

# T07	Noise Prototype Outline Test Plan, OJEU Timing and Associated Risk	10th May 2007	Justin Greenhalgh, Norna A Robertson and Ken Strain
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LIGO DCC # T070096-00-R

(Outline)

	TEST	Require for procurement of mechanical parts	Risk assessment if we don't do the test before this stage of the major mechanical procurement		Risk areas	Comments	Site of testing
			start OJEU	sign contracts			
1	Mechanical fit and alignment test	Before OJEU	med	high	Parts do not fit and require redesign	Dirty assembly tests in UK will retire some risk	Dirty assembly- RAL Clean assembly - LASTI
2	Structure freq measurements	Before OJEU	high	high	Structures behave oddly	Standalone to be done in UK, will retire some risk	RAL
3	Functional electronics tests part 1	no	low	low	production QA problems	tests of parts prior to installation	B'ham and USA
4	Pendulum freq measurements	no	low	low	hard to see how this can be "wrong"	risk reduction from check of blades, masses and other parameters before assembly	LASTI
5	Damping tests/electronic plus ECD	no	low	low	only confirming Cptype results	Some measurements could be done before attaching to SEI, dependent on gazebo stiffness	LASTI
6	SEI +SUS tests part 1	Before signing contracts	low	med	Are struts required?	outside tank - key result for possible strut design/procurement	LASTI
7	Installation test	Before OJEU	med	high	Parts do not fit and require redesign	still with metal test mass pretest carried out at Caltech April 07	LASTI
8	Functional electronics part 2	Before pigtail procurement	should be done before pigtail procurement		there is a small chance that the scheme we propose won't provide enough shielding	includes investigation of ESD drive pickup, may require cavity test (item 11) for final result	LASTI
9	Assembly with glass, reinstallation and further SEI+SUS tests	Before signing contracts	low	med	Problems with assembly.	Unlikely to identify major problems given that all-metal tests done already	LASTI
10	Thermal behaviour w/ ring heater	Before signing contracts	low	med	very low chance of problems that require big changes to structure	Can be done with ETM	LASTI
11	Cavity tests	no	low	low		only likely to affect electronics design, force requirements, possibly magnet size	LASTI
12	Assembly of ITM/CP suspension	no	low	low	Some problem with fit of, eg earthquake stops	We will do a dirty metal CP suspension at RAL to mitigate this risk	LASTI
13	Violin mode damping	no	low	low	difficulty fitting or operating the damping	interface to suspension structures already clearly defined.	LASTI

Note:

List based on amended Suspension Controls Prototype Test Plan
E030546-04.pdf

Timing at LASTI
May07 for ETM, July08 for ITM
(May07 at RAL)
May/June 2007 if standalone, otherwise Aug 2007
May/June 2007 if standalone, otherwise Aug 2007
July/August 2007
Sep-07
Aug 07 for first tests
Oct/Nov07
Jan-07 from Jan08
May-08
Spring 08. May be in conj. with cavity tests