

MINUTES

NORTH DAKOTA ATMOSPHERIC RESOURCE BOARD OCTOBER 29, 2007

The meeting of the North Dakota Atmospheric Resource Board was called to order by Chairman Henry Bodmer at 1:30 p.m., October 29, 2007 in the Lower Level Conference Room, State Office Building, Bismarck, ND.

ROLL CALL

Roll call was taken and members present were Henry Bodmer, Bobb Brewer, Dale Frink, Gary Ness, and Steven Weber.

Others present were Darin Langerud, Director; Mark Schneider, Chief Meteorologist; Kelli Schroeder, Business Manager; Dan Brothers, Environmental Scientist; Hans Ahlness, Weather Modification, Inc.; Corey Paryzek, Williams County Weather Modification Authority; Mike Dwyer, ND Weather Modification Association; and Dave Laschkewitsch, SWC Administration Division Director.

MINUTES

Dale Frink made a motion to accept the minutes of the March 28, 2007 meeting as distributed. Second by Gary Ness. Motion carried.

RETIREMENT OF LENOR DOLLINGER / NEW EMPLOYEE

Darin Langerud informed the board that LeNor Dollinger retired in early September after 27 years with the ARB. He discussed the number of applicants and reported hiring Kelli Schroeder for Mrs. Dollinger's replacement. Ms. Schroeder had previous experience with the Board as administrative or project assistant through a few projects in the mid-1980's through 1991, including 3 research projects.

FINANCIAL STATUS REPORT

Darin Langerud reviewed the financial status report for the previous biennium. He noted that expenditures were less than appropriation on all line items. There were no questions.

Mr. Langerud also reviewed the financial status report for the period ending July 31, 2007. He noted the change in format. The report has been simplified into two programs – Administration and NDCMP Operations. Research and Evaluations was combined with Administration and the Pilot Internship program and NDCMP operations were also combined. Cooperative Research was split. Federal funding from that program was combined into the Administration project. Special fund money was combined into the NDCMP Operations project.

Gary Ness asked whether ARB is able to carry over funds when jumping into the next biennium. Mr. Langerud responded that Special Funds (county funds) do have carryover.

2007 ND CLOUD MODIFICATION PROJECT

Cost Summary

Darin Langerud reviewed the cost report for the 2007 ND Cloud Modification Project.

Discussion was held regarding the reduction in the number of flight hours and inexperienced meteorological field staff and how each affected expenditures.

Dale Frink questioned how ARB handled two new meteorologists this year. Mr. Langerud responded that Mark Schneider spent the first week of the project in Stanley helping the field meteorologists get off to a good start. Additionally, Weather Modification Inc. employed pilots that had previous experience, who worked well with the meteorologists.

Mr. Frink asked that the board move onto agenda item 8 because he would soon have to leave for another meeting.

COMPENSATION AND WATER COMMISSION RELATIONS

Chairman Bodmer explained to the board that he received a request for payment from LeNor Dollinger in regard to a motion passed by the board in June 2001 authorizing one-time workload adjustment compensation. He reported that the payments were never made and there was no further action by the board. Therefore, he felt this was an open item that needs to be addressed.

Chairman Bodmer mentioned receiving information from Pam Sharp, at OMB, which stated that the Water Commission could legally pay these one-time workload adjustments.

Dale Frink stated that he regards all 84 employees of the State Water Commission as being under his authority, relating to salary and such things. He doesn't give bonuses to the other 80 employees and feels all employees should be treated the same. He stated that he directed these payments not be paid.

Chairman Bodmer disagreed that Mr. Frink has authority over ARB employee salaries based on ND Century Code 64-04.1-06. He quoted, "The powers, functions, and duties of the board shall be administered under the direction and supervision of the North Dakota state water commission. The board shall retain the quasi-judicial, quasi-legislative, advisory, budgetary, rulemaking, and other functions vested in it, which shall be exercised in accordance with policy and guidelines for weather modification activities as established by the commission."

