



Office of  
Financial Management  
STATE OF WASHINGTON

# Activity Inventory Performance Measure Assessment

## Department of Ecology Nuclear Waste Program

*July 10, 2007*

### Office of Financial Management Assessor:

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### Agency Contacts:

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Based on a review of the following: The agency strategic plan, the budget activity inventory, internal performance measure reports, and an interview with the agency contacts

# Current Strengths and Good Practices

- The data for the most recently completed quarter was available for all measures.
- All the measures are also tracked internally as a part of the agency's strategic plan.
- For many measures, data from previous biennia were available.
- Despite the scientific nature of the work, the language of the performance measures was very understandable. In areas where scientific terms like 'transuranic' are used, the notes in the Performance Measure Tracking System (PMT) explain the terms well.
- The agency was able to provide context and explanations for the significant events evident in the performance measures.

# Activity Measure Comments and Potential Improvements

- All the measures are output or process-level measures relevant to the associated budget activities. This may be appropriate as The Department of Ecology does not actually perform any of the tasks being measured, but is rather monitoring the work performed by private contractors funded primarily through the Federal Department of Energy and the Environmental Protection Agency.
- Yet, many outcome-related performance stories are not being told by this set of budget activities and measures:
  - Is the threat to ground water or the Columbia River increasing or decreasing?
  - Are residents near the Hanford site safer as a result of these actions?
  - How much of the land has been or can be reclaimed for human or animal uses?
  - Are the cleanup activities being conducted in the most efficient and effective way possible?
- While the Department of Ecology has little means to directly affect the outcome of the current set of measures, these are probably the types of outcomes of the activities the public would like to see.

# Analysis of Current Activity Measure Data

- The cause(s) for the abnormally high level of radioactive and or chemically contaminated soil removed from Hanford at the end of the 2003-05 Fiscal Year should be explained.

# Agency Comments and Future Actions

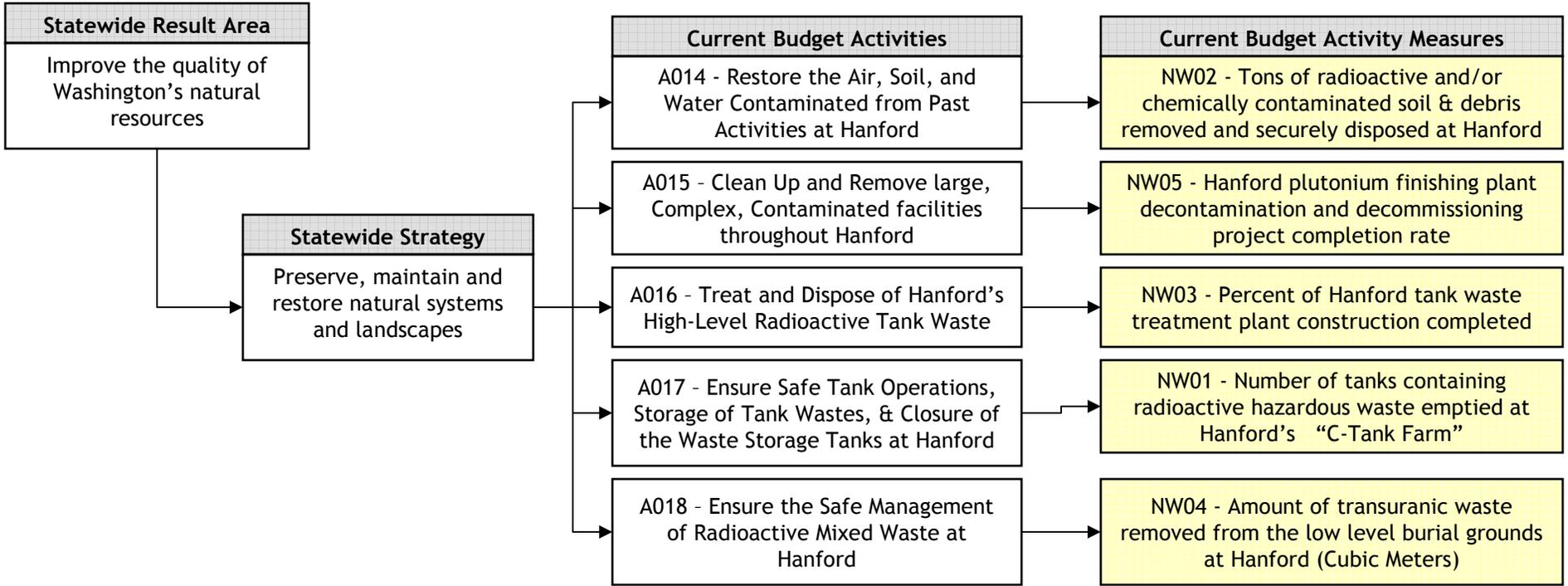
The program has completed its annual planning cycle and is beginning review of performance measures for use in the OFM PMT system, to satisfy any agency performance measure requirements, and to provide our project managers and Section Managers tools for managing the work they are focused on.

