DISTRIBUTION SHEET

To DISTRIBUTION	From G.J. Gauck	Page 1 of 1
		Date February 21, 1995
Project Title/Work Order CLOSED OUT TANK 241-SY-101 DACS SYSTEM CHANGE REQUESTS #1-100.		EDT No. 610853
		ECN No.

Name	MSIN	Text With All Attach.	Text Only	Attach./ Appendix Only	EDT/ECN Only
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O.S.T.I. (2)	L8-07	X			
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G.T. Bear	R1-51				X
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A.M. Ermi	L6-39	X			
D.C. Larsen	R1-51				X
J.W. Lentsch	S7-15				X
M.L. McElroy	S1-57				X
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ENGINEERING DATA TRANSMITTAL

Page 1 of 1

1. EDT No 610853

2. To: (Receiving Organization) S.H. Rifaey, Waste Tank Farm Plant Engineering H1720	3. From: (Originating Organization) G.J. Gauck, Test Engineering 7CH40	4. Related EDT No.:
5. Proj./Prog./Dept./Div.: SY-101 Mitigation	6. Cog. Engr.: G.J. Gauck	7. Purchase Order No.: N/A
8. Originator Remarks: N/A		9. Equip./Component No.: N/A
		10. System/Bldg./Facility:
11. Receiver Remarks:		12. Major Assm. Dwg. No.: N/A
		13. Permit/Permit Application No.: N/A
		14. Required Response Date:

15. DATA TRANSMITTED					(F)	(G)	(H)	(I)
(A) Item No.	(B) Document/Drawing No.	(C) Sheet No.	(D) Rev. No.	(E) Title or Description of Data Transmitted	Approval Designator	Reason for Transmittal	Originator Disposition	Receiver Disposition
1	WHC-SD-WM-CMD-001		0	Closed out Tank 241-SY-101 DACS System Change Requests #1 - #100	Q	1	1	
16.	KEY							

Approval Designator (F)		Reason for Transmittal (G)		Disposition (H) & (I)	
E, S, Q, D or N/A (see WHC-CM-3-5, Sec.12.7)		1. Approval	4. Review	1. Approved	4. Reviewed no/comment
		2. Release	5. Post-Review	2. Approved w/comment	5. Reviewed w/comment
		3. Information	6. Dist. (Receipt Acknow. Required)	3. Disapproved w/comment	6. Receipt acknowledged

(G)	(H)	17. SIGNATURE/DISTRIBUTION (See Approval Designator for required signatures)								(G)	(H)
Reason	Disp.	(J) Name	(K) Signature	(L) Date	(M) MSIN	(J) Name	(K) Signature	(L) Date	(M) MSIN	Reason	Disp.
1	1	Cog.Eng. G.J. Gauck	<i>G.J. Gauck</i>	3-2-95	T4-07						
1	1	Cog. Mgr. G.T. Bear	<i>G.T. Bear</i>	3-2-95	81-51						
1	1	QA M. L. McElroy	<i>M.L. McElroy</i>	3-2-95	4-57						
		Safety									
		Env.									
3		R.W. Truitt									
3		A.M. Ermi									

18. G.J. Gauck <i>G.J. Gauck</i> Signature of EDT Originator 3-2-95 Date	19. Authorized Representative for Receiving Organization Date	20. G.T. Bear <i>G.T. Bear</i> Cognizant Manager 3-2-95 Date	21. DOE APPROVAL (if required) Ctrl. No. ☐ Approved ☐ Approved w/comments ☐ Disapproved w/comments
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RELEASE AUTHORIZATION

Document Number: WHC-SD-WM-CMD-001, REV 0

Document Title: CLOSED OUT TANK 241-SY-101 DACS SYSTEM CHANGE
REQUEST #1-100

Release Date: 3/7/95

This document was reviewed following the
procedures described in WHC-CM-3-4 and is:

APPROVED FOR PUBLIC RELEASE

WHC Information Release Administration Specialist:

Kara M. Broz

March 7, 1995

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SUPPORTING DOCUMENT1. Total Pages **168**

2. Title

CLOSED OUT TANK 241-SY-101 DACS SYSTEM CHANGE
REQUEST #1-100.

3. Number

WHC-SD-WM-CMD-001

4. Rev No.

0

5. Key Words

MIXING PUMP, DACS, SYSTEM CHANGE REQUEST,
ACCEPTANCE TEST PROCEDURE

6. Author

Name: G.J. GAUCK

Signature

Organization/Charge Code 7CH40/N2B2H

7. Abstract

This document provides a record closed out System Change Requests #1 - 100 used during the development of the 241-SY-101 Hydrogen Mitigation Project Data Acquisition Control System.

8. RELEASE STAMP

OFFICIAL RELEASE	(2)
DATE	MAR 07 1995
4

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ORIGINAL

APPENDIX B

DACS FORMS

System Change Request and Problem Report (SCR)

1 of 2

SCR No.: 368

Sheet 1 of 368

O R I G I N A T O R	1. HARDWARE/SOFTWARE/DOCUMENT NAME: <u>DACS SYSTEM</u>		
	2. VERSION/REVISION: <u>N/A</u>		
	3. SCR TYPE AND REQUESTED CLOSE-OUT DATE: ☐ Development ☐ Problem ☒ Enhancement ☐ Other DATE: <u>4-30-95</u>		
	4. ORIGINATOR'S PRIORITY: ☒ 1=Critical 2=High 3=Medium 4=Low		
	5. SYSTEM NAME/TITLE: <u>REMOTE RSS STATION MONITOR IN 140278-WA</u>		
	6. DESCRIPTION OF CHANGE: ☒ See Attached		
	7. JUSTIFICATION FOR CHANGE: ☐ See Attached <u>MINIMIZE UNNECESSARY SY FARM EXPOSURE</u>		
	8. HARDWARE, SOFTWARE, OR DOCUMENTS AFFECTED: ☐ FDC ☐ ATP ☒ SDD ☐ CSDD ☐ Test Procedure ☐ AOP ☐ ARP ☐ I/O Channel List ☐ DACS Software ☐ Drawings Other/Name: _____		
	9. ORIGINATOR: <u>G. L. L.</u> Date: <u>2-18-95</u> Phone No.: <u>31779</u>		
C C B	10. DISPOSITION: ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Cancel ☐ Defer	11. CHANGE PRIORITY: ☐ Emergency ☐ Urgent ☒ Routine	12. WHEN TO IMPLEMENT CHANGE: ATP REQUIRED ☒ Upon completion of change ? ☐ Prepare change and wait for approval ☐ Yes ☐ At next mandatory change ☒ No
	13. APPROVAL: <u>G. L. L.</u> Date: <u>2-28-95</u> <u>signed per telecon with RW Truitt</u> Date: <u>2-28-95</u> <u>signed per telecon with S.O. Smith</u> Date: <u>2-28-95</u>		
	14. ASSIGNED TO: <u>RW Truitt</u> Phone No.: <u>31779</u> Planned Release Date: <u>4-30-95</u>		
I M P L M E N T A T I O N	15. SOLUTION COMMENTS: ☐ See Attached ☐ ECV _____ ☐ None		
	16. SOFTWARE PROGRAMS, MODULES, OR FILES AFFECTED: ☐ See Attached ☐ None		
	17. CHANGE INSTALLED: Date: / / Phone No.		
	18. VERIFIED BY: Date: / / Phone No.		
	19. RELEASE VERSION:		
	20. CLOSED BY: Date: / / Phone No.		

Form #: HMTP-SCR-1 (8-19-94)

MASTER

APPENDIX B

DACS FORMS (Continued)

Lined Continuation Page for System Change Request and Problem Report

SCR No.: 368

Sheet 2 of 2

[] Description [] Justification [] Solution Comments [] Software Affected

INSTALL A RSS STATION TO SUPPORT OPERATIONS AND SURVEILLANCE OF TANK 101-SY ~~MO~~-278-WA. TO AFFIRM COMMITMENT TO WORKER SAFETY AND THE ADDITION OF THIS SYSTEM WILL HELP WORKERS MAINTAIN AS LOW AS REASONABLY ACHIEVABLE (ALARA) EXPOSURE TO POTENTIALLY HARMFUL CHEMICALS

ITEMS NEEDED FOR RSS ARE

- 1 486 DX/33 PC W/MONITOR
- 1 RSS/A SOFTWARE PACKAGE FROM ICONICS
- 2 DATA POINT ARC LINK ARCNET/MODEM BRIDGE
- 1 SMC/30E ARCNET NETWORK CARD
- 1 ACTIVE STAR HB (ARCNET)
- 1 1 PHONE LINE BETWEEN 278-WA BLDG AND DAK STRAIL

(SEE CANCELED AND CLOSED OUT SCR #59.)

TO ADD A RSS STATION TO THE SYSTEM ALL STATIONS MUST BE TAKEN OFF LINE TO UPDATE EACH NETWORK DEFINITION FILE TO INCLUDE THE NEW STATION NAME (PER TELECON WITH KEN ELDORIDGE).

HYDROGEN MITIGATION TEST PROJECT
System Change Request Status

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C	SCR	TITLE	DISPOSITION				CHANGE INSTALLED	CHANGE VERIFIED	ATP REQUIRED/ COMPLETE
			APPROVE	REJECT	DEFER	CANCEL			
C	1	Create alphabetical index list for tags and location.	12-29-92			4-29-93			N
C	2	Delete pump flow alarm and aborts for Phase A Test.	12-29-92				1-8-93	1-8-93	N
C	3	Add DACS tag PLCOK.	12-29-92				1-8-93	1-8-93	N
C	4	Rename DACS tag FITMSY17 to: Sample Gas Flow (SEE CR 9).		12-29-92					N
C	5	Create 9 new manual abort tags.	12-29-92				1-8-93	1-8-93	N
C	6	Correct alarm and abort malfunctions (cycling).		12-29-92					N
C	7	Correct alarm and abort malfunctions (no indication).	12-29-92				1-8-93	1-8-93	N
C	8	Too much lag time between when action command is given and when indication received action was done.		12-29-92					N
C	9	Replace tag description (SEE CR 4).	1-26-93				1-30-93	2-4-93	N
C	10	Add tag for accelerometer intervals and sequence.	12-29-92				1-8-93	1-8-93	N
C	11	New (recommended) naming convention, file ID's, sample intervals and sequence.	12-29-92				1-11-93	1-12-93	N
C	12	Remove unused items from H2LOOK screen.	12-29-92				1-8-93	1-8-93	N

HYDROGEN MITIGATION TEST PROJECT
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C	SCR	TITLE	DISPOSITION				CHANGE INSTALLED	CHANGE VERIFIED	ATP REQUIRED/ COMPLETE
			APPROVE	REJECT	DEFER	CANCEL			
C	13	Change decimal places on the HYDROGEN screen From: 2 (00.00) To: 4 (0000.00)	12-29-92				1-8-93	1-8-93	N
C	14	Change pump alarm abort limit.	12-29-92				1-8-93	1-8-93	Y ATP 046 C
C	15	Change tag descriptions for NITJSY06, NITKSY06, NIR17B01, NIRO5A01.				1-27-93			N
C	16	Change time archived data files are closed.	12-29-92				1-8-93	1-8-93	N
C	17	Instrument clarification for vent header flow.	12-29-92				1-8-93	1-8-93	N
C	18	PLC timer problem.	12-29-92				1-8-93	1-8-93	Y ATP 046 C
C	19	Discrepancy on MPRI2A.	12-29-92				1-8-93	1-8-93	N
C	20	Genesis "Elapsed Time at Speed" indication problem.	12-29-92				1-8-93	1-8-93	Y ATP 046 C
C	21	ASCII files for Ames equipment.				12-29-92			N
C	22	Units change for TEMPRFL.	12-29-92				1-8-93	1-8-93	N
C	23	DACS tag display on two screens for comparison.	12-29-92				1-8-93	1-8-93	N

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C	SCR	TITLE	DISPOSITION				CHANGE INSTALLED	CHANGE VERIFIED	ATP REQUIRED/ COMPLETE
			APPROVE	REJECT	DEFER	CANCEL			
C	24	DACS tag TT0001, vent header temperature is not reading on screen.	12-29-92				1-8-93	1-8-93	Y ATP 046 C
C	25	Delete link from HYDROGEN box on map screen to file SHMS12A.GRP.	12-29-92				1-8-93	1-8-93	N
C	26	History trends are not linked to correct files.	12-29-92				1-15-93	2-17-93	N
C	27	Change ITRDIAG link on map screen From: ITR17B To: ITR1B	12-29-92				1-8-93	1-8-93	N
C	28	Add line link from H2LOOK to HYDROGEN on map screen.	12-29-92				1-8-93	1-8-93	N
C	29	Lower temperature range: From: 100°F - 150°F To: 85°F - 140°F	12-29-92				1-8-93	1-8-93	N
C	30	1. Change Whittaker plot range to 0-1. 2. Add alarm line to TEMPRFL and H2LOOK.	12-29-92				1-8-93	1-8-93	N
C	31	New diagnostic screen for the MIT similar to VDTT's.		2-2-93					N
C	32	DACS tag WSTI low ambient temp. is not correct (stuck at 32°F).	1-19-93				1-8-93	1-8-93	N
C	33	VDTT system interface channels.	1-5-93				1-8-93	2-4-93	N
C	34	DACS tags XIR12AN1 and XIR12AN2 accelerometers. See SCR #247	1-12-93			11-2-93	1-15-93	1-15-93	N

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C	SCR	TITLE	DISPOSITION				CHANGE INSTALLED	CHANGE VERIFIED	ATP REQUIRED/ COMPLETE
			APPROVE	REJECT	DEFER	CANCEL			
C	35	Correct misspelling of the word "temperature" on screen TEMPRFL.	1-12-93				1-13-93	1-15-93	N
C	36	Automatically change "High Pump Speed" Alarm and Abort limits as a function of "Low Flow Pump Tests" and "Bump Pump" screen at station 8.	1-12-93				1-15-93	1-15-93	Y ATP 046 C
C	37	On NH2VHR7A screen change "Flow Low" and "Flow High" units to "Ft ³ /AA sec" to "CFM".	1-12-93				1-13-93	1-15-93	N
C	38	On RTTFLVEL screen change "Velosities" to "Velocities".	1-12-93				1-13-93	1-15-93	N
C	39	On MANABRT screen change "averages" to "average".	1-12-93				1-13-93	1-15-93	N
C	40	Change units from "°C" to "°F" for tag #s TIPN0101, TIPN0102, TIPN0201 and TIPN0202 Change HALM, LALM, and references on all screens.	1-12-93				1-13-93	1-15-93	Y ATP 046 C
C	41	On PR12A screen change units for DACS tag # TIR12A01 and IR12A02 from "°C" to "°F".	1-12-93				1-13-93	1-15-93	N
C	42	Add indication for 4th strain gauge to screen MPR12A.	1-12-93				1-13-93	1-15-93	N
C	43	Change high vent flow abort value to "700" and set to abort on increasing value on screen HVTALARM.	1-12-93				1-13-93	1-15-93	Y ATP 046 C
C	44	Change screen MPR17A units for DACS tags PIPN0101, PIPN0202, PITN0110, PITN0111, PIPN0102, PIPN0201, PIR12A01, PSI to PSIG.	1-12-93				1-13-93	1-15-93	Y ATP 046 C

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C	SCR	TITLE	DISPOSITION				CHANGE INSTALLED	CHANGE VERIFIED	ATP REQUIRED/ COMPLETE
			APPROVE	REJECT	DEFER	CANCEL			
C	45	Add to instruction box on screen TEMPALM the definition of Alarm and Abort indication as used on this screen.	1-12-93				1-13-93	1-15-93	N
C	46	On STRNALM screen, no "red" alarm indication for WIRIBA02, when larm level is reached.	1-12-93				1-13-93	1-15-93	Y ATP 046 C
C	47	On HVTALARM screen Abort indication (red) alarm indication for H2 indications when current value is below abort value.	1-12-93				1-15-93	1-15-93	N
C	48	On HVTALARM screen Abort indication (red) is on when current value is above abort value.	1-19-93				1-27-93	2-4-93	N
C	49	On PUMPALRM screen abort indication (red) is on for mixer pump motor oil temp (both) when current value is below abort setpoint.	1-12-93				1-15-93	1-15-93	N
C	50	On screen MANABRT when minimal value of 9 ppm was entered in DACS tag NITKSY11 after two hours the average display was still >14 ppm. Alarm at 15 ppm worked about at 10 ppm did not.	1-12-93				2-2-93	2-3-93	Y ATP 046 C
C	51	Add hardware and software, as required, to implement 16 channels of strain gauge alarm and abort limits.	1-12-93				2-4-93	9-7-93	Y ATP 046 (17B), ATP 058 (12A), ATP 061 (17C), ATP 062 (1B) C
C	52	Add hardware and software to route FTIR and GC Data into DACS for viewing and archiving.	1-12-93				2-12-93	2-19-93	Y ATP 046 C

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C	SCR	TITLE	DISPOSITION				CHANGE INSTALLED	CHANGE VERIFIED	ATP REQUIRED/ COMPLETE
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C	53	Data Management's data files for history corrections. See SCR #125	1-12-93			4-29-93			N
C	54	Check and change levels on SGPRESS screens.	1-12-93				1-13-93	1-15-93	N
C	55	Investigate and correct inadvertent aborts. See SCR #216	1-12-93				1-15-93	2-4-93	N
C	56	Switch in-tank and external displays in DACS control room.	1-12-93				1-29-93	2-2-93	N
C	57	DACS tag for 2 hour manual low level abort.	1-12-93				1-15-93	1-15-93	Y ATP 046 C
C	58	Various DACS tags written to history files.	1-19-93				1-27-93	2-4-93	N
C	59	Remote DACS monitor in evaporator.	9-20-93		1-19-93	2-28-95			N
C	60	Tag NCTKSY11 displays calculated 2 hour running avg from TAG NITKSY11.	1-19-93			10-31-93	1-27-93	2-3-93	N

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C	SCR	TITLE	DISPOSITION				CHANGE INSTALLED	CHANGE VERIFIED	ATP REQUIRED/ COMPLETE
			APPROVE	REJECT	DEFER	CANCEL			
C	61	DACS history archive file must contain the corrected pump discharge pressure.	1-26-93				1-27-93	2-4-93	N
C	62	Corrections to CR #44 display screens using PCR12A01 should be in units of PSID.		1-19-93					N
C	63	Computer station lockup alarm.	2-2-93				2-13-93	2-17-93	N
C	64	Minimum instruments list printout.	1-19-93				2-2-93	2-5-93	N
C	65	Copy machine in DACS trailer.	2-9-93		1-19-93		3-23-93	3-23-93	N
C	66	DACS tag PITN0110 needs to be archived.	1-19-93				2-2-93	2-4-93	N
C	67	X-Axis time interval for various history screens and RTT screens.	1-19-93				1-30-93	2-14-93	N
C	68	Failure of alarm to stay on summary screen.		1-19-93					N
C	69	Eliminate blue limit lines on directional motor screen.	1-19-93				2-4-93	2-4-93	N
C	70	Relabel riser 7A on HYDROGEN screen.	1-19-93				1-30-93	2-4-93	N
C	71	Move specific gravity readouts on VDTT icon screens.	1-26-93				1-27-93	2-4-93	N
C	72	Add alarm and manual abort for H2 release during pump installation.	1-19-93				2-17-93	2-18-93	N
C	73	DACS screen in war room to display data per section 2.3 of Phase A Test Plan.		4-6-93	1-19-93				N
C	74	Generate template to verify abort coils are enabled or disabled.	1-19-93				1-30-93	2-17-93	N
C	75	Password to analysis group that allows them to make their own screens.	1-19-93				1-30-93	2-4-93	N

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C	SCR	TITLE	DISPOSITION				CHANGE INSTALLED	CHANGE VERIFIED	ATP REQUIRED/ COMPLETE
			APPROVE	REJECT	DEFER	CANCEL			
C	76	Rearrange channels archived in files to make them more friendly.	1-19-93				1-27-93	2-4-93	N
C	77	Revise Channel list.	1-19-93				6-29-93	6-29-93	N
C	78	Provide units of PSID for DACS tag PCR12A01.	1-26-93				1-27-93	2-4-93	N
C	79	Complete DACS screens for mass spectrometer.	1-26-93				2-16-93	2-18-93	Y ATP 046 C
C	80	Range valve change for DACS tags XIR12AN2 and XIR12AN1.	1-26-93				2-3-93	2-4-93	Y ATP 046 C
C	81	SPG heights for DACS screen changed to agree with heights reported by T. Stokes.		1-26-93					N
C	82	Remove the Modicon identifications for AMES equipment and DACS tags.		2-16-93	1-26-93				N
C	83	Remove from compass figure on directional motor display (DDISPLAY) the two blue lines showing angle limits for the direction motor.		1-26-93					N
C	84	Add 8 character names to all screens on Station 8.	1-26-93				2-6-93	2-11-93	N
C	85	DACS screens ITR14A and ITR1B PSID reference.		1-26-93					N
C	86	DACS screen ITR17B screen temperature display color change from red to light blue and white dot addition to HYDROGEN branch.	1-26-93				1-31-93	2-4-93	N
C	87	DACS screen for station 8 (button screen) should be named MAIN MENU and add date and time to screen.	1-26-93				2-10-93	2-13-93	N
C	88	DACS screen "NHZVHR7A" need to have date and time displayed.	1-26-93				1-31-93	2-4-93	N

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			APPROVE	REJECT	DEFER	CANCEL			
C	89	Change range for XIR12AN1 and XIR12AN2 range to $\pm$ 5G's.		1-26-93					N
C	90	DACS archive additions.	1-26-93				2-4-93	2-4-93	N
C	91	Increase operator verification time from seconds to 1 minute.	1-26-93				2-1-93	2-11-93	N
C	92	DACS software manual mode.	1-26-93				2-13-93	2-14-93	N
C	93	Prevention of alarm acknowledgement from remote RSS DACS display stations (war room and evaporator).	1-26-93				2-13-93	2-18-93	N
C	94	Sensor fail-safe correction.	1-26-93				2-13-93	2-17-93	N
C	95	SPG gravity based on absolute level. [SEE CR 100]		2-16-93	1-26-93				N
C	96	Delete DACS screen SGPRESS.	1-26-93				1-31-93	2-4-93	N
C	97	DACS archive file #1.	1-26-93				2-9-93	2-14-93	N
C	98	DACS archive file #2.	1-26-93				2-2-93	2-4-93	N
C	99	Low flow test screen/pump bump screen.	1-27-93				1-28-93	1-28-93	Y ATP 046 C
C	100	DACS changed due to VDTT failures.	2-2-93			10-31-93 WITH NOTED EXCEPTION S	2-1-93	2-4-93	N

HYDROGEN MITIGATION TEST PROJECT

System/Software Change Request

CR NUM: 1Sheet 1 of 1

1.	Hardware/Software/Document Name: DACS I/O CHANNEL LIST Version/Revision _____											
2.	CR Type: ☐ Development ☐ Correct Problem ☒ Enhancement											
3.	Short Task Description: ☐ See Attached I/O CHANNEL LIST INDEX											
4.	Detail Description: ☐ See Attached CREATE AN I/O CHANNEL LIST INDEX THAT IS IN ALPHABETICAL ORDER WITH LOCATION NUMBER. <u>EXAMPLE:</u> <table border="1"><thead><tr><th>TAG</th><th>LOCATION</th></tr></thead><tbody><tr><td>AIR0501</td><td>4</td></tr><tr><td>AIR1780</td><td>2</td></tr><tr><td>BYJ5018</td><td>3</td></tr><tr><td>DIR14A01</td><td>4</td></tr></tbody></table>		TAG	LOCATION	AIR0501	4	AIR1780	2	BYJ5018	3	DIR14A01	4
TAG	LOCATION											
AIR0501	4											
AIR1780	2											
BYJ5018	3											
DIR14A01	4											
5.	Originator Priority [4] 1 = Critical 2 = Very Important 3 = Important 4 = Inconvenient 5 = Interesting											
6.	Originator: <u>T. LANEY</u> Date: <u>12, 14, 92</u> Phone No.: <u>3-1779</u>											
7.	CCB Disposition: ☐ Preliminary ☒ Final ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer CCB Priority (See 5.) [4] Classification: ☐ ☒											
8.	Assigned to: _____ Phone No. _____											
9.	Solution Comments: ☐ See Attached											
10.	Hardware/Software/Documents affected: ☐ See Attached											
11.	CCB/TRG Approval: <u>2 for J. C. MOLTONI</u> <u>A. F. VAYOS 12/29/92</u> <u>H. G. M. 12/29/92</u>	Date: <u>12, 29, 92</u> Date: <u>12, 29, 92</u> Date: <u>1, 1, 1</u>										
12.	CCA Approval _____	Date: <u>1, 1, 1</u>										
13.	QA Approval _____	Date: <u>1, 1, 1</u>										
14.	CA No. _____ Date: <u>1, 1, 1</u>											

HYDROGEN MITIGATION TEST PROJECT

ORIGINAL

System/Software Change Request

CR NUM: 2Sheet 1 of 1

1.	Hardware/Software/Document Name: PHASE A TEST AND PUMP BUMPING Version/Revision _____	
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement	
3.	Short Task Description: ☐ See Attached DELETE PUMP FLOW ALARM AND ABORTS	
4.	Detail Description: ☐ See Attached PUMP FLOW IS BEING CONVERTED FROM PUMP SPEED TO GALLONS PER MINUTE. PHASE A TESTING AND PUMP BUMPING DO NOT PRODUCE SUFFICIENT FLOW FOR A PROLONGED PERIOD THEREFORE: DELETE ALARM AND ABORT INDICATIONS FOR PHASE A TESTING AND PUMP BUMPING.	
5.	Originator Priority ☒ 3 1=Critical 2=Very Important 3=Important 4=Inconvenient 5=Interesting	
6.	Originator: <u>T. Carey / G. GAUCK</u> Date: <u>12/14/92</u> Phone No.: <u>3-1779</u>	
7.	CCB Disposition: ☐ Preliminary ☒ Final ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer CCB Priority (See 5.) ☒ 3 Classification: ☐ I ☒ II	
Assigned to: _____ Phone No. _____		
9.	Solution Comments: ☐ See Attached	
10.	Hardware/Software/Documents affected: ☐ See Attached	
11.	CCB/TRG Approval <u>G.F. Vargo</u> <u>J. Carey for E. MORTON</u> <u>Edie Meltzer 12/29/92</u>	Date: <u>12/29/92</u> Date: <u>12/29/92</u> Date: <u>1/1/93</u>
12.	CCA Approval _____	Date: <u>1/1/93</u>
13.	QA Approval _____	Date: <u>1/1/93</u>
CA No. _____ Date: <u>1/1/93</u>		

completed

verified

J. Morten
A. Smith1/8/931/8/93

HYDROGEN MITIGATION TEST PROJECT

ORIGINAL

System/Software Change Request

CR NUM: 3Sheet 1 of 1

1.	Hardware/Software/Document Name: DACS I/O CHANNEL LIST Version/Revision _____	
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement	
3.	Short Task Description: ☐ See Attached ADD DACS TAG	
4.	Detail Description: ☐ See Attached ADD DACS TAG PLCOK...IT PROVIDES AND ALARM IF WE LOOSE ONE OF THE PLCs	
5.	Originator Priority [3] 1=Critical 2=Very Important 3=Important 4=Inconvenient 5=Interesting	
6.	Originator: <u>T. Lane / G. GAUCK</u> Date: <u>12, 14, 92</u> Phone No.: <u>3-1779</u>	
7.	CCB Disposition: ☐ Preliminary ☐ Final ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer CCB Priority (See 5.) [3] Classification: ☐ I ☒ II	
8.	Assigned to: _____ Phone No. _____	
9.	Solution Comments: ☐ See Attached	
10.	Hardware/Software/Documents affected: ☐ See Attached	
11.	CCB/TRS Approver: <u>G. T. Vargo</u> <u>J. Gans for G. MOZTENI</u> <u>Edie Melton</u>	Date: <u>12, 29, 92</u> Date: <u>12, 29, 92</u> Date: <u>12, 29, 92</u>
12.	CCA Approval _____	Date: <u>1 1</u>
13.	QA Approval _____	Date: <u>1 1</u>
14.	CA No. _____ Date: <u>1 1</u>	

completed 1/8/93 verified 1/8/93

System/Software Change Request

ORIGINAL

CR NUM:

4

Sheet

1 of 1

Rejected 12-29-92

1.	Hardware/Software/Document Name: I/O CHANNEL LIST Version/Revision _____	
2.	CR Type: ☐ Development ☐ Correct Problem ☒ Enhancement	
3.	Short Task Description: ☐ See Attached DACS TAG RENAME	
4.	Detail Description: ☐ See Attached CHANGE DACS TAG FITMSY17 NAME: FROM: SAMPLE FLOW TO: SAMPLE GAS FLOW SEE CR 9	
5.	Originator Priority [4] 1=Critical 2=Very Important 3=Important 4=Inconvenient 5=Interesting	
6.	Originator: T. Carey / G. GAUCK Date: 12, 14, 92 Phone No.: 3-1779	
7.	CCB Disposition: ☐ Preliminary ☐ Final ☐ Approve ☐ Approve/Modify ☒ Reject ☐ Defer CCB Priority (See 5.) [] Classification: (I) (II)	
8.	Assigned to: _____ Phone No. _____	
9.	Solution Comments: ☐ See Attached CANCEL	
10.	Hardware/Software/Documents affected: ☐ See Attached	
11.	CCB/TRG Approval: _____ _____ _____ _____	Date: ____/____/____ Date: ____/____/____ Date: ____/____/____
12.	CCA Approval _____	Date: ____/____/____
13.	QA Approval _____	Date: ____/____/____
14.	CA No. _____ Date: ____/____/____	

HYDROGEN MITIGATION TEST PROJECT

ORIGINAL

System/Software Change Request

CR NUM: 5Sheet 1 of 2

1.	Hardware/Software/Document Name: I/O CHANNEL LIST Version/Revision _____	
2.	CR Type: ☐ Development ☐ Correct Problem ☒ Enhancement	
3.	Short Task Description: ☐ See Attached CREATE NEW DACS TAG	
4.	Detail Description: ☒ See Attached CREATE 9 NEW MANUAL ABORT DACS TAGS PER THE ATTACHED LIST REQUIRED PER SA	
5.	Originator Priority [2] 1 = Critical 2 = Very Important 3 = Important 4 = Inconvenient 5 = Interesting	
6.	Originator: <u>T. Lamy / G. GAUCK</u> Date: <u>12/14/92</u> Phone No.: <u>3-1779</u>	
7.	CCB Disposition: ☐ Preliminary ☒ Final ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer CCB Priority (See 5.) [2] Classification: ☐ ☐ ☒	
8.	Assigned to: _____ Phone No. _____	
9.	Solution Comments: ☐ See Attached Since FDI blocks do not have alarm capability built in, I also added a set of tags to provide Alarm Status as well as about alarms. These tags are listed on page 1 page 2.	
10.	Hardware/Software/Documents affected: ☐ See Attached Channel List modification/ update must be made by Greg Gauck using CR. Database report must be made to provide same DACS tags NOTE: NCTK512M and NCTK512 have been removed from manual abort screen.	
11.	CCB/TRS Approval: <u>H. F. Varco</u> <u>J. Lamy</u> <u>C. Moulton</u> <u>H. G. Melton</u>	Date: <u>12/29/92</u> Date: <u>12/29/92</u> Date: <u>12/29/92</u>
12.	CCA Approval _____	Date: <u>1/1/93</u>
13.	QA Approval _____	Date: <u>1/1/93</u>
14.	CA No. _____ Date: <u>1/1/93</u>	

complete J. Lamy 1/3/93
verified J. Lamy 1/8/93

System/Software Change Request Continuation Sheet

Alarm Alarm SPG — IN

CR NUM: 5

Sheet 2 of 2

Item # [] 3 [X] 4 [] 9 [] 10

VDTT RISER 14A

TAG	NAME
SP14A04M	MANUAL ABORT ALARM SPG 234 INCHES
SP14A05M	MANUAL ABORT ALARM SPG 282 INCHES
SP14A06M	MANUAL ABORT ALARM SPG 340 INCHES
SP14A07M	MANUAL ABORT ALARM SPG 392 INCHES

SET TO SPG

1.35	SP14A04L	1.4
1.35	SP14A05L	1.4
1.35	SP14A06L	1.4
1.35	SP14A07L	1.4

VDTT RISER 1B

TAG	NAME
SP1B04M	MANUAL ABORT ALARM SPG 237 INCHES
SP1B05M	MANUAL ABORT ALARM SPG 285 INCHES
SP1B06M	MANUAL ABORT ALARM SPG 343 INCHES
SP1B07M	MANUAL ABORT ALARM SPG 394 INCHES