Mr. Frink indicated he has no intention of paying this claim unless the Attorney General directs him to pay it.

Chairman Bodmer expressed concern about political or legal implications of leaving this claim unpaid. He expressed an interest in the board making a motion to pay the interest in addition to the original compensation authorization.

Gary Ness motioned to maintain support of the June 2001 motion to make one-time workload adjustments for LeNor Dollinger and Darin Langerud, with interest as claimed by Mrs. Dollinger, and that the discussion go further to the Office of Management and Budget or the Attorney General. Second by Bobb Brewer.

Mr. Frink asked Dave Laschkewitsch, Director of Administrative Services, if this would be paid out of 2001 funds. Mr. Laschkewitsch indicated it would have to be paid from current funds.

There being no further discussion, Chairman Bodmer called for a roll call vote.

Roll call vote with those voting aye were Hank Bodmer, Bobb Brewer, Gary Ness, Steven Weber. Voting nay was Dale Frink. The motion carried.

Chairman Bodmer indicated he will inform Mr. Raushenberger, Governor's Office, about today's discussion and Mr. Frink's refusal to pay. Mr. Frink indicated he will be in contact with Mr. Raushenberger as well.

At this point, 2:15 p.m., Mr. Frink had to leave the meeting. Mr. Laschkewitsch remained to represent Mr. Frink.

Continuation of 2007 ND CLOUD MODIFICATION PROJECT

Seeding agent usage / inventory

Mark Schneider reviewed the chemical inventory for the 2007 ND Cloud Modification Project. He noted that due to the decreased amount of flight hours and chemical usage over the last few years, we have a good supply of chemical on hand. It is our goal to pass on a 2008 budget that doesn't have an increase for chemical. In fact, there is expected to be a great reduction. At most, it is felt, we will only have to order 100 units of the dry chemical.

Mr. Schneider noted that, off budget, ARB was able to purchase 600 ejectable and 150 burn-in-place flares this year with leftover general funds.

Gary Ness questioned whether the 'dud' flares can be fixed. ICE Engineering will accept their duds, turn them around and return new flares to us. Darin Langerud noted that the WMG-1 duds will not likely be reworked because that company is no longer in business.

Mr. Schneider reviewed dry ice usage this year. He noted that ARB switched to ¼ inch pellets during the early part of the summer. It was determined that ¼ inch pellets are 2.8 times more efficient than ½ inch pellets under the same conditions. Hans Ahlness helped the pilots adjust their hoppers to work with the smaller pellets. Mr. Schneider estimates that ARB will be able to reduce the number of dry ice orders in the future because the ¼ inch pellets do not sublimate in their containers as quickly as the ½ inch pellets.

Mr. Langerud mentioned that, with the smaller pellets, the hoppers are run at a lower rate while still increasing the efficiency of the amount of ice crystals you can create in

the cloud. Also, this change lengthens the number of clouds you can seed with each full hopper of ice on each flight because you are dispensing it at a slower rate.

Mr. Ahlness stated that the dispensing rate with the smaller pellets is 10 pounds per minute, whereas the larger pellets were at 15 pounds per minute.

Generator performance

Mark Schneider reviewed generator performance for the project. He noted the failure rate decreased from 3.5 percent in 2006 to 2.8 percent in 2007. The efficiency can be attributed to experienced pilots, the seeding solution and WMI's engineering on the equipment. Mr. Ahlness indicated that the standard penalty level in the contract is at or above a 10% failure rate, based on two generators.

Intern Programs

Darin Langerud reviewed the intern program for the project. This year there were nine intern pilots and two intern meteorologists. He noted that he is considering expanding the intern meteorologist program for next year by adding one more position based in Bismarck. Then he would like to rotate each intern meteorologist through each of the three locations for additional experience.

Aircraft Operations

Darin Langerud reviewed the clause in the contract with WMI which requires aircraft to be operational. He noted that there were four incidents reviewed this year where aircraft were unable to launch due to mechanical issues, the pilots were unable to fly for other reasons other than safety, or having to leave a seeding mission earlier than normal due to mechanical issues. Mr. Langerud recommended taking a one-day penalty in the amount of \$1,581.16 for the incident on June 12 with Seed 9.

