

## **MINUTES - NORTH DAKOTA ATMOSPHERIC RESOURCE BOARD**

**APRIL 12, 2017**

Chairman Henry Bodmer called a telephone conference call meeting of the Atmospheric Resource Board to order at 9:31 a.m., April 12, 2017.

### ***ROLL CALL***

Roll call was taken. Members present were Henry Bodmer, Monte Hininger, Casey Veil, Tom Tupa, Rob White, Garland Erbele and Kyle Wanner.

Others present were Darin Langerud, Director; Kelli Schroeder, Business Manager; Mark Schneider, Chief Meteorologist; and Daniel Brothers, Meteorologist.

### ***MINUTES***

**IT WAS MOVED BY MR. TUPA, SECONDED BY MR. WANNER, AND CARRIED ON A VOICE VOTE TO APPROVE THE MINUTES OF THE NOVEMBER 16, 2016 MEETING AS DISTRIBUTED.**

### ***FINANCIAL STATUS REPORT***

Ms. Schroeder reviewed the financial status report for the period ending February 28, 2017.

### ***2017 WEATHER MODIFICATION PERMIT APPLICATIONS & PUBLIC COMMENT***

Mr. Langerud informed the Board that we are required to advertise notice of intent on behalf of the contractor, as a regulatory function to give the public in the target area and adjacent counties an opportunity to comment if they believe they would receive harm from the program. This notice solicits only negative feedback, not positive.

We advertised this notice 2 consecutive weeks in all of the county newspapers in the target and adjacent counties. Then there is a 20-day period for the public to comment. The 20-day comment period ended March 30, 2017. We received 11 comments, which is more than we normally receive. Most years we get no comment.

Most commenters were from Ward County or adjacent areas. Mr. Langerud reminded the board about the "dust-up" in Ward County concerning the budget for the 2017 cloud seeding project in the budgeting process. The budget was originally cut by the Commission after it had agreed in August with the weather modification authority to fund the program for 2017. At the final budget hearing, the Commission reconsidered and decided to fund the program in a 4-1 vote.

Mr. Langerud had provided in the board mailing a summary of the comments with his responses, along with full copies of the original emails that were sent to us in the comment period.

In response to a question from Mr. Bodmer, Mr. Langerud indicated that he has not yet responded to the public comments individually. There is no requirement that we respond to each comment, but we certainly can if the board desires.

Mr. Bodmer would like to see Mr. Langerud respond to the comments with the information he provided to the board and then the board should approve the permits. He feels the majority of these comments stem from 1-2 guys in Ward County that are trying to stop the program. From his experience in that area, this is an isolated group of people in opposition to the program and that the majority of Ward County voters support the program. He noted that the majority of comments are not indicating they are being harmed by the program, but rather just don't think it's worth the cost. One commenter indicated he thinks we are chasing the rain away, which we know doesn't happen.

In response to questions from Mr. Tupa, Mr. Bodmer explained that he believes there is not any widespread opposition to the program except for this one individual and his friends. They are all from the same area. This is the same individual, Roger Neshem, that worked with Ward County Commissioner John Fjeldahl to cut the funding. Commissioner Fjeldahl is the one saying that are many people opposing the program. Mr. Bodmer contacted Commissioner Fjeldahl and asked him to define many. Mr. Bodmer asked if there are more than 12, he said yes. Then he asked if it was less than 20, Commissioner Fjeldahl said yes. Mr. Bodmer does not think there is a growing opposition in Ward County and certainly not in the rest of District 2. He reminded the board that in District 1 last fall, the voters approved the program 70% to 30%.

Mr. Bodmer went on to explain hail insurance rates in the state. He acquired a book from a friend in the hail insurance industry that lists all of the hail insurance rates, township by township throughout the state. He said the rates are all over the board. For example, he lives in the gooseneck area of Ward County and his rates there are \$5.50-6.00 per \$100 of wheat depending on the township. Straight east in Renville County where there isn't a hail suppression program, their rates are higher and then it drops off as you go further east. The furthest township in Renville is less than Ward. But if you look at Ward County as a whole, there is an area in the middle of the county where rates are quite high. It is supposed to be based on past history. Rates are different township by township and, quite strikingly rates a couple of townships away are as much as a \$1.00-1.50. Mr. Neshem's township is higher than most of the townships in Renville. But there are a lot in Renville that are higher than townships in Ward. Mr. Bodmer reminded everyone that Ward County started their hail suppression program 50 years ago.

Mr. Tupa then asked about the information quoted by Tanner Vix showing rates by county, the rates are by township – not county. Therefore, we don't know what township he is quoting? Mr. Bodmer agreed and indicated that the figures Mr. Vix is quoting are misleading.

