and not waste packages. This system does not have its own source term, but may provide radiation shielding or reduction in dose rates for personnel.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes?      Rationale:

The subsurface emplacement transportation system - waste transportation maintenance system - emergency/recovery equipment system is only involved with transporting personnel and materials and not waste packages. This system is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes?      Rationale:

The subsurface emplacement transportation system - waste transportation maintenance system - emergency/recovery equipment system is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.1 Transportation System, as QA-1.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS24 - Subsurface Emplacement Transportation System

SSC: Waste Transportation Maintenance System Level 4: N/A

Level 3: Ramp/Main Inspection & Maintenance Level 5: N/A

QA-1  QA-2  QA-3  QA-4  QA-5  QA-6  QA-7  Non-Q

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The subsurface emplacement transportation system provides transportation for personnel and material travelling between the surface and the emplacement side of the subsurface repository to support performance confirmation and maintenance activities. This system provides only for non-waste related transport equipment and this system does not transport waste packages. Therefore, the subsurface emplacement transportation system and its SSCs (such as waste transportation maintenance system - ramp/main inspection and maintenance) are not associated with the receiving, handling, packaging, storage, emplacement or retrieval of high-level waste.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The subsurface emplacement transportation system - waste transportation maintenance system - ramp/main inspection and maintenance is only involved with transporting personnel and materials and not waste packages. Therefore, the system is not required to function to prevent, mitigate, or monitor a credible DBE that would otherwise result in a radioactive release above the federal limits.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

The subsurface emplacement transportation system - waste transportation maintenance system - ramp/main inspection and maintenance is only involved with transporting personnel and materials and not waste packages. Therefore, failure of the SSC will not result in a credible DBE which would lead to a radioactive release above the federal limits.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The subsurface emplacement transportation system - waste transportation maintenance system - ramp/main inspection and maintenance is only involved with transporting personnel and materials and not waste packages. The system is not part of the natural or engineered barriers.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

The subsurface emplacement transportation system - waste transportation maintenance system - ramp/main inspection and maintenance is only involved with transporting personnel and materials and not waste packages. Failure of the system will not impact the natural or engineered barriers.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS24 - Subsurface Emplacement Transportation System**

**SSC: Waste Transportation Maintenance System                      Level 4: N/A**

**Level 3: Ramp/Main Inspection & Maintenance                      Level 5: N/A**

**QA-3 - Important to Radioactive Waste Control:**

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes?      Rationale:

The subsurface emplacement transportation system - waste transportation maintenance system - ramp/main inspection and maintenance is only involved with transporting personnel and materials and not waste packages. This system is not involved with site-generated radioactive waste.

**QA-4 - Important to Fire Protection:**

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes?      Rationale:

The subsurface emplacement transportation system - waste transportation maintenance system - ramp/main inspection and maintenance is only involved with transporting personnel and materials and not waste packages. This system does not protect QA-1 or QA-2 SSCs from the effects of fire.

**QA-5 - Important to Potential Interaction:**

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes?      Rationale:

The subsurface emplacement transportation system - waste transportation maintenance system - ramp/main inspection and maintenance is only involved with transporting personnel and materials and not waste packages. Failure of this system does not impair QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function.

**QA-6 - Important to Physical Protection of Facility and Materials:**

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes?      Rationale:

The subsurface emplacement transportation system - waste transportation maintenance system - ramp/main inspection and maintenance is only involved with transporting personnel and materials and not waste packages. This system is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes?      Rationale:

The subsurface emplacement transportation system - waste transportation maintenance system - ramp/main inspection and maintenance is only involved with transporting personnel and materials and not waste packages. This system is not associated with special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS24 - Subsurface Emplacement Transportation System

SSC: Waste Transportation Maintenance System

Level 4: N/A

Level 3: Ramp/Main Inspection & Maintenance

Level 5: N/A

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The subsurface emplacement transportation system - waste transportation maintenance system - ramp/main inspection and maintenance is only involved with transporting personnel and materials and not waste packages. This system does not have its own source term, or provide radiation shielding or reduction in dose rates.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The subsurface emplacement transportation system - waste transportation maintenance system - ramp/main inspection and maintenance is only involved with transporting personnel and materials and not waste packages. This system is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The subsurface emplacement transportation system - waste transportation maintenance system - ramp/main inspection and maintenance is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.1 Transportation System, as QA-1.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS24 - Subsurface Emplacement Transportation System**

**SSC: Waste Transportation Maintenance System** Level 4: N/A

Level 3: Repair Equipment System Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input checked="" type="checkbox"/>						

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The subsurface emplacement transportation system provides transportation for personnel and material travelling between the surface and the emplacement side of the subsurface repository to support performance confirmation and maintenance activities. This system provides only for non-waste related transport equipment and this system does not transport waste packages. Therefore, the subsurface emplacement transportation system and its SSCs (such as waste transportation maintenance system - repair equipment system) are not associated with the receiving, handling, packaging, storage, emplacement or retrieval of high-level waste.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The subsurface emplacement transportation system - waste transportation maintenance system - repair equipment system is only involved with transporting personnel and materials and not waste packages. Therefore, the system is not required to function to prevent, mitigate, or monitor a credible DBE that would otherwise result in a radioactive release above the federal limits.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

The subsurface emplacement transportation system - waste transportation maintenance system - repair equipment system is only involved with transporting personnel and materials and not waste packages. Therefore, failure of the SSC will not result in a credible DBE which would lead to a radioactive release above the federal limits.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The subsurface emplacement transportation system - waste transportation maintenance system - repair equipment system is only involved with transporting personnel and materials and not waste packages. The system is not part of the natural or engineered barriers.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

The subsurface emplacement transportation system - waste transportation maintenance system - repair equipment system is only involved with transporting personnel and materials and not waste packages. Failure of the system will not impact the natural or engineered barriers.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS24 - Subsurface Emplacement Transportation System**

**SSC: Waste Transportation Maintenance System** Level 4: N/A

Level 3: Repair Equipment System Level 5: N/A

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### QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The subsurface emplacement transportation system - waste transportation maintenance system - repair equipment system is only involved with transporting personnel and materials and not waste packages. This system is not involved with site-generated radioactive waste.

### QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The subsurface emplacement transportation system - waste transportation maintenance system - repair equipment system is only involved with transporting personnel and materials and not waste packages. This system does not protect QA-1 or QA-2 SSCs from the effects of fire.

### QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

The subsurface emplacement transportation system - waste transportation maintenance system - repair equipment system is only involved with transporting personnel and materials and not waste packages. Failure of this system does not impair QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function.

### QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The subsurface emplacement transportation system - waste transportation maintenance system - repair equipment system is only involved with transporting personnel and materials and not waste packages. This system is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The subsurface emplacement transportation system - waste transportation maintenance system - repair equipment system is only involved with transporting personnel and materials and not waste packages. This system is not associated with special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS24 - Subsurface Emplacement Transportation System**

**SSC: Waste Transportation Maintenance System**                      **Level 4: N/A**

**Level 3: Repair Equipment System**                                      **Level 5: N/A**

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes?      Rationale:

The subsurface emplacement transportation system - waste transportation maintenance system - repair equipment system is only involved with transporting personnel and materials and not waste packages. This system does not have its own source term, or provide radiation shielding or reduction in dose rates.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes?      Rationale:

The subsurface emplacement transportation system - waste transportation maintenance system - repair equipment system is only involved with transporting personnel and materials and not waste packages. This system is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes?      Rationale:

The subsurface emplacement transportation system - waste transportation maintenance system - repair equipment system is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.1 Transportation System, as QA-1.

# Q-List Questions

**SDD: SS26 - Subsurface Fire Suppression System**

**SSC: Development Fire Suppression**

**Level 4: N/A**

**Level 3: Access Fire Suppression System**

**Level 5: N/A**

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**QA-1 - Important to Radiological Safety:**

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The Development Access Fire Suppression System provides capability to suppress fires throughout the emplacement and development sides of the subsurface wherever there is non-mobile operating equipment. This SSC is not associated with the receipt, handling, emplacement, storage, packaging, or retrieval of high-level waste.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The Development Access Fire Suppression System does not mitigate the consequences of a credible fire DBE which has the potential for a radioactive release above federal limits.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

Direct failure of the Development Access Fire Suppression System would not result in a credible DBE that could lead to a radioactive release above the federal limit.

**QA-2 - Important to Waste Isolation:**

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The Development Access Fire Suppression System is not part of the natural or engineered barriers that perform a waste isolation function.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

Direct failure of the Development Access Fire Suppression System would not impair the capability of natural or engineered barriers from performing their waste isolation function.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS26 - Subsurface Fire Suppression System

SSC: Development Fire Suppression

Level 4: N/A

Level 3: Access Fire Suppression System

Level 5: N/A

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### QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The Development Access Fire Suppression System is not associated with the site-generated radioactive waste.

### QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The Development Access Fire Suppression System may protect the QA-1 or QA-2 SSCs from the effects of a fire by suppressing the fire as soon as possible.

### QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

Failure of the Development Access Fire Suppression System may impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation functions.

### QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The Development Access Fire Suppression System is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The Development Access Fire Suppression System is not required for special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS26 - Subsurface Fire Suppression System

SSC: Development Fire Suppression

Level 4: N/A

Level 3: Access Fire Suppression System

Level 5: N/A

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Development Access Fire Suppression System does not have its own radioactive source term and does not provide for personnel radiation shielding or the reduction of dose rates.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Development Access Fire Suppression System is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The Development Access Fire Suppression System is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.9 Fire Protection and Control System, as QA-1.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS26 - Subsurface Fire Suppression System

SSC: Development Fire Suppression

Level 4: Mechanical Excavation Systems

Level 3: Excavation Systems Fire Suppression

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes?

Rationale:

The Development Excavation Systems Fire Suppression Mechanical Excavation System provides capability to suppress fires throughout the emplacement and development sides of the subsurface wherever there is non-mobile operating equipment. This SSC is not associated with the receipt, handling, emplacement, storage, packaging, or retrieval of high-level waste.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes?

Rationale:

The Development Excavation Systems Fire Suppression Mechanical Excavation Systems does not mitigate the consequences of a credible fire DBE which has the potential for a radioactive release above federal limits.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes?

Rationale:

Direct failure of the Development Excavation Systems Fire Suppression Mechanical Excavation Systems would not result in a credible DBE that could lead to a radioactive release above the federal limit.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes?

Rationale:

The Development Excavation Systems Fire Suppression Mechanical Excavation Systems is not part of the natural or engineered barriers that perform a waste isolation function.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes?

Rationale:

Direct failure of the Development Excavation Systems Fire Suppression Mechanical Excavation Systems would not impair the capability of natural or engineered barriers from performing their waste isolation function.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS26 - Subsurface Fire Suppression System**

**SSC: Development Fire Suppression**

**Level 4: Mechanical Excavation Systems**

**Level 3: Excavation Systems Fire Suppression**

**Level 5: N/A**

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**QA-3 - Important to Radioactive Waste Control:**

**3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?**

**Yes?** Rationale:

The Development Excavation Systems Fire Suppression Mechanical Excavation Systems is not associated with the site-generated radioactive waste.

