DUF_6 Conversion
Preproposal Conference
RFP No. DE-RP05-01OR22717

STATEMENT OF WORK:
CYLINDER MANAGEMENT

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Source Evaluation Board

December 8, 2000

RFP Section C.VI.
Cylinder Management

A. Transport of Cylinders from ETTP to Portsmouth

B. Cylinder Information Database (CID) Management

C. Three-Site Cylinder Surveillance and Maintenance

UF6 Cylinder Inventory

	Cylinders	Metric Tons
ETTP	7,192	54.3 K
Paducah	37,674	448.3 K
Portsmouth	19,296	209.3 K
Three-Site Total	64,162	711.9 K

Transport ETTP Cylinders to Portsmouth

1. Tennessee Consent Order Requires Completion by December 31, 2009
2. Deliverable D-18: Plan to Transport ETTP Cylinders to Portsmouth
   - Analysis of Project Options
   - Analysis of Transportation Mode
   - Cost and Schedule for the Options and Modes
   - Preferred Option and Mode
   - Required Repairs to UF6 Packaging

Cylinder Inventory Database (CID)

1. Physical Inventory
2. Inspection Requirements and Schedules
3. Defect Count
4. Maintenance Activity
5. Historical Maintenance
6. Compliance Indicator
7. Cylinder Yard Maps
8. Cylinder Relocation
9. Hand Held Computers for Cylinder Yard Activity

CID Physical Inventory Report

CID-R003-E DOE UF6 Cylinder Information Database Page 1
11-30-2000 Physical Inventory By Site/Yard Detail 10:37:24

Site: PGDP Yard: C-745-S Section: 001

Cylinder	Yard	Sec	Row	Pos	TB	Model	Assay	Net
01001000	C-745-S	001	U	043	B	48O	0.002481	27,970
01001900	C-745-S	001	X	053	B	48O	0.002009	28,094
01002100	C-745-S	001	DD	024	T	48O	0.002495	27,945
01003300	C-745-S	001	HH	025	B	48O	0.001996	28,055
01004200	C-745-S	001	Y	007	B	48O	0.001976	28,093

CID Physical Inventory

CID-R001-E DOE UF6 Cylinder Information Database Page 1
11-30-2000 Physical Inventory By Site 11:28:19

Contents Category: Cylinder Totals

Model	ETTP	Paducah	Portsmouth	Total
1S	62	0	0	62
2S	27	0	0	27
5A	9	0	50	59
5B	0	0	0	0
8A	56	0	78	134
10A	0	0	127	127
12A	618	60	75	753
12B	161	1	12	174
30A	1,002	1,825	410	3,237
30B	86	0	8	94
48A	233	92	945	1,270
48G	203	21,774	9,651	31,628
48H	6	8	851	865
48HX	6	34	321	361
48O	173	5,295	85	5,553
48OH	29	0	0	29
48OHI	56	1	1	58
48OM	2,852	7,423	4,237	14,512
48T	1,481	602	2,126	4,209
48X	74	212	262	548
48Y	1	60	57	118
CV12	0	150	0	150
CV19	0	137	0	137
FAB	0	0	0	0
Other	57	0	0	57
Assay Missing*	0	0	0	0
Totals	7,192	37,674	19,296	64,162

Full	**4,810**	**37,028**	**17,163**	**59,001**
Empty	**1,497**	**255**	**477**	**2,229**
Heel	**613**	**216**	**1,399**	**2,228**
Partially Full	**272**	**175**	**257**	**704**
No Net Weight**	**0**	**0**	**0**	**0**
Metric Tons	**54,304**	**448,342**	**209,287**	**711,934**
Lbs	**119,719,501**	**988,414,875**	**461,394,955**	**1,569,529,330**

*** These cylinders do not have an assay assigned.**
**** These cylinders do not have a net weight assigned.**

Partially Full = net > heel and < 75% of maximum fill volume
Empty = 0.00 net, Heel = residual/model, Full = net >=75% of max fill vol
Depleted = < .007070, Normal = .007070 to .007150, Enriched = > .007150

Inspection Requirements

CID-R011-E DOE UF6 Cylinder Information Database
Page 1
11-30-2000 Inspection Requirements Summary
13:50:22

Start Date: 11-01-2000 End Date: 11-30-2000
Site: PORT Yard: All Section: All Inspection Type: All

