

MINUTES

Assembly WAYS AND MEANS COMMITTEE

NEVADA STATE LEGISLATURE - 60th SESSION

March 13, 1979

Chairman Mello called the meeting to order at 7:00 a.m.

PRESENT: Chairman Mello, Vice-Chairman Bremner, Mr. Barengo, Mrs. Cavnar, Mr. Glover, Mr. Hickey, Mr. Vergiels, Mrs. Wagner, Mr. Webb.

MEMBERS EXCUSED: Mr. Mann.

ALSO PRESENT: Bill Bible, Fiscal Analyst; Judy Matteucci, Deputy Fiscal Analyst; Mike Alastuey, Deputy Budget Director; Robert Cashell, University of Nevada Board of Regents Chairman; Dr. Donald Baepler, Chancellor, UNR; Dr. Joseph Crowley, President, UNR; Dr. Brock Dixon, President, UNLV; Dr. Lloyd Smith, President, DRI; Dr. Paul Kreider, President CCC; Dr. William Berg, President, NNCC; Dr. Jack Davis, President, WNCC; Dr. Robert Laxalt, University Press; Dr. Young, Dean of Students; Doug Mathews, Mrs. Martinez, and Mr. Niels Anderson, Computing Center.

UNIVERSITY OF NEVADA SYSTEM

Chairman Mello questioned Dr. Jack Davis, President, Western Nevada Community College, about transferring funds from the Buildings and Grounds budget to cover a new position in his office. Dr. Davis replied that the monies had come from Buildings and Grounds and confirmed that he is requesting more Buildings and Grounds funds in the upcoming biennium. He added that Mr. Hattori and Mr. Pine had requested the position be transferred to WNCC's budget. Chairman Mello asked if he had requested the position in last year's budget and if he was in the Ways and Means hearings last session. Dr. Davis replied that the position was not requested last session because the work was being performed in the Central President's Office and that he was not in the Ways and Means hearings last session. Dr. Davis reiterated that the position was in the Northern Business Center in 1977-78, but was moved to WNCC in 1978-79.

Mr. Bible referred the Committee to the income for the Western Nevada Community College which shows an actual transfer in 1977-78 to the Business Center North of \$153,496, and a larger amount during 1978-79 of \$165,398. He asked why a reduction was not made when the position was moved from Business Center North to WNCC's budget. Dr. Davis responded that he was told to pay that amount by the Chancellor's Office. Dr. Donald Baepler replied that the assessment went up because of 5 new positions in Business Center North in 1978-79.

Mr. Barengo noted that the discrepancies noted on March 12 in the budgets were because the Budget Office had transferred the travel figure from one area to another. He asked why the Business Center transfers listed in the Executive Budget did not agree with the University budget. Dr. Baepler stated he would provide the Committee with a list of all the transfers.

Mr. Rhoads expressed his concern for Dr. Davis's previously mentioned statement requesting more full-time teachers at the Community College Campuses. Dr. Davis affirmed his position that part-time teachers were needed in the system, but pointed out that, as

the campuses grow, the day-time programs require more full-time teachers. Mr. Rhoads asked if the full-time/part-time mix would change every time a new building is built. Dr. Davis said that he felt it would not.

Mr. Webb said he was concerned with competing day-time programs between the Community College and the University. Dr. Davis stated that the day-time programs at the Community Colleges are strictly occupational programs.

NORTHERN NEVADA COMMUNITY COLLEGE

Dr. William Berg, President, Northern Nevada Community College, told the Committee that the college serves the five northern Nevada counties. He said that he has four basic concerns relative to the Governor's recommendation for the budget (Exhibit "A"). These concerns are systems coordinator compensation, travel funds to Regents meetings, student wages for library and custodial services, and a position to handle financial aid, and veterans employment counseling.

