BILLS AIM TO RENEW ADAP

By HAROLD V. VYRA, DIRECTOR
North Dakota Aeronautics Commission

Three bills have been introduced in the U.S. Congress aimed at renewing federal-aid for airports program commonly known as the ADAP program.

Senate Bill S.508 has had hearings and this past week was marked up and amended by the Senate Aviation Subcommittee and passed by the full Senate. The Senate Subcommittee and the Senate Commerce, Science and Transportation Committee on April 29 passed Senate Bill S.508 dealing with a five-year renewal of the Act and does not include the tax structure, which will be handled by the Finance Committee of the Senate.

MAJOR AMENDMENTS

S.508 in its original form authorized expenditures of $3.225 billion over five years beginning in fiscal year 1981 which began on October 1, 1980 and through fiscal year 1985.

The new Administration also introduced House Bill, H.R. 2560 on March 31 which called for a six-year renewal of the ADAP bill through fiscal year 1986 with a substantial reduction in the airport funding level.

The Majority party of the House of Representatives introduced House Bill H.R. 364 on March 19 calling for a five-year renewal of ADAP with substantially increased funding level for airports.

The Senate Subcommittee on Aviation heard the most progress with its bill which is S.508. Amendments were made to S.508 to be acceptable to the new Administration by reducing the authorized spending level from $3.225 billion to a figure of $2.20 billion during the next five years, a reduction of $1.025 billion or reduced by 31.9 percent and passed it out at the reduced level.

S.508 in its original form authorized an average annual expenditure for airport aid at about $650 million. After being amended, the bill will authorize average fiscal year expenditures of $450 million, which was recommended by the new Administration.

S.508, as amended, can be best described as a frugal measure.

DEFEDERALIZATION OF 69 LARGE AIRPORTS

Senate S.508 will defederalize 69 large airports which enclose 25 percent or more of the nation's airline passengers. That includes a range from Chicago-O'Hare International with 21,776,954 passengers enplaned in 1979, to 46 at Spokane International which enclosed 881,483 passengers that year. Defederalization means that airports falling in this category will no longer receive any federal aid beginning in fiscal 1983.

The source of funds in all three bills from the Aeronautics Trust Fund, which at the last reading had a $4 billion

unobligated surplus from user taxes such as the ticket tax on airline passenger fares, federal taxes on aviation gasoline and jet motor fuel.Senate amendments to S.508 on the request of the Administration increased the authorized expenditure for paying the F.A.A. operations and maintenance (including salaries of the F.A.A. employees) for the next five years to $1 billion, which would come from the Trust Fund. Presently this money comes from the general fund of the U.S. Treasury.

NORTH DAKOTA AIR CARRIERS AIRPORTS

North Dakota airports under S.508, will receive more than 35,000 passengers annually (21 percent or more of the enplanements) at Bismarck, Fargo, Grand Forks and Minot would earn credits for airport improvements on the basis of a "Primary Airport" at the rate of $4.00 for each of the first 5,000 passengers

New 'plane' for Wings

From left, Johnson M. (Jack) Taylor, Board Member, Wings of Hope; Mrs. Zark Chapay, wife of the Hudson Bay Camell in Denver, and Mrs. Ed Mack (Cathy) Miller, at the dedication of the Ed Mack Miller Memorial Airport in Denver.

Wings of Hope is a St. Louis-based non-profit, non-sectarian charitable organization which helps provide air transportation and radio communication services to field medical personnel, development programs, missions, and others working for human betterment in some of the world's most isolated areas.

The Ed Mack Miller Memorial Airport, a brand-new Cessna 390, has become a major addition to the Wings of Hope international fleet.

Purchased with contribution from many of his friends, from United Airlines, and with a special gift from Margaretha C. Jordan of St. Louis, the airplane is dedicated to the memory of Ed Mack Miller, a noted Denver pilot and aviation writer who died in 1977. Miller's aviation career, which spanned more than half of the history of powered flight, included service as a Boeing 747 Flight Instructor for United Airlines and volunteer service for Wings of Hope in Central America.

