MISCELLANEOUS SEQUENCE OF OPERATIONS

1. AIR CONDITIONING UNIT AC-1:

   A. AIR CONDITIONING CONTROLS SHALL BE PROVIDED BY THE MANUFACTURER.

   B. AC-1 WILL PROVIDE SUPPLEMENTAL COOLING TO THE EXISTING LIEBERT CRAC UNIT FOR THE PACS SERVER ROOM. THE AC-1 TEMPERATURE SET POINT SHALL PROVIDE A DEAD BAND SUCH THAT UNIT OPERATES ONLY IF LIEBERT UNIT CAN NOT MAINTAIN ITS SETPOINT TEMPERATURE.

   C. THE DDC SYSTEM SHALL MONITOR SPACE CONDITIONS.

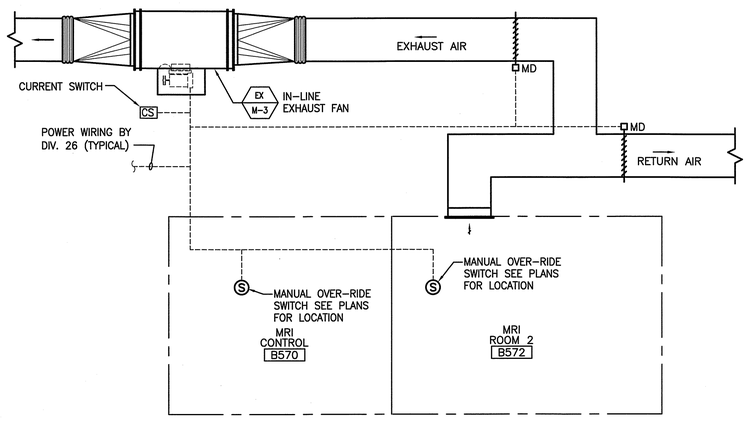
2. FIRE DAMPERS:

   A. FIRE DAMPERS SHALL BE PROVIDED WITH END SWITCHES TO MONITOR DAMPER POSITION.

   B. DAMPER POSSITION SHALL BE MONITORED BY THE BUILDING MANAGENT SYSTEM.

3. AHU-101 AND SMOKE EVACUATION FAN SEQUENCE SHALL REMAIN AS CURRENTLY CONFIGURED.

G1	MISCELLANEOUS SEQUENCE OF OPERATIONS
NONE	*



MRI EMERGENCY EXHAUST FAN (EX-M-3)

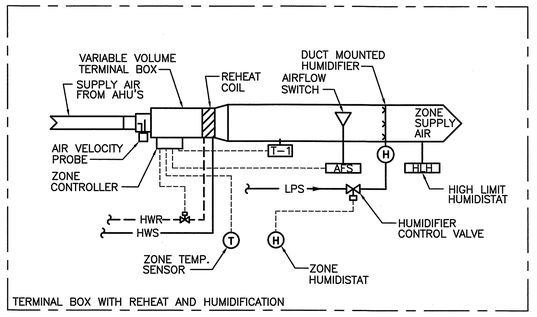
1. TWO MANUAL SWITCHES SHALL BE PROVIDED, ONE IN THE MRI ROOM AND ONE IN THE MRI CONTROL ROOM. IF EITHER SWITCH IS TOGGLED, THE MOTORIZED DAMPER ON THE RETURN DUCT SHALL CLOSE, THE MOTORIZED DAMPER ON THE EXHAUST DUCT SHALL OPEN AND THE EXHAUST FAN EX-M-3 SHALL BE ENERGIZED.

