# The New Alarm Display Software for the RHIC Control Room

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Brookhaven Science Associates U.S. Department of Energy



# Abstract

http://www-conf.slac.stanford.edu/wao2012/sessionAbstracts.asp

The Alarm Display for the new RHIC Control Room has undergone a radical reworking. While keeping some of the existing software infrastructure the display adds new database driven features to assist operators to track and manage alarms. A key feature of the application facilitates communication from operator to operator and operator to system specialist of the status e.g. "work in progress" of individual alarms. A new summary display, borrowed from KEK, helps operators pinpoint "distressed" accelerators. This talk will summarize the new features of the alarm display and will review operator experience with the application after two years of use.



## What will be covered in this talk:

- Focus on the "Communication" Features of the application
  - Operator to Operator
  - Operator to Specialist
  - Specialist to Operator
- Micro review of System Infrastructure
- Summary Display
- Alarm Tracking
- Alarm Annotation
- Response Instructions
- Summary Operator Experience



## Collider Accelerator Department at Brookhaven National Laboratory



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# **Alarm System Infrastructure**

- Code/manager running on fec detects alarm and sends to "Notification server".
- Notif server determines if alarm is real or a diagnostic not relevant to operators
- Notif server sends alarm to the Alarm Receiver which sends it to alarm displays.
- Applications send alarms directly to the Alarm Receiver





# Summary Display (a la KEK ca 2003)

🔻 AlarmDi	splay - All Ala	irm View						_ 🗆 X
Setup								<u>H</u> elp
Linac	Tandem	Booster	EBIS	AGS	ATR	RHIC	Other	Total
0	29	10	9	18	1	44	3	114
(1)	(0)	(6)	(2)	(9)	(1)	(3)	(5)	(27)
						Wed J	un 27 10:16:	30 EDT 2012

- **Summary** allowed the reduction of Alarm Receivers from two to one
- 7 Machines + one "other"
- Color represents the alarm <u>level</u> of the most severe alarm
- Number in the colored field represents the number of <u>NEW</u> alarms
- Number in parenthesis refers to number of <u>SEEN</u> alarms
- Summary Display is interactive may spawn an Alarm Display FILTERED by "machine"



# Jargon -- Alarm (Severity) Levels

- A Note on Alarm Severity Levels
- Throughout the Alarm System, alarms are tagged with a severity level. This severity level affects the way alarms are displayed and the way they are managed. These severity levels are based on a standard employed at <u>SLAC</u> (ca 1992). The levels range from 1 to 5 with 5 being the most severe. The levels are defined as follows.
  - Level 1 <u>Warning</u>, includes power supplies going out of tolerance or tripping off.
  - Level 2 Interlock, indicates safe interruption due to the action of an interlock.
  - Level 3 Potential Equipment Damage, includes water leaks, vacuum problems, and high temperature alarms.
  - Level 4 Potential Environmental Impact (not immediately life threatening), includes tritiated water leaks and high radiation fields.
  - Level 5 Potential Life Threatening, includes very high radiation fields.



# Jargon -- Alarm (Resolution) States

- New
  - Alarm has arrived and has not been investigated by an operator.
- Seen
  - Operator has detected the alarm and assumes some responsibility to follow up.
- Assigned
  - Operator cannot resolve the alarm independently. Alarm is forwarded to another group.
- Deferred
  - Investigation is complete but resolution is not immediately possible (ring access, extensive work required).
- Orphaned
  - Alarm is expected to persist. It is not expected that anything will be done about the alarm any time soon.
- Cleared
  - Alarm has been resolved and is no longer visible on alarm screen (latched alarms may persist).



# **Alarm Tracking**

- Alarm Tracking
  - Follow Alarm Life
    Cycle
    - ◆ state
  - Transfer Over Shift Change
    - owner/user
  - Previous Alarm History
    - Timestamp

	_					×							
	WAT:lxf.blip_b3:dataBarM Check BLIP state - BLIP on/too intense? Run Name: run_fy11 -												
Update Alarm State													
		1	Annotation	nnotation									
State defer	red 💷 📄		Annotations associ	Apportations associated with an alarm state can be entered in this area									
			The complete annot	ation from prior states can l	be viewed in the	e area							
User seth			below the table by s	electing a row. The annotat	tion column in t	he table							
Sul	bmit Update		displays only the beginning of the annotation.										
Alarm History	Alarm History												
Timest	tamp	State	User	Annota	ation								
Wed Feb 23	11:08:48	deferred	seth	Specialist has indica	ated that th	e conditi							
Wed Feb 23	11:08:00	assigned	seth	It has been determine	ed that some	one from							
Wed Feb 23	11:06:52	seen	seth	The operator has seen	n the alarm	and will							
Wed Feb 23	11:06:16	new	seth										
Wed Feb 23	08:54:29	deferred											
Wed Feb 23	06:32:47	new											
Wed Feb 23	06:32:46	cleared											
Wed Feb 23	06:00:06	new											
Wed Feb 23	06:00:06	cleared											
Wed Feb 23	05:58:26	new				V							
Specialist has indicated that the condition causing the alarm will be handled during the next maintenance day													
			Message	e Area									
			Clos	se									



