

AIR FORCE MEDICAL OPERATIONS AGENCY-HEALTH FACILITIES DIVISION
QUALITY STANDARDS FOR AFMS INFRASTRUCTURE SYSTEMS-REV. 4.2 (CONT.)

- 4.15.3.4.1. THE LIFE SAFETY BRANCH CONSISTS OF:
- 4.15.3.4.1.1. EGRESS ILLUMINATION
- 4.15.3.4.1.2. 25% OF CORRIDOR AND 50% OF STAIRWAY ILLUMINATION
- 4.15.3.4.1.3. 25% OF ASSEMBLY AREAS, SUCH AS DINING ROOMS, CHAPELS AND AUDITORIUMS.
- 4.15.3.4.1.4. EXIT SIGNS
- 4.15.3.4.1.5. FIRE ALARM AND PIPED MEDICAL GAS ALARM SYSTEMS, INCLUDING SMOKE ALARMS, MEDICAL VACUUM ALARMS AND ALARMS FOR VENTILATION FOR SMOKE EVACUATION WHERE PATIENT EVACUATION IS NOT FEASIBLE.
- 4.15.3.4.1.6. EMERGENCY COMMUNICATIONS TO BE USED TO NOTIFY THE GENERAL POPULATION, INCLUDING TELEPHONE SYSTEM, POWER AND LIGHTING FOR COMMUNICATION CLOSETS AND CRISIS CONTROL CENTERS.
- 4.15.3.4.1.7. SELECTED POWER, TASK LIGHTING AND RECEPTACLES AT GENERATOR SET LOCATIONS, IN TRANSFORMERS, SWITCHBOARDS, MECHANICAL AND ELECTRICAL EQUIPMENT ROOMS, REPAIR SHOPS, OTHER EQUIPMENT ROOMS AND CHARGER FOR BATTERY POWERED EMERGENCY LIGHT SETS.
- 4.15.3.4.1.8. ELEVATOR CAB LIGHTING, CONTROL, COMMUNICATIONS AND SIGNAL SYSTEMS.
- 4.15.3.4.1.9. GENERATOR SET AUXILIARIES, BATTERY CHARGER AND JACKET WATER HEATERS.
- 4.15.3.4.2. THE CRITICAL CARE BRANCH CONSISTS OF:
- 4.15.3.4.2.1. NURSE CALL, TELEPHONE EQUIPMENT, SELECTED COMPUTER EQUIPMENT AND DATA OUTLETS.
- 4.15.3.4.2.2. OXYGEN AND MEDICAL GAS EQUIPMENT
- 4.15.3.4.2.3. IN PATIENT ROOMS--ONE DUPLEX RECEPTACLE PER BED, INCLUDING MOBILIZATION BEDS LOCATED IN THE PATIENT SERVICE CONSOLE. TWO ADDITIONAL WALL MOUNTED DUPLEX RECEPTACLES IN SINGLE AND PEDIATRIC BEDROOMS.
- 4.15.3.4.2.4. ALL RECEPTACLES IN PATIENT SERVICE CONSOLES, ISOLATION NURSING ROOMS, CYSTOSCOPY, IVP, CARDIAC CATHETERIZATION, RADIOGRAPHIC SPECIAL PROCEDURE, ORAL SURGERY AND RECOVERY ROOMS.
- 4.15.3.4.2.5. ALL RECEPTACLES IN SELECTED ROOMS IN SURGERY AND DELIVERY SUITES, NURSERY, CORONARY AND INTENSIVE CARE UNITS, HEMODIALYSIS AND EMERGENCY ROOM.
- 4.15.3.4.2.6. ALL EQUIPMENT FOR THE REFRIGERATED STORAGE OF BLOOD, BIOLOGICAL, PATHOLOGY SPECIMENS AND MEDICINES.
- 4.15.3.4.2.7. TWO X-RAY ROOMS (INCLUDING ONE FLUOROSCOPIC ROOM) AND REQUIRED AUTOMATIC X-RAY FILM PROCESSOR STATION.
