Mechanical HVAC System Testing Procedures

System Verification and Functional Performance Test Flow Chart

**EQUIPMENT DUCTWORK PIPING**

Submittal Approval

Shop Drawing Approval

Shop Drawing Approval

Installation (MC)

Installation (MC)

Installation (MC)

Inspections (MDA)

Inspections (MDA)

Inspections (MDA)

Hydro Testing (MC)

MDA Witness

Contractor

Corrects

Deficiency

Contractor

Corrects

Deficiency

Pressure Testing (MC)

MDA Witness

Pressure Testing (MC)

MDA / CxM Witness

Pass

Pass

Pass

NO

NO

PASS

NO

Issues noted in

ISU Log

Issues noted in

ISU Log

YES

YES

YES

Pipe Flushing Complete

Equipment Connections Complete

Permanent power to Equipment and BAS Panels complete (EC)

Contractor and Subs perform inspections and document on PFC’s;

PFC’s submitted to CxA for Review

Contractor and Subs perform inspections and document on PFC’s;

PFC’s submitted to CxA for Review

Issues noted in

ISU Log

BAS wiring, devices and programming complete

APPROVED

APPROVED

NO

NO

Contractor and Subs perform pre-startup inspections and document on PFC’s;

PFC’s submitted to CxA for Review

Contractor issues Request for Startup to MDA

YES

YES

Ready for Operation

Ready for Operation

Equipment Startup

TAB Performs Pre-TAB Inspections

Contractor Corrects Issues

Issues noted in

ISU Log

YES

NO

Pass

SUBSTANTIAL COMPLETION

DEFERRED TESTING

**Glossary:**

**MC Mechanical Contractor**

**MDA MD Anderson**

**ISU Issues Log**

**CxA Commissioning Authority**

**EC Electrical Contractor**

**BAS Building Automation**

**FPT Functional Performance Test**

**IST Integrated Systems Test**

**TAB Test and Balance**

**IT Information Technologies**

**O&M Operations and Maintenance**

**PFC Prefunctional Checklist**

**WARRANTY PERIOD**

FUNCTIONAL PERFORMANCE TESTING

(CxA, Contractor, MDA)

Issues noted in

ISU Log

Contractor Corrects Issues

Pass

APPROVED

INTEGRATED

SYSTEMS TEST

(CxA, Contractor, MDA)

YES

NO

PASS

Contractor issues Request for Functional Performance Testing to MDA

Contractor and Subs perform pre-test of systems using CTS procedure

BAS POINT VERIFICATION

(TAB)

IT Connectivity Complete;

BAS Panels Online

BAS Graphics Approved by MDA BAS Group and O&M

BAS Graphics Complete;

Submit to MDA BAS for Review

TAB

(TAB)

Contractor

Corrects

Deficiencies

Issues noted in

TAB ISU Log

Contractor Corrects Issues

NO

Issues noted in

ISU Log

YES

Ready for Operation

Completed PFC’s and startup documentation submitted to

CxA for Review