



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

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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

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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

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Old Status Boards

74-H TANK FARM EQUIPMENT

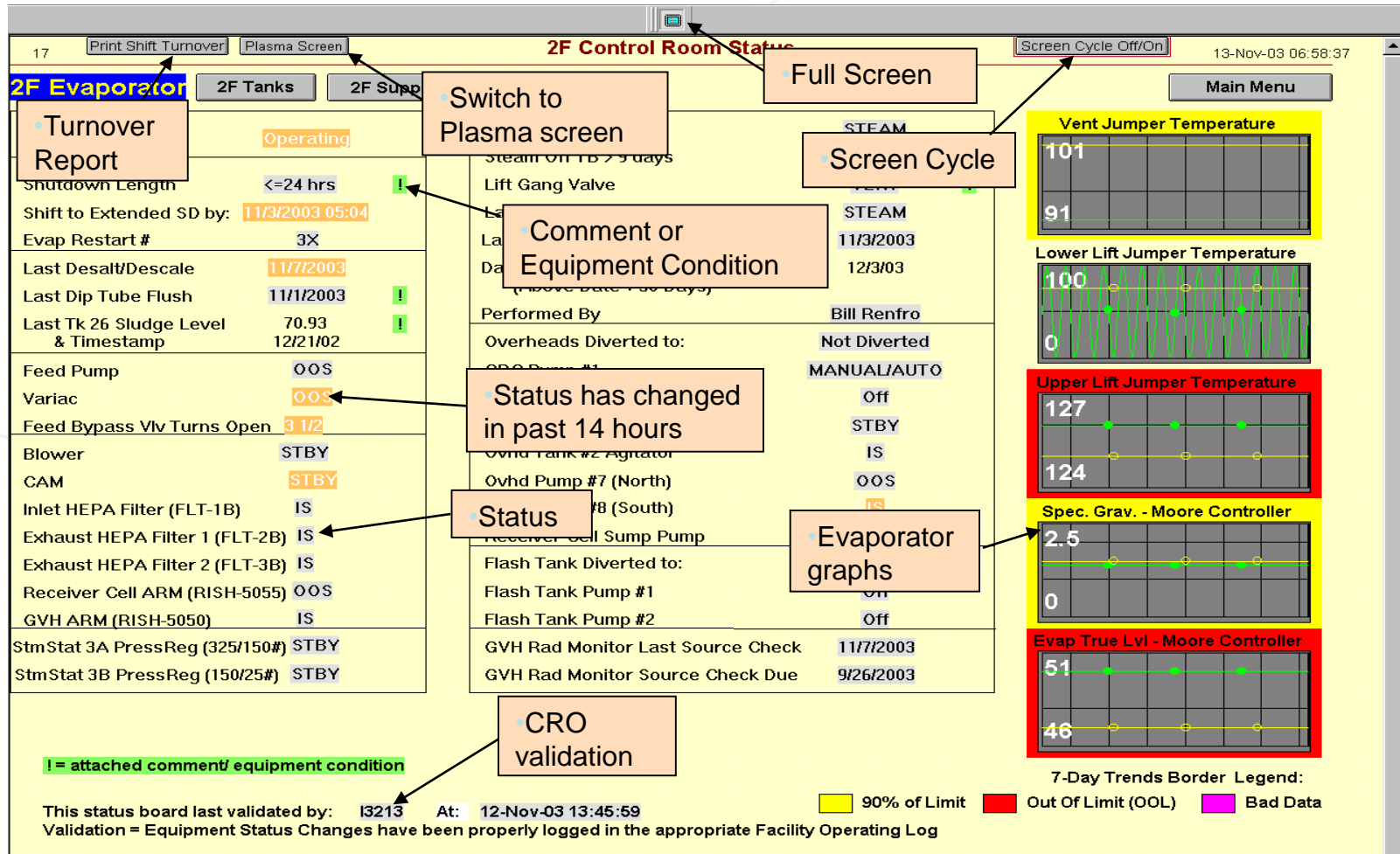
Flammability	Status	TANK 11	SGT
Mode-	Operation	Gas Release	
Slurry Pumps			
Pump Height	61"	51"	31" 21" (11")
Riser 1 - Pump # P- 6010	I	(S)	O
Last Credited Pump Run Shutdown Date _____ Time _____			
Turntable # 6025	Forward	Reverse	(Stop) O
Riser 3 - Pump # P- 6015	I	(S)	O
Last Credited Pump Run Shutdown Date _____ Time _____			
Turntable # 6020	Forward	Reverse	(Stop) O
Pump # P- 6030	I	(S)	O

Beari
Tank 2
Pump E
Pump E
Tank 9
Pump
Pump
Inhibit
Pump
Pump

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Electronic Status Board (table1)



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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

