

**EMWoG Telephone Conference Call**  
**Thursday February 2, 2006, 2-3.30pm EST**  
**Minutes and Action Items**

*Present:* Phil Wannamaker, Martyn Unsworth, Kevin Mickus, Steve Park, Rob Evans, Adam Schultz, Shane Ingate (quorum achieved).

*Apologies:* Gary Egbert, Dean Livelybrooks.

**Ring-core Availability**

Schultz reports that Narod has received a shipment of METGLAS (as used by Billingsley). These have 4 times the thermal sensitivity of the cores previously used by Narod, but provided thermal stability, they are potentially quieter. This material will serve EarthScope science. Magnetics have agreed to modify annealing process and Narod has set a shipment of bobbins for processing. Narod will conduct tests to identify which will be better. The thermal stability for the sensors can be achieved by deeper burial.

**Pilot Project**

Group carried on their discussions from 1/17/06. Outstanding action items from the last telecon remain.

**Action:** Park will coordinate obtaining coordinates of earlier MT experiments, and plotting on a map. This will help in deciding what regions should be heavily populated, and what areas require sparse coverage. [Outstanding from 1/17/06].

**Action:** Schultz will work with Trehu (OSU) on siting in OR. . [Outstanding from 1/17/06].

Group discussed models for permitting in OR. A number of scenarios exist:

- Use Pilot Project contractor for site selection and permitting, using the data from the Trehu TA workshop.
- Task Mark Meyers (OSU GIS Lab) and OSU students to rerun workshop with MT siting criteria and have students make initial site surveys. Meyers has indicated that he would compete for the siting/permitting component of the Pilot RFP
- Work with an established MT site surveyer/permitter.
- Livelybrook, Park and Schultz offered to conduct some surveys and permits. Starting with TA recon reports (web link below) would be helpful.
- Combinations of the above.

It became clear that Group recognizes the complexity of the task ahead, particularly within the timelines suggested within the Pilot Project RFQ and budget available. It was decided to break out the RFQ into 2 sections, site selection/permitting and construction/installation/operations, and that vendors could bid on one or both tasks. As Livelybrooks was not available at this telecon, final discussion on this issue will wait until the next meeting.

TA recon reports are available on line at

[http://homepage.mac.com/WebObjects/FileSharing.woa/wa/default?user=ta\\_ops&templatefn=FileSharing1.html&xmlfn=TKDocument.1.xml&sitefn=RootSite.xml&aff=consumer&cty=US&lang=en](http://homepage.mac.com/WebObjects/FileSharing.woa/wa/default?user=ta_ops&templatefn=FileSharing1.html&xmlfn=TKDocument.1.xml&sitefn=RootSite.xml&aff=consumer&cty=US&lang=en)

Busby is running a repeat of the TA GIS planning course held at OSU. It is planned for April 2006, hosted by Boise State or UU. GIS support will be provided by IAGT or UI, Moscow. Some EMWoG members may attend.

Group did discuss additional items that can be summarized as action items.

**Action:** Ingate to request that Busby mention MT during initial negotiations with land-owners. If the owner does not warm to this, further consideration of MT at this site will be dropped.

**Action:** EMWoG needs to review the Pilot Project NIMS installation specifications very closely, and specify allowable errors (e.g. degree of orthogonality of electrical lines and cardinal orientation). Group suggested that the lines need be within a degree of the cardinal points. Other specifications of limits (such as line-length, etc) need to be reviewed and specified.

**Action:** Booker recommends that when the new systems arrive from Narod, they should be checked out for calibration, frequency dependency, orthogonality, etc. This can be done either by Booker or through brief (1-2 hour) field tests. It was felt that because Booker has Helmholtz coils, it is convenient to have instruments delivered to UW, Schultz' technician could travel to Seattle for the checkout. For the Transportable equipment, this checkout would be funded by O&M.

**Action:** Some of the Group feels that apparent resistivity tests should be conducted during both installation and demobilization (to derive stability of the response functions over time). Schultz indicated that Booker is prepared to distribute his software (runs using Matlab under Linux) to enable field analysis of this test. Alternatively, calibration tests could be conducted during both installation and demobilization, or periodic laboratory (re)calibration of the magnetic field and telluric sensors/amplifiers should be conducted, at least twice during USArray, if not more frequently. Group needs to come to closure on scheduled calibration tests as this is a clear requirement for the Pilot Project.

**Action:** NIMS communications. Group discussed the DOS communications protocol required by the NIMS. Though there is a possibility that Narod may improve in this area before delivery, we will have to provide a old hardened computer dedicated to running Windows 98 or earlier. A second laptop for processing and backup should be provided by the contractor.

### **EMScope MRE Yr 3-5 Baseline**

Ingate reviewed the development of the EMScope task list and monthly planned values for the remainder of EarthScope MRE activities. Although very simple due to the relatively small budget, EMScope is now a high-visibility task and open to close scrutiny

by NSF and Congress. This alone ensures that we take the baselining very seriously and with a critical eye for fiscal success. We are also required to develop milestones on a monthly basis.

Ingate has discussed the issue of milestones with Woolley and ESO, and it is agreed that EMScope does not need to develop an equivalent of the problematic “equivalent station” milestone. Instead, we will use actual installs. This need be done only for the installation of the 7 Backbone stations, but it is a good idea to start thinking about milestones for the Transportable even though all its field operations will be funded through O&M.

The draft baseline material is due to be submitted to the IRIS Office Feb 6, thence to ESO on Feb 7, and thence to NSF on Feb 13.

**Action:** Schultz to develop a monthly milestone list of operational Backbone station installs and forward to Ingate by Feb 6.

### **MT Outreach**

Ingate spoke with Taber about MT outreach. Ingate has started on a 1-pager for distribution to potential MT site hosts. Ingate only has images from the Deep Springs experiment, and will require more. EarthScope 1-pagers can be found at the EarthScope web site [http://www.earthscope.org/links\\_pubs/brochures.php](http://www.earthscope.org/links_pubs/brochures.php).

**Action:** Ingate to distribute draft 1-pager to Group. Group will need to go through its slides of MT experiments and find good shots of installs.

Park discussed how he has engaged the local Bishop Science Club to help with permitting in the Owens Valley. Park even offers students \$10/week to keep an eye on stations, apparently with great success.

### **TA Design for Northern Winters**

Ingate informed Group that the TA is having problems with its remote vault design in maintaining power during the northern states Winter; too many consecutive overcast days do not allow the batteries to recharge. Group discussed this and indicated that 2 deep cycle truck/car batteries (>> 260 amp-hours) should run a NIMS for over a month. For the TA, this indicates that we need not purchase solar arrays, which has advantages in cost savings and reducing the ground profile even further. Group agreed that this will be tried during the Pilot Project, which being run during the Summer, but may not provide useful information. However, because no real tests have been run especially in colder conditions where battery life may be de-rated further, future RFPs should indicate that up to 3-4 batteries may be required for northern-state winter deployments.

Unsworth offered to run a NIMS for a month in Canada. POLARIS' main concerns for cold-weather operation are frozen electrodes and flash-card issues.

### **Miscellaneous**

Park will be in DC for a NSF Panel Review March 20-22.

Change Order USArray 0015 was completed 1/25/06. Word is that it will be discussed by EFEC 2/3/06, and if approved, sent to NSF the following week.

**Forthcoming meeting:**

- Next telecon Tuesday, February 21, 2006, 2-3pm EST