- 4.15.3.4.2.8. DENTAL ORAL EVACUATION AND DENTAL COMPRESSED AIR SYSTEMS
- 4.15.3.4.2.9. LABORATORIES, INCUBATORS, ANALYSIS, BLOOD BANK, CHEMISTRY, HEMATOLOGY PLUS SELECTED RECEPTACLES
- 4.15.3.4.2.10. ONE FLASH STERILIZER IN EACH SURGICAL SUITE AND DELIVERY SUITE CLUSTER CORE
- 4.15.3.4.2.11. SELECTED RECEPTACLES IN ADMITTING AND DISPOSITION, PHARMACY, TREATMENT ROOMS, NURSE STATIONS AND ORAL SURGERY ROOMS, MAXILLOFACIAL SURGERY, PERIODONTICS AND ENDODONTICS CLINIC TREATMENT AREAS WITH CENTRAL PIPED MEDICAL GAS OUTLETS.
- 4.15.3.4.2.12. MEDICAL PREPARATION STATIONS AND NOURISHMENT STATIONS
- 4.15.3.4.3. THE EQUIPMENT SYSTEM BRANCH CONSISTS OF:
- 4.15.3.4.3.1. ONE PASSENGER TYPE AND ONE HOSPITAL SERVICE ELEVATOR PER HOSPITAL WING
- 4.15.3.4.3.2. FIRE PUMPS AND CONTROLS WILL BE THE FIRST TO CONNECT AND LAST TO SHED
- 4.15.3.4.3.3. ESSENTIAL POWER FOR AUXILIARIES AND CONTROLS TO PROVIDE SAFE OPERATION OF THE HEATING PLANT
- 4.15.3.4.3.4. MEDICAL VACUUM, WASTE ANESTHESIA EVACUATION, MEDICAL AIR SYSTEM, DENTAL VACUUM AND AIR SYSTEMS
- 4.15.3.4.3.5. HVAC SYSTEMS, INCLUDING COOLING AND HEATING CAPACITY FOR ALL CRITICAL CARE SPACES AND THE HEATING OF PATIENT ROOMS
- 4.15.3.4.3.6. DOMESTIC WATER, SUMP AND SEWAGE EQUIPMENT NEEDED TO CONTINUE HOSPITAL OPERATIONS
- 4.15.3.4.3.7. SPECIAL PURPOSE EXHAUST SYSTEMS, LABORATORY HOODS, INCLUDING RADIOISOTOPE HOODS AND ISOLATION ROOM EXHAUST FANS
- 4.15.3.4.3.8. PNEUMATIC TUBE SYSTEM
- 4.15.3.4.3.9. HELIPAD LIGHTING AND VISUAL NAVIGATIONAL AIDS
- 4.15.3.4.4. AUTOMATIC TRANSFER SWITCHES (ATS)--ALL ATS's SHALL BE DOUBLE--THROW, 4 POLE WITH DRAW-OUT CONSTRUCTION AND GROUNDED AS A SEPARATELY DERIVED SYSTEM. ALL CONTACTS SHALL HAVE VIEWING PORTS FOR EASE OF INFRARED AND CONTACT INSPECTION. ALL ATS's SHALL BE UL LISTED AS AN ASSEMBLY AND SHALL BE FACTORY ASSEMBLED (TO INCLUDE THE ATS ENCLOSURE). ATS's SHALL HAVE INDICATOR LIGHTS TO IDENTIFY NORMAL POWER (GREEN IN COLOR) AND EMERGENCY POWER (RED IN COLOR). WHERE MULTIPLE ATS's ARE EMPLOYED, THE PHYSICAL ARRANGEMENT, LIGHTS AND INDICATORS SHALL BE ARRANGED ALIKE SO AS NOT TO CONFUSE THE OPERATOR WHEN VISUALLY SCANNING ALL SYSTEMS.
- 4.15.3.4.5. ALL ESSENTIAL LOADS SHALL HAVE ATS EQUIPPED WITH A LOAD BREAK BY-PASS ISOLATION SWITCH AND MUST BE INITIATED WITH NOT MORE THAN TWO MOVEMENTS OF THE HAND TO EITHER POSITION, REGARDLESS OF THE POSITION OR CONDITION OF THE ATS TO MAINTAIN NORMAL OR EMERGENCY POWER, WHILE THE ATS IS BEING REPAIRED OR MAINTAINED.

- 4.15.3.4.6. LOAD BY-PASS MUST BE ACHIEVED WITH A LOAD INTERRUPTION OF NOT MORE THAN 10 CYCLE HERTZ.
