

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

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 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.
6.

FOR DENTAL CLINICS AND OTHER AFMS FACILITIES WHERE THERE IS NEITHER A FACILITY MANAGEMENT OFFICE NOR AN MCC, THERE SHALL BE A SINGLE RED EMERGENCY AIR DISTRIBUTION SHUT-OFF BUTTON (LABELED AS STATED IN PARAGRAPH 3 ABOVE) INSTALLED BEHIND THE FRONT ENTRANCE RECEPTION DESK.
- 6.10.

CORROSION CONTROL OF EXTERIOR MOUNTED PACKAGED ASSEMBLIES AND ENCLOSURES
- 6.10.1.

GENERAL FINISHES – ALL EXPOSED EXTERIOR METAL SURFACES ON MECHANICAL, ELECTRICAL EQUIPMENT & STRUCTURAL SYSTEMS/ASSEMBLIES SHALL BE EITHER UV RESILIENT ANODIZED, FACTORY ELECTROSTATIC APPLIED THERMALLY SET POWDER COAT PAINTED OR HOT-DIPPED GALVANIZED. FINISHES SHALL BE EITHER MATTE OR SEMI-GLOSS. COLOR SHALL BE LIGHT, UNLESS CONCEALED BY A VISUAL BARRIER, AND SHALL MATCH OR COMPLIMENT THE AESTHETICS OF THE NEARBY BUILDING PRIMARY OR TRIM COLOR. WHERE LOCAL BASE CIVIL ENGINEER HAS ESTABLISHED AND PUBLISHED A BASE ARCHITECTURAL PLAN, THE EQUIPMENT SHALL COMPLY, TO THE GREATEST EXTENT POSSIBLE, WITH SAID PLAN.
- 6.10.2.

CORROSION CONTROL OF EXTERIOR EXPOSED HEAT TRANSFER COILS (AIR-COOLED CHILLERS & ROOF-TOP UNIT CONDENSERS, GENERATOR RADIATORS, ETC.) – WHERE THE MDG IS LOCATED WITHIN 50 NAUTICAL MILES OF AN OCEAN OR INDUSTRIAL AREA WHERE THE AIR IS LADEN WITH CORROSIVE VAPORS, ALL EXTERIOR LOCATED HEAT TRANSFER SYSTEM COILS (ALUMINUM, COPPER, BRASS) SHALL BE COATED WITH HERESITE CORROSION PREVENTION, AS NECESSARY TO EXTEND THE LIFE OF THE COILS AND PROTECT AGAINST ADVANCE DETERIORATION, DUE TO SALT SPRAY OR OTHER CORROSIVES IN THE LOCAL AIR.
- 6.10.3.

FIELD APPLIED SPRAYED/BRUSHED PAINT AND/OR COLD APPLICATION GALVANIZE, IS NOT ACCEPTABLE AND ONLY AUTHORIZED ON PIPE WELDMENTS AND THREADED CONNECTIONS THAT COULD NOT BE PRE-ASSEMBLED AT THE FACTORY. ALL WELDMENTS SHALL BE CLEANED, PRIMED AND PAINTED WITH A FINISHED COLOR THAT, EITHER MATCHES THE MAIN ASSEMBLY, OR THE APPROPRIATE COLOR WHERE REQUIRED BY LOCAL STATUTE OR SAFETY CODE. ALL ASSEMBLY BOLTS AND HARDWARE (UNLESS FACTORY PAINTED DURING ASSEMBLY) SHALL BE EITHER ZINC-PLATED OR HOT-DIPPED GALVANIZED.
- 6.11.

WARRANTY OF AFMS MECHANICAL & ELECTRICAL SYSTEMS
- 6.11.1.

EQUIPMENT & MATERIALS: ALL MATERIALS AND EQUIPMENT SHALL CARRY A 24 MONTH FULL SERVICE WARRANTY FROM THE CONTRACTOR FOR MANUFACTURER DEFECT, FAILURE TO PERFORM IN TERMS OF RELIABILITY, EFFICIENCY, SAFE OPERATION BY CLASSIFICATION (CONTINUOUS OR INTERMITTENT USE) & ITS ABILITY TO MAINTAIN STEADY STATE PRODUCTION AT A SUSTAINED LOAD LEVEL AS PRESCRIBED IN THE SYSTEM DESIGN, AND/OR AS PRESCRIBED BY THE EQUIPMENT MANUFACTURER.
- 6.11.2.

