

# Hanford Tank Farm Contractor Self-Assessment Program

**DNFSB General Briefing  
December 4, 2003**

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**Office of River Protection**



**CH2MHILL**  
*Hanford Group, Inc.*



## **Tank Farm Contractor Scope of Work**

- Waste management on 177 tanks**
- Manage 222-S Laboratory and 242-A Evaporator**
- Stabilize and remove waste from 149 older single-shell tanks**
- Close single-shell tanks**
- Stage waste and manage 28 newer double-shell tanks**
- Manage projects to prepare for transfer of waste to Waste Treatment Plant (WTP)**
- Search out technologies to reduce load on WTP**
- Close double-shell tanks**

## Progress in Managing Tank Farms

Parameters Showing Progress			
Parameter	Units	June 2002	September 2003
ConOps	Events/200K hours worked	8.9	2.5
TSR violations	12-month rolling average	1.5	.33
Delinquent PER actions	Percent of total	48%	5%
ORPS reportable events	Reports/Month	10.2	4.8
PER/ESTARS CA backlog	Numerical reduction	5,310	1,098
Work package errors	Per package	11.13	1.18
Event-free Clock	Days between resets	6	11.1
NTS reports	Open corrective actions	60	11

**LEGEND:**

CA - Corrective Action

ConOps - Conduct of Operations

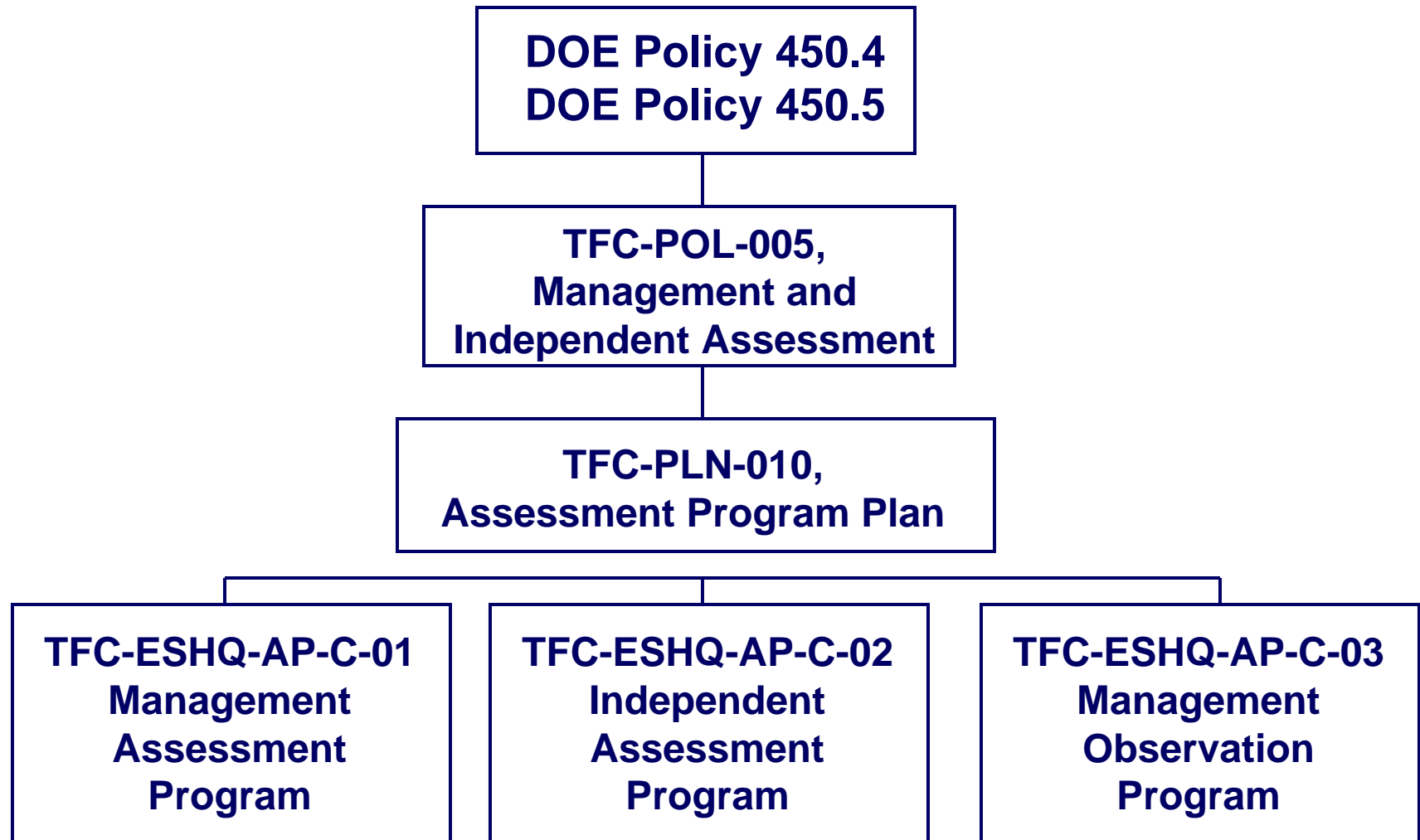
ESTARS™ - Commitment Tracking System

NTS - Noncompliance Tracking System (Price-Anderson Amendments Act Reporting)

