

Network Operations Sub-Committee (NOS) Meeting

Indianapolis, Indiana

October 21, 2014

- ***Motion to approve minutes from Spring 2014 meeting moved by Mark Rhodes, seconded by Mark Nilles. Minutes approved.***

- CAL Review and Response (Mark Rhodes)
 - Jun 3-5, 2014: E.Hebert-EEMS; D.Roth-USGS; R.Tanabe-EC; G.Wetherbee-USGS
 - Recognition: 6
 - Observations: 114
 - Recommendations: 59
 - Findings: 17
 - Lab management – 2
 - Chemical Analyses – 2
 - Health and Safety – 4 1 resolved
 - Data management – 7
 - Site Support – 2
 - Draft received 10/20
 - Progress is being made to address those items under the Lab's purview.
 - Findings – Chemical analysis
 - 1. Find robust instrument data archival method
 - 2. Archive instrument meta data
 - Findings – Health and Safety
 - 1. SDS needed where chemicals are stored/used
 - 2. Separate chemicals by storage code
 - 3. Use side shields when prescription eye wear is used
 - 4. Relocate food/food storage from 209
 - Findings – Data management
 - 1. Migrate to centralized database hosted by Program Office
 - 2. Implement version control
 - 3. Create SOPs for lab generated software
 - 4. Update data SOP to include AMoN
 - 5. Update SOP for computer backup and recover
 - Findings – Site support
 - 1. Create trouble ticket system
 - 2. Migrate historic information to ticket system

- Field Deployable Mercury Monitor (Joel Creswell – Brooks Rand Instruments)
 - Presentation for equipment evaluation and approval for use in MDN
 - Background
 - Automated for total mercury in water
 - Operates unattended

- Target detection limit 0.1 ng/L
 - Target sample throughput 4 samples/hr
 - Monthly maintenance
 - Self- calibrating
 - Interface with N-CON
 - Modified bottle and stand
 - Larger funnel diameter
 - Hole in collector housing for line from modified bottle
 - Benefits
 - Real time data
 - Lower operating costs
 - Less sample storage
 - Higher time resolution
 - No sample handling
 - Evaluation and approval process
 1. Evaluation process – compare manufacturer specs to network use
 2. Laboratory/controlled testing
 3. Field testing – Bondville, IL11 (FDM-NCON vs NCON)
 4. Equipment scoring
 5. Final Approval and documentation
 - Proposal: FDM be considered for equipment evaluation and approval. Seek QAAG volunteer as point of contact and to oversee testing and review of test data. Seek input on additional requirements/specifications
 - Discussion
 - Mark R. – use a dual chimney NCON
 - Chris L. – no NCON at IL11; funding proposal
 - Mark N – NCON/2-3 page list of specs to meet – scoring/need to evaluate
 - Mark R – will provide copy of specs used in scoring
 - Mark N – 3 stage testing – background/multiple sites
 - Bob B – possible to co-locate at their site
 - Dennis J – MDN uses a preservative, how will FDM do something similar for data comparison
 - Jason K- how will it handle contaminants i.e. insects, bird droppings, etc.
 - Eric P – large rain sample, no preservative, will lose mercury
 - Mark Rhodes will serve as a point contact, Dennis Jackson will provide Mark with assistance
- MDN Evaporation Test (Jason Karlstrom)
 - Effects of Temperature in Evaporation/Concentration
 - Review of previous testing
 - Initial bench testing at PO; MDN ACM cooling fan with ACM sample train led to significant evaporation
 - WA18 field testing didn't replicate PO findings
 - Review of 2012 field samples
 - Weeks of no precipitation with significant loss of 20mL preservative

- NCON/ACM were about equal
- Significant preservative loss was more associated with geography
- Temperature effects
 - Current protocols downgrade sample QR from A to B when max temp >100F
 - How does increased temperature affect evaporation/concentration
 - Are we causing more evaporation with fans
- Temperature Study: Duplicate spike samples deployed in oven for 7 days
- Oven temp recorded daily, volume of sample loss recorded, samples analyzed to determine effect on concentration
- Thistle tube – condensation at the point where neck narrows
- **Motion #1**
- **The HAL will adjust the level of the maximum enclosure temperature that will trigger the sample to be downgraded to a “B” Quality Rating code from 100°F to 120°F effective January 01, 2014.**
- *Moved by: Jason Karlstom; Seconded by: Greg Wetherbee*
- Motion passed.
- Further testing will be undertaken by the HAL/PO
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- Satellite Telemetry from NADP Sites (Mark Nilles)