SET TO SPG

1.35	SP1B04L	1.4
1.35	SP1B05L	1.4
1.35	SP1B06L	1.4
1.35	SP1B07L	1.4

1/8/93

LOW H2

TAG	NAME
NCTKSY1M	MANUAL ABORT LOW H2 2 HR AVG. NITKSY11

SET

10 PPM

NCTKSY1L 15 ppm
~~NCTKSY1L~~

ALARM H2 2HR AVG NITKSY11

Signature: *Orange Lane*

Date: 12/14/92

HYDROGEN MITIGATION TEST PROJECT

System/Software Change Request

ORIGINAL

CR NUM: 6Sheet 1 of 1

Rejected 12-29-92

1.	Hardware/Software/Document Name: ALL SCREENS Version/Revision _____	
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement	
3.	Short Task Description: ☐ See Attached CORRECT ALARM AND ABORT MALFUNCTIONS	
4.	Detail Description: ☐ See Attached THE ALARM AND ABORT INDICATIONS ARE CYCLING BACK AND FORTH WITHOUT THE ABORT INDICATOR REMAINING ON THE SCREEN FOR THE VIEWER TO SEE WHAT WAS ABORTED. <u>EXAMPLE:</u> WHEN THE HI LIQUID LEVEL ALARM AND ABORT IS SOUNDED, BY THE TIME THE TEST ENGINEER HAS LOOKED TO SEE WHAT THE ABORT WAS FOR, AND IF THE LEVEL HAS DROPPED BELOW THE ABORT LIMIT.....ALL INDICATORS HAVE RETURNED TO WHITE INSTEAD OF REMAINING RED. DACS NEEDS TO GIVE A SCREEN INDICATION OF WHAT THE ALARM AND ABORT WAS FOR AND IT SHOULD REMAIN ON THE SCREEN UNTIL THE TEST ENGINEER DOES SOMETHING TO REMOVE IT.	
5.	Originator Priority [2] 1=Critical 2=Very Important 3=Important 4=Inconvenient 5=Interesting	
6.	Originator: <u>T. Lavey / G. GAUCK</u> Date: <u>12, 14, 92</u> Phone No.: <u>3-1779</u>	
7.	CCB Disposition: ☐ Preliminary ☒ Final ☐ Approve ☐ Approve/Modify ☒ Reject ☐ Defer <u>12-29-92</u> CCB Priority (See 5.) [] Classification: [] I [] II	
8.	Assigned to: _____ Phone No. _____	
9.	Solution Comments: ☐ See Attached <u>DOWN VIA ALARM & ABORT SUMMARY SCREENS</u>	
10.	Hardware/Software/Documents affected: ☐ See Attached	
11.	CCB/TRG Approval: _____ _____ _____	Date: ____/____/____ Date: ____/____/____ Date: ____/____/____
12.	CCA Approval _____	Date: ____/____/____
13.	QA Approval _____	Date: ____/____/____
14.	CA No. _____ Date: ____/____/____	

completed 1-5-93
verified _____

System/Software Change Request

CR NUM: 7Sheet 1 of 1

1.	Hardware/Software/Document Name: ALL SCREENS Version/Revision _____	
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement	
3.	Short Task Description: ☐ See Attached CORRECT ALARM AND ABORT MALFUNCTIONS	
4.	Detail Description: ☐ See Attached WHEN AN AUDIBLE ALARM AND ABORT IS RECEIVED, THERE IS NO INDICATION ON THE SCREEN TO TELL THE TEST ENGINEER OR DIRECTOR WHAT THE ALARM AND ABORT WAS FOR. THE ONLY THING RECEIVED IS THE INDICATOR "DIG LIMABRT" DACS NEEDS TO GIVE A SCREEN INDICATION OF WHAT THE ALARM AND ABORT WAS FOR AND THE PARAMETER.	
5.	Originator Priority ☒ 2 1=Critical 2=Very Important 3=Important 4=Inconvenient 5=Interesting	
6.	Originator: <u>T. Carey / G. GAUCK</u> Date: <u>12/14/92</u> Phone No.: <u>3-1779</u>	
7.	CCB Disposition: ☐ Preliminary ☒ Final ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer CCB Priority (See 5.) ☒ 2 Classification: ☐ 1 ☒ 4	
8.	Assigned to: _____ Phone No. _____	
9.	Solution Comments: ☐ See Attached <u>Changed so that an alarm is produced from the packed abort codes when an abort occurs. There are up to 16 aborts for each packed block and the tag name of these packed blocks does not immediately which would cause the abort. A table will be made to</u>	
10.	Hardware/Software/Documents affected: ☐ See Attached <u>to be provided. However, one can find the signal which causes the abort by going to the CSKIN screen and checking the buttons next to any category for which the abort column is red. Jeff Martin will provide table.</u>	
11.	CCB/TRG Approval <u>H. Vargo</u> <u>T. Carey</u> <u>G. Gauck</u> <u>J. Martin</u>	Date: <u>12/29/92</u> Date: <u>12/29/92</u> Date: <u>12/28/92</u>
12.	CCA Approval _____	Date: <u>1/1/93</u>
13.	QA Approval _____	Date: <u>1/1/93</u>
14.	CA No. _____ Date: <u>1/1/93</u>	

Completed by: J. Martin
Verified: A. SmithDate: 1/8/93

HYDROGEN MITIGATION TEST PROJECT

System/Software Change Request

ORIGINAL CR NUM: 8

Sheet 1 of 1

Rejected 12-29-92

Hardware/Software/Document Name: ALL SCREENS	
Version/Revision _____	
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement
3.	Short Task Description: ☐ See Attached ACTION TO INDICATION LAG TIME
4.	Detail Description: ☐ See Attached THERE IS TOO MUCH LAG OR DELAY TIME BETWEEN WHEN AN ACTION COMMAND IS GIVEN AND WHEN THE DACS SCREENS INDICATES THE COMMAND WAS ACTED UPON. <u>EXAMPLE:</u> A NEARLY 30 SECOND DELAY OCCURS BETWEEN THE TIME THE PUMP CONTROLLER SENDS A SIGNAL TO THE PUMP AND STATIONS 7 & 8 REGISTERS A PUMP OPERATION. DACs NEEDS TO GIVE A SCREEN INDICATION AS CLOSE INTIME TO THE ACTION COMMAND AS POSSIBLE.
5.	Originator Priority ☒ 2 1=Critical 2=Very Important 3=Important 4=Inconvenient 5=Interesting
6.	Originator: <u>T. Caney</u> Date: <u>12/14/92</u> Phone No.: <u>3-1779</u>
7.	CCB Disposition: ☐ Preliminary ☐ Final ☐ Approve ☐ Approve/Modify ☒ Reject ☐ Defer CCB Priority (See 5.) ☐ Classification: ☐ I ☐ II
8.	Assigned to: _____ Phone No. _____
9.	Solution Comments: ☐ See Attached <u>SYSTEM IS BUILT WITH LAG DUE TO HARDWARE COMMUNICATION REQUIREMENTS</u>
10.	Hardware/Software/Documents affected: ☐ See Attached
11.	CCB/TRG Approval: _____ _____ _____ Date: ___/___/___ Date: ___/___/___ Date: ___/___/___
12.	CCA Approval _____ Date: ___/___/___
13.	QA Approval _____ Date: ___/___/___
CA No. _____ Date: ___/___/___	

completed [Signature] 1-5-93
verified: _____

HYDROGEN MITIGATION TEST PROJECT Change Request

ORIGINAL

CR No.: 9

Sheet 1 of 1

1.	Hardware/Software/Document Name: DACS I/O CHANNEL LIST Version/Revision: 0	
2.	CR Type: ☐ Development ☐ Correct Problem ☒ Enhancement ☐ Other	
3.	Short Task Description/Justification: ☐ See Attached REPLACE TAG DESCRIPTION	
4.	Detail Description: ☐ See Attached CHANGE DACS TAG FITMSY17 FROM: FTIR GAS FLOW TO: FTIR SAMPLE GAS FLOW	
5.	Originator Priority [3] 1 = Critical 2 = Very Important 3 = Important 4 = Inconvenient 5 = Interesting	
6.	Originator: G. GAUCK Date: 12/21/92 Phone No.: (509)373-1779	
7.	Assigned to: _____ Phone No. _____	
8.	Solution Comments: ☐ See Attached	
9.	Hardware/Software/Documents affected: ☐ See Attached SOFTWARE	
10.	CCB Disposition: Priority (See 5.) [] Classification: [] [] [] [] Incorporate at next mandatory change <u>1-26-93</u> ☒ Approve ☐ Approve/Modify ☒ Reject ☐ Defer	☐ DACS test required
11.	TRG ¹ /CCB ² Approval: <u>[Signature]</u> <u>[Signature]</u> <u>[Signature]</u>	Date: <u>1/26/93</u> Date: <u>1/26/93</u> Date: <u>1/26/93</u>
12.	CCA Approval _____ ☐ Copy to Originator	Date: <u>1/26/93</u>
13.	QA Approval _____	Date: <u>1/26/93</u>
14.	CIA No. _____ Date: <u>1/26/93</u>	

Form #: HMTP-CR-1

1 = CLASS I 2 = CLASS II

Completed: [Signature]

verified: [Signature]

20 92
2/4/93

HYDROGEN MITIGATION TEST PROJECT Change Request

ORIGINAL

CR No.: 10

Sheet 1 of 1

1.	Hardware/Software/Document Name: DACS I/O CHANNEL LIST Version/Revision: 0		
2.	CR Type: ☒ Development ☐ Correct Problem ☐ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached ADD NEW DACS TAG FOR ACCELEROMETER ON THE MIXER PUMP		
4.	Detail Description: ☐ See Attached ADD THE FOLLOWING TAG: TAG #: XIR12AN2 DESCRIPTION: MIXER PUMP SUPPORT COLUMN VIBRATION I/O INPUT: +/- 10 VDC RANGE: 0-5G (GRAVITY UNITS) I/O LOCATION: DROP 14, RACK 2, SLOT 5, CHANNEL 17 NICHOLET: CHANNEL 14		
5.	Originator Priority ☒ 3 1 = Critical 2 = Very Important 3 = Important 4 = Inconvenient 5 = Interesting		
6.	Originator: G. GAUCK Date: 12/21/92 Phone No.: (509)373-1779		
7.	Assigned to: _____ Phone No. _____		
8.	Solution Comments: ☐ See Attached <i>Description changed (only 30 characters) to Pump Support Column Vibration</i>		
9.	Hardware/Software/Documents affected: ☐ See Attached SOFTWARE		
10.	CCB Disposition: Priority (See 5.) ☒ 3 Classification: ☐ I ☒ II ☐ Incorporate at next mandatory change ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer		☐ DACS test required
11.	TRG ¹ /CCB ² Approval: <i>G. I. Vargo</i> <i>J. G. G. Morton</i> <i>Steve Mett</i>		Date: <u>12/29/92</u> Date: <u>12/29/92</u> Date: <u>12/29/92</u>
12.	CCA Approval _____ ☐ Copy to Originator		Date: <u>1/1/93</u>
13.	QA Approval _____		Date: <u>1/1/93</u>
14.	CIA No. _____ Date: <u>1/1/93</u>		

Form #: HMTP-CR-1

1 = CLASS I 2 = CLASS II

Completed: 1/8/93
Verified: 1/8/93

HYDROGEN MITIGATION TEST PROJECT Change Request

ORIGINAL

CR No.: 11
Sheet 1 of 45

1.	Hardware/Software/Document Name: DACS I/O CHANNEL LIST Version/Revision: 0	
2.	CR Type: ☒ Development ☐ Correct Problem ☐ Enhancement ☐ Other	
3.	Short Task Description/Justification: ☐ See Attached DISTRIBUTION OF ACRCHIVE/HISTORY FILE TAGs	
4.	Detail Description: ☒ See Attached THE ATTACHED DOCUMENT RECOMMENDS THE NAMING CONVENTION, FILE IDs, SAMPLE INTERVALS, AND SEQUENCE USED FOR CREATING AND ARCHIVING HISTORY FILES FOR ANALYSIS.	
5.	Originator Priority [2] 1 = Critical 2 = Very Important 3 = Important 4 = Inconvenient 5 = Interesting	
6.	Originator: G. GAUCK	Date: 12/21/92 Phone No.: (509)373-1779
7.	Assigned to: _____ Phone No. _____	
8.	Solution Comments: ☐ See Attached	
9.	Hardware/Software/Documents affected: ☐ See Attached	
10.	CCB Disposition: Priority (See 5.) [2] Classification: ☐ I ☒ II ☐ Incorporate at next mandatory change ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer	☐ DACS test required
11.	TRG ¹ /CCB ² Approval: <i>A. F. Vargo</i> <i>J. G. ...</i> <i>... ..</i> <i>C. MURTON</i>	Date: <u>12/29/92</u> Date: <u>12/29/92</u> Date: <u>12/29/92</u>
12.	CCA Approval _____ ☐ Copy to Originator	Date: <u> / / </u>
13.	QA Approval _____	Date: <u> / / </u>
14.	CIA No. _____ Date: <u> / / </u>	

Form #: HMTP-CR-1

1 = CLASS I 2 = CLASS II

complete
revised

J. ... 1/1/93
Harry Gregory 1/14/93

CR. 11.
2 OF 45.

ORIGINAL

From: Barry Gregory
Date: Dec. 16, 1992

Distribution of Archive/History File TAGs

The naming convention, file ids, sample intervals, and sequence used for creating and archiving history files for analysis on the DACS System seriously needs revision. This is an attempt to provide some direction to DACS personnel to provide this very critical data from the test.

Naming Convention

It is recommended that the following naming convention be used for SY101 Hydrogen Mitigation Test Archive/History Files as they are created:

Character	Description	Details
1	Year	2 - 1992, 3 - 1993
2	Month	1-9, A, B, C
3	Day	1-9, A-V
4	Hour	1-9, A-O
5	File id	See below
6-8	Sequence	3 digits from DACS

This naming convention would allow for both the needs of the archive/history and the DACS System. The extension would continue to be .PRN.

File IDs

The following file ids would allow for the previous naming convention and provide for all the related TAG ids:

P - Mixer Pump Discharge Nozzles and Motor - *

TIPNO101 - 02
FIPNO101 - 02
PIPNO101 - 02
TIPNO201 - 02
FIPNO201 - 02
PIPNO201 - 02
PITNO111
PITNO110
PIR12A01
VR232020
VR232040
VR232050

H - Whitaker and H2 MOS

NIR05A01
NIR05A02
NIR05A03
NIR17B01
NIR17B02

CR 11
ORIGINAL 3 OF 5

NIR17B03
NITKSY06
NITJSY06
NITKSY11
NITKSY12
NITJSY11
NITJSY12

M - Miscellaneous TAGs

LIR13A01
FTE50001
FTE50002
TT10001
MT10001

A - Temperature in Riser 17B
TIR17B01 - 11

B - Temperature in Riser 17B
TIR17B12 - 22

T - Waste Temperature in Risers 1B and 14A
TIR1B01 - 07
TIR14A01 - 07
FIR14A01 - 02
FIR01B01 - 02

S - Pressure
PIR11B01
PIR14A01
PIR17B04
PIR1BA01
DCR01B01 - 07
DCR14A01 - 07

D - VDTT in Risers 1B and 14A
DIR01B01 - 07
DIR14A01 - 07

F - Herb's Readings
FITMSY17
PDTMSY04
PITMSY04
PITMSY13
PITMSY16
TITMSY15
TICMSY18

Sample Interval

The following sample interval and sequence would provide for recording all the archival/history data in the files:

1 P (18 TAGs) - 1 sec SI - *
2 OPEN

ORIGINAL

CR. 11
4 OF 5

3 H (12 TAGs)-10 sec SI
4 M (5 TAGs)-10 sec SI
 1 - *
 2 OPEN
 3 A (11 TAGs)-10 sec SI
 4 B (11 TAGs)-10 sec SI
 1 - *
 2 OPEN
 3 T (18 TAGs)-10 sec SI
 4 OPEN
 1 - *
 2 OPEN
 3 S (18 TAGs)-10 sec SI
 4 D (14 TAGs)-10 sec SI
 1 - *
 2 OPEN
 3 F (7 TAGs)-10 sec SI
 4 OPEN

This arrangement fits within the guidelines provided by the DACS personnel and will get the archival/history data needed by analyst. Other TAG ids may be needed which are not itemized in this tabulation, and they can be provided via the established change procedure.

DACS History Files

1/11/93

The following lists the DACS history file contents and sampling rates as implemented in v1.7.8 of the TEST strategy.

All files have the four character prefix "ymdh" where:

y = year (2 = 1992, 3 = 1993)
 m = month (1-9, A-C)
 d = day (1-9, A-V)
 h = hour (0-9, A-N)

ymdhR12A.prn Sample Interval: 1 second

TIPNO101-2	TIPNO201-2	FIPNO101-2	FIPNO201-2
PIPNO101-2	PIPNO201-2		

ymdrH2.prn Sample Interval: 12 seconds

NIRO5A01-3	NIR17B01-3	NITKSY06	NITJSY06
NITKSY11	NITKSY12	NITJSY11	NITJSY12

ymdrMIT2.prn Sample Interval: 12 seconds

TIR17B12-22	TIR14A01-7	FIR14A01-2
-------------	------------	------------

ymdrMIT1.prn Sample Interval: 12 seconds

TIR17B01-11	TIR1B01-7	FIR01B01-2
-------------	-----------	------------

ymdrPRSS.prn Sample Interval: 12 seconds

DIR14A01-7	DIR01B01-7	PIR11B01	PIR17B04
PIR14A01	PIR1BA01	PIR12A01	WSP1

ymdrMISC.prn Sample Interval: 12 seconds

LIR13A01	FTE50001-2	TT10001	MT10001
VR232020	VR232040	VR232050	PITNO110
PITNO111			

ymdrFRYE.prn Sample Interval: 30 seconds

PITMSY04	FITMSY17	TICMSY18	PITMSY13
TITMSY15	PITMSY16	PDTMSY04	

Pass U.S.

Following

Pass

Temp Level

3-16-93

HYDROGEN MITIGATION TEST PROJECT Change Request

ORIGINAL

CR No.: 12

Sheet 1 of 1

1.	Hardware/Software/Document Name: DACS I/O CHANNEL LIST Version/Revision: 0		
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached REMOVE UNUSED ITEMS FROM H2 LOOK SCREEN		
4.	Detail Description: ☐ See Attached DELETE THE BOX FROM THE H2 LOOK SCREEN THAT CONTAINS THE FOLLOWING INFORMATION: H2 "MASS SPECTROMETER XXXXXXXX PPM" H2 "GAS CHROMATOGRAPH LOW XXXXXXXX PPM HIGH XXXXXXXX PPM		
5.	Originator Priority [3] 1 = Critical 2 = Very Important 3 = Important 4 = Inconvenient 5 = Interesting		
6.	Originator: G. GAUCK Date: 12/21/92 Phone No.: (509)373-1779		
7.	Assigned to: _____ Phone No. _____		
8.	Solution Comments: ☐ See Attached		
9.	Hardware/Software/Documents affected: ☐ See Attached		
10.	CCB Disposition: Priority (See 5.) [3] Classification: ☐ I ☒ II ☐ Incorporate at next mandatory change ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer		☐ DACS test required
11.	TRG ¹ /CCB ² Approval <i>H. F. Vancop</i> <i>J. G. ...</i> <i>...</i>		Date: <u>12/29/92</u> Date: <u>12/29/92</u> Date: <u>12/29/92</u>
12.	CCA Approval _____ ☐ Copy to Originator		Date: <u> </u> / <u> </u> / <u> </u>
13.	QA Approval _____		Date: <u> </u> / <u> </u> / <u> </u>
14.	CIA No. _____ Date: <u> </u> / <u> </u> / <u> </u>		

orm #: HMTP-CR-1

1 = CLASS I 2 = CLASS II

complete *[Signature]* 1/8/93
verified *[Signature]* 1/8/93

HYDROGEN MITIGATION TEST PROJECT Change Request

ORIGINAL

CR No.: 13

Sheet 1 of 1

1.	Hardware/Software/Document Name: DACS I/O CHANNEL LIST Version/Revision: 0	
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement ☐ Other	
3.	Short Task Description/Justification: ☐ See Attached INCREASE DECIMAL PLACES FOR "HYDROGEN" SCREEN	
4.	Detail Description: ☐ See Attached INCREASE THE DECIMAL PLACES FOR THE RANGE ON: HIGH MOS FOR HYDROGEN FROM: 0.00 PPM TO: 0000.00 PPM LOW MOS FOR HYDROGEN FROM: 0.00 PPM TO: 000.00 PPM	
5.	Originator Priority [3] 1 = Critical 2 = Very Important 3 = Important 4 = Inconvenient 5 = Interesting	
6.	Originator: G. GAUCK Date: 12/21/92 Phone No.: (509)373-1779	
7.	Assigned to: _____ Phone No. _____	
8.	Solution Comments: ☐ See Attached	
9.	Hardware/Software/Documents affected: ☐ See Attached	
10.	CCB Disposition: Priority (See 5.) [3] Classification: ☐ ☒ ☐ Incorporate at next mandatory change ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer	☐ DACS test required
11.	TRG ¹ /CCB ² Approval: <i>G. F. Vargo</i> <i>J. Gary</i> <i>David Meltzer</i>	Date: 12/29/92 Date: 12/29/92 Date: 12/29/92
12.	CCA Approval _____ ☐ Copy to Originator	Date: ___/___/___
13.	QA Approval _____	Date: ___/___/___
14.	CIA No. _____ Date: ___/___/___	

Form #: HMTP-CR-1

completed: *J. M. [signature]* 1/8/93
verified: *[signature]* 1/8/93

HYDROGEN MITIGATION TEST PROJECT Change Request

ORIGINAL

CR No.: 14

Sheet 1 of 1

1.	Hardware/Software/Document Name: <u>DACS 470 CHANNEL LIST</u>		
	Version/Revision: <u>0</u>		
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached CORRECT PUMPALM SCREEN ABORT LIMIT		
4.	Detail Description: ☐ See Attached CHANGE THE SCREEN "PUMPALM" ABORT LIMIT FOR TAG: TIR12A01 (MP MOTOR OIL TEMP #1) FROM: 383°F TO: 225°F TIR12A02 (MP MOTOR OIL TEMP #2) FROM: 383°F TO: 225°F		
5.	Originator Priority ☒ 1 = Critical 2 = Very Important 3 = Important 4 = Inconvenient 5 = Interesting		
6.	Originator: <u>G. GAUCK</u> Date: <u>12/21/92</u> Phone No.: <u>(509)373-1779</u>		
7.	Assigned to: _____ Phone No. _____		
8.	Solution Comments: ☐ See Attached		
9.	Hardware/Software/Documents affected: ☐ See Attached		
10.	CCB Disposition: Priority (See 5.) ☒ 1 Classification: ☐ I ☒ II ☐ III ☐ Incorporate at next mandatory change ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer		☒ DACS test required
11.	TRG ¹ /CCB ² Approval: <u>GF Vargo</u> <u>James G. Moulton</u> <u>Steve Meltz</u>		Date: <u>12/29/92</u> Date: <u>12/29/92</u> Date: <u>12/29/92</u>
12.	CCA Approval _____ ☐ Copy to Originator		Date: <u>1/1/93</u>
13.	QA Approval _____		Date: <u>1/1/93</u>
14.	CIA No. _____ Date: <u>1/1/93</u>		

HYDROGEN MITIGATION TEST PROJECT

Change Request

CR No.: 15

Sheet 1 of 1

1.	Hardware/Software/Document Name: DACS T/O CHANNEL LIST		
	Version/Revision: 0		
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached CORRECT TAG DESCRIPTIONS FOR VARIOUS TAGS		
4.	Detail Description: ☐ See Attached CHANGE THE TAG DESCRIPTIONS FOR TAGS NITJSY06, NIR17B01, NIRO5A01, AND NITKSY06 ON THE HVTALARM SCREEN FROM: "PRESENT NAMES" TO: NITJSY06 = 0-10% H2 RISER 16A SHMS 1 NITKSY06 = 0-10% H2 VENT HDR SHMS 2 NIR17B01 = 0-10% H2 RISER 17B GMS NIRO5A01 = 0-10% H2 RISER 12A/5A SHMS 3		
5.	Originator Priority [3] 1 = Critical 2 = Very Important 3 = Important 4 = Inconvenient 5 = Interesting		
6.	Originator: G. GAUCK	Date: 12/21/92	Phone No.: (509)373-1779
7.	Assigned to: _____ Phone No. _____		
8.	Solution Comments: ☐ See Attached		
9.	Hardware/Software/Documents affected: ☐ See Attached		
10.	CCB Disposition: Priority (See 5.) ☐ Classification: ☐ I ☐ II ☐ Incorporate at next mandatory change ☐ Approve ☐ Approve/Modify ☐ Reject ☒ Defer		☐ DACS test required
11.	TRG ¹ /CCB ² Approval: <i>[Signatures]</i> <i>[Signatures]</i> <i>[Signatures]</i>		Date: <u>12/29/92</u> Date: <u>12/29/92</u> Date: <u>1-15-93</u>
12.	CCA Approval: _____ ☐ Copy to Originator		Date: <u>1/1/</u>
13.	QA Approval: _____		Date: <u>1/1/</u>
14.	CIA No. _____ Date: <u>1/1/</u>		

#: HMTP-CR-1

1 = CLASS I 2 = CLASS II

completed: *[Signature]* 1-5-93 & 1-13-93
verified: _____

ORIGINAL

16

Sheet 1 of 1

Form #: HMTP-CR-1

1 = CLASS I 2 = CLASS II

WHC-SD-WM-CMD-001 Rev. 0
Page 35

HYDROGEN MITIGATION TEST PROJECT Change Request

ORIGINAL

CR No.: 17

Sheet 1 of 1

1.	Hardware/Software/Document Name: DACS I/O CHANNEL LIST Version/Revision: 0													
2.	CR Type: ☒ Development ☐ Correct Problem ☐ Enhancement ☐ Other													
3.	Short Task Description/Justification: ☐ See Attached INSTRUMENTATION CLARIFICATION FOR VENT HEADER FLOW													
4.	Detail Description: ☐ See Attached MAKE THE REQUIRED CHANGES TO INCORPORATE THE FOLLOWING: <table border="1"> <thead> <tr> <th>DACS TAG</th> <th>SCALE</th> <th>DESCRIPTION</th> <th>SIGNAL</th> </tr> </thead> <tbody> <tr> <td>FTE50001</td> <td>0 - 1275 CFM</td> <td>LOW VENT HEADER FLOW</td> <td>1 - 5 VDC</td> </tr> <tr> <td>FTE50002</td> <td>-1000 - 7333 CFM</td> <td>HIGH VENT HEADER FLOW</td> <td>0 - 5 VDC</td> </tr> </tbody> </table>		DACS TAG	SCALE	DESCRIPTION	SIGNAL	FTE50001	0 - 1275 CFM	LOW VENT HEADER FLOW	1 - 5 VDC	FTE50002	-1000 - 7333 CFM	HIGH VENT HEADER FLOW	0 - 5 VDC
DACS TAG	SCALE	DESCRIPTION	SIGNAL											
FTE50001	0 - 1275 CFM	LOW VENT HEADER FLOW	1 - 5 VDC											
FTE50002	-1000 - 7333 CFM	HIGH VENT HEADER FLOW	0 - 5 VDC											
5.	Originator Priority ☒ 1 = Critical 2 = Very Important 3 = Important 4 = Inconvenient 5 = Interesting													
6.	Originator: G. GAUCK Date: 12/21/92 Phone No.: (509)373-1779													
7.	Assigned to: _____ Phone No. _____													
8.	Solution Comments: ☐ See Attached													
9.	Hardware/Software/Documents affected: ☐ See Attached													
10.	CCB Disposition: Priority (See 5.) ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☒ 5 ☐ 6 ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer ☐ Incorporate at next mandatory change	☐ DACS test required												
11.	TRG ¹ /CCB ² Approval: <i>G.F. Vargo Jr.</i> <i>J. Garry for J.E. Moulton</i> <i>Steve Miller</i>	Date: 12/29/92 Date: 12/29/92 Date: 12/29/92												
12.	CCA Approval: _____ ☐ Copy to Originator	Date: ___/___/___												
13.	QA Approval: _____	Date: ___/___/___												
14.	CIA No. _____ Date: ___/___/___													

Form #: HMTP-CR-1

1 = CLASS I 2 = CLASS II

Completed: *J. Moulton*
 Verified: *A. Gault*

1/8/93
1/8/93

HYDROGEN MITIGATION TEST PROJECT Change Request

ORIGINAL

CR No.: 18

Sheet 1 of 1

1.	Hardware/Software/Document Name: DACS I/O CHANNEL LIST Version/Revision: 0	
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement ☐ Other	
3.	Short Task Description/Justification: ☐ See Attached PLC TIMER PROBLEM	
4.	Detail Description: ☐ See Attached THE PLC TIMER IS NOT WORKING ON THE "LOW FLOW PUMP TEST" SCREEN. ONCE THE PLC TIMER IS ENABLED, IT WILL NOT ACCEPT A DIFFERENT TEST TIME. THE T5ENAB BLOCK ON THE MODICON STATION IS BLINKING -- CAUSE IS UNKNOWN Phase A requires that "Low Flow Test" Screen allow input in "Acceleration" field a value of 5.7 RPM/sec and in "Max Speed" field a value of 3600 360 RPM SEE 20	
5.	Originator Priority [1] 1 = Critical 2 = Very Important 3 = Important 4 = Inconvenient 5 = Interesting	
6.	Originator: G. GAUCK	Date: 12/21/92 Phone No.: (509)373-1779
7.	Assigned to: _____ Phone No. _____ Solution Comments: ☐ See Attached	
8.	Hardware/Software/Documents affected: ☐ See Attached	
10.	CCB Disposition: Priority (See 5.) [1] Classification: [] [] [] [] Incorporate at next mandatory change ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer	☒ DACS test required
11.	TRG ¹ /CCB ² Approval: <u>H. F. Vargo</u> <u>J. C. Carr</u> <u>E. C. Mott</u>	Date: 12/29/92 Date: 12/29/92 Date: 12/29/92
12.	CCA Approval _____ [] Copy to Originator	Date: ____/____/____
13.	QA Approval _____	Date: ____/____/____
CIA No. _____ Date: ____/____/____		

Form #: HMTP-CR-1

1 = CLASS I 2 = CLASS II

Completed: 1/2/93
Verified: 1/8/93

HYDROGEN MITIGATION TEST PROJECT Change Request

ORIGINAL

CR No.: 19

Sheet 1 of 1

1.	Hardware/Software/Document Name: DACS I/O CHANNEL LIST Version/Revision: 0	
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement ☐ Other	
3.	Short Task Description/Justification: ☐ See Attached DISCREPANCY ON SCREEN MPR12A	
4.	Detail Description: ☐ See Attached AT THE LOWER RIGHT AREA OF SCREEN MPR12A, FIPNO202 SHOULD BE CHANGED TO TIPNO202 (FIPNO202 HAS BEEN DUPLICATED AND TIPNO202 IS NOT SHOWN)	
5.	Originator Priority [3] 1 = Critical 2 = Very Important 3 = Important 4 = Inconvenient 5 = Interesting	
6.	Originator: R. MENDOZA Date: 12/21/92 Phone No.: (509)373-2007	
7.	Assigned to: _____ Phone No. _____	
8.	Solution Comments: ☐ See Attached	
9.	Hardware/Software/Documents affected: ☐ See Attached	
10.	CCB Disposition: Priority (See 5.) [3] Classification: ☐ I ☒ II ☐ Incorporate at next mandatory change ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer	☐ DACS test required
11.	TRG ¹ /CCB ² Approval: <i>H F Vargosh</i> <i>W. Gary</i> <i>David Melts</i>	Date: 12/29/92 Date: 12/29/92 Date: 12/29/92
12.	CCA Approval _____ ☐ Copy to Originator	Date: 1/1/
13.	QA Approval _____	Date: 1/1/
14.	CIA No. _____ Date: 1/1/	

