

MINUTES - NORTH DAKOTA ATMOSPHERIC RESOURCE BOARD

NOVEMBER 6, 2013

Chairman Henry Bodmer called the meeting of the North Dakota Atmospheric Resource Board (ARB) to order at 1:30 p.m., November 6, 2013 in the Lower Level Conference Room, State Office Building, Bismarck, ND.

ROLL CALL

Roll call was taken. Members present were Henry Bodmer, Paul Myrdal, Tom Tupa, and Larry Taborsky.

Others present were Darin Langerud, Director; Mark Schneider, Chief Meteorologist; Kelli Schroeder, Business Manager; Dan Brothers, Meteorologist; Hans Ahlness, Weather Modification, Inc. (WMI); and Mike Dwyer, ND Weather Modification Association.

Since there was not yet a quorum, Mr. Bodmer asked the group to start with agenda item 3. The board can go back to agenda item 2 after Mr. Sando arrives and a quorum is established.

FINANCIAL UPDATES

2013-15 Budget and Financial Status Report

Ms. Schroeder reviewed the 2013-15 budget and the financial status report for the period ending September 30, 2013.

Ms. Schroeder noted that the biggest change to our budget that came out of the legislative process was the change from being funded partially by the General Fund to all special funds.

In response to a question, Mr. Langerud explained that all funds expended by the State Water Commission (SWC) this biennium will come out of the Resources Trust Fund (RTF). This change affects the agency's costs for attorney fees and rent for the building. Costs for attorney fees for the Attorney General's office and building rent are charged back to an agency when the agency no longer receives General Funds.

Because the SWC did not anticipate this funding change, the additional costs were not added to the agency budget. However, the RTF was expected to bring in \$5 million during the biennium. The actual amount that comes in will be more than that.

In response to a question, Mr. Langerud noted that this change was not requested by the agency. It was a legislative initiative.

Mr. Sando arrived at 1:37 pm. A quorum was established.

In response to a question, Mr. Langerud indicated that ARB had equity funds in addition to the salary increase funds that came in for the first year of the biennium. For July

2014, the division has 4% to allocate amongst its staff. The equity increases helped move up those that received it into a little higher percentile, but everyone is still below mid-point of their grade currently.

Mr. Langerud noted that the SWC division directors meet periodically with Mr. Sando to discuss budgeting for the next legislative session. When the time comes again for the next budgeting session, they will discuss budgeting for salary and wages.

Mr. Bodmer encouraged Mr. Sando and Mr. Langerud to be sure to ask for plenty because we've got to stay competitive. Mr. Taborsky agreed.

Mr. Langerud indicated that the agency has to follow the Governor's budget recommendations. For example, if he calls for a 100% budget, you can make a request for larger increases to salary but then you have to take those dollars from operating or some other program. There isn't an unlimited pool to request funds from.

There were no further questions.

MINUTES

IT WAS MOVED BY MR. TUPA, SECONDED BY MR. TABORSKY TO APPROVE THE MINUTES OF THE APRIL 24, 2013 MEETING AS DISTRIBUTED. THE MOTION CARRIED UNANIMOUSLY.

2013 NORTH DAKOTA CLOUD MODIFICATION PROJECT (NDCMP)

Project Overview

Mr. Langerud provided the Board with an overview of the 2013 NDCMP project. He passed around a copy of the 2013 season flight track maps for both District 1 and 2.

In response to a question regarding seeding over boundaries, Mr. Langerud noted that pilots are told to stay within the boundaries when those instances occur. We do make a point to the staff that they are not to operate seeding equipment over Montana or South Dakota airspace. They do however have a 10 statute mile buffer zone within North Dakota counties adjacent to participating counties.

Mr. Langerud reviewed Ground School and staffing related to the project. He also reviewed weather conditions and rain enhancement suspension direction from the counties. This reduced the number of flight hours flown.

Mr. Langerud reviewed aircraft location logistics due to multiple airport closures throughout the season in District 2.

Cost Summary

Ms. Schroeder reviewed the cost report for the 2013 NDCMP. District I was \$6,126 under budget. District II was \$43,954 under budget, primarily due to limited flight hours flown.

She explained that the overage on radar maintenance and parts for District 2 was related to an addition to the technician's contract for installation of a new magnetron this spring. District 1 chemical costs were slightly over budget due to increased costs of silver iodide and acetone. District 2 communications costs were slightly over due to additional software subscriptions for the iPads. The purchase of extra Jerri cans for chemical mixing caused the supplies and postage category to be slightly over budget. And finally, the building and equipment, utility and insurance category for District 2 was over budget due to 3 new storage sheds, a foundation was built for the Stanley shed, and 2 new air conditioners were purchased and installed for the Stanley radar.

In response to a question, Mr. Langerud noted that, in the event that we have a busy summer and run out of budgeted flight hours, we would contact participating counties and ask how they want to handle the situation. Options include stopping the project or putting in more money for additional flight hours. If that were to happen today, the State is carrying over some funding from previous projects due to being under budget for many recent years. We could have paid for additional flight hours with the carryover funds we have on the books.