2. MONITOR FAN STATUS THROUGH THE BUILDING MANAGEMENT SYSTEM VIA. CURRENT SWITCH AND ALARM ON FAN FAILURE.

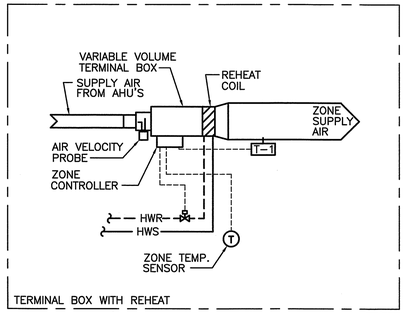
A1	MRI ROOM EMERGENCY EXHAUST FAN CONTROL SYSTEM SCHEMATIC
NONE	*

NOTE:

1. SEE SHEET M-001 FOR LEGEND AND ABBREVIATIONS.



TERMINAL BOX WITH REHEAT AND HUMIDIFICATION



TERMINAL BOX WITH REHEAT

TERMINAL BOX SEQUENCE OF OPERATION

1. TERMINAL BOX GENERAL:

   A. VARIABLE AIR VOLUME AND CONSTANT AIR VOLUME TERMINALS WITH AND WITHOUT REHEAT COILS SHALL BE PRESSURE INDEPENDENT TYPE, USING AN INLET AIR VELOCITY PROBE TO MAINTAIN AIRFLOW AT A STEADY STATE WITH UPSTREAM PRESSURE VARYING BETWEEN MINIMUM AND MAXIMUM RATED STATIC PRESSURE. ZONE CONTROLLER SHALL MAINTAIN SPACE TEMPERATURE SETPOINT (AS SENSED BY ZONE TEMPERATURE SENSOR) BY RESETTING THE AIR VELOCITY SETPOINT,

   B. PROVIDE DISCHARGE TEMPERATURE SENSORS ON ALL SUPPLY TERMINAL BOXES WITH RE-HEAT COILS FOR MONITORING TERMINAL BOX DISCHARGE TEMPERATURE.

   C. DISCHARGE AIR TEMPERATURE SHALL BE LIMITED TO MAXIMUM OF 15 DEG. F ABOVE ROOM DESIGN TEMPERATURE.

   D. "HIGH" AND "LOW" ALARM SET POINTS SHALL BE 20% ABOVE OR BELOW THE MAXIMUM/MINIMUM AIRFLOW TO EACH TERMINAL.

2. TERMINAL BOX WITH HOT WATER REHEAT COIL:

   A. THE ZONE CONTROLLER SHALL INCREASE VAV BOX AIRFLOW TOWARDS ITS MAXIMUM POSSITION ON A RISE IN SPACE TEMPERATURE. UPON A DROP IN SPACE TEMPERATURE BELOW THE SETPOINT, THE BOX SHALL MODULATE TOWARD ITS MINIMUM POSSITION. UPON AN ADDITIONAL CALL FOR HEAT, THE ZONE CONTROLLER SHALL MODULATE THE ASSOCIATED HOT WATER CONTROL VALVE TO OPEN.

3. TERMINAL BOX WITH HUMIDIFICATION:

   A. SPACE HUMIDITY SENSOR SHALL MAINTAIN SETPOINT (BETWEEN 30% AND 40% ADJUSTABLE) BY MODULATING TRIM HUMIDIFIER CONTROL VALE. DUCT HUMIDITY SHALL BE MAINTAINED BELOW A HIGH LIMIT SETPOINT AS SENSED BY HIGH LIMIT HUMIDITY SENSOR (HLH). THE HIGH LIMIT HUMIDITY SETPOINT SHALL BE RESET BASED ON DUCT TEMPERATURE AS SENSED BY TEMPERATURE SENSOR (T-1) AS FOLLOWS.

TEMP	RH SETPOINT
T<69	70%
70<T<77	60%
78<T<79	55%
80<T<85	45%
85<T<95	35%

THE DUCT HUMIDIFIER SHALL BE LOCKED OUT IF DUCT MOUNTED AIRFLOW SENSING SWITCH (AFS) FAILS TO DETECT AIRFLOW.

A8	TERMINAL BOX SEQUENCE OF OPERATIONS
NONE	*

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MAINE MEDICAL CENTER
MRI #1 AND READING ROOM RENOVATION
PORTLAND, MAINE

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SHEET TITLE:

CONTROL SYSTEM SCHEMATICS AND SEQUENCE OF OPERATIONS

SHEET No.
M-652