Form #: HMTP-CR-1

1 = CLASS I 2 = CLASS II

completed: *[Signature]* 1/8/93
verified: *[Signature]* 1/8/93

ORIGINAL

CR No.: 20

Sheet 1 of 1

Form #: HMTP-CR-1

1 = ~~CLASS I~~ 2 = CLASS II

Complete
vertical

1 = CLASS I 2 = CLASS II
J. Martin 1/8/93

1/8/93

HYDROGEN MITIGATION TEST PROJECT

Change Request

CR No.: 21

Sheet 1 of 1

1.	Hardware/Software/Document Name: AMES SLUDGE MONITORING EQUIPMENT		
	Version/Revision:		
2.	CR Type: ☒ Development ☐ Correct Problem ☐ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached DACS NEEDS TO WRITE TO ASCII FILES FOR AMES EQUIPMENT		
4.	Detail Description: ☐ See Attached THE FOLLOWING DACS TAGS SHOULD WRITE TO FILE EVERY 10 TO 30 SECONDS: DE-107 = XIR12A03 DTE-208 = XIR12A01 DE-207 = XIR12A04 DTE-209 = XIR12A02 DTE-108 = XIPNO101 DX-107 = XIPNO301 DTE-109 = XIPNO201 DX-207 = XIPNO401 PSY-01-1 = PWYO1001 PX-01-1 = PXO10001		
5.	Originator Priority [2] 1 = Critical 2 = Very Important 3 = Important 4 = Inconvenient 5 = Interesting		
6.	Originator: D. LARSON	Date: 12/21/92	Phone No.: (509)373-1847
7.	Assigned to: _____ Phone No. _____		
8.	Solution Comments: ☐ See Attached <div style="text-align: center;">NOT CANCELLED</div>		
9.	Hardware/Software/Documents affected: ☐ See Attached		
10.	CCB Disposition: Priority (See 5.) ☐ Classification: ☐ I ☐ II ☐ Incorporate at next mandatory change ☐ Approve ☐ Approve/Modify ☐ Reject ☒ Defer		☐ DACS test required
11.	TRG ¹ /CCB ² Approval: _____ _____ _____ _____		Date: ____/____/____ Date: ____/____/____ Date: ____/____/____
12.	CCA Approval _____ ☐ Copy to Originator		Date: ____/____/____
13.	QA Approval _____		Date: ____/____/____
14.	CIA No. _____ Date: ____/____/____		

Form #: HMTP-CR-1

1 = CLASS I 2 = CLASS II

Completed: _____
Reviewed: _____

HYDROGEN MITIGATION TEST PROJECT Change Request

ORIGINAL

CR No.: 22

Sheet 1 of 2

1.	Hardware/Software/Document Name: DACS Version/Revision:	
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement ☐ Other	
3.	Short Task Description/Justification: ☐ See Attached DISCREPANCY ON SCREEN TEMPRFL	
4.	Detail Description: ☐ See Attached CHANGE THE Y-AXIS UNITS: FROM: FEET TO: INCHES	
5.	Originator Priority [3] 1 = Critical 2 = Very Important 3 = Important 4 = Inconvenient 5 = Interesting	
6.	Originator: G. GAUCK	Date: 12/22/92 Phone No.: (509)373-1779
7.	Assigned to: _____ Phone No. _____	
8.	Solution Comments: ☐ See Attached	
9.	Hardware/Software/Documents affected: ☐ See Attached	
10.	CCB Disposition: Priority (See 5.) [3] Classification: ☐ ☒ ☐ Incorporate at next mandatory change ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer	☐ DACS test required
11.	TRG ¹ /CCB ² Approval <i>AF Vang</i> <i>2 Camp for Cymuotaki</i> <i>Mike Melte</i>	Date: <u>12/29/92</u> Date: <u>12/29/92</u> Date: <u>12/29/92</u>
12.	CCA Approval _____ ☐ Copy to Originator	Date: <u>1/1/</u>
13.	QA Approval _____	Date: <u>1/1/</u>
14.	CIA No. _____ Date: <u>1/1/</u>	

Form #: HMTP-CR-1

1 = CLASS I 2 = CLASS II

complete: *J. Winton* 1/8/93
verified: *G. Runk* 1/8/93

System Change Request
 SCR #22 complete.
 Sheet 2 of 2

Page Back	MIT TEMPERATURE PROFILES				MAP	CS	MS	RS
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16:40:15 05/03/93

TAG FT-FILE	477.0	FTIR FILE ID	HRG 65535.0	LRG	0.00	PRIORITY	0	SCAN 00000 SEC
		TRK Y	HALM 0.000	LALM	0.000	HALM	0.000	
		SQRT N	INIT N	FILT	0.000	IALM	N	
				ALARM	IALM	FIES0002	GEN-NE	

HYDROGEN MITIGATION TEST PROJECT Change Request

ORIGINAL CR No.: 23
Sheet 1 of 1

1.	Hardware/Software/Document Name: DACS I/O CHANNEL LIST Version/Revision: 0		
2.	CR Type: ☐ Development ☐ Correct Problem ☒ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached DACS TAG DISPLAY ON TWO SCREENS FOR COMPARISON		
4.	Detail Description: ☐ See Attached ADD DACS TAG PIR11B01 - DOME PRESSURE IN INCHES W.G. TO THE FOLLOWING SCREENS: HYDROGEN ITR17B		
5.	Originator Priority [2] 1 = Critical 2 = Very Important 3 = Important 4 = Inconvenient 5 = Interesting		
6.	Originator: G. GAUCK Date: 12/22/92 Phone No.: (509)373-1779		
7.	Assigned to: _____ Phone No. _____		
8.	Solution Comments: ☐ See Attached		
9.	Hardware/Software/Documents affected: ☐ See Attached		
10.	CCB Disposition: Priority (See 5.) [2] Classification: ☐ I ☒ II ☐ Incorporate at next mandatory change ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer		☐ DACS test required
11.	TRG ¹ /CCB ² Approval: <u>H F Vargo Jr</u> <u>T. Carey</u> <u>G. MOLTZEN</u> <u>Silab M...</u>		Date: <u>12/29/92</u> Date: <u>12/29/92</u> Date: <u>12/29/92</u>
12.	CCA Approval _____ ☐ Copy to Originator		Date: <u> </u> / <u> </u> / <u> </u>
13.	QA Approval _____		Date: <u> </u> / <u> </u> / <u> </u>
14.	CIA No. _____ Date: <u> </u> / <u> </u> / <u> </u>		

rm #: HMTP-CR-1

1 = CLASS I 2 = CLASS II

completed: [Signature] 1/4/93
verified: [Signature] 1/8/93

HYDROGEN MITIGATION TEST PROJECT Change Request

ORIGINAL

CR No.: 24

Sheet 1 of 1

1.	Hardware/Software/Document Name: DACS Version/Revision:		
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached DACs TAG TT10001, VENT HEADER TEMPERATURE, IS NOT READING		
4.	Detail Description: ☐ See Attached DACs TAG TT10001, VENT HEADER TEMPERATURE, IS NOT READING ON SCREEN		
5.	Originator Priority [2] 1 = Critical 2 = Very Important 3 = Important 4 = Inconvenient 5 = Interesting		
6.	Originator: G. GAUCK Date: 12/22/92 Phone No.: (509)373-1779		
7.	Assigned to: _____ Phone No. _____		
8.	Solution Comments: ☐ See Attached		
9.	Hardware/Software/Documents affected: ☐ See Attached		
10.	CCB Disposition: Priority (See 5.) [2] Classification: ☐ I ☒ II ☐ III ☐ IV ☐ V Incorporate at next mandatory change ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer		☐ DACs test required
11.	TRG ¹ /CCB ² Approval: <div style="text-align: center;"><i>A. F. Vargo Jr.</i> <i>D. Campbell</i> <i>J. J. Moctoni</i> <i>W. G. Meltz</i></div>		Date: <u>12/29/92</u> Date: <u>12/29/92</u> Date: <u>12/29/92</u>
12.	CCA Approval _____ ☐ Copy to Originator		Date: <u>1/1/93</u>
13.	QA Approval _____		Date: <u>1/1/93</u>
14.	CIA No. _____ Date: <u>1/1/93</u>		

Form #: HMTP-CR-1

1 = CLASS I 2 = CLASS II

complete *J. Martin* 1/8/93
verified: *[Signature]* 1/8/93

HYDROGEN MITIGATION TEST PROJECT Change Request

ORIGINAL

CR No.: 25

Sheet 1 of 1

1.	Hardware/Software/Document Name: DACS Version/Revision:	
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement ☐ Other	
3.	Short Task Description/Justification: ☐ See Attached DELETE LINK FROM HYDROGEN BOX ON, SCREEN MRP12A, TO FILE SHMS12A.GRP	
4.	Detail Description: ☐ See Attached THE LINK FROM THE HYDROGEN BOX, ON SCREEN MRP12A, TO THE FILE SHMS12A.GRP IS NOT BEING USED AND SHOULD BE DELETED.	
5.	Originator Priority [3] 1 = Critical 2 = Very Important 3 = Important 4 = Inconvenient 5 = Interesting	
6.	Originator: R. MENDOZA Date: 12/28/92 Phone No.: (509)373-2007	
7.	Assigned to: _____ Phone No. _____	
8.	Solution Comments: ☐ See Attached	
9.	Hardware/Software/Documents affected: ☐ See Attached	
10.	CCB Disposition: Priority (See 5.) [3] Classification: ☐ I ☒ II ☐ III ☐ Incorporate at next mandatory change ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer	☐ DACS test required
11.	TRG ¹ /CCB ² Approval: <u>AF Vang</u> <u>D. Garg</u> <u>Shab Mulla</u>	Date: <u>12/29/92</u> Date: <u>12/29/92</u> Date: <u>12/29/92</u>
12.	CCA Approval _____ ☐ Copy to Originator	Date: <u>1/1/93</u>
13.	QA Approval _____	Date: <u>1/1/93</u>
14.	CIA No. _____ Date: <u>1/1/93</u>	

Form #: HMTP-CR-1

1 = CLASS I, 2 = CLASS II

completed
verified

[Signature]
[Signature]

1/8/93
1/8/93

ORIGINAL

Sheet 1 of 1

Form #: HMTP-CR-1

1 = CLASS I 2 = CLASS II

complete: [Signature] 1/15/93
verified: [Signature] 2/17/93

HYDROGEN MITIGATION TEST PROJECT
Change Request

ORIGINAL

CR No.: 27
Sheet 1 of 1

1.	Hardware/Software/Document Name: DACS Version/Revision:		
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached ITRDIAG SHOULD BE LINKED TO ITR1B AND ITR14A		
4.	Detail Description: ☐ See Attached CHANGE LINK DESCRIPTION: <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> FROM: <div style="border: 1px solid black; padding: 2px; display: inline-block;"> ITR17B ITR14A ITR1B MPMSR12A MPR12A </div> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-left: 10px;">ITRDIAG</div> </div> <div style="text-align: center;"> TO: <div style="border: 1px solid black; padding: 2px; display: inline-block;"> ITR17B ITR14A ITR1B MPMSR12A MPR12A </div> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-left: 10px;">ITRDIAG</div> </div> </div>		
5.	Originator Priority [2] 1 = Critical 2 = Very Important 3 = Important 4 = Inconvenient 5 = Interesting		
6.	Originator: R. MENDOZA Date: 12/28/92 Phone No.: (509)373-2007		
7.	Assigned to: _____ Phone No. _____		
8.	Solution Comments: ☐ See Attached		
9.	Hardware/Software/Documents affected: ☐ See Attached		
10.	CCB Disposition: Priority (See 5.) [2] Classification: ☐ I ☒ II ☐ III ☐ IV ☐ V ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer		☐ DACS test required
11.	TRG ¹ /CCB ² Approval: <div style="text-align: center;"> </div>		Date: <u>12/29/92</u> Date: <u>12/29/92</u> Date: <u>12/29/92</u>
12.	CCA Approval _____ ☐ Copy to Originator		Date: <u> </u> / <u> </u> / <u> </u>
13.	QA Approval _____		Date: <u> </u> / <u> </u> / <u> </u>
14.	CIA No. _____ Date: <u> </u> / <u> </u> / <u> </u>		

Form #: HMTP-CR-1

complete
verified

1 = CLASS I 2 = CLASS II

1/8/93
1/8/93

ORIGINAL

Sheet 1 of 1

Form #: HMTP-CR-1

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Page 48

HYDROGEN MITIGATION TEST PROJECT Change Request

ORIGINAL

CR No.: 29

Sheet 1 of 1

1.	Hardware/Software/Document Name: DACS Version/Revision:	
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement ☐ Other	
3.	Short Task Description/Justification: ☐ See Attached SUB-RANGE WASTE TEMPERATURE LIMITS ARE NOT LOW ENOUGH TO INDICATE TEMPS BELOW 100°F	
4.	Detail Description: ☐ See Attached CHANGE WASTE TEMPERATURE RANGE: FROM: 100°F to 150°F TO: 85°F to 140°F	
5.	Originator Priority [2] 1 = Critical 2 = Very Important 3 = Important 4 = Inconvenient 5 = Interesting	
6.	Originator: R. MENDOZA Date: 12/28/92 Phone No.: (509)373-2007	
7.	Assigned to: _____ Phone No. _____	
8.	Solution Comments: ☐ See Attached Changed sub-range to 80 - 140 to make graph X-axis double entry.	
9.	Hardware/Software/Documents affected: ☐ See Attached	
10.	CCB Disposition: Priority (See 5.) [2] Classification: ☐ I ☒ II ☐ III ☐ Incorporate at next mandatory change ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer	☒ DACS test required
11.	TRG ¹ /CCB ² Approval: <u>G F Vargo Jr</u> <u>T. Gary</u> <u>Deane Melton</u>	Date: <u>12, 29, 92</u> Date: <u>12, 29, 92</u> Date: <u>12, 29, 92</u>
12.	CCA Approval _____ ☐ Copy to Originator	Date: <u> </u> / <u> </u> / <u> </u>
13.	QA Approval _____	Date: <u> </u> / <u> </u> / <u> </u>
14.	CIA No. _____ Date: <u> </u> / <u> </u> / <u> </u>	

Form #: HMT-P-CR-1

1 = CLASS I 2 = CLASS II

Completed:
verified:

[Signature]
[Signature]

1/8/93
1/8/93

HYDROGEN MITIGATION TEST PROJECT

Change Request

CR No.: 30

Sheet 1 of 2

1.	Hardware/Software/Document Name: DACS Version/Revision:		
2.	CR Type: ☐ Development ☐ Correct Problem ☒ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached CHANGE THE RANGE FOR THE WHITAKER PLOT ADD ALARM INDICATOR LINE FOR TEMPRFL AND H2LOOK		
4.	Detail Description: ☒ See Attached CHANGE THE RANGE OF THE H2LOOK WHITAKER PLOT: FROM: 0 to 30 TO: 0 to 1 <u>SUB-PLOT</u> ADD A LINE TO THE TEMPERATURE PROFILE PLOT (TEMPRFL) AND HYDROGEN COMPARISON PLOT (H2LOOK) THAT INDICATES THE ALARM LIMIT		
5.	Originator Priority [<u>3</u>] 1 = Critical 2 = Very Important 3 = Important 4 = Inconvenient 5 = Interesting		
6.	Originator: R. MENDOZA Date: 12/28/92 Phone No.: (509)373-2007		
7.	Assigned to: _____ Phone No. _____		
8.	Solution Comments: ☐ See Attached <u>Changed H2LOOK whitaker plot to 0 to 2 after consultation with R. Mendoza (green limit line)</u>		
9.	Hardware/Software/Documents affected: ☐ See Attached		
10.	CCB Disposition: Priority (See 5.) [<u>3</u>] Classification: ☐ ☒ ☐ ☐ Incorporate at next mandatory change ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer		☐ DACS test required
11.	TRG ¹ /CCB ² Approval: <u>H F Vargas</u> <u>R. Mendoza</u> <u>Dale Miller</u>		Date: <u>12/29/92</u> Date: <u>12/29/92</u> Date: <u>12/29/92</u>
12.	CCA Approval _____ ☐ Copy to Originator		Date: <u>1/1/93</u>
13.	QA Approval _____		Date: <u>1/1/93</u>
14.	CIA No. _____ Date: <u>1/1/93</u>		

Form #: HMTP-CR-1

1 = CLASS I 2 = CLASS II

completed: [Signature] 1/8/93
verified: [Signature] 1/8/93

HYDROGEN MITIGATION TEST PROJECT Change Request (Continuation Sheet)

CR No.: 30

Item # ☐ 3 ☒ 4 ☐ 8 ☐ 9

Sheet 1 of 2

EXAMPLE:

Signature: _____

Date: ____/____/____

: HMTP-CRCS-1

HYDROGEN MITIGATION TEST PROJECT

Change Request

ORIGINAL

CR No.: 32

Sheet 1 of 1

1.	Hardware/Software/Document Name: DACS DISPLAY Version/Revision:		
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached CALIBRATION OR OPERABILITY CHECK OF DACS TAG - WST1		
4.	Detail Description: ☐ See Attached REQUIRED AS PREREQUISITE STEP 11.2.24 "VERIFY DOME SPACE TEMPERATURE" THE WST1 DISPLAY ON THE DACS SCREEN CONSISTENTLY READS 32°F ON THE LOW TEMPERATURE END FOR OUTSIDE AMBIENT TEMPERATURE EVENTHOUGH A HANDHELD "STICK" THERMOMETER READ 22°F AT 9:42 pm ON 1/3/93.		
5.	Originator Priority: ☒ 1 = Critical 2 = Very Important 3 = Important 4 = Interesting		
6.	Originator: G. GAUCK Date: 1/4/93 Phone No.: (509)373-1779		
		Disposition: Priority (See 5.) ☒ 1 Classification: ☐ 1 ☒ 2 ☐ 3 ☐ 4 ☐ 5 ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer	☐ DACS test required
8.	TRG ¹ /CCB ² Approval: <div style="margin-top: 10px;"> <i>James King</i> <i>H. Donnell Hall</i> <i>H. F. Vargo</i> </div>		Date: <u>1/19/93</u> Date: <u>1/19/93</u> Date: <u>1/19/93</u>
9.	Assigned to: _____ Phone No. _____		
10.	Change Comments: <div style="border: 1px solid black; height: 100px; margin-top: 5px;"></div>		
		Completed by: <i>J. Master</i>	Date: <u>1/18/93</u>
12.	WHC Verify Incorporation: <i>H. F. Vargo</i>		Date: <u>1/18/93</u>

HYDROGEN MITIGATION TEST PROJECT Change Request

ORIGINAL

CR No.: 33

Sheet 1 of 2

1.	Hardware/Software/Document Name: VDTT System interface channels	
	Version/Revision: _____	
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement ☐ Other	
3.	Short Task Description/Justification: ☒ See Attached	
4.	Detail Description: ☒ See Attached	
5.	Originator Priority: ☒ 1 = Critical 2 = Very Important 3 = Important 4 = Interesting	
6.	Originator: Troy I. Stokes Date: 12/29/92 Phone No.: 6-9436	
7.	Disposition: Priority (See 5.) ☐ Classification: ☐ ☐ ☐ ☐ ☐ Incorporate at next mandatory change ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer	☐ DACS test required
8.	TRG ¹ /CCB ² Approval:	Date: 11/5/93 Date: 11/5/93 Date: 11/5/93
9.	Assigned to: _____ Phone No. _____	
10.	Change Comments: Item 1) Channel list needs to be changed: modification for DIRHA01 (3.1.4.6) should be 30070 DIRHA07 (3.1.4.8) " " 30072 DIRHA01 (3.1.4.5) " " 30069 DIRHA07 (3.1.4.7) " " 30071 Item 2) UNITS ON PROBLEM screen changed to PS16 unit into "Temp unit" (change pass). These are different from the PSID readings for the same unit on the ITR18-ITR4K menu. Item 4) 32 768 means "out of range". It indicates that the temperature sensor is within the normal I/O range. Item 5) It is not supposed to be 30070	
11.	Completed by:	Date: 11/8/93
12.	WHC Verify Incorporation:	Date: 2/1/94
13.	☐ COPY TO ORIGINATOR	

ORIGINAL

DACS Interface meeting:

CR No. 33

VDTT System related.

Sheet 2 of 2

1) DACS assignments 30080, 30065, 30121, and 30082 are not really "looking" at 8.1.4.5, 8.1.4.6, 8.1.4.7, and 8.1.4.8 like they're supposed to be doing. For instance, 30121 goes dead when the 9.1.6.x module is shut-off. 30121 used to connect to 9.1.6.1 prior to a previous channel reassignment/rescaling in one of these interface meetings.

2) The PSID reference really needs to be clarified somehow. On the VDTT diagnostic screen, what we need to see is PSID between the sensor reading and the column. I believe the DACS currently has sensor to column, column to vapor space, and gravity factors involved with the PSID calculation. *On indicator tree usually, as read up, say PSID = pressure in pipe 1 - pressure in pipe 2*

3) Strain gauge trip points need to be specified for burp and pump operation.

4) Rearranged sorts of the DACS channel lists would be of great value, sorted by modicon numbers, and drop/rack/slot numbers. Also, 30129 thru 30136 read between 100 to 800 counts, sometimes 32,768. I was unsure what, if any, significance this had.

5) Display error. DCR14A-04 display does not match the diagnostic screen

6) TIR 14A-01, and 14A-05. On the main screen, list as "out-of-commission". On diagnostic screen, display the temperature being used for temperature compensation. Use 1B-05 temperature for 14A-05.

7) 30125 and 30126 are duplicate on the I/O list.

HYDROGEN MITIGATION TEST PROJECT

ORIGINAL

Change Request

CR No.: 34Sheet 1 of 1

1.	Hardware/Software/Document Name: _____ Version/Revision: _____	
2.	CR Type: ☐ Development ☐ Correct Problem ☐ Enhancement ☐ Other	
3.	Short Task Description/Justification: ☐ See Attached Remove Abort and Replace Alarm setpoints for DACS tags XIRIZANI and XIRIZANZ	
4.	Detail Description: ☐ See Attached Remove the Abort setpoints and replace the Alarm setpoints for DACS tags XIRIZANI MIXER Pump Casing VIBRATION and XIRIZANZ MIXER Pump Support Column VIBRATION from 1.0 G's to 4.0 G's	
5.	Originator Priority: ☐ 1 = Critical 2 = Very Important 3 = Important 4 = Interesting	
6.	Originator: <u>Greg Amish</u> Date: <u>11/6/93</u> Phone No.: <u>3-17791</u>	
7.	Disposition: Priority (See 5.) ☐ Classification: ☐ I ☐ II ☐ Incorporate at next mandatory change ☐ Approve ☐ Approve/Modify ☐ Reject ☐ Defer	NE DACS test required Not Required
8.	TRG ¹ /CCB ² Approval: <u>J. P. Molteni</u> <u>H. F. Vargo</u> <u>Deonard Hill</u>	Date: <u>11/12/93</u> Date: <u>11/12/93</u> Date: <u>11/12/93</u>
9.	Assigned to: _____ Phone No. _____	
10.	Change Comments: _____ _____ _____ _____ _____ _____ _____	
11.	Completed by: <u>J. P. Molteni</u>	Date: <u>11/15/93</u>
12.	WHC Verify Incorporation: <u>H. F. Vargo</u>	Date: <u>11/15/93</u>
13.	☐ COPY TO ORIGINATOR	

ORIGINAL

CR No.: 35

Sheet 1 of 1

Form #: HMTP-CR-1

1 = CLASS I 2 = CLASS II

Change Request

ORIGINAL

Sheet of

Form #: HMTP-CR-1

1 = CLASS I 2 = CLASS II

ORIGINAL

CR No.: 37

Sheet 1 of 1

Form #: HMTP-CR-1

1 = CLASS I 2 = CLASS II

DECLASS

CR No.: 38

Sheet 1 of 1

Form #: HMTP-CR-1

1 = CLASS I 2 = CLASS II

HYDROGEN MITIGATION TEST PROJECT

Change Request

ORIGINAL

CR No.: 39

Sheet 1 of 1

1.	Hardware/Software/Document Name: <u>DACS software / screen</u> Version/Revision: _____	
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement ☐ Other	
3.	Short Task Description/Justification: ☐ See Attached <u>Correct misspelling.</u>	
4.	Detail Description: ☐ See Attached <u>on MANABRT screen, change "AVERAGES" to "AVERAGE"</u>	
5.	Originator Priority: <u>[2]</u> 1 = Critical 2 = Very Important 3 = Important 4 = Interesting	
6.	Originator: <u>G. J. Gault</u> Date: <u>1/12/93</u> Phone No.: <u>373-1779</u>	
7.	Disposition: Priority (See 5.) ☐ Classification: ☐ ☐ ☐ ☐ Incorporate at next mandatory change ☐ Approve ☐ Approve/Modify ☐ Reject ☐ Defer	☐ DACS test required
8.	TRG ¹ /CCB ² Approval: <u>G. J. Gault</u> <u>A. F. Varga</u> <u>Deena D. Ayala</u>	Date: <u>1/1/93</u> Date: <u>1/12/93</u> Date: <u>1/12/93</u>
9.	Assigned to: _____ Phone No. _____	
10.	Change Comments: <u>517,9</u> _____ _____ _____ _____ _____ _____ _____	
11.	Completed by: <u>J. H. [Signature]</u>	Date: <u>1/13/93</u>
12.	WHC Verify Incorporation: <u>[Signature]</u>	Date: <u>1/15/93</u>
3.	☐ COPY TO ORIGINATOR	

Form #: HMTP-CR-1

1 = CLASS I 2 = CLASS II

Change Request

CR No.: 570

Sheet 1 of 1

Run #: HMTP-CR-1

1 = CLASS I 2 = CLASS II

HYDROGEN MITIGATION TEST PROJECT

Change Request

ORIGINAL

CR No.: 41Sheet 1 of 1

1.	Hardware/Software/Document Name: <u>DACS software / screen</u> Version/Revision: _____	
2.	CR Type: ☐ Development ☐ Correct Problem ☐ Enhancement ☐ Other	
3.	Short Task Description/Justification: ☐ See Attached <u>Change units.</u>	
4.	Detail Description: ☐ See Attached <u>On MPR12A screen change units for DACS. tag # TIR12A01 and TIR12A02 from °C to °F.</u>	
5.	Originator Priority: <u>[2]</u> 1=Critical 2=Very Important 3=Important 4=Interesting	
6.	Originator: <u>G. J. Gauch</u> Date: <u>1/12/93</u> Phone No.: <u>373-1779</u>	
7.	Disposition: _____ Priority (See 5.) ☐ Classification: ☐ ☐ ☐ ☐ Incorporate at next mandatory change ☐ Approve ☐ Approve/Modify ☐ Reject ☐ Defer	☒ DACS test required
8.	TRG ¹ /CCB ² Approval: <u>C. P. Molteni</u> <u>A. F. Vargo</u> <u>Donald D. Rigg</u>	Date: <u>1/12/93</u> Date: <u>1/12/93</u> Date: <u>1/12/93</u>
9.	Assigned to: _____ Phone No. _____	
10.	Change Comments: <u>179</u> _____ _____ _____ _____ _____ _____ _____	
11.	Completed by: <u>J. J. [Signature]</u>	Date: <u>1/13/93</u>
12.	WHC Verify Incorporation: <u>[Signature]</u>	Date: <u>1/15/93</u>
3.	☐ COPY TO ORIGINATOR	

Change Request

ORIGINAL

Sheet 1 of 1

Form #: HMTP-CR-1

1 = CLASS I 2 = CLASS II

P L I M A

CR No.: 413

Sheet 1 of 2

Form #: HMTP-CR-1

1 = CLASS I 2 = CLASS II

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HYDROGEN MITIGATION TEST PROJECT
Change Request (Continuation Sheet)

ORIGINAL

CR No.: 43

Item # [] 3 [] 4 [] 10

Sheet 2 of 2

Detail Description:

Change High Vent Flow about value to 700 cfm on screen
HUTALARM

Signature:

Date: / /

Form #: HMTP-CRCS-1

HYDROGEN MITIGATION TEST PROJECT

Change Request

CR No.: 44Sheet 1 of 1

1.	Hardware/Software/Document Name: <u>DACS Software</u>	
	Version/Revision: _____	
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement ☐ Other	
3.	Short Task Description/Justification: ☐ See Attached Display DACS tag PCR12A01 value on screen MPR12A and change "psi" units to "psig". Note units for PCR12A01 are in psid, change made to DACS	
4.	Detail Description: ☐ See Attached Display value from PCR12A01 equal to value from PIR12A01 - Baseline value and change units of psi to psig on screen MPR12A for DACS tags. PIPN0101 PIPN0201 PITN0110 PCR12A01 PIPN0102 PIPN0202 PITN0111	
5.	Originator Priority: ☒ 1=Critical 2=Very Important 3=Important 4=Interesting	
6.	Originator: <u>G. J. Garch</u> Date: <u>1/12/93</u> Phone No.: <u>373-1779</u>	
7.	Disposition: Priority (See 5.) ☐ Classification: ☐ ☐ ☐ ☐ Incorporate at next mandatory change ☐ Approve ☐ Approve/Modify ☐ Reject ☐ Defer	☒ DACS test required
8.	TRG ¹ /CCB ² Approval: <u>C. P. McAlister</u> <u>G. F. Vargo</u> <u>Deborah Thigpen</u>	Date: <u>1/12/93</u> Date: <u>1/12/93</u> Date: <u>1/12/93</u>
9.	Assigned to: _____ Phone No. _____	
10.	Change Comments or Hardware/Software/Documents Affected by Change: <u>VIT 9</u> DACS Tag PCR12A01 is displayed with a value equal to the pump pressure as provided by PIR12A01 when the pump is running minus the baseline static pressure when the pump is not running	
11.	Did ECN Implement Change? ☒ Yes ☐ No	
12.	Completed by: <u>D. H. Harkin</u>	Date: <u>1/15/93</u>
13.	WHC Verify Incorporation: <u>[Signature]</u>	Date: <u>1/15/93</u>
14.	☐ Copy to originator:	

ORIGINAL

CR No.: 45

Sheet 1 of 1

Form #: HMTP-CR-1

1 = CLASS I 2 = CLASS II

Change Request

CR No.: 96

Sheet 1 of 1

Form #: HMTP-CR-1

1 = CLASS I 2 = CLASS II

Change Request

Sheet 1 of 1

Form #: HMTP-CR-1

1 = CLASS I 2 = CLASS II

HYDROGEN MITIGATION TEST PROJECT

ORIGINAL

Change Request

CR No.: 48

Sheet 1 of 1

1.	Hardware/Software/Document Name: <u>DACS SOFTWARE</u> Version/Revision: <u>1.7.9</u>		
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached <u>CORRECT SCREEN ABORT INDICATION PROBLEM</u>		
4.	Detail Description: ☐ See Attached <u>ON HVTALARM SCREEN ABORT INDICATION IS ON WHEN CURRENT VALVE IS BELOW ABORT VALVE. SEE HIGH VENTILATION FLOW.</u>		
5.	Originator Priority: <u>[2]</u> 1 = Critical 2 = Very Important 3 = Important 4 = Interesting		
6.	Originator: <u>G. GAUCK</u> Date: <u>1/12/93</u> Phone No.: <u>3-1779</u>		
7.	Disposition: Priority (See 5.) <u>[2]</u> Classification: ☐ I ☒ II ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defers Implement: ☒ Yes ☐ Wait for approval ☐ At next mandatory change		☒ DACS test required
8.	TRG ¹ /CCB ² Approval: <u>James Carey</u> Date: <u>1/12/93</u> <u>H. Deneer Holt</u> Date: <u>1/19/93</u> <u>GP Vargo</u> Date: <u>1/19/93</u>		
9.	Assigned to: _____ Phone No. _____		
10.	Copy to originator: ☐ After CCB/TRG disposition (Date: ____/____/____) ☐ After change implementation (Date: ____/____/____)		
11.	Change Comments or Hardware/Software/Documents Affected by Change: ☐ See Attached <u>1.7.9</u> <u>No change necessary. Indication of gage not in place/not there or a spike signal has latched the abort coil and signal returns to operable band.</u>		
12.	How was change implemented? ☐ EGN _____ ☐ Ltr No. _____ ☐ This CR		
13.	Completed by: <u>J. Martin</u> Date: <u>1/27/93</u>		
14.	WHC Verify Implementation: <u>H. Gauck</u> Date: <u>2/4/93</u> Phone No. <u>373-1779</u>		

HYDROGEN MITIGATION TEST PROJECT

ORIGINAL

Change Request

CR No.:

49

Sheet

1 of 1

1.	Hardware/Software/Document Name: <u>DACS Software</u>	
	Version/Revision: _____	
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement ☐ Other	
3.	Short Task Description/Justification: ☐ See Attached <u>Correct screen about indication problem.</u>	
4.	Detail Description: ☐ See Attached <u>On Pump ALRM Screen. About indication (val) is on for mixer pump motor oil temp (both) when current value is below about setpoint.</u>	
5.	Originator Priority: ☒ 1 = Critical 2 = Very Important 3 = Important 4 = Interesting	
6.	Originator: <u>G. Frank</u>	Date: <u>1/12/93</u> Phone No.: <u>373-1779</u>
7.	Disposition: Priority (See 5.) ☐ Classification: ☐ ☐ ☐ ☐ Incorporate at next mandatory change ☐ Approve ☐ Approve/Modify ☐ Reject ☐ Defer	☒ DACS test required
8.	TRG ¹ /CCB ² Approval: <u>G. P. McAlister</u> <u>A. F. Vargo</u> <u>Leonard D. Miller</u>	Date: <u>1/12/93</u> Date: <u>1/12/93</u> Date: <u>1/12/93</u>
9.	Assigned to: _____ Phone No. _____	
10.	Change Comments or Hardware/Software/Documents Affected by Change: <u>Mixer Pump Motor Oil Temperature is reading 100 degrees when it is a signal to the motor. The channel is below or above the setpoint. For the motor channel, the motor is not the setpoint. This is the most common bit (1115). Since the motor PLC has a register for bit 1115, it is interpreted as a high signal and the about error. The error will show a 0 for the setpoint.</u>	
11.	Did ECN Implement Change? ☒ Yes ECN _____ ☐ No	
12.	Completed by: <u>J. Montoya</u>	Date: <u>1/15/93</u>
13.	WHC Verify Incorporation: <u>A. Kuehlke</u>	Date: <u>1/15/93</u>
14.	☐ Copy to originator:	