- USGS data collection platform and remote monitoring modules
 - Use NOAA GOES satellite transmitter
 - Uses USGS web interface
 - CSI logger from Ott Pluvio II RMM or the ETI Noah IV
- NTN NC36 – GOES transmitter and antenna
- Solution for long term sites who struggled with e-gages
- Precip data, air temperature, battery voltage
- 16 parameters transferred to PO
- Current equipment cost ~\$3850
- Telemetry options running now
 - GOES satellite – CO98, GA99, NC36
 - Radio telemetry to on-site computer – AK01, CA58, KS31
 - Direct internet connection - IL11, KY10, NY67, SC03, WV99

Motion #2

NOS Chair appoints an ad hoc committee to develop standards for NADP telemetry options which would consider:

- ***Number and types of standard approaches for telemetry***
- ***Standard software upgrades***
- ***Start and supply parts, for stock, repair and replacement***
- ***Common website that supports the parameters that the PO, supervisors and operators could access***
- ***Common agreement for NOAA National Environmental Satellite Data Information Service (NESDIS) address assignments***

- Moved by: Mark Nilles; Seconded by Chris Lehmann
- Motion passed.

- NOS Secretary Nomination (Melissa Puchalski)

- **Motion #3**

- **To nominate Greg Wetherbee as the incoming secretary of the Network Operations Subcommittee.**

- Motion passed.

- Low Volume Samples (Chris Lehmann)

- Same presentation as the Fall Meeting in Park City 2013 Meeting – See Park City minutes
- No change to Wet Dilute protocol at the CAL
- Between 12-30 mL status quo
- Less than 12mL – What to do
 - Flag to send to FIA
 - If can't be run, then send back and run pH/conductivity
- **Motion #4**
- **As of January 1st, 2015, the CAL will reprioritize NTN low volume samples less than 12 mL, as appropriate to prioritize FIA over pH/conductivity at the CAL's discretion.**
- Moved by Chris Lehmann. Seconded by: Greg Wetherbee
- Motion passed.

- Sample Volumes and Co-located Sites (Bob Larson)

- Reconciling precipitation depth and sample volume at co-located sites
- Background
- 2003 – reconciling Belfort rain gauge results at co-located sites – report single value as long as start and end times are similar
- 2011 – modified the method for e-gauges
- Reconcile value from each network to digital gauge database
- 2014 – Proposal to report a single value when gauge data is not available and sample volume is used to estimate precipitation depth
 - Requested by PA
 - Use greater of two bucket depths
 - Potential issues:
 - Samples are not changed at exactly the same time or,
 - If precipitation occurs during the sample change, could be double counted
- Proposed Method:
 1. Difference in sample start and end must be both 1 hour or less
 2. Criteria for manual inspection

Equivalent Depth (inches)	Manual Inspection	Automatic replacement with greater sample volume
Depth < 1.0	> 0.05 inches	< 0.05 inches
1.0 <= Depth < 4.0	> 5% difference	<= 5 % difference

- Other steps: Digital Gauges
- Account for precipitation that occurs between samples
- Current process is to create dummy records for sampling gaps of 3 hr or more
- New process : automatically create dummy record for any gap when precipitation occurred

- Site Operations – Time reporting varies by sites
- Most PA sites – sample start = sample end for both networks
 - Makes it easier to report same value, harder to report correct value
- PA00 records actual start/end times
 - Makes it easier to report correct value, harder to report same value
- To synchronize at co-located
 - Turn off both collectors/closed (end)
 - Change out samples
 - Turn on both samplers (start)
- Use this process to determine which sample volume to use when no precipitation data available

Motion #5

The proposed method for reconciling precipitation depth and sample volumes at co-located sites be adopted with added guidance to site operations.

Proposed Method

- 1. Differences in sample start and sample end must both be 1 hour or less***
- 2. Criteria for manual inspection***

<i>Equivalent Depth (inches)</i>	<i>Manual Inspection</i>	<i>Automatic replacement with greater sample volume</i>
<i>Depth < 1.0</i>	<i>> 0.05 inches</i>	<i>< 0.05 inches</i>
<i>1.0 <= Depth < 4.0</i>	<i>> 5% difference</i>	<i><= 5 % difference</i>

Friendly amendment by Greg Wetherbee

The proposed method for reconciling precipitation depth and sample volumes at co-located sites be adopted and include site operator guidance to be developed.

Moved by: Greg Wetherbee. Seconded by: Melissa Puchalski
Motion passed.

• Motion to adjourn

Moved by Mark Rhodes, seconded by Richard Tanabe