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C-A WATER GROUP ALARM MANUAL

Dicom Alarm No: 933

Location: Bldg. 1000P

Systems: ATR Cooling Sys.

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ACCT #	ALARM	RESET	STATUS	ALARM DESCRIPTION
933	0	1	@	ATR TOWER COMMON ALARM
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Revision Date

Oct. 2007

ALARM RESPONSE SHEET – ATR TOWER COOLING SYSTEM

NODE: RC16

ALARM CODE 933.0
RESTORE 933.1

LOCATION: BLDG. 1000P

SYSTEM: ATR TOWER COMMON ALARM (COMNALRM. TWR)

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933-0-1

Alarm Response sheet – ATR Tower Cooling System

SIGNAL NAME	DESCRIPTION	ALARM LIMITS
TWRFLO..	Tower Water Flow	(Lo/LoLo) 500/250 gpm

ACTION:

1. Verify flow is outside limits
   a) If flow is <250 advise MCR that pump(s) will shut down

2. Check 1000P Pump Room and Cooling Tower for major leak

3. Check other system parameters 1000P
   a) Pump discharge is between 15 & 30 psig
   b) Pump suction is between +2 & -10 in Hg
   c) Tower basin water level >16”

4. If system is out of parameters, advise MCR that cooling for ATR Equipment, will be affected (Note 3).

5. Note 3 & 1

NOTE:

1. Record Actions Taken
2. MCR = Main Control Room
3. Call Mech Svcs from "Call In" list

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933-0-2

Alarm Response sheet – ATR Tower Cooling System

SIGNAL NAME	DESCRIPTION	ALARM LIMITS
TWRLVL	Cooling Tower Water Level	(Lo/LoLo) 16/13 inches

ACTION:

1. Verify level is outside limits

2. Check that Make-up solenoid valve is open
   a) If necessary open twr mkup bypass until level ~ 25 inches; then close valve

3. Inspect area for leaks & check that drain valves are closed

4. Notes 1 & 3

NOTE:

1. Record Actions Taken
2. MCR = Main Control Room
3. Call Mech Svcs from "Call In" list

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933-0-3

Alarm Response sheet – ATR Tower Cooling System

SIGNAL NAME	DESCRIPTION	ALARM LIMITS
TWRTEMP.SUP	Tower Water Supply Temp	(Hi/Lo) 85/40 F

ACTION:

1. Verify temp is outside limits

2. Check that tower fan switch is in Auto
a) If not, place switch in Auto

3. For HiAlarm fan should be on
a) If fan does not operate in Auto, place fan switch in manual and start, observe temp
b) Leave fan on only if temp remains above 85 F
c) For LoAlarm fan should be off

4. Notes 1 & 3

NOTE:

1. Record Actions Taken
2. MCR = Main Control Room
3. Call Mech Svcs from "Call In" list

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933-0-4

Alarm Response sheet – ATR Tower Cooling System

SIGNAL NAME	DESCRIPTION	ALARM LIMITS
TWRPIPNG.LOTEMP.ALRM	Cooling Tower Outdoor Piping	(Lo) 40F

ACTION:

1. Verify temp is outside limits
2. Verify that heat trace is on
   a) If not raise temp SW setting until heat trace gets warm
3. If outdoor air temp is 32F, Note 3

NOTE:

1. Record Actions Taken
2. MCR = Main Control Room
3. Call Mech Svcs from "Call In" list

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933-0-5

Alarm Response sheet – ATR Tower Cooling System

SIGNAL NAME	DESCRIPTION	ALARM LIMITS
TWRPRES.SUP	Tower Water Supply Pressure (20 psig = Normal)	(Lo) 10

ACTION:

1. Verify press is outside limits.
2. Check that Tower Pumps is running.
3. Check that flow is ≈600gpm.
4. Check that appropriate valves are open.
5. For low Press check for leaks in Pump Room and at tower.
6. Note 3 & 1