The program has employed an approach of using a key or representative measure for the PMT system. Each project/activity is diverse and would require multiple measures to “tell the story” fully. We will explore addition of another PMT measure for each activity that reflects “environmental result/outcome” if such a measure is available and helps with messaging. Because much of the work on Hanford will not begin to improve the environmental outcome for decades, outcome measures are not realistic for several activities, but they are for others.

The program will be exploring/conducting the following and will implement improvements that result in better management, improved performance/accountability, or support things like the messaging pointed on in the previous slide.

- Each project manager will be amending the measures associated with their activity - amendments may be due to progress, improved messaging, changes to targets due to negotiations with USDOE, or to reflect new or completed work.
- Each Project Manager will be developing a “Project Board” that will summarize information about the project, identify key objectives/goals of the project, and will include graphical reporting of all internal and external measures for each project. These boards will be posted in the building and will be updated quarterly at a minimum.
- Quarterly program level performance reports are being re-instated.
- A broad - “Hazard Inventory with reduction over time” approach is being evaluated that may become the standard measure for each of our activities.

# Budget Activity & Performance Measure Linkages

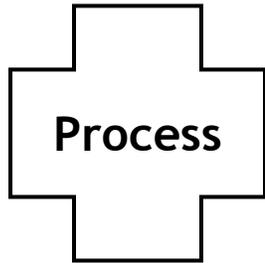


**Legend**

Also Current Strategic Plan Measure

# Budget Activity Measure Perspectives

⑤ Process characteristics the customers/stakeholders want



⑥ Process characteristics the agency wants

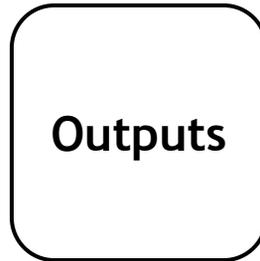
NW05 - Hanford plutonium finishing plant decontamination and decommissioning project completion rate

⑤

NW03 - Percent of Hanford tank waste treatment plant construction completed

⑤

③ Product/service attributes customers/stakeholders want



④ Product/service attributes the agency wants

NW02 - Tons of radioactive and/or chemically contaminated soil & debris removed and securely disposed at Hanford

③

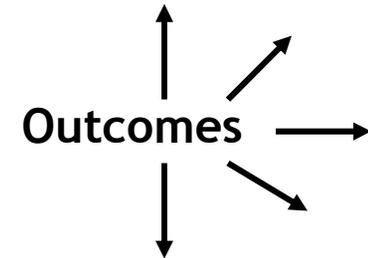
NW01 - Number of tanks containing radioactive hazardous waste emptied at Hanford's "C-Tank Farm"

④

NW04 - Amount of transuranic waste removed from the low level burial grounds at Hanford (Cubic Meters)