For more example, Kenmare township is \$5.40 per \$100 of wheat. Then right next to that is Sauk Prairie at \$6.10. Then straight east of there is Roosevelt Township (Renville County) is \$6.20 – higher than adjacent Ward townships. Then it's \$6.00 further east and the next is \$5.20. Mr. Bodmer has heard that most of Roger Neshem's farm is in Mandan Township in Ward County. Their rate is \$7.90 – quite a bit higher than any rates in the gooseneck area of Ward County. That is higher than most in Ward County, except a few areas further south that are \$9.00. Mr. Tupa noted that Mr. Vix is using averages but that doesn't tell the whole picture.

Mr. Langerud mentioned that he asked for information regarding rates from the ND Insurance Department. The information unfortunately was received after we mailed out the packets. It is from the National Crop Insurance Services (NCIS) – the national crop insurance organization based in Kansas that tabulates this information for all states and is averaged by county. The average rate for Ward County based on NCIS 2015 data (the most current data) is \$4.95 per \$100. Now, compare that to Mr. Vix's claim that Ward County's rate is \$7.03. However, we don't know where he is getting his data or if he is quoting the rate for his township rather than Ward County. More average county rates from NCIS include Renville County at \$4.52 and Mountrail County at \$3.75.

Mr. Langerud noted there have been a couple of studies done that looked at crop-hail insurance data over the years. The most relevant study showed a 45% reduction in crop-hail losses. It looked at the seeding area counties in ND and rates in those counties prior to any seeding being done in the state. It compared those crop-hail insurance rates to the 12 counties that border ND and eastern MT. Before cloud seeding was done in the 1940s and 50s, the rates for crop-hail loss in both of those areas were about identical. Then, they looked at the period from 1976-1988, the first 13 years the program was administered by the State. They compared the crop-hail losses in the seeded counties versus the upwind Montana counties and found they were 45% lower than in the historical analysis based on the results prior to any seeding being done.

Mr. Hininger commented that he would like to see Mr. Langerud arm the board with all the information needed to tackle questions like this and would be very beneficial for the program. He also noted that when Williams County joined, as much as he wanted this protection for the agriculture industry, it was the city that wanted protection more than the agriculture producers.

Mr. Bodmer noted that when the Ward County weather modification authority members were calling around to request public support of the program, they found a lot of businesses and residents in the City of Minot wanted the program as well.

Mr. Bodmer reminded everyone that this is not hail elimination, it's hail suppression. He also mentioned that the weather commander at the Minot Air Force Base told him that they notice a reduction in cloud top heights on their radar when clouds are seeded. Additionally, whenever we have asked the hail insurance companies if they would like to participate in funding our programs, they indicate it's a good program but they've already figured out what to charge versus payout to make money.

**MR. HININGER MOVED TO HAVE MR. LANGERUD RESPOND TO THE PUBLIC COMMENTS THAT WERE RECEIVED AND THEN APPROVE WEATHER MODIFICATION PERMITS FOR DISTRICT I AND II FOR WEATHER MODIFICATION, LLC, OF FARGO, ND. SECONDED BY MR. TUPA. ALL MEMBERS VOTED YEA. THERE WERE NO NAY OR ABSTAIN VOTES AND NO ABSENCES. MOTION CARRIED 6-0.**

Mr. Hininger and Mr. Erbele left the meeting.

Mr. Langerud reported that applications were received from WMI, along with all required information for the permit applications. Everything was in order. The only thing needed was to deal with public comment, which we have now done. Permits will be issued.

### ***NORTH DAKOTA CLOUD MODIFICATION PROJECT***

Mr. Langerud reported on meetings with the district weather modification authorities in January. Budget details were reviewed.

In response to a question from Mr. Wanner, Mr. Langerud reported that any leftover state funds from this biennium go back into the Resources Trust Fund. County funds are carried over. He noted that we are planning on putting about \$30,000 in county carryover funds into the 2017 NDCMP.

### ***LEGISLATIVE UPDATE***

In response to a question from Mr. Tupa, Mr. Langerud explained that our budget is ok so far in the legislative session. The biggest cuts are happening in the General Fund. The Water Commission and the ARB have no general funds in our budget in the current biennium, nor the upcoming biennium. The majority of funding that comes into the agency is from the Resources Trust Fund, 20% of the oil extraction tax. Oil extraction and production has been down due to the economy over the last couple of years. There are budget cuts coming to the agency. We are looking at a total SWC project budget of about \$725 million for the next two years. This is in conference committee right now, so it is not final. The current biennium budget was about \$1.1 billion, a reduction of \$400 million. That will basically change the timeline on how some of the really large flood control and water supply projects are going to be constructed. It's not having major impact on smaller projects like ours.

However, in the conference committee, we are under the impression that there is going to be an amendment offered that would cap the amount of state money that could be used for cost share with the counties on the weather modification program. It hasn't been offered yet. Mr. Erbele, Dave Laschkewitsch (SWC Administrative Division Director) and Mr. Langerud met with 5 of the 6 conferees on the committee yesterday. We gave them information about the cloud seeding program that had not been given before because this issue never came up in hearings on either side of the chamber and is not in either one of the current bills that they are conferring with. If it is offered, we hopefully have put enough doubt in some minds that they will vote against that amendment. But we will continue to track that.

