**NODE: RC 10**

**ALARM CODE 945.0**
**RESTORE 945.1**

**LOCATION: BLDG. 928/929**

**SYSTEM: RF CAVITY COMMON ALARM (COMNALRM.CAV)**

**ACTION: DETERMINE WHICH SIGNAL IS IN ALARM AND TURN TO ALARM RESPONSE SHEET FROM LIST BELOW**

| NODE | SIGNAL NAME | DESCRIPTION | PAGE NO. |
|---|---|---|---|
| RC 10 | CAVLVL | RF Cavity Water Level | 945.0-1 |
| RC 10 | CAV.RESIS | RF Cavity Water Resistivity | 945.0-2 |
| RC 10 | CAVMKUP.CNT | RF Cavity Water Make-up | 945.0-3 |
| RC 10 | CAVMKUP. | Cavity Water Make-up | 945.0-4 |
| RC 10 | CAVTEMP | RF Cavity Water Supp. Temp | 945.0-5 |
| RC 10 | CAVFLO | RF Cavity Low Flow | 945.0-6 |
| RC 10 | CAVPRESS | RF Cavity Low Press | 945.0-7 |

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

# ALARM RESPONSE SHEET - RF CAVITY

| SIGNAL NAME | DESCRIPTION | ALARM LIMITS |
|---|---|---|
| CAVLVL | RF Cavity Water Level<br>(9"-15"=Normal) | (Hi/Lo/LoLo)<br>20/6/1 inches |

**ACTION:**

1. Verify level is outside Hi/Lo limits
   a) Pumps shut down @≤1"
2. Inspect B929, pump room, Trenches and magnet enclosure for leaks.
3. For Low Level:
   If no leaks Press Make-Up Reset switch for a few seconds to reset CAVMKUP.OK.
   Check for flow thru deionizer.
   If not: Open bypass valve at solenoid until level = 15", then close bypass valve.
4. For Hi level check that solenoid bypass is closed.
   If not: close valve
   If level still rises, close Make-Up valve @ solenoid.
5. 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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# ALARM RESPONSE SHEET - RF CAVITY

| SIGNAL NAME | DESCRIPTION | ALARM LIMITS |
|---|---|---|
| CAV.RESIS | RF Cavity Water Resistivity (1.25-1.75=Normal) | (Lo) 1.0/megohm-cm |

**ACTION:**

1. Verify resistivity is below low limits
2. Observe that flow is thru deionizer
3. Observe deionizer output resistivity (>2 megohm-cm)
4. Observe that system resistivity rises above 1.0 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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# ALARM RESPONSE SHEET - RF CAVITY

| SIGNAL NAME | DESCRIPTION | ALARM LIMITS |
|---|---|---|
| CAVMKUP.CNT | RF Cavity Water Make-up Flow | (Hi/HiHi) 25/50 GAL in 10 min |

**ACTION:**

1. Check B929 Pump Room, trenches and magnet enclosure 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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| SIGNAL NAME | DESCRIPTION | ALARM LIMITS |
|---|---|---|
| CAVMKUP. | Cavity System Water Make-up | ON/OFF |

**ACTION:**

1. Verify Make-Up is ON.
2. Check Make-Up Totals on Control P.C.
3. Check Level Trend for a Downward Slope.
4. Inspect B.929 P.R. and B913 for leaks.
5. Isolate Leak if Possible.
6. CAS Group to Log Make-Up Quantity in Log.
   Follow C-A-OPM 2.19
7. Contact Water Systems Specialist from Call In List For Assistance/Adivce if Necessary
8. Advise Water Systems Group Supervisor in 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 – RF CAVITY

| SIGNAL NAME | DESCRIPTION | ALARM LIMITS |
|---|---|---|
| CAVTEMP.SUP | RF Cavity Water Supply Temp. (≈80°F = normal) | (HiHi/Hi/Lo) 105/90/70°F |

**ACTION:**

1. Verify temp is outside limits.

2. Verify that chilled water temp is within limits. 40/55°F.
   a) If not, see that response sheet.

3. Verify that chilled water and Chillers are on. If not Call Plant Engineering Site Shift Supervisor at x4174, cell – 872-8988 or C/W desk x4284 during off hours.

4. For HiTemp alarm TCV indicator should be in Max Cooling Position. (OPEN)
   a) Check that chiller pump is in Auto and is running.
   If not: Call Plant Engineering Site Shift Supervisor at x4174, cell – 872-8988 or C/W desk x4284 during off hours.
   b) Advise MCR that pump will shut dowm 3 minutes after system supply reaches 105°F.

5. For lo temp alarm TCV indicator should be in the bypass position.
   If not: Check that the manual/auto selector is in auto.

