

MINUTES

NORTH DAKOTA ATMOSPHERIC RESOURCE BOARD

OCTOBER 29, 1997

The Atmospheric Resource Board meeting was called to order by acting Chairman James Haaland at 9:00 a.m., October 29, 1997, in the Upper Level Conference Room of the State Office Building, Bismarck, North Dakota. Board members present were Mary Cichos, Judith DeWitz, James Haaland, Hattie Melvin, Joe Porten, Jay Sandstrom, David Sprynczynatyk, and Steven Weber. Staff members present were Bruce Boe, Director; LeNor Dollinger, Business Manager; Darin Langerud, Chief Meteorologist; and Paul Moen, Field/Research Meteorologist.

APPROVAL OF AGENDA

A motion to approve the agenda as presented was made by Mary Cichos and seconded by Joe Porten. Motion carried.

APPROVAL OF MINUTES

Minutes for the April 11, 1997, meeting had been previously distributed. No additions or corrections were offered. A motion to approve the minutes as printed was made by Hattie Melvin, and seconded by Judy DeWitz. Motion carried.

FINANCIAL STATUS REPORT

Bruce Boe presented and reviewed the Board's financial status report through the period ending September 30, 1997. There were no questions.

REVIEW OF 1997 NORTH DAKOTA CLOUD MODIFICATION PROJECT

DRY ICE USE REPORT

Mr. Langerud presented and reviewed with the Board the the dry ice report for the 1997 Cloud Modification Project. There was a big improvement in dry ice use this year in terms of cost per pound expended, as the project average was down to \$2.41. Darin stated that the main reason for this is there is a lot more flight activity this year. There were no questions on the dry ice report.

CHEMICAL INVENTORY

Mr. Langerud presented the chemical inventory, completed by Jeff Lutz and Mike Fransen. The chemical usage went up this year because there were over 1,000 hours flown. Mr. Langerud also explained that the project is now using paradich orobenzene instead of ammonium perchorate. Paradich orobenzene is the chemical name for moth balls and much cheaper than ammonium perchorate. One can of paradich orobenzene yields 20 units of dry chemical.

GENERATOR PERFORMANCE

Mr. Boe presented the contract clause for generator performance and failure rates for this summer. Mr. Langerud explained the method for the calculation of the failure rate, which was about 10% lower this year than last. Mr. Langerud stated that he believed the failure rate could in part be attributed to the inexperience of the pilots. He added that when they have to relaunch, they do not have time to look over the generators. Judith DeWitz stated that if the board has a policy on failure rate, then the board must enforce the policy. If the board believes the policy isn't right then the board needs to change the policy. She also asked if WMI agrees with the failure rate. WMI does not go through the paper work and compute the rate themselves Mr. Langerud stated.

The motion was made by Jay Sandstrom to assess the penalty in the amount of \$7,698.83 for the generator failure on the 1997 North Dakota Cloud Modification Project. The motion was seconded by David Sprynczynatyk. Members Mary Cichos, Judith DeWitz, Hattie Melvin, Joe Porten, Jay Sandstrom, David Sprynczynatyk, and Steven Weber voted aye. There were no nay votes. Motion carried.

AIRCRAFT PERFORMANCE

Mr. Boe presented the list of dates upon which project aircraft had been unavailable for service during the 1997 project. There were a total of fifty periods, he said, totaling 83 aircraft-days on which problems were documented and recorded. With a few exceptions, the down times did not include cloud seeding generator problems. A total of 18 missions were missed, sixteen of which were for hail suppression. He further explained that the penalty clause for aircraft performance allows 2% of the base lease costs for each day (24 hour period) that aircraft were unavailable for service. For the 1997 project, these daily assessments were as follows: Cloud-base seeding aircraft (except Seed 9): \$478.00 per day, Seed 9 (cloud-base aircraft added at higher cost for Williams Co.): \$550.00 per day, and Cloud-top seeding aircraft: \$930.00 per day. For the total of fifteen days upon which missions were missed, this totaled \$10,858.

The motion was made by Judith DeWitz to assess a penalty in the amount of \$10,858. The motion was seconded by Hattie Melvin. Member Mary Cichos, Judith DeWitz, Hattie Melvin, Joe Porten, Jay Sandstrom, David Sprynczynatyk, and Steven Weber voted aye. There were no nay votes. Motion carried.

RADAR PERFORMANCE

The performance of the project radars sited at Stanley and Bowman were reviewed by Mr. Boe. The system in Stanley was leased from WMI as had been done in years previous at Parshall, and the system had performed well, he said. This season, the board operated its own radar in Bowman, and that set had also run well. Data acquisition in Bowman was accomplished using a new software system called TITAN, (*Thunderstorm Identification, Tracking, Analysis*), and *Nowcasting*, leased from Weather Modification, Inc. The TITAN system had also performed very well except for a period early in the project when a problem proved hard to troubleshoot. Once this had been

overcome, Boe said, the new system was very helpful, reliable, and recorded far more storm information than had been previously recorded with the radars and with manual storm measurements.