ORPS - Occurrence Reporting and Processing System

PER - Problem Evaluation Request

TSR - Technical Safety Requirement

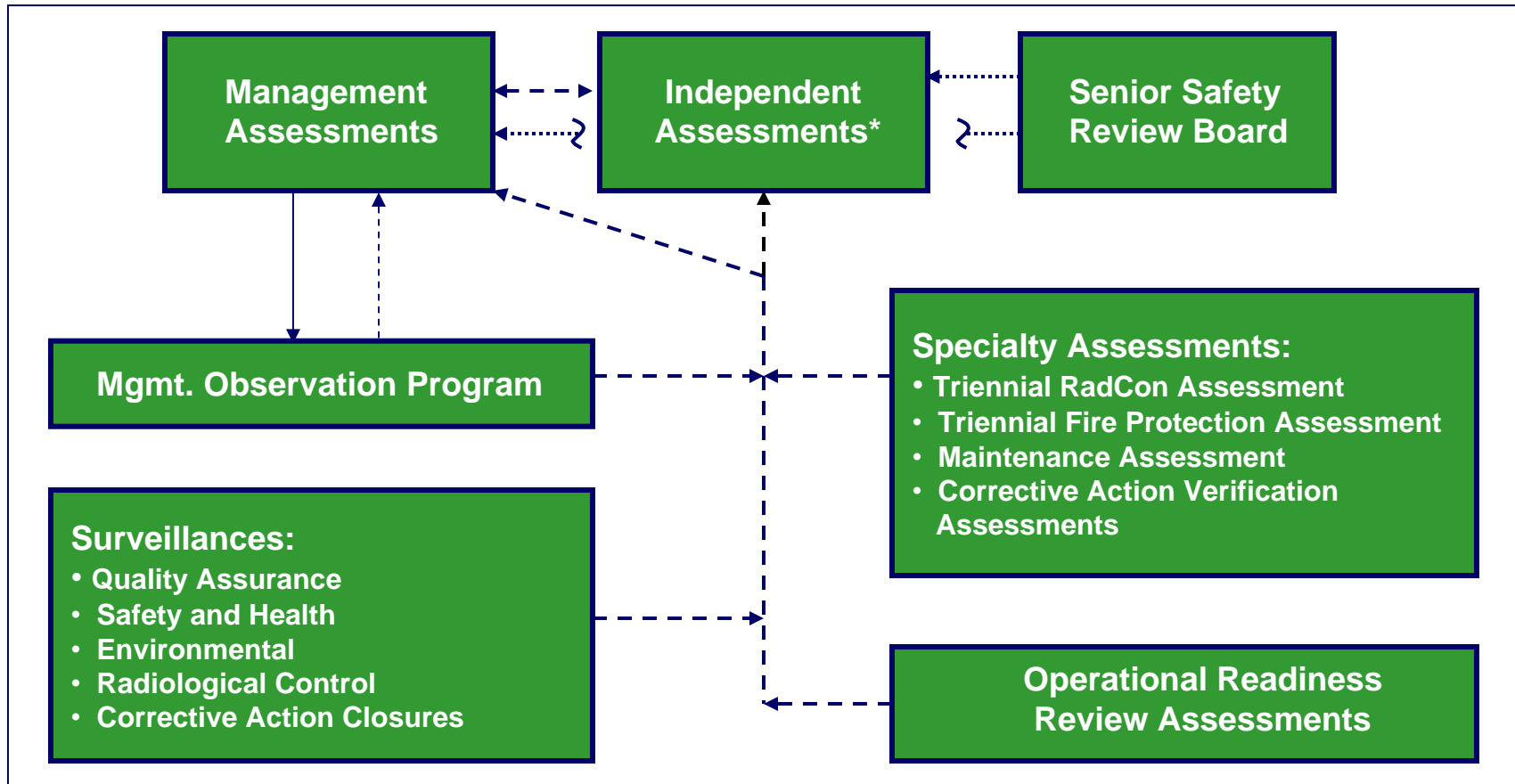


## Structure of Self-assessment Program

- **Independent Assessment**
- **Management Assessment**
- **Senior Safety Review Board Assessment**
- **Management Observation Program Assessments**
- **Specialty Assessments**
- **Operational Readiness Reviews/Readiness Assessments**
- **Surveillances**



## Assessment Element and Interface Diagram



• - Includes QA Program Assessments    - - - - - Input    ..... Advise    \_\_\_\_\_ Direction

## Independent Assessment

- Four to six “vertical slices” of major product lines/services per year, not counting unscheduled Independent Assessments
- Performed in accordance with procedures and Criteria and Review Approach Documents (CRADs)
- Performance and effectiveness-based with a compliance aspect
- Subcontractors assessed as part of Independent Assessment
- Led by qualified Lead Auditors with NQA-1 Certification
- Results presented in exit meeting, and to senior staff
- FY 2003 Independent Assessments resulted in 63 Problem Evaluation Requests (PERs)



## **Management Assessment**

- **Scheduled by Senior Management in each organization segment, and strict compliance to schedule is maintained**
- **Performed in accordance with procedures to assessment plans**
- **Forward-looking, and strategic in nature**
- **Performance- and effective-based, less emphasis on compliance**
- **Results rolled up into Organization MA Summary Report, addressed to the President and General Manager**
- **Twenty-seven FY 2003 Management Assessments resulted in 77 Problem Evaluation Requests**
- **Two were significant PERs, but not NTS reportable**



## Senior Safety Review Board Assessments

- **Senior Safety Review Board consists of senior consultants with significant prior experience at executive levels of management**
- **Acts on behalf of the CH2M HILL Office of the President**