- 4.15.3.4.7. ATS's FEEDING HIGH EFFICIENCY MOTORS RATED 25HP OR LARGER, SHALL BE PROVIDED WITH AN IN-PHASE MONITOR TO PREVENT AN OUT-OF-PHASE TRANSFER. THE IN-PHASE TRANSFER SHALL BE ACHIEVED WITHOUT CONTROL OF FREQUENCY OF EITHER POWER SOURCE TO PREVENT EXCESSIVE MOTOR IN-RUSH CURRENT. CLOSED TRANSITION SWITCHES SHALL NOT BE UTILIZED. BY-PASS ISOLATION SWITCH FOR THE ATS SERVING NON-ESSENTIAL LOADS IS OPTIONAL.
- 4.15.3.4.8. EACH ATS SHALL BE EQUIPPED WITH A MANUAL "TEST" SWITCH. EACH "TEST" SWITCH SHALL SIMULATE A NORMAL POWER SOURCE FAILURE AND AUTOMATICALLY CAUSE THE ENGINE GENERATOR SET TO START, ATTAIN RATED FREQUENCY AND VOLTAGE AND TRANSFER ASSOCIATED ELECTRICAL SYSTEM LOADS FROM THE NORMAL SOURCE TO THE EMERGENCY SOURCE FOR A MINIMUM OF ONE HOUR. AT THE END OF THE TEST, THE ASSOCIATED ELECTRICAL LOADS SHALL TRANSFER BACK TO THE NORMAL POWER SOURCE AND THE EMERGENCY GENERATOR WILL ENTER INTO "COOLDOWN" MODE AND SHUT DOWN. IF AT ANY TIME DURING THE TEST, THE GENERATOR EXPERIENCES DIFFICULTY, THE ASSOCIATED ELECTRICAL LOAD WILL TRANSFER BACK TO THE NORMAL POWER SOURCE IMMEDIATELY. DURING THE TEST RUN, NON-ESSENTIAL HOSPITAL LOADS WILL CONTINUE TO BE SERVED FROM THE NORMAL POWER SUPPLY WITHOUT EXPERIENCING INTERRUPTION.
- 4.15.3.4.9. DEPENDING UPON THE NUMBER OF ATS's, A GROUP OF SWITCHES MAY BE INSTALLED AT A CENTRALIZED LOCATION, IN ORDER FOR THE OPERATOR TO CONDUCT THE TEST AT A SINGLE POINT. THESE SWITCHES SHALL BE WIRED IN SERIES WITH ITS CORRESPONDING ATS.
- 4.15.3.5. EES REMOTE ALARM ANNUNCIATION PANEL--A REMOTE ALARM ANNUNCIATION PANEL THAT IS STORAGE BATTERY POWERED, SHALL BE PROVIDED IN A LOCATION READILY OBSERVED BY FACILITY MANAGEMENT PERSONNEL AT A REGULAR WORK STATION. THE ANNUNCIATION PANEL SHALL INDICATE ALARM CONDITIONS OF THE ALTERNATE POWER SOURCE AND SHALL INCLUDE AS A MINIMUM THE FOLLOWING:
- 4.15.3.5.1. BATTERY AND BATTERY CHARGER MALFUNCTION
- 4.15.3.5.2. ENGINE GENERATOR RUN STATUS
- 4.15.3.5.3. ENGINE GENERATOR ALARMS
- 4.15.3.5.4. FUEL LEVELS LESS THAN 3 HOURS SUPPLY IN THE DAY TANK AND LESS THAN 24 HOURS SUPPLY IN THE MAIN STORAGE TANK. A SEPARATE AUDIBLE AND VISUAL DERANGEMENT SIGNAL SHALL BE PROVIDED WITHIN THE HOSPITAL AT A LOCATION THAT IS CONTINUOUSLY MONITORED, SUCH AS A NURSE STATION. THE DERANGEMENT SIGNAL SHALL BE APPROPRIATELY LABELED BUT NEED NOT DISPLAY INDIVIDUAL ALARM CONDITIONS.
- 4.15.4. WHEN CONVERTING AN INPATIENT HOSPITAL INTO AN OUTPATIENT CLINIC, THE EXISTING EMERGENCY POWER SYSTEM (GENERATORS, SWITCHBOARD AND TRANSFER SWITCHES) SHALL BE MODIFIED TO ONLY ONE EMERGENCY GENERATOR AND ONE EMERGENCY POWER CIRCUIT TO FEED EGRESS LIGHTING, CERTAIN MECHANICAL LOADS (TO BE DETERMINED) TO PRESERVE THE BUILDING IN THE EVENT OF AN EXTENDED POWER OUTAGE, FIRE ALARM AND SECURITY PANELS, THE EMERGENCY ROOM, SERVER ROOM, LABORATORY AND IMMUNIZATIONS. NO OTHER LOADS ARE AUTHORIZED. THE GENERATOR AND TRANSFER EQUIPMENT SHALL BE SIZED TO THE MENTIONED LOADS.