RECOMMENDATIONS BY FIELD PERSONNEL

Ms. Dollinger explained that this summer she and Darin had made District visits to meet with project personnel. Several suggestions were made by project personnel. There was some discussion that the contractor should have a section at ground school to review their recordkeeping requirements. The use of flares was also a topic, and possibly there needs to be a section at ground school for seeding techniques and opportunity recognition. Another item discussed was a suggestion that a requirement be added to the contract that all aircraft and seeding equipment be checked and certified by the pilot one week prior to start up. The Board members expressed the sentiment that the contractor should be informed of this recommendation, but that the board itself should take no action. This information needs to be presented to WMI so they have a greater presence in the field. ARB staff will make it a point to continue to meet with the contractor at the end of the project and sit down and review suggestions.

ACCEPTANCE OF CONTRACTOR'S FINAL REPORT AND FINAL CONTRACTOR PAYMENT

The *Final Report on the 1997 Cloud Modification Project*, prepared by the contractor, was reviewed briefly by Mr. Boe. It was noted that the field presence of management presented on page 18 was incomplete with regard to ARB staff, but did accurately reflect the contractor's field presence. It was also pointed out that the flight hour tabulations appearing at the report's conclusion were those prepared by ARB staff.

The motion was made by Judith DeWitz to accept and authorize final contract payment minus penalties. The motion was seconded by Mary Cichos. Members Mary Cichos, Judith DeWitz, Hattie Melvin, Joe Porten, Jay Sandstrom, and Steven Weber voted aye. There were no nay votes. Motion carried.

PRE-PROJECT INTERN FLIGHT TRAINING FUNDING

For several years, the Board, in cooperation with the contractor, has funded several hours flight time for each year's project intern pilots in a Twin Comanche aircraft before the project began. Mr. Boe indicated that the effectiveness of this training had recently been questioned (by staff) in light of the fact that most cloud-base aircraft are not Twin Comanches (but Seneca II's), the interns do not get flight time in the specific airplane they'll be flying in the field, and once in the field, the PIC flies the first few missions while the intern gets familiar with the aircraft. In addition, the board has been expending several thousand dollars each year to do this, and those funds might be better used on the program itself.

The motion was made by David Spryncznatyk to discontinue flight training. The motion was

seconded by Judith DeWitz. Members Mary Cichos, Judith DeWitz, Hattie Melvin, Joe Porten, Jay Sandstrom, David Sprynczynatyk, and Steven Weber voted aye. There were no nay votes. Motion carried.

WILLIAMS COUNTY STATUS REPORT

The decision not to rejoin the North Dakota Cloud Modification Project in 1998 by the Williams County Commission was discussed. Mr. Boe and Mr. Langerud spoke of possible plans being developed by the Williams County Water Resource Board to create a permanent authority in that county through petition. Mr Langerud summarized public relations efforts, including a series of public information radio spots sponsored by the North Dakota Weather Modification Association and television appearances by himself and Mr. Boe.

REVIEW OF WEATHER MODIFICATION PERMIT APPLICATION FORM

Mr. Boe explained to the board the form for Application for Weather Modification Permit did not contain all pertinent information, such as the location and times/dates for which the permit applied. Subsequently, the form had been reviewed and a new form drafted for consideration by the board. The new form contains all information required by the board's Rules and Regulations, and also benefits from a cleaner, more modern appearance.

The motion was made by Hattie Melvin to approve the new form for Application for Weather Modification Permit. The motion was seconded by Joe Porten. Members Mary Cichos, Judith DeWitz, Hattie Melvin, Joe Porten, Jay Sandstrom, and Steven Weber voted aye. There were no nay votes. Motion carried.

DEVELOPMENT OF NEW AIRBORNE CLOUD SEEDING GENERATOR

Mr. Boe indicated that he has no additional information on the new airborne cloud seeding generator proposed by Dr. Richard Stone of the Desert Research Institute. Dr. Stone has indicated a strong interest in developing a cloud seeding generator for airborne applications as he is aware of the problems with the ones that are presently being used. Mr. Sandstrom mentioned that Maurice Birkholtz had been talking to him about 15 burners of a different design he has, and asked that he be given Dr. Stone's address so that he could pass it along to Mr. Birkholtz.

REPORT ON INITIAL INTERIM COMMITTEE MEETING ON HAIL SUPPRESSION FOR PROPERTY DAMAGE MITIGATION (HCR-3043)

The August meeting of the Interim Insurance and Health Care Committee and the resulting discussion of HCR-3043, the interim study on hail suppression were reviewed. Mr. Boe noted that the next meeting having HCR-3043 on the agenda had not yet been scheduled. Mr. Langerud stated that he and Mr. Moen have been doing some planning for a potential statewide hail suppression program to reduce property damage, but are presently waiting for cost estimates on high-performance aircraft which have been requested from Weather Modification, Inc.