④

① Customer/stakeholder desired outcomes



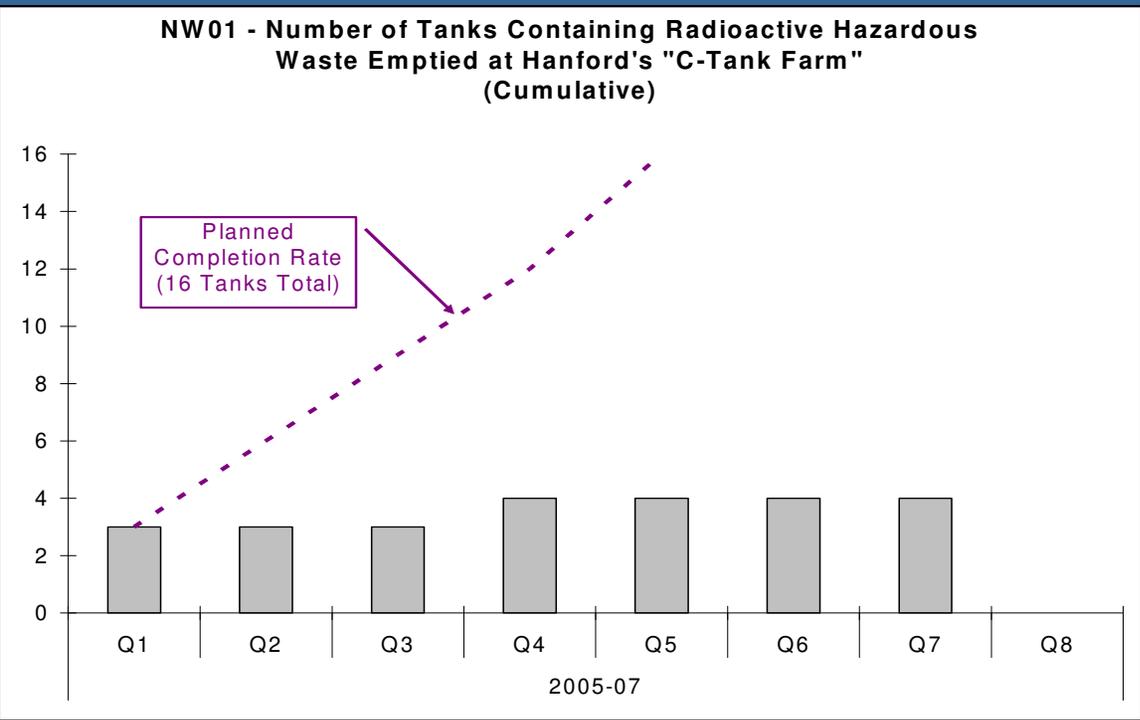
② Agency desired outcomes

## Legend

Strategic Plan and  
Budget Activity Measure

# Activity Measure Assessment - Tanks Emptied - Hanford "C Tank Farm"

<b>Performance Measure Description:</b> Waste is being moved from old leaking single-walled tanks to new double-walled tanks.
<b>Budget Activity Links:</b> A017 - ensure safe tank operations, storage of tank wastes, & closure of the waste storage tanks at Hanford.
<b>Category of Measure:</b> The number of tanks emptied is an output of the cleanup process.
<b>Analysis of Variation:</b> There is no variation - A total of 4 out of 16 tanks have been emptied.
<b>Analysis of Targeted vs. Actual Performance:</b> The actual completion rate of this work has fallen significantly behind schedule.*



Comments About Desirable Characteristics	
<b>Relevance:</b> Good	<b>Timeliness:</b> Data was available for the most recent completed quarter at the time of this assessment.
<b>Understandability:</b> "C-tank farm" is jargon that means little outside the Hanford community, but the notes in PMT explain the term well.	<b>Reliability:</b> The agency does not actually perform this work, but relies on reports from private companies contracted through the Department of Energy.
<b>Comparability:</b> The most valid comparison is the planned vs. actual completion rate.	<b>Cost Effectiveness:</b> This measure is also reviewed internally as a part of the agency strategic plan.