Yard	Section	Inspection Type	Count
X-745-C	001	Quadrennial	24

Detail

Annual Total: 0*
Quad Total: 24
Baseline Total: 0

Grand Total: 24

*** The data source used to generate this report is insp_due_date and insp_due_type contained in the CHARACTERIZATION table. This report currently will not include annual inspections required beyond today's date plus one year. The number of annual inspections required in outlying years should be equal to the current FY's numbers.**

**** End of Report ****

Inspection Requirements

CID-R012-E DOE UF6 Cylinder Information Database
Page 1
11-30-2000 Inspection Requirements Detail 13:51:04

Start Date: 11-01-2000 End Date: 11-30-2000
Site: PORT Yard: X-745-C Section: 001 Inspection Type: Quadrennial

Cylinder	Model	Contents	Status	Assay	Net	Row	Pos	T/B	Due Date
11351400	48OM	FULL		0.002374	27962	014	007	B	1-20-2000
11164900	48OM	FULL		0.002491	27954	014	007	T	11-20-2000
11431500	48OM	FULL		0.002483	27940	014	008	B	11-20-2000
11346500	48OM	FULL		0.002510	27984	014	008	T	11-21-2000
11307800	48OM	FULL		0.002574	28025	014	009	B	11-20-2000
11449100	48OM	FULL		0.002489	28010	014	009	T	11-21-2000
11523700	48OM	FULL		0.002500	27990	014	010	B	11-21-2000
11060200	48OM	FULL		0.002389	27949	014	010	T	11-21-2000
11471800	48OM	FULL		0.002566	27976	014	011	B	11-21-2000
11914700	48OM	FULL		0.002458	27967	014	011	T	11-21-2000
11080300	48OM	FULL		0.002559	27949	014	012	B	11-21-2000
11141800	48OM	FULL		0.002522	27962	014	012	T	11-21-2000

Defect Count Summary

CID-R024-E DOE UF6 Cylinder Information Database Page 1
11-30-2000 Defect Count Summary 14:07:36