- 4.16. ENERGY CONSERVATION AND SUSTAINABLE REQUIREMENTS
- 4.16.1. DO NOT EXCEED 80 PERCENT OF THE LIGHTING POWER DENSITIES FOR EXTERIOR AREAS AND 50 PERCENT FOR BUILDING FACADES AND LANDSCAPE FEATURES AS DEFINED BY ASHRAE/IESNA STANDARD 90.1-2004. DO NOT USE INCANDESCENT BULBS UNLESS THE LIGHTING DESIGNER CAN DOCUMENT THAT NO REASONABLY PRICED ALTERNATIVE IS AVAILABLE FOR A SPECIFIC TASK/APPLICATION. LIGHTING CONTROLS WILL REDUCE ENERGY CONSUMPTION. REFERENCE TO LEED 2009 EQ CREDIT 6.1 FOR MORE DETAILS.
- 4.16.2. LIGHTING CONTROL SYSTEMS SHALL BE PROVIDED TO TURN OFF LIGHTS AUTOMATICALLY WHEN THE SPACE IS NOT IN USE. PROVIDE OCCUPANCY SENSORS IN NON-OCCUPIED SPACES (CORRIDORS, CLASSROOMS, CONFERENCE ROOMS, BREAKROOMS, ETC.) AND OTHER COMMON AREAS (BUILDING ENTRANCES, LOBBY AREAS, WAITING AREAS, CAFETERIAS, ETC.) PROVIDE DAYLIGHT CONTROLS TO AUTOMATICALLY TURN OFF CERTAIN LIGHTS WHILE DAYLIGHT IS SUFFICIENT. LIGHTING IN OFFICE AREAS AND OUTPATIENT CLINIC SPACES SHALL BE SCHEDULED OFF DURING OFF HOURS OR CONTROLLED BY MOTION SENSORS. CONSIDER USING DAY LIGHTING TECHNOLOGY IN DESIGN, SUCH AS LIGHT SHELVES, TO BRING LIGHT FURTHER INSIDE OF THE BUILDING AND REDUCE GLARE. PROVIDE TASK LIGHTING WHERE APPROPRIATE. IN PATIENT ROOMS, FOR EXAMPLE, TASK LIGHTING FACILITATES EXAMS AND CAN BE TURNED OFF SO PATIENTS MAY REST IN LOWER AMBIENT LIGHT LEVEL.
- 4.16.3. LIGHTING CONTROL SYSTEMS SHALL BE TESTED AND COMMISSIONED BEFORE PROJECT CLOSEOUT.
- 4.16.4. MOTOR EFFICIENCY. MOTORS SHALL BE HIGH-ENERGY EFFICIENT TYPE. MINIMUM MOTOR EFFICIENCIES SHALL BE EITHER ENERGY STAR OR IN ACCORDANCE WITH DOE BUYING ENERGY EFFECT PRODUCT RECOMMENDATIONS. REFER TO www.eren.doe.gov/femp/procurement FOR RECOMMENDED EFFECTIVES.
- 4.16.5. ALL EQUIPMENT AND SYSTEMS SELECTED FOR THIS PROJECT SHALL BE ENERGY EFFICIENT. THE GOAL IS TO REDUCE 30% FROM THE CONSUMPTION LEVELS CALCULATED UNDER ASHRAE STANDARD 90.1-2010.
