

MINUTES - NORTH DAKOTA ATMOSPHERIC RESOURCE BOARD

NOVEMBER 5, 2009

Chairman Henry Bodmer called the meeting of the North Dakota Atmospheric Resource Board to order at 1:31 p.m., November 5, 2009 in the Lower Level Conference Room, State Office Building, Bismarck, ND.

ROLL CALL

Roll call was taken. Members present were Henry Bodmer, Ervin Opsal, John Bollingberg, Tom Tupa, Dave Laschkewitsch, and Steven Weber.

Others present were Darin Langerud, Director; Mark Schneider, Chief Meteorologist; Kelli Schroeder, Business Manager; Dan Brothers, Meteorologist; Matt Ham, Meteorologist; Hans Ahlness, Weather Modification, Inc. (WMI); Mike Dwyer, North Dakota Weather Modification Association; and Angela Magstadt, North Dakota Water Education Foundation.

MINUTES

IT WAS MOVED BY MR. BOLLINGBERG, SECONDED BY MR. TUPA, AND CARRIED ON A VOICE VOTE TO APPROVE THE MINUTES OF THE APRIL 6, 2009 MEETING AS DISTRIBUTED.

FINANCIAL STATUS REPORT

Ms. Schroeder reviewed the financial status report for the period ending September 30, 2009. There were no further questions.

2009 NORTH DAKOTA CLOUD MODIFICATION PROJECT (NDCMP)

Cost Summary

Mr. Schneider reviewed the cost report for the 2009 NDCMP. He mentioned the low number of flight hours used this year, especially in District 2. Also, overages in the radar maintenance and parts were due to additional maintenance done this year.

In District 1, the main overage was due to the fortunate and unexpected return of a veteran meteorologist. We budgeted for one 2nd year meteorologist and one 1st year meteorologist for District 2. We actually hired two 1st year meteorologists, thus we were under budget in this district.

Seeding agent usage / inventory

Mr. Brothers reviewed the chemical inventory for the 2009 NDCMP. 164 units of silver iodide were used for this season. We have less inventory of ammonium iodide. This is because we did not purchase it at the beginning of the year due to inventory levels. It has a significantly shorter shelf-life than our other chemicals, so keeping excess is not cost-effective. Of the inventory, we had 47 bottles of bad ammonium iodide.

Approximately 450 burn-in-place and 800 ejectable flares were used. Page 23 of the Final Operations Report contains a table displaying the total kilograms of silver iodide dispensed during the project.

Dry ice usage this year was 2,360 pounds. We purchased 4,000 pounds less than last year. Dry ice usage prior to 2007 is significantly higher which is attributable to more efficient use of dry ice and also a switch from ½ inch pellets to ¼ inch pellets in 2007.

Generator performance

Mr. Schneider reviewed generator performance. In 2009, there was 3.78% failure. For all flights this season, if there was a generator failure it was only one of the two in any aircraft that would fail. Of interest, one aircraft (Seed 6, Watford City base aircraft) had 75% of the entire generator failure time for the project, which included only 4 flights.

Intern Programs

Ms. Schroeder reviewed the intern program. This year, there were 9 intern pilots and 4 intern meteorologists. The 4th meteorologist position was added on a one-time basis with assistance through the State Student Internship Stipend Program run by the ND Human Resource Management Services office.

In response to a question, Mr. Ahlness indicated that his Pilots-In-Command (PICs) are instructed to train the intern pilots in all aspects. He noted that 7 out of 10 PICs (including relief pilots) were interns at one time on this project.

Mr. Langerud indicated that the intern pilots are funded entirely by the State. The amount spent this year is listed on the bottom of the Cost Report presented earlier. He indicated that next year he is going to try to bump the intern wages up to \$9 per hour. We could pay an even higher salary, but then hours would have to be monitored much more closely so that we still have enough flexibility for overtime pay when required.

SPECIAL EDITION OF NORTH DAKOTA WATER MAGAZINE

Mr. Dwyer explained to the Board that a special edition of the North Dakota Water Magazine on weather modification was done in October 2000. This was in partnership with the Oklahoma Water Resource Board, Atmospherics Inc., North American Weather Consultants, South California Edison Company, Texas, and others. Due to the updated economic benefit study, Mr. Dwyer would like to publish another special edition on weather modification. Also, it would be beneficial to have updated information available during the next legislative session for any counties that are interested in joining the NDCMP and generally for education.

2009 NDCMP (continued)

Aircraft Operations

Mr. Langerud reviewed the contract clause, which requires aircraft to be operational. He noted that there were five incidents reviewed this year where aircraft were unable to launch due to mechanical issues, the pilots were unable to fly for reasons other than

safety, or having to leave a seeding mission earlier than normal due to mechanical issues. He recommended taking two penalties in the amount of \$2,638.80 for the incidents on June 17th and 18th with Seed 7 and August 9th with Seed 2.

Mr. Ahlness explained in further detail what happened on each instance.

MR. TUPA MOVED TO ENFORCE THE PENALTIES AS RECOMMENDED BY THE DIRECTOR. MR. OPSAL SECONDED THE MOTION. MEMBERS MR. OPSAL, MR. BOLLINGBERG, MR. TUPA, MR. LASCHKEWITSCH AND MR. WEBER VOTED AYE. THERE WERE NO NAY VOTES. THE MOTION CARRIED.

Contractor's Final Report

Mr. Ahlness reviewed the contractor's Final Operations Report.

MR. OPSAL MADE A MOTION TO AUTHORIZE THE FINAL CONTRACT PAYMENT TO WEATHER MODIFICATION INC. IN THE AMOUNT OF \$75,553.20. MR. LASCHKEWITSCH SECONDED THE MOTION. MEMBERS MR. OPSAL, MR. BOLLINGBERG, MR. TUPA, MR. LASCHKEWITSCH, AND MR. WEBER VOTED AYE. THERE WERE NO NAY VOTES. MOTION CARRIED.