WORKMANSHIP: THE CONTRACTOR SHALL PROVIDE A 12 MONTH FULL SERVICE WARRANTY FOR DEFECT DUE TO POOR WORKMANSHIP FROM THE DATE OF ACCEPTANCE. THE DEFINITION OF POOR WORKMANSHIP IS ANY WORK PERFORMED, IN PART OR IN FULL, BY THE CONTRACTOR OR SUB-CONTRACTOR INSTALLERS, TRADE PERSONNEL OR GENERAL EMPLOYEES, THAT DOES NOT MEET ACCEPTABLE TRADE STANDARDS OR APPLICABLE CODES IN TERMS OF APPEARANCE, PERFORMANCE, RELIABILITY, STRENGTH AND DURABILITY AS DETERMINED BY THE COR AND VALIDATED THROUGH A REVIEW AND ENDORSEMENT BY THE COTR.
- 6.11.3.

WARRANTY RESPONSE: WHERE EQUIPMENT, MATERIALS OR ROOF SYSTEMS ARE PART OF A SYSTEM THAT SUPPORTS A FACILITY THAT HAS CRITICAL CARE, SURGICAL OPERATION OR IS BEDDED, THE CONTRACTOR SHALL PROVIDE EMERGENCY WARRANTY SERVICE RESPONSE HAVING QUALIFIED TECHNICIANS ON SITE WITHIN TWO (2) HOURS OF NOTIFICATION BY THE FACILITY MANAGER. WHERE A SYSTEM OR COMPONENT FAILURE HAS A DIRECT IMPACT ON THE SUSTAINMENT OF A CRITICAL MISSION, THE CONTRACTOR WILL REMAIN ENGAGED UNTIL SUCH A TIME AS THE SYSTEM IS REPAIRED AND ON-LINE OR UNTIL THE CONTRACTOR HAS PROVIDED INTERIM TEMPORARY SERVICE AS NEEDED TO SUSTAIN THE MISSION UNTIL PERMANENT REPAIRS CAN BE MADE TO PERMANENTLY RESTORE SERVICE.
- 6.11.4.

ACCEPTANCE FOR BENEFICIAL USE:THE CONTRACTOR MAY SUBMIT EQUIPMENT AND SUB-SYSTEMS TO THE GOVERNMENT FOR ACCEPTANCE AS READY FOR BENEFICIAL USE. WHERE SUCH EQUIPMENT AND SUB-SYSTEMS ARE TO BE SUBMITTED FOR ACCEPTANCE PRIOR TO THE COMPLETION OF THE TOTAL PROJECT, THE CONTRACTOR SHALL IDENTIFY SAID EQUIPMENT AS A CRITICAL MILESTONE ON THEIR PROJECT SCHEDULE AND PROVIDE A COMMISSIONING AND FUNCTIONAL TEST PLAN FOR THAT PIECE OF EQUIPMENT TO THE HFD, AT LEAST 60 DAYS PRIOR TO THE PROPOSED FUNCTIONAL TEST AND BENEFICIAL USE ACCEPTANCE DATE. A PIECE OF EQUIPMENT OR COMPONENT OF A SUB-SYSTEM THAT IS NOT CAPABLE OF PRODUCTION OF A UTILITY ON ITS OWN MAY NOT BE SUBMITTED FOR ACCEPTANCE AS READY FOR BENEFICIAL USE. (EXAMPLE: A PUMP, MOTOR OR MOTOR STARTER MAY BE A COMPONENT OF A CHILLED WATER SYSTEM BUT WITHOUT A SERVICEABLE CHILLER CONNECTED AND AVAILABLE FOR USE BY THE FACILITY, IT IS NOT CAPABLE OF DELIVERING A PRODUCT, THEREFORE IS NOT CONSIDERED CAPABLE OF PRODUCTION).
- 6.11.5.