**QA-4 - Important to Fire Protection:**

**4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?**

**Yes?** Rationale:

The Development Excavation Systems Fire Suppression Mechanical Excavation Systems may protect the QA-1 or QA-2 SSCs from the effects of a fire by suppressing the fire as soon as possible.

**QA-5 - Important to Potential Interaction:**

**5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?**

**Yes?** Rationale:

Failure of the Development Excavation Systems Fire Suppression Mechanical Excavation Systems may impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation functions.

**QA-6 - Important to Physical Protection of Facility and Materials:**

**6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?**

**Yes?** Rationale:

The Development Excavation Systems Fire Suppression Mechanical Excavation System is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

**6.2 Is the SSCs function required for special nuclear material accountability?**

**Yes?** Rationale:

The Development Excavation Systems Fire Suppression Mechanical Excavation System is not required for special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS26 - Subsurface Fire Suppression System

SSC: Development Fire Suppression

Level 4: Mechanical Excavation Systems

Level 3: Excavation Systems Fire Suppression

Level 5: N/A

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Development Excavation Systems Fire Suppression Mechanical Excavation Systems does not have its own radioactive source term and does not provide for personnel radiation shielding or the reduction of dose rates.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Development Excavation Systems Fire Suppression Mechanical Excavation Systems SSC is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The Development Excavation Systems Fire Suppression Mechanical Excavation Systems is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.9 Fire Protection and Control System, as QA-1.

# Q-List Questions

**SDD: SS26 - Subsurface Fire Suppression System**

**SSC: Development Fire Suppression**

**Level 4: Raise Bore Systems**

**Level 3: Excavation Systems Fire Suppression**

**Level 5: N/A**

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**QA-1 - Important to Radiological Safety:**

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes?

Rationale:

The Development Excavation Systems Fire Suppression Raise Bore System provides capability to suppress fires throughout the emplacement and development sides of the subsurface wherever there is non-mobile operating equipment. This SSC is not associated with the receipt, handling, emplacement, storage, packaging, or retrieval of high-level waste.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes?

Rationale:

The Development Excavation Systems Fire Suppression Raise Bore Systems does not mitigate the consequences of a credible fire DBE which has the potential for a radioactive release above federal limits.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes?

Rationale:

Direct failure of the Development Excavation Systems Fire Suppression Raise Bore Systems would not result in a credible DBE that could lead to a radioactive release above the federal limit.

**QA-2 - Important to Waste Isolation:**

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes?

Rationale:

The Development Excavation Systems Fire Suppression Raise Bore Systems is not part of the natural or engineered barriers that perform a waste isolation function.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes?

Rationale:

Direct failure of the Development Excavation Systems Fire Suppression Raise Bore Systems would not impair the capability of natural or engineered barriers from performing their waste isolation function.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS26 - Subsurface Fire Suppression System**

**SSC: Development Fire Suppression**

**Level 4: Raise Bore Systems**

**Level 3: Excavation Systems Fire Suppression**

**Level 5: N/A**

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**QA-3 - Important to Radioactive Waste Control:**

**3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?**

**Yes?** Rationale:

The Development Excavation Systems Fire Suppression Raise Bore Systems is not associated with the site-generated radioactive waste.

**QA-4 - Important to Fire Protection:**

**4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?**

**Yes?** Rationale:

The Development Excavation Systems Fire Suppression Raise Bore Systems may protect the QA-1 or QA-2 SSCs from the effects of a fire by suppressing the fire as soon as possible.

**QA-5 - Important to Potential Interaction:**

**5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?**

**Yes?** Rationale:

Failure of the Development Excavation Systems Fire Suppression Raise Bore Systems may impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation functions.

**QA-6 - Important to Physical Protection of Facility and Materials:**

**6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?**

**Yes?** Rationale:

The Development Excavation Systems Fire Suppression Raise Bore System is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

**6.2 Is the SSCs function required for special nuclear material accountability?**

**Yes?** Rationale:

The Development Excavation Systems Fire Suppression Raise Bore System is not required for special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS26 - Subsurface Fire Suppression System**

**SSC: Development Fire Suppression**

**Level 4: Raise Bore Systems**

**Level 3: Excavation Systems Fire Suppression**

**Level 5: N/A**

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Development Excavation Systems Fire Suppression Raise Bore System does not have its own radioactive source term and does not provide for personnel radiation shielding or the reduction of dose rates.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Development Excavation Systems Fire Suppression Raise Bore Systems is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The Development Excavation Systems Fire Suppression Raise Bore Systems is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.9 Fire Protection and Control System, as QA-1.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS26 - Subsurface Fire Suppression System

SSC: Development Fire Suppression

Level 4: TBM Systems

Level 3: Excavation Systems Fire Suppression

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The Development Excavation Systems Fire Suppression TBM System provides capability to suppress fires throughout the emplacement and development sides of the subsurface wherever there is non-mobile operating equipment. This SSC is not associated with the receipt, handling, emplacement, storage, packaging, or retrieval of high-level waste.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The Development Excavation Systems Fire Suppression TBM System does not mitigate the consequences of a credible fire DBE which has the potential for a radioactive release above federal limits.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

Direct failure of the Development Excavation Systems Fire Suppression TBM System would not result in a credible DBE that could lead to a radioactive release above the federal limit.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The Development Excavation Systems Fire Suppression TBM System is not part of the natural or engineered barriers that perform a waste isolation function.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

Direct failure of the Development Excavation Systems Fire Suppression TBM System would not impair the capability of natural or engineered barriers from performing their waste isolation function.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00  
Attachment IV

**SDD: SS26 - Subsurface Fire Suppression System**

**SSC: Development Fire Suppression**

**Level 4: TBM Systems**

**Level 3: Excavation Systems Fire Suppression**

**Level 5: N/A**

**QA-3 - Important to Radioactive Waste Control:**

**3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?**

**Yes?** Rationale:

The Development Excavation Systems Fire Suppression TBM System is not associated with the site-generated radioactive waste.

**QA-4 - Important to Fire Protection:**

**4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?**

**Yes?** Rationale:

The Development Excavation Systems Fire Suppression TBM System may protect the QA-1 or QA-2 SSCs from the effects of a fire by suppressing the fire as soon as possible.

**QA-5 - Important to Potential Interaction:**

**5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?**

**Yes?** Rationale:

Failure of the Development Excavation Systems Fire Suppression TBM System may impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation functions.

**QA-6 - Important to Physical Protection of Facility and Materials:**

**6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?**

**Yes?** Rationale:

The Development Excavation Systems Fire Suppression TBM System is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

**6.2 Is the SSCs function required for special nuclear material accountability?**

**Yes?** Rationale:

The Development Excavation Systems Fire Suppression TBM System is not required for special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS26 - Subsurface Fire Suppression System**

**SSC: Development Fire Suppression**

**Level 4: TBM Systems**

**Level 3: Excavation Systems Fire Suppression**

**Level 5: N/A**

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Development Excavation Systems Fire Suppression TBM System does not have its own radioactive source term and does not provide for personnel radiation shielding or the reduction of dose rates.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Development Excavation Systems Fire Suppression TBM System SSC is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The Development Excavation Systems Fire Suppression TBM System is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.9 Fire Protection and Control System, as QA-1.

# O-List Questions

**SDD: SS26 - Subsurface Fire Suppression System**

**SSC: Development Fire Suppression**

**Level 4: N/A**

**Level 3: Fire Detection Systems**

**Level 5: N/A**

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**QA-1 - Important to Radiological Safety:**

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

**Yes?** Rationale:  
 The Development Fire Detection System provides capability to detect fires throughout the emplacement and development sides of the subsurface wherever there is non-mobile operating equipment. This SSC is not associated with the receipt, handling, emplacement, storage, packaging, or retrieval of high-level waste.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

**Yes?** Rationale:  
 The Development Fire Detection System provides monitoring for a credible fire, but not for a DBE which has the potential for a radioactive release above federal limits.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

**Yes?** Rationale:  
 Direct failure of the Development Fire Detection System would not result in a credible DBE that could lead to a radioactive release above the federal limit.

**QA-2 - Important to Waste Isolation:**

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

**Yes?** Rationale:  
 The Development Fire Detection System is not part of the natural or engineered barriers that perform a waste isolation function.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

**Yes?** Rationale:  
 Direct failure of the Development Fire Detection System would not impair the capability of natural or engineered barriers from performing their waste isolation function.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS26 - Subsurface Fire Suppression System**

**SSC: Development Fire Suppression**

**Level 4: N/A**

**Level 3: Fire Detection Systems**

**Level 5: N/A**

**QA-3 - Important to Radioactive Waste Control:**

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

**Yes?** Rationale:

The Development Fire Detection System is not associated with the site-generated radioactive waste.

**QA-4 - Important to Fire Protection:**

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

**Yes?** Rationale:

The Development Fire Detection System may protect the QA-1 or QA-2 SSCs from the effects of a fire by fire detection.

**QA-5 - Important to Potential Interaction:**

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

**Yes?** Rationale:

Failure of the Development Fire Detection System would not impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation functions.

**QA-6 - Important to Physical Protection of Facility and Materials:**

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

**Yes?** Rationale:

The Development Fire Detection System is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

6.2 Is the SSCs function required for special nuclear material accountability?

**Yes?** Rationale:

The Development Fire Detection System is not required for special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS26 - Subsurface Fire Suppression System

SSC: Development Fire Suppression

Level 4: N/A

Level 3: Fire Detection Systems

Level 5: N/A

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Development Fire Detection System does not have its own radioactive source term and does not provide for personnel radiation shielding or the reduction of dose rates.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Development Fire Detection System is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The Development Fire Detection System is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.9 Fire Protection and Control System, as QA-1.

**Q-List Questions**

SDD: SS26 - Subsurface Fire Suppression System

SSC: Development Fire Suppression

Level 4: N/A

Level 3: Mobile Equipment Fire Suppression

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**QA-1 - Important to Radiological Safety:**

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes?

Rationale:

The Development Mobile Equipment Fire Suppression System provides capability to suppress fires throughout the emplacement and development sides of the subsurface wherever there is non-mobile operating equipment. This SSC is not associated with the receipt, handling, emplacement, storage, packaging, or retrieval of high-level waste.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes?

Rationale:

The Development Mobile Equipment Fire Suppression System does not mitigate the consequences of a credible fire DBE which has the potential for a radioactive release above federal limits.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes?

Rationale:

Direct failure of the Development Mobile Equipment Fire Suppression System would not result in a credible DBE that could lead to a radioactive release above the federal limit.

**QA-2 - Important to Waste Isolation:**

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes?

Rationale:

The Development Mobile Equipment Fire Suppression System is not part of the natural or engineered barriers that perform a waste isolation function.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes?

Rationale:

Direct failure of the Development Mobile Equipment Fire Suppression System would not impair the capability of natural or engineered barriers from performing their waste isolation function.

## O-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS26 - Subsurface Fire Suppression System**

**SSC: Development Fire Suppression**

**Level 4: N/A**

**Level 3: Mobile Equipment Fire Suppression**

**Level 5: N/A**

**QA-3 - Important to Radioactive Waste Control:**

**3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?**

**Yes?** Rationale:

The Development Mobile Equipment Fire Suppression System is not associated with the site-generated radioactive waste.

