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**ARKANSAS SCIENCE & TECHNOLOGY AUTHORITY**

100 Main Street, Suite 450, Little Rock, Arkansas 72201 (501) 324-9006

MINUTES OF THE 48TH MEETING OF THE  
ARKANSAS SCIENCE & TECHNOLOGY AUTHORITY'S  
BOARD OF DIRECTORS  
LITTLE ROCK, ARKANSAS  
SEPTEMBER 20, 1991

CALL TO ORDER

The meeting was called to order at 1:37 p.m. by Mr. John Troutt, Chairman of the Board, in the conference room of the State Chamber of Commerce in Little Rock, Arkansas.

A quorum of Board members was present and included Dr. Diane Gilleland, Mr. H.T. Moore, Dr. Don Pederson, Mr. Louis Ramsay, Dr. Phillip Rayford, Dr. James Hendren, Mr. Jerry Webster and Dr. William Willingham.

Staff members present included: Melissa Adams, John Ahlen, Jim Benham, Bill Dobbins, Joe Gentry, Al Grijalva, Mary Kelly, Anita Millard, Chuck Myers, Joyce Saddler and Alice Smith.

Visitors included: Stan Diel from the Arkansas Gazette, Carol Griffiee from Interstate News Services and Phil Price from the Governor's Office.

APPROVAL OF MINUTES

Mr. Troutt presented the minutes from the May 17, 1991 and July 26, 1991 Board meetings for approval. Mr. Ramsay moved that the minutes be approved. Dr. Hendren seconded the motion; the Board gave its unanimous approval.

PRESIDENT'S REPORT

Dr. Ahlen updated the Board on activities of the Authority.

The staff has had one retreat and is planning to have another trying to put together an outline, for involving the Board, dealing with some of the issues emerging during the biennium.

ASTA is in the process of wrapping up the \$125,000 grant from NIST. Over 30 awards have been made to small companies in Arkansas to transfer federal technology. A final report will be ready within the next 60 or 90 days.

ASTA has been awarded a \$23,000 planning grant from NIST.

Bill Dobbin's internship will be extended to December. He will work with Chuck Myers on gathering data for the planning grant.

ASTA has received money from the petroleum escrow fund, which is administered for the state by AIDC. The \$250,000 will be used for energy-related technology development under the draft rules that were approved by the Board at an earlier meeting.

ASTA is still working with the Inventor's Congress and with the prototype development center at UALR to work out some of the operating arrangements that will be required to help inventors enter that program.

The National Biotechnology Cooperative project is scheduled to end at the end of September. ASTA has asked for a no-cost extension that will allow ASTA to wrap up the last two activities under that project.

EPSCoR has been awarded funds from agencies other than the National Science Foundation. These agencies are the Department of Energy and the Environmental Protection Agency. These awards require matching funds, but these agencies are allowing in-kind matches so there is no dollar amount and with university involvement, these are relatively easy matches to make.

Another award made by the Department of Energy provides 20 fellowships at \$25,000 each at colleges and universities which will require a dollar for dollar match. The source of this match has not yet been found. ASTA is working with the EPSCoR committee to find other sources of funding for that.

#### BILL DOBBINS PRESENTATION

In ASTA's strategic plan, four program indicators were identified for overall success. Those four indicators are R&D funds, number of patents issued, employment and new company growth.

First indicator - R&D funding for universities. The data used was R&D expenditures in doctoral granting institutions. In 1981, R&D expenditures in Arkansas were at \$23 million. In 1989, it had grown to \$43 million, with federal

contribution making up a third of R&D fund activity in universities. In 1981, it totaled \$7 million and then climbed to \$14 million in 1989.

Arkansas was compared with three other states on a per capita basis; Alabama, Mississippi and Louisiana. Arkansas ranked below these states. Arkansas went from \$11 million in 1981 to \$18.15 million in 1989. This is federal and non-federal expenditures combined.

The second indicator - Number of patents issued in Arkansas. Just over 80 patents were issued in 1980. By 1990, 140 patents were issued. Arkansas is consistently in the bottom five in terms of patents issued.

The third indicator - Employment. Unemployment rates were looked at. In 1981, Arkansas had a 9.1% unemployment rate, by 1990 the rate was 7.6%. The United States had an unemployment rate of 7.6% in 1981 and 5.5% in 1990.

The fourth indicator - New companies and new company growth. In 1980, there were 4,000 new startups with the number increasing to 6,000 in 1989. Looking at the per capita view of the indicator, Mr. Dobbins took new incorporations and broke it down per 10,000 employees. Arkansas ranked number 2 among Alabama, Mississippi and Louisiana. Arkansas went from 40 incorporations per 10,000 in 1980, to 55 in 1989.

Program specific indicators were looked at. The first being the seed capital investment program. Since 1986, ASTA has made seven investments at a total of \$1.25 million, close to \$1.2 million being returned to the agency. 216 jobs have been created as a result of these investments.

Another aspect of Seed Capital funding is the money that is matched to ASTA's initial investment. There is a three to one match in the investments, which exceeded ASTA's \$1.25 million, \$1.8 million being company equity. This is a total financing amount of \$6.7 million since 1986.