Chairman Mello asked about the position added to the President's Office. Dr. Berg responded that two years ago, when the President of the Community College's position was eliminated, he then assumed those duties in addition to his duties as President of the Northern Nevada Community College. The Board of Regents indicated that the need for the new position was evident and it was then funded by the Board of Regents with the understanding that it would be requested in the biennial budget. Chairman Mello stated he was unable to locate the position's funding. Mrs. Martinez indicated that the work program was in error and the position is funded by the Regent's Special Projects fund. Dr. Berg answered that they were requesting continued funding for this position in this biennial budget. He added that it is the second position shown in the work program.

Chairman Mello asked how many new positions are requested. Dr. Berg answered that there are three new positions requested, as follows: two of the positions are being funded by the Board of Regents, and one nursing position that was funded by the local community. Chairman Mello asked if the Board of Regents would continue to fund the positions if the Committee refuses to approve the three positions. Dr. Baepler answered that when the positions were originally funded by the Board of Regents, the understanding was that the institution should present the best possible justification for them to the Committee to obtain funding approval. Chairman Mello asked if the positions would be eliminated if the Committee does not choose to fund them. Dr. Baepler said that was correct.

Mrs. Wagner asked for clarification on why the assistant came on board--was it because of the institution's added responsibilities in representing the community college before the Board of Regents. Dr. Berg responded that they had picked up added responsibilities. Mrs. Wagner continued by asking how often he has been absent from the community college because he is at Board of Regents meetings. Dr. Berg answered that there are meetings at least twice a month and sometimes more. Mrs. Wagner asked how long the meetings last. Dr. Berg answered that sometimes the meetings take several days, especially if they are in Las Vegas.

Chairman Mello asked if the three new positions that have been added were requested at the last session of the legislature. Dr. Baepler said to the best of his knowledge they were not.

Mr. Barengo listed several discrepancies between the work program figures in the Governor's budget and those figures in the budget presented by the University. Mr. Barengo asked how it was possible to correlate the two sets of work program figures. Mrs. Martinez answered in the Governor's budget, there is a professional salary reserve amount and those funds have been redistributed by the University within the University's budget.

Mr. Rhoads asked for clarification on the direction the NNCC expects to take in their full-time number of teaching positions versus their part-time number of teaching positions. The ratio is currently 54% full-time to 46% part-time. Dr. Berg answered that there is actually a downward trend for the institution as 80% of their faculty positions were designated for full-time funding by the last legislative session. Dr. Berg continued that in the current budget, 65% of the positions are requested for full-time funding and 45% for part-time. He added it is not the institution's intent to use a lot of full-time people.

Chairman Mello commented that if the Committee is not well-informed by the University representatives, their budgets will be in jeopardy and that this is not the session to try to "pull the wool" over the Committee's eyes.

UNIVERSITY OF NEVADA LAS VEGAS

Dr. Baepler stated that his comments would apply to both university campuses to avoid redundancies. He indicated that one of the critical questions relating to the University budgets is the staffing formula which is the number of full-time equivalent students per each faculty member. He said that the University, in developing its budget, used an 18 to 1 formula and that graduate assistants were not included with the faculty in determining the formula. Dr. Baepler continued that an 18 to 1 student/faculty ratio is not a rich formula when compared to other equivalent institutions where the most commonly used formula is a 16 to 1 ratio. He added that when graduate assistants are included with the faculty, the formula becomes a 20 to 1 ratio which makes an extremely difficult situation for the institutions and that the quality of the educational process will, in fact, deteriorate.

Dr. Baepler continued that the second major area of concern to both institutions is enrollment. He said that there was a slight downward trend in enrollment last fall, but that this spring semester's enrollment was only 31 students below that for the preceding spring. He added that both institutions are serving metropolitan regions that are rapidly increasing in population. He pointed out that in both areas the high schools are experiencing a "bulge" in their sophomore, junior, and senior class enrollments. For this reason, Dr. Baepler stated that the university system is confident that enrollments in both institutions will increase and perhaps show a dramatic increase. He added that the institutions expect to reflect this increase by the coming fall. He stated that the University feels their enrollment projections are realistic.