**QA-4 - Important to Fire Protection:**

**4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?**

**Yes?** Rationale:

The Development Mobile Equipment Fire Suppression System may protect the QA-1 or QA-2 SSCs from the effects of a fire by suppressing the fire as soon as possible.

**QA-5 - Important to Potential Interaction:**

**5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?**

**Yes?** Rationale:

Failure of the Development Mobile Equipment Fire Suppression System may impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation functions.

**QA-6 - Important to Physical Protection of Facility and Materials:**

**6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?**

**Yes?** Rationale:

The Development Mobile Equipment Fire Suppression System is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

**6.2 Is the SSCs function required for special nuclear material accountability?**

**Yes?** Rationale:

The Development Mobile Equipment Fire Suppression System is not required for special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS26 - Subsurface Fire Suppression System**

**SSC: Development Fire Suppression**

**Level 4: N/A**

**Level 3: Mobile Equipment Fire Suppression**

**Level 5: N/A**

### QA-7 - Important to Occupational Radiological Exposure:

**7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?**

**Yes?** Rationale:

The Development Mobile Equipment Fire Suppression System does not have its own radioactive source term and does not provide for personnel radiation shielding or the reduction of dose rates.

**7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?**

**Yes?** Rationale:

The Development Mobile Equipment Fire Suppression System is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

**8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?**

**Yes?** Rationale:

The Development Mobile Equipment Fire Suppression System is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.9 Fire Protection and Control System, as QA-1.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS26 - Subsurface Fire Suppression System

SSC: Development Fire Suppression

Level 4: N/A

Level 3: Muck Removal Fire Suppression

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The Development Muck Removal Fire Suppression System provides capability to suppress fires throughout the emplacement and development sides of the subsurface wherever there is non-mobile operating equipment. This SSC is not associated with the receipt, handling, emplacement, storage, packaging, or retrieval of high-level waste.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The Development Muck Removal Fire Suppression System does not mitigate the consequences of a credible fire DBE which has the potential for a radioactive release above federal limits.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

Direct failure of the Development Muck Removal Fire Suppression System would not result in a credible DBE that could lead to a radioactive release above the federal limit.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The Development Muck Removal Fire Suppression System is not part of the natural or engineered barriers that perform a waste isolation function.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

Direct failure of the Development Muck Removal Fire Suppression System would not impair the capability of natural or engineered barriers from performing their waste isolation function.

## O-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS26 - Subsurface Fire Suppression System**

**SSC: Development Fire Suppression**

**Level 4: N/A**

**Level 3: Muck Removal Fire Suppression**

**Level 5: N/A**

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**QA-3 - Important to Radioactive Waste Control:**

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The Development Muck Removal Fire Suppression System is not associated with the site-generated radioactive waste.

**QA-4 - Important to Fire Protection:**

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The Development Muck Removal Fire Suppression System may protect the QA-1 or QA-2 SSCs from the effects of a fire by suppressing the fire as soon as possible.

**QA-5 - Important to Potential Interaction:**

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

Failure of the Development Muck Removal Fire Suppression System may impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation functions.

**QA-6 - Important to Physical Protection of Facility and Materials:**

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The Development Muck Removal Fire Suppression System is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The Development Muck Removal Fire Suppression System is not required for special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS26 - Subsurface Fire Suppression System**

**SSC: Development Fire Suppression**

**Level 4: N/A**

**Level 3: Muck Removal Fire Suppression**

**Level 5: N/A**

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Development Muck Removal Fire Suppression System does not have its own radioactive source term and does not provide for personnel radiation shielding or the reduction of dose rates.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Development Muck Removal Fire Suppression System is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The Development Muck Removal Fire Suppression System is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.9 Fire Protection and Control System, as QA-1.

# Q-List Questions

SDD: SS26 - Subsurface Fire Suppression System

SSC: Development Fire Suppression

Level 4: N/A

Level 3: Support Openings Fire Suppression

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes?

Rationale:

The Development Support Openings Fire Suppression System provides capability to suppress fires throughout the emplacement and development sides of the subsurface wherever there is non-mobile operating equipment. This SSC is not associated with the receipt, handling, emplacement, storage, packaging, or retrieval of high-level waste.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes?

Rationale:

The Development Support Openings Fire Suppression System does not mitigate the consequences of a credible fire DBE which has the potential for a radioactive release above federal limits.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes?

Rationale:

Direct failure of the Development Support Openings Fire Suppression System would not result in a credible DBE that could lead to a radioactive release above the federal limit.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes?

Rationale:

The Development Support Openings Fire Suppression System is not part of the natural or engineered barriers that perform a waste isolation function.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes?

Rationale:

Direct failure of the Development Support Openings Fire Suppression System would not impair the capability of natural or engineered barriers from performing their waste isolation function.

## Q-List Questions

SDD: SS26 - Subsurface Fire Suppression System

SSC: Development Fire Suppression

Level 4: N/A

Level 3: Support Openings Fire Suppression

Level 5: N/A

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**QA-3 - Important to Radioactive Waste Control:**

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The Development Support Openings Fire Suppression System is not associated with the site-generated radioactive waste

**QA-4 - Important to Fire Protection:**

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The Development Support Openings Fire Suppression System may protect the QA-1 or QA-2 SSCs from the effects of a fire by suppressing the fire as soon as possible.

**QA-5 - Important to Potential Interaction:**

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

Failure of the Development Support Openings Fire Suppression System may impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation functions.

**QA-6 - Important to Physical Protection of Facility and Materials:**

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The Development Support Openings Fire Suppression System is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The Development Support Openings Fire Suppression System is not required for special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS26 - Subsurface Fire Suppression System**

**SSC: Development Fire Suppression**

**Level 4: N/A**

**Level 3: Support Openings Fire Suppression**

**Level 5: N/A**

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Development Support Openings Fire Suppression System does not have its own radioactive source term and does not provide for personnel radiation shielding or the reduction of dose rates.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Development Support Openings Fire Suppression System is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The Development Support Openings Fire Suppression System is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.9 Fire Protection and Control System, as QA-1.

# Q-List Questions

SDD: SS26 - Subsurface Fire Suppression System

SSC: Development Fire Suppression

Level 4: N/A

Level 3: Ventilation Equipment Fire Suppression

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The Development Ventilation Equipment Fire Suppression System provides capability to suppress fires throughout the emplacement and development sides of the subsurface wherever there is non-mobile operating equipment. This SSC is not associated with the receipt, handling, emplacement, storage, packaging, or retrieval of high-level waste.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The Development Ventilation Equipment Fire Suppression System does not mitigate the consequences of a credible fire DBE which has the potential for a radioactive release above federal limits.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

Direct failure of the Development Ventilation Equipment Fire Suppression System would not result in a credible DBE that could lead to a radioactive release above the federal limit.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The Development Ventilation Equipment Fire Suppression System is not part of the natural or engineered barriers that perform a waste isolation function.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

Direct failure of the Development Ventilation Equipment Fire Suppression System would not impair the capability of natural or engineered barriers from performing their waste isolation function.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

### SDD: SS26 - Subsurface Fire Suppression System

SSC: Development Fire Suppression Level 4: N/A

Level 3: Ventilation Equipment Fire Suppression Level 5: N/A

#### QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The Development Ventilation Equipment Fire Suppression System is not associated with the site-generated radioactive waste.

#### QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The Development Ventilation Equipment Fire Suppression System may protect the QA-1 or QA-2 SSCs from the effects of a fire by suppressing the fire as soon as possible.

#### QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

Failure of the Development Ventilation Equipment Fire Suppression System may impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation functions.

#### QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The Development Ventilation Equipment Fire Suppression System is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The Development Ventilation Equipment Fire Suppression System is not required for special nuclear material accountability.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00  
Attachment IV

SDD: SS26 - Subsurface Fire Suppression System

SSC: Development Fire Suppression

Level 4: N/A

Level 3: Ventilation Equipment Fire Suppression

Level 5: N/A

## QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Development Ventilation Equipment Fire Suppression System does not have its own radioactive source term and does not provide for personnel radiation shielding or the reduction of dose rates.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Development Ventilation Equipment Fire Suppression System is not a radiation monitor.

## Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The Development Ventilation Equipment Fire Suppression System is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.9 Fire Protection and Control System, as QA-1.

# Q-List Questions

**SDD: SS26 - Subsurface Fire Suppression System**

**SSC: Development Fire Suppression**

**Level 4: N/A**

**Level 3: Warehouse/Shop Fire Suppression**

**Level 5: N/A**

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**QA-1 - Important to Radiological Safety:**

**1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?**

**Yes?** Rationale:  
The Development Warehouse/Shop Fire Suppression System provides capability to suppress fires throughout the emplacement and development sides of the subsurface wherever there is non-mobile operating equipment. This SSC is not associated with the receipt, handling, emplacement, storage, packaging, or retrieval of high-level waste.

**1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?**

**Yes?** Rationale:  
The Development Warehouse/Shop Fire Suppression System does not mitigate the consequences of a credible fire DBE which has the potential for a radioactive release above federal limits.

**1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?**

**Yes?** Rationale:  
Direct failure of the Development Warehouse/Shop Fire Suppression System would not result in a credible DBE that could lead to a radioactive release above the federal limit.

**QA-2 - Important to Waste Isolation:**

**2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?**

**Yes?** Rationale:  
The Development Warehouse/Shop Fire Suppression System is not part of the natural or engineered barriers that perform a waste isolation function.

**2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?**

**Yes?** Rationale:  
Direct failure of the Development Warehouse/Shop Fire Suppression System would not impair the capability of natural or engineered barriers from performing their waste isolation function.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

### SDD: SS26 - Subsurface Fire Suppression System

SSC: Development Fire Suppression

Level 4: N/A

Level 3: Warehouse/Shop Fire Suppression

Level 5: N/A

#### QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The Development Warehouse/Shop Fire Suppression System is not associated with the site-generated radioactive waste.

#### QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The Development Warehouse/Shop Fire Suppression System may protect the QA-1 or QA-2 SSCs from the effects of a fire by suppressing the fire as soon as possible.

#### QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

Failure of the Development Warehouse/Shop Fire Suppression System may impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation functions.

#### QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The Development Warehouse/Shop Fire Suppression System is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The Development Warehouse/Shop Fire Suppression System is not required for special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS26 - Subsurface Fire Suppression System

SSC: Development Fire Suppression Level 4: N/A

Level 3: Warehouse/Shop Fire Suppression Level 5: N/A

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Development Warehouse/Shop Fire Suppression System does not have its own radioactive source term and does not provide for personnel radiation shielding or the reduction of dose rates.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Development Warehouse/Shop Fire Suppression System is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The Development Warehouse/Shop Fire Suppression System is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.9 Fire Protection and Control System, as QA-1.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS26 - Subsurface Fire Suppression System

SSC: Operations Fire Suppression

Level 4: N/A

Level 3: Access Fire Suppression System

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The Operations Access Fire Suppression System provides capability to suppress fires throughout the emplacement and development sides of the subsurface wherever there is non-mobile operating equipment. This SSC is not associated with the receipt, handling, emplacement, storage, packaging, or retrieval of high-level waste.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The Operations Access Fire Suppression System provides fire suppression functions to mitigate the consequences of a credible fire DBE which has the potential for a radioactive release above federal limits.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

Direct failure of the Operations Access Fire Suppression System would not result in a credible DBE that could lead to a radioactive release above the federal limit.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The Operations Access Fire Suppression System is not part of the natural or engineered barriers that perform a waste isolation function.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

Direct failure of the Operations Access Fire Suppression System would not impair the capability of natural or engineered barriers from performing their waste isolation function.

