Minutes for the Network Operations Subcommittee Meeting

Albuquerque, NM

April 7, 1998

NOS Attendees:

Rick Artz	Mark Peden
Van Bowersox	Eric Prestpo
Bob Brunette	Jane Rothert
Scotty Dossett	John Shimschock
Joel Frisch	Clyde Sweet
John Gordon	Steve Tapia
Laura Hult	Steve Vermette
Dennis Lamb	Rosemary Wolfe
Mark Nilles	

Other people attending the NADP joint meeting also came to parts of the NOS meeting.

Minutes from Oct. 1997 meeting approved with one correction. The NOS officers in 1997 were as follows: Chair - John Gordon, Vice-chair- Scott Dossett, Secretary B Jane Rothert. In the spring 98, Chair to be Scotty Dossett and Vice-chair to be John Gordon. Secretary is Jane Rothert for both years.

Bob Brunnette and Eric Prestpo of the HAL had several MDN equipment issues they brought to the table.

1) Steve Vermette moved, Eric Prestpo seconded the approval of dual pen recorders be used at the MDN sites that were collocated with NADP sites. The HAL would have to keep extras for replacement when there was a problem as the NED does not handle dual pen recorders. The top pen would be the one used for the NADP collector event record with the original raingage chart being the NADP copy. Photocopies would be made at the sites for sending to the HAL for the MDN collector. Approved with no negative votes.

2) Steve Vermette moved, Clyde Sweet seconded the motion for the HAL to move forward with their plans to of replacing the current sample collection train with a new design. (The new design uses a ground glass connector on the funnel to connect it to the thistle tube leading to the bottle. The new thistle tube is stronger than the old one. The old setup had the three pieces set on top of each other without proper seals and the entire system broke easily. The new thistle tube has a blown glass bulb on the bottom which fits into the mouth of the bottle allowing for some flexibility of the system, again removing some of the stress which should result in longer lifetime usage of the train. An experiment was performed at the NOS meeting to demonstrate that the seals on the new train were such as to be able to handle large and hard rainfalls. The motion made was for the HAL to do a series of seven side by side comparisons in-house with the old train and the new train using rain or simulated rain samples. Once this experiment was completed, and providing the blanks showed no statistical differences, the new train would be used at the WA MDN site for one month in a real site situation. All data from these two parts of the experiment would then be reported to the NOS via the NADP Web

page. There would be e-mail sent to all NOS members informing them when the results were posted. There would be two weeks allowed for discussion about the results at which time a vote by NOS would be made and the use of the new train approved or rejected for the entire MDN. Motion was passed with no negative votes.

3) Steve Vermette moved and Rick Artz seconded that the MDN switch from their current size sample bottles to a larger size beginning Jan. 1, 1999. The new bottles would be about 4 times larger than the current bottles. Clyde Sweet showed overheads showing how one large event can drive a large part of the annual mercury deposition. If part of this event is lost, the annual average can be badly skewed. At this time sites in Florida and along the Gulf Coast as well as sites in California are experiencing very heavy rains. Although this is typical for Florida it is not for California. The heavy rains are causing large amounts of sample loss for the weekly collection of the samples. The larger bottles would prevent this. The motion was for the HAL to do bottle blanks to confirm that the new bottles are equivalent to the old bottles and won=t introduce contamination. Same approval process would be in effect as with the previous motion. Once the blank data were available, they would be posted on the NADP Web site. NOS members would be notified of their availability via e-mail and would have a two week period to discuss the data at which time a vote would be made to accept the larger bottle change or not. Meanwhile, due to the season of heavy rainfall starting along the Gulf Coast, the HAL also asked for permission to switch selected sites, to be decided on by the HAL, to the larger bottles to prevent data loss over the next few months. The motion was approved with 14 affirmative votes and 1 negative vote. The one negative vote by Eric Prestpo was because the HAL=s initial request was for use of two different size bottles on the network. The current smaller bottle for most sites and a larger bottle for specific sites with high precipitation or for sites with high precipitation at certain times of the year. After much discussion about one versus two bottles sizes, the above motion was made and passed. The HAL would still prefer to use the smaller bottles most of the time with only switching to the big bottles when necessary. This was not approved and the motion was to switch to large bottles to capture all of the precipitation.

4) NADP and AIRMoN have systems in place to collect field blanks and systems blanks without missing samples. Currently the MDN shuts down each site for two weeks, one to do a systems blank and one to do a field blank. This was found to be unacceptable to data users since this could mean important data being lost. An ad hoc committee was selected to see if there is an alternative to shutting down sites in the MDN for blanks and to try to standardize as closely as possible the 3 networks, AIRMoN, NADP, and MDN. AIRMoN and NADP now have almost identical field blank protocols. However, the MDN's field blank policy is totally different and can result in major data loss. The eventual goal of the ad hoc committee is to standardize field blanks as much as possible across NADP, i.e., AIRMoN, NADP/NTN, and MDN having the same blank criteria. The ad hoc committee chosen consisted of John Gordon, Clyde Sweet, Laura Hult, and a to-be-announced HAL representative. One of the specific charges was to look at the current QA plans to see what the number of target field blanks per site per network is currently. The committee is to report back to the NOS at the fall meeting.