Dr. Baepler said that in terms of salaries the institutions have a modest salary goal. He added that the University of Nevada System's goal for salaries is to be at the half-way level when ranking all fifty state university systems. Dr. Baepler said that in order to achieve their salary goal, the University is requesting an 11% salary increase for each year of the biennium.

Dr. Baepler stated that each institution faces a serious problem in inter-collegiate athletics. He added that the most critical factor with the athletic programs is the Title IX program mandated by the Federal government. He added that when the budgets were prepared, the full inferences of Title IX were not appreciated as they had not been totally explained by the Federal government. He continued that it is now clear that Title IX includes a stipulation, that in order to be in compliance with the Federal regulations, the institution must spend as much money on each female athlete as it spends on each male athlete, including the revenue producing sports such as football and basketball. He stated that men's football and basketball generate huge sums of money from their box office revenues and from private contributions, whereas the women's athletic program is not developed enough to generate box office monies or private contributions. He added that as a consequence that State funding request is the most significant part of the women athletes' budget. He commented that both institutions have excellent women's athletic programs, but it takes time for the public to turn out and support the programs.

Dr. Baepler further stated that if the inter-collegiate fund request is not approved, the institution's only alternative would be to significantly reduce the men's athletic programs, particularly in the football and basketball areas.

Dr. Baepler explained that an additional problem is that in the three budgets which receive Federal revenues--UNR, UNLV, and the Chancellor's Office--there is some question about the stability of these funds. He said that the Bankhead-Jones landgrant funds at UNR and UNLV and Federal planning funds in the Chancellor's Office are in jeopardy. Dr. Baepler asked that since these funds go into general operating, that perhaps they could be appropriated with the understanding that should they become available, a like amount of appropriated funds would be returned to the State.

Dr. Baepler observed that the two universities are funded in a very similar way, but do have some basic differences and different problems.

Mrs. Wagner asked why Title IX would require cuts in the football and basketball programs as opposed to reductions in other less popular sports. Dr. Baepler said that the most expensive portion of the program must be trimmed to reach a level where the funds for male and female will be equal and that reducing less expensive sports would not accomplish this purpose. Dr. Baepler said that it was hoped that football and basketball would be exempt from Title IX because these sports generate large revenue.

Mr. Rhoads asked if equal amounts of money have to be spent for men's and women's programs. Dr. Baepler said that they must be treated equally in regard to equipment, coaching, travel, scholarships, and every other dimension. Dr. Baepler said that failure to comply would result in loss of all Federal funds.

Dr. Dixon said that that type of student at UNLV is rapidly changing to older students with families and full-time jobs and that these students average 7.8 years from the time of taking their first courses before obtaining a degree. He reviewed requested budget additions (Exhibit "B") with the Committee. These additions include funds for a lower student/faculty ratio, new classified positions, compliance with Title XIX, and library acquisitions.

Dr. Dixon introduced Mr. Bill Morris, President of the Friends of the UNLV Marching Band. Mr. Morris said that the people of Las Vegas funded the original cost of purchasing the uniforms and the band equipment which amounted to about \$180,000, and pointed out that in Clark County there are 5600 students in bands in the public schools. Mr. Morris said that the current request is for \$172,000 per year for this biennium for the students, band director, part-time help, and travel to continue this popular and worthwhile program. Information concerning this request is contained in Exhibit "C."

Chairman Mello asked why the people in Las Vegas do not continue to support the band program. Mr. Morris said that some funds will still be available from the people, but additional funds are needed to continue the program which is one of the most popular in Las Vegas.