# O-List Questions

B00000000-01717-0200-00134 Rev 00  
Attachment IV

**SDD: SS26 - Subsurface Fire Suppression System**

**SSC: Operations Fire Suppression**

**Level 4: N/A**

**Level 3: Access Fire Suppression System**

**Level 5: N/A**

**QA-3 - Important to Radioactive Waste Control:**

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The Operations Access Fire Suppression System is not associated with the site-generated radioactive waste.

**QA-4 - Important to Fire Protection:**

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The Operations Access Fire Suppression System may protect the QA-1 or QA-2 SSCs from the effects of a fire by suppressing the fire as soon as possible.

**QA-5 - Important to Potential Interaction:**

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

Failure of the Operations Access Fire Suppression System may impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation functions.

**QA-6 - Important to Physical Protection of Facility and Materials:**

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The Operations Access Fire Suppression System is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The Operations Access Fire Suppression System is not required for special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS26 - Subsurface Fire Suppression System

SSC: Operations Fire Suppression

Level 4: N/A

Level 3: Access Fire Suppression System

Level 5: N/A

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Operations Access Fire Suppression System does not have its own radioactive source term and does not provide for personnel radiation shielding or the reduction of dose rates.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Operations Access Fire Suppression System is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The Operations Access Fire Suppression System is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.9 Fire Protection and Control System, as QA-1.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS26 - Subsurface Fire Suppression System

SSC: Operations Fire Suppression

Level 4: N/A

Level 3: Fire Detection Systems

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The Operations Fire Detection System provides capability to detect fires throughout the emplacement and development sides of the subsurface wherever there is non-mobile operating equipment. This SSC is not associated with the receipt, handling, emplacement, storage, packaging, or retrieval of high-level waste.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The Operations Fire Detection System provides monitoring for a credible fire DBE which has the potential for a radioactive release above federal limits.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

Direct failure of the Operations Fire Detection System would not result in a credible DBE that could lead to a radioactive release above the federal limit.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The Operations Fire Detection System is not part of the natural or engineered barriers that perform a waste isolation function.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

Direct failure of the Operations Fire Detection System would not impair the capability of natural or engineered barriers from performing their waste isolation function.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00  
Attachment IV

SDD: SS26 - Subsurface Fire Suppression System

SSC: Operations Fire Suppression

Level 4: N/A

Level 3: Fire Detection Systems

Level 5: N/A

## QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The Operations Fire Detection System is not associated with the site-generated radioactive waste.

## QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The Operations Fire Detection System may protect the QA-1 or QA-2 SSCs from the effects of a fire by fire detection.

## QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

Failure of the Operations Fire Detection System would not impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation functions.

## QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The Operations Fire Detection System is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The Operations Fire Detection System is not required for special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS26 - Subsurface Fire Suppression System**

**SSC: Operations Fire Suppression**

**Level 4: N/A**

**Level 3: Fire Detection Systems**

**Level 5: N/A**

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Operations Fire Detection System does not have its own radioactive source term and does not provide for personnel radiation shielding or the reduction of dose rates.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Operations Fire Detection System is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The Operations Fire Detection System is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.9 Fire Protection and Control System, as QA-1.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS26 - Subsurface Fire Suppression System

SSC: Operations Fire Suppression

Level 4: N/A

Level 3: Underground Facility Fire Suppression

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The Operations Underground Facility Fire Suppression System provides capability to suppress fires throughout the emplacement and development sides of the subsurface wherever there is non-mobile operating equipment. This SSC is not associated with the receipt, handling, emplacement, storage, packaging, or retrieval of high-level waste.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The Operations Underground Facility Fire Suppression System provides fire suppression functions to mitigate the consequences of a credible fire DBE which has the potential for a radioactive release above federal limits.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

Direct failure of the Operations Underground Facility Fire Suppression System would not result in a credible DBE that could lead to a radioactive release above the federal limit.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The Operations Underground Facility Fire Suppression System is not part of the natural or engineered barriers that perform a waste isolation function.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

Direct failure of the Operations Underground Facility Fire Suppression System would not impair the capability of natural or engineered barriers from performing their waste isolation function.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

## SDD: SS26 - Subsurface Fire Suppression System

SSC: Operations Fire Suppression

Level 4: N/A

Level 3: Underground Facility Fire Suppression

Level 5: N/A

### QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The Operations Underground Facility Fire Suppression System is not associated with the site-generated radioactive waste.

### QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The Operations Underground Facility Fire Suppression System may protect the QA-1 or QA-2 SSCs from the effects of a fire by suppressing the fire as soon as possible.

### QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

Failure of the Operations Underground Facility Fire Suppression System may impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation functions.

### QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The Operations Underground Facility Fire Suppression System is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The Operations Underground Facility Fire Suppression System is not required for special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SS26 - Subsurface Fire Suppression System

SSC: Operations Fire Suppression

Level 4: N/A

Level 3: Underground Facility Fire Suppression

Level 5: N/A

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Operations Underground Facility Fire Suppression System does not have its own radioactive source term and does not provide for personnel radiation shielding or the reduction of dose rates.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Operations Underground Facility Fire Suppression System is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The Operations Underground Facility Fire Suppression System is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.9 Fire Protection and Control System, as QA-1.

# O-List Questions

SDD: SS26 - Subsurface Fire Suppression System

SSC: Operations Fire Suppression

Level 4: N/A

Level 3: Ventilation Equipment Fire Suppression

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The Operations Ventilation Equipment Fire Suppression System provides capability to suppress fires throughout the emplacement and development sides of the subsurface wherever there is non-mobile operating equipment. This SSC is not associated with the receipt, handling, emplacement, storage, packaging, or retrieval of high-level waste.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The Operations Ventilation Equipment Fire Suppression System provides fire suppression functions to mitigate the consequences of a credible fire DBE which has the potential for a radioactive release above federal limits.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

Direct failure of the Operations Ventilation Equipment Fire Suppression System would not result in a credible DBE that could lead to a radioactive release above the federal limit.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The Operations Ventilation Equipment Fire Suppression System is not part of the natural or engineered barriers that perform a waste isolation function.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

Direct failure of the Operations Ventilation Equipment Fire Suppression System would not impair the capability of natural or engineered barriers from performing their waste isolation function.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00  
Attachment IV

SDD: SS26 - Subsurface Fire Suppression System

SSC: Operations Fire Suppression

Level 4: N/A

Level 3: Ventilation Equipment Fire Suppression

Level 5: N/A

### QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The Operations Ventilation Equipment Fire Suppression System is not associated with the site-generated radioactive waste.

### QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The Operations Ventilation Equipment Fire Suppression System may protect the QA-1 or QA-2 SSCs from the effects of a fire by suppressing the fire as soon as possible.

### QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

Failure of the Operations Ventilation Equipment Fire Suppression System may impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation functions.

### QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The Operations Ventilation Equipment Fire Suppression System is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The Operations Ventilation Equipment Fire Suppression System is not required for special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS26 - Subsurface Fire Suppression System**

**SSC: Operations Fire Suppression**

**Level 4: N/A**

**Level 3: Ventilation Equipment Fire Suppression**

**Level 5: N/A**

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Operations Ventilation Equipment Fire Suppression System does not have its own radioactive source term and does not provide for personnel radiation shielding or the reduction of dose rates.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Operations Ventilation Equipment Fire Suppression System is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The Operations Ventilation Equipment Fire Suppression System is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.9 Fire Protection and Control System, as QA-1.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS26 - Subsurface Fire Suppression System**

**SSC: Operations Fire Suppression**

**Level 4: N/A**

**Level 3: Waste Package Handling Equipment Fire Suppression**

**Level 5: N/A**

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes?

Rationale:

The Operations Waste Package Handling Equipment Fire Suppression System provides capability to suppress fires throughout the emplacement and development sides of the subsurface wherever there is non-mobile operating equipment. This SSC is not associated with the receipt, handling, emplacement, storage, packaging, or retrieval of high-level waste.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes?

Rationale:

The Operations Waste Package Handling Equipment Fire Suppression System provides fire suppression functions to mitigate the consequences of a credible fire DBE which has the potential for a radioactive release above federal limits.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes?

Rationale:

Direct failure of the Operations Waste Package Handling Equipment Fire Suppression System would not result in a credible DBE that could lead to a radioactive release above the federal limit.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes?

Rationale:

The Operations Waste Package Handling Equipment Fire Suppression System is not part of the natural or engineered barriers that perform a waste isolation function.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes?

Rationale:

Direct failure of the Operations Waste Package Handling Equipment Fire Suppression System would not impair the capability of natural or engineered barriers from performing their waste isolation function.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS26 - Subsurface Fire Suppression System**

**SSC: Operations Fire Suppression**

**Level 4: N/A**

**Level 3: Waste Package Handling Equipment Fire  
Suppression**

**Level 5: N/A**

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### QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The Operations Waste Package Handling Equipment Fire Suppression System is not associated with the site-generated radioactive waste.

### QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The Operations Waste Package Handling Equipment Fire Suppression System may protect the QA-1 or QA-2 SSCs from the effects of a fire by suppressing the fire as soon as possible.

### QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

Failure of the Operations Waste Package Handling Equipment Fire Suppression System may impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation functions.

### QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The Operations Waste Package Handling Equipment Fire Suppression System is not associated with the detection or alarming for unauthorized intrusion or the presence of explosive materials.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The Operations Waste Package Handling Equipment Fire Suppression System is not required for special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SS26 - Subsurface Fire Suppression System**

**SSC: Operations Fire Suppression**

**Level 4: N/A**

**Level 3: Waste Package Handling Equipment Fire  
Suppression**

**Level 5: N/A**

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Operations Waste Package Handling Equipment Fire Suppression System does not have its own radioactive source term and does not provide for personnel radiation shielding or the reduction of dose rates.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Operations Waste Package Handling Equipment Fire Suppression System is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The Operations Waste Package Handling Equipment Fire Suppression System is contained on the Q-List by direct inclusion for the Underground Services and Utility Systems, SSA 3.5.9 Fire Protection and Control System, as QA-1.

# Q-List Questions

SDD: SU01 - MGDS Site Layout

SSC: N/A

Level 4: N/A

Level 3: N/A

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input checked="" type="checkbox"/>						

### QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The MGDS site layout encompasses the topography and incorporates the necessary civil engineering required for the surface repository facilities. The site is organized around the subsurface accesses and is configured considering minimization of the potential impact of any routine or accidental stack releases to the offsite population. Site location (i.e., soil conditions, terrain) is consistent with good economics and engineering standards of construction. The site has no important to radiological safety function and is not required to provide reasonable assurance that high level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding federal limits.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

There are no postulated DBEs that require this SSC to function.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

There are no scenarios where direct failure of this SSC would result in a postulated DBE.

### QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

This SSC is not considered part of the natural or engineered barriers.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

Failure of this SSC will not impact the characteristics of the natural or engineered barriers, and it is not a system, structure, or component but rather an area designated for use which will include SSCs to be reviewed.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SU01 - MGDS Site Layout

SSC: N/A

Level 4: N/A

Level 3: N/A

Level 5: N/A

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### QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

This SSC performs no site-generated radioactive waste control function.

### QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

This SSC performs no fire protection function.

### QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

Failure of this SSC will not affect QA-1 or QA-2 SSCs.

### QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

This SSC performs no physical protection function.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

This SSC performs no special nuclear material accountability function.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SU01 - MGDS Site Layout

SSC: N/A

Level 4: N/A

Level 3: N/A

Level 5: N/A

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes?

Rationale:

This SSC does not provide shielding or reduce radiological dose rates.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes?

Rationale:

This SSC performs no radiological monitoring function.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes?

Rationale:

This SSC is contained on the Q-List by direct inclusion for Surface Service and Utility Systems, SSA 3.1.1 On-site Service and Utility Systems, as QA-1.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: Communications System

Level 4: N/A

Level 3: Fire Alarm System

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The Fire Alarm System in the WHF performs no radiological safety functions that would provide reasonable assurance that high level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding federal limits.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

Portions of the Fire Alarm System in the WHF function to monitor potential fire condition DBEs that could result in radioactive releases above federal limits.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

Direct failure of the Fire Alarm System in the WHF will not result in a DBE.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The Fire Alarm System in the WHF does not form any part of the natural or engineered barriers.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

Direct failure of the Fire Alarm System in the WHF will not affect any characteristics of the natural or engineered barrier that would prevent them from performing their isolation function.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SU02 - Waste Handling Facility (WHF) System**

**SSC: Communications System**

**Level 4: N/A**

**Level 3: Fire Alarm System**

**Level 5: N/A**

**QA-3 - Important to Radioactive Waste Control:**

**3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?**

**Yes?** Rationale:

The Fire Alarm System in the WHF does not collect, contain, or monitor any site-generated radioactive waste.

**QA-4 - Important to Fire Protection:**

**4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?**

**Yes?** Rationale:

The Fire Alarm System in the WHF provides for the early detection of potential fire conditions that protect QA-1 SSCs and could result in radioactive releases.

**QA-5 - Important to Potential Interaction:**

**5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?**

**Yes?** Rationale:

Failure of the Fire Alarm System in the WHF as a result of a DBE will not impair QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function.

**QA-6 - Important to Physical Protection of Facility and Materials:**

**6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?**

**Yes?** Rationale:

The Fire Alarm System in the WHF only warns of fire. This system does not detect or alarm for unauthorized intrusions or unauthorized explosive materials.

**6.2 Is the SSCs function required for special nuclear material accountability?**

**Yes?** Rationale:

The Fire Alarm System in the WHF does not account for any special nuclear material.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00  
Attachment IV

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: Communications System

Level 4: N/A

Level 3: Fire Alarm System

Level 5: N/A

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Fire Alarm System in the WHF does not provide any personnel radiation shielding, reduce dose rates or have its own radioactive source term.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Fire Alarm System in the WHF is not a radiation monitor.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The Fire Alarm System in the WHF was previously on the Q-List by direct inclusion for the Surface Service and Utility Systems, SSA 3.1.1.3.11 Fire Protection System, as QA-1; but the Fire Alarm System in the WHF has not been specifically analyzed or included on the Q-List.

# Q-List Questions

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: Communications System

Level 4: N/A

Level 3: Office & Data System

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input checked="" type="checkbox"/>						

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes?

Rationale:

The Office & Data Systems in the WHF is not expected to perform radiological safety functions that would provide reasonable assurance that high level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding federal limits.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes?

Rationale:

The Office & Data Systems in the WHF are not required to function to prevent, mitigate, or monitor any DBEs.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes?

Rationale:

Direct failure of the Office & Data Systems in the WHF will not result in a DBE.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes?

Rationale:

The Office & Data Systems in the WHF do not perform any waste isolation functions.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes?

Rationale:

Direct failure of the Office & Data Systems in the WHF does not affect any characteristics of the natural or engineered barriers.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: Communications System

Level 4: N/A

Level 3: Office & Data System

Level 5: N/A

### QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The function and design of the Office & Data Systems in the WHF is not for collection, containment, or monitoring of site-generated radioactive waste.

### QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The Office & Data Systems in the WHF do not protect QA-1 or QA-2 SSCs from the effects of fire.

### QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

Failure of the Office & Data Systems in the WHF as a result of a DBE will not impair QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function.

### QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The function of the Office & Data Systems in the WHF does not provide for detection or alarm of unauthorized intrusions or unauthorized explosive materials in the restricted area.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The Office & Data Systems in the WHF does not provide a safety related function for special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: Communications System

Level 4: N/A

Level 3: Office & Data System

Level 5: N/A

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Office & Data Systems in the WHF do not provide any radiation shielding, reduce dose rates, or have its own radioactive source term.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Office & Data Systems in the WHF do not have radiation monitors used for monitoring areas for personnel radiation protection.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The Office & Data Systems in the WHF were previously on the Q-List by direct inclusion for the Surface Service and Utility Systems, SSA 3.1.1.3.2 Communication System, as QA-1; but the Office & Data Systems in the WHF have not been specifically analyzed or included on the Q-List.

# O-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: Communications System

Level 4: N/A

Level 3: Phone System

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input checked="" type="checkbox"/>						

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The Phone System in the WHF performs no radiological safety functions that would provide reasonable assurance that high level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding federal limits.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The Phone System in the WHF is not required to function to prevent, mitigate, or monitor any DBEs.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

Direct failure of the Phone System in the WHF will not result in a DBE.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The Phone System in the WHF is not part of the natural or engineered barriers.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

Direct failure of the Phone System in the WHF will not affect the characteristics of the natural or engineered barriers.

# Q-List Questions

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: Communications System

Level 4: N/A

Level 3: Phone System

Level 5: N/A

## QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The function and design of the Phone System in the WHF is not for collection, containment, or monitoring of site-generated radioactive waste.

## QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The Phone System in the WHF does not protect QA-1 or QA-2 SSCs from the effects of fire.

## QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

Failure of the Phone System in the WHF as a result of a DBE will not impair QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function.

## QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The function of the Phone System in the WHF does not provide for detection or alarm of unauthorized intrusions or unauthorized explosive materials in the restricted area.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The Phone System in the WHF performs no special nuclear material accountability function.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00  
Attachment IV

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: Communications System

Level 4: N/A

Level 3: Phone System

Level 5: N/A

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Phone System in the WHF does not provide any radiation shielding, reduce dose rates, or have its own radioactive source term.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Phone System in the WHF does not have radiation monitors used for monitoring areas for personnel radiation protection.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The Phone System in the WHF was previously on the Q-List by direct inclusion for the Surface Service and Utility Systems, SSA 3.1.1.3.2 Communication System, as QA-1; but the Phone System in the WHF has not been specifically analyzed or included on the Q-List.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: Communications System

Level 4: N/A

Level 3: Public Address/Central Alarm System

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The Public Address/Central Alarm System in the WHF performs no radiological safety functions that would provide reasonable assurance that high level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding federal limits.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

Portions of the Public Address/Central Alarm System in the WHF function to mitigate, or monitor potential DBEs that could result in radioactive releases above federal limits.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

Direct failure of the Public Address/Central Alarm System in the WHF will not result in a DBE.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The Public Address/Central Alarm System in the WHF is not part of the natural or engineered barriers important to waste isolation.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

Direct failure of the Public Address/Central Alarm System in the WHF will not effect the characteristics of the natural or engineered barriers.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SU02 - Waste Handling Facility (WHF) System**

**SSC: Communications System**

**Level 4: N/A**

**Level 3: Public Address/Central Alarm System**

**Level 5: N/A**

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**QA-3 - Important to Radioactive Waste Control:**

**3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?**

**Yes?** Rationale:

The function and design of the Public Address/Central Alarm System in the WHF is not for collection, containment, or monitoring of site-generated radioactive waste.

**QA-4 - Important to Fire Protection:**

**4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?**

**Yes?** Rationale:

The Public Address/Central Alarm System in the WHF does not protect QA-1 or QA-2 SSCs from the effects of fire.

**QA-5 - Important to Potential Interaction:**

**5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?**

**Yes?** Rationale:

Failure of the Public Address/Central Alarm System in the WHF as a result of a DBE will not impair QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function.

**QA-6 - Important to Physical Protection of Facility and Materials:**

**6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?**

**Yes?** Rationale:

The function of the Public Address/Central Alarm System in the WHF may include the alarms to security personnel upon detection of unauthorized intrusions.

**6.2 Is the SSCs function required for special nuclear material accountability?**

**Yes?** Rationale:

The Public Address/Central Alarm System in the WHF performs no special nuclear material accountability function.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: Communications System

Level 4: N/A

Level 3: Public Address/Central Alarm System

Level 5: N/A

## QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Public Address/Central Alarm System in the WHF does not provide any personnel radiation shielding, reduce dose rates or have its own radioactive source term.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Public Address/Central Alarm System in the WHF do not have radiation monitors used for monitoring areas for personnel radiation protection.

## Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The Public Address/Central Alarm System in the WHF was previously on the Q-List by direct inclusion for the Surface Service and Utility Systems, SSA 3.1.1.3.2 Communication System, as QA-1; but the Public Address/Central Alarm System in the WHF has not been specifically analyzed or included on the Q-List.

# O-List Questions

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: Communications System

Level 4: N/A

Level 3: Security System

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The Security System in the WHF performs no radiological safety functions that would provide reasonable assurance that high level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding federal limits.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The Security System in the WHF is not required to function to prevent, mitigate, or monitor any DBEs.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

Direct failure of the Security System in the WHF will not result in a DBE.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The Security System in the WHF is not part of the natural or engineered barriers important to waste isolation.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

Direct failure of the Security System in the WHF will have no effect on the characteristics of the natural or engineered barriers.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: Communications System

Level 4: N/A

Level 3: Security System

Level 5: N/A

## QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The function and design of the Security System in the WHF is not for collection, containment, or monitoring of site-generated radioactive waste.

## QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The Security System in the WHF does not protect QA-1 or QA-2 SSCs from the effects of fire.

## QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

Failure of the Security System in the WHF as a result of a DBE will not impair QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function.

## QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The Security System in the WHF functions will provide detection and alarms for unauthorized intrusion or unauthorized explosive materials in the restricted area.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The Security System in the WHF may be required to function for special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: Communications System

Level 4: N/A

Level 3: Security System

Level 5: N/A

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Security System in the WHF does not provide any personnel radiation shielding, reduce dose rates or have its own radioactive source term.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Security System in the WHF does not have radiation monitors used for monitoring areas for personnel radiation protection.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The Security System in the WHF was previously on the Q-List by direct inclusion for the Balance of Plant, SSA 3.2.3.15 Security Facilities, as QA-1; but the Security System in the WHF has not been specifically analyzed or included on the Q-List.

