Electronic Status Boards at the Savannah River Site

Bernie Sims

Brief History of SRS

- Built in early 1950's, 300 square mile area
- Purpose: To produce H-Bomb isotopes
- 5 nuclear reactors, 2 separation facilities, vitrification facility, & tritium facilities
- Reactors ceased production in 1989
- Now processing our nuclear waste legacy from fifty years of operation

VALUE NOW, VALUE OVER TIME

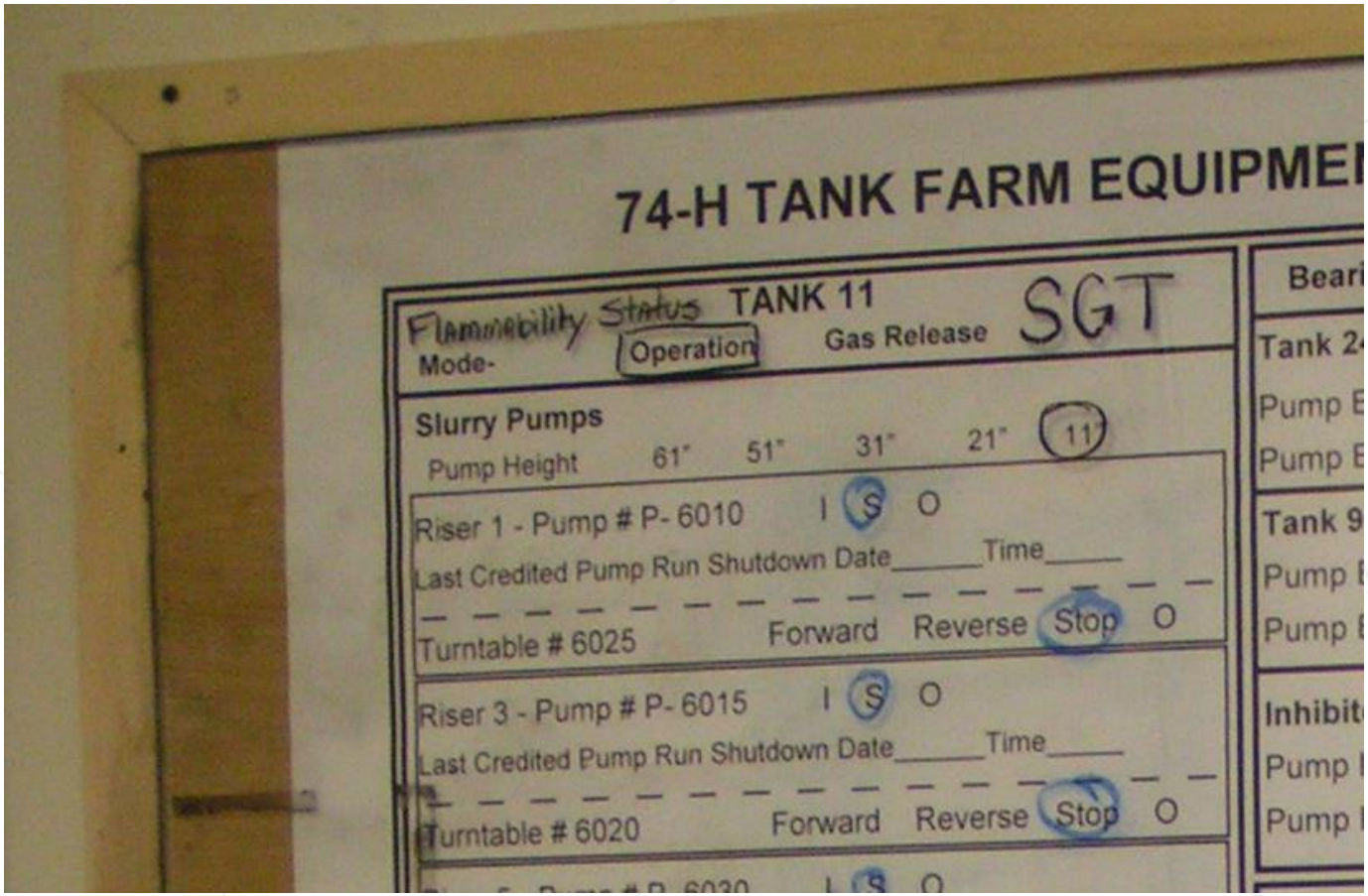
How to Handle Nuclear Waste

- Bury low-level waste
- Store it in tanks
- Entrain it in concrete
- Encapsulate it in glass
- All of the above at SRS