## Alarm Tracking – Data base view

M AD 2000								1
Start:      Feb 13 2012 08:00:00        Mame:      I        Stop:      Feb 13 2012 16:00:00        Description:      I	☐ View through current filter. Combines with Name and Description filter.							Search Advance Search
Row Timestamp Name	Level State	Description Action	n PPM Machir	e Type	Field System	Location	Annotation	User Name
1522 Feb 13 15:05:40 agelocs bla vipset1:alarmedwam		PPM-A cot	0 005	ado	48 Instrument	911		
1523 Feb 13 15:05:09 TTL 0TDM2	4 new range error	rrn=4 Set	0 Tandon	doutino	40 Instruien	Tandon Alc		beart in
1525 Feb 13 15:05:28 TTL 8TDV3	1 8000 OD	eat	0 Tandon	device	49 Unknown	Tandon Alc		baartin
1526 Feb 13 15:05:28 TTL 8TDH3	1 seen on	set	0 Tanden	device	49 Unknown	Tanden Alc		beartin
1527 Eeb 12 15:05:28 TTL 8TDV2	1 coop op	out	0 Tandon	device	49 Unknown	Tandon Alo		baartin
1528 Feb 13 15:05:28 TTL 70H2	1 seen electroal (	21t oot	0 Tandas	device	51 Unknown	Tanden Alc	TTR not used for FY12	beartin
1529 Feb 13 15:05:28 TTL 7TDV2		eet oot	0 Tandan	device	49 Unknown	Tandan Alc		beartin
1530 Feb 13 15:05:28 fecSusten 2a-bbgu:maxMemoruBlock	1 seen range error	set	0 RHTC	ado	48 Instrument	bldg. 2a	Performed a FIT test and indicated the max memory block was greater than 1/4 of	beartin
1531 Feb 13 15:05:28 TTL 110H1	1 deferred pre am far	ult ack	0 Tanden	device	53 Unknown	Tanden Alc		beartin
1532 Feb 13 15:05:28 TTL.8TDV1	1 seen on	set.	0 Tanden	device	49 Unknown	Tanden Alc		beartin
1533 Feb 13 15:05:28 TTL 7TDH2	1 seen on	set	0 Tanden	device	49 Upkpowp	Tanden Alc		beartin
1534 Feb 13 15:05:27 ENW.CRANE POWER	1 seen on	set	0 AGS	device	49 Unknown	911B Comp	CRANE IS ON UTUE OMG	beartin
1535 Feb 13 15:05:27 J18_S032_10_3.T:gotFreshDataM	1 seen ATR_Temper/	atureMonitorMan: No LabView Data set	0 AGS	ado	48	911	C. Theissen is investigating	bmartin
1536 Feb 13 15:05:27 J18 5032 10 4.T:temperatureM	1 seen ATR_Tempera	atureMonitorMan: Temperature out of rangiset	Q AGS	ado	48	911	C. Theissen is investigating	bmartin
1537 Feb 13 15:05:27 J18_5032_1_3,T:temperatureM	1 seen ATR_Tempera	stureMonitorMan; Temperature out of rangest	0 AGS	ado	48	911	C. Theissen is investigating	bmartin
1538 Feb 13 15:05:27 J18_S032_1_1.T:gotFreshDataM	1 seen ATR_Tempera	atureMonitorMan: No LabView Data set	0 AGS	ado	48	911	C. Theissen is investigating	bmartin
1539 Feb 13 15:05:27 J18_5032_1_2.T:temperatureM	1 seen ATR_Tempera	stureMonitorMan: Temperature out of rangiset	O AGS	ado	48	911	C. Theissen is investigating	bmartin
1540 Feb 13 15:05:27 J18_S032_1_1.T:temperatureM	1 seen ATR_Tempera	stureMonitorMan: Temperature out of rangiset	O AGS	ado	48	911	C. Theissen is investigating	bmartin
1541 Feb 13 15:05:27 ebs-whenelt.gun-ps:ioErrorM	1 seen Power suppl	y link down,Missing readback set	♦ EBIS	ado	48		ebis end of day	bmartin
1542 Feb 13 15:05:27 ebs-cp-01-piv:plcValveGetFeedbackBitM	1 seen EBIS Vacuus	Valve Closed set	O EBIS	ado	48 Vacuum	930ebis	ebis end of day	beartin
1543 Feb 13 15:05:27 qfg.930ebis-ps1.10KhTest:statusM	1 seen PSI interle	cked, PSI interlock input asserted set	0 EBIS	ado	48		ebis end of day	bmartin
1544 Feb 13 15:05:27 ENE, CRANE_POWER	1 seen on	set	0 AGS	device	49 Unknown	911B Comp	CRANE IS ONITITI ONG	beartin
1545 Feb 13 15:05:27 J18_S032_10_2.T:gotFreshDataM	1 seen ATR_Tempers	stureMonitorMan; No LabView Data set	0 AGS	ado	48	911	C. Theissen is investigating	beartin
1546 Feb 13 15:05:27 ebs-supr.col-ps:ioErrorM	1 seen Power suppl	ly link down,Missing readback set	♦ EBIS	ado	48		ebis end of day	bmartin
1547 Feb 13 15:05:27 J18_5032_10_1.T:gotFreshDataM	1 seen ATR_Tempera	stureMonitorMan; No LabView Data set	AGS	ado	48	911	C. Theissen is investigating	bmartin
1548 Feb 13 15:05:27 J18_S032_10_4.T:gotFreshDataM	1 seen ATR_Tempera	atureMonitorMan: No LabView Data set	AGS	ado	48	911	C. Theissen is investigating	bmartin
1549 Feb 13 15:05:27 J18_5032_1_4.T:temperatureM	1 seen ATR_Tempera	itureMonitorMan: Temperature out of rangiset		ado	48	911	C. Theissen is investigating	bmartin
1550 Feb 13 15:05:27 J18_S032_1_4.T:gotFreshDataM	1 seen ATR_Tempera	stureMonitorMan: No LabView Data set	O AGS	ado	48	911	C. Theissen is investigating	bmartin
1551 Feb 13 15:05:27 J18_S032_1_3.T:gotFreshDataM	1 seen ATR_Tempera	set atureMonitorMan: No LabView Data	AGS	ado	48	911	C. Theissen is investigating	bmartin
1552 Feb 13 15:05:27 ebs-dt3-ps:statusM	1 seen Fault, Out	of Regulation set	Ø EBIS	ado	48		ebis 'not running' alarms,	bmartin
1553 Feb 13 15:05:27 J18_S032_1_2.T:gotFreshDataM	1 seen ATR_Tempera	atureMonitorMan: No LabView Data set	0 AGS	ado	48	911	C. Theissen is investigating	bmartin
1554 Feb 13 15:05:26 yi11-tmp-pi21:tmpStatusM	1 seen Isolation V	/alve Closed, Reply OK set	O RHIC	ado	48 Vacuum			bmartin
1555 Feb 13 15:05:26 BMD.LM_SYS_STATUS	1 seen gasfaultit	set	0 Booste	r device	50 Unknown	930 UEB	Still under investigation	bmartin
1556 Feb 13 15:05:26 BMD.LM_SYS_STATUS	1 seen gasfaultac	set	0 Booste	r device	49 Unknown	930 UEB	Still under investigation	bmartin
1557 Feb 13 15:05:26 J18_5032_10_2.T:temperatureM	1 seen ATR_Tempera	atureMonitorMan: Temperature out of rangset	0 AGS	ado	48	911	C. Theissen is investigating	bmartin

- Fields
  - Time stamp
  - Alarm
  - Level
  - State
  - Description
  - Action
  - Machine
  - Device Type
  - System
  - Location
  - Annotation
  - User Name



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#### Annotation

seen

seen

seen

seen

× .							
S	etup	Filter	Mask	Logs	Transfer	Diagnostics	
6 C	Critical	Alarm	าร			[	Unfiltered View
Lv	1Coun	t			Name		Description
- 4		1	prs.917	7-8.91	3-J-H-18	_House:dicomM	A Fan House Condensate Level o
- 4	L I	1	prs.973	3-6.91	4_Gas_an	d_Cmprs_Shed:di	Booster Radiation Monitor Syst
- 4	L I	1	NM.062:	devic	eReadErro	orM	TRNH U/S LINAC PLUG
- 4		1	NM.061:	devic	eReadErre	orM	946-BSTER & LINAC-BS1
4		1	NM.060:	devic	eReadErre	orM	914 PLUG DOOR
		-					