# Q-List Questions

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: Facility Decontamination System

Level 4: N/A

Level 3: N/A

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The Waste Handling Facility Decontamination System ensures no transferable contamination remains on WHF SSCs. This system is not required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The Waste Handling Facility Decontamination System is not required to function to prevent, mitigate, or monitor any DBEs.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

Direct failure of the Waste Handling Facility Decontamination System will not result in a DBE.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The Waste Handling Facility Decontamination System is not part of the natural or engineered barriers important to waste isolation.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

Direct failure of the Waste Handling Facility Decontamination System will not affect any characteristics of the natural or engineered barrier that would prevent them from performing their isolation function.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SU02 - Waste Handling Facility (WHF) System**

**SSC: Facility Decontamination System**

**Level 4: N/A**

**Level 3: N/A**

**Level 5: N/A**

### QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The Waste Handling Facility Decontamination System may have functions such as drains and tanks for collection, and containment of site-generated radioactive waste.

### QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The Waste Handling Facility Decontamination System does not protect QA-1 or QA-2 SSCs from the effects of fire.

### QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

Failure of the Waste Handling Facility Decontamination System as a result of a DBE could impair QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function since portions of the Waste Handling Facility Decontamination System have a failure mode resulting in flooding or missile as a result of a DBE.

### QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The Waste Handling Facility Decontamination System does not provide for detection or alarm of unauthorized intrusions or unauthorized explosive materials in the restricted area.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The Waste Handling Facility Decontamination System performs no special nuclear material accountability.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: Facility Decontamination System

Level 4: N/A

Level 3: N/A

Level 5: N/A

## QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Waste Handling Facility Decontamination System will reduce dose rates from the WHF SSCs.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Waste Handling Facility Decontamination System performs no radiological monitoring function.

## Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The Waste Handling Facility Decontamination System was previously on the Q-List by direct inclusion of the Waste Handling Building, SSA 3.2.1.1, as QA-1 but the Waste Handling Facility Decontamination System has not been specifically analyzed or included on the Q-List.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: Facility Monitor & Control System

Level 4: N/A

Level 3: N/A

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input checked="" type="checkbox"/>	<input type="checkbox"/>						

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes?

Rationale:

Portions of the Waste Handling Facility Monitor & Control System may be required to function to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes?

Rationale:

Portions of the Waste Handling Facility Monitor & Control System functions to prevent, mitigate, or monitor any potential DBEs that could result in exceeding the federal limits.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes?

Rationale:

Direct failure of the Waste Handling Facility Monitor & Control System will not result in a postulated DBE.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes?

Rationale:

The Waste Handling Facility Monitor & Control System is not part of the natural or engineered barriers important to waste isolation.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes?

Rationale:

Direct failure of Waste Handling Facility Monitor & Control System will not affect any characteristics of the natural or engineered barrier that would prevent them from performing their isolation function.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: Facility Monitor & Control System

Level 4: N/A

Level 3: N/A

Level 5: N/A

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Waste Handling Facility Monitor & Control System does not provide any personnel radiation shielding, reduce dose rates or have its own radioactive source term.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Waste Handling Facility Monitor & Control System performs no radiological monitoring function.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The Waste Handling Facility Monitor & Control System was previously on the Q-List by direct inclusion of the Waste Handling Building, SSA 3.2.1.1, as QA-1 but the Waste Handling Facility Monitor & Control System has not been specifically analyzed or included on the Q-List.

# Q-List Questions

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: LLW Liquid Transfer Systems

Level 4: N/A

Level 3: Aqueous LLW Collection System

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**QA-1 - Important to Radiological Safety:**

- 1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?  
 Yes? Rationale:  
The Aqueous LLW Collection System in the WHF collects Aqueous LLW for treatment. Handling of site-generated liquid low-level waste is not expected to exceed federal limits. Therefore, this system is not required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits.
  
- 1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?  
 Yes? Rationale:  
The Aqueous LLW Collection System in the WHF is not required to mitigate these postulated DBEs by containing the high level waste that would otherwise result in a radioactive release above federal limits.
  
- 1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?  
 Yes? Rationale:  
Direct failure of the Aqueous LLW Collection System in the WHF would not result in a postulated DBE.

**QA-2 - Important to Waste Isolation:**

- 2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?  
 Yes? Rationale:  
The Aqueous LLW Collection System in the WHF is not part of the natural or engineered barriers.
  
- 2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?  
 Yes? Rationale:  
Direct failure of the Aqueous LLW Collection System in the WHF will not affect the characteristics of the natural or engineered barriers.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SU02 - Waste Handling Facility (WHF) System**

**SSC: LLW Liquid Transfer Systems**

**Level 4: N/A**

**Level 3: Aqueous LLW Collection System**

**Level 5: N/A**

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**QA-3 - Important to Radioactive Waste Control:**

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

**Yes?** Rationale:

The Aqueous LLW Collection System in the WHF collects, and processes site-generated radioactive waste.

**QA-4 - Important to Fire Protection:**

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

**Yes?** Rationale:

The Aqueous LLW Collection System in the WHF performs no fire protection functions.

**QA-5 - Important to Potential Interaction:**

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

**Yes?** Rationale:

Failure of the Aqueous LLW Collection System in the WHF as a result of a DBE could impair QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function.

**QA-6 - Important to Physical Protection of Facility and Materials:**

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

**Yes?** Rationale:

The Aqueous LLW Collection System in the WHF does not provide for detection or alarm of unauthorized intrusions or unauthorized explosive materials in the restricted area.

6.2 Is the SSCs function required for special nuclear material accountability?

**Yes?** Rationale:

The Aqueous LLW Collection System in the WHF performs no functions for special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00  
Attachment IV

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: LLW Liquid Transfer Systems

Level 4: N/A

Level 3: Aqueous LLW Collection System

Level 5: N/A

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Aqueous LLW Collection System in the WHF may require personnel access into radiation areas by its own radioactive source term.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Aqueous LLW Collection System in the WHF performs no radiological monitoring functions.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The Aqueous LLW Collection System in the WHF was previously on the Q-List by direct inclusion of the Site Generated Waste Collection Facilities, SSA 3.2.1.1.8, as QA-1 but the Aqueous LLW Collection System in the WHF has not been specifically analyzed or included on the Q-List.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00  
Attachment IV

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: LLW Liquid Transfer Systems

Level 4: N/A

Level 3: Liquid Chemical LLW Collection System

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The Liquid Chemical LLW Collection System in the WHF collects Liquid Chemical LLW for treatment. Handling of site-generated liquid low-level waste is not expected to exceed federal limits. Therefore, this system is not required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The Liquid Chemical LLW Collection System in the WHF is not required to mitigate these postulated DBEs by containing the high level waste that would otherwise result in a radioactive release above federal limits.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

Direct failure of the Liquid Chemical LLW Collection System in the WHF would not result in a postulated DBE.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The Liquid Chemical LLW Collection System in the WHF is not part of the natural or engineered barriers.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

Direct failure of the Liquid Chemical LLW Collection System in the WHF will not affect the characteristics of the natural or engineered barriers.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00  
Attachment IV

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: LLW Liquid Transfer Systems

Level 4: N/A

Level 3: Liquid Chemical LLW Collection System

Level 5: N/A

### QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The Liquid Chemical LLW Collection System in the WHF collects, and processes site-generated radioactive waste.

### QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The Liquid Chemical LLW Collection System in the WHF performs no fire protection functions.

### QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

Failure of the Liquid Chemical LLW Collection System in the WHF as a result of a DBE could impair QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function.

### QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The Liquid Chemical LLW Collection System in the WHF does not provide for detection or alarm of unauthorized intrusions or unauthorized explosive materials in the restricted area.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The Liquid Chemical LLW Collection System in the WHF performs no functions for special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: LLW Liquid Transfer Systems

Level 4: N/A

Level 3: Liquid Chemical LLW Collection System

Level 5: N/A

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Liquid Chemical LLW Collection System in the WHF may require personnel access into radiation areas by its own radioactive source term.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Liquid Chemical LLW Collection System in the WHF performs no radiological monitoring functions.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The Liquid Chemical LLW Collection System in the WHF was previously on the Q-List by direct inclusion of the Site Generated Waste Collection Facilities, SSA 3.2.1.1.8, as QA-1 but the Liquid Chemical LLW Collection System in the WHF has not been specifically analyzed or included on the Q-List.

# O-List Questions

**SDD:** SU02 - Waste Handling Facility (WHF) System

**SSC:** LLW Liquid Transfer Systems

**Level 4:** N/A

**Level 3:** Recycled Water Distribution System

**Level 5:** N/A

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QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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**QA-1 - Important to Radiological Safety:**

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes?

Rationale:

The Recycled Water Distribution System in the WHF distributes slightly radioactive water for reuse in potentially contaminated systems. Handling of site-generated liquid low-level waste is not expected to exceed federal limits. Therefore, this system is not required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes?

Rationale:

The Recycled Water Distribution System in the WHF is not required to function to prevent, mitigate, or monitor any DBEs

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes?

Rationale:

Direct failure of the Recycled Water Distribution System in the WHF would not result in a postulated DBE.

**QA-2 - Important to Waste Isolation:**

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes?

Rationale:

The Recycled Water Distribution System in the WHF is not part of the natural or engineered barriers.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes?

Rationale:

Direct failure of the Recycled Water Distribution System in the WHF will not affect the characteristics of the natural or engineered barriers.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00  
Attachment IV

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: LLW Liquid Transfer Systems

Level 4: N/A

Level 3: Recycled Water Distribution System

Level 5: N/A

### QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The Recycled Water Distribution System in the WHF is not for collection, containment, or monitoring of site-generated radioactive waste. This SSC distributes slightly radioactive water for reuse in potentially contaminated systems and is not expected to exceed federal limits if the system would fail.

### QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The Recycled Water Distribution System in the WHF performs no fire protection function.

### QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

Failure of the Recycled Water Distribution System in the WHF as a result of a DBE could impair QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function. It is expected that the Recycled Water Distribution System in the WHF will be designed and located to preclude missile and flooding hazards.

### QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The function of the Recycled Water Distribution System in the WHF does not provide for detection or alarm of unauthorized intrusions or unauthorized explosive materials in the restricted area.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The Recycled Water Distribution System in the WHF performs no special nuclear material accountability function.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: LLW Liquid Transfer Systems

Level 4: N/A

Level 3: Recycled Water Distribution System

Level 5: N/A

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Recycled Water Distribution System in the WHF should not require personnel access into radiation areas by its own radioactive source term.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Recycled Water Distribution System in the WHF performs no radiological monitoring functions.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The Recycled Water Distribution System in the WHF was previously on the Q-List by direct inclusion of the Waste Handling Building, SSA 3.2.1.1, as QA-1 but the Recycled Water Distribution System in the WHF has not been specifically analyzed or included on the Q-List.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: Material Accountability System

Level 4: N/A

Level 3: N/A

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes?

Rationale:

The Material Accountability System in the WHF does not perform any radiological safety functions that would provide reasonable assurance that high level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding federal limits.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes?

Rationale:

The Material Accountability System in the WHF is not required to function to prevent, mitigate, or monitor any DBE.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes?