- **Focused review in areas of concern, emerging situations, or where special management attention or review is required**
- **Provide an independent assessment capability including the capability to assess the Assessment Program's effectiveness**
- **Results generally presented in a white paper format to senior management, and PERs are generated as appropriate**

## Management Observation Program

- Management Observation Program Assessments (MOPs) are scheduled by managers
- Performed in accordance with one of five standard checklists
- Used in Projects, ESH&Q, Waste Feed Operations, and Closure Project Operations
- 1108 MOPs in FY 2003 resulted in 460 Problem Evaluation Requests
- In FY 2004, CH2M HILL is integrating a portion of the MOPs with Management Assessment data collection



## Specialty Assessments

- Form of management assessment not part of the Management Assessment roll-up process
- Driven by Orders and needs other than DOE O 414.1A, “Quality Assurance,” and performed to specific procedures
  - Radiological control triennial assessments
  - Maintenance Order assessments
  - Triennial fire protection assessments
  - Biennial Safety Management Program assessments
  - Other priority driven assessments
- Heavily compliance-oriented, but evaluate performance and effectiveness
- 51 Specialty Assessments in FY 2003 resulted in 147 PERs

## Oversight of Contractors

- **For off-site, Important-to-Safety items and services**
  - **Evaluated Suppliers List**
  - **Inspection by Fluor Hanford, CH2M HILL Project Delivery, or Quality Assurance as appropriate**
  - **Receipt Inspection through a Quality Assurance Inspection Plan or Commercial Grade Item evaluation**
  
- **For on-site, Important-to-Safety services**
  - **Evaluated Suppliers List**
  - **Implement a Subcontractor Oversight Plan**
  - **Perform Management Observation Program assessments**
  - **Implement QA independent oversight through Quality Surveillance Reports**