4	1	prs.992-4.911:dicomM	Aux Systems-Control Panel Low	seen seen	Aug 01 Aug 02	01:21	Ĥ
765 S	Standard .	Alarms	Unfiltered View	Last Received @	Thu Aug	<mark>2 08:43:44 2</mark> 0	012
1	1	gdprocess.10a-gd2:vellowAuxOuenchMs	Yellow Aux 5 Ouenched [Signal	new	Jul 27	09:13	
1	1	dprocess.12a-dd2:vellowAuxOuenchMs	Yellow Aux 5 Ouenched [Signal	new	Jul 27	09:13	
1	1	AGS GAUSS EVENTS	missing events	1 new	Jul 27	10:17	
1	2	BSTR GAUSS SOURCE	Not Primary	* new	Jul 27	10:17	
2	1	permit.958-yme.A: input3StatusM	NSRL rarc20:Permit Link FAIL	new	Jul 28	00:01	
1	9	twnCh twnStatusM	Isolation Valve Closed, Renly	new	Jul 28	09:57	
1	13	varianInMan voltageM	range error	new	Jul 28	10:37	
1	10	varianInMan hvM	?	new	Jul 28	10:37	
1	12	m303IgChMan mAvgPressureM	range error	new	Jul 28	10:37	
3	1	nrs.936-2.H-10 House:dicomM	MPS Trouble-H-10 House	new	Jul 28	10:39	
1	1	ai5-gfimn-ns.hv:statusM	Fault, Filter	new	Jul 28	13:26	
ĩ	5	AMIX	range error	new	Jul 28	13:26	
ĩ	4	AMIX	off	new	Jul 28	13:26	
1	1 24	1008AGFMOD.RHIC-SUB-8A:grndFaultM	Ground fault indicator	assigned	Jul 28	21:16	
1	1	wfg.bi9-th3.1-4-ps:ioErrorM	1/0 differer Expand Group	new	Jul 29	12:43	
1	1	PS:psCtrlM.vi7-sxf1-ps	Off. No East Respond Instructions	new	Jul 30	10:17	
1	64	afa ioErrorM	Power supply	new	Jul 30	15:13	
1	4	sam statusM	HB Failure Annotate	new	Jul 30	16:20	
1	1	r-inst-N2.pressure:inBitsAlarmM	NSRL N2 Pre: Vorify	new	Jul 30	22:26	
1	20 %	apcups upsOnBattervM	UPS FAULT	new	Jul 31	13:57	
1	14 %	apcups upsLowBattervM	UPS FAULT Details	new	Jul 31	14:02	
1	1	CF:cfe-11b-ps2	response fai Toole	new	Jul 31	14:06	
1	1	adprocess.8b-ad2:vellowAuxOuenchMsa	Yellow Aux	new	Jul 31	14:39	
1	1	dprocess.8b-dd1:blueAuxOuenchMsg	Blue Aux 5 (Unlatch	new	Jul 31	14:39	IL.
1	3 🎭	apcups upsNotAnsweringM	UPS FAULT	new	Aug 01	07:42	
2	1	permit.Master:input1StatusM	Loss Monito	new	Aug 01	09:17	
1	25	madeCh watchAlarmM	range error Erase	new	Aug 01	09:51	
							-14
1333	Deferred	/Orphaned Alarms (0 Critical)	Unfiltered View	Last Received @	Sun Jul	8 10:25:54 20	012
2	1	nermit.911-agshi1.D:innut2StatusM	AGS Sector Valves:Permit Link	Ideferred	Jul 02	10:10	$\Delta$
1	23	wacPlcAggUMan nlcValweCetFeedbackBi	ACS Vacuum Valve Closed	deferred	Jul 02	13.50	

Not Off

No data

U Line Vacuum:Permit Link FAIL

Insulating Vac Alarm

11

Alarm Receiver Connection established (Aug 1 17:34:04)

dtcnPSI stateM

qauqeCh pressureM

qfg stateM

permit.at-ps2.B: input1StatusM

Selected alarms are being deselected so that new alarms will be visible (autoscrolling) (Aug 1 17:40:40)

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1

1

36

73

19

V CAD A



- O X

Help

Last Received @ Thu Aug 2 01:21:45 2012

deferred Jul 02 14:13

deferred Jul 02 15:17

deferred Jul 02 15:17

deferred Jul 08 10:25

Time

Jun 22 15:43

Jul 13 16:11 Aug 01 10:38

Aug 01 10:38

### **Annotation – text entry**

V CAD AD2					X
Setup	Filter	r Mask Lo	ogs Transfer Diagnostics		Help
6 Critica	l Alarn	ns	Unfiltered View Last Received @	Thu Aug	2 01:21:45 2012
Ulcour      4        4      4        4      4        4      4        4      4        4      4        4      4        4      4        4      4        4      4        4      4        4      4        4      4        1      1        1      1        1      1        1      1        1      1        1      1        1      1        1      1        1      1        1      1        1      1        1      1        1      1        1      1        1      1        1      1        1      1        1      1        1      1	1        1	prs.917-8, NM.062:dev NM.060:dev prs.992-4. Alarms qdprocess qdprocess gdprocess gdprocess BSTR_GAUS BSTR_GAUS BSTR_GAUS BSTR_GAUS BTR_GAUS Pernit.95 tmpCh tmp varianIpM yarian	Name  Description  ppm  State    1.913-J-H-18  House:dicomM  A Fan House Condensate Level o  Iseen  Jun 22    .914  Gas_and_Cmprs_Shed:di  Booster Radiation Monitor Syst  Iseen  Jun 22    sviceReadErrorM  TRNH U/S  LINAC-PLUG  seen  Aug 01    sviceReadErrorM  946-BSTER & LINAC-PS1  seen  Aug 01    sviceReadErrorM  914  PLUG DOOR  seen  Aug 01    1.911:dicomM  Aux Systems-Control Panel Low  seen  Aug 02    1008AGFMOD.RHIC-SUB-8A:grndFaultM  Run Name:  shutdown_fy12    Update Alarm State  Innotation  State  assigned    Vickeader  Image: Commer  Annotation  Image: Submit Update    State  assigned  Image: Crimer  Annotation    Submit Update  Image: Crimer  Annotation  sate Image: Crimer    Submit Update  Image: Crimer  Image: Crimer  Annotation    Submit Update  Image: Crimer  Annotation  Image: Crimer    Submit Update  Image: Crimer  Annotation  Image: Crimer    Submit Update  Image: Crimer  Image: Crimer  Annotation    Submit Update  Image: Crimer  Image: Crimer  Image	10:    43      16:    11      10:    38      10:    38      01:    21      33    33      33    33      37    71      10:    77      77    77      76    66      10:    77      70:    76      10:    77      70:	2 08:59:31 2012 △
1333 De	ferred	Orphaned A			8 10:25:54 2012
2 1 2 1 3 1 7 3 1	1 3 1 6 3 9	permit.91 vacPlcAgs permit.at dtcnPSI s qfg statem gaugeCh pr	Close Close No data [deferred Jul 02 pressureM Insulating Vac Alarm [deferred Jul 08	0 3 7 15:17 10:25	Je contraction of the second s
Selecte Selecte	d alar d alar	ms are being ms are being	g deselected so that new alarms will be visible (autoscrolling) (Aug  2 08:45:07) g deselected so that new alarms will be visible (autoscrolling) (Aug  2 08:53:46)		