Rationale:

Direct failure of the Material Accountability System in the WHF will not result in a DBE.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes?

Rationale:

The Material Accountability System in the WHF is not part of the natural or engineered barriers.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes?

Rationale:

Direct failure of Material Accountability System in the WHF will not affect any characteristics of the natural or engineered barrier that would prevent them from performing their isolation function.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00  
Attachment IV

**SDD: SU02 - Waste Handling Facility (WHF) System**

**SSC: Material Accountability System**

**Level 4: N/A**

**Level 3: N/A**

**Level 5: N/A**

**QA-3 - Important to Radioactive Waste Control:**

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The Material Accountability System in the WHF does not have any collection, containment, and/or monitoring functions for site-generated radioactive waste.

**QA-4 - Important to Fire Protection:**

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The Material Accountability System in the WHF does not have any fire protection functions.

**QA-5 - Important to Potential Interaction:**

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

Failure of the Material Accountability System in the WHF as a result of a DBE will not impair QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function.

**QA-6 - Important to Physical Protection of Facility and Materials:**

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The function of the Material Accountability System in the WHF does not provide for detection or alarm of unauthorized intrusions or unauthorized explosive materials in the restricted area.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The Material Accountability System provides material control and accountability (MC&A) for special nuclear materials at the WHF.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: Material Accountability System

Level 4: N/A

Level 3: N/A

Level 5: N/A

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Material Accountability System in the WHF does not provide any radiation shielding, reduce dose rates, or have its own radioactive source.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Material Accountability System in the WHF does not provide any area radiation monitoring functions.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The Material Accountability System in the WHF was previously on the Q-List by direct inclusion of the Nuclear Material Control and Accountability System, SSA 3.2.1.1.9, as QA-1.

# Q-List Questions

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: Piped Utility Systems

Level 4: N/A

Level 3: Chilled Water Distribution System

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**QA-1 - Important to Radiological Safety:**

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes?

Rationale:

The Chilled Water Distribution System in the WHF provides chilled water to various systems and uses throughout the WHF but performs no radiological safety functions that would provide reasonable assurance that high level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding federal limits.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes?

Rationale:

The Chilled Water Distribution System in the WHF is not required to function to prevent, mitigate, or monitor any DBE.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes?

Rationale:

Direct failure of the Chilled Water Distribution System in the WHF will not result in a DBE.

**QA-2 - Important to Waste Isolation:**

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes?

Rationale:

The Chilled Water Distribution System in the WHF is not part of the natural or engineered barriers.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes?

Rationale:

Direct failure of Chilled Water Distribution System System in the WHF will not affect any characteristics of the natural or engineered barrier that would prevent them from performing their isolation function.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SU02 - Waste Handling Facility (WHF) System**

**SSC: Piped Utility Systems**

**Level 4: N/A**

**Level 3: Chilled Water Distribution System**

**Level 5: N/A**

### QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The Chilled Water Distribution System in the WHF does not have any collection, containment, and/or monitoring functions for site-generated radioactive waste.

### QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The Chilled Water Distribution System in the WHF performs no fire protection function.

### QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

Failure of the Chilled Water Distribution System in the WHF could impact or impair a QA-1 or QA-2 SSC from performing its radiological safety or waste isolation function. It is expected that the Chilled Water Distribution System in the WHF will be designed and located to preclude missile and flooding hazards.

### QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The function of the Chilled Water Distribution System in the WHF does not provide for detection or alarm of unauthorized intrusions or unauthorized explosive materials in the restricted area.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The Chilled Water Distribution System in the WHF performs no functions for special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00  
Attachment IV

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: Piped Utility Systems

Level 4: N/A

Level 3: Chilled Water Distribution System

Level 5: N/A

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Chilled Water Distribution System in the WHF does not provide shielding or reduce radiological dose rates.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Chilled Water Distribution System in the WHF performs no radiological monitoring function.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The Chilled Water Distribution System in the WHF is contained on the Q-List by direct inclusion for the Surface Facilities, SSA 3.2.1.1.4 Waste Handling Building Utilities, as QA-1 but the Chilled Water Distribution System in the WHF has not been specifically analyzed or included on the Q-List.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: Piped Utility Systems

Level 4: N/A

Level 3: Industrial Air Distribution System

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The Industrial Air Distribution System in the WHF is not expected to perform any radiological safety functions that would provide reasonable assurance that high level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding federal limits.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The Industrial Air Distribution System in the WHF is not required to function to prevent, mitigate, or monitor any DBE. It is expected that QA-1 or QA-2 SSCs using the Industrial Air Distribution System in the WHF will be designed to fail-safe on loss of the Industrial Air Distribution System.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

Direct failure of the Industrial Air Distribution System in the WHF will not result in a DBE.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The Industrial Air Distribution System in the WHF is not part of the natural or engineered barriers.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

Direct failure of Industrial Air Distribution System in the WHF will not affect any characteristics of the natural or engineered barrier that would prevent them from performing their isolation function.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00  
Attachment IV

**SDD: SU02 - Waste Handling Facility (WHF) System**

**SSC: Piped Utility Systems**

**Level 4: N/A**

**Level 3: Industrial Air Distribution System**

**Level 5: N/A**

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**QA-3 - Important to Radioactive Waste Control:**

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The Industrial Air Distribution System in the WHF does not have any collection, containment, and/or monitoring functions for site-generated radioactive waste.

**QA-4 - Important to Fire Protection:**

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The Industrial Air Distribution System in the WHF does not protect any QA-1 or QA-2 SSCs from the effects of fire.

**QA-5 - Important to Potential Interaction:**

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

Failure of the Industrial Air Distribution System in the WHF could impact or impair a QA-1 or QA-2 SSC from performing its radiological safety or waste isolation function. It is expected that the Industrial Air Distribution System in the WHF will be designed and located to preclude missile or contamination hazards.

**QA-6 - Important to Physical Protection of Facility and Materials:**

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The function of the Industrial Air Distribution System in the WHF does not provide for detection or alarm of unauthorized intrusions or unauthorized explosive materials in the restricted area.

6.2 Is the SSC's function required for special nuclear material accountability?

Yes? Rationale:

The Industrial Air Distribution System in the WHF performs no functions for special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: Piped Utility Systems

Level 4: N/A

Level 3: Industrial Air Distribution System

Level 5: N/A

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Industrial Air Distribution System in the WHF does not provide any personnel radiation shielding, reduce dose rates or have its own radioactive source term.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Industrial Air Distribution System performs no radiological monitoring functions

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The Industrial Air Distribution System in the WHF is contained on the Q-List by direct inclusion for the Surface Facilities, SSA 3.2.1.1.4 Waste Handling Building Utilities, as QA-1 but the Industrial Air Distribution System in the WHF has not been specifically analyzed or included on the Q-List.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: Piped Utility Systems

Level 4: N/A

Level 3: Instrument Air Distribution System (as required)

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes?

Rationale:

The Instrument Air Distribution System in the WHF may be required to perform radiological safety functions that would provide reasonable assurance that high level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding federal limits.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes?

Rationale:

The Instrument Air Distribution System in the WHF may be required to function to prevent, mitigate, or monitor any DBE. It is expected that QA-1 or QA-2 SSCs using the Instrument Air Distribution System in the WHF will be designed to fail-safe on loss of the Instrument Air Distribution System but may be required to provide air to other instruments or equipment that may perform mitigating functions.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes?

Rationale:

Direct failure of the Instrument Air Distribution System in the WHF will not result in a DBE.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes?

Rationale:

The Instrument Air Distribution System in the WHF is not part of the natural or engineered barriers important to waste isolation.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes?

Rationale:

Direct failure of Instrument Air Distribution System in the WHF will not affect any characteristics of the natural or engineered barrier that would prevent them from performing their isolation function.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: Piped Utility Systems

Level 4: N/A

Level 3: Instrument Air Distribution System (as required)

Level 5: N/A

### QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The Instrument Air Distribution System in the WHF does not have any collection, containment, and/or monitoring functions for site-generated radioactive waste.

### QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The Instrument Air Distribution System in the WHF does not protect any QA-1 or QA-2 SSCs from the effects of fire.

### QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

Failure of the Instrument Air Distribution System in the WHF could impair the capability of any QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function.

### QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The function of the Instrument Air Distribution System in the WHF does not provide for detection or alarm of unauthorized intrusions or unauthorized explosive materials in the restricted area.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The Instrument Air Distribution System in the WHF performs no functions for special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: Piped Utility Systems

Level 4: N/A

Level 3: Instrument Air Distribution System (as required)

Level 5: N/A

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Instrument Air Distribution System in the WHF does not provide any personnel radiation shielding, reduce dose rates or have its own radioactive source term.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Instrument Air Distribution System in the WHF performs no radiological monitoring function.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The Instrument Air Distribution System in the WHF is contained on the Q-List by direct inclusion for the Surface Facilities, SSA 3.2.1.1.4 Waste Handling Building Utilities, as QA-1 but the Instrument Air Distribution System in the WHF has not been specifically analyzed or included on the Q-List.

# O-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: Piped Utility Systems

Level 4: N/A

Level 3: Potable Water Distribution System

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The Potable Water Distribution System in the WHF performs no radiological safety functions that would provide reasonable assurance that high level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding federal limits.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The Potable Water Distribution System in the WHF is not required to function to prevent, mitigate, or monitor any DBE.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

Direct failure of the Potable Water Distribution System in the WHF will not result in a DBE. It is expected that the Potable Water Distribution System in the WHF will be designed and located to preclude missile and flooding hazards.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The Potable Water Distribution System in the WHF is not part of the natural or engineered barriers important to waste isolation.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

Direct failure of Potable Water Distribution System in the WHF will not affect any characteristics of the natural or engineered barrier that would prevent them from performing their isolation function.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00  
Attachment IV

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: Piped Utility Systems

Level 4: N/A

Level 3: Potable Water Distribution System

Level 5: N/A

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**QA-3 - Important to Radioactive Waste Control:**

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The Potable Water Distribution System in the WHF does not have any collection, containment, and/or monitoring functions for site-generated radioactive waste.

**QA-4 - Important to Fire Protection:**

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The Potable Water Distribution System in the WHF does not protect any QA-1 or QA-2 SSCs from the effects of fire.

**QA-5 - Important to Potential Interaction:**

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

Failure of the Potable Water Distribution System in the WHF could impact or impair a QA-1 or QA-2 SSC from performing its radiological safety or waste isolation function.