## **Corrective Action Management**

- In FY 2003, CH2M HILL performed 1190 forms of assessment, not including surveillances or Operational Readiness Review activity, that resulted in 747 Problem Evaluation Requests**
  
- Corrective Action Management process follows INPO Guidance**
  - Broad range of problems sought on a zero-threshold basis**
  - Prompt screening**
  - Graded approach to evaluation based on significance**
  - Trending of problems with lower level of significance**
  - Structured root cause analysis for significant problems for root, and contributing causes; extent of condition; corrective action to prevent recurrence**



## Corrective Action Management (cont.)

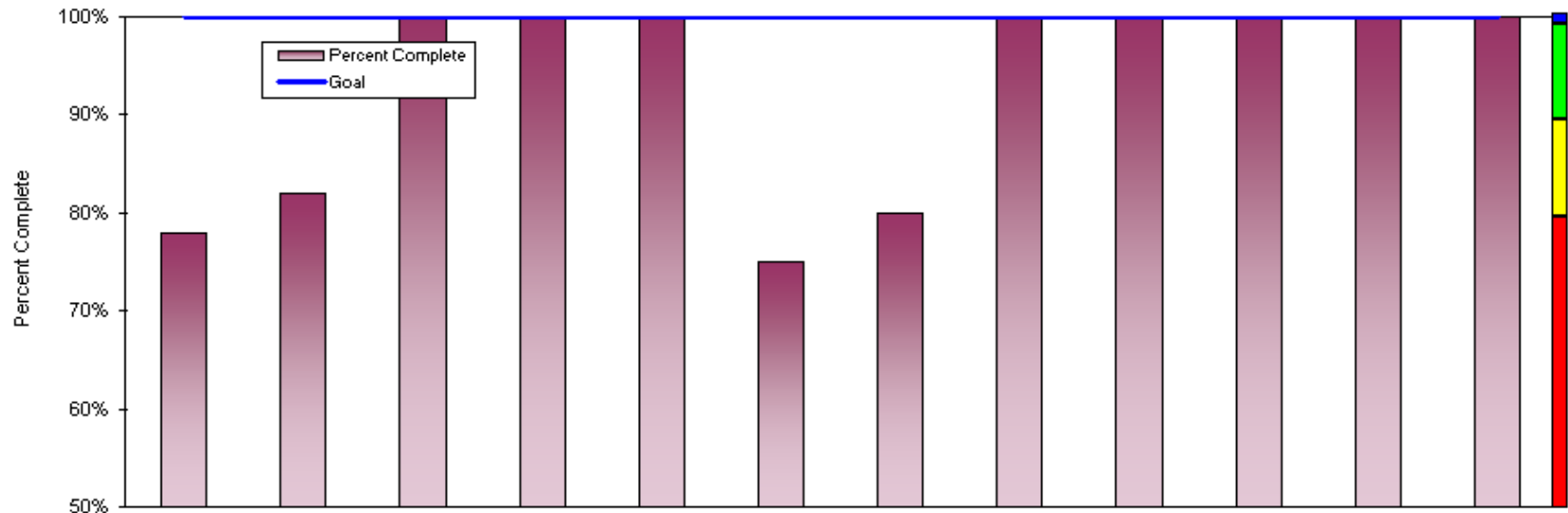
- **Problem Evaluation Requests are screened, evaluated, tracked, and trended**
- **Graded in seven possible categories**
- **Significant PERs, many of which are NTS reportable, require:**
  - **Root Cause Analysis**
  - **Extent of Condition, Root, and Contributing Causal Analysis**
  - **Corrective Action Plan (CAP) development**
  - **End Point Assessment planning and execution**
- **Significant PERs also require CAP approval by Corrective Action Review Board consisting of senior managers**

# MANAGEMENT SYSTEMS

## Quality Assurance

### Assessment Program - Schedule Performance

(11/02 through 10/03)



Month/Year	Nov-02	Dec-02	Jan-03	Feb-03	Mar-03	Apr-03	May-03	Jun-03	Jul-03	Aug-03	Sep-03	Oct-03
Percent Complete	78%	82%	100%	100%	100%	75%	80%	100%	100%	100%	100%	100%
Goal	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Score	Red	Yellow	Blue	Blue	Blue	Red	Yellow	Blue	Blue	Blue	Blue	Blue