In response to a question, Mr. Langerud noted that there is no cap on the amount of county funds we can carry over. But we don't want to carry too much in county funds either.

Seeding agent usage / inventory

Mr. Schneider reviewed the ending chemical inventory and usage for the 2013 NDCMP. Silver iodide was significantly more expensive this year because our usual supplier from Spain did not bid due to a manufacturing facility upgrade that was in process at bidding time.

In response to a question, Mr. Schneider noted that we usually get 3-4 bidders for silver iodide.

Mr. Schneider noted that we used 399 burn-in-place flares and 941 ejectable flares this season, which was fairly average.

Mr. Ahlness noted the amount of dry ice used and compared it to the amount that is actually dispensed in the cloud, based on rate of dispensation. A lot of the dry ice used sublimates away on the ground and in the air as you're flying around looking for spots to seed.

Generator performance

Mr. Schneider reviewed generator performance. In 2013, there was 4.3% failure rate, which is determined as anytime a generator was needed and wouldn't function correctly. The 5-year average failure rate is 3.3%.

Mr. Ahlness pointed out that the two years in the five-year average that had higher failure rates than the average were years where there were less flight hours and less burner hours.

Intern Programs

Ms. Schroeder reviewed the intern program. Unlike last year where there were only 5 applicants for 9 intern co-pilot positions, this year there were 9 applicants. Due to the small number of applicants for the intern pilot program lately, Mr. Langerud and Ms. Schroeder have been attending University of North Dakota's (UND) Student Aviation Management Association career fair for the last few years in an effort to increase awareness. This seems to be paying off and we will continue this effort.

In response to a question, Mr. Ahlness noted that the interns need a high altitude endorsement for the Cheyenne or the Cessna 340s. Each May, Weather Modification Inc. (WMI) flies a couple of flights with the interns to get that endorsement for \$150 each. They also get the high performance endorsement as well. The students cannot get these signoffs at UND because they do not fly any aircraft that require these endorsements.

Ms. Schroeder noted that at the end of this project, we have trained a total of 334 pilots and 44 meteorologists. She also reviewed suggestions that the intern pilots and intern meteorologists gave regarding their internships.

UND Weather Research and Forecasting (WRF) numerical modeling support

Mr. Langerud reviewed the Weather Research and Forecasting (WRF) numerical modeling project that UND is working on for us. This model will be available to us indefinitely. Our NDCMP project forecasters are able to log onto a web site and review this forecast model in their daily forecast preparations.

Aircraft Operations

Mr. Langerud reviewed the contract clause, which requires aircraft to be operational. There were four incidents this year where aircraft were unable to launch due to various reasons. Those were reviewed with surrounding circumstances and Mr. Langerud recommended one penalty be applied to the final contract payment for Seed 7, \$3,200.00.

IT WAS MOVED BY MR. TUPA AND SECONDED BY MR. SANDO TO APPROVE THE DIRECTOR'S RECOMMENDATION TO APPLY THE ONE-DAY PENALTY TO THE FINAL CONTRACT PAYMENT. THE MOTION CARRIED UNANIMOUSLY.

Contractor's Final Report

Mr. Ahlness distributed the contractor's Final Operations Report for the 2013 project.

IT WAS MOVED BY MR. TUPA AND SECONDED BY MR. TABORSKY TO APPROVE THE FINAL CONTRACT PAYMENT TO WEATHER MODIFICATION, INC. THE MOTION CARRIED UNANIMOUSLY.

ELECTION OF OFFICERS

The current officers are Mr. Bodmer as Chair and Mr. Brewer as Vice Chair. The secretary position became vacated when Mr. Hager's term on the board ended in June. Mr. Bodmer called for nominations for offices.

IT WAS MOVED BY MR. TUPA AND SECONDED BY MR. SANDO TO NOMINATE UNANIMOUSLY THE EXISTING SLATE OF OFFICERS (MR. BODMER AS CHAIR AND MR. BREWER AS VICE CHAIR) PLUS MR. MYRDAL AS SECRETARY. THE MOTION CARRIED UNANIMOUSLY.

Mr. Sando had to leave the meeting at 3:05 p.m. A quorum no longer remained.

ISSUES FOR NDCMP 2014

Availability of housing

Mr. Schneider reviewed housing issues expected for 2014. The two certain places for staff to live are the San Way Ve in Kenmare and our apartment in Stanley.

Burke County interest

Mr. Langerud reviewed a meeting he and Mr. Bodmer had with the Burke County Commission. They may be interested in setting up a weather modification authority and joining the project.

Mr. Bodmer suggested we provide Burke County with the information they need to be able to setup a weather modification authority.

Airport Construction

Mr. Langerud reviewed airport issues for the 2013 project. He believes those issues have been resolved. However, Watford City had a project that started in 2012 that is not completed. That work may be completed in 2014. Bowman is building a new airport, but that will not cause closures to the existing airport until the new airport is open.

District 2 radio communications enhancement

Mr. Langerud briefed the Board on issues we have with radio communications between the radar in Stanley and base-seeding aircraft in southern McKenzie County when they are flying low enough to lose line-of-sight contact.

Mr. Ahlness indicated that WMI is continuing testing solutions for this issue.