HYDROGEN MITIGATION TEST PROJECT

ORIGINAL

Change Request

CR No.: 50Sheet 1 of 1

1.	Hardware/Software/Document Name: <u>Low Hz Abort Problem in DACS software.</u>	
	Version/Revision: _____	
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement ☐ Other	
3.	Short Task Description/Justification: ☐ See Attached <u>Correct Low Hz Abort Problem in DACS.</u>	
4.	Detail Description: ☐ See Attached <u>When a value of 9ppm Hz is manually entered on DACS screen MANABRT for DACS tag NITKSY11, after two hours the average display was still >14ppm. The alarm at 15ppm Hz worked properly. The abort at 10ppm Hz did not work properly.</u>	
5.	Originator Priority: ☐ 1 = Critical 2 = Very Important 3 = Important 4 = Interesting	
6.	Originator: <u>G. J. Gauck</u> Date: <u>11/12/93</u> Phone No.: <u>373/779</u>	
7.	Disposition: Priority (See 5.) ☐ 1 Classification: ☐ 1 ☒ 2 ☐ 3 ☐ 4 ☐ 5 ☐ Incorporate at next mandatory change ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer	☒ DACS test required
8.	TRG ¹ /CCB ² Approval: <u>C. P. Moltis</u> <u>A. F. Valcoy</u> <u>Edward D. Miller</u>	Date: <u>1/1/93</u> Date: <u>1/12/93</u> Date: <u>1/12/93</u>
9.	Assigned to: _____ Phone No. _____	
10.	Change Comments or Hardware/Software/Documents Affected by Change: _____ _____ _____ _____ _____ _____ _____	
11.	Did ECN Implement Change? ☒ Yes ☐ No ☒ No	
12.	Completed by: <u>J. H. [unclear]</u>	Date: <u>2/2/93</u>
13.	WHC Verify Incorporation: <u>P. Caney</u>	Date: <u>2/3/93</u>
14.	☐ Copy to originator:	

Form #: HMTP-CR-1

1 = CLASS I 2 = CLASS II

ORIGINAL

Sheet 1 of 1

Form #: HMTP-CR-1

HYDROGEN MITIGATION TEST PROJECT
Change Request

ORIGINAL

CR No.: 52
Sheet 1 of 1

1.	Hardware/Software/Document Name: <u>Hardware / Software</u> Version/Revision: _____	
2.	CR Type: ☒ Development ☐ Correct Problem ☐ Enhancement ☐ Other	
3.	Short Task Description/Justification: ☐ See Attached <u>ADD 3 PROGRAM ASCII INPUT MODULE FOR GAS ANALY.</u>	
4.	Detail Description: ☐ See Attached <u>ADD HARDWARE & SOFTWARE TO ROUTE FTIR & GC DATA INTO DACS FOR VIEWING AND ARCHIVING.</u>	
5.	Originator Priority: [<u>1</u>] 1 = Critical 2 = Very Important 3 = Important 4 = Interesting	
6.	Originator: <u>LEONARD T. TRUTILLO</u> Date: <u>1/12/93</u> Phone No.: <u>546-5013</u>	
7.	Disposition: Priority (See 5.) [] Classification: [] [] [] [] ☐ Incorporate at next mandatory change ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer	☒ DACS test required
8.	TRG ¹ /CCB ² Approval: <div style="text-align: center;"> <u>Leonard T. Trutillo</u> <u>C. P. M. Alteri</u> <u>A. F. Vargo</u> </div>	Date: <u>1/12/93</u> Date: <u>1/12/93</u> Date: <u>1/12/93</u>
9.	Assigned to: <u>LEONARD T. TRUTILLO</u> Phone No. <u>546-5013</u>	
10.	Change Comments: <div style="text-align: center; padding: 10px;"> <u>SEND COMPLETED COPY</u> <u>TO JEANNE TECHET</u> </div>	
11.	Completed by: WHC Verify Incorporation:	Date: <u>2/12/93</u> Date: <u>2/19/93</u>
13.	☐ COPY TO ORIGINATOR	

1.	Hardware/Software/Document Name:	DATA integrity affected. History files.	
2.	CR Type: [] Development [] Correct Problem [] Enhancement [] Other		
3.	Short Task Description/Justification: [] See Attached	Investigate, Identify Problem, and correct if possible.	
4.	Detail Description: [] See Attached	<p>MIT-1 PRN Channel 12 DACS TAG TIR1B01 has negative 2 degree spikes Channel 14 DACS TAG TIR1A03 is pegged on 80°F Channel 11 DACS TAG TIR1B22 has negative (-) 0.5°F spikes at 20sec MIT-2 PRN Channel 112 TIR1A01, Channel 116 TIR1A05 is pegged on 80°F. Channel 117 TIR1A06, has 20°F fluctuations Channel 118 TIR1A06, has 20°F fluctuations Channel 119 TIR1A06, has 20°F fluctuations</p>	
5.	Originator Priority: [] 1 = Critical 2 = Very Important 3 = Important 4 = Interesting		
6.	Originator: Barry Berger	Date: 1/12/93	Phone No.: 375-6568
7.	Disposition: [] Approve [] Approve/Modify [] Reject [] Defect	☐ DACS test required ☐ Incorporate at next mandatory change	
8.	TRG ¹ /CCB ² Approval:	<p>G.C. M. Allen G.T. Vance B. Vance 1/12/93</p>	
9.	Assigned to:	<p>Assigned to: H. Papp Phone No. 375-6568</p>	
10.	Change Comments or Hardware/Software/Documents Affected by Change:	Channel 11 in MIT-2 PRN still needs resolution.	
11.	Did ECN Implement Change? [] Yes ECN [] No		
12.	Completed by:		
13.	W/C Verify Incorporation:	Date: 1/12/93	
14.	[] Copy to originator		

HYDROGEN MITIGATION TEST PROJECT
Change Request (Continuation Sheet)

ORIGINAL

CR No.: 53

Item # 113 114 110

Sheet 2 of 2

Detail Description:

H2 PRN on channel 6 (NACS tag NITKSP11)
pays out at 100 ppm needing calibration change.

H2 PRN on channel 11 (NACS tag NITJSP12)
pays on 0 part of the time.

Signature:

Date: / /

Form #: HMTP-CRCS-1

HYDROGEN MITIGATION TEST PROJECT

Change Request

ORIGINAL

CR No.: 54Sheet 1 of 1

1.	Hardware/Software/Document Name: <u>DACS Screen</u> Version/Revision: _____	
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement ☐ Other	
3.	Short Task Description/Justification: ☐ See Attached <u>Check and change levels on SGPRESS screens.</u>	
4.	Detail Description: ☐ See Attached <u>SGPRESS screen has level values different from those listed in the test procedure. Test procedures supposedly has best height data from Tray Stokes. Check with Stokes and use best height data on screens</u>	
5.	Originator Priority: <u>[3]</u> 1=Critical 2=Very Important 3=Important 4=Interesting	
6.	Originator: <u>C.P. Molteni</u> Date: <u>01/12/93</u> Phone No.: <u>3-4254</u>	
7.	Disposition: Priority (See 5.) ☐ Classification: ☐ ☐ ☐ ☐ Incorporate at next mandatory change ☐ Approve ☐ Approve/Modify ☐ Reject ☐ Defer	☐ DACS test required
8.	TRG ¹ /CCB ² Approval: <u>C.P. Molteni</u> <u>A.A. Vargo</u> <u>Sean J. Hill</u>	Date: <u>1/12/93</u> Date: <u>1/12/93</u> Date: <u>1/12/93</u>
9.	Assigned to: _____ Phone No. _____	
10.	Change Comments: <u>V.F.A.</u> _____ _____ _____ _____ _____ _____	
11.	Completed by: <u>C.P. Molteni</u>	Date: <u>1/13/93</u>
12.	WHC Verify Incorporation: <u>A.A. Vargo</u>	Date: <u>1/15/93</u>
3.	☐ COPY TO ORIGINATOR	

ORIGINAL

CR No.: 55

Sheet 1 of 1

Form #: HMTP-CR-1

1 = CLASS I 2 = CLASS II

HYDROGEN MITIGATION TEST PROJECT

ORIGINAL

Change Request

CR No.: 56Sheet 1 of 1

1.	Hardware/Software/Document Name: _____ Version/Revision: _____	
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement ☐ Other	
3.	Short Task Description/Justification: ☐ See Attached Switch in-tank and external displays in DACS control room.	
4.	Detail Description: ☐ See Attached Switch the in tank and tank external displays in the DACS Trailer. In tank screen provides critical information. Test Engineer must turn their head to see screen as presently configured.	
5.	Originator Priority: ☒ 1 = Critical 2 = Very Important 3 = Important 4 = Interesting	
6.	Originator: <u>C. P. Molteni</u> Date: <u>01/12/93</u> Phone No.: <u>3-4254</u>	
7.	Disposition: Priority (See 5.) ☐ Classification: ☐ ☐ ☐ ☐ ☐ Incorporate at next mandatory change ☐ Approve ☐ Approve/Modify ☐ Reject ☐ Defer	☐ DACS test required
8.	TRG ¹ /CCB ² Approval: <u>C. P. Molteni</u> <u>H. F. Vargo</u> <u>Donald Miller</u>	Date: <u>1/12/93</u> Date: <u>1/12/93</u> Date: <u>1/12/93</u>
9.	Assigned to: _____ Phone No. _____	
10.	Change Comments: _____ _____ _____ _____ _____ _____ _____	
11.	Completed by: <u>[Signature]</u>	Date: <u>1/12/93</u>
12.	WHC Verify Incorporation: <u>C. P. Molteni</u>	Date: <u>2/02/93</u>
3.	☐ COPY TO ORIGINATOR	

HYDROGEN MITIGATION TEST PROJECT

ORIGINAL

Change Request

CR No.: 57

Sheet 1 of 1

1.	Hardware/Software/Document Name: <u>Change to DACS tag</u>	
	Version/Revision: _____	
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement ☐ Other	
3.	Short Task Description/Justification: ☐ See Attached DACs Tag for 2 hour manual low level abort.	
4.	Detail Description: ☐ See Attached In accordance with the test procedure low manual abort should be on NCTKSY11. Manual abort screen shows it is on NCTKSY12 NCTKSY12, which is not a minimum instrument.	
5.	Originator Priority: [2] 1=Critical 2=Very Important 3=Important 4=Interesting	
6.	Originator: <u>C.P. Molteni</u> Date: <u>01/12/93</u> Phone No.: <u>3-4254</u>	
7.	Disposition: Priority (See 5.) ☐ Classification: ☐ ☐ ☐ ☐ ☐ Incorporate at next mandatory change ☐ Approve ☐ Approve/Modify ☐ Reject ☐ Defer	☒ DACS test required
8.	TRG ¹ /CCB ² Approval: <u>C.P. Molteni</u> <u>H.F. Varco</u> <u>Leonard Hill</u>	Date: <u>1/12/93</u> Date: <u>1/12/93</u> Date: <u>1/12/93</u>
9.	Assigned to: _____ Phone No. _____	
10.	Change Comments: <u>NCTKSY12 removed from manual abort screen with</u> <u>low priority. (NCTKSY12 still available)</u>	
11.	Completed by: <u>[Signature]</u>	Date: <u>1/15/93</u>
12.	WHC Verify Incorporation: <u>[Signature]</u>	Date: <u>1/15/93</u>
3.	☐ COPY TO ORIGINATOR	

HYDROGEN MITIGATION TEST PROJECT

Change Request

ORIGINAL

CR No.: 58

Sheet 1 of 1

1.	Hardware/Software/Document Name: AMES SLUDGE MONITORING EQUIPMENT Version/Revision: N/A		
2.	CR Type: ☒ Development ☐ Correct Problem ☐ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached DACS TAGS MUST BE WRITTEN TO DACS HISTORY FILES AND SAMPLING RATES AS IMPLEMENTED IN V.1.7.8 OF THE TEST STRATEGY		
4.	Detail Description: ☐ See Attached ALL FILES WILL HAVE THE FOLLOWING FOUR CHARACTER PREFIX "YMDH": WHERE: Y = YEAR (3 = 1993) M = MONTH (1-9, A-C) D = DAY (1-9, A-V) H = HOUR (0-9, A-N) Example: FILENAME. YMDH AMES.PRN SAMPLE INTERVAL: 30 SEC. DACS TAGS: XIR12A03 for DE-107 XIR12A01 for DTE-208 XIR12A04 for DE-207 XIR12A02 for DTE-208 XIPN0101 for DTE-108 XIPN0301 for DX-107 XIPN0201 for DTE-109 XIPN0401 for DX-207		
5.	Originator Priority: ☒ 1 = Critical 2 = Very Important 3 = Important 4 = Interesting		
6.	Originator: D. C. LARSEN Date: 1/18/93 Phone No.: 3-1847		
7.	Disposition: Priority (See 5.) ☒ 2 Classification: ☐ 1 ☒ 4 ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer	Implement: ☒ Yes ☐ Wait for approval ☐ At next mandatory change	☐ DACS test required
8.	TRG ¹ /CCB ² Approval: <i>James Fargy</i> Date: 1/19/93 <i>R. Dorell Holt</i> Date: 1/19/93 <i>B. F. Vargo</i> Date: 1/19/93		
9.	Assigned to: _____ Phone No. _____		
10.	Copy to originator: ☐ After CCB/TRG disposition (Date: ____/____/____) ☐ After change implementation (Date: ____/____/____)		
11.	Change Comments or Hardware/Software/Documents Affected by Change: ☐ See Attached		
12.	How was change implemented? ☐ ECN _____ ☐ Ltr No. _____ ☐ This CR		
13.	Completed by: <i>J. Martin</i> Date: 1/27/93		
14.	WHC Verify Implementation: <i>Jeannie A. Lechelt</i> Date: 2/4/93 Phone No.: 373-3296		

HYDROGEN MITIGATION TEST PROJECT

Change Request

00101131

CR No.: 59

Sheet 1 of 4

1.	Hardware/Software/Document Name: <u>DACS SYSTEM</u> Version/Revision: <u>N/A</u>		
2.	CR Type: ☐ Development ☐ Correct Problem ☒ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☒ See Attached <u>REMOTE DACS MONITOR IN EVAPORATOR</u>		
4.	Detail Description: ☒ See Attached <i>Cancelled 2/8/93</i>		
5.	Originator Priority: <u>[2]</u> 1=Critical 2=Very Important 3=Important 4=Interesting		
6.	Originator: <u>J.R. BUNCH</u> Date: <u>1/14/93</u> Phone No.: <u>373-3416</u>		
7.	Disposition: Priority (See 5.) ☐ Classification: ☐ I ☐ II <u>9/20/93</u> ☒ Approve ☐ Approve/Modify ☐ Reject ☒ Discontinue Implement: ☐ Yes ☐ Wait for approval ☐ At next mandatory change		DACs test required functional test.
8.	TRG ¹ /CCB ² Approval: <u>[Signature]</u> Date: <u>9/20/93</u> <u>Signed per telecon w/ G.F. Vargo</u> Date: <u>9/20/93</u> <u>John A. P.</u> LANL/EGRG Date: <u>9/20/93</u>		
9.	Assigned to: <u>J. Martin / K. Eldridge</u> Phone No. _____		
10.	Copy to originator: ☐ After CCB/TRG disposition (Date: ___/___/___) ☐ After change implementation (Date: ___/___/___)		
11.	Change Comments or Hardware/Software/Documents Affected by Change: ☐ See Attached <u>Hardware, software, or Documents that must be revised due to this change.</u> <u>SOP, network configuration.</u> <u>(SEE ACTIVATED SYSTEM CHANGE REQUEST SCR #368)</u>		
12.	How was change implemented? ☐ ECN _____ ☐ Ltr No. _____ ☐ This CR		
13.	Completed by: _____ Date: ___/___/___		
14.	WHC Verify Incorporation: _____ Date: ___/___/___ Phone No. _____		

HYDROGEN MITIGATION TEST PROJECT
Change Request (Continuation Sheet)

ORIGINAL

CR No.: 59

Sheet 2 of 4

Item No. ☒ 3 ☐ 4 ☐ 111

INSTALL RSS STATION IN THE 242-S EVAPORATOR BUILDING,
TO MONITOR SY-101.

SINCE OPERATIONS PERSONNEL ARE CONTINUALLY IN THE
TANK FARM, THE POTENTIAL FOR EXPOSURE TO NOXIOUS AND
TOXIC FUMES EXIST DURING A ROLLOVER. THE ADDITION
OF A REMOTE SUPERVISORY STATION (RSS) IN THE
EVAPORATOR BUILDING, WILL GIVE THE SHIFT OPERATOR
CONTINUOUS MONITORING OF THE TANK PARAMETERS
BEFORE A GAS RELEASE EVENT. PRESENTLY, AN OPERATOR HAS
TO ENTER THE TANK FARM TWICE PER SHIFT TO OBTAIN
DATA NEEDED TO STATUS THE TANK. THE ADDITION OF
THE RSS WILL ENABLE THE OPERATOR TO RECOGNIZE
AN IMMANENT BURP AND WARN PERSONNEL OFF
THE TANK FARM. WESTINGHOUSE HAS A FIRM COMMITMENT
TO WORKER SAFETY, AND THE ADDITION OF THIS SYSTEM
WILL HELP WORKERS MAINTAIN AN "AS LOW AS REASONABLY
ACHIEVABLE (ALARA)" EXPOSURE TO POTENTIALLY HARMFUL
CHEMICALS.

Signature:

J.R. Bunch

Date: 1/14/93

Form #: HMTP-CRCS-1 (1-14-93)

Change Request (Continuation Sheet)

ORIGINAL

CR No.: 59

Sheet 3 of 4

ITEMS NEEDED FOR RSS ARE AS FOLLOWS:

- ONE 486DX/33 PC W/MONITOR.
- ONE RSS/A SOFTWARE PACKAGE FROM ICONICS.
- TWO DATA POINT ARC LINK ARCNET/MODEM BRIDGE.
- ONE SMC/30E ARCNET NETWORK CARD.
- ONE ACTIVE STAR HUB (ARCNET).
- ONE PHONE LINE BETWEEN THE 272-S Bldg. AND DACS TRAILER.

Signature:

J. K. Bunch

Date:

Date: 1/14/93

[23] From: Michael F Erhart at WHC140 1/12/93 3:14PM (981 bytes: 23 In)

To: Ronald W Reed at WHC95

Michael F Erhart

Subject: COMPUTER IN EVAPORATER (EQUIPMENT NEEDED LIST

ORIGINAL

----- Message Contents -----

RON, I TALKED WITH LEONARD TRUJILLO OF LANL AND HE SAID IN ORDER TO BE ABLE TO LOOK AT THE DACS STUFF IN THE EVAPORATER, YOU WOULD NEED TO GET THE FOLLOWING:

ONE PC 486-33MHZ (HE SUGGESTS A GATEWAY COMPUTER)

ONE RSS/A SOFTWARE PACKAGE FROM ICONICS

TWO DATAPoint ARCLINK
ARCNET/MODEM BRIDGE

ONE SMC/30E ARCNET NETWORK CARD

ONE ACTIVE STAR HUB (ARCNET)

* ONE DIAL-UP 9600 BAUD PHONE LINE BETWEEN EVAP. AND DACS TRAILER.

IF YOU HAVE ANY QUESTION ABOUT THE EQUIPMENT, HE CAN BE REACHED AT 546-5013

MIKE E
3-4077

Change Request (Continuation Sheet)

CR NO: 59
Addendum.

CRNo. : _____

Sheet of _____

To add a Remote Supervisory Station to the system all stations must be taken off-line to update each network definition file to include the new station name.

Ken Eldridge 9/20/93

Signature:

Date: ____/____/____

To: Bob Williams, LANL
From: Ken Eldridge
Date: May 26, 1994
Subject: Gen-Net network settings to resolve packet corruption.

Gen-Net 3.52 packet corruption solution

Sam Smith and Ross Truitt have completed a network test on 5/18/94 to verify the findings of alarm broadcasts on the network. To create the problem under with Gen-Net 3.52 with alarm broadcast enabled the master runtime station STATION5 was disconnected from the active hub and the corruption was immediate. With alarm broadcasts disabled on STATION5 and all RSS stations set to manual master station recognition the network remained solid and STATION5 did not become corrupt after disconnecting STATION5 from the active hub several times.

This test proves the theory of packet corruption with alarm broadcasts and if alarm broadcasts were disabled with Gen-Net 3.52 the packet corruption should not occur. With alarm broadcasts disabled no alarms will be sent to the RSS stations which will result in no alarm/event summary update on all RSS stations.

Gen-Net 3.64 packet corruption solution

Iconics has made a revision in the Gen-Net code to provide a solution for the alarm broadcast packet corruption. A new adjustable parameter has been added to Gen-Net version 3.64 that allow alarms to be broadcast on the network with continuous alarm broadcast for RSS station recognition. This feature is not available in Gen-Net 3.52, there is only two choices of ENABLE or DISABLE. With Gen-Net 3.64 there are three choices, ENABLE/RSS, ENABLE, and DISABLE. With alarm broadcasts set to ENABLE/RSS the packet corruption problem is not the same as in 3.52 but there is still a problem. Iconics recommends to set alarm broadcasts to ENABLE only and from our tests at the DACSDO and Iconics confidence in the resolution of the problem it appears this will work as a long term solution. This would allow alarm update on RSS stations and disable the continuous alarm broadcast for RSS stations.

Iconics has also recommended to enable data check mode to CRC-16. This will allow all stations on the network to check the data packet for problems and reject packets with problems. It has been noticed during a test with Gen-Net 3.64 and with CRC-16 error checking enabled that some of the network packets fail the test. About 1 transmission per hour yields the error message **NETWORK: Detected Comm Error from STATION5**. This error message is indication that not all data packets are valid and Iconics has been able to replicate the same error message during a network test and are currently resolving the problem.

Gen-Net 3.64 network configuration settings

The following network configuration settings should be modified using the GENCONF utility from the Genesis system directory.

Data check mode in ARCNET NIM SETTINGS should be set to CRC-16 on all RSS stations.

All RSS stations should be set to MANUAL for the MASTER SELECTION MODE.

All RSS stations should have STATION5 as the MASTER NODE NAME and STATION7 as the ALTERNATE MASTER 1 NODE NAME.

All runtime master stations should have ALARM BROADCASTS set to ENABLE under ALARM SYSTEM.

if go over # of HUB spigots can swap w/306E

HYDROGEN MITIGATION TEST PROJECT

ORIGINAL

Change Request

CR No.:

60

Sheet 1 of 1

1.	Hardware/Software/Document Name: DACS SOFTWARE/DACS SCREENS Version/Revision: V.1.7.9		
2.	CR Type: ☒ Development ☐ Correct Problem ☐ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached DACs TAG NCTKSY11 WILL DISPLAY THE CALCULATED RUNNING 2 HOUR AVERAGE BASED ON DACs TAG NITKSY11 (0-100 PPM H ₂ VENT HDR SHMS 2) AND PROVIDE MANUAL ABORT AND ALARM AT 10 PPM 2 HOUR RUNNING AVERAGE. DACSS TAG NITKSY11 WILL DISPLAY CURRENT VALUE OF VENT HEADER HYDROGEN IN 0 - 100 PPM RANGE AND PROVIDE LOW HYDROGEN CONCENTRATION ALARM ANY TIME H ₂ DECREASES TO 15 PPM.		
4.	Detail Description: ☐ See Attached HYDROGEN RUNNING AVERAGE WILL BE ASSIGNED TO DACs TAG NCTKSY11. THIS TAG WILL PROVIDE A CALCULATED 2 HOUR RUNNING AVERAGE AND HYDROGEN CONCENTRATION IN THE VENT HEADER. THIS TAG WILL INITIATE AN ALARM WHEN HYDROGEN DECREASES TO ≤ 10 PPM RESULTING IN THE NEED TO MANUALLY ABORT THE TEST BY DEPRESSING THE E STOP PUSH BUTTON. THE DACs WILL INITIATE A LOW H ₂ CONCENTRATION ALARM ANY TIME THE MEASURED H ₂ CONCENTRATION, AS MEASURED BY DACs TAG NITKSY11, DECREASES TO 15 PPM.		
5.	Originator Priority: ☒ 2 1=Critical 2=Very Important 3=Important 4=Interesting		
6.	Originator: G. J. GAUCK Date: 1/18/93 Phone No.: 3-1779		
7.	Disposition: Priority (See 5.) ☒ 2 Classification: ☐ I ☒ II ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer	Implement: ☒ Yes ☐ Wait for approval ☐ At next mandatory change	☒ [X] DACs Test required
8.	TRG ¹ /CCB ² Approval: <i>James Lang</i> Date: 1/19/93 <i>H. Dancell Holt</i> Date: 1/19/93 <i>H. F. Vargo</i> Date: 1/19/93		
9.	Assigned to: _____ Phone No. _____		
10.	Copy to originator: ☐ After CCB/TRG disposition (Date: ____/____/____) ☐ After change implementation (Date: ____/____/____)		
11.	Change Comments or Hardware/Software/Documents Affected by Change: ☐ See Attached ALARM RESPONSE PROCEDURE ARP-009 DACs INPUT/OUTPUT CHANNEL LIST		
12.	How was change implemented? ☐ ECN _____ ☐ Ltr No. _____ ☐ This CR		
13.	Completed by: <i>[Signature]</i> Date: 1-19-93		
14.	WHC Verify Implementation: <i>[Signature]</i> Date: 2/3/93 Phone No. _____		

HYDROGEN MITIGATION TEST PROJECT

Change Request

ORIGINAL

CR No.: 61

Sheet 1 of 1

1.	Hardware/Software/Document Name: HIGH PUMP DISCHARGE PRESSURE/DACS HISTORY ARCHIVE FILE Version/Revision: V.1.7.9		
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached THE DACS HISTORY ARCHIVE FILE MUST CONTAIN THE CORRECTED PUMP DISCHARGE PRESSURE (DACS TAG PCR12A01) IN ARCHIVE FILE PRSS.PRN.		
4.	Detail Description: ☐ See Attached PUMP DISCHARGE PRESSURE IS READ FROM DACS TAG PIR12A01 FOR MIXER PUMP PRESSURE. TO PROVIDE A MORE CONSTANT PRESSURE, CORRECTED FOR STATIC WASTE PRESSURE AFFECTS, DACS TAG PCR12A01 WILL BE USED. THE CORRECTED DISCHARGE PRESSURE IN THE MIXER PUMP VOLUTE WILL BE DISPLAYED ON THE MIXER PUMP SCREEN. AS THE SAFETY ASSESSMENT STATES, THE EXACT DISCHARGE PRESSURE WILL NOT BE KNOWN BEFORE THE PUMP TESTS ARE COMPLETE. THE HIGH PUMP DISCHARGE PRESSURE ALARM AND ABORT SETPOINTS OF 18 PSID AND 21 PSID CORRELATE TO 1.2 AND 1.4 TIMES THE EXPECTED VALUE AS OUTLINED IN THE SA AND WILL BE ASSIGNED TO DACS TAG PCR12A01, THE CORRECTED PRESSURE, AND NOT PIR12A01, THE UNCORRECTED PRESSURE. LIKEWISE, THE CORRECTED PRESSURE FROM PCR12A01 WILL REPLACE DATA FROM PIR12A01 SENT TO THE DACS HISTORY ARCHIVE FILE * PRSS.PRN.		
5.	Originator Priority: ☒ 2 1=Critical 2=Very Important 3=Important 4=Interesting		
6.	Originator: G. J. GAUCK	Date: 1/18/93	Phone No.: 3-1779
7.	Disposition: Priority (See 5.) ☐ Classification: ☐ I ☐ II 1-26-93 ☒ Approve ☐ Approve/Modify ☐ Reject ☒ Defer	Implement: ☐ Yes ☐ Wait for approval ☐ At next mandatory change	☐ DACs Test required
8.	TRG ¹ /CCB ² Approval: <i>G. J. Gauck</i> <i>T. H. Vargo</i> <i>T. L. Kuntz</i>		Date: 1/26/93 Date: 1/26/93 Date: 1/26/93
9.	Assigned to: _____ Phone No. _____		
10.	Copy to originator: ☐ After CCB/TRG disposition (Date: ____/____/____) ☐ After change implementation (Date: ____/____/____)		
11.	Change Comments or Hardware/Software/Documents Affected by Change: ☐ See Attached DACs I/O CHANNEL LIST ALARM RESPONSE PROCEDURE (ARP-013) Archive the baseline static pressure to archive file Archive WSP in DACS to hold on for duration process, PRSSSE, PRSS.		
12.	No longer necessary. PIR12A01. To send data to DACS + FORWARD TO ARCHIVE. How was change implemented? ☐ ECN ☐ Ltr No. (PIR12A01 = PCR12A01 + PLPENSE) ☐ This CR		
13.	Completed by: <i>T. H. Vargo</i> Date: 1/27/93		
14.	WHC Verify Implementation: <i>Leanne A. Lechelt</i> Date: 2/4/93 Phone No. 373-3296		

HYDROGEN MITIGATION TEST PROJECT

Change Request

ORIGINAL

CR No.: 62

Sheet 1 of 1

Rejected 1-19-93

1.	Hardware/Software/Document Name: DACS SOFTWARE/DACS SCREENS Version/Revision: V.1.7.9		
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement ☒ Other		
3.	Short Task Description/Justification: ☐ See Attached 1. UNITS FOR SCREENS USING DACS TAG PCR12A01 2. PROVIDE EXPLANATION ON HOW PCR12A01 IS CALCULATED AT 10 PPM 2 HOUR RUNNING AVERAGE.		
4.	Detail Description: ☐ See Attached 1. THE UNITS FOR ALL SCREENS USING DACS TAG PCR12A01 JS IN PSID 2. PROVIDE AN EXPLANATION ON HOW THE CALCULATION FOR DACS TAG PCR12A01 IS PERFORMED. (IT IS CURRENTLY UNDERSTOOD THAT THE DELTA P IS MIXER PUMP DISCHARGE PRESSURE DURING PUMP OPERATION (DACS TAG PCR12A01) MINUS STATIC WASTE PRESSURE)		
5.	Originator Priority: ☒ 2 1 = Critical 2 = Very Important 3 = Important 4 = Interesting		
6.	Originator: G. J. GAUCK Date: 1/18/93 Phone No.: 3-1779		
7.	Disposition: Priority (See 5.) ☐ Classification: ☐ I ☐ II ☐ Approve ☐ Approve/Modify ☒ 1-19-93 Reject ☐ Defer Implement: ☐ Yes ☐ Wait for approval ☐ At next mandatory change		☐ DACS Test required
8.	TRG ¹ /CCB ² Approval: _____ _____ _____ Date: ____/____/____ Date: ____/____/____ Date: ____/____/____		
9.	Assigned to: _____ Phone No. _____		
10.	Copy to originator: ☐ After CCB/TRG disposition (Date: ____/____/____) ☐ After change implementation (Date: ____/____/____)		
11.	Change Comments or Hardware/Software/Documents Affected by Change: ☐ See Attached _____ _____ _____ _____ _____		
12.	How was change implemented? ☐ ECN _____ ☐ Ltr No. _____ ☐ This CR		
13.	Completed by: _____ Date: ____/____/____		
14.	WHC Verify Implementation: _____ Date: ____/____/____ Phone No. _____		

HYDROGEN MITIGATION TEST PROJECT

Change Request

ORIGINAL

CR No.: 63

Sheet 1 of 1

1.	Hardware/Software/Document Name: <u>DACS COMPUTERS</u>		
	Version/Revision: _____		
2.	CR Type: () Development (X) Correct Problem () Enhancement () Other		
3.	Short Task Description/Justification: () See Attached <u>COMPUTER STATION LOCKUP ALARM</u>		
4.	Detail Description: () See Attached <u>PROVIDE AN AUDIBLE ALARM THAT WILL INDICATE A COMPUTER STATION HAS LOCKED UP. MAINLY STATION 5 AND 8</u>		
5.	Originator Priority: [1] 1 = Critical 2 = Very Important 3 = Important 4 = Interesting		
6.	Originator: <u>D. C. LARSEN</u> Date: <u>1/16/93</u> Phone No.: <u>3-1842</u>		
7.	Disposition:	Priority (See 5.) [1] Classification: [] [4] (X) Approve () Approve/Modify () Reject <u>to be deferred 2/2/93</u>	Implement: (X) Yes () Wait for approval () At next mandatory change
			() DACS test required
8.	TRG ¹ /CCB ² Approval: <u>C. P. M. Olsen</u> Date: <u>02/02/93</u> <u>James D. Hain</u> Date: <u>2/12/93</u> <u>A. T. Vargo</u> Date: <u>2/12/93</u>		
9.	Assigned to: _____ Phone No. _____		
10.	Copy to originator: () After CCB/TRG disposition (Date: ____/____/____) () After change implementation (Date: ____/____/____)		
11.	Change Comments or Hardware/Software/Documents Affected by Change: () See Attached <u>The network communication typically fails during computer lockup. This was however implemented by detecting loss of network communication on the surviving computer on station 8 & "NO DEFAULT STATION 5 COMMUNICATION" alarm will occur if station 5 lockup. Conversely on station 5 a "STATION 8 communication failure" alarm will occur.</u>		
12.	How was change implemented? () ECN () Ltr No. () This CR		
13.	Completed by: <u>[Signature]</u> Date: <u>2/13/93</u>		
14.	WHC Verify Implementation: <u>[Signature]</u> Date: <u>2/17/93</u> Phone No. <u>6-5662</u>		

HYDROGEN MITIGATION TEST PROJECT

ORIGINAL

Change Request

CR No.:

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Sheet 1 of

5

1.	Hardware/Software/Document Name: <u>DACS SOFTWARE</u>		
	Version/Revision: <u>1.7.9</u>		
2.	CR Type: ☐ Development ☐ Correct Problem ☒ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached <u>MINIMUM INSTRUMENT LIST PRINTOUT.</u> <u>PRINTOUT TO ASSIST IN COMPLETING ATTACHMENT A</u> <u>OF PHASE A TEST PROCEDURE</u>		
4.	Detail Description: ☒ See Attached <u>GENERATE A COMMAND THAT WILL PRINT A LIST</u> <u>OF DACS TAGS AND CURRENT VALUE PER THE ATTACHED,</u> <u>PRINT OUT TO BE IN ATTACHMENT A ORDER. IN FOR</u> <u>REQUIRED IS: <u>PARAMETER</u> <u>TAG #</u> <u>CURRENT VALUE</u></u>		
5.	Originator Priority: <u>[2]</u> 1=Critical 2=Very Important 3=Important 4=Interesting		
6.	Originator: <u>D.C. LARSEN</u> Date: <u>1/16/93</u> Phone No.: <u>3-1847</u>		
7.	Disposition:	Priority (See 5.) <u>[2]</u>	Implement:
	Classification: ☐ ☒ ☐		☒ Yes ☐ Wait for approval
	☒ Approve ☐ Approve/Modify		☐ At next mandatory change
	☐ Reject ☐ Defer		☐ DACS test required
8.	TRG ¹ /CCB ² Approval:		
	<u>Jerome Lang</u>		Date: <u>1/18/93</u>
	<u>H. Danell Helt</u>		Date: <u>1/19/93</u>
	<u>H. Vargo Jr</u>		Date: <u>1/19/93</u>
9.	Assigned to: _____ Phone No. _____		
10.	Copy to originator: ☐ After CCB/TRG disposition (Date: <u>1/1/93</u>) ☐ After change implementation (Date: <u>1/1/93</u>)		
11.	Change Comments or Hardware/Software/Documents Affected by Change: ☐ See Attached <u>OBTAINED FROM REPORT SCREEN (TEST REPORT)</u> <u>WASTE DENSITY: SPI4A04,05 & SPI804,05 DO NOT</u> <u>EXIST AS TAGS (NOTE SPI IS FROM REV 1 OF PHASE</u> <u>A TEST) REV 0 WA OR PER LIST PRINTOUT.</u>		
12.	How was change implemented? ☐ ECN _____ ☐ Ltr No. _____ ☐ This CR		
13.	Completed by: <u>[Signature]</u> Date: <u>2/2/93</u>		
14.	WHC Verify Implementation: <u>[Signature]</u> Date: <u>2/5/93</u> Phone No. <u>3-1779</u>		

"NA" shall be used when any given instrument is not applicable for the test procedure or pump bump per the footnotes below.