The second set of programs looked at were basic and applied research programs. The short-term indicators for success here is in money that ASTA put in, what industry puts in and different types of public and private follow-on. In the applied research program, \$736,000 was granted with an industry match of \$717,000 and follow on funding of a little over \$1 million. Since 1986, a total of \$2.9 million has been granted in applied research.

In basic research, 59 grants have been funded since 1986 with a little over \$2 million. Public and private follow-on

at \$2.4 million and \$1.2 million for a total of \$5.7 million.

The next program is SBIR awards. The indicators of success for this program are how many and what type of federal agencies contribute to this program. DOE awarded \$4.5 million to the program, Department of Transportation awarded \$342,000 and Human Services awarded \$44,000.

The measure for success for the Business Incubator Program is the number of tenant companies. The numbers have varied from 3 in 1986 to 11 total tenants in the incubators within walls by 1991. Number of tenant employees started out with 8 in 1986, up to 63 in 1991. A total of 4 incubator companies have SBIR grants. Three seed capital investments totaling \$500,000 have been made in incubator companies. In the incubators without walls, which deal more with clients than with tenant companies, Salem has 22 client companies that are participating in the business services. SAU has 164 and UAM has 203.

Five companies have applied for R&D tax credits. Credit value at this time is a little over \$35,000.

In the Arkansas Industrial Network program, 5 networks are in operation. 25 brokers have been trained for these networks with 102 total companies participating. Pending approval, there should be a total of \$75,000 in terms of challenge grants given to these companies.

#### INVESTMENT COMMITTEE

Mr. Webster called the Board's attention to the General Fund Expenditure Report for Fiscal Year ending June 30, 1991. There being no questions concerning the reports, Mr. Webster made a motion to approve the report. Mr. Ramsay seconded the motion; the Board gave its unanimous approval.

Mr. Webster called the Board's attention to two Investment Fund Reports for quarter and fiscal ending June 30, 1991. Mr. Webster pointed out that ASTA has four loans that are outstanding. Mr. Webster stated that since these reports were compiled, one company, Law Office Information Systems, has paid off its \$200,000 loan. There being no questions concerning the reports, Mr. Webster made a motion to approve the reports. Dr. Hendren seconded the motion; the Board gave its unanimous approval.

Mr. Benham brought before the Board two challenge grant proposals for approval. The first from the Delta Safety Network which is operated out of Phillips County Community

College. The amount requested is \$10,000. This proposal would initiate a joint training effort for 12 companies that comprise the network to help them comply with Department of Labor and OSHA safety standards.

One of the problems encountered by this network is when the Department of Labor sends someone in to conduct training sessions for company employees, they require at least 35 attendees, which sometimes constitutes almost an entire shift. Therefore, the company has to shut down one shift. The company loses money when this happens.

The second proposal is from the Metalworking Connection. This network has been in operation for a little over a year and a half in southwest Arkansas. The amount of this proposal is \$20,000. The proposal would establish a buyer seller relationship to create a just in-time inventory system between the buyer and seller. Fifty-seven companies presently belong to the Metalworking Connection. By creating a marketing hub, they help create new buying marketing opportunities for new member companies.

With no further discussion, Dr. Hendren moved for the approval of the two challenge grant proposals. Mr. Moore seconded the motion; the Board gave its unanimous approval.

#### RESEARCH COMMITTEE

Dr. Pederson reported that the Research Committee met on September 9, 1991 and recommended for the Board's approval the following resolutions:

Draft resolution 92-1 provides for the funding of one applied research proposal:

PROPOSAL NO. 92-A-05, "Effects of Active Immunization Against Inhibin and Androgenic Steroids on Ovulation Rate and Litter Size in Gilts" by Dr. David L. Kreider of the University of Arkansas, Fayetteville, in the amount not to exceed \$6,500.00. This project is cosponsored by the Arkansas Pork Producers Association in the amount of \$6,500.00.

Dr. Pederson made a motion to approve Draft Resolution 92-1. Dr. Gilleland seconded the motion. Dr. Pederson stated that UAF was the institution of his affiliation. The Board gave its unanimous approval.

Draft Resolution 92-2 provides for the funding of two basic research proposals:

PROPOSAL NO. 92-B-32, "Genetic Transformation of Spinach Mediated with Agrobacterium Tumefaciens," by Dr. Feng H. Huang and Dr. Teddy E. Morelock of the University of Arkansas, Fayetteville, in the amount not to exceed \$37,490.00.

PROPOSAL NO. 92-B-33, "Molecular Characterization of the Plant Pathogenic Fungus Collectotrichum Orbiculare," by Dr. James C. Correll and Dr. Douglas D. Rhoads of the University of Arkansas, Fayetteville, in the amount not to exceed \$43,000.00.

Dr. Pederson made a motion to approve Draft Resolution 92-2. Dr. Hendren seconded the motion. Dr. Pederson stated the UAF was the institution of his affiliation. The Board gave its unanimous approval.