PI at SRS

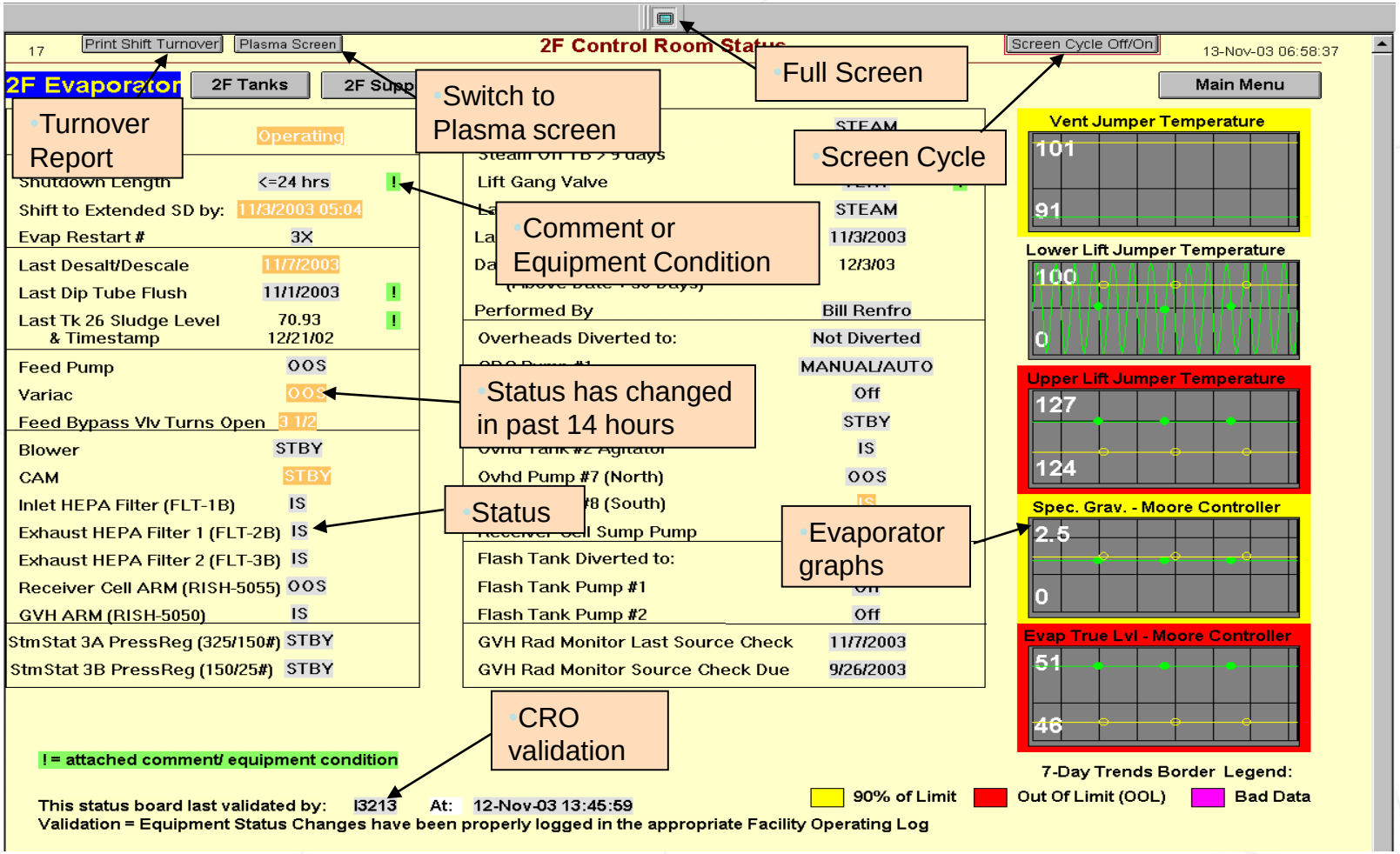
- 10K tag PI2 system purchased in 1996
- Only process computer data at first
- Added electronic rounds in 2000
- Increased license to 20K tags and converted to PI3 in 2001
- Began electronic status boards in 2004
- Tag count now at 18,500

Old Status Boards



VALUE NOW, VALUE OVER TIME

Electronic Status Board (table1)



VALUE NOW, VALUE OVER TIME

Electronic Status Board (table2)