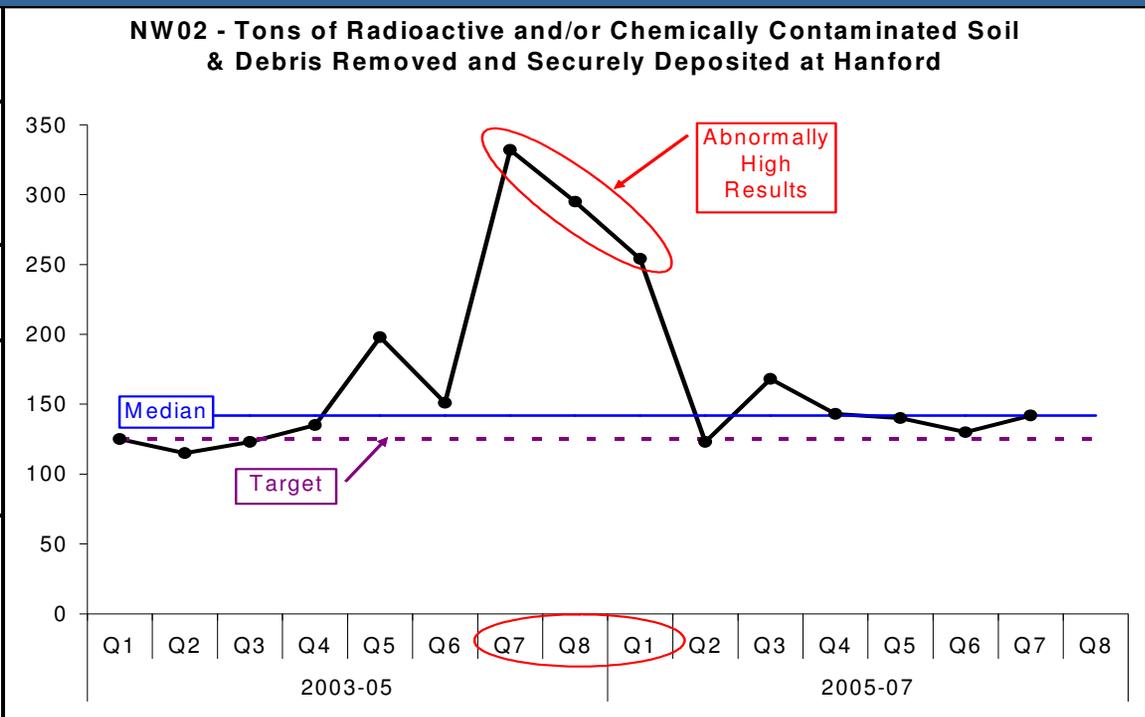
**General Comments & Explanations:**

Agency Comments:  
 \* USDOE has missed several significant Hanford milestones. The Waste Treatment Plant (A016) and retrieval of waste from single shell tanks are among them. The Governor, AGO, and Ecology are currently negotiating mitigation of these missed milestones. Current biennium cost ~\$492,000.

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# Activity Measure Assessment - Contaminated Soil Removed

<b>Performance Measure Description:</b> No additional description necessary
<b>Budget Activity Links:</b> A014 - restore the air, soil, and water contaminated from past activities at Hanford.
<b>Category of Measure:</b> The amount of soil removed is an output of the clean up process.
<b>Analysis of Variation:</b> The production spike at the end of FY 2005 is abnormally high. Aside from that spurt of productivity, the process seems to be relatively stable around the median.
<b>Analysis of Targeted vs. Actual Performance:</b> The median and all recent performance exceeds the targets. The agency should consider raising the target, but the 2007-09 levels in PMT (not shown) should be reviewed.**



Comments About Desirable Characteristics	
<b>Relevance:</b> Good	<b>Timeliness:</b> Data was available for the most recent completed quarter at the time of this assessment.
<b>Understandability:</b> The title is good, but the targets need to be reexamined.	<b>Reliability:</b> The agency does not actually perform this work, but relies on reports from private companies contracted through the Department of Energy.
<b>Comparability:</b> Poor at this level of measurement, but the cost per ton could be compared to other similar activities.	<b>Cost Effectiveness:</b> This measure is also reviewed internally as a part of the agency strategic plan.

**General Comments & Explanations:**

Agency Comments:

\* The high volume of soils in Q7-Q1 were the result of several high volume cleanup actions occurring at that point. Specifically, demolition of several old reactor buildings and ancillary facilities. It is anticipated that overall tons will average 500,000/year through 2015.