At the time of his death he was Wings of Hope's Deputy Director of Flight Operations.

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FEDERAL SHARE OF PROJECTS
Seventy-five percent of Federal aid funds for terminal buildings shall not exceed 50 percent of an airport terminal development, providing that the whole safety requirements for certification have been acquired and all necessary security equipment in place.

FEDERAL SHARE OF TERMINAL BUILDINGS
Seventy-five percent of Federal aid funds for terminal buildings shall not exceed 50 percent of an airport terminal development, providing that the whole safety requirements for certification have been acquired and all necessary security equipment in place.

HEAD OR BOARDING TAX AT AIRPORTS DEFERRED
Section 3.0.06 provides that airport facilities deferred, or those receiving no Federal aid funds (98 airports in the nation), may impose head or boarding taxes on enplaning passengers. All tax revenue generated from this source must be used for capital improvements at such airports. The bill provides that the Civil Aeronautics Board (CAB) is charged with coming up with a means of collecting such taxes and a uniform method of charges within 100 days after enactment of the bill.

AIRLINE TICKET TAX AND AVIATION FUEL TAXES
The Senate Commerce, Science, and Transportation Committee recommended to the Senate Finance Committee that:
1. The airline passenger ticket tax be reduced from 5 to 4 percent of the cost of airline ticket fare.
2. Aviation gasoline tax be increased from $4 to 10 cents per gallon during 1983 to 1993. Following the year 2000, further increases to 12 cents per gallon fiscal year 1984 through 1986.
3. Jet fuel tax be set at 15 cents per gallon for the next three years rising to 18 cents per gallon in 1986 through 1988. (At present there is no federal tax on jet fuel).
4. The administration originally requested that the aviation gasoline tax be increased to 36 cents per gallon and the jet fuel tax to 65 cents per gallon by 1985.

BLOCK GRANTS TO STATES AUTHORIZED
Senate Bill 5.00 provides under certain conditions that the Secretary of Department of Transportation may block grant all of a State's appropriation of Federal aid because State's own transportation funds for general aviation and small air

From Page One
aviation airports:
Fiscal Year 1981.........................$75 million
Fiscal Year 1982.........................$80 million
Fiscal Year 1983.........................$85 million
Fiscal Year 1984.........................$90 million
Fiscal Year 1985.........................$95 million
The total cuts amounted to about 27 percent.

RELATIVE WIND
Official magazine of the ND Aviation Association. Published monthly for its members and others in the ND Aviation industry; carrying the official news of the ND Aeronautics Commission.

CO-PUBLISHERS
North Dakota Aviation Association and Prairie West Publications.

EDITOR
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ADVERTISING MANAGER
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Relative Wind
June 1981
Engineering offices will remain open

The North Dakota Aeronautics Commission has been told by Senator Mark Andrews that the FAA will not close its engineering field offices at Bismarck, N.D., and Helena, Montana. Senator Andrews (R) from North Dakota, Chairman of the Senate Transportation Appropriations Subcommittee, said he was assured that the FAA Rocky Mountain Region's proposal to shut down both the Bismarck and Helena offices and transfer their services and personnel to the Denver Regional Office of the FAA.

Senator Andrews said that the Secretary of Transportation, Drew Lewis, has assured him that the FAA Rocky Mountain Region's shut-down proposal of these offices will not happen.

The Bismarck Airport Field Office with two engineers and a secretary handles airport development and construction projects in North Dakota and prior to February 1 in South Dakota, while the Helena facility serves all of Montana and prior to February 1, northern Wyoming.

Senator Andrews said he will add the costs for airport managers and planning engineers to fly in Denver for meetings with FAA airport personnel would cost more than the savings from the proposed consolidation of all engineering personnel in the FAA Denver Region Office.

