Mr. Jim Walther
Tension Member Technology
5721 Research Drive
Huntington Beach, CA 92649

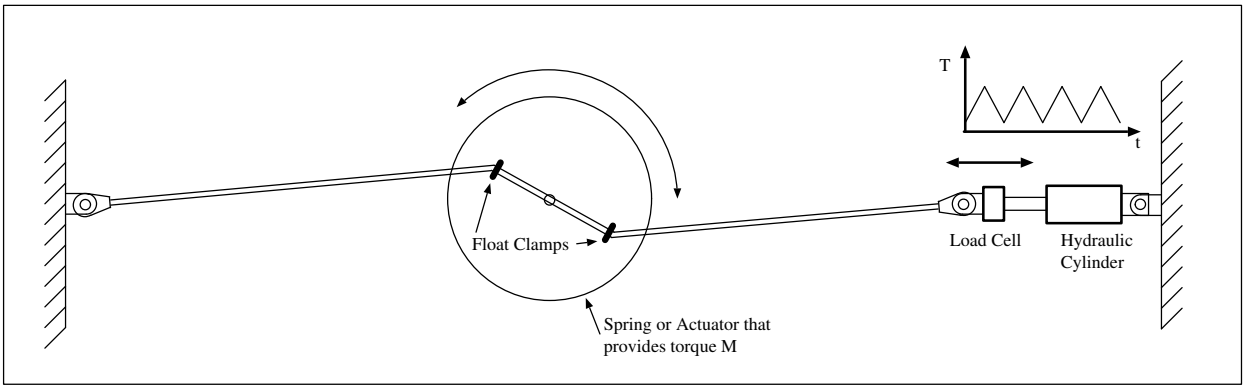
Dear Jim:

Thank you for your time and your excellent suggestions last week. Here's a description of the various tests we would like to perform on our MOOS riser cable. As you know, we are trying to assess the sensibility and costs of performing these tests. Any suggestions for variations on these ideas that you may have are welcome and an idea of the costs we would incur to have TMT perform them would be most helpful.

Best Regards,
Andy Hamilton

Low Tension Bending Fatigue Test

- Prepare cable specimen by installing steel sockets using polyester socket resin.
- Using an apparatus similar to that shown in the Figure, vary the tension (T) between 100 lbs and 5000 lbs at a frequency of 1 Hz. (8 hr = 28,800 cycles).
- The restoring torque (M) should be set such that the float clamp rotates 15 degrees when T = 100 lbs. The need to have the float clamp oscillate rotation direction at low tension is TBD.
- Test to failure or for a TBD large number of cycles followed by a tensile test to failure.
- This test will likely need to be repeated for 2-4 different float/cable combinations, and variations of tension and rotation angle may be required for each. Total = 6-8 Tests.



Termination Fatigue Bending Test

- Prepare a terminated cable specimen by installing a steel socket using polyester socket resin in end not terminated by MOOS termination and bending strain relief.
- Core pigtails should extend through the sockets to allow electrical and optical measurements.
- Use the TMT "Wag test" machine to oscillate the terminations through a TBD number of degrees while applying a constant (or potentially varying) tension of 5000 lbs.
- Cycle to failure or a TBD large number of cycles, monitor electrical and optical continuity throughout the test.
- This test will likely need to be repeated for 2 termination designs, and variations of tension and rotation angle may be required for each. Total = 4 Tests.