\*\*2007-09 Target levels have been checked and correctly entered into PMT.

# Activity Measure Assessment - Tank Waste Treatment Plant Completion

**Performance Measure Description:** As measured against the construction schedule.

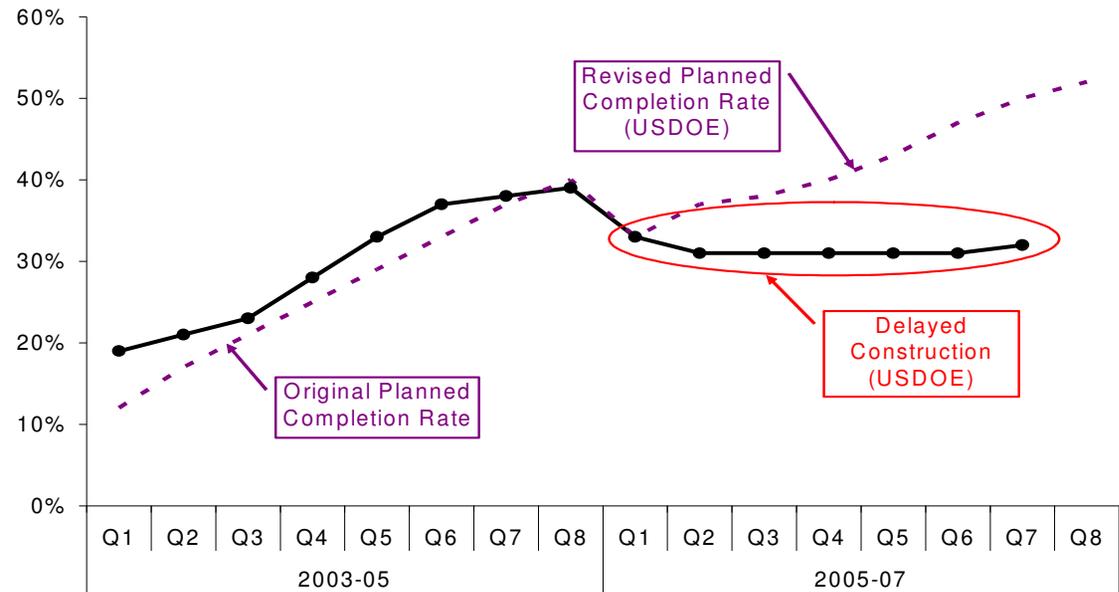
**Budget Activity Links:** A016 - Treat and dispose of Hanford's high-level radioactive tank waste.

**Category of Measure:** Completion rates are process-level measures.

**Analysis of Variation:** The stable improvement was interrupted at the end of FY 2005, when the Department of Energy delayed construction due to design problems and resulting federal funding cutbacks.\*

**Analysis of Targeted vs. Actual Performance:** The Department of Energy revised its project completion estimation process at the end of FY 2005. Before the delay, the project was reported on schedule.

**NW03 - Percent of the Hanford Tank Waste Treatment Plant Construction Completed**



## Comments About Desirable Characteristics

**Relevance:** Good

**Timeliness:** Data was available for the most recent completed quarter at the time of this assessment.

**Understandability:** Good

**Reliability:** The agency does not actually perform this work, but relies on reports from private companies contracted through the Department of Energy.

**Comparability:** The most valid comparison is the planned vs. actual completion rate.

**Cost Effectiveness:** This measure is also reviewed internally as a part of the agency strategic plan.

## General Comments & Explanations:

### Agency Comments:

Current target reflects existing milestone requiring operation by 2011. USDOE has missed milestones and delayed construction and this milestone is not achievable by USDOE. Negotiations are in progress between USDOE, Ecology, and EPA. The measure will be revised assuming success with negotiations.