Senator Andrews said of the 201 active airport projects in the six-state Rocky Mountain region of North and South Dakota, Montana, Colorado, Utah and Wyoming, more than half were handled out of the Bismarck and Helena offices in the past year.

The FAA Rocky Mountain Region, Denver, first proposed closing the Bismarck and Helena FAA Airport Field Offices in October last year. In November Carl Bailey, Chief of the FAA Appraisal Staff, Denver held a public hearing with airport managers in the Bismarck office of the North Dakota Aeronautics Commission to make a study of the Rocky Mountain Region's proposal to close the two offices. In March 1981, Carl Bailey delivered a 15 page evaluation study report recommending closure of both the Bismarck and Helena FAA Airport Field Offices. On March 27 Walter Barbo, Chief of the FAA Airport Division of the Denver Rocky Mountain Region held a public meeting in Bismarck with the Director of the N.D. Aeronautics Commission, airport managers and consulting engineers to give his explanation of the Carl Bailey report recommending closure of both offices.

Following this meeting, the Aeronautics Commission, airport managers, consulting engineers, and the N.D. Aviation Association voted to ask the North Dakota Congressional Delegation to do everything within their power to prevent the closing of the Bismarck and Helena FAA Airport Field Offices.

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Page: 3
Timing big factor for beets

By Nancy Erickson Johnson

Maximum control of weeds in sugar beets is one goal sought by nearly every grower. But unyielding rain or temperatures can shorten the amount of time available to make chemical applications.

Timeliness of application is often a critical factor in the success of the product used, and the weather can throw off that timing. Getting around some of the weather-related problems to insure proper timing of application while maintaining a reasonable cost is the objective of a study slated for the coming growing season.

Nor-Am Agricultural Products, Inc., manufacturers of Betanal and Betanex, will be cooperating with North Dakota State University Extension Weed Specialist Alan Dexter in a project to study the aerial application of those chemicals. Nor-Am Sales Representative Larry Sing, Hillsboro, is working with Dexter on the project.

Betanal and Betanex have been labeled for aerial application for the past two growing seasons, Sing explained. However, the labeled rate for that application is three quarters of chemical per acre, with a cost of $33-36. Most growers have found this cost prohibitive compared to the ground application cost. Nearly all growers hand-spray those chemicals in a seven-inch band at the labeled rate of quart. This means the application cost of the chemical is $11-12.

Some growers, on their own, have tested aerial application of Betanal and Betanex at one-half to two-thirds the labeled rate. Growers report success with this less costly application, so Nor-Am hopes the testing with NDSU at the Paul Gorder farm near Galtchut, N.D. will make re-labeling possible.

Reduced rates with aerial application would move the cost to about $30 per acre and make a time management tool available to growers, Sing said. For growers with a lot of acreage to cover “they can be working for two weeks from four in the afternoon to midnight. They could cover the same ground in a couple of days with aerial application.”

But, the current recommendation for aerial application is still the labeled rate, Sing emphasized. In another year, Nor-Am hopes to have more precise recommendations and possibly a different label for aerial application.

Sing said the test plot on the Gorder farm is 60 acres. In this plot, 16 different tests will be conducted, using two levels of water several strengths of chemical and different times of application.

Another angle the re-labeling might offer growers is the idea of split applications, one on the ground with one-half rate, and the other one-half rate later by air. “This is a possibility, depending on the amount of data we gather.”

Proper application timing, up to the four-day stage in the weeds, will also help prevent the salvage situations where weeds have reduced yields.

Sing said his recommendation for the 1981 growing season is using the lowest labeled rate. “There isn’t any time that growers should go over the lowest labeled rate, which is four and one-half pints.”

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New results can be measured

By Fred Causley

STILLWATER — A good spray plane, complete with applicating equipment can cost in the neighborhood of $10,000, yet there has been practically no technology to measure the effectiveness of their applications — until now.