In response to a question from Mr. Bodmer, Mr. Langerud confirmed that it is Representative Streyle that would be offering the amendment as we understand it.

Mr. Bodmer indicated that Glen Froseth, a former legislator, told Mr. Bodmer he should send an email straight to Representative Streyle that he supports the weather modification program and does not support capping cost-share funds.

Mr. Langerud noted that the conference committee is only supposed to rectify differences between the two existing bills. This amendment isn't in either bill, so, as a point of order, it should not even be considered. But sometimes that rule is broken. He noted that if this amendment is not submitted, we will need to be prepared for something similar in the next legislative session.

### ***NORTH DAKOTA CLOUD MODIFICATION PROJECT (continued)***

Mr. Langerud reported that county contracts are ready to be mailed.

Mr. Langerud reported that we are in year 2 of a 3-year contract with WMI.

Ms. Schroeder reported on having 11 applicants for the 9 intern co-pilot positions. Efforts will continue towards recruiting, including attending the UND SAMA Career Fair at the end of April. She also reported that it looks like WMI has their pilot positions filled already as well. It looks like there will be 7 returning pilots out of 8 total.

Mr. Schneider reported on meteorologist hiring. All 6 meteorologists have accepted our offer as of this morning. One radar meteorologist was an intern last year. Another worked in Idaho this winter and directed aircraft for winter operations. The third radar meteorologist is in UND's Atmospheric Science 252 Applied Weather Modification class this semester. All three intern meteorologists are hired as well.

Mr. Schneider reported on housing issues for the 2017 project. We turned our Stanley apartment in last fall. Housing has really opened up.

Mr. Schneider reported that chemical bids are complete. Some chemical has been received. We are waiting on silver iodide from Spain. Laboratorios Argenol was the low bidder for silver iodide at a little less than a dollar lower than last season's price. We had to re-bid acetone because the vendors were too concerned about holding the price of a barrel of acetone stable throughout the summer. So, we re-bid it in a 20-barrel quantity to be delivered to our shop. We will have to utilize Cross Country Courier for individual shipments from the shop to the field sites. That allows us to keep acetone at the same price as last year. With additional money to spend before the end of this biennium, we ordered 500 burn-in-place flares from Ice Crystal Engineering (ICE).

### ***DEVELOPMENT OF A DUAL-POLARIMETRIC RADAR HAIL DETECTION ALGORITHM***

Mr. Langerud mentioned that he has contracted with Dr. Paul Kucera from the National Center for Atmospheric Research (NCAR). Dr. Kucera has worked on the POLCAST projects with us. He has a lot of experience with dual polarimetric radar. He will develop an algorithm that will utilize the Minot Nexrad radar data (on the border of Ward &

McHenry Counties). We will be able to download and process that radar data with a software tool that he will provide us at the end of the project. It will run the hail algorithms through the data and give us geographic data of where the hailstorms are, what kind of changes or occurrences of hail in and outside of the target area, how they occur and what kind of changes occur with seeded or non-seeded storms. We'll be running this software tool after the project each year and build up a set of storm cases that show the effects of seeding in dual polarimetric algorithms or fields. We are hoping that the bulk of the work for this contract can be done in the next 3 months, so as to expend the funds in the current biennium, but some of it will extend into the 17-19 biennium. We should be fine with that as well. The total contract price is \$24,000. We are hopeful that this will be a tool that will help answer some questions in the future about the effectiveness of the program with regard to hail suppression.

**LEGISLATIVE UPDATE (continued)**

Mr. Langerud mentioned that our budget was submitted slightly reduced from the current biennium (by approximately \$47,000). That relates to building the radar transmitter building in Bowman, which was a one-time project. As of this moment, with the SWC budget bill still in conference committee, we're looking at a similar budget for the next biennium barring any other changes.

**2017 COOPERATIVE OBSERVER NETWORK UPDATE**

Mr. Brothers reported that about 40 people dropped out of the network, a larger number than normal. So far, he has been able to recoup about half of that number via recruiting. Our current total number of observers is 508, with 166 reporting on the internet and 218 snow observers. He continues to try to recruit more observers. We have a recruitment article coming out in *The Current*, a newsletter that the SWC creates, requesting more volunteers.

Mr. Brothers reminded the board that precipitation maps through February 2017 are available on our web site.

In response to a question from Mr. Bodmer, Mr. Brothers noted that we do collect hail data from these observers. They report date, time and size of hail received.

Being no further business the meeting adjourned at approximately 10:38 a.m.



HENRY BODMER  
CHAIRMAN

Transcribed by Kelli Schroeder