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STANFORD UNIVERSITY
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Gravity Probe B Relativity Mission

GRAVITY PROBE-B STANDARD OPERATING PROCEDURE

OFF-SITE Monitoring of the Dewar

P0906 REV -

February 28, 2002

Prepared By

Checked By

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Approvals:

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Cryo Operations

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REVISION RECORD

REVISION	ECO	PAGES	DATE
-		Original	02/28/02

Purpose: This procedure describes the method of monitoring the Dewar off-site, defines the method of reporting readings and includes the list of contacts by priority.

Applicable Documents: **P0879; Accident/Incident/Mishap Notification Process LMMS/P480566, Operating Procedure 0015, Off Hour Stanford Dewar Monitor**

Responsibilities: **Cryo Operations Team**

The Cryo Team will supply a spreadsheet template to ABCOM for the purposes of recording the Dewar readings during their monitoring.

The Cryo Team is responsible for the maintenance of the web site used to monitor the Dewar. Reference,

http://einstein.stanford.edu/private/pl_data/lastscnp.txt

The Cryo Team will update the 'lastscnp.txt' format to make alarm information available for the monitors.

The Cryo Team will maintain team members' availability for response to alarms. It is the responsibility of the Cryo Team to notify the SU Quality Manager of any changes to the contacts; i.e., changes order of contact, addition or deletion of team members.

In the event of an alarm, the Cryo Team is responsible for proceeding in accordance with Sec. 3.0 of LM OP 0015 (attached). If it is determined that there is a potential for damage to the health and safety of the Payload, the following shall also be contacted: SU Deputy Program Manager, SU QA Manager and LM Safety Engineer.

ABCOM

ABCOM will provide 'web site' based Dewar monitoring support on a daily basis. Monitoring will be as follows:

- Monday 6 PM to Tuesday 9 AM
- Tuesday 6 PM to Wednesday 9 AM
- Wednesday 6 PM to Thursday 9 AM
- Thursday 6 PM to Friday 9 AM
- Friday 6 PM to Monday 9 AM

Stanford Holidays will be monitored as follows:

- Memorial Day (Monday, 5/27/02) 9 AM to (Tuesday, 5/28/02) 9 AM
- Independence Day (Thursday, 7/4/02) 9 AM to (Friday, 7/5/02) 9 AM

If the Dewar remains at Lockheed past these holidays, this procedure will be updated to reflect schedule changes.

ABCOM will perform Dewar monitoring activities at their San Jose office, office #408-247-4827, fax #408-244-2550, pager 408-999-8586, email Lwalker543@aol.com or rwalker663@aol.com.

ABCOM will record the readings that are posted to the web site every 15 minutes. A new spreadsheet will be started at 6 PM each day.

At this time alarm conditions will not be reported via the web page, only raw data, which is generated every 15 minutes.

The spreadsheets should be saved with a unique name/ID such as SS020304_1500.xls as there will be many recordings.

ABCOM will email the spreadsheet to the Cryo Team twice each shift (in the middle and the end of each monitor's shift). The spreadsheet will be emailed to Dave Murray at murray@relgyro.stanford.edu, or his designee.

In the event of an alarm is indicated, ABCOM has the responsibility of immediately calling the Lockheed Lab first, 408-756-3178, followed by contacting a Cryo Team member as defined in the list below:

Note: An alarm condition is to be assumed if the data does not update within 25 minutes real-time.

Current Cryo team contact numbers (in contact order):

- 1) Dave Murray: Home: 650-961-3155, Cell: 650-619-0761
- 2) Mike Taber: Home: 650-875-4114, Cell: 650-996-8761
- 3) Ned Calder: Home: 650-390-9429, Cell: 650-224-8988

4) Tom Welsh: Home: 408-371-3878, Cell: 408-821-8558

Cryo team members should also be paged through the GP-B web site (<http://einstein.stanford.edu/private/pagers/pagers.html>), but in some cases, the page is sent to the member's cell phone. It is therefore preferred to use the phone numbers before attempting to page.

Example of Spreadsheet used for monitoring:

Monitor GP-B Cryogen Data

ALARM-->		above 5.3	above 4.8			below 4	below 30
DATE	Time	Sta 200 [01]	Lead Bag/a [28]	GT Temp/ a [24]	HEX4 [08]	GTVCG [46]	Thr Vent [49]
(enter always)	24 Hr						
3/4/2002	5:30	4.979	4.613	18.286	162.457	9.6	201
3/4/2002	6:00	4.978	4.613	18.276	162.449	9.72	200
3/4/2002	14:30	4.944	4.597	17.593	162.298	10.2	168