

**EMWoG Telephone Conference Call**  
**Thursday January 11, 2007, 4.00-5.00 pm ET**  
**Minutes and Action Items**

*Present:* Phil Wannamaker, Gary Egbert, Rob Evans, Shane Ingate, Dean Livelybrooks, Kevin Mickus, Steve Park, Adam Schultz, Martyn Unsworth.

*Guest:* Rob Woolley (IRIS)

*Apologies:* Gary Egbert

**Action Item Status**

- **Action Item (from 4/11/06)** Schultz to contact Narod if NIMS could be toggled between 1 and 8 Hz, enabling interchangeability of systems.
- **Resolution:** *Outstanding.* Schultz has provided 1-Hz code to Narod that is now being inserted into the NIMS firmware.
  
- **Action Item (from 4/11/06):** Ingate will request that the data from recent Quantec testing of the Billingsly cores at Battle Mountain, NV, will be made available to EMWoG for analysis.
- **Resolution:** *Outstanding.* Ingate has contacted Reftek but has received no response.
  
- **Action Item (from 12/11/06):** Egbert to wrap his single-site impedance and tipper functions in XML-code required by SPADE. The Oregon data products should be complete by January 2007. Egbert will also provide to the DMC a simple mini-SEED to ASCII converter that could be used by EM users. Egbert will also provide a metadata to system response converter, as well as XML log notes file.
- **Resolution:** *Outstanding.*
  
- **Action Item (from 12/11/06):** Evans and Schultz will continue to explore offshore Cascade deployment and make contacts.
- **Resolution:** *Outstanding.*
  
- **Action Item (from 12/11/06):** Schultz to contact M. Kitchens (GSY-USA) about privately-owned 80 acres in Wisconsin as a potential Backbone site.
- **Resolution:** *Outstanding.*
  
- **Action Item (from 12/11/06):** Egbert will wrap Level 2 data products in XML and submit to SPADE. Egbert will also provide a mini-SEED to ASCII converter. Finally, Egbert will convert the meta-data to system response data.
- **Resolution:** *Outstanding.*

- **Action Item (from 12/11/06):** Ingate to prepare a map of candidate sites for the completion of the Cascades, for discussion by EMWoG, and for submission to TA (Busby) for approval to use land-owner information.
- **Resolution: Completed.** Ingate prepared a map (attached) and has worked with Busby on details. Busby explains that we have full access to the station maps and database 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)  
Once the desk-top study has been completed, we are to show Busby the land-owner information for final clearance to contact the owner.
- **Action Item (from 12/11/06):** Ingate to work with Busby (TA) and EMWoG to determine station count and nominal locations for the completion of the Cascades.
- **Resolution: Completed.** See above.
- **Action Item (from 12/11/06):** Egbert to provide to GSY-USA Matlab routines for plotting uploaded NIMS data when in the field.
- **Resolution: Outstanding.**
- **Action Item (from 12/11/06):** Group suggests conducting a test, perhaps at Soap Creek, comparing the Hungarian with Park/Booker electrodes, and also to test armored cables and flexible conduit as methods to mitigate animal damage.
- **Resolution: Outstanding.**
- **Action Item (from 12/11/06):** Egbert and GSY-USA to agree on a format for meta-data collected in the field.
- **Resolution: Outstanding.**

### **Minutes from Dec 11 Meeting and Oregon Pilot Project Debrief**

Committee requested more time to read the minutes, and will be reviewed at the next EMWoG telecon.

### **MT System Procurement**

Ingate reported that an email from Narod dated 1/10/07 indicates that the NIMS are not meeting the magnetometer minimum noise specification of 20 pT. Delivery date for the 7 Backbone NIMS and 20 Transportable NIMS was 12/31/06. Two Backbone NIMS were delivered to OSU 1/6/07.

While the late delivery does not immediately impact the CascadiaEM experiment expected to commence in June, the Backbone systems were on a critical path and have seriously impacted the construction and installation schedule devised by Schultz and approved by the NSF Counsel General.

