ARP / MCU
Status Briefing

Status Briefing to the Citizens Advisory Board

Date: October 19, 2010

Presenter:
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Tank Farm Operations Director
Savannah River Remediation, LLC
SRR-TFO-2010-00104
Liquid Waste Flowsheet

Waste Removal, Tank and Associated Facilities Closure

- Salt Removal
- Heel Removal
- Enhanced Chemical Cleaning
- Chemical Cleaning
- Mechanical Cleaning
- Closure Approval
- Area Waste Determinations
- Tank Grouting

Base Operations

- General Process Flow
- Canisters
- LLW
- Sludge HLW
- Salt HLW
- Waste Influent

Waste Treatment

- ETF
- Saltstone Feed Facility
- ARP/MCU
- ARPF
- SWPF
- DDA Operations
- SCIX
- ARP/MCU
- Waste Concentration & Storage Tanks
- Tank 48 Disposition & Recovery
- Sludge Batch Preparations with Microfiltration

Tank Farms

H Canyon

We do the right thing.
Objectives

Using a “first of a kind” process for HLW treatment
  – Provide lessons learned to SWPF design
  – Provide limited treatment capability until SWPF Startup
“The tangible benefits of early small scale operation”
Management of key radionuclide decontamination has been demonstrated:

<table>
<thead>
<tr>
<th></th>
<th>Expected</th>
<th>Actual</th>
<th>Requirements Met?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cs-137 DF</td>
<td>&gt;12</td>
<td>&gt;200</td>
<td>✔</td>
</tr>
<tr>
<td>Sr-90 DF</td>
<td>54.4</td>
<td>&gt;200</td>
<td>✔</td>
</tr>
<tr>
<td>Pu DF</td>
<td>14.4</td>
<td>&gt;200</td>
<td>✔</td>
</tr>
<tr>
<td>MCU CF</td>
<td>12-15</td>
<td>12-15</td>
<td>✔</td>
</tr>
</tbody>
</table>

Management of organic carryover in progress:

<table>
<thead>
<tr>
<th>Carryover Type</th>
<th>Expected</th>
<th>Actual</th>
<th>Requirements Met?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decontaminated Salt Solution</td>
<td>&lt;50 ppm</td>
<td>&lt;25 ppm</td>
<td>✔</td>
</tr>
<tr>
<td>Strip Effluent Carryover</td>
<td>&lt;50 ppm</td>
<td>&lt;25 ppm avg &gt;67 ppm peak</td>
<td>✔</td>
</tr>
</tbody>
</table>

Ability to achieve sustained high throughput in progress:

<table>
<thead>
<tr>
<th>Weekly Production Rate</th>
<th>30,000 gal avg 40,000 gal peak</th>
<th>14,000 gal avg 40,000 peak</th>
<th>Requirements Met?</th>
</tr>
</thead>
</table>
Actively implementing infrastructure upgrades focused on;

– Extended operation
– Continued reliability / attainment
– Deployment of next generation solvent
• Backup Slides
ISDP Downtime by Cause

As of September 1, 2010

Process Improvements/ Risk Reduction
- Solvent Controls / Monitoring
- Redundant Instrumentation
- Procedure Improvements

Reliability Upgrades (In Progress)
- Installed/operated upgraded (prototype) pump
- Procuring additional upgraded pumps

Risk Reduction:
- Alarm Response Procedures
- Salt Batch transition
- Process de-inventory
- Process anomaly

Causes

- High Isopar
- Lutz Pumps
- Sample and Hold
- Sampler
- Planned Facility Outage
- SE Coalescer
- DSS Coalescer
- Instrumentation
- 512-S Filter
- Operator Error
- Vibration
- 512-S Chiller
- Ventilation
- Salt Batch Transition
- Salt in Solvent Feed
- Sump Pump
- Contactor Cleaning
- Leak in Valve Box
- Cold Feed Pump
- Feed Break
- CMT Load

Disposition CDT and Sumps (Weather)

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