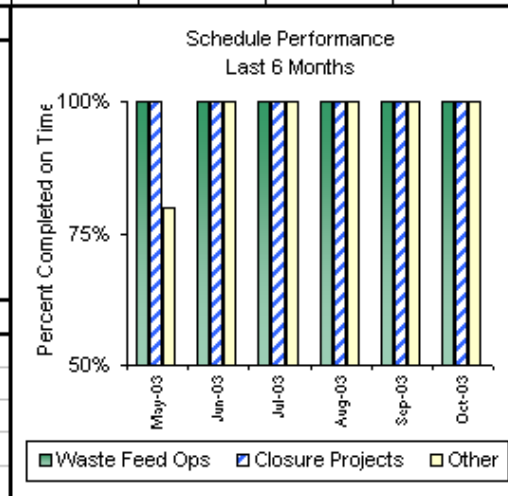
**Definition**  
 Assessments are defined as Management Assessments, Independent Assessments, or Quality Assurance Independent Assessments currently reflected on the Integrated Assessment Schedule and in the Integrated Mission Execution Schedule (IMES); it does not include Management Observation Program (MOP) activity or Speciality Assessments.

**Analysis / Action**  
**Analysis:** Office of General Manager/Deputy General Manager (D. Amerine) internal memorandum emphasizing schedule compliance had a positive impact. No Management Assessments were due in Oct 2003.  
**Action:** Assessment Program to continue working with second level managers to ensure adequate support and review of assessment results are available.

**Goal**  
 The goal is perform 100% of scheduled assessments. Color boundary scale is based on management's expectations. Blue: 100%; Green: 90 - 99%; Yellow: 80 - 89%; Red: < 80%.

**Comments**

PI Owner:	WL Smoot
PI Type:	Lagging
Data Owner:	LR Penick
Data Source:	Assessment Database
DOE-ORP Owner:	DC Bryson



## Evaluation of Assessment Reports for June 2003

Assessment ID Number	Organization	Report Scoring	Team Lead Qualified?	Team Members Trained?	Assessment Plan Developed?	ISMS Considered During Assessment Preparation?	Work Activities Observed?	Assessment Executed IAW Plan?	Assessment Focused on Mgmt Aspects?	Performance Objectives Described or Included?	Safety issues immediately reported and acted upon?	Report Approved by 2nd Level Mgr?	Report Approved & Submitted on Time?	Report Contains ID Number and Topic per the Integrated Assessment Schedule?	Report in Assessment Report Format?	Results Well Documented?	Report Thorough and Well Organized?	Analysis Performed to Determine Specific Problem Areas?	Findings and Adverse Observations entered into PER?	Introspective Analysis of Results Performed?	Mgmt Process meet Org Objectives, Cust Req. and Expectations?
			Assessment Planning and Preparation				Assessment Performance				Assessment Reporting				Assessment Contribution to Process Improvement						
FY2003-OPS-M-0016	WFO	Green	Y	N	Y	Y	Y	Y	Y	Y	NA	Y	Y	N	Y	Y	Y	Y	Y	Y	Y
FY2003-OPS-S-0075	WFO	Green	NA	NA	Y	Y	Y	Y	Y	Y	NA	Y	N	N	Y	Y	Y	Y	Y	NA	Y
FY2003-MC-S-0139	Mission Control	Green	NA	NA	N	Y	Y	N	Y	Y	NA	Y	N	Y	Y	Y	Y	Y	Y	NA	Y
FY2003-MC-S-0140	Mission Control	Green	NA	NA	N	Y	Y	N	Y	Y	NA	Y	N	N	Y	Y	Y	Y	Y	N	Y
FY2003-HR-M-0034	HR	Green	N	N	Y	Y	Y	Y	Y	Y	NA	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
FY2003-ENG-M-0003	Engineering	Green	Y	Y	Y	Y	Y	Y	Y	Y	NA	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
FY2003-ENG-S-0044	Engineering	Green	NA	NA	Y	Y	Y	Y	Y	Y	NA	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
FY2003-ENG-S-0047	Engineering	Green	NA	NA	Y	Y	Y	Y	Y	Y	NA	Y	Y	N	Y	Y	Y	Y	Y	Y	Y
FY2003-PRO-S-0038	PRO	Green	NA	NA	Y	Y	Y	Y	Y	Y	NA	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
FY-2003-CP-S-0152	CP	Green	NA	NA	N	Y	Y	N	Y	Y	NA	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
FY2003-ESHQ-M-0026	ESHQ	Green	Y	Y	Y	Y	Y	Y	Y	Y	NA	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
<b>Weakness Totals:</b>			<b>1</b>	<b>2</b>	<b>3</b>			<b>3</b>				<b>1</b>	<b>3</b>	<b>4</b>					<b>1</b>		