EQUIPMENT: THE CONTRACTOR MAY SUBMIT CERTAIN LARGE AND HIGH COST PIECES OF EQUIPMENT TO THE GOVERNMENT FOR ACCEPTANCE FOR BENEFICIAL USE AND INITIATION OF THE EQUIPMENT'S WARRANTY PERIOD ONCE SAID PIECE OF EQUIPMENT IS FULLY INSTALLED, MADE FULLY OPERATIONAL AND CAPABLE OF PRODUCTION AT FULL RATED CAPACITY AND IS CAPABLE OF BEING OPERATED BY MAINTENANCE PERSONNEL WITHOUT LIMITATIONS OR SPECIAL INSTRUCTIONS THAT ARE OUTSIDE THE NORMAL SCOPE OF OPERATIONS. WHEN THE AFOREMENTIONED CONDITIONS ARE MET, THE CONTRACTOR WILL SUBMIT A DD FORM 250 REQUEST FOR GOVERNMENT ACCEPTANCE, STATING THAT THE SPECIFIC COMPONENTS WITH PRODUCT SERIAL NUMBERS THAT ARE BEING SUBMITTED FOR ACCEPTANCE. WHEREAS THE WARRANTY PERIOD OF A SPECIFIC PIECE OF EQUIPMENT MAY BE STARTED PRIOR TO THE COMPLETION OF THE COMMISSIONING OF THE FULL SYSTEM DESIGN AND SUBSEQUENT FINAL ACCEPTANCE OF THE PROJECT, AT NO TIME SHALL THE WARRANTY OF THAT PIECE OF EQUIPMENT BE LESS THAN 14 MONTHS FOLLOWING THE COMPLETION AND FINAL ACCEPTANCE OF THE PROJECT.
- 6.11.6.

ACCEPTANCE OF AUTOMATED SYSTEM CONTROLS: EARLY ACCEPTANCE FOR BENEFICIAL USE DOES NOT APPLY TO WARRANTIES FOR ANY AUTOMATED SYSTEM CONTROLS (FOR MECHANICAL, ELECTRICAL AND POWER GENERATION SYSTEMS) WHICH EMPLOY PROGRAMMABLE AUTOMATED LOGIC, SOFTWARE, FIRMWARE, COMPUTERIZED NETWORKING SYSTEMS OR SOPHISTICATED ELECTRONIC CONTROLS WHICH POSSESS LADDER OR ELECTRONIC LOGIC THAT IS ESTABLISHED BY THE INSTALLER TO MEET THE REQUIREMENTS OF A SYSTEM SEQUENCE OF OPERATION, UNIQUELY PRESCRIBED BY THE DESIGNER FOR SYSTEM CONTROL. SUCH SYSTEMS ARE ONLY TO BE TESTED AND CONSIDERED READY FOR ACCEPTANCE ONCE ALL SUB-SYSTEMS AND DOWN-STREAM CONTROLLED HAVE BEEN COMMISSIONED, PROVEN TO BE FULLY FUNCTIONAL AND ACCEPTED BY THE GOVERNMENT. SHOULD IT BE NECESSARY FOR THE INSTALLER TO PERFORM A MODIFICATION TO SYSTEM LOGIC (REGARDLESS OF THE SIZE AND SCOPE OF THE MODIFICATION) TO OVERCOME A DEFICIENCY IN THE CONTROL LOGIC OR SEQUENCE OF OPERATION DURING THE TESTING OF THE SYSTEM AUTOMATION, THE SYSTEM SHALL UNDERGO A COMPLETE RE-TEST (THE TESTING SHALL NOT BE ALLOWED TO COMMENCE FROM THE POINT OF IN WHICH THE DISCREPANCY WAS NOTED) AS TO ASSURE THAT ANY CHANGE TO THE PROGRAM DOES NOT POSE AN ADVERSE IMPACT TO ALREADY TESTED SYSTEM FUNCTIONALITY.

- 6.11.7.

WORKMANSHIP: EARLY ACCEPTANCE FOR BENEFICIAL USE DOES NOT APPLY TO WORKMANSHIP WARRANTIES WHICH ARE TO COMMENCE ON THE DATE OF ACCEPTANCE OF THE FULLY COMPLETED PROJECT.
- 6.11.8.

INTERIM INFECTION CONTROL MEASURES (IICM) – INTERIM INFECTION CONTROL MEASURES (IICM) ARE REQUIRED. THE CONTRACTOR SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS:
- 6.11.9.