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## **Annotation - Assignment**

CAD AD2000 - Thu Aug 2 09:02:59 2012		- C X
Setup Filter Mask Logs Transfer Diagnostic	S	Help
6 Critical Alarms	Unfiltered View	Last Received @ Thu Aug 2 01:21:45 2012
LvlCount      Name        4      1      prs.917-8.913-J-H-16_House:di        4      1      prs.973-6.914_Gas_and_cmprs_S        4      1      NM.062:deviceReadErrorM        4      1      NM.061:deviceReadErrorM        4      1      NM.060:deviceReadErrorM        4      1      NM.060:deviceReadErrorM        4      1      NM.060:deviceReadErrorM        4      1      prs.992-4.911:dicomM	Description p comM A Fan House Condensate Level o hed:di Booster Radiation Monitor Syst TRNH U/S LINAC PLUG 946-BSTER & LINAC-BS1 914 PLUG DOOR Aux Systems-Control Panel Low Unfiltered View	State      Time        seen      Jun 22 15:43        seen      Jun 13 16:11        seen      Aug 01 10:38        seen      Aug 02 01:21
🎦 4 sam statusM	HB Failure	new Jul 30 16:20
I I r-inst-N2.pressure:inBitsAlar	MM NSRL N2 Pressure Low	new Jul 30 22:26
1008AGFMOD.HHIC-SUB-BA:grnd+au    [L]Ground fault indicator    Update Alarm State    Annotation    State    assigned    Notify    Select    Gwner    Submit Update    Alarm History    Timestamp    Submit Update    Submit 29 06:06:02    assigned    mcr(rtu:    Sat Jul 28 23:40:07    Seen    mcr(w.jac    Sat Jul 28 21:16:59    new    :-assigned to pkfeng	Run Name:  shutdown_fy12    er  Annotation    ccio)  : -assigned to pkfeng    ckson)  P.K.Feng Has been notified.	Select User To Assign Alarm Edwards, Robert Eich, Robert Eisele, William Etkin, Asher Evers, Louis Famiglietti, Joseph Farooq, Sheikh Fedotov, Alexei <b>FengPei, Kuan</b> Fernando, Arthur Fischer, Wolfram Fite, Jesse Fitzsimmons, Jonathan Flanagan, Thomas Folz, Charles Frak, Bartosz Franco, Nicholas Fu, Wenge Funaro, Joseph Galarraga, Jorge Gardner, Christopher Gassner, David
<u> </u>		
Clo	se	ОК
Selected alarms are being deselected so that new al Selected alarms are being deselected so that new al	arms will be visible (autoscrolling)(Aug 2 08:53:4 arms will be visible (autoscrolling)(Aug 2 09:00:5	6) 4)
cience Associates		ם
mont of Enormy	13	NATIONAL
here of Ellergy	15	NATIONAL

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#### **Assignment - Reviewing**

#### V CAD AD2000 - Thu Aug 2 09:09:49 2012

Setup Filter Mask Logs Transfer Diagnostics

#### – 🗆 🗙 Help

6 Critical Alarms Unfiltered View Last Received @ Thu Aug 2 01:21:45 2012 Description Time prs.917-8.913-J-H-18\_House:dicomM A Fan House Condensate Level o Jun 22 15:43 4 1 seen prs.973-6.914\_Gas\_and\_Cmprs\_Shed:di Booster Radiation Monitor Syst Jul 13 16:11 4 -1 seen TRNH U/S LINAC PLUG NM.062:deviceReadErrorM seen Aug 01 10:38 4 -1 NM.061: deviceReadErrorM 946-BSTER & LINAC-BS1 Aug 01 10:38 4 seen 4 NM.060:deviceReadErrorM 914 PLUG DOOR seen Aug 01 10:38 Aug 02 01:21 4 prs.992-4.911:dicomM Aux Systems-Control Panel Low seen 764 Standard Alarms Unfiltered View Last Received @ Thu Aug 2 09:08:19 2012 12 qp303IqChMan gpAvgPressureM Jul 28 10:37 1 range error new prs.936-2.H-10\_House:dicomM Jul 28 10:39 Jul 28 13:26 ai5-qfjmp-ps.hv:statusM Fault, Filter new AMUX Jul 28 13:26 range error 5 new AMUX off new Jul 28 13:26 4 Ground fruccio: : -assigned to pkfeng 1008AGFMOD.RHIC-SUB-8A:grndFaultM assigned Jul 28 21:16 1 wfg.bi9-th3.1-4-ps:ioErrorM new Jul 29 12:43 Off, No Faults new 1 - 1 PS:psCtrlM.yi7-sxf1-ps Jul 30 10:17 64 qfq ioErrorM Power supply link down Jul 30 15:13 1 new Jul 30 16:20 sam statusM HB Failure 4 new r-inst-N2.pressure:inBitsAlarmM 1 NSRL N2 Pressure Low new Jul 30 22:26 20 % apcups upsOnBatteryM UPS FAULT Jul 31 13:57 new 14 % apcups upsLowBatteryM UPS FAULT Jul 31 14:02 new CF:cfe-11b-ps2 Jul 31 14:06 -1 response failure -> acnfec199. new 1 qdprocess.8b-qd2:yellowAuxQuenchMsq Yellow Aux 5 Quenched [Signal new Jul 31 14:39 Blue Aux 5 Quenched [Signal B8 Jul 31 14:39 -1 qdprocess.8b-qd1:blueAuxQuenchMsq new 3 🐅 apcups upsNotAnsweringM UPS FAULT Aug 01 07:42 -1 new permit.Master:input1StatusM Loss Monitor 1:Permit Link FAI new Aug 01 09:17 25 madeCh watchAlarmM range error new Aug 01 09:51 Aug 01 10:23 1 y8-dh0-ps.dmmDAC:diffM range error new HB:cfe-929-rf-atr No HeartBeat Aug 01 11:55 1 new Aug 01 11:55 1 HB:cfe-11b-ps2 No HeartBeat new HB:RhicIpmManager No HeartBeat new Aug 01 11:55 HB:GpmMan.VoltageMonitor Aug 01 11:55 1 No HeartBeat new Aug 01 14:23 CST-HITL1-VME not reporting new B-8B\_R8B05\_RACK\_TEMP.T:temperatureM\_SrvBldMan: Temperature out of Aug 01 15:03 -1 new 2 BSTR GAUSS EVENTS missing events new Aug 01 15:13 1 CST-930UEB-BLOSS not reporting Aug 01 15:25 new 1333 Deferred/Orphaned Alarms (0 Critical) Unfiltered View Last Received @ Sun Jul 8 10:25:54 2012 deferred Jul 02 13:50 1 23 vacPlcAqsVMan plcValveGetFeedbackBi AGS Vacuum Valve Closed 2 permit.at-ps2.B: input1StatusM U Line Vacuum:Permit Link FAIL deferred Jul 02 14:13 1 1 36 dtcnPSI stateM Not Off deferred Jul 02 15:17 1 73 qfq stateM No data deferred Jul 02 15:17 Insulating Vac Alarm