Bobb Brewer questioned the pre-flight procedures. Hans Ahlness indicated that in this case, the pilots didn't get back to their base until 6:00 or 7:00 a.m. Seed 9 went home for some sleep and didn't take care of the lightning strike issues immediately. Normally, they are up in the morning and doing pre-flight checks to be as ready as they can be.

Bobb Brewer moved to accept the director's recommendation for taking a penalty of \$1,581.16 for the June 12th flight in District II. The motion was seconded by Gary Ness. Members Hank Bodmer, Bobb Brewer, Dave Laschkewitsch, Gary Ness and Steven Weber voted aye. There were no nay votes. The motion carried.

Contractor's Final Report

Hans Ahlness, Vice President of Operations, Weather Modification, Inc., reviewed and noted specific areas of the contractor's final report with the Board.

Gary Ness made a motion to accept the contractor's final report. Second by Steven Weber. Members Hank Bodmer, Bobb Brewer, Dave Laschkewitsch, Gary Ness and Steven Weber voted aye. There were no nay votes. Motion carried.

Bobb Brewer made a motion to authorize the final contract payment to WMI in the amount of \$67,698.84. Second by Gary Ness. Members Hank Bodmer, Bobb Brewer,

Dave Laschkewitsch, Gary Ness and Steven Weber voted aye. There were no nay votes. Motion carried.

POSSIBLE CHANGES / UPGRADES FOR 2008 NDCMP

Radio communications between aircraft and Stanley radar

Darin Langerud reviewed issues of two-way radio communication between aircraft and the radar in District II when their aircraft are in southwest McKenzie County. Mr. Langerud indicated Dennis Afseth from WMI said they have recently been implementing improved higher-gain antennas and new low-loss cable. Mr. Langerud indicated we would install the new cable and antenna this spring for testing.

Upgrade Williston top-seeding aircraft and change task of the Minot top-seeder

Darin Langerud indicated that the Minot top-seeding aircraft may not be getting the quantity or quality of opportunities for cloud top seeding that the Williston aircraft is getting. Originally, the thought was that there would be enough separation under certain circumstances where both planes could operate simultaneously on top of different storm complexes. It hasn't worked out that way due to air traffic control spacing requirements and such. We are considering upgrading the Williston airplane to a turbo-prop aircraft. WMI operates these on most of their other programs. This aircraft would be able to haul more payload and has greater performance characteristics (climb, speed). Cost comparison hasn't been reviewed yet and aircraft availability for 2008 is questionable, with 2009 being more likely. The counties will be asked if there is interest in this upgrade.

Ward County and possible staggered start

Chairman Bodmer indicated that Ward County is considering asking that their project run from June 15 to September 15. Darin Langerud indicated that it is possible to have a staggered start and end based on county request and equipment availability. Bobb Brewer said he would talk to the District I counties and let them start thinking about whether they might want to consider this.

Mr. Brewer indicated his desire to wrap up the items which require voting as he has another meeting to attend.

ARB RESEARCH & EVALUATION EFFORTS

Resolution of support for S.1807 and H.R.3445

Darin Langerud asked the board to consider approving resolutions that support two bills in Congress which would create a research program for weather modification for \$10 million per year for ten years. It would allow the board to apply for funding for grants and to do research.

Gary Ness motioned to approve resolutions of support for S.1807 and H.R.3445.

Second by Bobb Brewer. Roll call vote were ayes: Hank Bodmer, Bobb Brewer, Dave Laschkewitsch, Gary Ness, Steven Weber. There were no nays. Motion carried.

ELECTION OF OFFICERS

Gary Ness motioned to maintain the current Chair, Hank Bodmer, and Vice Chair, Bobb Brewer and nominated Ervin Opsal as Secretary and that nominations cease and a unanimous ballot be cast. Second by Steven Weber. Roll call vote were ayes: Hank Bodmer, Bobb Brewer, Dave Laschkewitsch, Gary Ness, Steven Weber. There were no naves. Motion carried.

