



MTS Systems Corporation
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Eden Prairie, MN 55344-2290 USA
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Installation Report

Customer Information
Institute for Building Science and
Technology (IBST)

Installation Start Date: 4/14/2008
Installation Ended Date: 12/6/2008

Notification:
Service Order Number:

Business Unit MTD

PO/Charge Number:

Job Complete Yes

Functional Location:

WBS/Project Number: US1.34643.EQT
-42

Activity Type:

Contact:

Project Engineer Roger Duemke

Order Type: ZSM3

Phone Number:

Fax Number:

Email:

Master Data Updates

Customer ☐ Phone ☐ Contact ☐
Zone ☐ Email ☐

Assigned Zone:

Change Pre-Notification Month

☐

Total
Hours:

Add Pre-Notification Cycle

☐

The following checks were made during the installation of this system. These checks should in no way be considered a substitute for reading and becoming familiar with the operators guide and safety guidelines provided with the system documentation.

System has been inventoried and is complete	Yes
System interconnections have been finished	Yes
System connections to utilities have been checked and meet MTS requirements	Yes
All equipment has been checked and demonstrated to function properly	Yes
Customer has been instructed in the correct methods of equipment operation by means of demonstration and the use of supplied manuals	Yes
System interlocks are functional	Yes
HPU over temperature limit switch has been set to	55 Deg C
HPU temperature/cooling water valve has been set to	45 Deg C
Safety pressure relief valve checked and is set to	3250psi
HPU operation pressure control valve is set to	3000psi
Customer has been informed about possible safety hazards, and has been shown the accident prevention placards on the equipment	
Customer acknowledges the services performed but does not accept the equipment pending resolution of the items listed below. Until acceptance the customer is not authorized by MTS to use the equipment	
Customer Accepts the equipment with the understanding that MTS will resolve all issues listed below, and is authorized to use the equipment. Acceptance initiates the start of the system warranty.	
Customer accepts the equipment or services provided, and MTS authorizes the customer to use the equipment. Acceptance also initiates the start of the system warranty.	

FSE: Robin Tan Kok Pin

Signature: 

Customer Contact:

Signature: _____

1st installation visit: 14th – 26th April 2008

Engineers: Omar Rood, Jim Smith, James Young, Robin Tan.

The base-plate for the seismic table was positioned in the pit, and leveling was carried out on the plate. The base-plate was then grouted, and was left to cure for 30 days, before further installation work was carried out.

The actuator plates were positioned and measurements were taken to ensure that all dimensions are adhered to. The plates were then grouted and were left to cure.

2nd installation visit: 2nd June – 14th June 2008

Engineers: James Young, Robin Tan, Kevin Chua

The nuts were installed on the tie-rods to secure the base-plate, and torqued to requirements. The base-plate and bearings were cleaned of dirt, and the shear-plate and table were installed. The 293.32 Hydraulics service manifold (HSM), two 244.40 actuators and hydraulic hoses were installed, and pressure proof test was carried out. The digital controller and all the control cables for the seismic system were installed.

Commissioning would be carried out during the next visit.

3rd installation visit: 15th -19th September 2008

Engineers: Rod Larson, Robin Tan

The commissioning of the seismic system was carried out. Training on the operation of the system was also conducted for the customer and end-users (Sieuviet and IBST).

Acceptance test was carried out on the system. However, during the Maximum Displacement test, the restrictor valve on one of the actuators broke, and the system had to be shut down.

4th installation visit: 27th November – 6th December 2008

Engineers: Rod Larson, Robin Tan

An additional accumulator manifold assembly was installed in the pit to provide additional line accumulation that was needed to meet system performance. Additional fittings and hoses were also installed on the HSM as required.

The original restrictor valves on the actuators (including the broken valve) were replaced with units made of alloy steel.

Due to heavy rain a few weeks before, rain water had drained into the pit, and filled it with water until the level of the trench. As a result, water had gone into the bearings at the bottom of the table, and also into the table through the unused actuator mounting points. The water in the pit had been drained by the customer, and all the bellows that were covering the rails beneath the table were removed for drying.

The rails were cleaned of corrosion, and all the grease blocks of the bearing assemblies were removed to clean off the contaminated grease, and reinstalled. Fresh grease was pumped into all the bearing assemblies while the table was moving slowly. Other work carried out as a result of the flooding in the pit:

1. The HSM coils and cable assemblies were replaced.
2. All the hydraulic hoses that were connected to the actuator with the broken restrictor valve were replaced with new ones.
3. All the plastic wiper seals in the bearing assemblies were replaced.
4. Two oil samples were taken from the HPU (before the commissioning of the system, and after the acceptance test was carried out).

The digital controller for the seismic system as well as the controller for the structural system was not damaged by the flood water. All the structural actuators were also resting on wooden blocks which prevented the water from reaching them.

Additional hardware was installed in the digital controller: 493.76, 493.77, 493.45, 493.46. All qty one each.

Commissioning and acceptance test were carried out on the seismic system in the presence of the customer (Sieuviet). Additional training on the operation of the system was also conducted for the customer and end-users.

FSE: Robin Tan Kok Pin

Signature: _____



Customer Contact:

Signature: _____