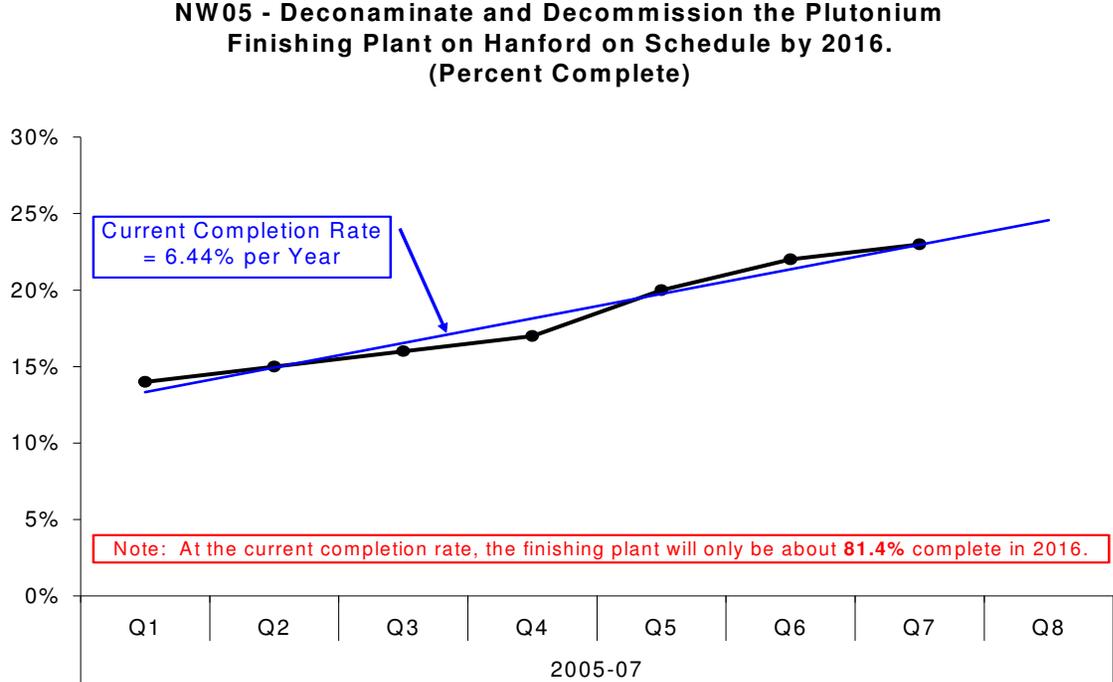
# Activity Measure Assessment - Transuranic Waste Removed

<p><b>Performance Measure Description:</b> Transuranic = elements beyond uranium on the periodic table of elements</p>	<p style="text-align: center;"><b>NW04 - Amount of Transuranic Waste Removed from the Low Level Burial Grounds at Hanford (Cubic Meters)</b></p> <table border="1"> <caption>Actual vs. Target Performance Data</caption> <thead> <tr> <th>Quarter</th> <th>Actual (Cubic Meters)</th> <th>Target (Cubic Meters)</th> </tr> </thead> <tbody> <tr> <td>Q1</td> <td>375</td> <td>375</td> </tr> <tr> <td>Q2</td> <td>410</td> <td>375</td> </tr> <tr> <td>Q3</td> <td>380</td> <td>375</td> </tr> <tr> <td>Q4</td> <td>360</td> <td>375</td> </tr> <tr> <td>Q5</td> <td>480</td> <td>480</td> </tr> <tr> <td>Q6</td> <td>420</td> <td>500</td> </tr> <tr> <td>Q7</td> <td>510</td> <td>500</td> </tr> <tr> <td>Q8</td> <td>-</td> <td>500</td> </tr> </tbody> </table>	Quarter	Actual (Cubic Meters)	Target (Cubic Meters)	Q1	375	375	Q2	410	375	Q3	380	375	Q4	360	375	Q5	480	480	Q6	420	500	Q7	510	500	Q8	-	500
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Q5	480	480																										
Q6	420	500																										
Q7	510	500																										
Q8	-	500																										
<p><b>Budget Activity Links:</b> A018 - ensure the safe management of radioactive mixed waste at Hanford.</p>																												
<p><b>Category of Measure:</b> The amount of waste removed is an output of the removal process.</p>																												
<p><b>Analysis of Variation:</b> Analysis with seven data points can only be considered preliminary at best, but there is an increasing (desirable) trend.*</p>																												
<p><b>Analysis of Targeted vs. Actual Performance:</b> Actual performance has met or exceeded the targets in four out of the seven reported quarters.</p>																												