Site: PORT Yard: All Section: All Row: All
Defect Codes Selected: All

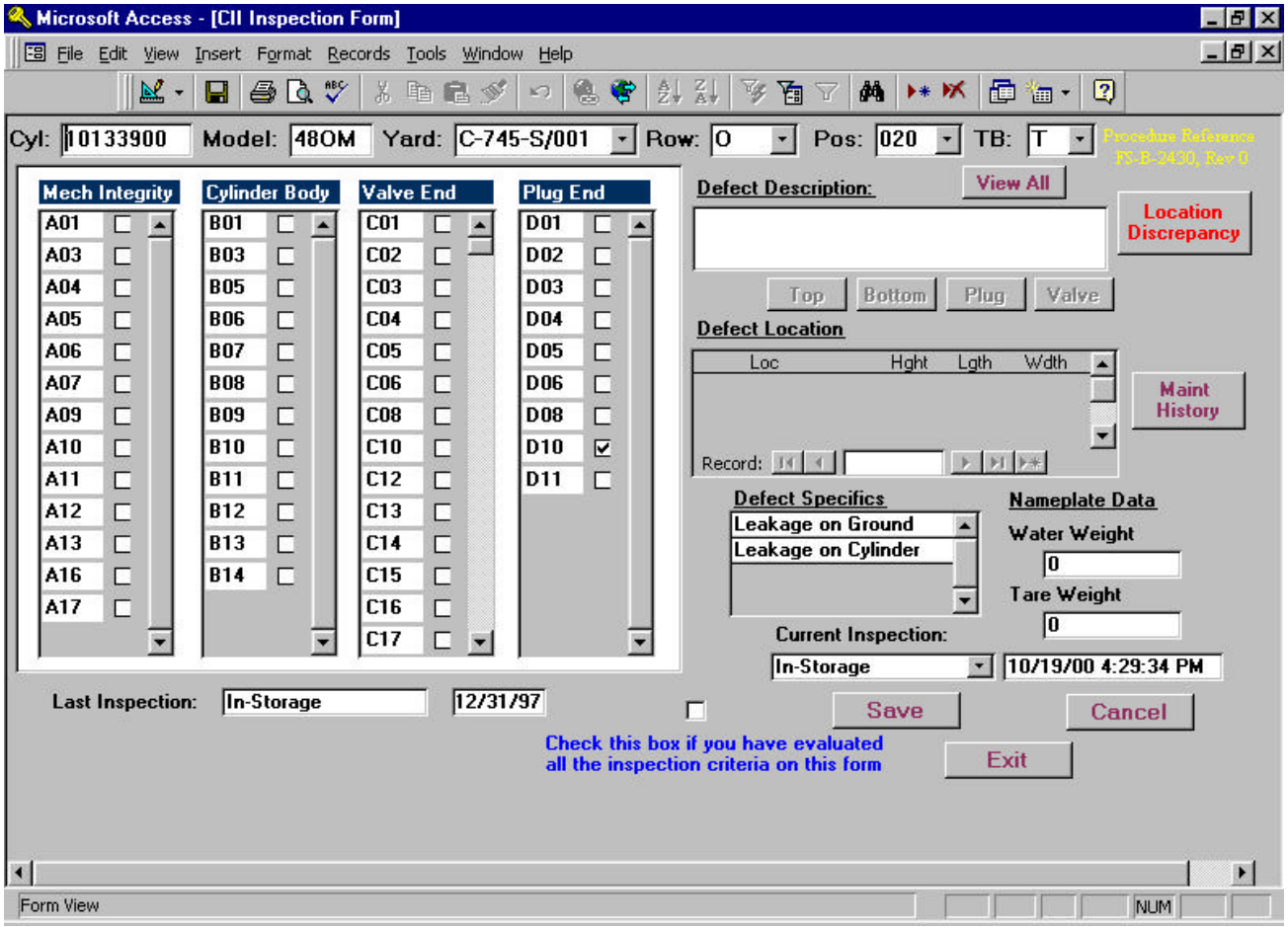
Defect Code	Defect Description	Count
A01	Hole In Cylinder/Evidence of Visible Leakage/	0
A03	Bulge 1/2" or More	0
A04	Gouge or Cut Over 1/16" Deep	316
A05	Dent Over 1/16" Deep	479
A06	Stiffening Ring Condition Unacceptable	1,382
A07	Lugs Misaligned > 10 Degrees	3
A09	Severe Pitting Corrosion	5
A10	Heavy Rust Scale on Cylinder Over 1/8" Thick	14
A11	Stacking of Incompatible Cylinders	3
A12	Longitudinal Weld at 6:00 Position	2,238
A13	Crack in Cylinder Wall	1
A16	Lifting Lug Defective	233
A17	Wide Channel Stiffening Ring Rusted Out	1
B01	Cylinder Shell Body in Ground Contact	0
B03	Cylinder in Standing Water or Evidence of Wat	0
B05	Lifting Lug Contact	32
B06	Improper Upper Tier Cylinder Support	38
B07	Wood Saddles/Resting Block in Use	1,245
B08	Concrete Saddle Defective	427
B09	Saddle Missing	34
B10	Debris Between Saddle and Cylinder	2
B11	Rust Bloom on Painted Cylinder	1
B12	Coating System Failure	5
B13	Complete Coating System Failure	0
B14	Stiffening Ring in Ground Contact	0
C01	Evidence of Leakage/Contamination on Valve	145
C02	Bent Valve Body	86
C03	Bent or Separated Skirt	301

C04	Rust/Scale in Skirt or Weep Hole in Skirt is	640
C05	Skirt in Ground Contact	1
C06	Weep Hole in Skirt Nonexistent or Misaligned	452
C08	Valve End Not Accessible	0
C10	Packing Nut Missing or Cracked	276
C12	Port Cap Missing or Cracked	17
C13	Valve Stem Defective	205
C14	Plug in Place of Valve	546
C15	Valve Protector Cracked, Bent or Weld Cracked	261
C16	ID Plate Missing/Off/Illegible	720
C17	ID Plate Loose/Cracked Weld	797
C18	New ID Tag	26
C21	Nonstandard Valve	106
C22	Valve Cap Defective or Missing	0
C23	Rust Hole in Skirt	0
D01	Evidence of Leakage/Contamination on Plug	0
D02	Missing or Bent or Damaged Plug	3
D03	Bent or Separated Skirt	183
D04	Rust/Scale in Skirt or Weep Hole in Skirt is	585
D05	Skirt in Ground Contact	0
D06	Weep Hole in Skirt Nonexistent or Misaligned	1,911
D08	Plug End Not Accessible	6
D10	Rusted Plug	2,122
D11	Plug Sealed or Welded	1,847
D12	Rust Hole in Skirt	0
X00	Inspected and No Defects Identified	11,441
X01	Not Inspected	151