6. GENERAL REQUIREMENTS APPLICABLE TO ALL DISCIPLINES:
- 6.1. REMOVAL OF ABANDONED INFRASTRUCTURE (MECHANICAL, ELECTRICAL AND STRUCTURAL) -- THE AFMS DESIRES TO LEVERAGE ANY OPPORTUNITY TO CLEAN IT'S PHYSICAL PLANTS OF ABANDONED INFRASTRUCTURE WHICH INCLUDES, BUT IS NOT LIMITED TO, OLD WIRING, CONDUITS, PNEUMATIC CONTROL TUBING, JUNCTION BOXES, PIPES, FLUES, HOUSEKEEPING PADS, SUPPORTS, HANGERS, ETC. WHERE A CONTRACTOR IS TO PERFORM WORK IN A MECHANICAL SPACE (MECHANICAL ROOM, UTILITY PLANT, AIR HANDLER ROOM, ELECTRICAL CLOSET, ETC.) THAT CONTRACTOR SHALL INCLUDE AS A SEPARATE FEATURE THE REMOVAL OF ALL ABANDONED EQUIPMENT, PIPING, DUCTWORK, ELECTRICAL WIRING AND PNEUMATIC LINES OR DEVICES WITHIN THE SPACES WHERE WORK TAKES PLACE UNDER THE PROPOSED CONTRACT. THIS IS TO INCLUDE THE REMOVAL OF ALL ABANDONED INFRASTRUCTURE THAT IS FOUND WITHIN THE SPACES PRIOR TO THE START OF WORK. TYPICALLY, THE CONDUIT, RACEWAY, TUBING OR WIRING SHALL BE REMOVED BACK TO EITHER THE FIRST USABLE JUNCTION BOX OR POINT WHERE IT ENTERS THE SPACE.
- 6.2. JUNCTION BOXES AND CONTROL PANEL BOXES -- OLD, LARGE, PNEUMATIC CONTROL PANELS OR LARGE INAPPROPRIATELY SIZED JUNCTION BOXES ARE TO BE REMOVED AND EITHER NOT USED AS JUNCTION BOXES OR CORRECTLY SIZED TO A SMALLER BOX MORE SUITED FOR THE REQUIREMENTS GOING FORWARD. LARGE EP CONTROL BOXES THAT HAVE BEEN ABANDONED, SHALL BE REMOVED AND NOT USED AS A FEED-THROUGH PULL BOX FOR CONTROL WIRING. WHERE WIRING PASSES THROUGH SUCH A PANEL, THE PANEL IS TO BE REPLACED WITH AN APPROPRIATELY SIZED ELECTRICAL JUNCTION BOX, CONDUIT EXTENDED TO CONNECT SAID JUNCTION BOX WITH THE WIRING RE-PULLED THROUGH THE JUNCTION BOX.
- 6.3. ELECTRICAL INFRASTRUCTURE -- OLD ELECTRICAL RACEWAYS AND BUSWORK WHERE THE CIRCUITS ARE/WERE RENDERED OBSOLETE DUE TO ELECTRICAL UPGRADES, THUS DE-ENERGIZED, SHALL BE REMOVED BACK TO THE MOST UPSTREAM POINT OF DISCONNECT WITHIN THE ROOM OR SPACE. AT THIS POINT, THE CONDUCTORS SHALL BE TERMINATED IN AN APPROVED MANNER. THE TERMINATION BOX SHALL BE MADE SAFE BY PROVIDING SUITABLE PROTECTION. THE TERMINATED CIRCUITS SHALL BE MARKED AS "DE-ENERGIZED" BOTH AT THE POINT OF TERMINATION AND AT THE SERVICE POINT (BREAKER, FUSED DISCONNECT OR SWITCH FEEDING THE CIRCUIT). WIRE ENDS SHALL BE TERMINATED AS TO PRESENT A NEAT AND SAFE APPEARANCE WITHOUT HANGING STRANDS OR INSULATION.

- 6.4. PNEUMATIC CONTROL INFRASTRUCTURE--(NOT APPLICABLE)
- 6.5. STRUCTURAL SUPPORTS -- OLD HANGERS, BRACKETS, ALL--THREAD SUSPENSION AND SADDLES FOR ALL INFRASTRUCTURE SYSTEMS REMOVED BY THE CONTRACTOR SHALL ALSO BE REMOVED BACK TO THE POINT OF ANCHOR. ANY DAMAGE (DAMAGE IS CONSIDERED, BUT NOT LIMITED TO: HOLES, DIVETS, CRACKS, VOIDS, WATER INFILTRATION) TO THE STRUCTURE MUST BE REPAIRED TO MATCH EXISTING AND SURROUNDING MATERIALS IN SIZE, TEXTURE AND COLOR.