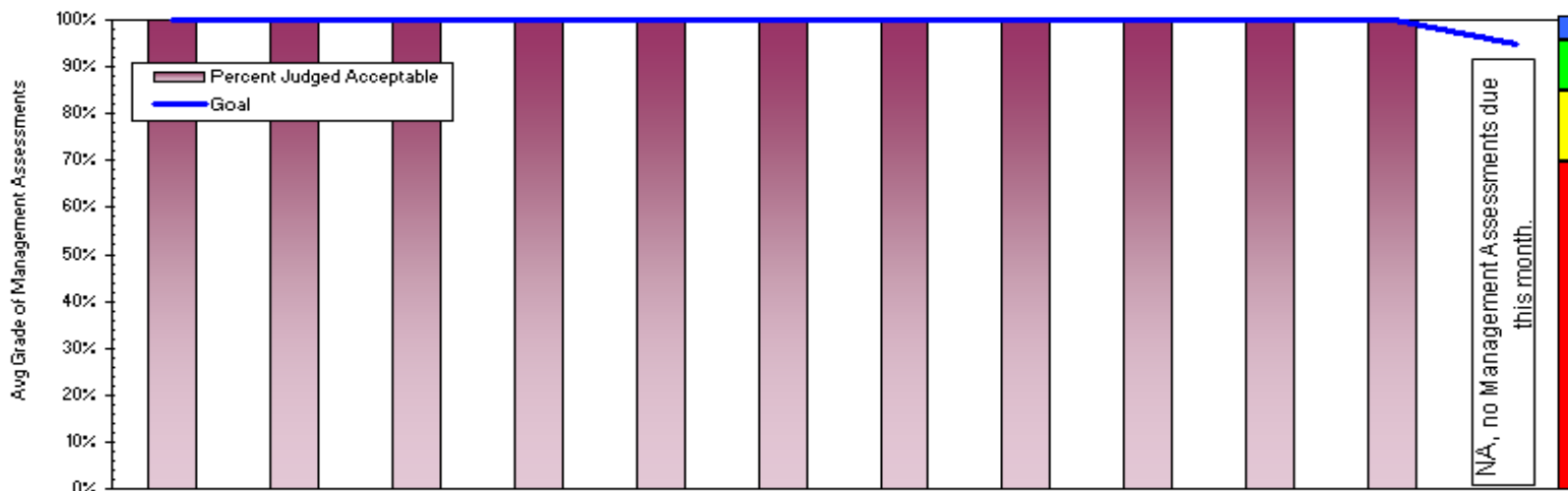


# MANAGEMENT SYSTEMS

## Quality Assurance

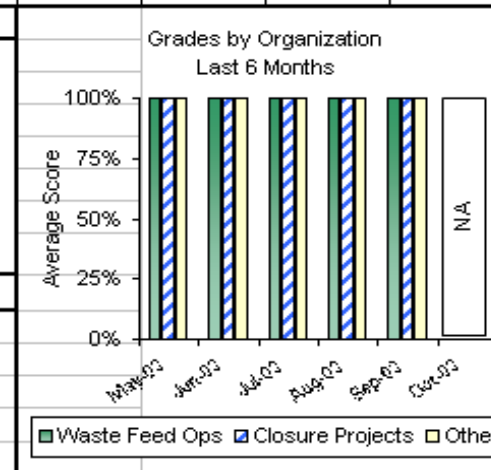
### Assessment Program - Quality of Assessments

(11/02 through 10/03)