Mrs. Cavnar said that the University's budgets are very difficult to follow as they do not stay in one area, but skip from one place to another without any correlation and that the presentation is very bad. She also said that every topic except the budget is discussed and that figures are not discussed except in those areas where there are requested increases over and above the Governor's recommendations. Mrs. Cavnar said that Dr. Dixon made the comment that dollars and cents are not important. She suggested that this hearing should get down to dollars and cents and leave out the theory and that the Committee needs information about the budget that they are not getting.

Mr. Herman Westfall, Business Center Director, said that there are 7-1/2 new positions currently in the work program that were removed from the Governor's budget. Mr. Bible asked if these new positions were approved at the last session of the legislature. Mr. Westfall said that he was not sure if the positions were in the Governor's budget, but thinks there was sufficient money in the appropriation for these positions.

Mr. Barengo, in comparing the two budgets, said that the total positions vary, but that the dollar amounts in the various budgets are the same.

Mr. Bremner said that he doubted that it was legislative intent for these positions to be added in the interim and that Dr. Dixon should ask Interim Finance to determine legislative intent.

Mr. Ross, Board of Regents, said that he would furnish further information concerning these positions being added during the interim without legislative approval. Chairman Mello requested that this information be furnished.

Mr. Webb requested the exact number of positions established after the last budget that were not legislatively authorized. Chairman Mello requested a letter from each campus concerning new positions that were established and the justification and where the money was obtained to pay for these positions.

Dr. Dixon requested additional funds for library acquisitions.

Mr. Bremner asked if vandalism in the library continued to be a problem. Dr. Dixon said that there is a continuing problem in all libraries concerning theft and vandalism to books, but that good gate control has reduced the theft problem. Mr. Bremner asked the amount of money that is used to replace damaged and stolen books. Dr. Dixon said that this probably amounts to a very small percentage of the book acquisition fund being used for this purpose.

Chairman Mello asked if an assistant to the counsel in the Chancellor's budget is being requested because UNLV no longer has this position in their budget. Dr. Baepler said that UNLV can no longer afford to assign a teaching faculty member to a legal function and this individual has been notified that he will go back into the College of Business where he is chairman of that department.

Mr. Glover asked the cost of changing from a 20:1 ratio to an 18:1 ration at the UNLV campus. Dr. Dixon said that this cost would be \$1.3 million during the first year and \$1.5 million in the second year, if a 3% annual growth in students is considered.

Mr. Bremner asked the cost if FTE is redefined at 32 and 18 instead of 30 and 16. Dr. Baepler said the cost would be about 7% less than Dr. Dixon's figures.

UNIVERSITY OF NEVADA RENO

Dr. Joseph Crowley, President, University of Nevada Reno, furnished the Committee with a statement concerning changes at UNR in the last ten years, progress in all the different areas, expansion problems, changing types of students enrolled, program changes, positions requested, equipment requests, and other information, which is included as Exhibit "D."

Dr. Crowley said that the 20:1 formula resulted from a study, Nevada Higher Education to 1980, completed in 1968 under the authority of a joint resolution of the legislature. The thinking was that higher ratios could be used as enrollment expanded. Dr. Crowley said that the student population is changing to older, part-time students from a part-time percentage of 21%, with an average age of 22.8 in 1971 to a current figure of 36% and an average age of 24. Also, there are fewer lower division classes as the community colleges have grown. Dr. Crowley said that UNR is averaging a decline

of about 187 students per year, but that it does not have a substantial program impact: it is less than one student per course per year. He said that they are projecting a 3% student increase for each year of the next biennium.

Chairman Mello said that the students have told him that the necessary classes to be taken to obtain a degree are between the hours of 8 a.m. and 10 a.m., which could be one of the reasons for declining enrollment. Dr. Crowley said it was more like 9 to 12.

Chairman Mello asked the average time spent in the classroom by a professor. Dr. Crowley said that the average is about 10 scheduled hours, with more contact hours. Chairman Mello stated that the students have complained that they cannot see a professor after 12 noon. Dr. Crowley said that the faculty does spend a great deal of time on research projects, on books, and public service areas. He said a professor usually has one new course a year with 6 to 8 hours of preparation time required for each hour in the classroom.