Oklahoma State University agricultural engineer Larry Roth recognized the need for such technology about three years ago and set out to find a better way to measure deposition patterns applied by aerial application.

The result? He and his associate, as can now hold a chart showing the high and low areas of material deposition within as little as five minutes following a test application. Results such as this are used to take days and even weeks to obtain.

"Here is a highly technical industry — agricultural spraying and agricultural chemicals — but the effectiveness of the spraying systems has been left to the applicators themselves," Roth said.

"I don't mean to sell these people short. They've been working with their own devices, and with no technology. They have had to use their imagination and ingenuity, and under the circumstances, have done a very good job."

Realizing the need for technology, partly the part in the challenge facing Roth and his associates, they initiated the Oklahoma Agricultural Experiment Station project, which was later partially funded by NASAs.

It was set out to do something that would work.

It soon became apparent that even if their research turned up something right away, the time lag between its development and marketing could be as much as five to 10 years. What was needed was a quick way to help — such as evaluating equipment already on the market.

"This meant we would need a rapid analysis device," Roth said. "It would have to have a very short turn-around time. Current research methods involve using charts placed on the ground, which are sprayed by the plane, collected and taken to the lab. It can take as long as a week to obtain results from the gathered data using this method."

Working with both granular and liquid aerial applications in mind, Roth and his associates built a device 80 feet long that is placed perpendicular to the path of the spray plane. It contains metal bins to catch granules, and has a holder mounted front and back along the top of the bins. One holds a white paper tape and one a clear 35 mm film strip.

Using red fluorescent dye, the white paper provides rapid readings of a spray dispersal pattern for immediate adjustment of the spray nozzles. The film is saved for laboratory examinations at a later date that reveal exactly how much spray was hitting a given area.

Roth calls the device a "Rapid Distribution Pattern Evaluation System." The device can be sectioned into four parts and is mounted on wheels for easy transport to the next airport or field.

The researchers set up a given location and aerial applications fly to the site to check the patterns of the system. In this manner, pilots get their spray performance improved and the researchers get a larger number of aircraft for data analysis. To date, they have held fly-ins in Oklahoma, Texas, Kansas, Illinois and Arizona.

Kansas State University recently joined in Roth's efforts, supplying the talents of extension agricultural engineer Dennis Kuhlman. As OSU's instrumented read strips of sprayed paper, the data is fed into a portable computer Kuhlman has adapted to Roth's system. Moments later, he can show each pilot a computer-projected image of his plane's deposition pattern.

Roth and Kuhlman plan to continue refining the device until they determine its optimum efficiency. They currently are working to install microwave position detectors to record the forward speed of each plane, and from that, be able to recommend the best flying speed for uniform material deposition.

"We have stirred a lot of interest in the application industry and I hope to see an increasing interest in the agricultural aircraft industry," Roth said.

"To date, only one company, Eagle Aircraft out of Boise, Idaho, has actually sent a plane down to be evaluated. We did a study on a new type of aircraft they produced. We learned right away that they had spray nozzles too near the wingtips, where a vortex keeps spray airborne longer. I hope that when other companies see some positive results like this, they will also become interested."

Over 100 spray planes came to fly-ins for evaluation this past summer. They have provided a lot of positive feedback, primarily concerning the improvement of their spraying performance over fields.

The first beneficiaries from such an effort are going to be farmers, but any they are concerned with chemical drift should benefit. Chemicals cost money, and when they can be held to the crop they are intended for, it means a rein on production costs, which ultimately benefits the consumer.

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June 1981

Relative Wind

Page 5
Big Sky inaugurates new flight schedules June 15-30

On June 15, Big Sky Airlines will inaugurate two round trips daily between Bismarck-Jamestown and Minneapolis-St. Paul with a combination of Handley Page 15 passenger Jet Streams and 17 passenger Swearingen Metroliners. In April, the Civil Aeronautics Board approved Big Sky Airlines' proposal to replace Air Wisconsin between Bismarck-Jamestown and Minneapolis with a start-up date of June 15.