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ATTACHMENT A: MINIMUM INSTRUMENTATION CHECKLIST LOG SHEET

page 10 of 12

PARAMETER	REQUIREMENTS	OPERABLE (Y/N/NA)
Waste Density	<p>Minimum 1 out of 4 pairs of instruments shall be operable and connected to DACS:</p> <p>VDTT 14A -- DIR14A04 & TIR14A04 - Level = 209.8" DIR14A05 & TIR14A05 - Level = 257.8"</p> <p>VDTT 1B -- DIR01B04 & TIR01B04 - Level = 212.94" DIR01B05 & TIR01B05 - Level = 260.94"</p>	<p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>
Ambient Air Temperature	<p>One sensor connected to DACS or read manually: WST1 Manual Reading</p>	<p>_____</p> <p>_____</p>
SY Tank Farm Exhaust Stack Flow Rate	<p>One measurement connected to DACS or determined manually: DACs reading Manual Reading</p>	<p>_____</p> <p>_____</p>
In-Tank Video Camera	Shall be operable	<p>_____</p>
Elapsed Time of Pump Operation	Measured by DACS and measured by independent stopwatch	<p>_____</p> <p>_____</p>
Tank Dome Pressure	<p>One sensor connected to DACS: PIR17B04 or PIR11B01</p>	<p>_____</p> <p>_____</p>

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ATTACHMENT A: MINIMUM INSTRUMENTATION CHECKLIST LOG SHEET

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[illegible]

CR 64
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[illegible]

This checklist was completed by _____
(init/date)

The minimum instruments required have been verified operable: _____
(init/date)

COMMENTS:

11:53:49	MAINMENU OUT	TO 1
11:53:51	MANUAL OUT	TO 1
12:10:37	NETWORK: [STATION7]	Now Offline
12:10:39	NETWORK: [STATION6]	Now Offline
:10:55	NETWORK: [STATION5]	Now Offline
:10:55	NETWORK: [STATION7]	Now Online
12:40:35	NETWORK: [STATION5]	Now Online

MINIMUM INSTRUMENTATION REPORT Feb 05/93

VENT FLOW RATE

12:44:19	FTE50001	0.000000	CFM	VENT FLOW RATE
12:44:19	FTE50002	-1000.000000	CFM	VENT FLOW RATE

HYDROGEN CONCENTRATION

12:44:19	NITKSY11	0.000000	PPM	0-100 PPM VENT HDR SHMS2
12:44:19	NIR05A02	0.000000	PPM	0-100 PPM RISER 5A SHMS3
12:44:19	NIR17B02	0.000000	PPM	0-100 PPM RISER 17B GMS1
12:44:19	NITJSY11	0.000000	PPM	0-100 PPM RISER 16A SHMS1
12:44:19	NIR05A03	0.000000	PPM	0-2000 PPM RISER 5A SHMS3
12:44:19	NIR17B03	0.000000	PPM	0-2000 PPM RISER 17A GMS1
12:44:19	NITJSY12	0.000000	PPM	0-2000 PPM RISER 16A SHMS1
12:44:19	NIR05A01	0.000000	%	0-10% RISER 5A SHMS3
12:44:19	NIR17B01	0.000000	%	0-10% RISER 17B GMS1
12:44:19	NITJSY06	0.000000	%	0-10% RISER 16A SHMS1
12:44:19	NITHDR01	0.000000	%	0-10% VENT HDR CHESSEL
12:44:19	NITKSY06	0.000000	%	0-10% VENT HDR SHMS2

PUMP MOTOR

12:44:19	VR232050	0.000000	RPM	PUMP MOTOR SPEED
12:44:19	VR232040	0.000000	AMPS	PUMP MOTOR CURRENT
12:44:19	MIP00001	0	1=Y/0=N	PUMP MOTOR MOISTURE
12:44:19	TIR12A01	32.000000	DEG F	PUMP MOTOR TEMPERATURE
12:44:19	TIR12A02	32.000000	DEG F	PUMP MOTOR TEMPERATURE

PUMP COLUMN

12:44:19	ZIMPE142	0.000000	PSI	PUMP COLUMN GAS PRESSURE
12:44:19	ZIMPE112	0.000000	DEG	PUMP COLUMN ORIENTATION
12:44:19	PIPNO101	0.000000	PSI	PUMP DISCHARGE PRESSURE
12:44:19	PIPNO102	0.000000	PSI	PUMP DISCHARGE PRESSURE
12:44:19	PIPNO201	0.000000	PSI	PUMP DOWNCOMER PRESSURE
12:44:19	PIPNO202	0.000000	PSI	PUMP DOWNCOMER PRESSURE
12:44:19	TIPNO101	32.000000	DEG F	NOZZLE DISCHARGE TEMPERATURE
12:44:19	TIPNO202	32.000000	DEG F	NOZZLE DISCHARGE TEMPERATURE

PUMP COLUMN STRAIN

12:44:19	WIR12A01	-800.000000	uIN/IN	PUMP COLUMN STRAIN 0 DEG
12:44:19	WIR12A02	-800.000000	uIN/IN	PUMP COLUMN STRAIN 90 DEG
12:44:19	WIR12A03	-800.000000	uIN/IN	PUMP COLUMN STRAIN 180 DEG
12:44:19	WIR12A04	-800.000000	uIN/IN	PUMP COLUMN STRAIN 270 DEG

WASTE SPACE TEMPERATURE

12:44:19	TT10001	30.000000	DEG F	VENT HEADER TEMPERATURE
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WASTE LEVEL

12:44:19	LIR13A01	397.000000	IN	WASTE TANK LEVEL RADAR GAUGE
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WASTE DENSITY AND TEMPERATURES

12:44:19	DIR14A04	4.000000	PSID	WASTE DENSITY VDTT 14A 209.8 IN
12:44:19	TIR14A04	80.000000	DEG F	WASTE TEMP VDTT 200-250 IN
12:44:19	DIR14A05	4.000000	PSID	WASTE DENSITY VDTT 14A 257.8 IN
12:44:19	TIR14A05	80.000000	DEG F	WASTE TEMP VDTT 250-300 IN
12:44:19	DIR01B04	4.000000	PSID	WASTE DENSITY VDTT 1B 212.94 IN
12:44:19	TIR1B04	80.000000	DEG F	WASTE TEMP VDTT 200-250 IN
12:44:19	DIR01B05	4.000000	PSID	WASTE DENSITY VDTT 1B 260.94 IN
12:44:19	TIR1B05	80.000000	DEG F	WASTE TEMP VDTT 250-300 IN

MISCELLANEOUS

12:44:19	WST1	-57.529999	DEG F	AMBIENT AIR TEMPERATURE
12:44:19	PIR17B04	-5.000000	PSI	TANK DOME PRESSURE
12:44:19	PIR11B01	-4.000000	PSI	TANK DOME PRESSURE
MIT STRAIN				
12:44:19	WIR17B01	-800.000000	uIN/IN	STRAIN GAUGE 17B-1 AT 0 DEG
12:44:19	WIR17B02	-800.000000	uIN/IN	STRAIN GAUGE 17B-2 AT 90 DEG
LEFT STRAIN				
12:44:19	WIR14A01	-800.000000	uIN/IN	STRAIN GAUGE 14A-1 AT 0 DEG
12:44:20	WIR14A02	-800.000000	uIN/IN	STRAIN GAUGE 14A-2 AT 120 DEG
12:44:20	WIR14A03	-800.000000	uIN/IN	STRAIN GAUGE 14A-3 AT 240 DEG
12:44:20	WIR01B01		uIN/IN	STRAIN GAUGE 1B-1 AT 0 DEG
12:44:20	WIR01B02		uIN/IN	STRAIN GAUGE 1B-2 AT 120 DEG
12:44:20	WIR01B03		uIN/IN	STRAIN GAUGE 1B-3 AT 240 DEG
WASTE TEMPERATURES				
GROUP I				
12:44:20	TIR17B01	80.000000	DEG F	WASTE TEMP MIT 0-50 IN
12:44:20	TIR17B02	80.000000	DEG F	WASTE TEMP MIT 0-50 IN
12:44:20	TIR17B03	80.000000	DEG F	WASTE TEMP MIT 0-50 IN
12:44:20	TIR1B01	80.000000	DEG F	WASTE TEMP VDTT 0-50 IN
12:44:20	TIR14A01	80.000000	DEG F	WASTE TEMP VDTT 0-50 IN
GROUP II				
12:44:20	TIR17B04	80.000000	DEG F	WASTE TEMP MIT 50-100 IN
12:44:20	TIR17B05	80.000000	DEG F	WASTE TEMP MIT 50-100 IN
12:44:20	TIR17B06	80.000000	DEG F	WASTE TEMP MIT 50-100 IN
GROUP III				
12:44:20	TIR17B07	80.000000	DEG F	WASTE TEMP MIT 100-150 IN
12:44:20	TIR17B08	80.000000	DEG F	WASTE TEMP MIT 100-150 IN
12:44:20	TIR17B09	80.000000	DEG F	WASTE TEMP MIT 100-150 IN
12:44:20	TIR1B02	80.000000	DEG F	WASTE TEMP VDTT 100-150 IN
12:44:20	TIR14A02	80.000000	DEG F	WASTE TEMP VDTT 100-150 IN
GROUP IV				
12:44:20	TIR17B10	80.000000	DEG F	WASTE TEMP MIT 150-200 IN
12:44:20	TIR17B11	80.000000	DEG F	WASTE TEMP MIT 150-200 IN
12:44:20	TIR1B03	80.000000	DEG F	WASTE TEMP VDTT 150-200 IN
12:44:20	TIR14A03	80.000000	DEG F	WASTE TEMP VDTT 150-200 IN
GROUP V				
12:44:20	TIR17B12	80.000000	DEG F	WASTE TEMP MIT 200-250 IN
12:44:20	TIR17B13	80.000000	DEG F	WASTE TEMP MIT 200-250 IN
12:44:20	TIR17B14	80.000000	DEG F	WASTE TEMP MIT 200-250 IN
12:44:20	TIR17B15	80.000000	DEG F	WASTE TEMP MIT 200-250 IN
12:44:20	TIR1B04	80.000000	DEG F	WASTE TEMP VDTT 200-250 IN
12:44:20	TIR14A04	80.000000	DEG F	WASTE TEMP VDTT 200-250 IN
GROUP VI				
12:44:20	TIR17B16	80.000000	DEG F	WASTE TEMP MIT 250-300 IN
12:44:20	TIR17B17	80.000000	DEG F	WASTE TEMP MIT 250-300 IN
12:44:20	TIR1B05	80.000000	DEG F	WASTE TEMP VDTT 250-300 IN
12:44:20	TIR14A05	80.000000	DEG F	WASTE TEMP VDTT 250-300 IN
GROUP VII				
12:44:21	TIR17B18	80.000000	DEG F	WASTE TEMP MIT 300-350 IN
12:44:21	TIR17B19	80.000000	DEG F	WASTE TEMP MIT 300-350 IN
12:44:21	TIR1B06	80.000000	DEG F	WASTE TEMP VDTT 300-350 IN
12:44:21	TIR14A06	80.000000	DEG F	WASTE TEMP VDTT 300-350 IN
GROUP VIII				
12:44:21	TIR17B20	80.000000	DEG F	WASTE TEMP MIT 350-402 IN
12:44:21	TIR17B21	80.000000	DEG F	WASTE TEMP MIT 350-402 IN
12:44:21	TIR17B22	80.000000	DEG F	WASTE TEMP MIT 350-402 IN
12:44:21	TIR1B07	80.000000	DEG F	WASTE TEMP VDTT 350-402 IN
12:44:21	TIR14A07	80.000000	DEG F	WASTE TEMP VDTT 350-402 IN

HYDROGEN MITIGATION TEST PROJECT

Change Request

CR No.: 65

Sheet 1 of 1

1.	Hardware/Software/Document Name: <u>DACS TRAILER</u>		
	Version/Revision: <u>N/A</u>		
2.	CR Type: ☐ Development ☐ Correct Problem ☒ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached <u>COPY MACHINE IN TRAILER, NEED TO BE ABLE TO FAX INFO FROM LOG BOOK TO WAR ROOM. MAKE COPIES OF OTHER DOCUMENTS</u>		
4.	Detail Description: ☐ See Attached <u>PROVIDE A SMALL COPY MACHINE LOCATED IN DACS TRAILER.</u>		
5.	Originator Priority: <u>[2]</u> 1 = Critical 2 = Very Important 3 = Important 4 = Interesting		
6.	Originator: <u>G. GAUCK</u> Date: <u>1/16/93</u> Phone No.: <u>3-1779</u>		
7.	Disposition:	Priority (See 5.) <u>[2]</u>	Implement:
		Classification: ☐ I ☒ II	☒ Yes ☐ Wait for approval
		☒ Approve ☐ Approve/Modify	☐ At next mandatory change
		☐ Reject ☒ Defer	☐ DACS test required
8.	TRG ¹ /CCB ² Approval: <u>1. [Signature]</u> Date: <u>2/9/93</u>		
	<u>G. P. M. [Signature]</u> Date: <u>2/9/93</u>		
	<u>H. F. [Signature]</u> Date: <u>2/9/93</u>		
9.	Assigned to: <u>G. G. [Signature]</u> Phone No. <u>3-1779</u>		
10.	Copy to originator: ☐ After CCB/TRG disposition (Date: <u>1/1/93</u>) ☐ After change implementation (Date: <u>1/1/93</u>)		
11.	Change Comments or Hardware/Software/Documents Affected by Change: ☐ See Attached		
12.	How was change implemented? ☐ ECN ☐ Ltr No. ☐ This CR		
13.	Completed by: <u>[Signature]</u> Date: <u>3/23/93</u>		
14.	WHC Verify Implementation: <u>[Signature]</u> Date: <u>3/23/93</u> Phone No. <u></u>		

HYDROGEN MITIGATION TEST PROJECT

ORIGINAL

Change Request

CR No.: 66

Sheet 1 of 1

1.	Hardware/Software/Document Name: <u>DACS SOFTWARE</u>		
	Version/Revision: _____		
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached <u>DACS TAG PITNO110 needs to be archived.</u>		
4.	Detail Description: ☐ See Attached <u>Add DACS Tag PITNO110 to the history file "MISC".</u>		
5.	Originator Priority: ☐ 1 = Critical 2 = Very Important 3 = Important 4 = Interesting		
6.	Originator: <u>R.E. Mendoza</u> Date: <u>1/18/93</u> Phone No.: <u>3-2007</u>		
7.	Disposition: Priority (See 5.) ☐ 1 Classification: ☐ 1 ☒ 2 ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer	Implement: ☒ Yes ☐ Wait for approval ☐ At next mandatory change	☐ DACS test required
8.	TRG ¹ /CCB ² Approval: <u>Deane Lavey</u> Date: <u>1/19/93</u> <u>H. Danell Holt</u> Date: <u>1/19/93</u> <u>HF Vargo</u> Date: <u>1/19/93</u>		
9.	Assigned to: _____ Phone No. _____		
10.	Copy to originator: ☐ After CCB/TRG disposition (Date: ____/____/____) ☐ After change implementation (Date: ____/____/____)		
11.	Change Comments or Hardware/Software/Documents Affected by Change: ☐ See Attached		
12.	How was change implemented? ☐ ECN _____ ☐ Ltr No. _____ ☐ This CR		
13.	Completed by: <u>[Signature]</u> Date: <u>2/18/93</u>		
14.	WHC Verify Implementation: <u>[Signature]</u> Date: <u>2/4/93</u> Phone No. <u>373-3296</u>		

HYDROGEN MITIGATION TEST PROJECT

Change Request

ORIGINAL

CR No.:

67

Sheet 1 of 2

1.	Hardware/Software/Document Name: <u>DACS SCREENS</u> Version/Revision: <u>V.1.7.9</u>	2.	CR Type: ☒ Development ☐ Correct Problem ☐ Enhancement ☐ Other	3.	Short Task Description/Justification: ☐ See Attached <u>X-AXIS TIME INTERVAL FOR VARIOUS SCREENS.</u> <u>TIME INTERVAL IS NOT DEFINED</u>	4.	Detail Description: ☒ See Attached <u>PROVIDE A 1 MINUTE RUNNING WINDOW ON THE</u> <u>X-AXIS FOR THE FOLLOWING SCREENS:</u>	5.	Originator Priority: <u>[2]</u> 1 = Critical 2 = Very Important 3 = Important 4 = Interesting	6.	Originator: <u>G. GAUCK</u> Date: <u>1/16/93</u> Phone No.: <u>3-1779</u>	7.	Disposition: ☒ Priority (See 5.) <u>[2]</u> ☒ Classification: ☐ ☒ ☐ ☐ ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer ☐ Implement: ☒ Yes ☐ No ☐ Wait for approval ☐ At next mandatory change ☐ DACS test required	8.	TRG ¹ /CCB ² Approval: <u>James Long</u> <u>ATF MacD</u> Date: <u>1/19/93</u> Date: <u>1/19/93</u> Date: <u>1/19/93</u>	9.	Assigned to: <u>Phone No.</u>	10.	Copy to originator: ☐ After CCB/TRG disposition (Date: <u>1/19/93</u>) ☐ After change implementation (Date: <u>1/19/93</u>)	11.	Change Comments or Hardware/Software/Documents Affected by Change: ☐ See Attached <u>Changed the HyperScan display fields to 2-1/2" for readability</u> <u>with G. Gauck 1/25/93. (Initials of ATFE-H, ATFE-H, ATFE-H)</u> <u>HIGHEST ATTAINING ATTITUDE (ATFE-H) The run time screens are</u> <u>90 seconds. Available periods are based on screen update rate. At the same time</u> <u>update is usually used, limited period was not available.</u> How was change implemented? ☐ ECU ☐ Ltr No. ☐ This CR	12.	Completed by: <u>1/1/93</u> Date: <u>1/30/93</u>	13.	WHC Verity Implementation: <u>D. L. Kavan</u> Date: <u>2/1/93</u> Phone No.: <u>3-1547</u>
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1 = CLASS I 2 = CLASS II

Form #: HMTF-CR-1 (1-14-93)

HYDROGEN MITIGATION TEST PROJECT

Change Request (Continuation Sheet)

ORIGINAL

CR No.: 67

Sheet 2 of 2

Item No. [13] [14] [11]

X HTSELHH

X RTTSELWH (No)

X GRMPE (No)

X HTSEL1B

X RTTSELHH (No)

X GRMPP (No)

X HTSELWH

X RTTSELHH (No)

X HTPRESS

X RTTDP (No)

X HTSEL14A

X RTTOT (No)

X HTSEL17B

X RTTVH (No)

X HTSEA17B

X RTTSP (No)

X HTSEB17B

X RTTVIB (No)

X RTTSE174 (No)

X RTTSE178 (No)

X RTTST12A (No)

X RTTSLG (Background noise) (No)

X RTTFLVEL (no T. or V. or S) (No)

Signature: *Lang fa G. GAVCK*

Date: 1/16/83

Form #: HMTP-CRCS-2 (1-14-83)

WHC-SD-WM-CMD-001 Rev 0
Page 102

HYDROGEN MITIGATION TEST PROJECT

Change Request

CR No.: 68

ORIGINAL

Sheet 1 of 1

1.	Hardware/Software/Document Name: <u>DACS ALARM EVENT SUMMARY SCREEN</u> Version/Revision: <u>V.1.2.9</u>	2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement ☐ Other	3.	Short Task Description/Justification: ☐ See Attached Failure of alarms to stay on summary screen if both acknowledged and dropped out of alarm range.	4.	Detail Description: ☐ See Attached When an alarm comes in, it will completely clear from the summary screen when it is both acknowledged and out of alarm range. This may leave the test engineer with no quick way to learn what the alarm was. Alarms and alerts should remain on the summary screen even when acknowledged and out of alarm range. It should change color only!	5.	Originator Priority: [2] 1 = Critical 2 = Very Important 3 = Important 4 = Interesting	6.	Originator: <u>C. P. Mott</u> Date: <u>01/15/93</u> Phone No.: <u>C. P. Mott</u>	7.	Disposition: ☐ Priority (See 5.) ☐ Implement: Classification: ☐ I ☐ II ☐ III ☐ Yes ☐ Wait for approval ☐ At next mandatory change ☐ DACS test required	8.	TRG ¹ /CCB ² Approval: Date: <u> </u> / <u> </u> / <u> </u> Date: <u> </u> / <u> </u> / <u> </u> Date: <u> </u> / <u> </u> / <u> </u>	9.	Assigned to: <u> </u> Phone No. <u> </u>	10.	Copy to originator: ☐ After CCB/TRG disposition (Date: <u> </u> / <u> </u> / <u> </u>) ☐ After change implementation (Date: <u> </u> / <u> </u> / <u> </u>)	11.	Change Comments or Hardware/Software/Documents Affected by Change: ☐ See Attached <u>This is a feature of the Genesis software and can't be changed. The alarms can be examined on the line print-out.</u>	12.	How was change implemented? ☐ ECN ☐ Ltr No. ☐ This CR	13.	Completed by: <u> </u> Date: <u> </u> / <u> </u> / <u> </u>	14.	WHC Verify <u> </u> Incorporation: <u> </u> Date: <u> </u> / <u> </u> / <u> </u> Phone No. <u> </u>
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Form #: HMTF-CR-1A (11-14-93)

1 = CLASS I 2 = CLASS II

1.	Hardware/Software/Document Name: <u>DACS SCREEN</u> Version/Revision: <u>✓ 1.2.9</u>	2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement ☐ Other	3.	Short Task Description/Justification: ☐ See Attached Eliminate blue limit lines on Directional Motor screen.	4.	Detail Description: ☐ See Attached Eliminate the blue limit lines on the compass rose on the right hand side of the Directional Motor control screen. These lines are not oriented correctly and repeat data that is tabularly listed on the left side of the screen anyway. Eliminate the confusing lines. DELETE CORRESPONDING NUMBERS.	5.	Originator Priority: [4] 1 = Critical 2 = Very Important 3 = Important 4 = Interesting	6.	Originator: <u>CCM</u> Date: <u>01/15/93</u> Phone No.: <u>3-4254</u>	7.	Disposition: ☐ Priority (See 5.) [4] Implement: ☒ Yes ☐ No ☐ Wait for approval ☐ At next mandatory change ☐ DACS test required	8.	TRG ¹ /CCB ² Approval: <u>D. Carey</u> <u>A. Jones</u> <u>G.F. Vargo</u> Date: <u>1/19/93</u> Date: <u>1/19/93</u> Date: <u>1/19/93</u>	9.	Assigned to: _____ Phone No. _____	10.	Copy to originator: ☐ After CCB/TRG disposition (Date: _____) ☐ After change implementation (Date: _____)	11.	Change Comments or Hardware/Software/Documents Affected by Change: ☐ See Attached	12.	How was change implemented? ☐ ECN ☐ Ltr No. ☐ This CR	13.	Completed by: <u>CCM</u> Date: <u>1/19/93</u>	14.	WMC Verify Incorporation: <u>CCM</u> Date: <u>2/4/93</u> Phone No. <u>3-1229</u>
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HYDROGEN MITIGATION TEST PROJECT
Change Request (Continuation Sheet)

CR No.: 69

Sheet 2 of 2

Item No. [] 3 [] 4 [] 11

Signature: _____

Date: ____ / ____ / ____

Form #: HMTP-CRCS-2 (1-14-93)

HYDROGEN MITIGATION TEST PROJECT

Change Request

CR No.: 70Sheet 1 of 1

1.	Hardware/Software/Document Name: <u>DACS HYDROGEN SCREEN</u> Version/Revision: <u>1.2.9</u>		
2.	CR Type: ☐ Development ☐ Correct Problem ☒ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached <u>Relabel riser 7A on HYDROGEN screen.</u>		
4.	Detail Description: ☐ See Attached <u>For clarity relabel riser "7A" as "Vent Header" on the HYDROGEN screen.</u>		
5.	Originator Priority: <u>[4]</u> 1=Critical 2=Very Important 3=Important 4=Interesting		
6.	Originator: <u>C. M. M. M. M.</u> Date: <u>01/15/93</u> Phone No.: <u>3-4254</u>		
7.	Disposition: Priority (See 5.) <u>[4]</u> Classification: ☐ ☒ ☐ ☐ ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer	Implement: ☒ Yes ☐ Wait for approval ☐ At next mandatory change	☐ DACS test required
8.	TRG ¹ /CCB ² Approval: <u>J. Carey</u> Date: <u>1/19/93</u> <u>H. D. Snell, Helt</u> Date: <u>1/19/93</u> <u>H. F. Vargo</u> Date: <u>1/19/93</u>		
9.	Assigned to: _____ Phone No. _____		
10.	Copy to originator: ☐ After CCB/TRG disposition (Date: ____/____/____) ☐ After change implementation (Date: ____/____/____)		
11.	Change Comments or Hardware/Software/Documents Affected by Change: ☐ See Attached _____ _____ _____ _____		
12.	How was change implemented? ☐ ECN _____ ☐ Ltr No. _____ ☐ This CR		
13.	Completed by: <u>J. M. M.</u> Date: <u>1/20/93</u>		
14.	WHC Verify Incorporation: <u>J. M. M.</u> Date: <u>2/4/93</u> Phone No. <u>373-1779</u>		

HYDROGEN MITIGATION TEST PROJECT

Change Request

CR No.: 71Sheet 1 of 1

1.	Hardware/Software/Document Name: <u>VDTT SCREENS</u> Version/Revision: <u>1.2.9</u>		
2.	CR Type: ☐ Development ☐ Correct Problem ☒ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached <u>Move specific gravity readouts on VDTT icon screens.</u> <u>DOE REQUEST</u>		
4.	Detail Description: ☐ See Attached <u>On DACS screens ITR1B and ITR14A the specific gravity readings are on the opposite side of the VDTT icon from their associated pressure + temperature. This is confusing and can lead to reading the wrong level of specific gravity. Move all specific gravity reading to the same side of the VDTT icon as its associated pressure + temperature.</u>		
5.	Originator Priority: <u>[3]</u> 1=Critical 2=Very Important 3=Important 4=Interesting		
6.	Originator: <u>C.P. M. Itani</u> Date: <u>01/15/93</u> Phone No.: <u>3-4254</u>		
7.	Disposition: Priority (See 5.) ☐ Classification: ☐ I ☐ II ☐ III ☒ Approve ☐ Approve/Modify ☒ Reject ☐ Defer	Implement: ☐ Yes ☐ Wait for approval ☐ At next mandatory change	☐ DACS test required
8.	TRG ¹ /CCB ² Approval: <u>[Signature]</u> Date: <u>1/26/93</u> <u>[Signature]</u> Date: <u>1/26/93</u> <u>[Signature]</u> Date: <u>1/26/93</u>		
9.	Assigned to: <u>Test Martin / Greg Stokes.</u> Phone No. _____		
10.	Copy to originator: ☐ After CCB/TRG disposition (Date: <u>1/1/93</u>) ☐ After change implementation (Date: <u>1/1/93</u>)		
11.	Change Comments or Hardware/Software/Documents Affected by Change: ☐ See Attached <u>Removed from ITR1B and ITR14A</u> <u>to its own screen on DIAGNOSTIC.</u>		
12.	How was change implemented? ☐ ECN _____ ☐ Ltr No. _____ ☐ This CR		
13.	Completed by: <u>[Signature]</u> Date: <u>1/27/93</u>		
14.	WHC Verify Incorporation: <u>[Signature]</u> Date: <u>2/4/93</u> Phone No. <u>373-1779</u>		

HYDROGEN MITIGATION TEST PROJECT

Change Request

ORIGINAL

CR No.: 72

Sheet 1 of 2

1.	Hardware/Software/Document Name: DACS Version/Revision: _____		
2.	CR Type: ☒ Development ☐ Correct Problem ☐ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached AS REQUIRED BY THE SA, DEVELOP ALARM AND ABORT REQUIREMENTS FOR H2 RELEASE DURING PUMP INSTALLATION.		
4.	Detail Description: ☐ See Attached ADD AN ALARM AND MANUAL ABORT DISPLAY TO THE DACS THAT DISPLAYS RATE OF H2 RELEASE DURING PUMP INSTALLATION. ALARM AT 63 PPM/MIN (75% OF ABORT LIMIT) MANUAL ABORT (STOP PUMP INSTALLATION) AT 83 PPM/MIN. THE PPM SENSOR INPUTS SHOULD UTILIZE: SHMS J, SHMS K, AND GMS-1. AN AOP SHOULD BE GENERATED THAT PROVIDES RESPONSE REQUIREMENTS FOR THIS ITEM. IT SHOULD INCLUDE: 1. NOTIFY INSTALLATION CREW SUPERVISOR AFTER RECEIPT OF AN ALARM AND CONTINUE TO MONITOR H2 RELEASE. 2. NOTIFY INSTALLATION CREW SUPERVISOR THAT AN ABORT CONDITION HAS BEEN REACHED AND TO STOP PUMP INSTALLATION. CONTINUE TO MONITOR H2 RELEASE. 3. NOTIFY INSTALLATION CREW SUPERVISOR THAT THE RATE HAS FALLEN TO LESS THAN 50 PPM/MIN AND REMAINED THERE FOR AT LEAST 5 MINUTES THEREFORE PUMP INSTALLATION CAN CONTINUE. CONTINUE MONITORING H2 RELEASE.		
5.	Originator Priority: ☒ 1 = Critical 2 = Very Important 3 = Important 4 = Interesting		
6.	Originator: G. F. VARGO Date: 1/19/93 Phone No.: (509)376-5387		
7.	Disposition: Priority (See 5.) ☒ 1 Classification: ☐ I ☒ II ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer Implement: ☒ Yes ☐ Wait for approval ☐ At next mandatory change		☒ [X] DACs test required
8.	TRG ¹ /CCB ² Approval: <i>J. Carver</i> Date: 1/19/93 <i>G.F. Vargo</i> Date: 1/19/93 <i>H. Donnell Holt</i> Date: 1/19/93		
9.	Assigned to: _____ Phone No. _____		
10.	Copy to originator: ☐ After CCB/TRG disposition (Date: ____/____/____) ☐ After change implementation (Date: ____/____/____)		
11.	Change Comments or Hardware/Software/Documents Affected by Change: ☒ See Attached AOP See Attached for more specific implementation I/O CHANNEL LIST request. DACs SOFTWARE NRR17001 is DACs for 5 minute sliding average DACs SCREENS if Rate of Change. Ref to I/O list		
12.	How was change implemented? ☐ ECN _____ ☐ Ltr No. _____ ☐ This CR		
13.	Completed by: <i>[Signature]</i> Date: 2/17/93		
14.	WHC Verify Implementation: <i>[Signature]</i> Date: 2/18/93 Phone No. _____		

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

ORIGINAL

Mr. George Vargo
Westinghouse, Hanford Company
Hydrogen Mitigation Test Team: Principal Engineer
Richland, WA.

