Minutes of the NADP Joint Sub-Committee Meeting
Sheraton Waterside Hotel, Norfolk, VA
October 24, 2006

Mike Kolian, (NOS/Joint Chair) called the meeting to order at 8:15 a.m. with introductions and meeting logistics.

1. Approval of meeting minutes from Riverside, CA

   A motion was made by Mark Nilles to approve the minutes, seconded by Maggie Kerchner, and unanimously approved.

2. Electronic Rain Gages Update – Bob Larson

   CA94, IL11, AB 14, WI31 have new rain gages. ETI gages are going to 9 sites and OTT gages are going to 3 sites. It is rumored that an additional ETI at 5 sites and 1 OTT will be ordered too. A brief description of the gages was provided by Bob.

   A Campbell datalogger program has been developed for each gage with 5-second scans and 15 minute recording. Collector-state monitoring is checked every 5 seconds and reported every 15 minutes. ETI uses 10-second scans. The OTT determines if precipitation is being measured every minute on 2-minute cycles. The collector is monitored for wet exposure, dry exposure, missed exposure, and no exposure (closed).

   PO (i.e. Bob) is developing desktop application to display downloaded data to show precipitation, wet, dry, and missed exposure. Site operators are currently emailing raw data files to PO.

   Comparison with Belfort gages is occurring at CA94, IL11, and WI31. Testing continues on PDA improvements and operator desktop application. Documentation for site installation and operation is forthcoming. Bob is also working with labs on electronic data transfer.

3. High Altitude Sites – Equipment Retrofits – David Gay

   David showed:
   - New Collector with linear actuator (LO)
   - New LODA collector
   - New MDN collector
   - New Deep bucket collector

   Three sites in CO: CO97, CO98, and CO02, got deep bucket collectors with hole in deck and deeper bucket. CO02 and CO98 are co-located and CO97 is a retrofit/replacement. There are 28 more sites to retrofit plus 2 USGS co-located program sites.

4. 2006 CAL Review – Greg Wetherbee

Greg Wetherbee reported out on the External CAL Review which occurred mid-June 2006. A team of 5 participants plus Chris Lehmann performed the review. Noteworthy results are as follows:

The CAL is clean, efficient, organized, well equipped, following SOPs, staffed by well-qualified personnel, and doing an outstanding job for NADP.

The laboratory facilities and shipping/receiving space has been reconfigured for expanded use. CAL has improved data management using LIMS and sample and FORF bar-coding. CAL has new instrumentation and newly trained staff. Changes and improvements occurred simultaneously with network and sample load growth and inadvertent sample-analysis cost control.

Recommendations:

- Add1-2 FTE to allow cross training for backup of mission-critical functions

- Consider changing sample-handling procedures (i.e. gloves).

- Review policies for MDL calculation and significant figures for data reporting.
- Acquisition of additional data for metals and anionic species from the ICPAES and IC instruments should be evaluated.

- Track analytical instrument performance.
- Annual QA Report 3 years behind schedule.
- Improve data-management SOPs (“dumb down”)

- The CAL Work Plan is not a Statement of Work and should be less detailed and less dynamic. Changes to CAL protocols should be summarized in SOPs and the QAPP without precipitating the need to change the Work Plan.

- Inadequate documentation of previous review responses/corrective actions warrants improved coordination with PO QA Manager

- Building security - personnel, samples, and other resources vulnerable

5. 2006 CAL Review Response – Karen Harlin

   - CAL didn't actually "expand," but rather became more efficient. Space is being used more effectively.

   - Time-sensitive positions do have backup, but QC and Site Liaison (oversight) does not have backup – impossible. Jane is working from home during medical leave. CAL is fully staffed, but does not have backup at the higher end of the wage scale. Jane Rothert has updated SOPs this summer.

   - Sample handling is being reviewed to look at glove issue. Tracy Dombeck is looking at sample handling devices (tongues, etc.)

   - MDLs-CAL reports MDLs to PO, and PO has to decide what to do with information. Users see "< DL", and PO uses half of value for averaging.

   - CAL is doing ICP research on metals of interest in precipitation. CAL is taking field blank samples and trying to run background levels on Cd, etc. Tracy Dombeck has a poster on the other metals. CAL is evaluating IC to see what can be identified as "peaks of interest." Analysts will have to identify unusual peaks.

   - CAL will compile instrument performance data.

   - QA Report is 3 years overdue. Recommendation is to simplify QA report. Jane Rothert is working on it.

   - Data SOPs have been revamped with respect to data validation and review. John Ingrum will incorporate suggestions.

   - There are opportunities for improvement with the SOW/Work Plan document(s), and Karen and Van are working on it.

   - Karen felt "blind-sided" by comment to document follow-up reports on lab reviews. She feels that documentation did occur.

   - Building security is still a concern, but not resolvable through onsite security.

6. N-CON MDN Collector Intercomparison Study Results and Status – Mark Nilles

   Three-Phase evaluation studied:

   1) Does new N-CON collector work?
   2) Will the N-CON collector operate in a pseudo-network mode?

3) How does the N-CON compare to Aerochem?

2001-03 USGS Urban Gradient Study used 4 collectors to obtain samples for study. It was easy to install, reliable, supports Teflon and PTGE bottles, data agreed with MDN collocated sites, and data made environmental sense. Problems included: large and heavy, heating/cooling systems, small area of wetted surface, and others…

N-CON Version II is: smaller, lighter, 4 arm control, better thermal control, lower power use, etc. There is good agreement between N-CON data and MDN ACM data.

2006 version of N-CON allows bottle height adjustment for different sized bottles. An optional heater and fan, plus a funnel ring heater added for extreme conditions are integrated with a max/min thermometer.

David Gay – Phase III intercomparisons were done 8/05 – 8/06 at WA18, VT99, and a Wisconsin Site. Uses a glass sample train. N-CON has better collection efficiency by 5 percent. Improved collection efficiency was observed for snow, but it is still insufficient. Higher Hg concentrations are observed in the N-CON except for WI36 site for snow. N-CON is open earlier for light precipitation, which is capturing more Hg and more precipitation. All 3 sites had greater total deposition calculated from N-CON samples.

Bob Brunette – Operator issues/feedback:

- Less surface area on N-CON for splash.
- Easier to install and locate on rough terrain with uneven surfaces.
- Also easy to remove in case of impending doom (hurricanes).
- Handles heavy snow loads.
- Has extremely sensitive sensor.
- Uses same sample train.
- There are no major operational changes needed.
- Has shorter thistle tube.
- Easier procedure for sample handling/glassware change out.
- Easier access to sample train.
- Fan and heater controls are easy to understand and adjust.
- It is easier to access and change out components (e.g. motor box, etc.)

Problems:

- Insects trigger the sensor.
- Extreme weather can overwhelm the heater.
- The long-term durability is unknown.
- WA18 has had no problems.
- Most bugs worked out by USGS Urban Transect study.

- Replacement parts availability unknown.
- Dust and blowing snow can trigger system to open.
- N-CON can incorporate humidity sensor to protect against false openings.

Mark Nilles moved to accept the N-CON MDN collector (Model 00125-2) as an alternative collector for the MDN only. The Motion was seconded by John Sherwell. Motion was unanimously approved.

The meeting concluded and was adjourned at 10:18 a.m.