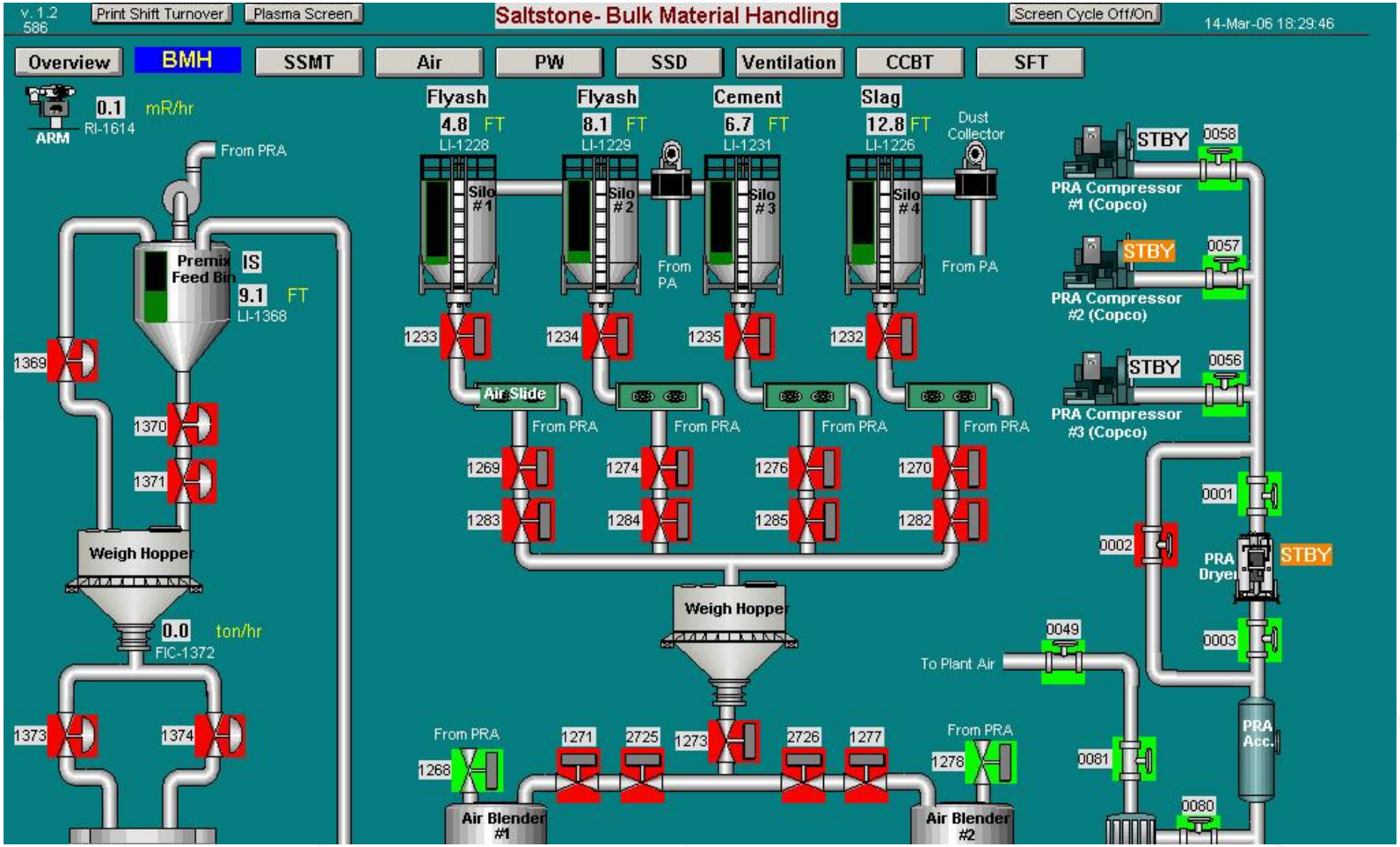
v. 2.7 328 | Print Shift Turnover | Plasma Screen | **2F Control Room Status- Tanks** | Screen Cycle Off/On | 15-Mar-06 07