PREPARATION FOR 2010 NDCMP

Non-competitive Procurement for Cloud Seeding Services

Mr. Langerud indicated that the last contract with Weather Modification, Inc. (WMI) is up at the end of December. Because WMI is the only vendor licensed to perform weather modification in North Dakota, we will start procedures for a noncompetitive purchase and then more than likely renegotiate terms.

Mr. Langerud noted that the biggest change, subject to counties' approval, would be to change the Williston cloud-top aircraft to a turbo-prop aircraft. The biggest benefit in this would be to decrease climbing time for top seeding operations.

Mr. Ahlness reviewed the process they are going through to get the modified turbo-prop certified with the Federal Aviation Administration.

Mr. Langerud noted that if we are able to upgrade the Williston airplane to a turbo-prop, we could change the Minot airplane to a hybrid, similar to the hybrid used in Bowman. The Minot airplane would primarily be used for base seeding but could also fly cloud-top and disperse ejectable flares.

Additionally, the PARS record keeping system is coming to the end of its useful life. The equipment is much harder to find because the manufacturers are phasing PDAs out in favor of smart phones. Our software does not run on the smart phone operating systems. We think we can get another 1-2 years out of the existing system. We are exploring relying on the datalogger system WMI provides, with improvements they will be making. We would import the data into our current system.

Solicit Bids for Radar Technical Services

Mr. Langerud indicated that our contract for radar technical services is up at the end of this year. We will be soliciting bids for a contract for 2010 and beyond.

Housing for temporary personnel

Mr. Schneider reviewed housing issues in Minot, Stanley, Williston, Watford City, and Bowman.

RADAR OPERATIONS

Completion of Vaisala upgrades

Mr. Langerud reviewed upgrades that were made this spring to both of the Board's radars. In two weeks, the final component to the radar upgrade will be installed.

Reconditioning of spare magnetrons

Mr. Langerud indicated that we have a couple of used spare magnetrons that will need to be rebuilt. He has received a quote, \$7,750 for one and \$15,500 for both.

Development of IRIS products

Mr. Langerud mentioned that there are now capabilities of creating value-added products with the new radar software. This winter Matt Ham will be doing some of that development for us.

Possible year-round Bowman radar operations

Mr. Langerud mentioned the real-time data-sharing test done with Bowman County Emergency Operations Center this past summer. Bowman County is interested in using this data because they are on the fringes of nearby National Weather Service radar coverage. Medora Stevenson, who works for the county extension office in Bowman, was accepted to an NDSU program for rural development leadership. She will be working with local groups and telling them about the radar facility and what advantages it can bring. Mr. Ham was in Bowman and instructed Ms. Stevenson and the emergency manager on the radar system a couple of weeks ago. Ideally, what we are hoping for is a partnership between the State and the local counties that would give us the ability to operate the radar for a longer period of time, maybe year-round with a cost-sharing arrangement.

In response to a question, Mr. Langerud indicated that wear and tear on the radar parts from year-round activity could be minimized by running a modified volume scan which would put less stress on the radar as compared to what we need to run in the summer months.

ARB RESEARCH & EVALUATION PROGRAM

Polarimetric Cloud Analysis and Seeding Test 2 (POLCAST2)

Mr. Langerud reviewed the research experiment on hygroscopic seeding that has been ongoing since 2006. Analysis from the 2008 experiments is still being done. We expect to have a preliminary report on this by the end of this year. We are also hoping to be able to do more experiments in the summer of 2010 to further the research.

NDCMP Economic Study

Mr. Langerud reviewed the NDCMP Economic Study updated in February 2009 and the related article in the June 2009 ND Water Magazine.

Western U.S. cloud seeding operations and research

Mr. Langerud provided the Board with a map of weather modification programs in the western United States and reviewed some of those programs. Most of the states with operational programs are members of the North American Interstate Weather Modification Council (NAIWMC), as are we.

2009 ARB COOPERATIVE OBSERVER NETWORK (ARBCON) REPORT

Growing season rainfall totals and grid maps

Mr. Brothers distributed copies of precipitation maps and reported on the efforts of the Board's Cooperative Observer Network. He noted that 724 members signed up this year and 663 actually reported data.

He also mentioned that the Water Commission's Water Use Coordinator recommended sending volunteer letters to everybody who has water permits. Approximately 1300 volunteer cards were mailed to water permit holders a couple of days ago. He is hoping to get 200-300 new observers from this mailing.

Possible year-round reporting

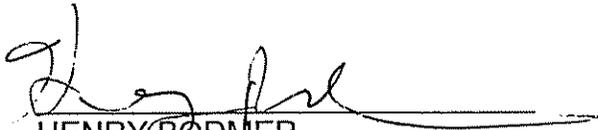
Mr. Brothers reported on the Board's efforts in having some rain gauge observers report year-round, including snowfall amounts. The only obstacle we would have is purchasing new gauges, as our current gauges are not conducive to year-round use.

ELECTION OF OFFICERS

Mr. Bodmer called for nominations for offices.

MR. BOLLINGBERG MOTIONED TO LEAVE ALL OFFICES AS IS, CEASE NOMINATIONS AND CAST A UNANIMOUS BALLOT. MR. TUPA SECONDED THE MOTION. MR. OPSAL, MR. BOLLINGBERG, MR. TUPA, MR. LASCHKEWITSCH, AND MR. WEBER VOTED AYE. THERE WERE NO NAYES. MOTION CARRIED.

Being no further business the meeting adjourned at approximately 4:05 p.m.



HENRY BODMER
CHAIRMAN

Transcribed by Kelli Schroeder