- 6.6. EQUIPMENT MOUNTS AND FOUNDATIONS -- OLD HOUSEKEEPING PADS, FLOOR MOUNTS, CATCH TRAY/BASINS & RAISED ISOLATION BLOCKS FOR EQUIPMENT REMOVED BY THE CONTRACTOR SHALL BE REMOVED TO THE ORIGINAL FLOOR SURFACE GRADE. NEW HOUSEKEEPING PADS SHALL BE SIX INCH (6") HIGH AS A MINIMUM.
- 6.7. PLACEMENT OF ELECTRICAL AND MECHANICAL EQUIPMENT -- THE PREFERRED LOCATION OF ELECTRICAL & MECHANICAL EQUIPMENT SUCH AS TRANSFORMERS, AIR-COOLED CONDENSERS & PACKAGED CHILLERS IS OUTSIDE AT AN UNOBSTRUCTED LOCATION. HOWEVER, THIS STANDARD DOES NOT PRECLUDE PLACEMENT WITHIN THE UNOBSTRUCTED SPACE, AS LONG AS THE EQUIPMENT PROVIDES NO OPPORTUNITY FOR CONCEALMENT OF EXPLOSIVE DEVICES.
- 6.8. ENCLOSURE SECURITY REQUIREMENTS FOR GROUND MOUNTED EXTERIOR EQUIPMENT (CHILLERS, GENERATORS, PACKAGED APPARATUS, ETC...) ALL EQUIPMENT & INSTALLATION MUST COMPLY WITH ATPF-UFC-4-010-01 AND LOCAL BASE SECURITY REQUIREMENTS.
- 6.9. ANTI-TERRORISM FORCE PROTECTION (ATFP) AIR HANDLER EMERGENCY SHUTDOWN "RED BUTTON" SYSTEMS SHALL BE INSTALLED PER ENGINEERING TECHNICAL LETTER (ETL) 2011-1 EMERGENCY AIR DISTRIBUTION SHUT-OFF IN MEDICAL FACILITIES, DATED JUNE 1, 2011 (ATTACHMENT 3).
- ** EXCERPT FROM HFD ETL 2011-1: EMERGENCY AIR DISTRIBUTION SHUT-OFF IN MEDICAL FACILITIES **
- REQUIREMENTS:
- A. MEDICAL CLINICS & MEDICAL BUSINESS OCCUPANCIES: COMPLY WITH UFC-4-510-01 & INSTALL EMERGENCY SHUT-DOWN PUSHBUTTONS IN BOTH THE MEDICAL COMMAND CENTER (MCC) AND THE FACILITY MANAGEMENT OFFICE. THESE PUSHBUTTONS MUST BE CAPABLE OF SHUTTING OFF AIR HANDLERS, CLOSING OUTSIDE AIR DAMPERS AND TURNING OFF ALL EXHAUST FANS SIMULTANEOUSLY TO PROVIDE A NEUTRAL PRESSURE ENVIRONMENT WITHIN THE FACILITY.
- B. MEDICAL CENTERS, HOSPITALS, AMBULATORY SURGERY CENTERS AND HEALTHCARE OCCUPANCIES THAT HAVE CRITICAL CARE AREAS (AS DEFINED HEREIN): ALL HOSPITAL BUILDINGS (HEALTHCARE AND AMBULATORY HEALTHCARE OCCUPANCIES HAVING PERMANENT FACILITIES WHICH SUPPORT IMMUNE-COMPROMISED OR PATIENTS WITH DANGEROUS CONTAGIOUS DISEASES) DEFINED ABOVE AS "CRITICAL CARE AREAS" SHALL UTILIZE A TWO-STEP EMERGENCY AIR DISTRIBUTION SHUT-OFF. THE REASON FOR THE SECOND STEP IS TO PERMIT RESPONSIBLE PERSONNEL IN EXECUTIVE LEADERSHIP TO WEIGH THE RISK ASSOCIATED WITH INTENTIONALLY DEGRADING A LIFE PRESERVING INTERNAL ENVIRONMENT TO RESPOND TO A POSSIBLE TERRORIST ATTACK (OR OTHER CONTINGENT SITUATION HAVING OCCURRED) THUS PLACING PATIENTS & POSSIBLY ALL OCCUPANTS IN A POSITION OF GREATER THREAT FROM WITHIN. THE TWO-STEP SHUT-DOWN PROCESS SHALL INCLUDE THE FOLLOWING FEATURES:
1. THE DESIGN SHALL UTILIZE TWO SEPARATE SWITCHES. ONE SHALL BE A RED MUSHROOM THAT CONTROLS THE VENTILATION OF ALL "NON-CRITICAL CARE AREAS" OF THE HOSPITAL. THE SECOND SWITCH SHALL BE A KEYED SWITCH THAT CONTROLS THE VENTILATION SYSTEMS SERVING THE "CRITICAL CARE AREAS" OF THE HOSPITAL. DUE TO THE SERIOUS POTENTIAL RISK TO LIFE SAFETY AND INFECTION CONTROL THAT IS ASSOCIATED WITH THE ACTIVATION OF THE SECOND SWITCH, THIS SECOND SWITCH SHALL BE OPERATED ONLY AT THE DIRECTION OF THE HOSPITAL COMMANDER, ADMINISTRATOR OR THEIR DELEGATE. THESE PERSONS MUST POSSESS A CLEAR UNDERSTANDING OF THE POTENTIAL THREAT TO PATIENT LIFE AND OTHER RAMIFICATIONS WHICH WILL RESULT FROM ACTIVATING A SHUT-DOWN OF THE AIR DISTRIBUTION SYSTEMS SERVING "CRITICAL CARE AREAS".