5) It was agreed that the Program Office report to the NOS should include a current list of site violations as was done in the past. These reports would be based on the ongoing site audits rather than past performance. A new improved process for reporting these data should be considered. See Appendix A, Appendix B, and Appendix C.

6) The USGS report by John Gordon on the USGS interlaboratory comparison study indicated that the CAL was slightly high for nitrate, best for hydrogen ion and second best for conductivity. Overall there was low scatter with no outliers from the participating labs. A summary of this report is available in Appendix D, Appendix E, and Appendix F.

7) The new field blank protocol was discussed. There is an unexplained sodium deficit in the sample poured into the buckets compared to the sample left in the bottle. An ad hoc committee consisting of

Jane Rothert, John Gordon, and Mark Peden will try to determine what the chemistry could be that is causing this sodium loss.

8) The site auditor, Analytical Technology Systems (ATS) has begun auditing the sites. They are having some trouble getting sites to read their pH check solution within the specifications as written in the EPA statement of work. ATS had checked a bottle of the solution they had had made to their specifications and the pH was within the acceptable limits. When they took another bottle to the sites for the audit, the site operators could not get the solution to read within the allowed limits. Jane Rothert and Mark Peden suggested they obtain the formulation for the check solution they are using and Rothert and Peden will try to help them find out what is wrong. Gordon said he will also help by providing additional reference samples from the intersite program that can be used in the site audits and will furnish ATS with the accuracy criteria used by the NADP/NTN. (Note: Since the meeting ATS has checked other bottles of their test sample and found a large variation between the bottles. More work is still needed but it seems as if it may not be a site problem but a supply problem.)

9) There should be extra parts from old NADP sites. These were discussed at the last spring meeting in CA. A list is to be compiled from the minutes from last spring to see what parts are available.

10) The NED has specialized shipping boxes for shipping the NADP parts to sites. No effort has been made to bring the AIRMoN parts into this process. Jane Rothert and Scott Dossett will discuss this. See Appendix G.

11) A couple of motor boxes will be shipped to Ray Hosker at Oak Ridge National Labs to see if they can upgrade/remake them using the blueprints available. The PO is still looking for alternative sources for repairing equipment.

12) Laura Hult, the new intern at the USGS, and John Gordon are working on a two phase project for possible new raingages for the network. The first phase will look at three new raingages in a controlled test chamber for comparison of accuracy and precision. The best two of these will then be used at a field site in either Florida or Mississippi. In each phase, the Belfort S-780 and U.S. stick gages will also be tested; the stick gages as a reference, the Belfort S-780 to represent the recording NADP gage currently in use. A summary of the results will be presented at the fall meeting.

April 8, 1998

1) In response to the Program Coordinator=s directive following the Program Review, an ad hoc committee to be chaired by Rick Artz and consisting of Rick Artz, John Gordon, Mark Nilles, and John Shurwell was formed to looked into additional analytes NADP should be measuring and to determine what future analytical problems NADP should be addressing. Joel Frisch moved and Mark Nilles seconded the formation of this committee. The motion passed.

2) Another charge by the Program Review was some sort of mechanism to move things through the NADP subcommittees in a more timely mode than waiting for spring or fall committee meetings. Mark Nilles moved that the NADP committee and subcommittees utilize e-mail aliases created and administered by the program office. E-mail would be used to announce discussions that would then be posted on the Web page in an appropriate discussion format. The discussion would be open to all interested parties, not just to active NOS or NADP members, however the e-mail announcements would somehow be sent to only NOS, or whatever subcommittee or the entire committee would be appropriate. A time limit would be set for each discussion with a vote following so that action items would not have to wait until the next meeting. Mark Peden seconded the motion, subcommittee approved.

3) In response to a request by a site operator, Scott Dossett brought the attention of the NOS to the poor winter performance of the ACM collector. Dossett looked at two different case studies and

determined that although sensor insensitivity may be to blame in part, it is not the entire reason for poor collector efficiency during the winter. Wind scour of snow out of the bucket is also a serious problem, often the predominant problem. The ACM collector as it is currently configured can lose up to 97% or more snowfall in the winter at certain sites. See Appendix H and Appendix I.

The discussion of whether there is a better sensor, the 11 grid sensor in use on the MDN versus the 7 grid sensor now in use for NADP and whether there is a better collector system that would reduce the amount of wind scour of the sample, led to a discussion of other changes to update the network, such as chemical preservation of the sample. Preserving the sample physically in the collector during snowfall events in the winter and preserving the sample from chemical changes resulted in a discussion of possibly introducing new collectors, rain gages, and chemical preservation of the samples to the NADP. The NADP has been in operation for 20 years using the same equipment. There may be better methods and equipment available than what is currently being used. An ad hoc committee consisting of Mark Nilles, chair, Rick Artz, and Van Bowersox were charged with looking at what has been studied in the past by NADP and where we should go from here. The motion made by Van Bowersox and seconded by Rick Artz was to write a summary of the current equipment in use by the NADP, its advantages and disadvantages in comparison to what might be available for use with emphasis on new equipment and new technology and new scientific understanding. The summary, to be no more than five pages long, is to be presented at the executive subcommittee meeting this summer. The motion was approved by the subcommittee.

4) Mark Nilles discussed marketing strategies and possible directions the NADP might go in the future. For a summary of his report see Appendix J and Appendix K.

NOS adjourned about 10 am.