Comments About Desirable Characteristics		General Comments & Explanations:
<p><b>Relevance:</b> Good</p>	<p><b>Timeliness:</b> Data was available for the most recent completed quarter at the time of this assessment.</p>	
<p><b>Understandability:</b> The term “transuranic” doesn’t mean much outside the scientific community, but the notes in PMT explain the term well.</p>	<p><b>Reliability:</b> The agency does not actually perform this work, but relies on reports from private companies contracted through the Department of Energy.</p>	
<p><b>Comparability:</b> Poor at this level of measurement, but the cost per ton could be compared to other similar activities.</p>	<p><b>Cost Effectiveness:</b> This measure is also reviewed internally as a part of the agency strategic plan.</p>	

**Agency Comments:**  
 \* Milestones in the Hanford Consent order required USDOE to increase the retrieval rate in 2006. The transuranic waste retrieval program has improved the rate of waste retrieval as the contractors and workers have become more experienced with handling the waste. They have become more efficient at dealing with challenges such as drums that have deteriorated. Their performance during the last quarter of FY2007 may be lower because of safety issues that arose during March.

# Activity Measure Assessment - Plutonium Finishing Plant Decommission

<p><b>Performance Measure Description:</b> Building 232-Z at Hanford</p>	<p style="text-align: center;"><b>NW05 - Decontaminate and Decommission the Plutonium Finishing Plant on Hanford on Schedule by 2016. (Percent Complete)</b></p>  <table border="1" style="margin-top: 10px;"> <caption>Approximate Data from Graph</caption> <thead> <tr> <th>Quarter</th> <th>Percent Complete</th> </tr> </thead> <tbody> <tr><td>Q1</td><td>14.0%</td></tr> <tr><td>Q2</td><td>15.0%</td></tr> <tr><td>Q3</td><td>16.0%</td></tr> <tr><td>Q4</td><td>17.0%</td></tr> <tr><td>Q5</td><td>20.0%</td></tr> <tr><td>Q6</td><td>22.0%</td></tr> <tr><td>Q7</td><td>23.0%</td></tr> <tr><td>Q8</td><td>24.0%</td></tr> </tbody> </table>	Quarter	Percent Complete	Q1	14.0%	Q2	15.0%	Q3	16.0%	Q4	17.0%	Q5	20.0%	Q6	22.0%	Q7	23.0%	Q8	24.0%
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<p><b>Budget Activity Links:</b> A015 - Clean up and remove large, complex, contaminated facilities throughout Hanford</p>																			
<p><b>Category of Measure:</b> Completion rates are process-level measures.</p>																			
<p><b>Analysis of Variation:</b> The stable quarter-to-quarter variation is masked by the cumulative nature of the performance measure.</p>																			
<p><b>Analysis of Targeted vs. Actual Performance:</b> There is virtually no difference in actual vs. targeted performance. However, at the current completion rate, the plant will only be about 81% complete in 2016.</p>																			

Comments About Desirable Characteristics		General Comments & Explanations:
<p><b>Relevance:</b> Relevance to the budget activity is good. However, agency control over actual performance is questionable.</p>	<p><b>Timeliness:</b> Data was available for the most recent completed quarter at the time of this assessment.</p>	
<p><b>Understandability:</b> Good</p>	<p><b>Reliability:</b> The agency does not actually perform this work, but relies on reports from private companies contracted through the Department of Energy.</p>	
<p><b>Comparability:</b> The most valid comparison is the planned vs. actual completion rate.</p>	<p><b>Cost Effectiveness:</b> This measure is also reviewed internally as a part of the agency strategic plan.</p>	

**Agency Comments:**  
 There is not a plan to ramp up the completion rate at this time as we will be in a very slow period for the next 2 or 3 years and ramp up starting about 2010. The rate will increase toward the end, if all goes well and to plan, to finish by 2016. This could change based on current strategy discussion and it is just too soon to know.