2F Evaporator | **2F Tanks** | 2F Support | LCO Status

Tank	25 !	26	27 !	28 !	44	45	46 !	47 !
Operating Mode	OP	OP	OP	OP	OP	OP	OP	OP
Flammable Vapor Status	SGT	SGT	RGT	SGT	RGT	SGT	RGT	SGT
All Cooling Coils In Service*	NO !	NO !	NO !	NO !	NO !	NO !	NO !	NO
HLLCP	IS	IS	IS	IS	IS	IS	IS	IS
TACP A-2	IS	IS	IS	IS	IS	IS	IS	IS
TACP A-3	IS	IS	IS	IS	IS	IS	IS	IS
TACP A-4	IS	IS	IS	IS	IS	IS	IS	IS
C1 ARM	IS	IS	IS	IS	IS	IS	IS	IS
Misc ARMs	C-2A IS	C-2 IS	C-2A IS	C-2A IS	–	–	–	–
	C-2B IS	C-3 IS	C-2B IS	C-2B IS	–	–	–	–
	C-3 IS	R-2 IS	C-3A IS	C-3A IS	C-3 IS	C-3 IS	C-3A IS	C-3A IS
	–	–	C-3B IS	C-3B IS	–	–	C-3B IS	C-3B IS
GVH ARM	IS	IS	IS	IS	IS	IS	IS	IS
H2 Monitor	OOS !	OOS !	OOS !	–	OOS !	OOS !	OOS !	OOS
Inlet HEPA Filter	IS	IS	IS	IS	IS	IS	IS	IS
Exhaust HEPA Filter (FLT-	-6) STBY	-2) IS	-2) IS	-4) STBY	-4) STBY	-4) IS	-4) IS	-6) IS
Exhaust HEPA Filter (FLT-	-7) IS	-3) STBY	-3) STBY	-5) IS	-5) IS	-5) STBY	-5) STBY	-7) OOS
Exhaust HEPA dP Instr.	IS	IS	IS	IS	IS	IS	IS	IS
Purge Blower	IS	IS	IS	OOS	IS	IS	IS	IS
Flow Instrumentation (RGT)	IS	IS	IS	OOS	IS	IS	IS	IS
Purge Reheater	ON	ON !	ON	ON	ON	ON	ON	ON
Purge CAM	IS	IS	IS	IS	IS	IS	IS	IS
Annulus Fan	IS	IS	IS	IS	IS	IS	IS	IS
Annulus Steam	ON	ON	ON	ON !	ON	ON	OFF !	ON
Annulus CAM	IS	IS	IS	IS	IS	IS	IS	IS
Tk to Annulus DP Instr	IS	IS	IS	IS	IS	IS	IS	IS
Reel Tape**	P !	IS	IS	P !	P !	IS	IS	IS
Purge Portable Blower	Not Inst	Not Inst	Not Inst	Not Inst	Not Inst	Not Inst	Not Inst	Not Ins
Purge Portable Sampler	Inst- OFF	Not Inst	Not Inst	Not Inst	Not Inst	Not Inst	Not Inst	Not Ins
Purge Port. HEPA Filter #	NA	NA	NA	NA !	NA	NA	NA	NA
Annulus Portable Blower	Not Inst	Not Inst	Not Inst	Not Inst	Not Inst	Not Inst	Not Inst	Not Ins
Annulus Portable Sampler	Not Inst	Not Inst	Not Inst	Not Inst	Not Inst	Not Inst	Not Inst	Not Ins
Annulus Port. HEPA Filter #	NA	NA	NA	NA	NA	NA	NA	NA