Selected alarms are being deselected so that new alarms will be visible (autoscrolling) (Aug 2 08:53:46) Selected alarms are being deselected so that new alarms will be visible (autoscrolling) (Aug 2 09:00:54)

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### **Assignment – Shift Change**

CAD AD	2000 - T	'hu A	ug 208:53	3:38 2012									
Setup	Filt	er	Mask	Logs	Trans	fer	Diagno	stics					Hel
C. Cuitia				(	Opera	ator	Change		Unfiltened View	Lost Bossius d &	N Thu Aug	2 01 21	145 20
6 Chuc	ai Aia		•	$\sim$						Last neceiveu @	P mu Aug	201.21	.45 20
Lv1Coι	Int				Na	me			Description	ppm State	Ti	me	1
4	1	- P	ors.917	-8.91	3-Ј-Н	-18	_House:	dicomM	A Fan House Condensate Level o	seen	Jun 22	15:43	
4	1	- F	ors.973	-6.91	4_Gas	_ane	d_Cmprs	_Shed:d	i Booster Radiation Monitor Syst	seen	Jul 13	16:11	-
4	1	N	M.062:	devic	eRead	Erre	orM		TRNH U/S LINAC PLUG	seen	Aug 01	10:38	
4	1	N	M.061:	devic	eRead	Erre	orM		946-BSTER & LINAC-BS1	seen	Aug 01	10:38	
4	1	N	M.060:	devic	eRead	Erre	orM		914 PLUG DOOR	seen	Aug 01	10:38	
4	1	F	rs.992	-4.91	1:dic	omM			Aux Systems-Control Panel Low	seen	Aug 02	01:21	
764 Sta	ındar	d Al	arms						Unfiltered View	Last Received @	Thu Aug	2 08:52	<mark>:56 20</mark>
1	2	E	STR GA	uss s	OURCE				Not Primary	* new	Jul 27	10:17	
2	1	n	ermit.	958-v	me.A:	inp	ut3Stat	usM	NSRL rarc20:Permit Link FAIL	new	Jul 28	00:01	
1	9	ŧ	mpCh t	mpSta	tusM				Isolation Valve Closed, Reply	new	Jul 28	09:57	
1	13		ar ianI	pMan	volta	aeM			range error	new	Jul 28	10:37	
1	10		ar ianI	pMan	hvM				?	new	Jul 28	10:37	
1	12	C	m303Ia	ChMan	qpAqp	aPre	essureM	C C C C C C C C C C C C C C C C C C C	range error	new	Jul 28	10:37	
3	1	r.	rs.936	5-2.н-	10 Ho	use	dicomM		UPS Trouble-H-10 House	new	Jul 28	10:39	
1	1	a	i5-afi	mp-ps	.hv:s	tati	usM		Fault, Filter	new	Jul 28	13:26	
1	5	Z	мих 🏹						range error	new	Jul 28	13:26	
1	4	Z	MUX						off	new	Jul 28	13:26	
1	1 📦	1	008AGF	'MOD.R	HIC-S	UB-	BA:qrnd	FaultM	Ground fault indicator	assigned	Jul 28	21:16	
1	1	W	fq.bi9	-th3.	1-4-p	s:i	ErrorM	[	I/O difference	new	Jul 29	12:43	
1	1	P	SipsCt	rlM.y	i7-sx	f1-1	ps		Off, No Faults	new	Jul 30	0 10:17	
1	64	C,	[fg ioE	rrorM					Power supply link down	new	Jul 30	15:13	
1	4	S	am sta	tusM					HB Failure	new	Jul 30	16:20	
1	1	r	-inst-	N2.pr	essur	e:i	nBitsAl	a rmM	NSRL N2 Pressure Low	new	Jul 30	22:26	
1	20 🐴	a	pcups	upsOn	Batte	гуM			UPS FAULT	new	Jul 31	13:57	
1	14 🐴	a	pcups	upsLo	wBatt	eryl	ML		UPS FAULT	new	Jul 31	14:02	
1	1	C	F:cfe-	·11b-p	s2				response failure -> acnfec199.	new	Jul 31	14:06	
1	1	C	dproce	ss.8b	-qd2 :	yel:	lowAuxQ	uenchMs	q Yellow Aux 5 Quenched [Signal	new	Jul 31	14:39	
1	1	C	dproce	ss.8b	-qd1:	blue	eAuxQue	nchMsg	Blue Aux 5 Quenched [Signal B8	new	Jul 31	14:39	
1	3 🐴	a	pcups	upsNo	tAnsw	eri	ngM		UPS FAULT	new	Aug 01	07:42	
2	1	P	ermit.	Maste	r:inp	ut 19	StatusM	[	Loss Monitor 1:Permit Link FAI	new	Aug 01	09:17	
1	25	n	adcCh	watch	Alarm	м			range error	new	Aug 01	09:51	
1	1	Y	78-dh0-	ps.dm	mDAC:	dif:	fM		range error	new	Aug 01	10:23	
1	1	Ē	B:cfe-	-929-r	f-atr				No HeartBeat	new	Aug 01	11:55	
1	1	E	B:cfe-	11b-p	s2				No HeartBeat	new	Aug 01	11:55	
1333 D	eferre	d/C	rphane	d Alarm	ns (0 C	ritic	al)		Unfiltered View	Last Received (	Sun Jul	8 10:25	:54 20
2	1		orm i t	911->	ach i 1	D.	innut?e	tatueM	AGS Sector Valves Permit Link	Ideferred	.Tul 02	10.10	
1	23	4		eWVan	$n n l \alpha$	Val	recetre	edbackP	i AGS Vacuum Valve Closed	deferred	Jul 02	13.50	
2	1		ermit	at-ne	2 B·i	nnu	t 1Statu	ISM STREET	II Line Vacuum Permit Link FAIL	deferred	Jul 02	14.13	
1	36	4	lt cnPST	etat	с. D. I еМ	npu	unitati		Not Off	deferred	Jul 02	15.17	
1	73		ifa sta	teM	- iii				No data	deferred	Jul 02	15.17	
3	19	4	augeCh	nres	SULEM				Insulating Vac Alarm	deferred	Jul 02	10.25	
-			Judgeen	. pres	Saron				mouraoing vao marm	actorieu	- our ou	10.23	
Select	ed al	arm	s are be	ina des	selecte	d so	that new	v alarms w	ill be visible (autoscrolling) (Aug. 1 17:40)	:40)			