At 3:25 p.m., Mr. Brewer had to leave. A quorum no longer existed.

Continuation of ARB RESEARCH & EVALUATION EFFORTS

Polarimetric Cloud Analysis and Seeding Test

Darin Langerud reported on receiving a draft of the final report on POLCAST from the principle investigators. Dr. Paul Kucera, National Center for Atmospheric Research, was in Turkey the previous week at the World Meteorological Organization meeting on weather modification and presented our results at that meeting.

ARBCON UPDATE

Growing season rainfall totals and grid maps

Dan Brothers distributed copies of precipitation maps and reported on the efforts of the Atmospheric Resource Board Cooperative Observer's Network. He noted that the color scale changed to match vegetative colors – more precipitation tends toward green and blue tones and less precipitation tends toward red and brown tones.

Status on online reporting

Dan Brothers noted that 74 observers reported online.

Discussion with RRBC on snow measurements

Darin Langerud reported on discussions he has been having with the Red River Basin Commission (RRBC) on adding onto the ARBCON network with expansion to year-round precipitation measurement.

Collaboration with the State Climatologist on CoCoRaHS

Darin Langerud reported on meetings with the new ND State Climatologist to collaborate with his office on a system called CoCoRaHS, Community Collaborative Rain, Hail and Snow Network. This is a climatological volunteer precipitation reporting network started by the Colorado State Climatologist. ARB may be the data hub for the network because we already have a database setup for our existing ARBCON network. The ND State Climatologist would require each county extension agent be an observer of this network.

NDCMP RADARS

Bowman lightning strike

Darin Langerud reported on a lightning strike which occurred on August 17, at the Bowman airport, and damaged parts of the radar. The radar was down for about one week. WMI was able to get a replacement RDAS card for us. It appears the original card cannot be fixed. Mr. Langerud is researching replacement and will finish filing the insurance claim.

Stanley auxiliary power unit (APU)

Darin Langerud reported that the Stanley auxiliary power unit has issues with variability in voltage that occurs when its running under load and gets quite warm. A technician in Bismarck is looking at the unit. He feels it is the mechanical governor on the APU that is causing the problem. However, there isn't a good fix for it. Options could be replacing the unit with a different unit that has an electronic governor or it might be possible to regulate the power that comes off the unit with some equipment that we already have with installation of a couple of additional outlets.

Evaluation of possible upgrades

Darin Langerud reported that WMI is developing new receiver units for the radars. These would increase the low-end sensitivity of the radars so that you can see finer detail of the clouds and precipitation. They also provide doppler velocity data, which we do not currently have. WMI is expecting to have a system ready for commercial application possibly at this time next year.

Development of TITAN products

Mark Schneider reported on incorporating National Weather Service NEXRAD data into TITAN for operational usage. This would be helpful as a backup for District II and also helpful for additional data when our radars are attenuated. He also will be utilizing TITAN's ability to mosaic data of a single location with data from both project radars and capture the greatest value for mapping. Additionally, with 10 years of project data on TITAN, he will be using the data to determine storm climatology for the project areas and use that to increase the field meteorologists' knowledge during Ground School.

Status of Bowman Airport relocation

Gary Ness noted that the FAA / ND Aeronautics Commission had 3 sites they were considering for the Bowman Airport relocation. There are environmental issues that they have to work through. He doesn't expect the relocation to happen before 2010.

Darin Langerud noted that the implication for ARB is our radar location and whether we would have to relocate that as well. Mr. Ness recommended putting something in our next budget just in case.

Collaboration with National Weather Service

Darin Langerud reported on discussions with the National Weather Service about extending the period of time that our radars provide data from three months per year to year-round.

Being no further business the meeting adjourned.


HENRY BODMER, CHAIRMAN
Transcribed by Kelli Schroeder