Month/Year	Nov-02	Dec-02	Jan-03	Feb-03	Mar-03	Apr-03	May-03	Jun-03	Jul-03	Aug-03	Sep-03	Oct-03
Avg Grading Score	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	NA
Goal	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	95%
Score	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	NA

Definition	Analysis / Action
<p>Beginning October 2003: Average grade for Management Assessments graded that month based on quality.</p> <p>Previously: Percent of Management and Specialty Assessments graded acceptable based on quality.</p>	<p><b>Analysis:</b> No Management Assessments were due in October 2003.</p> <p><b>Action:</b> Grading criteria has been increased in the grading sheets for Management Assessments.</p>

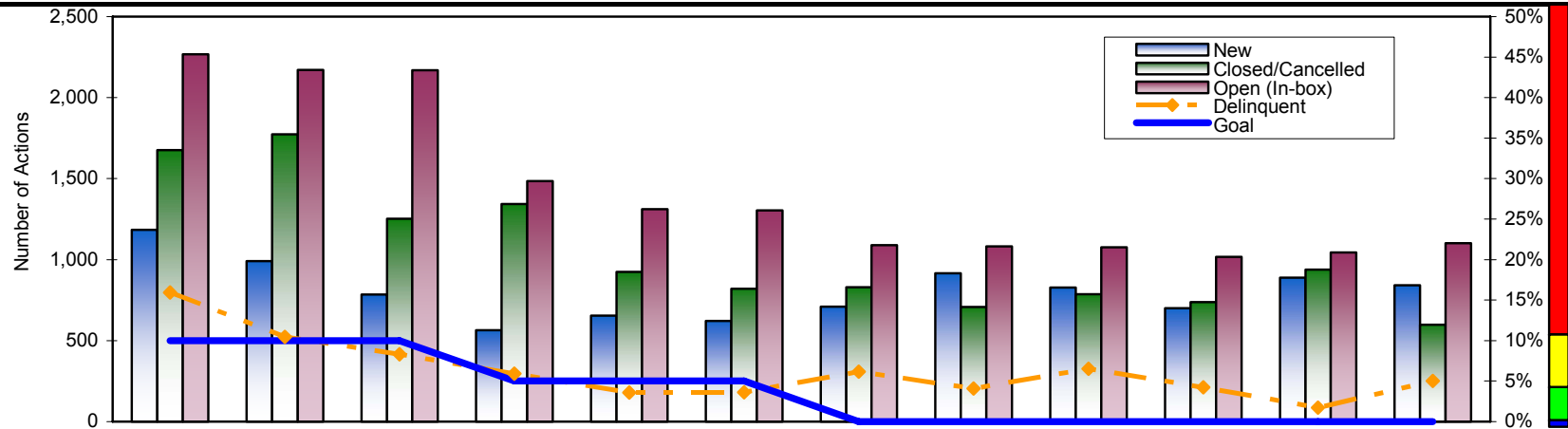


Goal	Comments
<p>Goal: Perform quality assessments. Color boundary scale is based on management's expectations.</p> <p>Current: Blue: &gt;95%; Green: 85 - 94%; Yellow: 70 - 84%; Red: &lt;70%.</p> <p>Prior to October 2003: Blue: 100%; Green: 90 - 99%; Yellow: 80 - 89%; Red: &lt;80%.</p>	<p>PI Owner: WL Smoot</p> <p>PI Type: Leading</p> <p>Data Owner: LR Penick</p> <p>Data Source: Assessment Database</p> <p>DOE-ORP Owner: DC Bryson</p>