Selected alarms are being deselected so that new alarms will be visible (autoscrolling) (Aug 1 17:40:40) Selected alarms are being deselected so that new alarms will be visible (autoscrolling) (Aug 2 08:45:07)

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## **Annotation – alarm transfer window**

Luoun	t pr 1 pr 1 pr	s.917-8.91 s.973-6.91	Name 3-J-H-18 4_Gas_a	3_House:dicomM <del>ad_Cmprs_Shed:di</del>	A F	Description p an House Condensate Level o ster Radiation Monitor Syst	opm S se se	en Ji en Ji	un 22 ul 13	15:43 16:11	
View:	Transfer W	indow	Assign:	blackler 🛛		Group Alarms		1329 Alaı	rms Tra	insfer 🗆	All
Lv1Co	ount		Na	blackler	N.	Description	ppm	State	Т	ime	
1	178	wfgRamp ic	ErrorM	bmartin		ower supply link carrier		deferred	Jun :	27 18:0	8
2	2	permit inp	out5Stat	charper	6	ASS Division B:Permit Link F	A I	deferred	Jun :	28 07:33	3
2	2	permit inp	out2Stat	czimmer	F	ASS Division B:Permit Link F	A A	deferred	Jun :	28 07:33	3
2	1	permit.12a	a-ps1.B:	i jziegler	F	ASS Beam Stop B:Permit Link	F/	deferred	Jun :	28 07:33	3
2	1	permit.12a	a-ps1.B:	j kling	F	ASS Beam Stop A:Permit Link	F	deferred	Jun :	28 07:33	3
2	2	permit inp	out1Stat	KUIK	E F	ASS Division A:Permit Link	A I	deferred	Jun 3	28 07:3	7
2	2	permit inp	out4Stat	marr	, I	ASS Division A:Permit Link F	Ā	deferred	Jun :	23 07:4:	1
2	3	permit inp	out6Stat	usn	9 F	ASS Division B:Permit Link F	A	deferred	Jun	28 08:33	3
2	3	permit inp	out5Stat	usM	F	ASS Division A:Permit Link F	ΓA	deferred	Jun :	28 08:33	3
1	4	wfgRamp ic	oError <mark>M</mark>		F	ower supply link carrier,Fra	am 🚽	deferred	Jun :	28 11:33	3
1	7	wfgRamp ic	DError			ower supply link carrier,CRC		deferred	Jun :	28 11:33	3
2	1	permit.10a	a-ps3.B:	Input2StatusM		Yellow Abort Kicker:Permit Li	in	deferred	Jun :	29 08:0	7
2	1	permit.10a	a-ps3.B:	input1StatusM	E	3lue Abort Kicker:Permit Link	¢ l	deferred	Jun :	29 08:0	7
1	242	psCtrlM st	tatusM		l I	No PS / Illegal State		deferred	Jun :	29 15 <b>:</b> 14	4
1	1	wfg.aj10-c	:eq-qmuk	ioErrorM	]	[/0 difference,Power supply ]	li	deferred	Jun 3	30 22:10	3
1	2	wfgControl	l linkEr	rorM	E	Event link carrier phase,Ever	nt	deferred	Jun 3	30 22:33	3
1	1	wfg.pttWes	st-ps,st	ar:ioErrorM	F	Frame error,I/O difference		deferred	Jun :	30 23:06	3
2	1	permit.7w-	-ps2.A:	nput1StatusM	I	oss Monitor 1:Permit Link Ff	JI I	deferred	Jul	01 17:23	3
1	2	wfgRamp ic	ErrorM	$\mathbf{N}$	0	CRC error,I/O difference		deferred	Jul	02 00:50	2
2	1	permit.911	l-agsbi1	.D.input2StatusM	I f	AGS Sector Valves:Permit Link	¢ l	deferred	Jul	<b>92 10:1</b> 0	2
1	23	NacP1cAgs\	/Man plc	ValveGetFeedback	Bi f	AGS Vacuum Valve Closed		deferred	Jul	02 13 <b>:</b> 50	2
2	1	permit.at-	-ps2.B:i	nput1 <b>St</b> atusM	- I	J Line Vacuum:Permit Link FA]		deferred	Jul	02 14:13	3
1	36	dtchPSI st	tateM		1	Not Off		deferred	Jul	02 15:17	4
1	73	qfg alater	1		1	No data		deferred	Jul	92 15:1	
3	19	gaugeCh pr	ressureM			Insulating Vac Alarm		deferred	Jul	08 10:2	2
1										þ	2
						Close					
					_						_
						Close					

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## **Annotation – show ownership**