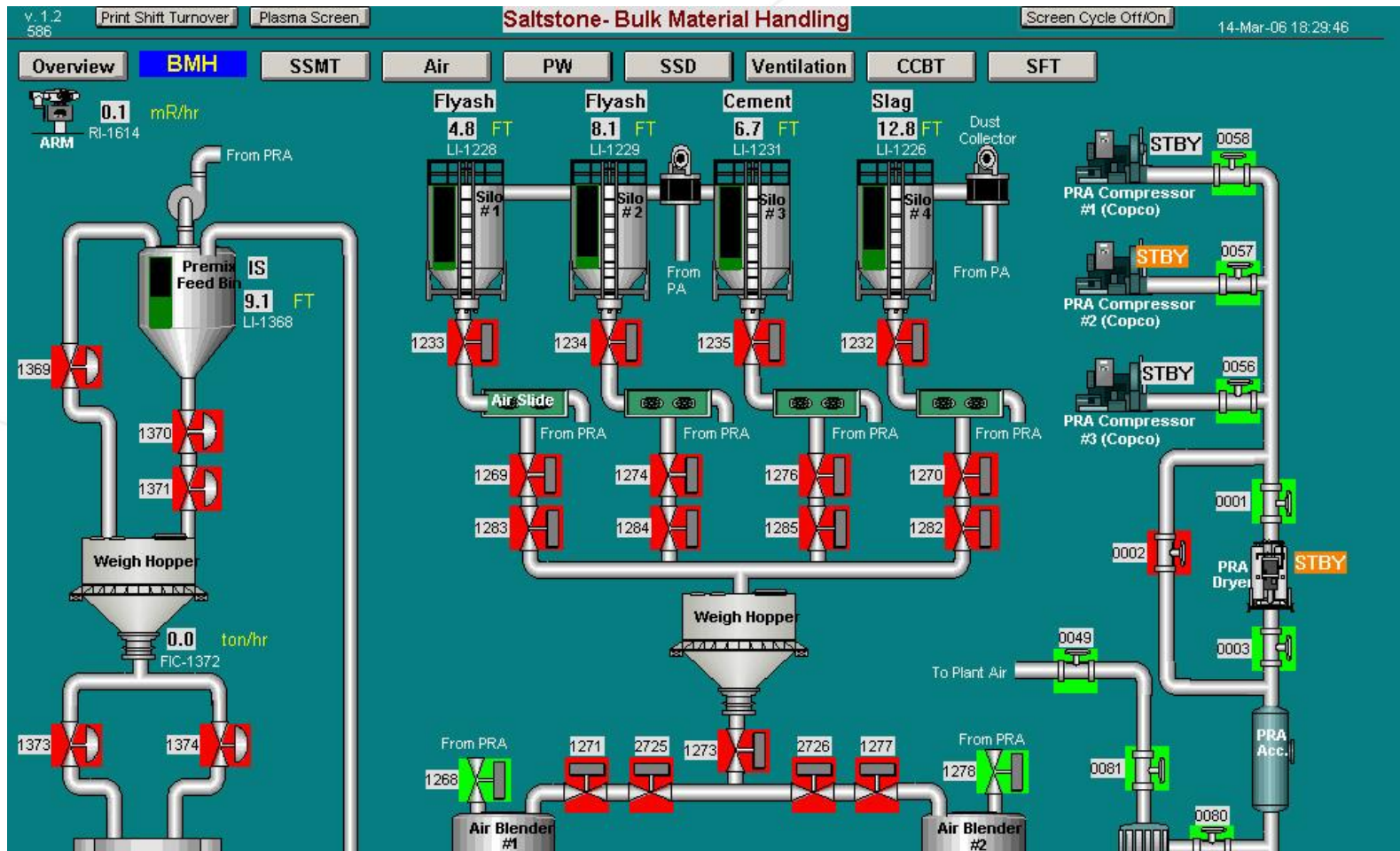
LCO Status

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-2B IS C-3 IS -	C-2 IS C-3 IS R-2 IS -	C-2A IS C-2B IS C-3A IS C-3B IS	C-2A IS C-2B IS C-3A 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 Inst	
Purge Portable Sampler	Inst- OFF	Not Inst	Not Inst	Not Inst	Not Inst	Not Inst	Not Inst	Not Inst	
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 Inst	
Annulus Portable Sampler	Not Inst	Not Inst	Not Inst	Not Inst	Not Inst	Not Inst	Not Inst	Not Inst	
Annulus Port. HEPA Filter #	NA	NA	NA	NA	NA	NA	NA	NA	

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Electronic Status Board (graphics)



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Modifying Status

2F Evaporator

2F Tanks

2F Support

LCO Status

Status

Operating

Double-click on status

<=24 hrs

SD by: 11/3/2003 05:04

Evap Restart # 3X

Last Desalt/Descalc 11/7/2003

Last Dip Tube Flush 11/1/2003

Last Tk 26 Sludge Level & Timestamp 70.93 12/21/02

Feed Pump OOS

Variac OOS

Feed Bypass Vlv Turns Open 3 1/2

Blower STBY

CAM STBY

Inlet HEPA Filter (FLT-1B) IS

Exhaust HEPA Filter 1 (FI T-2B) IS

Tube Bundle STEAM

Steam Off TB > 9 days NO

Lift Gang Valve VENT

Lance Gang Valve STEAM

Last Date TB Uncovered: Pot Level <39" 11/3/2003

Date Pot Required to be Inhibited (Above Date + 30 Days) 12/3/03

Performed By Bill Renfro

Overheads Diverted to: Not Diverted

CRC Pump #1 MANUAL/AUTO

CRC Pump #2 Off

Ovhd Ta Select Status STBY

Ovhd Ta IS

Ovhd Pu OOS

Ovhd Pu IS

Receiver Cell Sump Pump IS

Select Status

- Operating
- Shutdown
- Extd Shutdown

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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	

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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)

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Current Implementation

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

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Questions?

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