# MANAGEMENT SYSTEMS

## Quality Assurance

### Action Tracking Data Associated with Problem Evaluation Requests (PERs) (10/02 through 09/03)



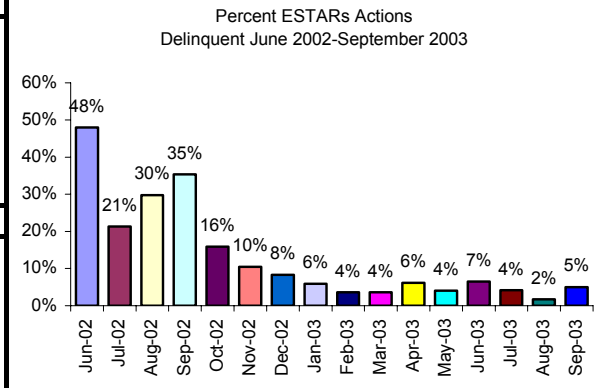
Month/Year	Oct-02	Nov-02	Dec-02	Jan-03	Feb-03	Mar-03	Apr-03	May-03	Jun-03	Jul-03	Aug-03	Sep-03
New	1184	991	785	565	653	621	710	916	827	700	888	841
Closed/Cancelled	1677	1773	1251	1343	924	821	829	707	787	737	939	598
<b>Open (In-box)</b>	<b>2267</b>	<b>2170</b>	<b>2168</b>	<b>1485</b>	<b>1311</b>	<b>1304</b>	<b>1089</b>	<b>1081</b>	<b>1076</b>	<b>1018</b>	<b>1044</b>	<b>1101</b>
Delinquent	361	227	180	88	47	47	67	44	70	43	18	55
<b>Percent Delinquent</b>	<b>16%</b>	<b>10%</b>	<b>8%</b>	<b>6%</b>	<b>4%</b>	<b>4%</b>	<b>6%</b>	<b>4%</b>	<b>7%</b>	<b>4%</b>	<b>2%</b>	<b>5%</b>
Goal	10%	10%	10%	5%	5%	5%	0%	0%	0%	0%	0%	0%
Score	Red	Green	Green	Yellow	Green	Green	Yellow	Green	Yellow	Green	Green	Green

**Definition**  
This chart shows the Electronic Suspense Tracking and Routing System (ESTARS) actions that are associated with Problem Evaluation Requests (PERs). The actions are routed and tracked in ESTARS.

**Analysis / Action**  
**Analysis:** The September reduction in force had a negative impact on the company delinquency rate as organizations worked through resource and priority issues.  
**Action:** The goal continues to be 0%. Contacts with Responsible Managers who own delinquent actions will continue.

**Goal**  
The goal is to maintain the total number of open ESTARS tasks associated with PERs at 0% delinquent. An interim goal of < 10% delinquent by 12/31/02 was established and met. A second interim goal of <5% delinquent by 3/31/03 was also met.  
Blue: 0%; Green: 1 - 5%; Yellow: 6 - 10%; Red: > 10%.

**Comments**  
PI Owner: SJ Eberlein / RL Higgins  
PI Type: Lagging  
Data Owner: MJ Sorrels  
Data Source: ESTARS / PER  
DOE-ORP Owner: DC Bryson



## Summary

- **CH2M HILL has an effective Assessment Program in place**
- **The Assessment Program is multi-faceted, and is identifying numerous opportunities for improvement**
- **The Program has been subject to assessment internally, by the customer, and by the Office of Enforcement Price-Anderson, and found to be acceptable**
- **CH2M HILL strives to improve the Assessment Program, and welcomes the opportunity to discuss further with DNFSB those opportunities**



**CH2MHILL**  
*Hanford Group, Inc.*

# Hanford Tank Farm Contractor Self-Assessment Program



## BACKUP SLIDES



## **Chemical Vapors Solution Progress**

### **■ Old Paradigm**

- **Technical problem based on not exceeding NIOSH and ACGIH thresholds**

### **■ New Paradigm**

- **Minimize employee chemical exposure through optimized ALARA principles**
- **Maximize employee involvement and knowledge**
- **Strengthen documented technical basis of Industrial Hygiene Program**



## **Chemical Vapors Solution Progress (cont.)**

### **■ Completed actions**

- **Root cause analysis**
- **Enhanced respiratory protection**
- **Conservative sampling and monitoring**

### **■ In-process actions**

- **Rigorous disposition and closure of all inputs**
- **Enhanced Engineering Controls**
- **Enhanced Chemical Hazard Training**
- **Strong worker involvement**
- **Enhanced medical support and surveillance**
- **Enhanced Industrial Hygiene Program**

## Chemical Vapors Solution Progress (cont.)

### ■ Independent Assessment of Industrial Hygiene – Vapor Monitoring Program

#### ■ Results:

- Health and Safety Plan does not meet requirements of the DOE for development of a comprehensive personnel monitoring strategy
- Objective evidence is lacking that personnel sampling and monitoring records were generated for inclusion in personnel medical records
- Hazard communication to the workforce needs improvement