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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# ALARM RESPONSE SHEET – RF CAVITY

| SIGNAL NAME | DESCRIPTION | ALARM LIMITS |
|---|---|---|
| CAVFLO | RF Cavity System-Lo Flow | Alarm Limits (LO/LO LO) 150/100 GPM |

**Action:**

1. Verify Low flow <150 GPM

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

3. If pump is running
   a) Advise MCR that pumps may trip off @ 100 GPM.
   b) Investigate for major leak and isolate

4. Verify if system pressure is between 75 - 120 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 Water Systems from "Call In" list

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# ALARM RESPONSE SHEET – RF CAVITY

| SIGNAL NAME | DESCRIPTION | ALARM LIMITS |
|---|---|---|
| CAVPRESS.SUP | RF Cavity Water Supply Press. | (Lo)<br>75psig |

**ACTION:**

1. Verify Press. is outside limits.
2. For HiPress. Alarm, Check for closed valves & Lo flow.
3. For LoPress. Alarm, Check for HiFlow & large leak and verify pressure bypass is closed.
4. Note 3 & 1

**NOTE:**

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

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| | |
|---|---|
| **Alarm Code** | **945-2** |
| **Restore** | **945-3** |

**Location:** B 928/929-RFMG Bldg

**Alarm Limits**
≈ 90 F

**System:** RF Power Supply System - HiTemp

**Action:**

1. Verify Hi temp condition

2. Check that tower water is on and ≈ 85 F
   a) If not, see alarm response 946-0
   b) If on, open manual bypass valve, around tower water temp control valve at heat exchanger, to maintain system at 80 - 85F

3. If successful,Note 1 & 3 the following workday

4. If not, Note 1 & 3

**Notes:**

1. Record Actions Taken
2. MCR = Main Control Room (x 4662)
3. Call Mech Svcs from "Call In" List

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**Alarm Code** **945-4**
**Restore** **945-5**

**Location:** **B 928/929-RFMG Bldg**

**Alarm Limits**
**≈ 40 psig**

**System:** **RF Power Supply System - Lo Press**

**Action:**

1. **Verify Lo Press**

2. **Close manual valve, at press. control valve to maintain ~ 65 psig**
   a) **If successful, Note 1 & 3 the following workday**
   b) **If not, advise MCR and turn off pump & makeup valve.**
   c) **Investigate and isolate leak**
   d) **Note 1 & 3**

**Notes:**

1. **Record Actions Taken**
2. **MCR = Main Control Room (x 4662)**
3. **Call Mech Svcs from "Call In" List**

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**Alarm Code** **945-6**
**Restore** **945-7**

**Location:** **B 928/929 RFMG Bldg**

**Alarm Limits**
**≈ 750 GPM**

**System:** **RF Power Supply System - LoFlo**

**Action:**

1. **Verify Lo flow with pump pressure.**

2. **Check that pump discharge is between 70 & 80 psig**
   a) **If not, advise MCR, turn off pump and makeup valve.**
   b) **Investigate for leak and isolate**
   c) **Note 1 & 3**

**Notes:**

1. **Record Actions Taken**
2. **MCR = Main Control Room (x 4662)**
3. **Call Mech Svcs from "Call In" List**

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**NODE: RP 10**

**ALARM CODE 945.8**
**RESTORE 945.9**

**LOCATION: BLDG. 928/929**

**SYSTEM: RF POWER COMMON ALARM (COMNALRM.PWR)**

**ACTION: DETERMINE WHICH SIGNAL IS IN ALARM AND TURN TO ALARM RESPONSE SHEET FROM LIST BELOW**

| NODE | SIGNAL NAME | DESCRIPTION | PAGE NO. |
|---|---|---|---|
| RP 10 | PWRLVL | RF Power Water Level | 945.8-1 |
| RP 10 | PWR.RESIS | PF Power Water Resisivity | 945.8-2 |
| RP 10 | PWRMKUP.CNT | RF Power Water Make-up | 945.8-3 |

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

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# ALARM RESPONSE SHEET - RF POWER

| SIGNAL NAME | DESCRIPTION | ALARM LIMITS |
|---|---|---|
| PWRLVL | RF Power Water Level (15"- 9"=Normal) | (Hi/Lo/LoLo) 25/6/1 inches |

**ACTION:**

1. Verify level is outside Hi/Lo limits
   a) Pumps shut down @ 1"
2. Inspect B929, and pump room for leaks
3. If no leaks Press Make-Up Reset switch for a few seconds to reset PWRMKUP.OK. Check for flow thru deionizer. If not: Open bypass valve at solenoid until level = 15", then close bypass valve.
4. For Hi level check that solenoid bypass is closed.
   If not: close valve
   If level still rises, close Make-Up valve @ solenoid.
5. 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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# ALARM RESPONSE SHEET - RF POWER

| SIGNAL NAME | DESCRIPTION | ALARM LIMITS |
|---|---|---|
| PWR.RESIS | RF Power Water Resistivity (1.25-1.75=Normal) | (Lo) 1.0/megohm-cm |

**ACTION:**

1. Verify resistivity is below low limits
2. Observe that flow is thru deionizer
3. Observe deionizer output resistivity (>2 megohm-cm)
4. Observe that system resistivity rises above 1.0 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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# ALARM RESPONSE SHEET - RF POWER

| SIGNAL NAME | DESCRIPTION | ALARM LIMITS |
|---|---|---|
| PWRMKUP.CNT | RF Power Water Make-up Flow | (HiHi/Hi) 50/25Gal in 10min |

**ACTION:**

1. Check B929 Pump Room, Assembly & power supply area.
2. If HiHi, advise MCR Pumps will shut off in 3 min.
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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