Harold G. Vavra, Bismarck, Director of the State Aeronautics Commission, as well as Jamestown and Big Sky Airlines' officials plan to be passengers on the morning inaugural flight on June 15 between Jamestown and Minneapolis and return.

Big Sky will offer Jamestown well timed flights to Minneapolis and return with daily departures from Jamestown at 7:36 a.m. and 3:40 p.m. and arrivals non-stop to Minneapolis at 8:30 a.m. and 3:40 p.m. daily.

Return non-stop flights from Minneapolis to Jamestown will depart Minneapolis at 9:16 a.m. and 3:30 p.m. with arrivals at Jamestown at 10:40 a.m. and 7:40 p.m. daily.

Jamestown for the first time will have early morning departures to both Minneapolis and to Bismarck. At Bismarck Big Sky Airlines will connect Jamestown passengers with Frontier Airlines early morning departure to Denver with an arrival in Denver at 7:40 a.m. MDT. Big Sky will also connect Jamestown passengers at Bismarck with Northwest Airlines' west-bound flight to Billings, Spokane, Seattle and Portland with arrivals in Spokane at 11:34 a.m., Seattle at 12:59 p.m. and Portland at 15:59 p.m. PDT.

Big Sky flight schedules between Jamestown and Bismarck are: Leave Jamestown at 6:40 a.m. (airplane overnighted at Jamestown), arrive at Bismarck at 8:16 a.m. which connects with Frontier Airlines at Bismarck non-stop to Denver, and with connections on Northwest Airlines to the west coast. Leave Jamestown at 10:15 a.m. and arrive Bismarck at 11:35 a.m. which connects with Frontier Airlines to Rapid City and Denver.

Leave Bismarck at 6:45 a.m. and arrive Jamestown at 7:15 a.m. and continue on to Minneapolis. Leave Bismarck at 3:05 p.m. arrive Jamestown at 5:20 p.m., with the flight continuing to Minneapolis.

The Big Sky Airlines afternoon flight from Bismarck to Jamestown receives Jamestown connecting passengers at Bismarck from Frontier Airlines from Denver and from Northwest Airlines from Seattle, Portland, Spokane and Billings, Montana.

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Relative Wind

June 1981
General aviation around the state

HEBRON — has received No. 12 wire from the Aeronautics Commission to use for runway light installation. The Commission has several spools (40 or 80 strand wire) available to the public-use airports.

WATFORD CITY — is considering the idea to realign the runway to 4600' in length. A high but to the SE of the airport restricts the expansion of the runway. A heliport is in design stages also.

WISHK — has abandoned a 1000' portion of their runway. This was necessary since they are realigning and regarding a new strip. The length remaining is only 1000' and there will be no runway lights until the new runway is activated.

ASHLEY — plans to repurpose the beacon lower away from the west runway end. They will purchase a new energy efficient beacon and install. The lower was located adjacent to the runway edge and was a hazard.

CROSBY — is reviewing plans to extend the runway to the NW. They have 3800' but are below basic minimum length for a runway at their elevation.

BEACH — has assumed operation to a possible 100' lower airport NW of the airport. All Airport Authorities should be aware of what is going on around their airport. You must protect the approaches to your runway or it will lose its accessibility of the larger aircraft.

ROLETTE — will send seal coat the runway this spring. The cracks will and must be filled before any new surface to a runway can be placed. The job was coordinated with a local project to reduce the Authority’s cost.

TOWNER — has insured that its southern approach is not restricted by analyzing the clear zone minimums. Plans were to regulate the new tree shelter belt positioning of a neighboring farmer.

HAZEN — has plans to improve their airport but nothing definite has been designed. They will install fuel tanks and pumps for all-ages on the airport in the near future.

