

Andy Glasgow

From: Don Peters <dpeters@whoi.edu>
Sent: Friday, September 23, 2011 12:05 PM
To: Andy Glasgow; Phil Gibson
Cc: Loral O'Hara; Walter Paul
Subject: Test Plan for Stretch Hoses

Phil, Andy,

Here is a draft test plan outline for our stretch hoses, with some strawman loading profiles. Based on crude assumptions, if it's a half day for the first slow test of two samples, then set up and cycle 2 hoses 24 hours (at 14 seconds per cycle, about 6000 cycles) each, then a half day to slow cycle them again, I could see doing this in 4 days.

Appreciate any input you might have - Walter is also seeing this for the first time, so he can weigh in as well. If we can close in on something good enough for you to provide a quote on, I'd like to get working on a PO for you so we can set this up!

The test hoses are at WHOI now, should be able to ship them to you by the week of October 10.

Regards,
Don

WHOI (week of 9/26)

Prior to shipment, and following TMT testing:

Full length CT Scan both samples

Rigging shop quasi-static pull (to ~8m) with circumference and strain measurement at 20cm un-stretched interval marks to get strain and poisson distribution

TMT Test Program

Test Specimens:

WHOI ship to TMT two 15-ft hoses (need part numbers*) Serial Numbers 072 and 073

Conductors to be daisy-chained in accordance with a wiring diagram for each sample*

Conductors to be fitted with molex or other common modular connectors*

Hoses to be fitted with pull-test clevis plates*

Hose center cavities to be water-filled and plugged

Center cavity plugs to be provided with test ports (IPT or SAE)*

* Information to be provided to TMT by WHOI

Data Recorded:

Time

Load

Torque

Total elongation

Cavity pressure

Center elongation, circumference, specimen temperature to be hand-measured as possible

Test both samples as follows (see candidate Test Protocols, below):

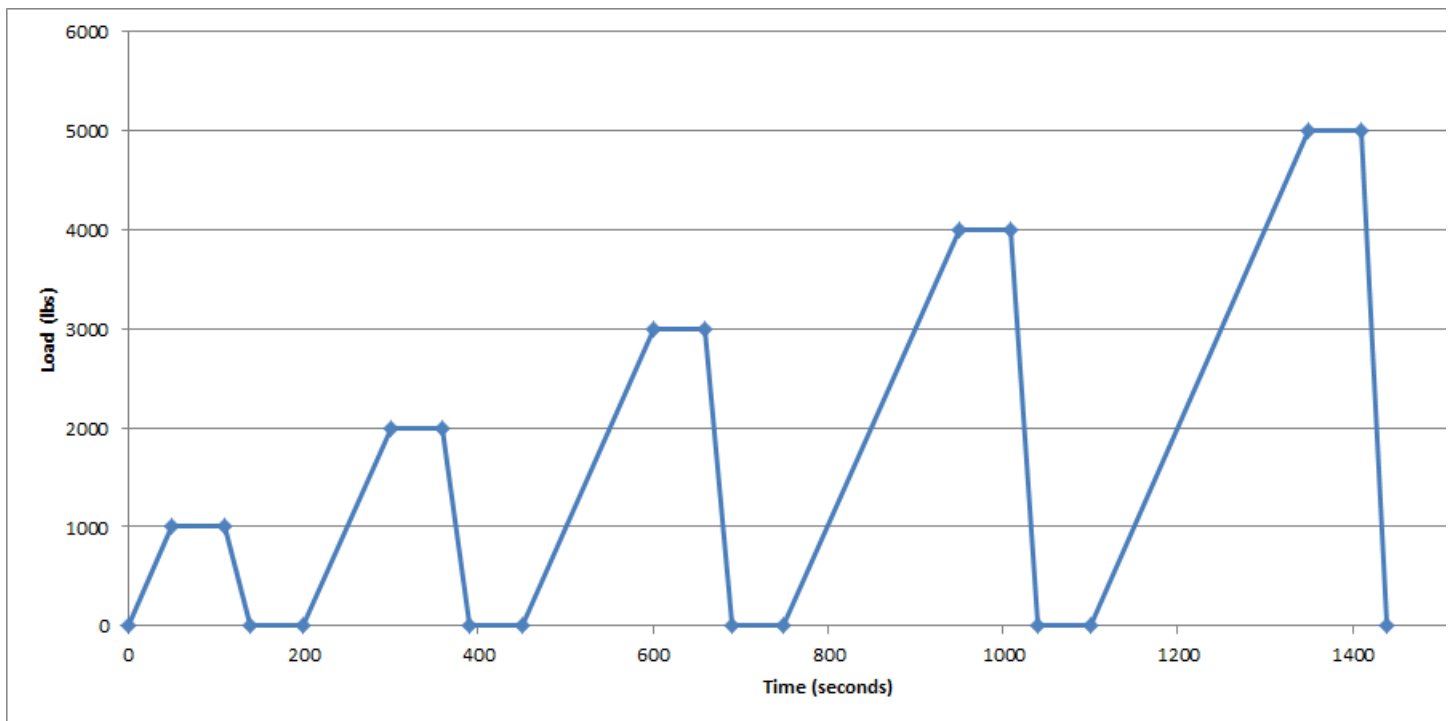
Low-frequency Load-Elongation test (new hose) - 2 repetitions, 1 hour minimum rest between (alternate specimens to achieve rest?)

Cyclic test under design service load - Maximize number of cycles - TBD based on allowable time

Low-frequency Load-Elongation test ("used" hose) - 2 repetitions, 1 hour minimum rest between (alternate specimens to achieve rest?)

Test Protocol 1

Low-frequency load test



Test Protocol 2

Service Load Cyclic Test

