Statement of Work
for
Loose Cargo Transportation Test Machine

General

NSWC DD will make a competitive procurement of a loose cargo transportation test machine. This machine is commonly referred to by various names including: *transportation simulator, package shaker, bounce tester and package tester*. This statement of work will refer to the device as the *test machine* throughout the document. The test machine is a commercial product for performing repetitive vibration tests on unsecured payloads in a transportation environment.

Performance Requirements

The test machine shall be capable of conducting loose cargo transportation tests in accordance with the following two military requirements:

1. MIL-STD-810G, Method 514.6, Procedure II – Loose cargo transportation.
2. International Test Operations Procedure (ITOP) 4-2-602, Rough Handling Tests, Appendix B, Loose Cargo Test.

The mechanical, electrical and control requirements for the test machine were derived from these documents and the needs of NSWCDD.

Mechanical

- 60-inch x 60-inch table
- Bed of test machine shall be covered with a 5-10mm thick cold rolled steel impact surface
- 2,000 lb payload capacity (minimum)
- Table motion of 25.4 mm (1.0 inch) peak-to-peak in a circular (rotary) synchronous motion at a frequency of 5 Hz.
- 48-inch high package restraint fence on one side. 3- to 6-inch high package restraint fence on other three sides. Adjustable height and position preferred.
- Footprint of machine and drive machinery not to exceed 72-inch x 72-inch.

Utilities

- 208 VAC, 3 phase or 480 VAC, 3 phase power 60 Hz preferred for test machine operation. Other power requirements shall be clearly stated in vendor's proposals.
- The test machine shall not require other utilities such as compressed air or water for operation.

Control System

- At a minimum, the test machine shall include a local display of table motion frequency and test time in minutes or cycles. The control system shall stop the machine after a pre-set number of cycles or run time. An emergency stop control shall be present in the vicinity of the machine.
- NSWCDD will use the test machine on items containing propellants and explosives. Personnel must be in a sheltered location approximately 3,000 ft away from the test machine during this type of explosive operation. This separation distance between the operators and the test machine requires a remote start/stop capability. Full operational control of the test machine (test time display, table motion frequency, etc) is preferred via remote control but is not required. The ability to remotely start and stop the machine is a firm requirement. NSWCDD will provide the infrastructure (a two-conductor copper cable and computer network) between the test machine and the remote operator location. NSWCDD anticipates remote control via TCP/IP

(computer network) for all functions of the test machine and a pair of copper wires for the basic start/stop remote control. The proposed control scheme shall be fully documented in the vendor's proposal.

Delivery

- Cost shall be FOB Dahlgren, VA
- 16 week ARO

Installation

- Vendor shall include an optional line item for a site visit and startup checkout after installation of the test machine by NSWCDD.