CAD AD							×
Setup	Filter	· Mask Lo	gs Transfer Diagnostics				Help
6 Critic	a New			Unfiltered View	Last Re	ceived @ Thu Aug 201:2	1:45 2012
l v1Cou	Open		Name	Description ppm	State	Time	$\Delta$
4	View		913-J-H-18 House:dicomM	A Fan House Condensate Level o	seen	Jun 22 15:43	
A	01		914 Gas and Cmprs Shed:di	Booster Radiation Monitor Syst	seen	Jul 13 16:11	
4	Show	My Alarms	viceRea ErrorM	TRNH U/S LINAC PLUG	seen	Aug 01 10:38	
4	Apply	/ MCR Filter	viceReadErrorM	946-BSTER & LINAC-BS1	seen	Aug 01 10:38	
4	Cart		riceReadErrorM	914 PLUG DOOR	seen	Aug 01 10:38	
4	261 8	D'ELLING'''	.911:dicomM	Aux Systems-Control Panel Low	seen	Aug 02 01:21	H
766 Sta	Clear	MCR Filter		Unfiltered View	Last Re	ceived @ Thu Aug. 2.09:06	16 2012
						- 2 00 45 00	
1	4	sam statu	SM	HB Failure	new	Jul 30 16:20	
1	10.0	r-inst-N2	.pressure:inBitsAlarmM	NSKL NZ Pressure Low	new	JUL 30 22:26	
1	14 8	apcups up	sonBatteryn glewDatteryn	UPS FAULT	new	JUL 31 13:57	
1	1 1	CE: afo-11	b-nc <sup>2</sup>	regreence failure -> acefected	new	Tul 31 14:02	
1	1	adprospec	8b-ad2:uollow@uv0uonabMca	Vollow Jux 5 Quonghod [Gigma]	new	501 51 14.00 501 21 14.20	
i i	1	quprocess	8h-gd1:hluoluwQuonghMgg	Plus Jux 5 Quenched [Signal P8	new	Tul 21 14.35	
î	3 8-	angung un	Not Anguer ingM	IDS FAILT	now	Aug 01 07 · 42	
2	1	nermit Ma	ster: input 1StatusM	Loss Monitor 1. Permit Link FAT	new	Aug 01 09:17	
1	25	madeCh wat	tchAlarmM	range error	new	Aug 01 09:51	
1	1	v8-dh0-ps	.dmmDAC:diffM	range error	new	Aug 01 10:23	
1	ī	HB:cfe-92	9-rf-atr	No HeartBeat	new	Aug 01 11:55	
1	1	HB:cfe-11	b-ps2	No HeartBeat	new	Aug 01 11:55	
1	1	HB:RhicIp	Manager	No HeartBeat	new	Aug 01 11:55	
1	1	HB: GpmMan	.VoltageMonitor	No HeartBeat	new	Aug 01 11:55	
1	1	CST-HITL1	-VME	not reporting	new	Aug 01 14:23	
1	1	B-8B_R8B0	5_RACK_TEMP.T:temperatureM	SrvBldMan: Temperature out of	new	Aug 01 15:03	
1	2	BSTR_GAUS	S_EVENTS	missing events *	new	Aug 01 15:13	
1	1	CST-930UE	B-BLOSS	not reporting	new	Aug 01 15:25	
1	1	CST-930HE	BT-PLRMTR	not reporting	new	Aug 01 15:29	
1	2	wireOneMa:	ster fileUsedErrorM		new	Aug 01 18:34	
1	1	CAD_Weath	er_Alert	SPECIAL WARNING	new	Aug 02 06:57	
1	9	gaugeCh p	ressureM	Insulating Vac Warning	new	Aug 02 08:04	
1	1	aj 5-qrjmp	-ps.nv:statusm	Fault, LV PS, Filter	new	Aug 02 08:23	
1	1	Serverman	, psshapshotserver; fastchec	TASU CHECKIN INU AUG 2 00:54:	new	Aug 02 00:57	
2 1	26	gaugoCh n	o qui totoa	Inculating Vac Marm	new	Aug 02 09:02	
1	7	HITL OUAD	ressuren r	range error	new	Aug 02 09:05	
	•		•	Lungo offor	non	nug oz ostou	17
1333 D	eferred	Orphaned A	arms (0 Critical)	Unfiltered View	Last Re	eceived @ Sun Jul 8 10:25	5:54 2012
2	1	permit.91	1-agsbi1.D: input2StatusM	AGS Sector Valves:Permit Link	deferred	Jul 02 10:10	$\Delta$
1	23	vacPlcAgs	VMan plcValveGetFeedbackBi	AGS Vacuum Valve Closed	deferred	Jul 02 13:50	
2	1	permit.at	-ps2.B:input1StatusM	U Line Vacuum:Permit Link FAIL	deferred	Jul 02 14:13	
1	36	dtcnPSI s	tateM	Not Off	deferred	Jul 02 15:17	
1	73	qfg state	M	No data	deferred	Jul 02 15:17	
3	19	gaugeCh p	ressureM	Insulating Vac Alarm	deferred	Jul 08 10:25	7
<							

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Selected alarms are being deselected so that new alarms will be visible (autoscrolling) (Aug 2 08:53:46) Selected alarms are being deselected so that new alarms will be visible (autoscrolling) (Aug 2 09:00:54)

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## **Annotation – ownership screen**

Setup Filter Mask Logs Transfer Diagnostics				Help
	Owner: czimmer			
Critical Alarms	Filtered View	Last	Received @ Thu Aug 20	1:21:45 20
v1Count Name	Description	om State	Time	
4 1 prs.917-8.913-J-H-18_House:dic	omM A Fan House Condensate Level o	seen	Jun 22 15:43	
4 1 prs.973-6.914_Gas_and_Cmprs_Sh	ed:di Booster Radiation Monitor Syst	seen	Jul 13 16:11	
4 1 NM.062: deviceReadErrorM	TRNH U/S LINAC PLUG	seen	Aug 01 10:38	
4 I NM.061: deviceReadErrorM	940-BSIER & LINAU-BSI 914 DLUC DOOD	seen	Aug 01 10:30	
4 1 prs.992-4.911:dicomM	Aux Systems-Control Panel Low	seen	Aug 02 01:21	
Standard Alarms	Filtered View	Last F	leceived @ Wed Jun 62	2:41:50 201
1 1 TTL. 10DH1	dev not answr	seen	Jun 06 22:41	
Deferred/Orphaned Alarms (0 Critical)	Filtered View			
Selected alarms are being deselected so that new ala Selected alarms are being deselected so that new ala	rms will be visible (autoscrolling) (Aug 2 08:53:46 rms will be visible (autoscrolling) (Aug 2 09:00:54	)		