ARB RESEARCH & EVALUATION PROGRAM

Polarimetric Cloud Analysis and Seeding Test 4 (POLCAST4)

Mr. Langerud reviewed the research experiment on hygroscopic seeding that has been ongoing every two years since 2006. We are hoping to be in the field doing research again this coming summer. As of the end of the 2012 field project, we have 44 cases. In a randomized project where changes in cloud properties from seeding are small in relation to natural variability, this is not nearly enough data to be statistically significant.

ADMINISTRATIVE RULES UPDATES

Mr. Langerud noted that after this past legislative session, there were a lot of bills passed that had an effect on the SWC. The SWC will be doing a review of necessary changes to administrative code and invited us to include any changes we may want to make when they do the filing.

The changes we have decided to request are generally just housekeeping changes. The largest changes we are requesting are to remove a large amount of text that deals with reporting and bidding for contract. The reporting requirements being removed are related to monthly reporting by WMI for the NDCMP, which is no longer necessary as the daily reporting they do via the iPads can be rolled up into monthly reports. Additionally, the bidding requirements have become outdated as the State Procurement Office sets bidding rules which we are required to follow.

INFORMATION TECHNOLOGY CONSOLIDATION STUDY

Mr. Langerud reviewed the information technology (IT) consolidation study that was mandated by the 2013 Legislature. It was setup to study whether it would be beneficial to consolidate SWC information technology infrastructure into the Information Technology Department's (ITD) infrastructure.

A draft report is expected mid-December and a final report is due at the end of the year. An interim legislative committee will be reviewing the study and then drafting legislation accordingly.

Our division depends highly on the current IT architecture due to the unusual nature of our work. We've developed a lot of technology to address issues and to follow rules we have in Century Code and Admin Code to collect data and make it available to the public. Some examples of this are: sending our radar data to the internet for public use,

creation of the PARS software on our iPads, remotely downloading data from the iPads into our database directly, and our ARBCON reporters that can log into our database and report their precipitation on a daily basis. Our concern is that these systems would have to be reinvented at a high cost to make them work in ITD's systems or they would be discontinued. In addition, the SWC feels that their current solutions are much more cost effective.

Mr. Tupa indicated that he feels the SWC should be able to be a stand-alone agency in this regard due to the unusual nature of our business.

In response to a question, Mr. Langerud indicated that he believes the thought behind those who support this is that it will be a more cost-efficient model to consolidate with ITD, along with being more secure. The SWC however feels those assertions are inaccurate. Our current data storage cost is much cheaper than the equivalent storage with ITD.

In response to a question, Mr. Langerud indicated that the SWC has off-site server backups.

In response to a question, Mr. Langerud indicated that the results of the consolidation study could also possibly suggest moving SWC IT staff to ITD as well. The SWC is challenging this idea as well because some of our IT staff are trained meteorologists and hydrologists. That natural resource knowledge our developers have is very important in the software development process, as they understand the issues and problems being solved.

Mr. Bodmer indicated he does not see the benefits in consolidation.

RADAR OPERATIONS

Year-round Bowman radar operations

Mr. Langerud reviewed the year-round Bowman radar operations project that has been running through support from eight counties: six in southwest North Dakota, Fallon County in Montana, and Harding County in South Dakota. They are pleased with the service. We are expecting to continue this service.

Bowman airport construction, radar relocation

Mr. Langerud reported the status of the relocation of the Bowman Airport, which will precipitate the need to move our radar as well. The Bowman Airport Authority has offered to allow us space in one of their new buildings for our operations office, radar equipment and pedestal on top. The costs for us to move the radar at this point are still somewhat unknown. There will be no federal funds for moving our radar, but there is a possibility of some local funds being available. The State will have to put in some funds as well.

Mr. Tupa suggested looking into some of the oil impact grant funding that is being run possibly by the Land Department.

2013 ARB COOPERATIVE OBSERVER NETWORK (ARBCON) REPORT

Status report

Mr. Brothers provided the Board with a map showing observer locations. He reported that we had 555 active observers reporting precipitation. Of those, 297 report rainfall during April through September. 258 observers report year-round, rain and snow. 154 observers are reporting online.

In response to a question, Mr. Brothers indicated that he uses the SWC's land ownership maps to look for possible new observers. He looks for owners in the area where he could use an observer and then uses the internet to find contact information.

Growing season rainfall totals and grid maps

Mr. Brothers provided the Board with a 2013 April through September percent of normal precipitation map.

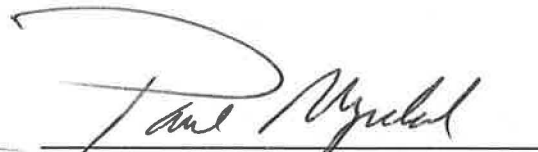
2014 MEETING SCHEDULE

The Board set a tentative schedule for 2014 Board meetings. Meeting dates will be scheduled for April 16, 2014 and October 29, 2014.

The meeting adjourned at 4:17 p.m.



HENRY BØDMER
CHAIRMAN



PAUL MYRDAL
SECRETARY

Transcribed by Kelli Schroeder