NOTE:

1. Record Actions Taken
2. MCR = Main Control Room
3. Call Mech Svcs from "Call In" list

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933-0-6

Alarm Response sheet – ATR Tower Cooling System

SIGNAL NAME	DESCRIPTION	ALARM LIMITS
TWRCOND	TOWER WATER CONDUCTIVITY (200 - 600 = Normal)	(Hi/Lo) 600 ms/200ms

ACTION:

1. Verify resistivity is outside limits
2. If Alarm remains - Note 3 the following morning.

NOTE:

1. Record Actions Taken
2. MCR = Main Control Room
3. Call Mech Svcs from "Call In" list

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ALARM RESPONSE SHEET – ATR MAGNET COOLING SYS

NODE: RC16

ALARM CODE 933.2
RESTORE 933.3

LOCATION: BLDG. 1000P

SYSTEM: ATR COMMON ALARM (COMNALRM.SEM)

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NOTE: IF COMMON ALARM IS RECEIVED - CHECK MAKE-UP DISPLAY FOR WATER MAKE-UP.

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933-2-1

Alarm Response sheet – ATR Magnet Cooling System

SIGNAL NAME	DESCRIPTION	ALARM LIMITS
MAGLVL	Water Level (9"-15"=Normal)	(Hi/Lo/LoLo) 25/9/1 inches

ACTION:

1. Verify level is outside Hi/Lo limits

a) Pumps shut down @ ≤1"

2. Inspect 1000P, pump room, A-House, 1005E, 1007W, U-Line, Stub tunnel, W-Line, X-Line, Y-Line and the RHIC tunnel at the end of the arcs for leaks.

3. For Low Level: If no leaks check that solenoid valves 1 & 2 are “on”. Press Make-Up Reset switch for a few seconds to reset make-up interlock.
   Check for flow thru deionizer.

4. If not: Open bypass valve at solenoid until level = 15”, then close.

5. For Hi level check that solenoid bypass is closed. If not: close valve If level still rises, close Make-Up valve @ solenoid.

b) Notes 1 & 3

NOTE:

1. Record Actions Taken
2. MCR = Main Control Room
3. Call Mech Svcs from "Call In" list

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933-2-2

Alarm Response sheet – ATR Magnet Cooling System

SIGNAL NAME	DESCRIPTION	ALARM LIMITS
MAGRESIS..	ATR Water Resistivity (.75 -1.25=Normal)	(Lo) .5/megohm-cm

ACTION:

1. Verify resistivity is below low limits
2. Observe that DI solenoid is open.
3. Observe deionizer output resistivity (>2 megohm-cm)
4. Observe that system resistivity rises above .5 megohm
5. If Lo Alarm remains - Note 3 the following morning.

NOTE:

1. Record Actions Taken
2. MCR = Main Control Room
3. Call Mech Svcs from "Call In" list

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933-2-3

Alarm Response sheet – ATR Magnet Cooling System

SIGNAL NAME	DESCRIPTION	ALARM LIMITS
MAGMKUP.CNT	ATR Water Make-up count	(Hi/HiHi) 50/100 GAL in 10 min

ACTION:

1. Check 1000P, pump room, A-House, 1005E, 1007W, U-Line, Stub tunnel, W-Line, X-Line, Y-Line and the RHIC tunnel at the end of the arcs for leaks.
2. Advise MCR that pumps will shut down after 3 min. If HiHi MKUP occurs
3. Advise MCR, isolate leaking device
4. Notes 1 & 3

NOTE:

1. Record Actions Taken
2. MCR = Main Control Room
3. Call Mech Svcs from "Call In" list

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933-2-4

Alarm Response sheet – ATR Magnet Cooling System

SIGNAL NAME	DESCRIPTION	ALARM LIMITS
MAG O2	ATR Oxygen Level (0-25 ppb is normal)	Hi 50ppb

ACTION:

1. Verify O2 is above high limit.
2. Observe that O2 solenoid is open
3. If Hi alarm remains – Note 3 the following morning.