AN INFECTION CONTROL RISK ASSESSMENT (ICRA) SHALL BE PERFORMED PRIOR TO THE START OF ANY CONSTRUCTION, RENOVATION OR REPAIR ACTIVITY. THE ICRA WILL DETERMINE WHAT PREVENTATIVE CONTROL MEASURES ARE REQUIRED. BASED ON RISK ASSESSMENT, THE CONTRACTOR IS RESPONSIBLE FOR DUST PARTITIONS, FILTERED NEGATIVE AIR MACHINES, TACKY MATS, CLEANING, ETC.
- 6.11.10.

GOVERNMENT MAY PROVIDE BASELINE PARTICLE COUNTS AND CONDUCT PERIODIC AIR SAMPLING OF PROTECTION AREAS DURING CONSTRUCTION TO MONITOR EFFECTIVENESS OF IICM.
- 6.11.11.

THE CONTRACTOR IS RESPONSIBLE FOR ADMINISTERING THE IICM AND ICRA REQUIRED BY THIS SECTION.
- 6.11.12.

CONTRACTORS SHALL COMPLY WITH APPLICABLE CODES AND REFERENCED IICM. CONTRACTOR SHALL USE INSTALLATION PROCEDURES AND METHODS THAT SATISFY APPLICABLE CODE REQUIREMENTS & PROCEDURES.
- 6.11.13.

NOT APPLICABLE
- 6.11.14.

NOT APPLICABLE
- 6.11.15.

FOR MINOR RENOVATIONS PROJECTS, WITH A GOVERNMENT APPROVAL, A FLUSH-OUT REQUIREMENT MAY BE REDUCED TO A SHORTER PERIOD OR MAY BE WAIVED.
- 6.11.16.

STORED MATERIALS, SUCH AS PIPING, DUCTWORK SHEET METAL, INSULATION, DRYWALL, PLYWOOD, ETC. SHALL BE STORED INSIDE OF THE BUILDING, ELEVATED OFF THE FLOOR AND COVERED AT ALL TIMES DURING CONSTRUCTION.
- 6.11.17.

CONTRACTOR WILL VERIFY THE MAINTENANCE OF NEGATIVE AIR PRESSURE IN CONTAINMENT AREA RELATIVE TO PROTECTION AREA ON A CONTINUOUS BASIS BY USE OF DIFFERENTIAL PRESSURE MONITORS.
- 6.11.18.

CONTRACTOR'S FAILURE TO MAINTAIN IICM CAN RESULT IN THE FOLLOWING:
- 6.11.19.

CONTRACTING OFFICER MAY ISSUE WRITTEN WARNING OR NON-CONFORMANCE NOTICE.
- 6.11.20.

CONTRACTOR SHALL CORRECT NON-CONFORMANCE IMMEDIATELY.
- 6.11.21.

IF SITUATION IS NOT CORRECTED WITHIN EIGHT (8) HOURS OF RECEIPT OF WARNING OF NON-CONFORMANCE NOTICE, CONTRACTING OFFICER WILL HAVE CAUSE TO CEASE WORK AS PROVIDED IN TASK ORDER DOCUMENTS.
- 6.11.22.

FAILURE OF CONTRACTOR TO CORRECT DEFICIENCIES MAY RESULT IN CORRECTIVE ACTION TAKEN BY CONTRACTING OFFICER. ALL COST ASSOCIATED WITH OWNER CORRECTION OF CONTRACTOR DEFICIENCIES WILL BE DEDUCTED FROM THE TASK ORDER AMOUNT.
- 6.12.

INFECTION CONTROL:
- 6.12.1.

INFECTION CONTROL RISK ASSESSMENT (ICRA): AN ASSESSMENT OF HEALTH RISKS RELATED TO CONSTRUCTION, RENOVATION OR REPAIR ACTIVITIES TO DETERMINE WHICH INTERIM INFECTION CONTROL MEASURES NEED TO BE IMPLEMENTED.
- 6.12.2.

AIRBORNE CONTAINMENT PRODUCING ACTIVITIES INCLUDE, BUT ARE NOT LIMITED TO:
- 6.12.2.1.

DEMOLITION AND REMOVAL OF WALLS, FLOORS, CEILINGS & OTHER FINISH MATERIALS.
- 6.12.2.2.

DEMOLITION OF PLUMBING, MECHANICAL & ELECTRICAL SYSTEMS AND EQUIPMENT
- 6.12.2.3.