### Communications to Operators – response instructions

Setu	p Filter	Mask Logs Transfer Diagnostics					Help
6 Criti	ical Alarn	15	Unfiltered View	Last Received @	Thu Aug	2 01:21:4	15 201:
LvlCo	ount	Name	Description	ppm State	Tim	e	4
4	1	prs.917-8.913-J-H-18_House:dicomM	A Fan House Condensate Level o	seen	Jun 22	15:43	
4	1	prs.973-6.914_Gas_and_Cmprs_Shed:di	Booster Radiation Monitor Syst	seen	Jul 13	16:11	
4	1	NM.062:deviceReadErrorM	TRNH U/S LINAC PLUG	seen	Aug 01	10:38	
4	1	NM.061:deviceReadErrorM	946-BSTER & LINAC-BS1	seen	Aug 01	10:38	
4	1	NM.060:deviceReadErrorM	914 PLUG DOOR	seen	Aug 01	10:38	
4	1	prs.992-4.911:dicomM	Aux Systems-Control Panel Low	seen	Aug 02	01:21	l le
765 Si	tandard /	Alarms	Unfiltered View	Last Received @	Thu Aug 🗄	<mark>2 08:43:4</mark>	4 2012
1	1	ndprocess 10a-nd2:vellowAuxOuenchMs	Vellow Aux 5 Quenched [Signal	new	.Tul 27	09.13	12
î	î	adprocess 12a-ad2; yellowAuxQuenchMs	Vellow Aux 5 Quenched [Signal	new	Jul 27	09.13	
i i	- î	ACS CAUSS FUELTS	miccing ovents	1 now	Jul 27	10.17	
1	2	DETD CAUGE COUDER	Mot Drimary	* now	Jul 27	10.17	
2	1	normit 958-umo Arinnut?StatusM	MCDL rarg20: Bornit Link Fall	now	Jul 29	00.01	
1	<u>.</u>	twoch twoCtatueW	Tablation Unlyo Closed Donly	new	Jul 20	00.01	
1	12	umpen umpstatusn	isolation valve closed, kepty	new	Jul 20	10.27	
1	13	varianiphan voltagen	Lange error	new	Jul 20	10:37	
1	10	varianipman nvm	- Y	new	Jul 28	10:37	
1	12	gp3031gChMan gpAvgPressureM	range error	new	Jul 28	10:37	
3	1	prs.936-2.H-10_House:dicomM	UPS Trouble-H-10 House	new	Jul 28	10:39	
1	1	ai5-qfjmp-ps.hv:statusM	Fault, Filter	new	Jul 28	13:26	
1	5	AMUX	range error	new	Jul 28	13:26	
1	4	AMUX	off	new	Jul 28	13:26	
1	1 📷	1008AGFMOD.RHIC-SUB-8A:grndFaultM	Ground fault indicator	assigned	Jul 28	21:16	
1	1	wfg.bi9-th3.1-4-ps:ioErrorM	I/O differer Expand Group	new	Jul 29	12:43	
1	1	PS:psCtrlM.yi7-sxf1-ps	Off, No Faul Bespond Instructions	new	Jul 30	10:17	
1	64	qfq ioErrorM	Power supply	new	Jul 30	15:13	
1	4	sam statusM	HB Failure Annotate	new	Jul 30	16:20	
1	1	r-inst-N2.pressure:inBitsAlarmM	NSRL N2 Pre: Verify	new	Jul 30	22:26	
1	20 %	ancuns upsOnBattervM	UPS FAULT	new	Jul 31	13:57	
1	14 🛼	ancuns unsLowBattervM	UPS FAILT Details	new	Jul 31	14:02	
1	1	CF:cfe-11h-ns2	response faiteste	new	Jul 31	14:06	
î	ĩ	adurocess 8h-ad2.vellowAuxOuenchMea	Vellow Aux	now	Jul 31	14.39	
1	1	adprocess. 05 quz. yerrownuxguencinisg	Plue Jux 5 (Unlatch	now	Jul 31	14.30	
1	2 8	angung unghot ingen ingen		new	Jug 01	07.42	-
-		apcups upshotansweringh	Mask	new	Aug 01	07.42	
4	a <u>†</u>	permit. Master: inputistatusm	LOSS MONITO	new	Aug 01	09:17	
T	25	madeun watenAlarmn	range error Erase	new	Aug 01	09:51	i ly
1333 [	Deferred	Orphaned Alarms (0 Critical)	Unfiltered View	Last Received @	Sun Jul	8 10:25:5	4 2012
2	1	permit.911-agsbi1.D:input2StatusM	AGS Sector Valves:Permit Link	deferred	Jul 02	10:10	4
1	23	vacPlcAgsVMan nlcValveGetFeedbackBi	AGS Vacuum Valve Closed	deferred	Jul 02	13:50	
2	1	nermit at-ns2 B: innut1StatusM	II Line Vacuum Permit Link FALL	deferred	Jul 02	14.13	
1	36	dtcnDST_stateM	Not Off	deferred	Jul 02	15.17	
1	72	afa atatoN	No. data	deferred	Tul 02	15.17	
1	10	ury staten	NO uata	uererreu	Jul 02	10:17	
3	19	yauyeen pressuren	insulating vac Alarm	deterred	Jul 08	10:25	

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Alarm Receiver Connection established (Aug 1 17:34:04) Selected alarms are being deselected so that new alarms will be visible (autoscrolling) (Aug 1 17:40:40)

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V CAD AD2000 - Thu Aug 2 08:44:43 201

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#### Example -- alarm response instructions displayed on a webpage

#### grndFaultCh Alarm Response Instructions

This is a note for operations on what action should be taken when alarms from grndFaultCh devices come up on the alarm display.

Ground fault indicator from building monitoring system

<u>Alarm</u> = .....:grndFaultM -- description "Ground fault indicator"

- <u>Response</u>
  - Follow OPM 2.39 "<u>Response to Ground Fault Alarm at C-AD</u>"
    - For "Notification" (CATV Message) when MCR is not staffed contact Ingrassia x4272, or Sampson x7178, or Shrey x7457, or Naylor x7986, or VanKuik x4245
  - Monitor ground faults on the web at <a href="http://130.199.40.205/groundfaults.html">http://130.199.40.205/groundfaults.html</a>
  - Notification = Per OPM 2.39 Contact the Head of the Power Distribution Group -- PK Feng x5648 -- Pager  $531\overline{2}$
- <u>Unlatching</u> = Ground fault alarms will remain on the alarm display even after the ground fault is cleared. To remove the alarm, right-click on the alarm and choose Unlatch from the pop-up options.
- <u>Alarm</u> = .....:grndFaultM -->description "Communications fault"
- Response A sensor or other system failure has caused the alarm. "Support One" shall contact P.K. Feng (Power Engineering) or Charles Theisen (Controls Group)-- the system experts.

Notification = CONTACT CAS AND REPORT THE LOCATION OF THE SYSTEM FAILURE -- CAS will contact the experts.

	1 indicates that no data has been received in the timeout period
	Building Monitoring Channel Alarms:
noDataTimeoutErrorM	Contacts: System: HW: Charles Theisen: x4706 [Home: ?] SW: James Jamilkowski: x8598 If this occurs then no updates from LabView are occuring - Contact Charles Theisen SnapServer can also be a cause of this problem. SnapServers can be found in StartUp as follows: StartUp > diagnostics > Servers > System Servers > Snap Server One or more of the SnapServers should be running - Contact James Jamilkowski

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## **Summary - Operator Experience**

- Annotation Feature is "fabulous"
- "Ownership" avoided
  - operators misunderstood short term intention of ownership.
- Labor involved
  - Some operators used the features more than others
- Not all alarms required annotation
  - Operators developed a good understanding of short tem alarms which need not be annotated
- One year of experience -- more acceptance needed

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