January 21, 1993

Dear George,

During our change control review group meeting on January 12, 1993, we discussed a requirement to supply test engineers with Hydrogen data in the form of rate-of-increase over time. It was suggested that one possibility would be to display a real-time trend of the Hydrogen, and overlay it with a slope templet that would alert the engineers of an impending high rate of change. We also discussed the possibility of using the Genesis Rate Alarm function, embedded within an alarm block, that could be set up for variable rates of change as well as time.

I have discussed these options with the software support team and my recommendation is to use the Genesis Rate Alarm function block to satisfy this requirement. This solution will be the quickest to implement, and it will not require the continuous attention of the test engineers to determine a fault.

If you have any questions, or wish to discuss this matter further, please call. Otherwise, I will require information necessary to implement this strategy, such as what value rate-of-change over what period we will need to program. Also, we will need the tag names of those channels to implement.

Sincerely,

L. T. Trujillo
Los Alamos National Laboratory
DACS: Project Engineer

ORIGINAL

CR 72
2 of 2

DON'T SAY IT --- Write It!

DATE: 2-17-93

TO: T. Laney

R1-51

FROM: TC Schneider

L4-71

Telephone: 376-9032

cc: KL Bennett L7-04
GJ Gauck R1-51
JA Lechelt R2-11
GF Vargo Jr. H5-09

SUBJECT: DACS SCREEN DEVELOPMENT AND HYDROGEN MONITOR RANGE CHANGE

In order to support the installation of the mixer pump into the SY-101 tank waste, a new DACS screen will need to be developed to display vapor space hydrogen gas rate of change. This screen will allow the Test Engineers to quickly determine if the hydrogen gas release rate of change has exceeded the limit of 83 ppm/5 minutes. It was initially assumed that this measurement would be obtained from the International Sensor Technology (IST) MOS sensors in the Standard Hydrogen Monitoring System (SHMS) cabinets. The IST sensors have been shown to be ineffective due to interfering gases, which will require that the measurement be made using the Whittaker electro-chemical hydrogen monitoring sensor cell and signal conditioning located in the GMS-1.

The following listed items will identify changes to the DACS software and displays that will be required to support the measurement described above.

1. Rescale the Whittaker hydrogen monitor, DACS tag NIR17B01, FROM 0-10.0% TO 0-1.000%.
2. Develop a System Runtime Trend display for NIR17B01, as a sliding average window of 5 minutes. (This will provide an average rate of change over 5 minutes, updated with every data sample received at a nominal 12 second rate. The System Trend will allow the averaging data to continue even if the screen display is changed.)
3. Provide the current actual reading for NIR17B01 on the same screen that displays the Average Rate of Change data. (If possible it would be good to provide these displays with the other hydrogen monitor displays.)
4. Provide a displayed operator alarm derived from the Average Rate of Change signal at 83 ppm/5 minutes.

Alarm
This new screen data, alarm display, and sensor rescaling should be implemented on an "Emergency" basis to support the mitigation pump installation currently scheduled for 2-20-93.

*OK to implement 2/17/93
H.F. Vargo*

HYDROGEN MITIGATION TEST PROJECT

Change Request

CR No.: 73Sheet 1 of 3*Rejected 4-6-93*

1.	Hardware/Software/Document Name: <u>DACS Screens</u> Version/Revision: _____		
2.	CR Type: ☒ Development ☐ Correct Problem ☐ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached Prepare 2750E Building (TRG War Room) DACS screens to display data as specified in Section 2.3 of the Phase A Test Plan (WHC-SD-WM-TP-140, Rev. 2). See Attachment 1.		
4.	Detail Description: ☒ See Attached <i>NO ACTION REQUIRED</i>		
5.	Originator Priority: ☐ 1 = Critical 2 = Very Important 3 = Important 4 = Interesting		
6.	Originator: <u>T. M. Burke</u> <i>T.M. Burke</i> Date: <u>01, 18, 93</u> Phone No.: <u>376-6668</u>		
7.	Disposition: Priority (See 5.) ☐ Classification: ☐ I ☐ II ☐ Approve ☐ Approve/Modify ☒ Reject <i>4-6-93</i> <i>TL</i> <i>2-16-93</i> ☐ Implement: ☐ Yes ☐ Wait for approval ☐ At next mandatory change	☐ DACS test required	
8.	TRG ¹ /CCB ² Approval: _____ _____ _____ Date: ____/____/____ _____ _____ Date: ____/____/____ _____ _____ Date: ____/____/____		
9.	Assigned to: _____ Phone No. _____		
10.	Copy to originator: ☐ After CCB/TRG disposition (Date: ____/____/____) ☐ After change implementation (Date: ____/____/____)		
11.	Change Comments or Hardware/Software/Documents Affected by Change: ☐ See Attached _____ _____ _____ _____ _____		
12.	How was change implemented? ☐ ECN _____ ☐ Ltr No. _____ ☐ This CR		
13.	Completed by: _____ Date: ____/____/____		
14.	WHC Verify Implementation: _____ Date: ____/____/____ Phone No. _____		

- 2.3 INITIAL DATA PACKAGE FOR TRG REVIEW ("IMMEDIATELY" FOLLOWING EACH TEST POINT)

1. Pump operating parameters vs time (DACS HISTORY trend screens not currently defined)
 - o Speed (RPM) (VR232050)
 - o Flow in each discharge line (GPM) (FIPNO101, FIPNO102, FIPNO201, FIPNO202)
 - o Discharge pressures in each discharge line and at pump volute (PSI) (PIPNO101, PIPNO102, PIPNO201, PIPNO202, PITNO111, PITNO110, PIR12A01)
 - o Waste temperature in each discharge line (°C) (TIPNO101, TIPNO102, TIPNO201, TIPNO202)

2. Hydrogen concentration vs time at all four measured locations (risers 12A, 16A, and 17B exhaust). DACS HISTORY trends currently defined:
 - o 0-100 ppm MOS (NIR05A02, NITKSY11, NIR16A02, NIR17B02) (DACS screen H2SELWH)
 - o 0-2000 ppm (MOS (NIR05A03, NITKSY12, NIR16A03, NIR17B03) DACS screen H2SELWH)
 - o Whittaker % (NIR05A01, NITKSY06, NIR16A01, NIR17B01) DACS screen HTSELHH)
3. Tank level (radar) vs time (LIR13A01, DACS screen HTSURFLV). Tank level (FIC gauge) vs time (LIRFIC01)

4. Waste temperature (°F) vs time
 - o MIT (riser 17B): (TIR17B01 through TIR17B22, DACS screens HTSEL17B, HSEA17B and HTSEB17B)
 - o VDTT in riser 1B: (TIR1B01 through TIR1B07, DACS screen HTSEL1B)
 - o VDTT in riser 14A: (TIR14A01 through TIR14A07, DACS screen HTSEL14A)
5. Temperature profiles at all three measured locations (risers 17B, 1B and 14A) just prior to and approximately 10 minutes after pump operation (DACs screens TPR1B, TPR14A and TPR17B)
6. Pressure (psid) vs time for pressure sensors on each VDTT (risers 1B and 14A) (DACs HISTORY trend screens not currently defined)
 - o Riser 1B: (DIR01B01 through DIR01B07)
 - o Riser 14A: (DIR14A01 through DIR14A07)
7. Calculated density (specific gravity) profile from both VDTTs (risers 1B and 14A) just prior to and approximately 10 minutes after pump operation (DACs screen not currently defined)
8. Tank dome pressure (in. W.G.) vs time (PIR11B01 and PIR17B04) (DACs HISTORY trend screens not currently defined)
9. Tank ventilation flow rate vs time (FTE50001 and FTE50002) (DACs HISTORY trend screens not currently defined)
10. In-tank video of response to pump operation.

2.4 PRECAUTIONS AND LIMITATIONS

2.4.1 Pump Operation Duration Limit

The total duration of pump operation (excluding daily pump bumps) shall not exceed the cumulative time defined in steps A1-A9 without TRG approval.

2.4.2 Minimum Pump Operation to Prevent Plugging

After pump insertion into the waste, the pump shall be operated for up to eight seconds duration (pump-bump) once per day to flush the pump discharge piping and nozzles with approximately 100 gallons of convective liquid to prevent a possible plugging condition. The following justification is provided for this limitation.

Assuming the pump hardware is lowered into the tank after some period following the tank rollover, the non-convective zone of sludge will be approximately 16-18 ft in depth, with 14-16 ft convective liquid above. Lowering the pump at a rate which allows trapped gas to be relieved through the vent located in the vicinity of the motor housing, results in convective liquid density (sp. gr. - 1.45) containment in all interior passages including downcomer piping extending to the flow nozzles. Since non-convective waste

HYDROGEN MITIGATION TEST PROJECT

Change Request

ORIGINAL

CR No.:

74
73 TL

Sheet 1 of 1

1.	Hardware/Software/Document Name: <u>Modsoft templates for down-loaded about limits and about coil status</u>		
2.	Version/Revision: _____		
3.	CR Type: ☐ Development ☐ Correct Problem ☒ Enhancement ☐ Other		
4.	Short Task Description/Justification: ☐ See Attached		
5.	<ul style="list-style-type: none"> • create template for about limits down-loaded from Genesis to the PLC for Modsoft • create spreadsheet with tag, Modicon reg for about limit, desc, eng low extent, eng high extent, Modicon about limit, is counts • create template for about coil status (enabled, disabled) in PLC 		
6.	Detail Description: ☐ See Attached		
7.	<ul style="list-style-type: none"> • create procedure to pull up templates from Modsoft on Station! and detail how to enable all abouts 		
8.	Originator Priority: [2] 1 = Critical 2 = Very Important 3 = Important 4 = Interesting		
9.	Originator: <u>H. Denell Holt</u> Date: <u>1/19/93</u> Phone No. <u>(505) 667-2661</u>		
10.	Disposition:	Priority (See 5.) [2]	Implement:
11.		Classification: [] [4]	☒ Yes ☐ Wait for approval
12.		☒ Approve ☐ Approve/Modify	☐ At next mandatory change
13.		☐ Reject ☐ Defer	☐ DACS test required
14.	TRG ¹ /CCB ² Approval:		
15.	<u>J. Carey</u>		Date: <u>1/19/93</u>
16.	<u>H. P. Vahson</u>		Date: <u>1/19/93</u>
17.	<u>H. Denell Holt</u>		Date: <u>1/19/93</u>
18.	Assigned to: _____ Phone No. _____		
19.	Copy to originator: ☐ After CCB/TRG disposition (Date: ____/____/____) ☐ After change implementation (Date: ____/____/____)		
20.	Change Comments or Hardware/Software/Documents Affected by Change: ☐ See Attached <u>Modsoft template</u>		
21.	<u>2 called REPORTING. spreadsheet was provided by previous work. Report templates are REPORT01 and REPORT02. Currently these are not used during commissioning period.</u>		
22.	How was change implemented? ☐ ECN _____ ☐ Ltr No. _____ ☐ This CR		
23.	Completed by: <u>Timothy J. Gosciniak 2/17/93</u> Date: <u>2/17/93</u>		
24.	WHC Verify Implementation: <u>H. Kuehl</u> Date: <u>2/17/93</u> Phone No. <u>6-5662</u>		

Change Request

CR No.: 75Sheet 1 of 1

1.	Hardware/Software/Document Name: <u>Genesis "Test" Displays</u> Version/Revision: _____		
2.	CR Type: ☒ Development ☐ Correct Problem ☐ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached <u>Provide Genesis configurator password to Tank Waste Technology personnel to develop Screens for "War Room."</u>		
4.	Detail Description: ☒ See Attached <u>Sample screen</u> <u>Tank Waste Technology Applications (TWTA) personnel desire screens that are not now available. TWTA can develop screens, but cannot make dynamic connections. A configurator password is required to do this.</u>		
5.	Originator Priority: <u>[3]</u> 1 = Critical 2 = Very Important 3 = Important 4 = Interesting		
6.	Originator: <u>Jeannette Lechelt</u> Date: <u>1/19/93</u> Phone No.: <u>(509) 373-3296</u>		
7.	Disposition: Priority (See 5.) <u>[3]</u> Classification: ☐ ☒ <u>4</u> ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer	Implement: ☒ Yes ☐ Wait for approval ☐ At next mandatory change	☐ DACS test required
8.	TRG ¹ /CCB ² Approval: <u>J. Conner</u> Date: <u>1/19/93</u> <u>H. Vanzo</u> Date: <u>1/19/93</u> <u>N. Dandell Holt</u> Date: <u>1/19/93</u>		
9.	Assigned to: _____ Phone No. _____		
10.	Copy to originator: ☐ After CCB/TRG disposition (Date: ____/____/____) ☐ After change implementation (Date: ____/____/____)		
11.	Change Comments or Hardware/Software/Documents Affected by Change: ☐ See Attached _____ _____ _____ _____		
12.	How was change implemented? ☐ ECN _____ ☐ Ltr No. _____ ☐ This CR		
3.	Completed by: _____ Date: <u>1/21/93</u>		
4.	WHC Verify Implementation: <u>Jeannette Lechelt</u> Date: <u>2/4/93</u> Phone No. <u>373-3296</u>		

SUMMARY INFORMATION	
☐ MAP	☐ PS
☐ CS	☐ HS
☐ AS	

SUMMARY INFORMATION

14:06:05 17/93

HIT TEMPERATURES (DEG F)

01	02	03	04	05	06	07	08	09	10	11
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PERCLOSITY DENSITY TEMPERATURE TREE (VDIT)

1B	TEMP DEG F	SPG	14A	TEMP DEG F	SPG
01	XXX.XX	XX.X	01	XXX.XX	XX.X
02	XXX.XX	XX.X	02	XXX.XX	XX.X
03	XXX.XX	XX.X	03	XXX.XX	XX.X
04	XXX.XX	XX.X	04	XXX.XX	XX.X
05	XXX.XX	XX.X	05	XXX.XX	XX.X
06	XXX.XX	XX.X	06	XXX.XX	XX.X
07	XXX.XX	XX.X	07	XXX.XX	XX.X

SUMMARY

IN-TANK PARAMETERS		VENTILATION HEADER		HYDROGEN (17B)	
RADAR LEVEL	INCHES	FLOW LOW	CFM	6.45	PPM LO
PRESSURE 11B	IN HG	FLOW HIGH	CFM	2.44	PPM HI
	-2.0	HUMIDITY	% RH	0.02	VOL %
		TEMPERATURE	XXX XX DEG F		

PIR17B94

MIT TANK DOME PRESSURE

5.000 5.000 5.000

HYDROGEN MITIGATION TEST PROJECT

Change Request

CR No.: 76Sheet 1 of 6

1.	Hardware/Software/Document Name: <u>DACS ARCHIVE FILES</u> Version/Revision: _____		
2.	CR Type: ☐ Development ☐ Correct Problem ☒ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached <u>Rearrange channels archived in files to make them more user friendly.</u>		
4.	Detail Description: ☐ See Attached <u>About 15 Mbytes of data are archived each day. Rearranging these files (Tags in each file) would greatly simplify analysis of the data. One file could contain most data updated on a daily basis. See Suggested list attached. Analyzed</u>		
5.	Originator Priority: ☒ 1 = Critical 2 = Very Important 3 = Important 4 = Interesting		
6.	Originator: <u>Jeannet Lechelt</u> Date: <u>1/19/93</u> Phone No.: <u>509-373-3296</u>		
7.	Disposition: Priority (See 5.) ☒ 3 Classification: ☐ 1 ☒ 4 ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer	Implement: ☒ Yes ☐ Wait for approval ☐ At next mandatory change	☐ DACS test required
8.	TRG ¹ /CCB ² Approval: <u>J. Caney</u> Date: <u>1/19/93</u> <u>H. Vargo</u> Date: <u>1/19/93</u> <u>H. Dandell</u> Date: <u>1/19/93</u>		
9.	Assigned to: _____ Phone No. _____		
10.	Copy to originator: ☐ After CCB/TRG disposition (Date: ____/____/____) ☐ After change implementation (Date: ____/____/____)		
11.	Change Comments or Hardware/Software/Documents Affected by Change: ☒ See Attached <u>1/19/93</u>		
12.	How was change implemented? ☐ ECN? _____ ☐ Ltr No. _____ ☐ This CR		
13.	Completed by: <u>Jeannet Lechelt</u> Date: <u>1/27/93</u>		
14.	WHC Verify Implementation: <u>Jeannet Lechelt</u> Date: <u>2/4/93</u> Phone No. <u>373-3296</u>		

DACS DATA FILE LIST							
Latest Update: 01-16-92							
CURRENT NAME	PREFERRED FILE	VAR #	TAG	VAR	EU	LOW	HIGH
PRSS	1-1-7	1	DIR14A01	OUT	mA	0	20
	1-1-8	2	DIR14A02	OUT	mA	4	20
	1-1-9	3	DIR14A03	OUT	mA	4	20
	1-1-10	4	DIR14A04	OUT	mA	4	20
	1-1-11	5	DIR14A05	OUT	mA	4	20
	1-1-12	6	DIR14A06	OUT	mA	4	20
	1-1-13	7	DIR14A07	OUT	mA	0	20
	1-1-14	8	DIR01B01	OUT	mA	0	20
	1-1-15	9	DIR01B02	OUT	mA	4	20
	1-1-16	10	DIR01B03	OUT	mA	4	20
	1-1-17	11	DIR01B04	OUT	mA	4	20
	1-1-18	12	DIR01B05	OUT	mA	4	20
	1-1-19	13	DIR01B06	OUT	mA	4	20
	1-1-20	14	DIR01B07	OUT	mA	0	20
	1-1-21	15	PIR11B01	OUT	INWG	-4	6
	1-1-22	16	PIR17B04	OUT	INWG	-5	20
	1-1-23	17	PIR14A01	OUT	PSIA	0	30
	1-1-24	18	PIR1BA01	OUT	PSID	0	30
	1-1-25	19	WSP1	OUT	PSIA	0	15.37
	1-1-26	20	PIR12A01	OUT	PSIG	0	150

per
DACS/IO
list

FILE 5
A/E 14
A/A 17
-2
11.82 5-1-7
5+2

CR 76.

3/6

DACS DATA FILE LIST							
Latest Update: 01-16-92							
NAME	PREFERRED FILE	VAR #	TAG	VAR	EU	LOW	HIGH
MIT1	✓	1	TIR17B01	OUT	DEG F	80	140
	✓	2	TIR17B02	OUT	DEG F	80	140
	✓	3	TIR17B03	OUT	DEG F	80	140
	✓	4	TIR17B04	OUT	DEG F	80	140
	✓	5	TIR17B05	OUT	DEG F	80	140
	✓	6	TIR17B06	OUT	DEG F	80	140
	✓	7	TIR17B07	OUT	DEG F	80	140
	✓	8	TIR17B08	OUT	DEG F	80	140
	✓	9	TIR17B09	OUT	DEG F	80	140
	✓	10	TIR17B10	OUT	DEG F	80	140
	✓	11	TIR17B11	OUT	DEG F	80	140
	3-11	12	TIR1B01	OUT	DEG F	80	140
	-1	13	TIR1B02	OUT	DEG F	80	140
	-2	14	TIR1B03	OUT	DEG F	80	140
	-3	15	TIR1B04	OUT	DEG F	80	140
	-4	16	TIR1B05	OUT	DEG F	80	140
	-5	17	TIR1B06	OUT	DEGE	80	140
	-6	18	TIR1B07	OUT	DEG F	80	140
	16-17	19	FIR01B01	OUT	FT/SEC	0	20
✓	3-14	20	FIR01B02	OUT	FT/SEC	0	20

preferred
Ex: 10
10-10
10-10

DACS DATA FILE LIST							
Latest Update: 01-16-92							
NAME	PREFERRED FILE	VAR #	TAG	VAR	EU	LOW	HIGH
MIT2	✓	1	TIR17B12	OUT	DEG F	80	140
	✓	2	TIR17B13	OUT	DEG F	80	140
	✓	3	TIR17B14	OUT	DEG F	80	140
	✓	4	TIR17B15	OUT	DEG F	80	140
	✓	5	TIR17B16	OUT	DEG F	80	140
	✓	6	TIR17B17	OUT	DEG F	80	140
	✓	7	TIR17B18	OUT	DEG F	80	140
	✓	8	TIR17B19	OUT	DEG F	80	140
	✓	9	TIR17B20	OUT	DEG F	80	140
	✓	10	TIR17B21	OUT	DEG F	80	140
	✓	11	TIR17B22	OUT	DEG F	80	140
	1-A-1	12	TIR14A01	OUT	DEG F	80	140
	1-A-2	13	TIR14A02	OUT	DEG F	80	140
	1-A-3	14	TIR14A03	OUT	DEG F	80	140
	1-A-4	15	TIR14A04	OUT	DEG F	80	140
	1-A-5	16	TIR14A05	OUT	DEG F	80	140
	1-A-6	17	TIR14A06	OUT	DEG F	80	140
	1-A-7	18	TIR14A07	OUT	DEG F	80	140
	1-A-8	19	FIR14A01	OUT	FT/SEC	0	20
✓	1-A-9	20	FIR14A02	OUT	FT/SEC	0	20

CR 76
5/6

DACS DATA FILE LIST Latest Update: 01-16-92							
NAME	PREFERRED FILE	VAR #	TAG	VAR	EU	LOW	HIGH
R12A	✓	1	TIPNO101	OUT	DEG C	0	100
	✓	2	TIPNO102	OUT	DEG C	0	100
	✓	3	TIPNO201	OUT	DEG C	0	100
	✓	4	TIPNO202	OUT	DEG C	0	100
		5	FIPNO101	OUT	GPM	0	1500
		6	FIPNO102	OUT	GPM	0	1500
		7	FIPNO201	OUT	GPM	0	1500
		8	FIPNO202	OUT	GPM	0	1500
		9	PIPNO101	OUT	PSI	0	150
		10	PIPNO102	OUT	PSI	0	150
	✓	11	PIPNO201	OUT	PSI	0	150
✓		12	PIPNO202	OUT	PSI	0	150

DACS DATA FILE LIST Latest Update: 01-16-92							
NAME	PREFERRED FILE	VAR #	TAG	VAR	EU	LOW	HIGH
FREY	✓	1	PITMSY04	OUT	PSIA	0	30
	✓	2	FITMSY17	OUT	INWG	0	10
	✓	3	TICMSY18	OUT	DEG F	32	150
	✓	4	PITMSY13	OUT	PSIA	0	30
	✓	5	TITMSY15	OUT	DEG F	32	150
	✓	6	PITMSY16	OUT	PSIA	0	30
V	✓	7	PDTMSY04	OUT	INWG	0	25
H2	✓	1	NIR05A01	OUT	% H2	0	10
	✓	2	NITKSY06	OUT	% H2	0	10
	✓	3	NITJSY06	OUT	% H2	0	10
	✓	4	NIR17B01	OUT	H2	0	10
	✓	5	NIR05A02	OUT	PPM H2	0	100
	✓	6	NITKSY11	OUT	PPM H2	0	100
	✓	7	NITJSY11	OUT	PPM	0	100
	✓	8	NIR17B02	OUT	PPM	0	100
	✓	9	NIR05A03	OUT	PPM H2	0	2000
	✓	10	NITKSY12	OUT	PPM	0	2000
	✓	11	NITJSY12	OUT	PPM H2	0	2000
V	✓	12	NIR17B03	OUT	PPM	0	2000
MISC	✓	1	LIR13A01	OUT	IN	397	438
	✓	2	FTE50001	OUT	CFM	0	1275
	✓	3	FTE50002	OUT	CFM	-1000	7333
	✓	4	TT10001	OUT	DEG F	30	140
	✓	5	MT10001	OUT	%	0	100
	✓	6	VR232020	OUT	VAC	0	460
	✓	7	VR232040	OUT	AMPS	0	176
	✓	8	VR232050	OUT	RPM	0	1200
V	✓	9	PITN0111	OUT	PSIG	-18	90

Wrong
Label?check the
be the
correct
labelsfor DAS
I/O list

HYDROGEN MITIGATION TEST PROJECT

Change Request

CR No.: 77

Sheet 1 of

1.	Hardware/Software/Document Name: <u>1/0 CHANNEL LIST</u>		
	Version/Revision: _____		
2.	CR Type: ☐ Development ☐ Correct Problem ☐ Enhancement ☒ Other		
3.	Short Task Description/Justification: ☐ See Attached <u>CHANNEL LIST REVISION</u>		
4.	Detail Description: ☒ See Attached <u>REVISE CHANNEL LIST PER THE ATTACHED RED LINED DOCUMENT</u>		
5.	Originator Priority: ☒ 1 = Critical 2 = Very Important 3 = Important 4 = Interesting		
6.	Originator: <u>G. GAUCK/R. MENDOZA</u> Date: <u>1/18/93</u> Phone No.: <u>3-1779/3-2007</u>		
7.	Disposition: _____ Priority (See 5.) ☒ 1 Classification: ☐ I ☒ IV ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer		Implement: _____ ☒ Yes ☐ Wait for approval ☐ At next mandatory change
			☐ DACS test required
8.	TRG ¹ /CCB ² Approval: <u>D. Carey</u> Date: <u>1/19/93</u> <u>G. Vargay</u> Date: <u>1/19/93</u> <u>H. Dandekar</u> Date: <u>1/19/93</u>		
9.	Assigned to: _____ Phone No. _____		
10.	Copy to originator: ☐ After CCB/TRG disposition (Date: _____) ☐ After change implementation (Date: _____)		
11.	Change Comments or Hardware/Software/Documents Affected by Change: ☐ See Attached <u>DACS SCREENS AND/OR SOFTWARE</u>		
12.	How was change implemented? ☐ ECN _____ ☐ Ltr No. _____ ☐ This CR		
13.	Completed by: <u>A. Gunk</u> Date: <u>6/29/93</u>		
14.	WHC Verify Implementation: <u>D. Carey</u> Date: <u>6/29/93</u> Phone No. <u>376-617</u>		

HYDROGEN MITIGATION TEST PROJECT

Change Request

ORIGINAL

CR No.: 78

Sheet 1 of 1

1.	Hardware/Software/Document Name: <u>DACS Software / DACS Screens</u> Version/Revision: <u>U.1.7.9</u>		
2.	CR Type: ☐ Development ☐ Correct Problem ☐ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached <u>Provide units of PSID for DACS tag PER12A01</u>		
4.	Detail Description: ☐ See Attached <u>UNITS IN PSID</u> <u>Provide screen display and units associated with</u> <u>Calculated Mixer Pump Pressure. DACS tag PER12A01</u>		
5.	Originator Priority: ☒ 1 = Critical 2 = Very Important 3 = Important 4 = Interesting		
6.	Originator: <u>Greg Grueck</u> Date: <u>1/29/93</u> Phone No.: _____		
7.	Disposition: Priority (See 5.) ☒ 2 Classification: ☐ I ☒ II ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer	Implement: ☒ Yes ☐ Wait for approval ☐ At next mandatory change	☐ DACS test required
8.	TRG ¹ /CCB ² Approval: <u>[Signature]</u> Date: <u>1/26/93</u> <u>H. H. Vargo</u> Date: <u>1/26/93</u> <u>T. L. Kent</u> Date: <u>1/26/93</u>		
9.	Assigned to: _____ Phone No. _____		
10.	Copy to originator: ☐ After CCB/TRG disposition (Date: ____/____/____) ☐ After change implementation (Date: ____/____/____)		
11.	Change Comments or Hardware/Software/Documents Affected by Change: ☐ See Attached _____ _____ _____ _____		
12.	How was change implemented? ☐ ECN _____ ☐ Ltr No. _____ ☐ This CR		
13.	Completed by: <u>[Signature]</u> Date: <u>1/27/93</u>		
14.	WHC Verify Implementation: <u>[Signature]</u> Date: <u>2/4/93</u> Phone No. <u>3731747</u>		

HYDROGEN MITIGATION TEST PROJECT

Change Request

ORIGINAL

CR No.: 79

Sheet 1 of 6

1.	Hardware/Software/Document Name: MASS SPECTROMETER INTERFACE SOFTWARE		
	Version/Revision: _____		
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached THE DACS SCREENS FOR THE MASS SPECTROMETER DO NOT DISPLAY ALL THE INFORMATION PROPERLY. THE INFORMATION THE MASS SPECTROMETER IS PRODUCING IS NOT AVAILABLE FOR DACS OPERATORS.		
4.	Detail Description: ☒ See Attached		
5.	Originator Priority: ☒ 1 = Critical 2 = Very Important 3 = Important 4 = Interesting		
6.	Originator: ERIC STRAALSUND Date: 1/25/93 Phone No.: (509)376-3808		
7.	Disposition:	Priority (See 5.) ☒ 2	Implement:
	Classification: ☐ I ☒ II		☒ Yes ☐ Wait for approval
	☒ Approve ☐ Approve/Modify		☐ At next mandatory change
	☐ Reject ☐ Defer		
			☐ DACs test required
8.	TRG ¹ /CCB ² Approval:		
	<u>[Signature]</u>		Date: 1/24/93
	<u>G.F. Varco</u>		Date: 1/26/93
	<u>12 K...</u>		Date: 1/26/93
9.	Assigned to: _____ Phone No. _____		
10.	Copy to originator: ☐ After CCB/TRG disposition (Date: ____/____/____) ☐ After change implementation (Date: ____/____/____)		
11.	Change Comments or Hardware/Software/Documents Affected by Change: ☐ See Attached Sample 4 Calibration Data is no longer collected or analyzed. IPF discussion with Eric Straalsund and Edwin Phillips. IPF IPF		
12.	How was change implemented? ☐ ECN ☐ Ltr No. ☐ This CR		
13.	Completed by: <u>[Signature]</u> Date: 2/16/93		
14.	WHC Verify Implementation: <u>[Signature]</u> Date: 2/18/93 Phone No. 6-3808		

HYDROGEN MITIGATION TEST PROJECT

Change Request (Continuation Sheet)

CR No.: 29

Item # [] 3 [X] 4 [] 10

Sheet 2 of 6

On 12/17-18/92 Jeff Martin (LANL) and I debugged the Mass Spec interface. The interface is functional now but has a few bugs that need to be taken care of by LANL software folks. One bug is that all of the data is not getting from the modicon module to the Mass Spec screen on the DACS. The nitrogen level in the sample isn't being displayed by the DACS. Jeff Martin verified that the proper nitrogen level data is getting to the registers in the Modicon module (ASCII/BASIC serial input) but is not getting to the Mass Spec display screen on the DACS. Jeff Martin said that this needs to be fixed in the Genesis software somewhere. Also, the registers in the ASCII/BASIC module need to be set to zero on start up to prevent any erroneous data being displayed.

