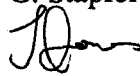


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CALIFORNIA INSTITUTE OF TECHNOLOGY
Laser Interferometer Gravitational Wave Observatory (LIGO) Project

To: M. Coles, G. Stapfer
From: L. Jones 
Phone: 2970
Refer to: LIGO-T960021-00-B
Date: February 22, 1996

Subject: Beam Tube Alignment Concept Meeting, 2/20/96

Attendees: W. Althouse, F. Asiri, M. Coles, L. Jones, A. Lazzarini, G. Stapfer, R. Weiss (by telephone), and S. Whitcomb

The subject meeting was held to discuss CBI's alternative design concepts (LIGO-C960221-00-B), and to reach a consensus on our response to direct CBI's alignment procedure development.

F. Asiri stated that the expected total slab settlement at WA is 0.2" and at LA is less than 0.75". The initial LIGO operation with two interferometers (with a beam tube designed for five) should allow considerable time before a realignment is necessary. After much discussion, it was agreed that we would direct CBI to perform a single alignment prior to the enclosure cover installation as follows:

- Final align the tube section as a part of the installation (this utilizes the baseline GPS procedure).
- Spray paint or scribe the aligned support positions (for future reference).
- Install a nail in the slab (outside the cover position) on both sides of, and in line with, the support ring (these provide reference points for GPS measurements).
- Record GPS position measurements of the nails (for future reference).

We will expect a reduction of contract cost, as this will reduce CBI's efforts by eliminating one of their two planned alignment steps and relieving them of developing an operational alignment procedure. LIGO has the responsibility of developing and implementing an operational alignment procedure in time for a needed adjustment, and will be monitoring selected nails periodically for evaluation and scheduling purposes.

L. Jones will present this plan to CBI for their comments and cost reduction ROM.

lj

cc:

W. Althouse	B. Barish	O. Matherny	R. Weiss
F. Asiri	A. Lazzarini	G. Sanders	S. Whitcomb
Document Control Center			