Draft Resolution 92-3 provides for the funding of two basic research proposals:

PROPOSAL NO. 92-B-35, "Construction of Selective Chemical Sensors Using Molecular Monolayers," by Dr. Neil Allison and Dr. David W. Paul of the University of Arkansas, Fayetteville, in the amount not to exceed \$43,643.00.

PROPOSAL NO. 92-B-42, "Rust Transformer Development," by Dr. Seifollah Nasrazadani of the University of Arkansas, Fayetteville, in the amount not to exceed \$27,712.00.

Dr. Pederson made a motion to approve Draft Resolution 92-3. Dr. Hendren seconded the motion. Dr. Pederson stated that UAF was the institution of his affiliation. The Board gave its unanimous approval.

Draft Resolution 92-4 provides for the funding of one basic research proposal:

PROPOSAL NO. 92-B-38, "Dual Photometric and Oxygen Electrode Measurements for Study of Biochemical Reactions of Oxygen," by Dr. Robert Steinmeier of the University of Arkansas at Little Rock, in the amount not to exceed \$35,700.00.

Dr. Pederson made a motion to approve Draft Resolution 92-4. Dr. Gilleland seconded the motion; the Board gave its unanimous approval.

The last item Dr. Pederson brought before the Board was a motion that read:

In 1988 the Governor recommended, with the concurrence of the Joint Committee on Energy, an allocation of \$300,000 stripper well funds to the Arkansas Science & Technology Authority to fund energy-related research.

The U.S. Department of Energy has recently awarded a \$250,000 grant to the Arkansas EPSCoR Committee to provide traineeship grants to graduate students to do energy-related research. This grant will provide \$25,000 per year for 20 graduate students. But this grant requires a \$250,000 state match.

On September 9th, the Research Committee passed a motion to ask the Board to direct Dr. Ahlen to ask the Governor to allocate \$250,000 of stripper well funds to ASTA to provide the state match necessary for funding the energy-related research associated with these traineeships.

I would like to make a motion that the Board direct Dr. Ahlen to make the necessary application for \$250,000 from stripper well funds to provide this match.

After further discussion, Dr. Hendren seconded the motion made by Dr. Pederson to direct Dr. Ahlen to make the necessary application for the funds. The Board gave its unanimous approval.

Chuck Myers gave an update on the Business Incubator Program. The Incubators were given until August 30 to submit proposals to ASTA for funding. The amount of funds requested from the incubators totaled \$1,035,856. The Genesis Incubator requested \$496,425, The University of Arkansas at Monticello requested \$200,000, UAPB requested \$70,000, and the Jonesboro project requested funds totaling \$309,600 in two parts; \$157,831 was requested to operate the EABIS project and \$151,769 was requested to extend their program to Blytheville. Due to the base closing in Blytheville, a building has become available to EABIS. Mr. Myers stated that the total amount requested is obviously not going to be available so some determinations would have to be made as to where ASTA goes from here with the incubators.

Dr. Ahlen stated that the incubator funding issue was just one of four issues of which the Board needed to be aware.

All of the funding issues are in the capital budget. There is a serious shortfall of money available compared to those projects that are approved. The projects affected include incubators, EPSCoR, centers for applied technology and funds for basic and applied research projects.

Dr. Ahlen stated that it appears that very little if any of those funds will be available to the Authority over the next two years. Dr. Ahlen suggested to the Board that it give the incubators a chance to address the Investment Committee or the Board.

Mr. Troutt made a motion that the Investment Committee hear proposals from the incubators and that the Investment Committee report back to the full Board with its recommendation. Dr. Pederson seconded the motion. The board gave its unanimous approval.

Dr. Pederson asked if there was any advice that Dr. Ahlen could give the Research Committee for its next meeting. Is the money appropriated for centers basic and applied research available for centers for applied technology? Is it only for proposals for basic and applied research.

Dr. Ahlen stated that in the past the Board has chosen not to sacrifice support for individual investigators for other activities.

#### NEW BUSINESS

##### NOMINATING COMMITTEE

Mr. Moore presented the report for the Nominating Committee. Mr. Moore unanimously nominated the following officers for the upcoming year: Chairman Dr. William Willingham; Vice Chairman Dr. James Hendren; Secretary Mr. Jerry Webster. Mr. Ramsay made a motion that the officers be elected by acclamation. Dr. Rayford seconded the motion. The Board gave its unanimous approval.

##### NEXT MEETING DATE

Dr. Ahlen requested that the Board consider making the November 15, 1991 Board meeting an all day retreat. Dr. Ahlen stated that the staff should have something to present to the Board at that time. The Board agreed that November 15, 1991 would be fine.

Mr. Troutt stated that with the Board's permission, he would draft a letter of thanks to Mr. Bowen for his work with ASTA over the years and his continued encouragement and support of the efforts of ASTA in his new position.

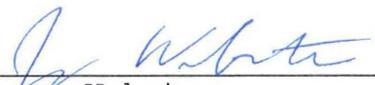
ADJOURNMENT

With no further business to conduct, the meeting was adjourned at 2:36 p.m.

Respectfully submitted,

  
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Jerry Webster  
Secretary  
Board of Directors

Approved by the Board of Directors  
on this 15th day of November, 1991

  
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Jerry Webster  
Secretary  
Board of Directors