NOTE:

1. Record Actions Taken
2. MCR = Main Control Room
3. Call Mech Svcs from "Call In" list

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933-2-5

Alarm Response sheet – ATR Magnet Cooling System

SIGNAL NAME	DESCRIPTION	ALARM LIMITS
MAGFLO	ATR System-Lo Flow	Alarm Limits (LO/LO LO) 500/250 GPM

Action:

1. Verify Low flow <500 GPM

2. Verify that pump is running
   a) If not, Note 3

3. If pumps is running
   b) Advise MCR that pumps may trip off @ 250 GPM.
   c) Investigate for major leak and isolate

4. Verify that system pressure is between 125 - 175 psig,
   a) Note 1, 3 the following workday
   b) If not, Note 3

NOTE:

1. Record Actions Taken
2. MCR = Main Control Room
3. Call Mech Svcs from "Call In" list

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933-2-6

Alarm Response sheet – ATR Magnet Cooling System

SIGNAL NAME	DESCRIPTION	ALARM LIMITS
MAGTEMP.SUP.	ATR Water Supply Temp.	(HiHi/Hi/Lo) 105/100/55F

ACTION:

1. Verify temp is outside limits

2. Advise MCR that pumps will go off at 105F

3. Verify that tower water temp is within limits. 45/90F
   a) If not, see that response sheet

4. Verify that tower water flow is within limits ≈600 GPM
   a) If not, see that response sheet

5. Check that Auto/Manual switch to temp control valve (TCV) is in Auto
   a) If not, Place in Auto and observe temp

6. Note 3 & 1

NOTE:

1. Record Actions Taken
2. MCR = Main Control Room
3. Call Mech Svcs from "Call In" list

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941-0-7

Alarm Response sheet – ATR Magnet Cooling System

SIGNAL NAME	DESCRIPTION	ALARM LIMITS
MAGPRESS.SUP	Magnet Water Supply Press.	(Hi/Lo) 175/125psig

ACTION:

1. Verify Press. is outside limits

2. Check that Auto/Manual Switch to Press. Control Valve (PCV) is in Auto
   a) If not, place in Auto and observe press.

3. Check for LOAIR.ALRM

4. For HiPress. Alarm, Check for closed valves & Lo flow

5. For LoPress. Alarm, Check for HiFlow & large leak

6. Note 3 & 1

NOTE:

1. Record Actions Taken
2. MCR = Main Control Room
3. Call Mech Svcs from "Call In" list

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933-2-8

Alarm Response sheet – ATR Magnet Cooling System

SIGNAL NAME	DESCRIPTION	ALARM LIMITS
LOAIR.ALRM.OK	Control Air Lo Pressure Lo	50psig

ACTION:

1. Verify Low Air Pressure
2. Advise MCR that ATR Water Press. & Temp. Control will be affected
3. Check that SEM Water press. Is within limits (see attached response sheet)
4. Call Plant Engineering Site Shift Supervisor at x4174, cell – 872-8988 or C/W desk x4284 during off hours.
5. Note 1 & Note 3.

NOTE:

1. Record Actions Taken
2. MCR = Main Control Room
3. Call Mech Svcs from "Call In" list

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933-2-9

Alarm Response sheet – ATR Magnet Cooling System

SIGNAL NAME	DESCRIPTION	ALARM LIMITS
MAGPIPNG.LOTEMP .ALRM	Magnet Outdoor Piping	(Lo) 40F

ACTION:

1. Verify temp is outside limits

2. Verify that heat trace is on
   If not raise temp SW setting until Heat trace gets warm.

3. If outdoor air temp is 32F or below, Note 3

NOTE:

1. Record Actions Taken
2. MCR = Main Control Room
3. Call Mech Svcs from "Call In" list

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