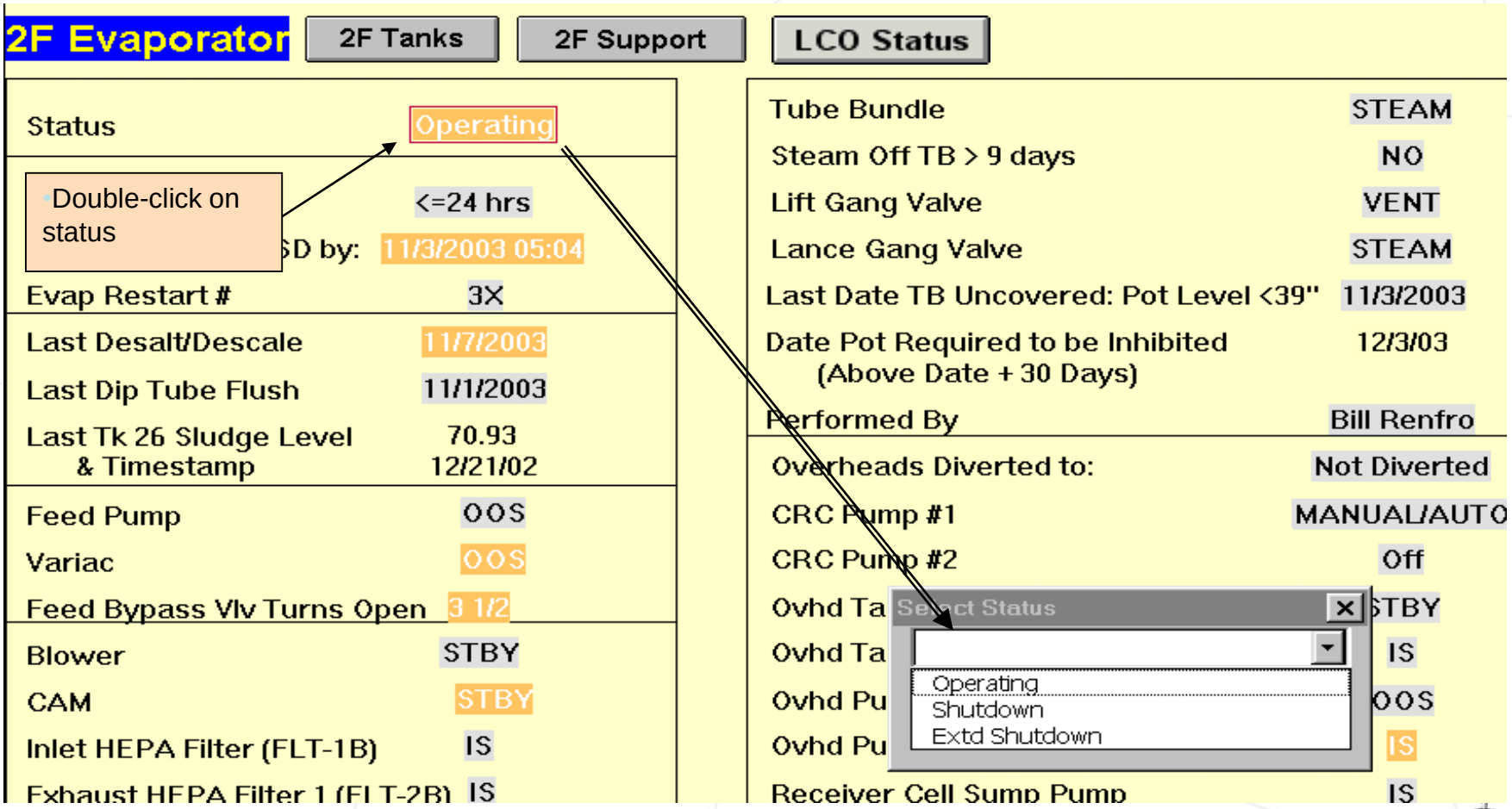
VALUE NOW, VALUE OVER TIME

Electronic Status Board (graphics)



VALUE NOW, VALUE OVER TIME

Modifying Status



VALUE NOW, VALUE OVER TIME

LCO Data (From FileMaker Pro)

v. 2.7 384 | Print Shift Turnover | Plasma Screen | 2F Control Room Status- LCOs | Screen Cycle Off/On | 15-Mar-06 16:56:24

2F Evaporator | 2F Tanks | 2F Support | LCO Status | Equip. Cond.

LCO #	Action Item #	Affected Process Area	Alarm Status	Percent Expired	Time Remaining	Finish Time	Finish Date	Tracking #
LCO 3.8.1	B.5	TANK 06		47.87	3 days	8:30	3/19/2006	5955
LCO 3.8.1	B.5	TANK 04		77.85	4 days	8:32	3/20/2006	5954
LCO 3.8.1	B.5	TANK 05		2.70	20 days	3:17	4/5/2006	5960
CC 5.3.1	A.1	TANK 06		9.40	27 days	21:15	4/11/2006	5953
LCO 3.8.1	B.6	TANK 06		48.11	46 days	9:37	5/1/2006	5955
LCO 3.8.1	B.6	TANK 04		18.16	73 days	8:32	5/28/2006	5954
LCO 3.8.1	B.6	TANK 05		.63	89 days	3:17	6/13/2006	5960

VALUE NOW, VALUE OVER TIME

Special ESB “Features”

- Each screen is a separate ProcessBook display (.pdi) file with a snapshot saved to web
- Approximately 100 pages of VBA code/screen
- All screens running simultaneously
- Displayed on 50” plasma screen
- Three field update modes
  - Initialization
  - Normal
  - PI server or network down (local)

Current Implementation

- Installed in 8 Control Rooms
  - 4 in H Tank Farm
  - 3 in F Tank Farm
  - 1 in Saltstone
- Future Installs
  - DWPF?
  - Others?

VALUE NOW, VALUE OVER TIME

Questions?

VALUE NOW, VALUE OVER TIME


SAN FRANCISCO
OSISOFT USER
CONFERENCES
2006
FRANKFURT