PLAZA — will be having a free pancake & sausage Fly-In Breakfast for all pilots at the airport on Monday, July 20th. Motorized glider demonstrations will entertain during the feast.

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‘Profitable results’ reported

Terry Marshall, Billings, President of Big Sky Airlines (a public corporation listed on the Pacific Stock Exchange), reported that the airline achieved profitable operating results for the three months ending March 31, 1981. The chief executive of the 2½ year old airline reported for the nine months ending March 31, 1981, operating revenues of $1,877,977, an increase of 229 percent over $590,364 of the same quarter last year. Operating earnings in the quarter were $1,522,589 compared with an operating loss of $346,531 in the first three months last year. Net earnings after deduction of interest expense on outstanding debt of $137,763 from the operating earnings left a net profit of $40,962 during the quarter compared with a net loss of $358,643 during last year’s same quarter.

Earnings per share were 2 cents compared with a loss of 21 cents per share of common stock in last year’s quarter.

Marshall reported nine months revenues (July 1, 1980 through March 31, 1981) climbed dramatically to $4,628,763 from $1,520,671 in the prior nine months. Operating earnings in the last nine months were $527,963 compared to an operating loss of $319,671 for the year. Net earnings, after interest expense, showed a loss of $38,591 compared with a loss of $434,984 for interest expense, in the same nine month period a year ago.

During the nine month period between July 1, 1980 and March 31, 1981, Big Sky has seen its total business costs increased by $15,923,000 due to the cost of inaugurating passenger service to Bismarck, Dickinson, Williston, Devils Lake and Grand Forks, North Dakota, and Montana cities of Wolf Point, Glasgow, Havre, Lewistown, Miles City, Glendive, and Sidney, Montana and Sheridan, Wyoming.

Turn Around is Grazing

The turn around in Big Sky’s performance is most gratifying, Marshall said and the "outlook appears promising."

Passenger revenues continue to climb, Marshall added, and the number of air freight shipments

Big Sky’s money savers

Effective immediately Big Sky Airlines has put into effect money-saving passenger fares at Bismarck, Devils Lake, Dickinson, Grand Forks and Williston, according to Dan Finley, Director of Planning and Schedules for the airline.

Big Sky’s special reduced passenger fares are 35.1/2 percent below air rack fares on a limited number of seats daily on most flights, Finley said.

Special reduced one-way passenger fares between North Dakota city pairs include federal tax are:

<table>
<thead>
<tr>
<th>Destination</th>
<th>Fare</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bismarck and Devils Lake</td>
<td>$35.00</td>
</tr>
<tr>
<td>Bismarck and Grand Forks</td>
<td>62.00</td>
</tr>
<tr>
<td>Dickinson and Williston</td>
<td>40.00</td>
</tr>
</tbody>
</table>

Finley said that on most flights about 15 percent of the seating capacity on weekdays and 20 percent of the seats on weekends will be sold at the reduced fare on the basis of first reservations will get the reduced rate until the limited number of seats are sold out. Effective April 30, Big Sky Airlines increased its service between Bismarck-Devils Lake and Grand Forks to two round trips daily. Up until April 26, Big Sky had provided this route with one round trip Sunday through Monday.

When you cross the border

Many pilots who plan fishing, business trips or whatever to Canada, must understand customs regulations. A guideline called “U.S. Custom Guide for Private Pilots” is available by writing the local Customs Station. It is published by the Department of the Treasury, U.S. Customs Service, Washington, D.C. 20229.

A pilot must always file a flight plan when flying to or from Canada. A one-hour prior notice must be given to the Customs Station by either phoning the Customs Station yourself or through the FSS. Some stations require actual verbal permission to be granted before landing and may have a unicorn to converse with. The validation fees and overtime charges are substantial, so educating the pilot to the border crossing procedures is worthwhile. Other than financial reasons, the prior notice can also be a time saving, so you do not have to wait an hour or so before your plane can be inspected.

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