CONSIDERATION OF FLIGHT AUTHORIZATION FOR PAUL BAUER, TRI-COUNTY ECONOMIC DEVELOPMENT ASSOCIATION

Mr. Boe stated that Mr. Bauer is the Director of the Tri-County Economic Development Association, and has expressed an interest in flying with project aircraft during the 1998 Cloud Modification Project in order to gain a more complete understanding and appreciation of the technology. The board's policy, he noted, allows such participation, but only by the approval of the board. In granting such approval, he said, the board must determine if Mr. Bauer's participation is essential to the program.

Discussion followed in which it was noted that Mr. Bauer's position within the economic development organization of Williams County made his understanding of the program highly important. His support and full program knowledge was desired, and his participation as a flight crew member was viewed as an excellent means of providing the required information.

The motion was made by Hattie Melvin to authorize Paul Bauer to fly during the 1998 project. The motion was seconded by Mary Cichos. Members Mary Cichos, Judith DeWitz, Hattie Melvin, Joe Porten, and Steven Weber voted aye. There were no nay votes. Motion carried.

REPORT ON INITIAL INTERACTION WITH MONTANA DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

Mr. Boe summarized his meeting on October 2, 1997, with Mr. Bud Clinch, Director of the Montana Department of Natural Resources and Conservation. The subject of the meeting was the conduct of environmental work prior to the resumption of limited cloud seeding activities in extreme eastern Montana, upwind of the North Dakota target areas. Boe reported that Mr. Clinch was attentive, interested, asked a number of pointed questions, and was both helpful and reasonable. As of this date, no formal response or answers to his questions had been received, he said.

1997 NORTH DAKOTA GROWING SEASON RAINFALL TOTALS AND THE UPDATE ON THE ATMOSPHERIC RESOURCE BOARD WEBSITE

Using a PC computer set up in the meeting room, Mr. Langerud presented to the Board what has been updated on the web page. Mr. Langerud also informed the Board that he and Mr. Moen are mapping all the monthly rain totals, back to 1977. There are plans to put together a climatology publication or even a rainfall summary for the last 20 years. Mr. Langerud and Mr. Moen are also working on having the radar data for the 1998 project on the web page.

WATER USERS ANNUAL MEETING, POSSIBLE DECEMBER BOARD MEETING

The Board discussed the possibility of a board meeting during the Water User's meeting in early December. Though there is no requirement for the Board to meet at that time, it was decided that if a meeting is needed it will be Monday December 1, 1997 at 9:00 a.m. MST. It can always be set up and canceled if necessary. A decision will be made by mid-November.

PROGRAM EVALUATION EFFORTS, CLIMATOLOGICAL STUDIES

Mr. Langerud and Mr. Boe spoke about the climatological studies and program evaluations that will be the focus of Mr. Moen's efforts during the upcoming winter months. Also mentioned were improvement of the ARB web page and continuing work on the ARB cooperative observer network rainfall and hailfall database.

OPEN RECORDS AND MEETING AN UPDATE

Mr. Boe updated the Board on the open records policy. There were no questions.

FEDERAL RESEARCH FUNDING OUTLOOK

Mr. Boe updated the Board on research efforts. The new director of NOAA's Office of Atmospheric Research is Dr. Friday. Dr. Elbert "Joe" Friday, Boe said, has indicated that there is a place within NOAA for programs like the proposed Weather Damage Mitigation Program, of which North Dakota would be a part. It remains to be seen, he said, how the program might be brought into the budget.

CONTINUING INSURANCE INDUSTRY INTERACTIONS (IBHS, NCIS, OTHERS)

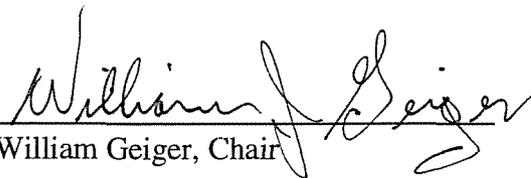
Mr. Boe informed the Board that the ARB has joined the National Crop Insurance Services. We should now have access to NCIS data, which this should provide the ability to help identify the possible changes in crop hail losses in and out of the target area.

OTHER BUSINESS

Orville Haugen a long time member of the McKenzie County Authority passed away. On behalf of the staff and board, a plant has been sent.

ADJOURNMENT

The meeting was adjourned at 12:10 p.m. CST, October 29, 1997.



William Geiger, Chair

Date 2-19-98

Hattie Melvin, Secretary

Date _____

Transcribed by Dawn Feist