Narod's email of 1/5/07 and 1/10/07 also indicated that no-more orders for equipment will be taken, and that Narod Geophysics Inc. will close it's doors by summer. The reason given is that Narod has no sources for quiet cores.

Ingate poses that the late delivery of NIMS, Narod's retirement and NIMS failing to meet specification seriously jeopardizes EarthScope MT. The timing could not be worse with the O&M proposal due 15 March (and the EMSOC proposal), and the CascadiaEM Project this summer.

EMWoG discussed the reasons for the high noise, especially with regard the statement made by Narod on 11/24/06 that:

*I have now sorted and selected ringcores sufficient for four sensors, one of which is already built and installed in backbone-1. At a 16 pT cutoff I am getting a yield of one-third, with over half of these at the 13-14 pT range. I will install the 16 pT in the vertical component, putting the quieter rings into the horizontal components.*

*I have a total of 250 rings, so at the present 1/3 rate I will just make it to 27 sensors.*

*The next 1/3 rings currently fall into a 17-18 pT bin.*

These findings do not agree with a more recent survey by Narod (1/10/07) which showed a median noise of 18.8 pT in 24 cores. EMWoG is concerned that the cores are becoming noisier with age, or that the increase in noise may be associated with the assembly process.

EMWoG reviewed and discussed several options:

- Accept sub-standard NIMS and plan for sparing purchase and tech-transfer, which will utilize O&M funds and will reduce the number of systems we can afford to deploy this Summer. EMWoG agreed that >20 pT cores are unacceptable.
- Cancel the NIMS order and privately invite Reftek/Korepanov/Phoenix for a mini-shootout at MTB04 (where lines have already been laid). A key requirement for selection would be short delivery times and price.
  - Phoenix still do not produce a long-period system.
  - Korepanov has apparently responded to the 2005 evaluation of his system, and made considerable changes. A. Jones and B. Kennett have indicated that they are very pleased with the performance of the new Ukrainian system. Jones indicated that the price has increased to around \$18,000USD.
  - The Quantech/Reftek system has apparently been tested at Battle Mountain, but email to Passmore requesting access to this data have not been answered. The Quantech/Reftek system remains an untested entity.

- Cancel the order for the Transportable NIMS, and encourage Narod to find us quiet cores for the Backbone. Seek an alternative vendor for the Transportables.

EMWoG indicated that fast action is required, and directed Ingate to contact Korepanov and Reftek asking for a timely quote of 20-27 systems that satisfy the specification within 2005 RFP, a delivery schedule (partial shipments acceptable), price and to explore the possibility of a short field-test at MTB04 (Hilton Ranch, NM). In addition, Reftek is to be asked to be the single point-of-contact for the Quantech/Reftek system for all matters relating procurement and O&M.

### **Minutes from Dec 11 Meeting and Oregon Pilot Project Debrief**

Committee requested more time to read the minutes, and will be reviewed at the next EMWoG telecon.

### **2007 Calendar**

- EarthScope National Meeting Abstract deadline 26 Jan
- EarthScope National Meeting Registration deadline 16 Feb
- Negotiate CascadiaEM contract with GSY-USA. late-Feb
- Commence CascadiaEM permitting, mid-Mar
- EarthScope O&M proposal due, 15 Mar
- EarthScope National Meeting 27-30 Mar
- SSA (Kona, HI) 11-13 Apr
- IRIS CoCom/BoD meeting, 24-26 Apr
- Western GeoSwath Workshop 26-29 Apr (see EOS, 2006,87, 221/224)
- NSF Review of USArray 15-17 May
- AGU Joint Assembly, 22-25 May
- Complete CascadiaEM, Oct

### **Next telecon (second Thursday of the month)**

Group decided (offline) to hold future EMWoG telecons on the second Thursday of each month, at a new time of 1600-1700 ET. Next telecon is Thu 15 Feb 4-5 pm ET.