FINISH OPERATIONS SUCH AS SANDING, PAINTING AND APPLICATION OF SPECIAL SURFACE COATINGS
- 6.12.2.4.

ALL OTHER CONSTRUCTION ACTIVITY THAT MAY GENERATE DUST, SMOKE OR FUMES
- 6.12.2.5.

SITE WORK OPERATIONS ADJACENT TO OCCUPIED FACILITIES
- 6.12.3.

CONTAINMENT AREAS: INCLUDES AREAS OF RENOVATION CONSTRUCTION WITHIN OR ADDITIONS TO OCCUPIED FACILITIES, ADJACENT STAGING AND STORAGE AREAS, PASSAGE AREAS FOR CONTRACTORS, SUPPLIES AND WASTE, INCLUDING CEILING SPACES ABOVE AND ADJACENT TO CONSTRUCTION.
- 6.12.4.

PROTECTION AREAS: INTERIOR OCCUPIED AREAS WITHIN FACILITIES WHICH ARE ADJACENT TO CONTAINMENT AREA, EITHER OCCUPIED OR USED FOR PASSAGE, AS WELL AS, AREAS CONNECTED TO CONSTRUCTION AREA BY MECHANICAL SYSTEM AIR INTAKE, EXHAUST AND DUCTWORK.
- 6.12.5.

SUBMITTALS: THE CONTRACTOR SHALL PROVIDE AN IICM DRAFT SUBMITTAL AT DESIGN DEVELOPMENT STAGE AND A FINAL SUBMITTAL AT THE PRE-FINAL DESIGN STAGE. INCLUDE THE FOLLOWING INFORMATION:
- 6.12.6.

DRAWINGS INDICATING WORK AREAS AND PROCEDURE FOR CONTAINMENT OF AIRBORNE CONTAMINANTS FOR OWNER'S REVIEW AND APPROVAL. INDICATE LOCATIONS OF NECESSARY IICM, INCLUDING TEMPORARY ENCLOSURES, BARRIERS, ISOLATION VESTIBULES, NEGATIVE AIR MACHINES, EXHAUST FANS, CAPPED DUCTWORK, ETC.
- 6.12.7.

SPECIFIC MEANS AND METHODS OF ACHIEVING AND MAINTAINING CONTROL OF AIRBORNE CONTAMINANTS DURING CONSTRUCTION FOR CONTRACTING OFFICER'S REPRESENTATIVE (COR) REVIEW & APPROVAL.
- 6.12.8.

INFECTION CONTROL CONSTRUCTION PERMIT FOR EACH WORK AREA FOR COR ASSESSMENT AND APPROVAL.
- 6.12.9.

SUBMIT DAILY IICM INSPECTION REPORTS TO COR.
- 6.13.

COMMISSIONING:
- 6.13.1.

THE CxA MUST BE INDEPENDENT FOR ALL NEW CONSTRUCTION AND MAJOR RENOVATION PROJECTS. A MAJOR RENOVATION IS DEFINED AS A TOTAL CONSTRUCTION COST OF \$2 MILLION MINIMUM. INDEPENDENT IS DEFINED AS INDEPENDENT FROM THE INSTALLING CONTRACTOR ON THE SAME PROJECT. THE CxA SHALL NOT BE THE SAME ENTITY AS THE TAB CONTRACTOR.
- 6.13.2.

THE CxA SHALL BE CERTIFIED BY ASHRAE, NEBB, AABC, AEE OR BCA. PROVIDE CxA QUALIFICATION INFORMATION IN 35% DESIGN SUBMITTALS.

- 6.13.3.

COMMISSIONING PROCEDURES AND LEVEL OF DETAILS, DOCUMENTS, REPORTS AND CHECKLISTS SHALL COMPLY WITH THE LATEST EDITION OF ASHRAE GUIDELINE 0-2005, THE COMMISSIONING PROCESS, ASHRAE GUIDELINE 1.1, HVAC&R TECHNICAL REQUIREMENTS FOR THE COMMISSIONING PROCESS, ASHE HEALTH FACILITY COMMISSIONING GUIDELINES, NATIONAL INSTITUTE OF BUILDING SCIENCE (NIBS), NATIONAL ROOFING ASSOCIATION & AIA GUIDELINES.
- 6.13.4.

Cx PLAN. THE CxA SHALL DEVELOP A Cx PLAN & SUBMIT TO THE GOVERNMENT FOR AN APPROVAL.
- 6.13.5.

