

**New Folder Name** Epection Sequence

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LIGO - T940016-00-B



# FACSIMILE MESSAGE

1501 North Division Street  
Plainfield, Illinois 60544-8929

Fax No. is: 815 439 6010  
Verify No. is: 815 439 6000

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April 12, 1994

To: Larry Jones  
LIGO Project Caltech Pasadena, California

Fax No. (818)304-9834

From: M. L. Tellalian Phone (815)439-6517  
Plainfield Engineering - NOE-C

RE: Beam Tube Erection Sequenc and QT Item Listing  
LIGO Design & Qualification Test - Caltech Contract C146

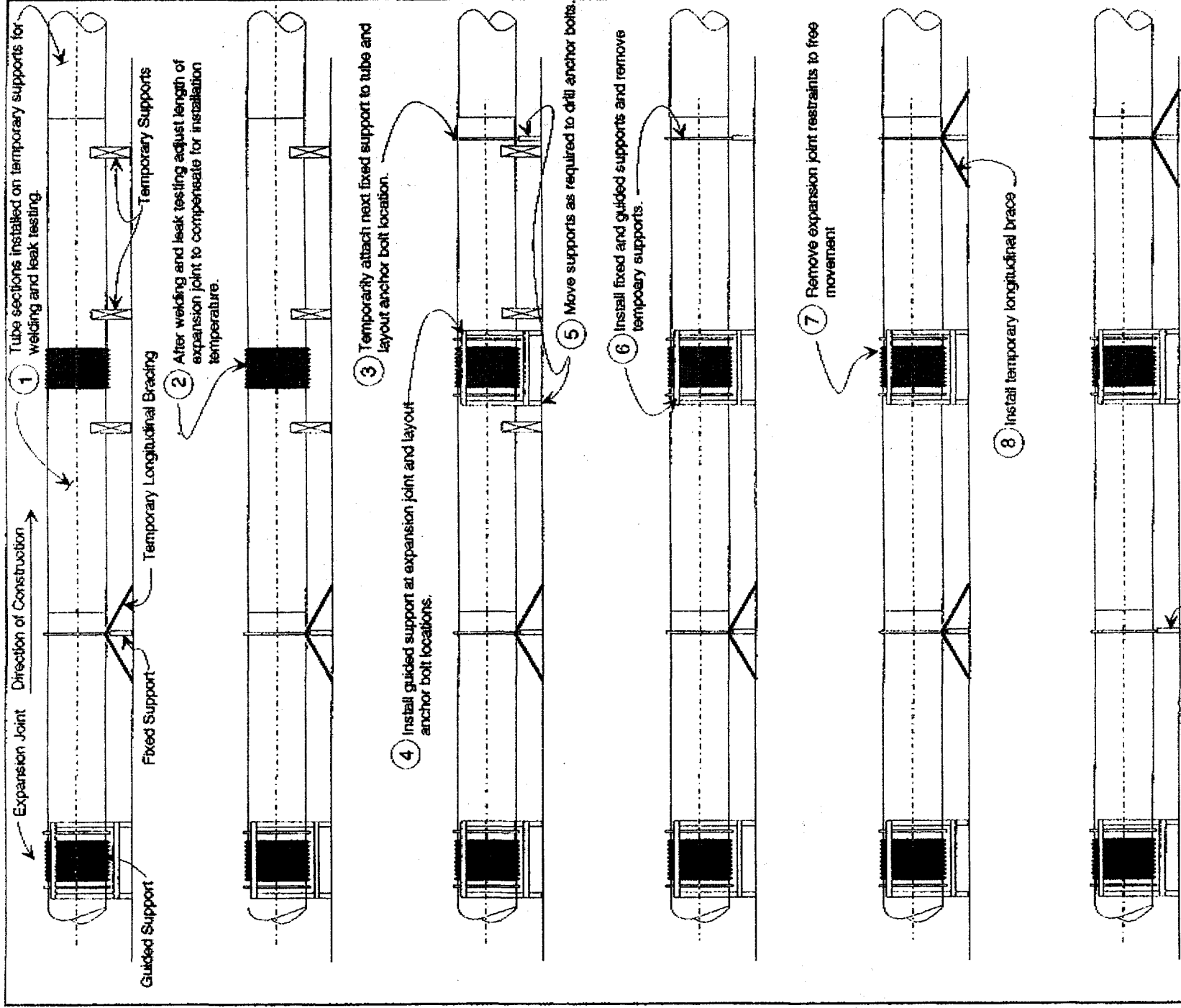
Larry,

Attached is the erection sequence drawing prepared by Mark Such. Also attached is listing of Test Items and Calculation Items from Paula which was not included in her fax earlier today. Give me a call if you have any questions.

Regards,

M. L. Tellalian  
Plainfield Engineering

cc:K. Flessas - CBICL Houston  
P. Morgan - RCE  
M. Such - NOEC  
MLT - NOEC / LIGO File 2.2.2



**SUBJECT**

BEAM TUBE ERECTION SEQUENCE  
 REQUIRED TO RESIST  
 CONSTRUCTION EXPANSION JOINT  
 LOADS ON FIXED SUPPORTS



**OFFICE**

MADE  
MRS  
DATE  
4/22/94

**REVISION:**

CHK'D  
MADE  
DATE  
DATE

**REFERENCE NO.**

SHT. OF

*Why send it to the mail  
 Also to know if it is worth*

### TEST ITEMS AND CALCULATION ITEMS

ITEMS	TEST	CALCULATION	BOTH
<b>DESIGN</b>			
<u>Structural Performance of Beam Tube Sections</u>			
Dimensions and Material			
Loadings	X		X
Calculations		X	
<u>Structural and Mechanical Performance of Expansion Joints</u>			
Vacuum Load	X		
Axial Deflection	X		
Fatigue Performance		X	
<u>Structural Mechanical and Thermal Performance of Beam Tube Supports</u>			
Configuration	X		
Guided Support Range of Movement	X		
Full Gravity Load		X	
Horizontal Transverse Load		X	
Fixed Support Longitudinal		X	
Alignment Mechanical Load Performance	X		
Thermal Performance	X		
<u>Baffle Mechanical Performance</u>	X		
<b>MATERIALS SUPPLIED TO CBI</b>			
Coil Manufacture and Bake	X		
Coupon Outgas Test	X		
Beam Tube Manufacturing	X		
Beam Tube Transportation			X
Expansion Joint Manufacturing			X
Baffle Manufacturing	X		
<b>CBI FABRICATION</b>			
Beam Tube Handling			
Stiffener Attachment	X		
Pump Port Reinforcement Pad	X		
Beam Tube End Prep	X		
Pump Port	X		
Expansion Joint Attachment	X		
Work Conditions	X		

**TEST ITEMS AND CALCULATION ITEMS**

ITEMS	TEST	CALCULATION	BOTH
<b>ASSEMBLY OF BEAM TUBE MODULES</b>			X X
Use of Clean Room and Enclosure			X
Preliminary Alignment	X		X
Circumferential Welds	X		X
Beam Tube Personnel Entrance	X		X
Installation of Structural Supports	X		X
<b>LEAK TESTING</b>			X
Can Assemblies			X
Circumferential Beam Tube Welds	X		X
10" Valve			X
Beam Tube Module			X
<b>CLEANING OUTGAS PERFORMANCE</b>			X
Can Assembly Cleaning			X
Final Cleaning	X		X
Bakeout			X
Beam Tube Outgas Performance	X		X
<b>DIMENSIONAL CONTROL</b>			X
Control of Materials and Assemblies			X
Final Maintenance and Alignment	X		X
Clear Aperture			X