The format of the data dumps from Mass Spectrometer has changed as of January 8, 1993. In particular the format for the "Air Sample Check" data has changed considerably. This data is considered a self check/calibration for the Mass Spectrometer system. Since this information is relatively useless to a DACS operator I recommend deleting the "Air Sample Check" screen from the DACS Mass Spectrometer data screens. The other two DACS data screens for Mass Spectrometer data are the "Zero Check" and "Sample" screens. The data dump formats for these two screens have changed but not enough to cause any changes in the DACS. However, attached are examples of the three types of data dumps from the Mass Spectrometer for evaluation by someone (Jeff Martin, LANL) familiar with the software interface to the Mass Spectrometer. Those types are Zero Check, Air Sample Calibration and Sample.

Also request that archive data is stored for sample=4 and sample=5. Name archive file "MASS"

Signature: _____

Date: ____/____/____

Form #: HMTP-CRCS-2

HYDROGEN MITIGATION TEST PROJECT

Change Request (Continuation Sheet)

CR No.:

79Sheet 3 of 6Item # ☐ 3 ☒ 4 ☐ 10

DAC 00001 14:41:43,01-07-1993

01-07-1993 13:52:10

Sample = 0 Status = OK a= 1.361662E-03 b=-.1490169 c=-1.927443E-03

Ave = 740 Emiss = 0.49 SEM = 1500

Scan Time (sec) = 0

PARTIAL PRESSURES

COMPONENT	%
N2	0.0000
O2	0.0000
Ar	0.0000
CO2	0.0000
H2	0.0000
N2O	0.0000

Mass Spectral Data

Mass Signal (amps)

2	2.19E-12
3	9.88E-13
4	1.03E-12
5	1.15E-12
6	1.02E-12
7	7.72E-13
8	8.61E-13
9	8.86E-13
10	8.59E-13
11	9.34E-13
12	7.95E-13
13	7.00E-13
14	9.58E-13
15	7.59E-13
16	1.39E-12
17	3.78E-12
18	4.33E-12
19	1.59E-12
20	7.36E-13
21	6.88E-13
22	7.14E-13
23	9.56E-13
24	6.36E-13
25	4.19E-13
26	3.77E-13
27	5.98E-13
28	1.55E-12
29	5.45E-13
30	8.35E-13
31	6.63E-13
32	2.96E-12
33	5.95E-13
34	7.16E-13
35	4.47E-13
36	9.61E-13
37	5.59E-13

HYDROGEN MITIGATION TEST PROJECT

Change Request (Continuation Sheet)

CR No.: 29

Sheet 4 of 6

Item # ☐ 3 ☒ 4 ☐ 10

38 6.29E-13
39 5.24E-13
40 4.67E-13
41 2.84E-13
42 3.40E-13
43 7.16E-13
44 2.41E-12
45 7.73E-13
46 2.33E-13
47 5.62E-13
48 6.00E-13
49 4.81E-13
50 3.53E-13

DAC 00001 14:51:23,01-07-1993

01-07-1993 14:01:50

Sample = 4 Status = OK a= 1.364126E-03 b=-.152172 c=-1.826413E-03

Ave = 740 Emiss = 0.49 SEM = 1500

Scan Time (sec) = 277

Calibration Factors

amps/torr

per mass

1	N2	1	7.80E-04	7.33E-06
2	O2	1	2.10E-04	5.84E-06
3	Ar	1	9.30E-06	6.33E-06
4	CO2	1	3.00E-07	1.37E-05
4	CO2	1	3.00E-07	2.25E-06

Mass Spectral Data

Mass Signal (amps)

2 2.58E-12
3 9.38E-13
4 8.03E-13
5 7.24E-13
6 7.67E-13
7 1.08E-12
8 8.99E-13
9 7.87E-13
10 7.06E-13
11 7.14E-13
12 1.47E-12
13 3.84E-12
14 4.65E-10
15 7.99E-12
16 1.59E-10
17 8.99E-12
18 2.29E-11
19 1.33E-12
20 7.57E-12
21 1.09E-12
22 9.30E-13
23 9.92E-13
24 1.11E-12

HYDROGEN MITIGATION TEST PROJECT

Change Request (Continuation Sheet)

CR No.:

79

Sheet 5 of 6

Item # [] 3 [X] 4 [] 10

25 1.21E-12
26 2.12E-12
27 8.25E-11
28 5.72E-09
29 4.70E-11
30 3.26E-12
31 2.41E-11
32 1.23E-09
33 1.91E-11
34 5.82E-12
35 9.58E-13
36 1.17E-12
37 8.11E-13
38 9.51E-13
39 4.30E-12
40 5.93E-11
41 4.13E-12
42 6.97E-13
43 6.87E-13
44 6.53E-12
45 2.11E-12
46 7.09E-13
47 6.53E-13
48 5.56E-13
49 4.93E-13
50 5.61E-13

DAC 00001 14:56:33,01-07-1993

01-07-1993 14:07:01

Sample = 5 Status = OK a= 1.370518E-03 b=-.1624408 c=-1.594939E-03

Ave = 740 Emiss = 0.49 SEM = 1500

Scan Time (sec) = 274

PARTIAL PRESSURES

COMPONENT	%
N2	77.8650
O2	21.1199
Ar	0.9389
CO2	0.0397
H2	0.0000
N2O	0.0364

Mass Spectral Data

Mass Signal (amps)

→ 2 1.91E-12
3 4.11E-13
4 3.88E-13
5 2.30E-13
6 2.37E-13
7 6.58E-13
8 5.07E-13
9 2.54E-13
10 2.70E-13
11 2.22E-13
12 1.80E-12

HYDROGEN MITIGATION TEST PROJECT

Change Request (Continuation Sheet)

CR No.:

79

Sheet 6 of 6

Item # ☐ 3 ☒ 4 ☐ 10

13	7.26E-12
14	5.72E-10
15	8.10E-12
16	1.93E-10
17	1.20E-11
18	3.35E-11
19	6.81E-13
20	8.10E-12
21	4.98E-13
22	5.58E-13
23	6.42E-13
24	1.10E-12
25	1.13E-12
26	2.18E-12
27	1.09E-10
28	6.42E-09
29	6.38E-11
30	4.16E-12
31	4.47E-11
32	1.39E-09
33	3.29E-11
34	6.05E-12
35	5.36E-13
36	7.53E-13
37	4.19E-13
38	3.12E-13
39	5.05E-12
40	6.73E-11
41	5.36E-12
42	3.96E-13
43	4.07E-13
44	8.86E-12
45	1.46E-12
46	1.06E-13
47	3.53E-14
48	2.08E-14
49	1.00E-15
50	3.88E-13

HYDROGEN MITIGATION TEST PROJECT Change Request

CR No.: 80
Sheet 1 of 1

1.	Hardware/Software/Document Name: WHC-SD-WM-EL-001, SY-101 Hydrogen Mitigation Test DACS Input/Output Channel List Version/Revision: 0		
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached Range values for XIR12AN2 and XIR12AN1 should be changed to +/- 5 G's due to the recent modification of the vibration signal conditioner. <i>Alarm should be changed to +/- 4 G's.</i>		
4.	Detail Description: ☐ See Attached Change Page 15 of DACS List to reflect the new vibration range.		
5.	Originator Priority: ☒ 2 1=Critical 2=Very Important 3=Important 4=Interesting		
6.	Originator: T. Lopez Date: 01/22/93 Phone No.: 376-2267		
7.	Disposition:	Priority (See 5.) ☒ 2 Classification: ☐ ☒ ☐ ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer	Implement: ☒ Yes ☐ Wait for approval ☐ At next mandatory change
			☒ DACS test required
8.	TRG ¹ /CCB ² Approval: <i>[Signature]</i> Date: <u>1/26/93</u> <i>[Signature]</i> Date: <u>1/26/93</u> <i>[Signature]</i> Date: <u>1/26/93</u>		
9.	Assigned to: _____ Phone No. _____		
10.	Copy to originator: ☐ After CCB/TRG disposition (Date: ___/___/___) ☐ After change implementation (Date: ___/___/___)		
11.	Change Comments or Hardware/Software/Documents Affected by Change: ☐ See Attached <i>Affects IOList, Mixer Pump, ATP.</i>		
12.	How was change implemented? ☐ ECN _____ ☐ Ltr No. _____ ☐ This CR		
13.	Completed by: <i>[Signature]</i> Date: <u>2/3/93</u>		
14.	WHC Verify Implementation: <i>[Signature]</i> Date: <u>2/4/93</u> Phone No. <u>373 1771</u>		

Form #: HMTP-CR-1 (1-14-93)

1 = CLASS I 2 = CLASS II

HYDROGEN MITIGATION TEST PROJECT

Change Request

ORIGINAL

CR No.: 81

Sheet 1 of 4

Rejected 1-26-93

1.	Hardware/Software/Document Name: <u>Software</u>	Version/Revision: _____
2.	CR Type: ☒ Development ☐ Correct Problem ☐ Enhancement ☐ Other	
3.	Short Task Description/Justification: ☐ See Attached Specific gravity screen does not agree with reports from T. Stokes on height of screen.	
4.	Detail Description: ☒ See Attached 5 sheets Heights need to be confirmed then changed as screen	
5.	Originator Priority: [3] 1 = Critical 2 = Very Important 3 = Important 4 = Interesting	
6.	Originator: <u>P. C. Hansen Dan Reynolds</u> Date: <u>1/20/93</u> Phone No.: <u>3-1847</u>	
7.	Disposition: ☐ Priority (See 5.) ☐ Implement: ☐ Yes ☐ Wait for approval ☐ At next mandatory change ☒ Reject ☐ Defor	☐ DACS test required
8.	TRG ¹ /CCB ² Approval: _____ Date: _____ Date: _____ Date: _____	
9.	Assigned to: _____ Phone No. _____	
10.	Copy to originator: ☐ After CCB/TRG disposition (Date: _____) ☐ After change implementation (Date: _____)	
11.	Change Comments or Hardware/Software/Documents Affected by Change: ☐ See Attached Screen will be removed. However heights per I/O list will be added to associated DACS tag description.	
12.	How was change implemented? ☐ ECN ☐ Lit No. _____ ☐ This CR	
13.	Completed by: _____ Date: _____	
14.	WHC Verify Implementation: _____ Date: _____ Phone No. _____	

- reported By T. Stokew in VDTT update

SPECIFIC GRAVITY - PRESSURE (EXPRESS)		PS	CS	MS	AS
RISER 1B					
PRESSURE	SPECIFIC GRAVITY	PRESSURE	SPECIFIC GRAVITY		
DCR01B07 360"	360" SP01B360	DCR14A07 360"	360" SP14A360		
2.6	2.0	0.0	0.0		
DCR01B06 312"	336" SP01B336	DCR14A06 312"	336" SP14A336		
5.3	1.1	0.0	0.0		
DCR01B05 264"	288" SP01B288	DCR14A05 264"	288" SP14A288		
8.0	2.0	0.0	0.0		
DCR01B04 216"	240" SP01B240	DCR14A04 216"	240" SP14A240		
0.8	0.0	11.1	6.4		
DCR01B03 168"	192" SP01B192	DCR14A03 168"	192" SP14A192		
1.0	0.1	0.0	0.0		
DCR01B02 108"	138" SP01B138	DCR14A02 108"	138" SP14A138		
17.6	7.8	2.1	1.2		
DCR01B01 50.6"	80" SP01B080	DCR14A01 50.6"	80" SP14A080		
0.0	0.0	0.0	0.0		

CR 81
208.4

320/
376.9

312/
308.9

264/
260.9

216/
212.9

168/
164.9

108/
105.9

50.6/
46.9

373.8

308.8

257.8

209.8

161.8

~~113.8~~
113.8

49.3

[39] From: Chris P Molteni at ~WHC266 1/11/93 6:22PM (4190 bytes: 54 ln)
 To: Michael F Erhart at ~WHC140, Gregory J Gauck at ~WHC82, Alan G Hanson at ~WHC95, Duane A Koehler at ~WHC208, Terance Laney at ~WHC95, Douglas C (Doug) Larsen at ~WHC82, Ruben E Mendoza at ~WHC240, Chris P Molteni, Michael R Powell at ~PNL24, David A Wallace at ~WHC208, Alvin C (Zeke) Zuehlke at ~KEH10
 Subject: VDTT data: some from 12-31-92 and some from 1-4-93
 ----- Forwarded

From: Troy I Stokes at ~WHC207 1/11/93 6:12PM (3599 bytes: 54 ln)
 To: Max R Kreiter at ~PNL2, Thomas M Burke at ~WHC63, James B Colson at ~PNL14
 cc: Carl E Hanson, Jack W Lentsch at ~WHC129, Pat M Paul at ~KEH10, Mark D Rickenbach at ~KEH10, James H Bussell at ~WHC35, Tony R Benegas at ~WHC208, George F Vargo Jr at ~WHC35, Ronald W Reed at ~WHC95, Bruce D Groth at ~WHC95, Chris P Molteni at ~WHC266, Nicholas W (Nick) Kirch at ~WHC140, Zenen I Antoniak at ~SMTPLink, Shih-Chih Chang at ~WHC71, Leslie A Tusler at ~WHC140, Troy I Stokes
 Subject: VDTT data: some from 12-31-92 and some from 1-4-93
 ----- Message Contents

This data is combined information from 12-31-92 and 1-4-93.
 Weather conditions and time to obtain readings prevented them all from being taken on one day.

The raw data consists of millamp readings taken directly in the back of the VDTT instrument cabinet in the SY101 farm.

The data below should have no error in data reduction, but is still subject to error in recording/relaying the information from the farm, entry on my computer code, to entry on the following tables. Therefore, the data is still questionable as to its use for formal purposes at this time.

[The values below are given to two decimal places, though the following are the estimated absolute accuracies
 Pressure $\pm .25$ Temperature ± 1 degree F]

 12-31-92 AND/OR 1-4-93

Elevation from Tank bottom	Temperature	Pressure	VDTT Screen
1B Tree			
1B-1 46.94"	S.O.O.C.	S.O.O.C.	
1B-2 105.94"	128.32 F	17.70 PSID	17.7 17.7
1B-3 164.94"	S.O.O.C.	S.O.O.C.	—
1B-4 212.94"	S.O.O.C.	S.O.O.C.	—
1B-5 260.94"	109.05 F	8.86 PSID	8.9 8.9
1B-6 308.94"	108.78 F	5.45 PSID	5.5 5.4
1B-7 376.94"	101.71 F	2.02 PSID	2.7 2.6

Column Pressure: UNRECORDED

14A Tree

14A-1 44.3"	S.O.O.C.	S.O.O.C.
-------------	----------	----------

CR 81
4084,

ORIGINAL

14A-2	113.8"	126.58 F	16.51 PSID	16.7	16.5
14A-3	161.8"	126.49 F	14.11 PSID	14.2	14.1
14A-4	209.8"	118.75 F	10.98 PSID	10.0	11.6
14A-5	257.8"	S.O.O.C.*	8.76 PSID	5.6	5.4
14A-6	305.8"	109.07 F	S.O.O.C.	1.9	1.7
14A-7	373.8"	105.75 F	1.81 PSID	1.3	1.1

Column Pressure: UNRECORDED

S.O.O.C. -----> "Sensor out-of-commission"

* RTD is failing. For temperature compensation, the temperature from 1B-05 was used.

The PSID readings are differential to the VDTT column. As a reminder, a data recording, acquisition, or copying error could have taken place.

Troy Stokes 6-9436
Lead Engineer - VDTT System

HYDROGEN MITIGATION TEST PROJECT

Change Request

ORIGINAL

CR No.: 82

Sheet 1 of 1

Rejected 2-16-93

1.	Hardware/Software/Document Name: <u>Anes equipment DACS tag Changes.</u> Version/Revision: <u>U 1.7.9</u>		
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached <u>Remove the Modicon identifiers for DACS tags.</u> <u>provided for Anes equipment.</u>		
4.	Detail Description: ☐ See Attached <u>Remove modicon identifiers shown on I/O List from</u> <u>DACS tags.</u> <u>XI R12A01 XI PNO301</u> <u>XI R12A02 XI PNO401</u> <u>XI PNO101 XI R12A03</u> <u>XI PNO201 XI R12A04</u>		
5.	Originator Priority: <u>[2]</u> 1=Critical 2=Very Important 3=Important 4=Interesting		
6.	Originator: <u>[Signature]</u> Date: <u>1/26/93</u> Phone No.: <u>373-1279</u>		
7.	Disposition: Priority (See 5.) ☐ Classification: ☐ I ☐ II ☐ Approve ☐ Approve/Modify ☒ <u>2-16-93</u> Reject ☒ <u>2-16-93</u> Defer	Implement: ☐ Yes ☐ Wait for approval ☐ At next mandatory change	☐ DACS test required
8.	TRG ¹ /CCB ² Approval: _____ _____ _____ Date: ____/____/____ _____ Date: ____/____/____ _____ Date: ____/____/____		
9.	Assigned to: <u>Hiroshi Hoida.</u> Phone No. _____		
10.	Copy to originator: ☐ After CCB/TRG disposition (Date: ____/____/____) ☐ After change implementation (Date: ____/____/____)		
11.	Change Comments or Hardware/Software/Documents Affected by Change: ☐ See Attached _____ _____ _____ _____ _____		
12.	How was change implemented? ☐ ECN _____ ☐ Ltr No. _____ ☐ This CR		
13.	Completed by: _____ Date: ____/____/____		
14.	WHC Verify Implementation: _____ Date: ____/____/____ Phone No. _____		

HYDROGEN MITIGATION TEST PROJECT

Change Request

CR No.: 83

Sheet 1 of 1

Revised 2-24-93 1-26-93

Original

1.	Hardware/Software/Document Name: <u>DACS Test Strategy</u>		
	Version/Revision: _____		
2.	CR Type: ☒ Development ☐ Correct Problem ☐ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached <u>Remove unnecessary display.</u>		
4.	Detail Description: ☐ See Attached <u>Remove cap from compass figure on directional motor display (DDISPLAY) the two blue lines showing angle limits for the direction motor. Replacement for lost Change Request</u>		
5.	Originator Priority: ☒ 4 1 = Critical 2 = Very Important 3 = Important 4 = Interesting		
6.	Originator: <u>[Signature]</u> Date: <u>2/24/94</u> Phone No.: _____		
7.	Disposition:	Priority (See 5.) ☐	Implement:
		Classification: ☐ I ☐ II	☐ Yes ☐ Wait for approval
	☐ Approve ☐ Approve/Modify		☐ At next mandatory change
	☒ Reject ☐ Defer		
			☐ DACS test required
8.	TRG ¹ /CCB ² Approval:		
	_____	Date: ____/____/____	
	_____	Date: ____/____/____	
	_____	Date: ____/____/____	
9.	Assigned to: _____ Phone No. _____		
10.	Copy to originator: ☐ After CCB/TRG disposition (Date: ____/____/____) ☐ After change implementation (Date: ____/____/____)		
11.	Change Comments or Hardware/Software/Documents Affected by Change: ☐ See Attached		

12.	How was change implemented? ☐ ECN _____ ☐ Ltr No. _____ ☐ This CR		
13.	Completed by: _____ Date: ____/____/____		
14.	WHC Verify Implementation: _____ Date: ____/____/____ Phone No. _____		

HYDROGEN MITIGATION TEST PROJECT

Change Request

ORIGINAL

CR No.: 84

Sheet 1 of 1

1.	Hardware/Software/Document Name: <u>Sta. 8 DACS screens.</u> Version/Revision: <u>V.1.7.9.</u>		
2.	CR Type: ☐ Development ☐ Correct Problem ☐ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached <u>Add 8 character names to all screens on Station 8.</u> <u>as shown using F1 key.</u>		
4.	Detail Description: ☐ See Attached <u>All DACS screens with the exception of station 8 screens use</u> <u>maximum 8 character screen identification names for ease of</u> <u>reference. Add to Station screens its unique 8 character identifier</u> <u>shown by accessing Display Directory with F1 key.</u>		
5.	Originator Priority: ☒ 1 = Critical 2 = Very Important 3 = Important 4 = Interesting		
6.	Originator: <u>[Signature]</u>	Date: <u>1/26/93</u>	Phone No.: <u>373-1779</u>
7.	Disposition: ☒ Priority (See 5.) ☒ 2 Classification: ☐ I ☒ II ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer Implement: ☒ Yes ☐ Wait for approval ☐ At next mandatory change		☐ DACS test required
8.	TRG ¹ /CCB ² Approval: <u>[Signature]</u> Date: <u>1/26/93</u> <u>A.F. Vanzo</u> Date: <u>1/26/93</u> <u>TK King</u> Date: <u>1/26/93</u>		
9.	Assigned to: <u>Hiroshi Haida</u> 1-26-93 Phone No. _____		
10.	Copy to originator: ☐ After CCB/TRG disposition (Date: ___/___/___) ☐ After change implementation (Date: ___/___/___)		
11.	Change Comments or Hardware/Software/Documents Affected by Change: ☐ See Attached		
12.	How was change implemented? ☐ ECN _____ ☐ Ltr No. _____ ☐ This CR		
13.	Completed by: <u>[Signature]</u> Date: <u>2/15/93</u>		
14.	WHC Verify Implementation: <u>[Signature]</u> Date: <u>2/11/93</u> Phone No. <u>65662</u>		

HYDROGEN MITIGATION TEST PROJECT

Change Request

CR No.: 85

Sheet 1 of 1

Revised 1-26-93

1.	Hardware/Software/Document Name: <u>DACS Screens ITR14A and ITR1B</u>		
	Version/Revision: <u>V.1.7.9</u>		
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached <u>correct notes on screens ITR14A and ITR1B.</u>		
4.	Detail Description: ☐ See Attached <u>On both screens, the following text appears: "Note: PSID is between sensor and tank dome pressure". They <u>SHOULD</u> read: "Note: PSID is between sensor and VDTT column pressure".</u>		
5.	Originator Priority: <u>[3]</u> 1=Critical 2=Very Important 3=Important 4=Interesting		
6.	Originator: <u>Arben Mendoza</u> Date: <u>1/26/93</u> Phone No.: <u>3-2007</u>		
7.	Disposition:	Priority (See 5.) ☐	Implement:
	Classification: ☐ I ☐ II		☐ Yes ☐ Wait for approval
	☐ Approve ☐ Approve/Modify		☐ At next mandatory change
	☒ Reject ☐ Defer		☐ DACS test required
8.	TRG ¹ /CCB ² Approval:		
	_____		Date: <u> / / </u>
	_____		Date: <u> / / </u>
	_____		Date: <u> / / </u>
9.	Assigned to: _____ Phone No. _____		
10.	Copy to originator: ☐ After CCB/TRG disposition (Date: <u> / / </u>) ☐ After change implementation (Date: <u> / / </u>)		
11.	Change Comments or Hardware/Software/Documents Affected by Change: ☐ See Attached		
12.	How was change implemented? ☐ ECN _____ ☐ Ltr No. _____ ☐ This CR		
13.	Completed by: _____ Date: <u> / / </u>		
14.	WHC Verify Implementation: _____ Date: <u> / / </u> Phone No. _____		

HYDROGEN MITIGATION TEST PROJECT

Change Request

CR No.: 56Sheet 1 of 1

1.	Hardware/Software/Document Name: <u>ITR17B Screen</u> Version/Revision: <u>U.1.7.9</u>		
2.	CR Type: ☐ Development ☐ Correct Problem ☒ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached <u>Temperatures currently shown in Red change color to ^{light blue} yellow so that this is not confused w/ alarm condition.</u>		
4.	Detail Description: ☒ See Attached <u>Change Temperatures display color from red to light blue including the legend symbol for temperature. Additionally add white legend circle to Hydrogen Branch Display from MIT to show it as NI (See Legend).</u>		
5.	Originator Priority: <u>[3]</u> 1 = Critical 2 = Very Important 3 = Important 4 = Interesting		
6.	Originator: <u>[Signature]</u> Date: <u>1/26/93</u> Phone No.: <u>3-1779</u>		
7.	Disposition: Priority (See 5.) <u>[3]</u> Classification: ☐ ☒ ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer Implement: ☒ Yes ☐ Wait for approval ☐ At next mandatory change		☐ DACS test required
8.	TRG ¹ /CCB ² Approval: <u>[Signature]</u> Date: <u>1/26/93</u> <u>G.F. Varco</u> Date: <u>1/26/93</u> <u>12 K...</u> Date: <u>1/26/93</u>		
9.	Assigned to: _____ Phone No. _____		
10.	Copy to originator: ☐ After CCB/TRG disposition (Date: <u>1/1/93</u>) ☐ After change implementation (Date: <u>1/1/93</u>)		
11.	Change Comments or Hardware/Software/Documents Affected by Change: ☐ See Attached <u>Remove Red displays from all screens (ITR1B and ITR14A) for WTR. Use Red for Alarm Condition.</u>		
12.	How was change implemented? ☐ ECN _____ ☐ Ltr No. _____ ☐ This CR		
13.	Completed by: <u>[Signature]</u> Date: <u>1/31/93</u>		
14.	WHC Verify Implementation: <u>[Signature]</u> Date: <u>2/4/97</u> Phone No. <u>372-1779</u>		

HYDROGEN MITIGATION TEST PROJECT

Change Request

ORIGINAL

CR No.: 87

Sheet 1 of 1

1.	Hardware/Software/Document Name: <u>Station 8. MAIN MENU (Bottom Screen)</u> Version/Revision: _____		
2.	CR Type: ☐ Development ☐ Correct Problem ☐ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached <u>Need time and date and name "MAIN MENU" added to screen.</u>		
4.	Detail Description: ☐ See Attached <u>Need time and date and name "MAIN MENU" added to screen.</u> <u>This screen recently locked and time and date were not known.</u>		
5.	Originator Priority: ☒ 1 = Critical 2 = Very Important 3 = Important 4 = Interesting		
6.	Originator: <u>[Signature]</u>	Date: <u>1/26/93</u>	Phone No.: <u>323-1779</u>
7.	Disposition: <u>Priority (See 5.) [2]</u> Classification: ☐ I ☒ II ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer Implement: ☒ Yes ☐ Wait for approval ☐ At next mandatory change		☐ DACS test required
8.	TRG ¹ /CCB ² Approval: <u>[Signature]</u> Date: <u>1/26/93</u> <u>A. E. Vaisos</u> Date: <u>1/26/93</u> <u>T. L. K...</u> Date: <u>1/26/93</u>		
9.	Assigned to: _____ Phone No. _____		
10.	Copy to originator: ☐ After CCB/TRG disposition (Date: ____/____/____) ☐ After change implementation (Date: ____/____/____)		
11.	Change Comments or Hardware/Software/Documents Affected by Change: ☐ See Attached _____ _____ _____ _____		
12.	How was change implemented? ☐ ECN _____ ☐ Ltr No. _____ ☐ This CR		
13.	Completed by: <u>[Signature]</u> Date: <u>2/10/93</u>		
14.	WHC Verify Implementation: <u>[Signature]</u> Date: <u>2/13/93</u> Phone No. <u>3-1847</u>		

HYDROGEN MITIGATION TEST PROJECT

Change Request

CR No.: 88Sheet 1 of 1

1.	Hardware/Software/Document Name: <u>NH2UHR7A</u> Version/Revision: <u>U. 1.7.9</u>		
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached <u>Need Date and Time added to screen NH2UHR7A</u>		
4.	Detail Description: ☐ See Attached <u>Need time and date added to top portion of screen NH2UHR7A</u>		
5.	Originator Priority: ☒ 1 = Critical 2 = Very Important 3 = Important 4 = Interesting		
6.	Originator: <u>[Signature]</u> Date: <u>1/26/93</u> Phone No.: <u>373-1779</u>		
7.	Disposition: Priority (See 5.) ☒ 2 Classification: ☐ I ☒ II ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer Implement: ☒ Yes ☐ Wait for approval ☐ At next mandatory change		☐ DACS test required
8.	TRG ¹ /CCB ² Approval: <u>[Signature]</u> Date: <u>1/26/93</u> <u>[Signature]</u> Date: <u>1/26/93</u> <u>[Signature]</u> Date: <u>1/26/93</u>		
9.	Assigned to: _____ Phone No. _____		
10.	Copy to originator: ☐ After CCB/TRG disposition (Date: <u>1/1/93</u>) ☐ After change implementation (Date: <u>1/1/93</u>)		
11.	Change Comments or Hardware/Software/Documents Affected by Change: ☐ See Attached <u>V. 1.8.0</u>		
12.	How was change implemented? ☐ ECN _____ ☐ Ltr No. _____ ☐ This CR		
13.	Completed by: <u>[Signature]</u> Date: <u>1/31/93</u>		
14.	WHC Verify Implementation: <u>[Signature]</u> Date: <u>2/4/93</u> Phone No. <u>373-1779</u>		

HYDROGEN MITIGATION TEST PROJECT Change Request

CR No.: 89
Sheet 1 of 1

Rejected 1-26-93

1.	Hardware/Software/Document Name: WHC-SD-WM-EL-001, SY-101 Hydrogen Mitigation Test DACS Input/Output Channel List Version/Revision: 0		
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached Range values for XIR12AN2 and XIR12AN1 should be changed to +/- 5 G's due to the recent modification of the vibration signal conditioner.		
4.	Detail Descriptions: ☐ See Attached Change Page 15 of DACS List to reflect the new vibration range.		
5.	Originator Priority: ☒ 2 1=Critical 2=Very Important 3=Important 4=Interesting		
6.	Originator: T. Lopez Date: 01/22/93 Phone No.: 376-2267		
7.	Disposition: Priority (See 5.) ☐ Classification: ☐ ☐ ☐ ☐ Approve ☐ Approve/Modify ☐ At next mandatory change ☐ Reject ☒ Defer 1-26-93 See CR #80	Implement: ☐ Yes ☐ Wait for approval ☐ At next mandatory change	☒ DACS test required
8.	TRG ¹ /CCB ² Approval: _____ _____ _____ Date: ____/____/____ _____ _____ _____ Date: ____/____/____ _____ _____ _____ Date: ____/____/____		
9.	Assigned to: _____ Phone No. _____		
10.	Copy to originator: ☐ After CCB/TRG disposition (Date: ____/____/____) ☐ After change implementation (Date: ____/____/____)		
11.	Change Comments or Hardware/Software/Documents Affected by Change: ☐ See Attached _____ _____ _____ _____ _____		
12.	How was change implemented? ☐ ECN _____ ☐ Ltr No. _____ ☐ This CR		
13.	Completed by: _____ Date: ____/____/____		
14.	WHC Verify Implementation: _____ Date: ____/____/____ Phone No. _____		

Form #: HMTP-CR-1 (1-14-93)

1 = CLASS I 2 = CLASS II

HYDROGEN MITIGATION TEST PROJECT

Change Request

CR No.: 90

Sheet 1 of

1.	Hardware/Software/Document Name: <u>DACS Archive.</u>		
	Version/Revision: _____		
2.	CR Type: ☐ Development ☐ Correct Problem ☒ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached Add a history file called ymdh PUMP.prm which has ZIMPE112 and VR232050 tags recorded at 1 min. intervals.		
4.	Detail Description: ☐ See Attached		
5.	Originator Priority: ☒ 1 = Critical 2 = Very Important 3 = Important 4 = Interesting		
6.	Originator: <u>Barry Gregory</u> Date: <u>1/29/93</u> Phone No.: <u>5-6568</u>		
7.	Disposition:	Priority (See 5.) ☒ 1	Implement:
		Classification: ☐ 1 ☒ 4	☒ Yes ☐ Wait for approval
	☒ Approve ☐ Approve/Modify		☐ At next mandatory change
	☐ Reject ☐ Defer		
			☐ DACS test required
8.	TRG ¹ /CCB ² Approval:		
	<u>[Signature]</u>		Date: <u>1/26/93</u>
	<u>[Signature]</u>		Date: <u>1/26/93</u>
	<u>[Signature]</u>		Date: <u>1/26/93</u>
9.	Assigned to: _____ Phone No. _____		
10.	Copy to originator: ☐ After CCB/TRG disposition (Date: <u>1/1/93</u>) ☐ After change implementation (Date: <u>1/1/93</u>)		
11.	Change Comments or Hardware/Software/Documents Affected by Change: ☐ See Attached <u>1/20</u> <u>ZIMPE112 added to ymdh PUMP.prm (VR232050 already there)</u>		
12.	How was change implemented? ☐ ECN ☐ Ltr No. ☒ This CR		
13.	Completed by: <u>[Signature]</u> Date: <u>1/21/93</u>		
14.	WHC Verify Implementation: <u>[Signature]</u> Date: <u>2/4/93</u> Phone No. <u>3-1229</u>		

Change Request

ORIGINAL

CR No.:

Sheet 1 of

Form #: HMTP-CR-1 (1-14-93)