Cx REPORTS. THE CxA SHALL REVIEW & VALIDATE TAB REPORTS, DDC CONTROL POINT-TO-POINT CHECKLISTS, HVAC SYSTEM TREND LOGS & PRE-COMMISSIONING CHECKLISTS & PUNCHLISTS. THE CxA IS RESPONSIBLE TO COLLECT THIS INFORMATION AND INCLUDE THEM AS ATTACHMENTS IN THE Cx REPORTS.
- 6.13.6.

LEED ENHANCED Cx (DESIGN PHASE) MAY BE REQUIRED BY THE RFP. THE CxA SHALL BE ON-BOARD DURING A DESIGN PHASE. THE CxA DESIGN REVIEW COMMENTS SHALL BE INCLUDED IN EACH DESIGN SUBMITTAL PACKAGE. THE CxA IS RESPONSIBLE FOR DEVELOPING AN OWNER PROJECT REQUIREMENTS (OPR) BY COLLECTING DESIGN OBJECTIVES, OWNER AND USER REQUESTS AND EXPECTATIONS OF BUILDING SYSTEM FUNCTIONAL PERFORMANCE. THE CxA SHOULD REVIEW THE DESIGN DOCUMENTS AT 65% AND 95% TO ENSURE THAT COMMENTS ARE INCORPORATED IN THE 100% SET.
- 6.13.7.

Cx SPECIFICATIONS SHOULD BE PROVIDED BY THE CxA FOR INCLUSION INTO THE FINAL PROJECT MANUAL TO BE INCLUDED IN THE 100% DESIGN DOCUMENT.
- 6.13.8.

THE CxA SHOULD MAKE PERIODIC PROJECT SITE INSPECTIONS AT MILESTONES TO INCLUDE SYSTEM ROUGH-IN, TRIM-OUT, START-UP & THEN TO WITNESS FUNCTIONAL PERFORMANCE TESTING.
- 6.13.9.

THE CxA SHOULD BE AN ENGINEER WITH EXPERIENCE IN ENGINEERING DESIGN, CONSTRUCTION OR FACILITY MANAGEMENT, HEALTHCARE AND Cx.
- 6.13.10.

OWNER PROJECT REQUIREMENTS (OPR) SHALL BE FACILITATED AND DOCUMENTED BY CxA OR THE DESIGN ARCHITECT AND ENGINEER. OPR DOCUMENT MUST BE APPROVED WITH THE 35% DESIGN DOCUMENT AND APPROVED BY THE GOVERNMENT. REFERENCE ASHE HEALTH FACILITY COMMISSIONING GUIDELINES.
- 6.13.11.

SYSTEM REQUIRING COMMISSIONING:
- 6.13.11.1.

ANY NEW OR COMPLETE RENOVATED SYSTEMS
- 6.13.11.2.

AS LISTED IN ASHRAE, ASHE AND NIBS Cx GUIDES
- 6.13.12.

Cx DELIVERABLES ARE AS FOLLOWS:
- 6.13.12.1.

OWNER PROJECT REQUIREMENTS (OPR)
- 6.13.12.2.

DESIGN REVIEWS
- 6.13.12.3.

Cx SPECIFICATIONS
- 6.13.12.4.

Cx PLAN AND PRE-FUNCTIONAL CHECKLIST TEMPLATES
- 6.13.12.5.

Cx REPORTS AND FINAL Cx MANUAL
- 6.13.12.6.

TAB REPORT REVIEWS
- 6.13.12.7.

DEFICIENCY LOG AND ISSUE LOG WITH CONTINUOUS TRACKING
- 6.13.12.8.

SITE OBSERVATION REPORTS, ISSUE TRACKING LOG CONDUCT AND REPORT FUNCTIONAL PERFORMANCE TESTS AND INTEGRATED SYSTEM CHECKLISTS
- 6.13.12.9.

OWNER TRAINING RECORD

SHEET PLOTTED FULL SIZE = 24"x36"		DATE REVISED
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ISSUED FOR 65% DESIGN-REV. 1		1/13/14
ISSUED FOR 100% DESIGN		2/21/14
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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
QUALITY STANDARDS FOR AFMS INFRASTRUCTURE SYSTEMS		Sheet No. E-4
JOB No. 14554		