2. BOTH SWITCHES SHALL BE COVERED BY A FLIP-UP PLASTIC COVER THAT IS DESIGNED TO PREVENT ACCIDENTAL ACTIVATION.
3. THE RED MUSHROOM PUSHBUTTON SHALL HAVE THE FOLLOWING SIGNAGE "EMERGENCY USE ONLY! MECHANICAL HVAC SYSTEM SHUT-DOWN". THE SECOND KEYED SWITCH SHALL HAVE THE FOLLOWING SIGNAGE "DANGER! CRITICAL CARE HVAC SHUT-DOWN, EXPOSURE HAZARD". SIGNAGE SHALL BE ON A RED BACKGROUND WITH WHITE LETTERS TO BE PLACED ABOVE PLASTIC COVERING FOR EACH INDIVIDUAL BUTTON.
4. FOR HOSPITALS & MEDICAL CENTERS, THE EMERGENCY AIR DISTRIBUTION SHUT-OFF PUSHBUTTON & KEYED CRITICAL CARE HVAC SHUT-DOWN SWITCH SHALL BE LOCATED IN THE MEDICAL COMMAND CENTER (MCC) THAT BECOMES ACTIVE IN THE EVENT OF OF AN EMERGENCY. A SECOND PANEL HAVING BOTH THE RED PUSHBUTTON AND KEYED SWITCH SHALL BE LOCATED IN THE FACILITY MANAGEMENT OFFICE TO PROVIDE AN ALTERNATE LOCATION FOR WHERE BOTH LEVELS OF SHUT-DOWN CAN BE INITIATED BY AUTHORIZED PERSONS.
5. FOR MEDICAL CLINICS THERE WILL BE A SINGLE RED EMERGENCY AIR DISTRIBUTION SHUT-OFF PUSHBUTTON (LABELED AS STATED IN PARAGRAPH 3 ABOVE) INSTALLED IN BOTH THE FACILITY MANAGEMENT OFFICE AND THE MCC.

SHEET PLOTTED FULL SIZE = 24"x36"		DATE REVISED
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ADDITIONS AND REVISIONS		
ISSUED FOR 65% DESIGN		1/10/14
ISSUED FOR 65% DESIGN-REV. 1		1/13/14
ISSUED FOR 100% DESIGN		2/21/14
<div>KROESCHELL ENGINEERING Co. 3222 KENNICOTT AVE. ARLINGTON HEIGHTS, IL 60004 (312) 649-7980 / FAX: (312) 337-1944 KROESCHELL.COM</div>		<div>dkjv Dorley-Kyle Joint Venture 515 DOVER RD. ROCKVILLE, MD. 20850 (301) 315-7456 / FAX: (240) 453-8722 DONKEYTORJAN.COM</div>
19TH MEDICAL SUPPORT GROUP LITTLE ROCK AFB, ARKANSAS REPAIR OF MECHANICAL BUILDING INFRASTRUCTURE SYSTEMS		
DRAWN BY CHECKED BY APPROVED BY SCALE DATE	RPK MM MM NONE JANUARY 2014	Sheet No. E-3
QUALITY STANDARDS FOR AFMS INFRASTRUCTURE SYSTEMS		JOB No. 14554