1 = CLASS I 2 = CLASS II

HYDROGEN MITIGATION TEST PROJECT

Change Request

ORIGINAL

CR No.: 92

Sheet 1 of 1

1.	Hardware/Software/Document Name: <u>DACS Software Manual Mode</u> Version/Revision: _____		
2.	CR Type: ☐ Development ☐ Correct Problem ☒ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached Need ability to automatically scan DACS to determine whether any Tags are in Manual mode.		
4.	Detail Description: ☐ See Attached Per signature implementation. ↓ the Tags from m. to Auto except certain Tags which are permanently set to auto manual is: PDPBASE.		
5.	Originator Priority: <u>[2]</u> 1 = Critical 2 = Very Important 3 = Important 4 = Interesting		
6.	Originator: <u>M. R. Powell</u> Date: <u>1/26/93</u> Phone No.: <u>376-2334</u>		
7.	Disposition:	Priority (See 5.) <u>[2]</u> Classification: ☐ I ☒ II ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer	Implement: ☒ Yes ☐ Wait for approval ☐ At next mandatory change ☐ DACS test required
8.	TRG ¹ /CCB ² Approval: <u>S. J. L. L.</u> Date: <u>1/26/93</u> <u>A. F. Varady</u> Date: <u>1/26/93</u> <u>12 R. K.</u> Date: <u>1/26/93</u>		
9.	Assigned to: _____ Phone No. _____		
10.	Copy to originator: ☐ After CCB/TRG disposition (Date: ____/____/____) ☐ After change implementation (Date: ____/____/____)		
11.	Change Comments or Hardware/Software/Documents Affected by Change: ☐ See Attached This is run from the screen REPORT 6, pressing <u>ENTER</u> on the <u>auto manual report</u> button. The <u>chem</u> <u>int</u> <u>screen</u> <u>summary</u> <u>screen</u> <u>printout</u> will show the number of tags in manual (excluding those which are normally in manual) and indicate that these tags have been set to AUTO.		
12.	How was change implemented? ☐ ECN, _____ ☐ Ltr No. _____ ☐ This CR		
13.	Completed by: <u>[Signature]</u> Date: <u>2/12/93</u>		
14.	WHC Verify <u>P. C. Lasser</u> See note in <u>EC</u> Implementation: _____ Date: <u>2/14/93</u> Phone No. <u>3-15417</u>		

HYDROGEN MITIGATION TEST PROJECT

Change Request

ORIGINAL

CR No.: 93

Sheet 1 of

1.	Hardware/Software/Document Name: <u>DACS Software</u>		
	Version/Revision: _____		
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached Prevention of alarm acknowledgement from remote stations such as Warroom and Evaporator building.		
4.	Detail Description: ☐ See Attached Operator Personnel in Warroom have the ability to acknowledge alarms which should be acknowledged by Test Engineering in Trailer. Remote stations connected to the DACS Trailer must be prevented from alarm acknowledgement.		
5.	Originator Priority: ☒ 2 1=Critical 2=Very Important 3=Important 4=Interesting		
6.	Originator: <u>[Signature]</u> Date: <u>1/26/93</u> Phone No.: _____		
7.	Disposition:	Priority (See 5.) ☒ 2 Classification: ☐ I ☒ II ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer	Implement: ☒ Yes ☐ Wait for approval ☐ At next mandatory change ☐ DACS test required
8.	TRG ¹ /CCB ² Approval: <u>[Signature]</u> Date: <u>1/26/93</u> <u>[Signature]</u> Date: <u>1/26/93</u> <u>[Signature]</u> Date: <u>1/26/93</u>		
9.	Assigned to: _____ Phone No. _____		
10.	Copy to originator: ☐ After CCB/TRG disposition (Date: ____/____/____) ☐ After change implementation (Date: ____/____/____)		
11.	Change Comments or Hardware/Software/Documents Affected by Change: ☐ See Attached Change to "View Only". Keys disabled in 2750 RSE form [Alt-G] alarm acknowledge [F4] alarm acknowledgement [F2] tag labels [Alt-U] run check [F9] attach to auto/manual		
12.	How was change implemented? ☐ ECN _____ ☐ Ltr No. _____ ☐ This CR		
13.	Completed by: <u>[Signature]</u> Date: <u>1/13/95</u>		
14.	WHC Verify Implementation: <u>Ruba mendoya</u> Date: <u>2/18/93</u> Phone No. <u>3-2007</u>		

HYDROGEN MITIGATION TEST PROJECT

Change Request

ORIGINAL

CR No.:

94

Sheet 1 of

1.	Hardware/Software/Document Name: <u>SENSOR FAILSAFE CORRECTION</u>		
	Version/Revision: _____		
2.	CR Type: ☐ Development ☐ Correct Problem ☐ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached <u>PROVIDE OPERATOR INPUT WHEN A 1-5VDC OR 4-20ma</u> <u>SENSOR INPUT LOOSES POWER.</u>		
4.	Detail Description: ☐ See Attached <u>Low Alarms added for 0-5V channels. High Aborts added for</u> <u>'low abort' channels so that they can detect out of range indication.</u> <u>MINIMUM INSTRUMENT LIST ONLY TK.</u>		
5.	Originator Priority: <u>[2]</u> 1=Critical 2=Very Important 3=Important 4=Interesting		
6.	Originator: <u>H.F. Vargo</u> Date: <u>1/26/93</u> Phone No.: <u>6-5387</u>		
7.	Disposition:	Priority (See 5.) <u>[2]</u>	Implement:
		Classification: ☐ <u>NI</u>	☒ Yes ☐ Wait for approval
		☒ Approve ☐ Approve/Modify	☐ At next mandatory change
		☐ Reject ☐ Defer	
			☐ DACS test required
8.	TRG ¹ /CCB ² Approval:		
	<u>H.F. Vargo</u>		Date: <u>1/26/93</u>
	<u>TK King</u>		Date: <u>1/26/93</u>
			Date: <u>1/26/93</u>
9.	Assigned to: _____ Phone No. _____		
10.	Copy to originator: ☐ After CCB/TRG disposition (Date: ____/____/____) ☐ After change implementation (Date: ____/____/____)		
11.	Change Comments or Hardware/Software/Documents Affected by Change: ☒ See Attached <u>The following channels are there</u> <u>affected (Critical Instruments as determined by the change):</u> <u>NITK001, NITK006, K3-H2 TIRI2A01-2, ZIMPE142, PIRI2A01, TT10001, ERB001</u> <u>PIRITB04, PIRI1B01, TIRITB01-22. All channels which did not already have a</u> <u>Low Alarm now have low alarms added in GENESIS set for the same set</u> <u>(continued)</u>		
12.	How was change implemented? ☐ ECN _____ ☐ Ltr No. _____ ☐ This CR		
13.	Completed by: <u>H.F. Vargo</u> Date: <u>2/11/93</u>		
14.	WHC Verify Implementation: <u>H.F. Vargo</u> Date: <u>2/11/93</u> Phone No. <u>6-5387</u>		

HYDROGEN MITIGATION TEST PROJECT
Change Request (Continuation Sheet)

CR No. 014

Sheet _____ of _____

Item No. [13] [14] [11]

above their minimum range values. There are now automatic
aborts for those instruments which previously had only low aborts.
These aborts detect the instrument out of range bit. For 0-5V
channels, an instrument failing to zero would not necessarily
produce the out-of-range bit. These channels now have low
aborts set to 2 counts above zero.

Signature: _____

Date: ____/____/____

TANK 101-SY MITIGATION-BY-MIXING TEST
PHASE A
TEST PROCEDURE

WHC-SD-WM-TPI-004

Rev. 1

MINIMUM INSTRUMENTATION CHECKLIST

ATTACHMENT A

PART A

PARAMETER	REQUIREMENTS	First Verification
		OPERABLE (Y/N/NA)
Pump Motor Temperature ²	One temperature device connected to DACS: WIR12A01 WIR12A02	_____ _____
Pump Column Gas Pressure	One pressure measurement connected to DACS: ZIMPE142 ? (Local recording of data is permitted for pre-Phase A pump bumping.)	_____
Pump Column Orientation	Sensor connected to DACS (ZIMPE142) or visual observation required	_____ _____
Pump Discharge Pressure ²	Pump volute pressure (PCR12A01) Low Alarm → PCR12A01 One pressure readout per downcomer pipe connected to DACS: PIPNO101 or PIPNO102 and PIPNO201 or PIPNO202	_____ _____ _____ _____ _____
Nozzle Discharge Temperature ³	The lower waste temperature element on each downcomer shall be operable: TIPNO101 TIPNO202 No (Local recording of data is permitted for pre-Phase A pump bumping.)	_____ _____
Pump Column Strain ¹	Minimum of 2 strain gauges not oriented at 180° apart shall be connected to DACS: WIR12A01 at 0° WIR12A02 at 90° WIR12A03 at 180° WIR12A04 at 270°	_____ _____ _____ _____
Dome Space Temperature	One sensor connected to DACS or read manually. → Vent Header Temp. TT10001 Manual Reading (101-SY vent gas temp. may be substituted for tank dome space temperature.)	_____ _____

Leonard-
List of claimed
characters WHC-SD-WH
List for stalls

Rev. 1

ATTACHMENT A

This checklist may be reproduced, as required.

[illegible]

PARAMETER	REQUIREMENTS	OPERABLE (Y/N/NA)
101-SY Vent Flow Rate	One flowmeter connected to DACS: FTE50001 or FTE50002	_____
Hydrogen Concentration	<p>One hydrogen monitor from each of the following 5 Groups shall be operable:</p> <p>Group 1: NITKSY11 - 0-100 PPM VENT HDR SHMS2</p> <p>Group 2: NIR05A02 - 0-100 PPM RISER 5A SHMS3 NIR17B02 - 0-100 PPM RISER 17B GMS1 NITJSY11 - 0-100 PPM RISER 16A SHMS1</p> <p>Group 3: NIR05A03 - 0-2000 PPM RISER 5A SHMS3 NIR17B03 - 0-2000 PPM RISER 17B GMS1 NITJSY12 - 0-2000 PPM RISER 16A SHMS1 NITKSY12 - 0-2000 PPM H2 VENT HDR SHMS2</p> <p>Group 4: NIR05A01 - 0-10% RISER 5A SHMS3 NIR17B01 - 0-10% RISER 17B GMS1 NITJSY06 - 0-10% RISER 16A SHMS1</p> <p>Group 5: NITKSY06 - 0-10% VENT HDR SHMS2</p>	_____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____
Pump Motor Speed (rpm)	One readout on DACS (VR232050) One independent readout (Instrument ID # VRINDRPM)	_____ _____
Pump Motor Current (amps)	One measurement connected to DACS: VR232040	_____
Pump Moisture	One detector connected to DACS: MIP0000P	_____

Leonard - claimed
 list of claimed
 characters WHC-SD-WM
 said for details

Rev. 1

ATTACHMENT A

This checklist may be reproduced, as required.

[illegible]

SC-74

TANK 101-SY MITIGATION-BY-MIXING TEST
PHASE A
TEST PROCEDURE

WHC-SD-WM-TPI-004
Rev. 1

MINIMUM INSTRUMENTATION CHECKLIST

ATTACHMENT A

PART A

PARAMETER	REQUIREMENTS	First Verification
		OPERABLE (Y/N/NA)
Waste Level	Radar Gauge (LIR13A01) shall be operable and One of the following 2 level indications shall be operable: FIC Gauge Manual Tape Reading	_____ _____ _____
Waste Density	Minimum 1 out of 4 pairs of instruments shall be operable and connected to DACS: VDIT 14A -- SP14A04 Level = 209.8" SP14A05 Level = 257.8" VDIT 1B -- SP1B04 Level = 212.9" SP1B05 Level = 260.9"	_____ _____ _____ _____ _____
Ambient Air Temperature	One sensor connected to DACS or read manually: WST1 Manual Reading	_____ _____
SY Tank Farm Exhaust Stack Flow Rate	One measurement connected to DACS or determined manually: DACs reading Manual Reading	_____ _____
In-Tank Video Camera	Shall be operable	_____
Elapsed Time of Pump Operation	Measured by DACS and measured by independent stopwatch	_____ _____
Tank Dome Pressure	One sensor connected to DACS: → PIR17B04 → or PIR17B01	_____ _____
MIT Strain	Minimum of 2 strain gauges connected to DACS: WIR17B01 at 0° and WIR17B02 at 90°	_____ _____

WHC-SD-WM-TPI-004

Rev. 1

MINIMUM INSTRUMENTATION CHECKLIST

ATTACHMENT A

PART A

[illegible]

Change Request

ORIGINAL

Rejected 2-16-93
~~CANCEL~~

CR No. 3

95

Sheet 1 of 1

Form #: HMTP-CR-1 (1-14-93)

1 = CLASS I 2 = CLASS II

HYDROGEN MITIGATION TEST PROJECT

Change Request

CR No.: 96Sheet 1 of 1

1.	Hardware/Software/Document Name: <u>DACS Screens</u> Version/Revision: _____		
2.	CR Type: ☐ Development ☐ Correct Problem ☒ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached <u>Remove SGPRESS screen.</u>		
4.	Detail Description: ☐ See Attached <u>Data displayed on SGPRESS screen are displayed elsewhere, so nobody ever uses this screen.</u>		
5.	Originator Priority: <u>[3]</u> 1 = Critical 2 = Very Important 3 = Important 4 = Interesting		
6.	Originator: <u>M. R. Powell</u> Date: <u>1, 26, 93</u> Phone No.: <u>6-2334</u>		
7.	Disposition: Priority (See 5.) <u>[3]</u> Classification: ☐ I ☒ II ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer	Implement: ☒ Yes ☐ Wait for approval ☐ At next mandatory change	☐ DACS test required
8.	TRG ¹ /CCB ² Approval: <u>[Signature]</u> Date: <u>1, 26, 93</u> <u>A. F. Vance</u> Date: <u>1, 26, 93</u> <u>12 Knight</u> Date: <u>1, 26, 93</u>		
9.	Assigned to: _____ Phone No. _____		
10.	Copy to originator: ☐ After CCB/TRG disposition (Date: ____/____/____) ☐ After change implementation (Date: ____/____/____)		
11.	Change Comments or Hardware/Software/Documents Affected by Change: ☐ See Attached _____ _____ _____ _____		
12.	How was change implemented? ☐ ECN _____ ☐ Ltr No. _____ ☐ This CR		
13.	Completed by: <u>[Signature]</u> Date: <u>1, 31, 93</u>		
14.	WHC Verify Implementation: <u>[Signature]</u> Date: <u>2, 4, 93</u> Phone No. <u>373 1779</u>		

HYDROGEN MITIGATION TEST PROJECT

Change Request

ORIGINAL

CR No.:

97

Sheet 1 of 1

1.	Hardware/Software/Document Name: <u>DACS ARCHIVE FILES #1</u> Version/Revision: _____		
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached Often, an artifact from one file ends up as the last record in another file. Investigate why this happens and correct it.		
4.	Detail Description: ☒ See Attached A file should contain 600 records of 12 second data / 2 hours. Some files contain a 601-st th record. This record looks like data from another archive file. When dealing with data, it is poor practice to delete records even if they are bad or wrong.		
5.	Originator Priority: ☒ 1 = Critical 2 = Very Important 3 = Important 4 = Interesting		
6.	Originator: <u>Jeane Lechelt</u> Date: <u>1/19/93</u> Phone No.: <u>(504) 373-3296</u>		
7.	Disposition: Priority (See 5.) ☒ 3 Classification: ☐ I ☒ II ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer		Implement: ☒ Yes ☐ Wait for approval ☐ At next mandatory change ☐ DACS test required
8.	TRG ¹ /CCB ² Approval: <u>G.F. Varson</u> <u>12/1/93</u>		Date: <u>1/26/93</u> Date: <u>1/26/93</u> Date: <u>1/26/93</u>
9.	Assigned to: _____ Phone No. _____		
10.	Copy to originator: ☐ After CCB/TRG disposition (Date: ____/____/____) ☐ After change implementation (Date: ____/____/____)		
11.	Change Comments or Hardware/Software/Documents Affected by Change: ☐ See Attached _____ _____ _____ _____		
12.	How was change implemented? ☐ ECN _____ ☐ Ltr No. _____ ☐ This CR		
13.	Completed by: <u>J. Lechelt</u> Date: <u>2/9/93</u>		
14.	WHC Verify Implementation: <u>Jeane Lechelt</u> Date: <u>2/14/93</u> Phone No. <u>373-3296</u>		

HYDROGEN MITIGATION TEST PROJECT

Change Request

CR No.: 98

Sheet 1 of 6

1.	Hardware/Software/Document Name: <u>DACS ARCHIVE FILES #2</u> Version/Revision: _____		
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached <u>Correct data labels for ELL, LOW, HIGH in files to reflect I/O DACS LIST. If appropriate, add PITNOTO archive to PITNOTO</u>		
4.	Detail Description: ☒ See Attached <u>Correct the data file headers for archive files. Corrections attached.</u>		
5.	Originator Priority: <u>[3]</u> 1=Critical 2=Very Important 3=Important 4=Interesting		
6.	Originator: <u>Jeann A Lechelt</u> Date: <u>1/14/93</u> Phone No. <u>(309) 313-3296</u>		
7.	Disposition: Priority (See 5.) <u>[3]</u> Classification: ☐ I ☒ II ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer		Implement: ☒ Yes ☐ Wait for approval ☐ At next mandatory change ☐ DACS test required
8.	TRG ¹ /CCB ² Approval: <u>[Signature]</u> Date: <u>1/26/93</u> <u>A.P. Vaicys</u> Date: <u>1/26/93</u> <u>TK [Signature]</u> Date: <u>1/26/93</u>		
9.	Assigned to: _____ Phone No. _____		
10.	Copy to originator: ☐ After CCB/TRG disposition (Date: ____/____/____) ☐ After change implementation (Date: ____/____/____)		
11.	Change Comments or Hardware/Software/Documents Affected by Change: ☐ See Attached <u>Did not correct units for FITMSV17 and this is what is in the DACS data file. Should require a change to the I/O List Section. PERC-RO1 no longer being added.</u>		
12.	How was change implemented? ☐ ECR ☐ Ltr No. _____ ☐ This CR		
13.	Completed by: <u>[Signature]</u> Date: <u>2/2/93</u>		
14.	WHC Verify Implementation: <u>[Signature]</u> Date: <u>2/4/93</u> Phone No. <u>3-1774</u>		

DACS DATA FILE LIST						
Latest Update: 01-16-92						
NAME	VAR #	TAG	VAR	EU	LOW	HIGH
FREY	1	PITMSY04	OUT	PSIA	0	30
	2	FITMSY17	OUT	INWG	0	10
	3	TICMSY18	OUT	DEG F	32	150
	4	PITMSY13	OUT	PSIA	0	30
	5	TITMSY15	OUT	DEG F	32	150
	6	PITMSY16	OUT	PSIA	0	30
↓	7	PDTMSY04	OUT	INWG	0	25
H2	1	NIR05A01	OUT	% H2	0	10
	2	NITKSY06	OUT	% H2	0	10
	3	NITJSY06	OUT	% H2	0	10
	4	NIR17B01	OUT	% H2	0	10
	5	NIR05A02	OUT	PPM H2	0	100
	6	NITKSY11	OUT	PPM H2	0	100
	7	NITJSY11	OUT	PPM H2	0	100
	8	NIR17B02	OUT	PPM H2	0	100
	9	NIR05A03	OUT	PPM H2	0	2000
	10	NITKSY12	OUT	PPM H2	0	2000
	11	NITJSY12	OUT	PPM H2	0	2000
↓	12	NIR17B03	OUT	PPM H2	0	2000
MISC	1	LIR13A01	OUT	IN	397	438
	2	FTE50001	OUT	CFM	0	1275
	3	FTE50002	OUT	CFM	-1000	7333
	4	TT10001	OUT	DEG F	30	140
	5	MT10001	OUT	% RH	0	100
	6	VR232020	OUT	VAC	0	460
	7	VR232040	OUT	AMPS	176	
	8	VR232050	OUT	RPM	1200	
↓	9	PITNO111	OUT	PSIG	-10	90

Wrong Label?
FTIR Sample
flow (should
be ft/sec?)

Consistency
in EU
label

better label

10

PITNO100

?

11

11

per "DACS"
I/O List

DACS DATA FILE LIST Latest Update: 01-16-92						
NAME	VAR #	TAG	VAR	EU	LOW	HIGH
MIT1	1	TIR17B01	OUT	DEG F	80	140
	2	TIR17B02	OUT	DEG F	80	140
	3	TIR17B03	OUT	DEG F	80	140
	4	TIR17B04	OUT	DEG F	80	140
	5	TIR17B05	OUT	DEG F	80	140
	6	TIR17B06	OUT	DEG F	80	140
	7	TIR17B07	OUT	DEG F	80	140
	8	TIR17B08	OUT	DEG F	80	140
	9	TIR17B09	OUT	DEG F	80	140
	10	TIR17B10	OUT	DEG F	80	140
	11	TIR17B11	OUT	DEG F	80	140
	12	TIR1B01	OUT	DEG F	80	140
	13	TIR1B02	OUT	DEG F	80	140
	14	TIR1B03	OUT	DEG F	80	140
	15	TIR1B04	OUT	DEG F	80	140
	16	TIR1B05	OUT	DEG F	80	140
	17	TIR1B06	OUT	DEGF	80	140
	18	TIR1B07	OUT	DEG F	80	140
	19	FIR01B01	OUT	FT/SEC	0	20
✓	20	FIR01B02	OUT	FT/SEC	0	20

CR 98
4 of 6

DACS DATA FILE LIST						
Latest Update: 01-16-92						
NAME	VAR #	TAG	VAR	EU	LOW	HIGH
MIT2	1	TIR17B12	OUT	DEG F	80	140
	2	TIR17B13	OUT	DEG F	80	140
	3	TIR17B14	OUT	DEG F	80	140
	4	TIR17B15	OUT	DEG F	80	140
	5	TIR17B16	OUT	DEG F	80	140
	6	TIR17B17	OUT	DEG F	80	140
	7	TIR17B18	OUT	DEG F	80	140
	8	TIR17B19	OUT	DEG F	80	140
	9	TIR17B20	OUT	DEG F	80	140
	10	TIR17B21	OUT	DEG F	80	140
	11	TIR17B22	OUT	DEG F	80	140
	12	TIR14A01	OUT	DEG F	80	140
	13	TIR14A02	OUT	DEG F	80	140
	14	TIR14A03	OUT	DEG F	80	140
	15	TIR14A04	OUT	DEG F	80	140
	16	TIR14A05	OUT	DEG F	80	140
	17	TIR14A06	OUT	DEG F	80	140
	18	TIR14A07	OUT	DEG F	80	140
	19	FIR14A01	OUT	FT/SEC	0	20
✓	20	FIR14A02	OUT	FT/SEC	0	20

CR 98
5 of 6

DACS DATA FILE LIST						
Latest Update: 01-16-92						
NAME	VAR #	TAG	VAR	EU	LOW	HIGH
PRSS	1	DIR14A01	OUT	mA	0	20
	2	DIR14A02	OUT	mA	4	20
	3	DIR14A03	OUT	mA	4	20
	4	DIR14A04	OUT	mA	4	20
	5	DIR14A05	OUT	mA	4	20
	6	DIR14A06	OUT	mA	4	20
	7	DIR14A07	OUT	mA	0	20
	8	DIR01B01	OUT	mA	0	20
	9	DIR01B02	OUT	mA	4	20
	10	DIR01B03	OUT	mA	4	20
	11	DIR01B04	OUT	mA	4	20
	12	DIR01B05	OUT	mA	4	20
	13	DIR01B06	OUT	mA	4	20
	14	DIR01B07	OUT	mA	0	20
	15	PIR11B01	OUT	INWG	-4	6
	16	PIR17B04	OUT	INWG	-5	20
	17	PIR14A01	OUT	PSIA	0	30
	18	PIR1BA01	OUT	PSID	0	30
	19	WSP1	OUT	PSIA	11.68	15.37
V	20	PIR12A01	OUT	PSIG	0	150

for 2-2-92

for DACS I/O
list

ORIGINAL

CR 98
6.76

DACS DATA FILE LIST Latest Update: 01-16-92						
NAME	VAR #	TAG	VAR	EU	LOW	HIGH
R12A	1	TIPNO101	OUT	DEG C	0	100
	2	TIPNO102	OUT	DEG C	0	100
	3	TIPNO201	OUT	DEG C	0	100
	4	TIPNO202	OUT	DEG C	0	100
	5	FIPNO101	OUT	GPM	0	1500
	6	FIPNO102	OUT	GPM	0	1500
	7	FIPNO201	OUT	GPM	0	1500
	8	FIPNO202	OUT	GPM	0	1500
	9	PIPNO101	OUT	PSI	0	150
	10	PIPNO102	OUT	PSI	0	150
	11	PIPNO201	OUT	PSI	0	150
✓	12	PIPNO202	OUT	PSI	0	150

HYDROGEN MITIGATION TEST PROJECT

Change Request

CR No.: 99

Sheet 1 of 1

1.	Hardware/Software/Document Name: <u>Low Flow Test Screen / Pump Bump Screen.</u> Version/Revision: _____		
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached <u>Need screen and software change for Low Flow Test Screen.</u> <u>Max Speed = 340 rpm and Setpoint speed = 340 rpm.</u> <u>and see below</u>		
4.	Detail Description: ☐ See Attached <u>Need screen and software change for Pump Bump Screen.</u> <u>Max Speed = 380 rpm and Setpoint Speed = 380 rpm.</u>		
5.	Originator Priority: ☒ 1 = Critical 2 = Very Important 3 = Important 4 = Interesting		
6.	Originator: <u>A. C. Zuercher</u> Date: <u>1/27/93</u> Phone No.: <u>373/779</u>		
7.	Disposition: _____ Priority (See 5.) ☒ 2 Classification: ☐ I ☒ II ☒ Approve ☐ Approve/Modify ☐ At next mandatory change ☐ Reject ☐ Defer		☒ DACS test required
8.	TRG ¹ /CCB ² Approval: <u>Chris Maltini</u> Date: <u>1/27/93</u> <u>G. F. Vargo</u> (signature) Date: <u>1/27/93</u> <u>Jeff Martin (LAW)</u> (signature) Date: <u>1/27/93</u>		
9.	Assigned to: _____ Phone No. _____		
10.	Copy to originator: ☐ After CCB/TRG disposition (Date: ____/____/____) ☐ After change implementation (Date: ____/____/____)		
11.	Change Comments or Hardware/Software/Documents Affected by Change: ☐ See Attached <u>Documents affected which must be changed include</u> <u>the ATP</u>		
12.	How was change implemented? ☐ ECN _____ ☐ Ltr No. _____ ☐ This CR		
13.	Completed by: <u>J. Martin</u> Date: <u>1/28/93</u>		
14.	WHC Verify Implementation: <u>2 Car, for A. C. Zuercher</u> Date: <u>1/28/93</u> Phone No. <u>6-5662</u>		

HYDROGEN MITIGATION TEST PROJECT

Change Request

CR No.:

100

Sheet 1 of

3

1.	Hardware/Software/Document Name: DACS VDTT Screens ITR1B, ITR14A, ITR1DIAG		
	Version/Revision: _____		
2.	CR Type: ☐ Development ☒ Correct Problem ☐ Enhancement ☐ Other		
3.	Short Task Description/Justification: ☐ See Attached VDTT data display, archival, and calculation modifications due to sensor failures.		
4.	Detail Description: ☒ See Attached <i>① All VDTT instruments have failed with the following exceptions: FIR14A01 & FIR14A02 but still not connected to ATP due to not being intrinsically secured. ② B strain gauges work, call 612-201-1000 with alarm labor control.</i> CANCELLED		
5.	Originator Priority: ☒ 1 = Critical 2 = Very Important 3 = Important 4 = Interesting		
6.	Originator: Troy I. Stokes Date: 2/1/93 Phone No.: (509) 376-9436		
7.	Disposition: Priority (See 5.) ☒ 1 Classification: ☐ I ☒ II ☒ Approve ☐ Approve/Modify ☐ Reject ☐ Defer Implement: ☐ Yes ☐ Wait for approval ☒ At next mandatory change		☒ DACS test required
8.	TRG ¹ /CCB ² Approval: <i>C. P. Mullen</i> <i>A. F. Targos</i> Date: 2/2/93 Date: 2/2/93 Date: 2/2/93		
9.	Assigned to: _____ Phone No.: _____		
10.	Copy to originator: ☐ After CCB/TRG disposition (Date: ____/____/____) ☐ After change implementation (Date: ____/____/____)		
11.	Change Comments or Hardware/Software/Documents Affected by Change: ☐ See Attached <i>NOTE: Instrument Levels are those used in channel list dated 12/18/92. DACS tags will be the LCRxxxx tags. F(x) blanks with their outputs with output 1: sensor to VDTT column PSID temperature calibrated. Output 2: sensor to input 3: PSID. Output 3: Specific function. Channel list must be changed to reflect this.</i> <i>Using station for data processing and FIR14A01 & FIR14A02</i>		
12.	How was change implemented? ☐ ECN _____ ☐ Ltr No. _____ ☐ This CR		
13.	Completed by: <i>[Signature]</i> Date: 2/1/93		
14.	WHC Verify Implementation: <i>[Signature]</i> Date: 2/4/93 Phone No.: 679436		

VDTT data display, archival, and calculational modifications:

The ITR1B and ITR14A DACS screens currently display column pressure, VDTT strains, specific gravities, PSIDs (sensor to vapor space), and temperatures.

Due to the failing sensors, some of the calculational logic will not succeed, and must be modified.

The temperature, column pressure (absolute), strains, and fluid velocities displayed on this screen are OK as is. These values should continue to be archived (or changed as required) to store temperature in °F, column pressure in PSIA, strains in microin/in, velocities in ft/sec. No milliamp data archival should be required.

PSID related:

The PSID displays currently display differential pressure between the sensor and the tank vapor space. Instruments DIR01B06, TIRO1B01, PIR1BA01, atmospheric pressure, and PIR17B04 are the typical instruments required to perform one of these calculations. PIR1BA01 is calibrated to be +-0.2 milliamp accuracy, which leads to about +-0.4 Psia accuracy, which is quite inadequate for the level of scrutiny the pressures are receiving.

I have noted over the last three months that the VDTT column has been remaining at approximately atmospheric pressure. The column was sealed in the KEH shops prior to shipment to the field, however a small leak rate must exist. In the shop, the VDTT columns held 5 psig for 10 minutes without showing pressure drop. However, if held over time, it is my belief that the pressure would have leaked down through the potting in the head of each VDTT.

Therefore, I propose to eliminate the VDTT column absolute pressure sensor, and the atmospheric pressure correction factors from the PSID (sensor to vapor space) calculational block. Accuracy will be greatly enhanced. The resultant formula for the PSID providing sensors will change according to the following example.

Example: 1B-6 sensor, shown on screen ITR1B as DCR01B06 currently, will change to DCR01B06 (PSID) = [1B-6 Sensor to VDTT column PSID (temperature compensated)] - [absolute value of (PIR17B04) in inches of water pressure] * .03609]

The above calculation assumes the VDTT column is at atmospheric pressure.

These calculated DCR values should be archived for trending purposes. No archival of raw milliamp data, such as DIRxxx's is required. PIR17B04 should be archived in the units of "inches of water vacuum".

Specific gravities:

DCR values OK
DIR values OK
PIR values OK
DF values OK

Previously, the DACS calculated specific gravities (SpG) from sensor to sensor, using the PSID from sensor to column readings of two adjacent pressure sensors, the distance between the sensors, and the density of water to determine specific gravity. This method was independent of surface level except for the very top specific gravity calculation. The specific gravity this calculation would have provided would be the average specific gravity between the two sensors used for the calculation. The sensor accuracy never strongly supported an analytical approach such as this, and results appeared highly erratic.

Therefore, now that submerged VDTT sensors are quitting at random, the sensor to sensor calculational method is no longer considered effectively useful. The specific gravity calculation is to be changed as follows for the typical 1B-6 sensor.

SP1B06 SpG = [[The DCR01B06 PSID value calculated above, sensor to vapor space pressure differential pressure] * 1728/62.4] / [(surface level from the radar gauge in inches) - (1B-6 sensor elevation in inches)]

This SpG will represent the average specific gravity of the waste between that selected sensor and the surface level. This will tend to average any variations of specific gravity that are present.

Typical for all SpG calculated values, SP1B06 to be located immediately adjacent to the TIR1B06 and DCR1B06 screen locations.

The SpG value need not be archived, as long as the surface level used in the calculation is archived.

General changes:

List the following sensors, temperature, pressure, and specific gravity calculations as S.O.O.C. 1B-1, 1B-3, 1B-4, 14A-1, 14A-2, 14A-5, 14A-6. These sensors have permanently failed. Data from these need not be archived.

On the "ITRDIAG" screen, where temperature compensation had been being received from alternate locations, change display screens as follows:

The asterisks and footnote(s) are no longer required. Simply read the data into this screen that the field instrumentation is providing. The above sensors have failed, but still put out some signal. The signal is not immediately useful, but neither is there any significant benefit from deleting the incoming milliamps, temperatures, and calculated PSIDs.