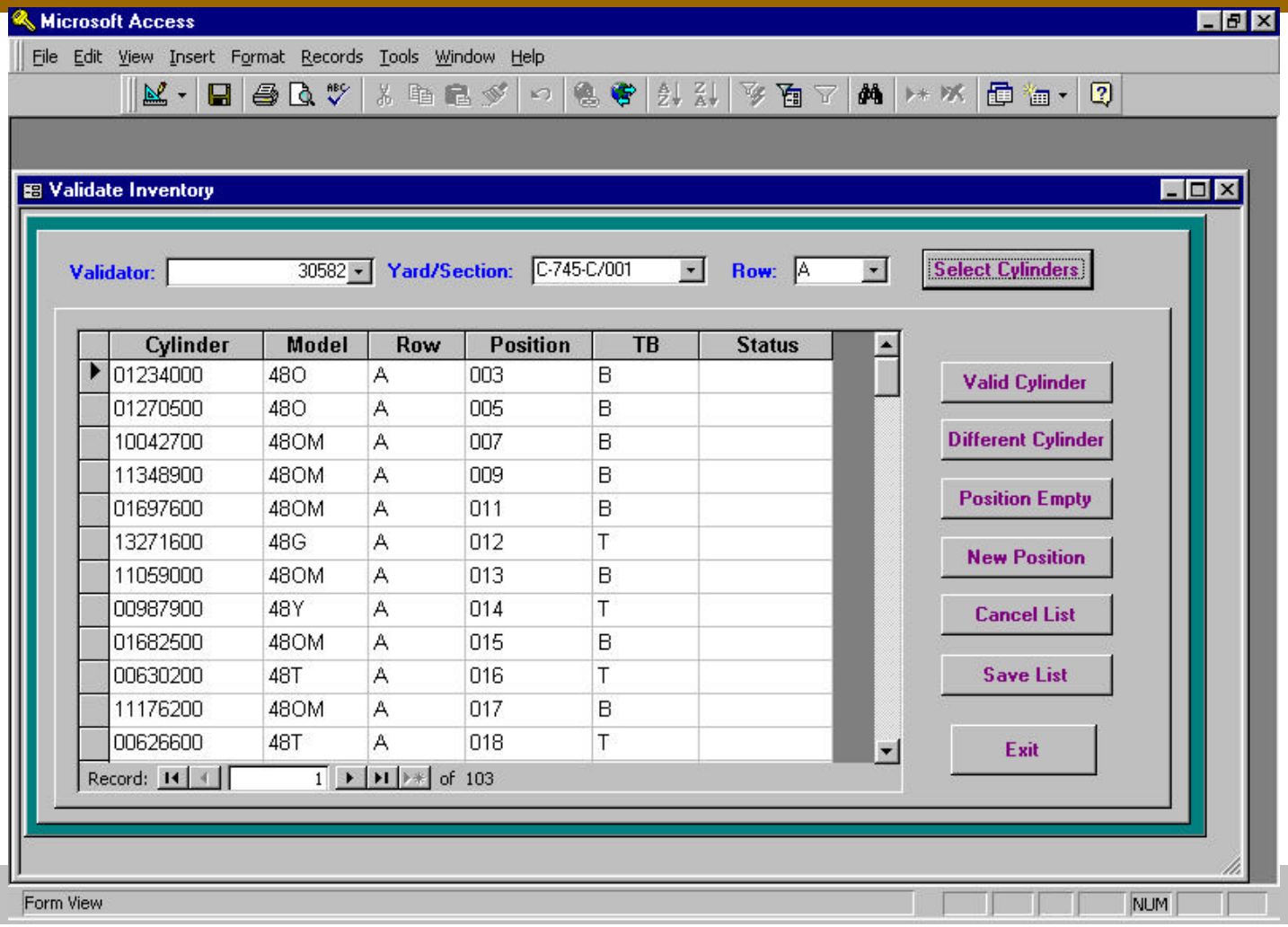
**** END OF REPORT ****

Inspections Utilizing Hand-Held Computers

Hand-Held Computer Screen



Hand-Held Computer Screen



Three-Site Cylinder Surveillance and Maintenance

1. Transition of S&M Responsibility
2. D-19 "Cylinder Surveillance and Maintenance Plan" Submitted Six Months Prior
3. Manage All Cylinder S&M
4. Manage the Cylinder Inventory Database (CID)
5. Take Receipt of USEC Cylinders per MOA
6. Disposition LEU or Natural UF6 Cylinders per DOE

D-19 "Cylinder Surveillance and Maintenance Plan"

1. Regulatory Requirements
2. Cylinder Management Procedures
3. Site Safety Analysis Reports
4. Site Security Plan (D-10)
5. Nuclear Materials Control and Accountability Plan (D-11)

Cylinder Yard Management

1. Cylinder Storage Condition
   - Yard Quality
   - Concrete Saddles
   - Spacing
   - Security
2. Cylinder Yard Maintenance