Network Operation Subcommittee Minutes
Fall Meeting 2009
Saratoga Springs, NY

Tuesday, October 6, 2009

Chris Lehmann ***Motioned*** to approve the NOS minutes from the Sp meeting in Pensacola, FL
Jason Karlstrom ***Seconded***
All approved, ***Minutes Approved***

CAL Report, Chris Lehmann, NADP Program Office

NTN Sites Status

- 144 sites now participating in the 6-N-1 supply routine
- Savings are about 33% vs. the 4-N-1 system
- Anticipate full participation by Spring 2010
    - Only foreseeable problem is that the bucket supply may be unreliable

Other issues discussed:

- Dry sample return envelopes
- Bottle supply issue
- Sample loss issue
- 1L bottles being held over by sites
- Data deliverables

Archive sample status:

- Distribution has occurred to several groups
- Some samples are still available
- Some will be discarded in Dec, 2009

QA Documents

- Being updated and posted to the new website

New Developments:

- New website
- Total nitrogen analysis
- Bromide ion measurements
- Ion exchange resin columns
- Inorganic and organic carbon in precipitation
- American Chemical Society- Chemistry in Context Lab Manual

Total Nitrogen measurements:

- Continue through 2008 samples
- Some refrigerated samples measured by John Walker
- Samples include 54 samples from 2008

HAL Report, Bob Brunette, HAL Director

MDN Network Updates

- MDN network growing
- NED is now shipping parts from the PO
- HAL still maintains some parts for emergencies

Equipment modernization:

- The network consists of:
    - 94 ACM units
    - 21 N-CON units
        - Jason Karlstrom suggests that there may be more than 25 at present
    - 58 Belfort raingages still in use
    - 57 Digital raingages

Question by Eric Prestbo: How many sites use different sensors?
Answer: None. This issue was taken care of with the Thies sensors.

Mark Nilles reminded that there remains no deadline for replacing the ACM's.
Jason Karlstrom responded that we should replace all ACM's with NCON's.

Mark Nilles ***Motioned*** to: effective immediately, the use of ETI sensors to operate NADP collectors is disallowed.
Chris Rogers ***Seconded, Motion Passed***

Site Liaison Activities

- 1-800 # calls are up slightly
- Replacements:
    - 11 motorboxes
    - 7 sensors

Discussion on how to test the Thies sensors

- EE&MS uses 20 sec mist
- HAL collector study still ongoing

HAL 2006 Review, Mark Rhodes, NADP PO

91 items (specific recognition, observations, recommendations, findings) identified during the Review. 7 of those are findings and require a formal response from the Lab.

Open items remaining:

- Database users manual
    - Changing over to SQL
    - Testing mirror image of database
- Modernizing Me-Hg data capture
    - NI software/hardware
    - EDAQ software/hardware
    - Perkins-Elmer
        - New in Feb 2009

MDN Sample Train Study Preliminary Results, Greg Wetherbee, USGS

Discoveries:

- A small amount of Hg absorbs to MDN sample train
  - ~0.3 ng/L/week
- Not a big difference between the ACM and the N-CON
- This may not be enough to worry about
- This is the preliminary data, but future statistics will be performed after the snow study

USGS External QA Program Update, Greg Wetherbee, USGS

Announcing new co-location sites for FY10

- 26IN co-located with IN26 with Pluvio/N-CON
- 99VT co-located with VT99 with N-CON used for NTN
- CO89 co-located with CO98 using ETI digital raingages with satellite telemetry

Problems with variable bucket heights have been encountered with different suppliers

- Jack Beach commented that the N-CON is designed to be accommodating
- Bucket heights are crucial to sealing the system on the ACM
- Varying heights could cause a host of problems with collectors

Other issues:

- Publications – 2007-08 report and 2 journal articles due out next year
- Web automation of inter-laboratory comparison program planned for next year
- Projects
  - Archived samples being rerun for bromide ion
  - Bromide being studied to evaluate MeBr fate and transport
- Help NADP with:
  - QR codes for NTN data
  - Compare E-gage and Belfort data

Training Course Update, Jason Karlstrom, MDN Site Liaison

This Fall session will be the 2nd training session held in conjunction with the NADP meeting
Attendees include:

- 4 NTN operators
- 4 MDN operators
- 6 Collocated operators

A similar agenda as in Pensacola will be followed for this training with minor changes

A review of E-gage operations training:

- The Good
  - More operators get into training sessions
  - Less $ is spent on each training/operator
- The Bad

    - Less time spent with each operator
    - May not be as effective

Operator's comments/suggestions:

- Very good to excellent overall
- They want more hands-on troubleshooting
- They would like separate full-day sessions for collocated operators training
- Some wanted to tour the lab
- Some wanted more financial assistance information upfront

Equipment Testing Update, Mark Rhodes, QA Manager, NADP PO

Exploring MDN temperature issues

- N-CON has more below 33F samples than the ACM
- Testing a new N-CON heater and foil-type insulation
    - Testing showed a need for a heater in the chimney
- Testing of a ring heater showed much better temperatures overall, but some overheating issued occurred with the 50 and 45watt heaters
    - So, a 30watt heater was tested with good results
    - Still issues with evaporating samples at some sites
    - Will stop use of the chimney O-ring, poor fit with funnel and lid seal
- Testing on the dual-chimney N-CON will begin

7 vs 11 grid sensor testing showed:

- 7-grid sensor triggered fewer cycles
- 11-grid sensor generated greater capture
- There was no measurable difference in specific conductance of the samples
- pH was slightly lower for the 11-grid samples
- Overall, the 11-grid opened sooner and stayed open longer

Linear actuator testing results:

- Weight limit = 5.5lbs.
- This is the same as the motorbox

Pivot-point issues:

- A small amount of ice in the joint can cause failure
- Solutions being tested
    - Boots are expensive
        - Maybe too much to ask of operators
    - Experimenting with options

NED Committee Report and E-Gage update, Matt Layden, NADP PO

New equipment to the NADP networks include:

- The Ott Pluvio raingage
- The Ott Pluvio2 raingage
- N-CON collector

- ETI NOAH IV digital raingage

Equipment Issues:

- We have had only 1 Pluvio failure so far. That involved damage to the load cell after being struck by a dropped bucket.

- ETI NOAH IV have had a few more issues with:
  - Blocked optical sensors
  - Leveling problems
  - Wiring problems
  - Failures of the sensors and load cells
    - Load cells are ~$440 to replace

- N-CON parts costs:
  - $925 for a motor
  - $900 for a sensor
  - $300 for wiring

- Replacements in stock
  - 3 Thies sensors
  - 1 N-CON motor
  - 1 Cooling fan
- No Pluvio2's have been installed in the network yet

Other Issues/Comments:

- 120 E-gages were reporting last week with only 10 problems
  - This is improving
- E-Gage training will hopefully begin to resolve some of the issues
  - Development of a troubleshooting strategies

E-Gage Issues Discussion, NOS and DMAS combined session

The Issue of dry exposure was discussed.

- Is 6 hours of dry exposure cause to invalidate?
- Now that we have more sensitive equipment, we are reporting more dry exposure.
- How can we prevent invalidating too many samples?

Greg Wetherbee ***Motioned*** to approve Jason Karlstrom as the next NOS Secretary
Bob Brunette ***Seconded*** the motion
All in favor, Jason Karlstrom is ***Approved*** as the next NOS Secretary