**QA-6 - Important to Physical Protection of Facility and Materials:**

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The function of the Potable Water Distribution System in the WHF does not provide for detection or alarm of unauthorized intrusions or unauthorized explosive materials in the restricted area.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The Potable Water Distribution System in the WHF performs no functions for special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00  
Attachment IV

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: Piped Utility Systems

Level 4: N/A

Level 3: Potable Water Distribution System

Level 5: N/A

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Potable Water Distribution System in the WHF does not provide any personnel radiation shielding, reduce dose rates or have its own radioactive source term.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Potable Water Distribution System in the WHF performs no radiological monitoring function.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The Potable Water Distribution System in the WHF is contained on the Q-List by direct inclusion for the Surface Facilities, SSA 3.2.1.1.4 Waste Handling Building Utilities, as QA-1 but the Potable Water Distribution System in the WHF has not been specifically analyzed or included on the Q-List.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: Piped Utility Systems

Level 4: N/A

Level 3: Sewage Collection System

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The Sewage Collection System in the WHF performs no radiological safety functions that would provide reasonable assurance that high level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding federal limits.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The Sewage Collection System in the WHF is not required to function to prevent, mitigate, or monitor any DBE.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

Direct failure of this SSC will not result in a credible DBE. However, the Sewage Collection System in the WHF could have a failure mode resulting in flooding or explosion from the build up of gases such as methane.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The Sewage Collection System in the WHF is not part of the natural or engineered barriers important to waste isolation.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

Direct failure of Sewage Collection System in the WHF will not affect any characteristics of the natural or engineered barrier that would prevent them from performing their isolation function.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00  
Attachment IV

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: Piped Utility Systems

Level 4: N/A

Level 3: Sewage Collection System

Level 5: N/A

### QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The Sewage Collection System in the WHF does not have any collection, containment, and/or monitoring functions for site-generated radioactive waste.

### QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The Sewage Collection System in the WHF does not protect any QA-1 or QA-2 SSCs from the effects of fire.

### QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

Failure of the Sewage Collection System in the WHF could impact or impair a QA-1 or QA-2 SSC from performing its radiological safety or waste isolation function. It is expected that the Sewage Collection System in the WHF will be designed and located to preclude missile and flooding hazards from causing a radioactive release.

### QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The function of the Sewage Collection System in the WHF does not provide for detection or alarm of unauthorized intrusions or unauthorized explosive materials in the restricted area.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The Sewage Collection System in the WHF performs no functions for special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SU02 - Waste Handling Facility (WHF) System**

**SSC: Piped Utility Systems**

**Level 4: N/A**

**Level 3: Sewage Collection System**

**Level 5: N/A**

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Sewage Collection System in the WHF does not provide any personnel radiation shielding, reduce dose rates or have its own radioactive source term.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Sewage Collection System in the WHF performs no radiological monitoring function.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The Sewage Collection System in the WHF is contained on the Q-List by direct inclusion for the Surface Facilities, SSA 3.2.1.1.4 Waste Handling Building Utilities, as QA-1 but the Sewage Collection System in the WHF has not been specifically analyzed or included on the Q-List.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: Piped Utility Systems

Level 4: N/A

Level 3: Vacuum System (as required)

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The Vacuum System in the WHF is not expected to perform any radiological safety functions that would provide reasonable assurance that high level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding federal limits.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The Vacuum System in the WHF is not required to function to prevent, mitigate, or monitor any DBE.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

Direct failure of the Vacuum System System in the WHF will not result in a DBE.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The Vacuum System in the WHF is not part of the natural or engineered barriers important to waste isolation.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

Direct failure of Vacuum System in the WHF will not affect any characteristics of the natural or engineered barrier that would prevent them from performing their isolation function.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: Piped Utility Systems

Level 4: N/A

Level 3: Vacuum System (as required)

Level 5: N/A

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### QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The Vacuum System in the WHF may have collection, containment, and/or monitoring functions for site-generated radioactive waste because of radioactive particles or gases it may contain.

### QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The Vacuum System in the WHF does not protect any QA-1 or QA-2 SSCs from the effects of fire.

### QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

Failure of the Vacuum System in the WHF would not impact or impair a QA-1 or QA-2 SSC from performing its radiological safety or waste isolation function.

### QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The function of the Vacuum System in the WHF does not provide for detection or alarm of unauthorized intrusions or unauthorized explosive materials in the restricted area.

6.2 Is the SSC's function required for special nuclear material accountability?

Yes? Rationale:

The Vacuum System in the WHF performs no functions for special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: Piped Utility Systems

Level 4: N/A

Level 3: Vacuum System (as required)

Level 5: N/A

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Vacuum System in the WHF may require personnel access into radiation areas by its own radioactive source term because of radioactive particles or gases it may contain.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Vacuum System in the WHF performs no radiological monitoring function.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The Vacuum Supply System in the WHF was previously on the Q-List by direct inclusion of the Waste Handling Building, SSA 3.2.1.1, as QA-1 but the Vacuum Supply System in the WHF has not been specifically analyzed or included on the Q-List.

# Q-List Questions

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: Process Supply Systems

Level 4: N/A

Level 3: Helium Supply System

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes? Rationale:

The Helium Supply System in the WHF is not expected to perform any radiological safety functions that would provide reasonable assurance that high level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding federal limits.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes? Rationale:

The Helium Supply System in the WHF is not required to function to prevent, mitigate, or monitor any DBE.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes? Rationale:

Direct failure of the Helium System System in the WHF will not result in a DBE.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes? Rationale:

The Helium Supply System in the WHF is not part of the natural or engineered barriers important to waste isolation.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes? Rationale:

Direct failure of Helium Supply System in the WHF will not affect any characteristics of the natural or engineered barrier that would prevent them from performing their isolation function.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

**SDD: SU02 - Waste Handling Facility (WHF) System**

**SSC: Process Supply Systems**

**Level 4: N/A**

**Level 3: Helium Supply System**

**Level 5: N/A**

### QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The Helium Supply System in the WHF does not have any collection, containment, and/or monitoring functions for site-generated radioactive waste.

### QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The Helium Supply System in the WHF does not protect any QA-1 or QA-2 SSCs from the effects of fire.

### QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

Failure of the Helium Supply System in the WHF could impact or impair a QA-1 or QA-2 SSC from performing its radiological safety or waste isolation function. It is expected that the Helium Supply System in the WHF will be designed and located to preclude missile hazards. Failure or mishandling of compressed gas cylinders can result in significant missile hazards; however, standard industrial safety practices are used to control this hazard.

### QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The function of the Helium Supply System in the WHF does not provide for detection or alarm of unauthorized intrusions or unauthorized explosive materials in the restricted area.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The Helium Supply System in the WHF performs no functions for special nuclear material accountability.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: Process Supply Systems

Level 4: N/A

Level 3: Helium Supply System

Level 5: N/A

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Helium Supply System in the WHF does not provide any personnel radiation shielding, reduce dose rates or have its own radioactive source term.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Helium Supply System in the WHF performs no radiological monitoring function.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The Helium Supply System in the WHF was previously on the Q-List by direct inclusion of the Waste Handling Building, SSA 3.2.1.1, as QA-1 but the Helium Supply System in the WHF has not been specifically analyzed or included on the Q-List.

# Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: Process Supply Systems

Level 4: N/A

Level 3: Nitrogen Supply System (as required)

Level 5: N/A

QA-1	QA-2	QA-3	QA-4	QA-5	QA-6	QA-7	Non-Q
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## QA-1 - Important to Radiological Safety:

1.1 Is the SSC required to provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the federal limits?

Yes?

Rationale:

The Nitrogen Supply System in the WHF is not expected to perform any radiological safety functions that would provide reasonable assurance that high level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding federal limits.

1.2 Is the SSC required to function to prevent, mitigate, or monitor a credible Design Basis Event which would otherwise result in a radioactive release above the federal limits?

Yes?

Rationale:

The Nitrogen Supply System in the WHF is not required to function to prevent, mitigate, or monitor any DBE.

1.3 Will the direct failure of the SSC result in a credible Design Basis Event which would lead to a radioactive release above the federal limits?

Yes?

Rationale:

Direct failure of the Nitrogen Supply System System in the WHF will not result in a DBE.

## QA-2 - Important to Waste Isolation:

2.1 Does the SSC perform a waste isolation function by forming part of the natural or engineered barriers?

Yes?

Rationale:

The Nitrogen Supply System in the WHF is not part of the natural or engineered barriers important to waste isolation.

2.2 Can direct failure of the SSC significantly affect the hydrological, geochemical, or geomechanical characteristics of the natural or engineered barriers which may prevent them from performing their waste isolation function?

Yes?

Rationale:

Direct failure of Nitrogen Supply System in the WHF will not affect any characteristics of the natural or engineered barrier that would prevent them from performing their isolation function.

## Q-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: Process Supply Systems

Level 4: N/A

Level 3: Nitrogen Supply System (as required)

Level 5: N/A

### QA-3 - Important to Radioactive Waste Control:

3.1 Is the function of the SSC designed for collection, containment, and/or monitoring of site-generated radioactive waste?

Yes? Rationale:

The Nitrogen Supply System in the WHF does not have any collection, containment, and/or monitoring functions for site-generated radioactive waste.

### QA-4 - Important to Fire Protection:

4.1 Does the SSC protect QA-1 or QA-2 SSCs from the effects of fire?

Yes? Rationale:

The Nitrogen Supply System in the WHF does not protect any QA-1 or QA-2 SSCs from the effects of fire.

### QA-5 - Important to Potential Interaction:

5.1 As a result of a Design Basis Event, could failure of the SSC impair the capability of QA-1 or QA-2 SSCs from performing their radiological safety or waste isolation function?

Yes? Rationale:

Failure of the Nitrogen Supply System in the WHF could impact or impair a QA-1 or QA-2 SSC from performing its radiological safety or waste isolation function. It is expected that the Nitrogen Supply System in the WHF will be designed and located to preclude missile hazards. Failure or mishandling of compressed gas cylinders can result in significant missile hazards; however, standard industrial safety practices are used to control this hazard.

### QA-6 - Important to Physical Protection of Facility and Materials:

6.1 Does the SSC's function provide detection or alarm of unauthorized intrusion or unauthorized explosive materials in the restricted area?

Yes? Rationale:

The function of the Nitrogen Supply System in the WHF does not provide for detection or alarm of unauthorized intrusions or unauthorized explosive materials in the restricted area.

6.2 Is the SSCs function required for special nuclear material accountability?

Yes? Rationale:

The Nitrogen Supply System in the WHF performs no functions for special nuclear material accountability.

## O-List Questions

B00000000-01717-0200-00134 Rev 00

Attachment IV

SDD: SU02 - Waste Handling Facility (WHF) System

SSC: Process Supply Systems

Level 4: N/A

Level 3: Nitrogen Supply System (as required)

Level 5: N/A

### QA-7 - Important to Occupational Radiological Exposure:

7.1 Does the SSC provide personnel radiation shielding, reduce dose rates in radioactive areas, or require personnel access into radiation areas by its own radioactive source term?

Yes? Rationale:

The Nitrogen Supply System in the WHF does not provide any personnel radiation shielding, reduce dose rates or have its own radioactive source term.

7.2 Is the SSC a permanently installed radiation monitor which monitors areas for personnel radiation protection?

Yes? Rationale:

The Nitrogen Supply System in the WHF performs no radiological monitoring function.

### Previous QA Classification:

*This question is for historical and traceability purposes only. A "yes" answer to this question does not provide inclusion to the Q-List*

8.0 Are there other factors, such as previous analyses, a body of consensus, or by direct inclusion, that led to the previous conclusion that this SSC is important to radiological safety (QA-1) or waste isolation (QA-2)?

Yes? Rationale:

The Nitrogen Supply System in the WHF was previously on the Q-List by direct inclusion of the Waste Handling Building, SSA 3.2.1.1, as QA-1 but the Nitrogen Supply System in the WHF has not been specifically analyzed or included on the Q-List.