Chairman Mello commented that in teaching some courses, such as history, this preparation time would seem excessive. Dr. Crowley said that interpretations of history are constantly changing and that a teacher must keep up with these changes. Chairman Mello commented that more attention must be paid to the needs of the students and less to the needs of the professors or enrollment will continue to drop. Dr. Crowley said that he agreed with the Chairman on the question of scheduling and that formerly students wanted courses in the morning, but with the different type of students now enrolling, changes must be made with regard to offering courses in the afternoon and in the evenings. Chairman Mello said that a common complaint of the students is that they cannot get into the courses they need because the course is filled. Dr. Crowley said that this may be a result of inadequate staffing. He added that UNR does not have, when compared to other states, an undue emphasis on research. Chairman Mello said that does not mean that UNR has to follow suit with what is being done in other universities. Dr. Crowley indicated that UNR would not be considered a "publish or perish" institution.

Mr. Bremner said that one of the reasons for declining enrollment is the class scheduling and that students can get these classes at the community colleges. Mr. Bremner added that if this trend continues, the community colleges will have all the undergraduate programs and the university will be a graduate school. Dr. Crowley said that he is aware of the problem.

Chairman Mello said that many of the students in Nevada are now looking at colleges in other states instead of colleges in Nevada. Dr. Crowley said that the colleges need to be run, in some degree, more like a business and must go out and market their product.

Mr. Vergiels said that having all morning classes costs a large capital investment and the trend at other colleges is toward more afternoon and evening classes which better utilizes the available classrooms. He added that professors should not be making their own schedules and should spend more time teaching. Mr. Vergiels asked if Dr. Crowley had made changes in scheduling to use other hours than 9-12 to attract more students. Dr. Crowley said that he has not made these changes because he is only "acting" president. Chairman Mello said that if the University cannot change, it would be cheaper to abolish the system and send the students out of state.

Mrs. Wagner referred to declining enrollments and said that professional faculty has increased by 12 positions in the last ten years and that less is spent on instructional needs than ten years ago. She asked if this also influenced enrollments. Dr. Crowley said that this does have a correlation, and that possibly the quality of education has declined. He added that other factors--attitude with respect to college education and the fact that people can now get jobs out of high school which pay more than college graduates earn--also has something to do with the declining enrollments.

Chairman Mello said that this is under the new FTE definition of 17,000 students (FTE) for one year would cost \$71.4 million to educate.

SCHOOL OF MEDICAL SCIENCES, UNIVERSITY OF NEVADA

Dr. Thomas J. Scully, Dean, School of Medical Sciences, said that the School of Medicine has developed a community-based medical school and will have its first full four-year graduating class in the spring of 1980, with the number of students graduating being 37. Dr. Scully reviewed a progress report (Exhibit "E") with the Committee. Dr. Scully said that the freshman class is 100% Nevada students. He said that the item in the budget that says the full cost of the residency program is reflected in the budget is incorrect, the \$180,000 in residency stipends are only for those residents that the School of Medical Sciences will be paying for from the grant from Robert Johnson for their placement at Washoe Medical Center and St. Mary's Hospital. He added that the figure shown represents about 30% of the total cost.

Mr. Vergiels said that his original prediction was that this would be a very expensive program for Nevada and that it is now up to \$7.0 million. He said that Nevada is educating 48 doctors per year with an attrition rate of 2%. Mr. Vergiels said that this program is another example of starting with Federal funds with the resultant costs to the State becoming exorbitant. He said he would not support the program.

Mr. Webb said that the Governor's recommended budget computes to \$27,000 per student the first year of the biennium and \$29,997 per student the second year. Dr. Scully said that the budget presented here was presented to the last session of the legislature and is within 5% of those figures. In reply to Mr. Webb, Dr. Scully said that the cost per student compares favorably to other students in the country.

Chairman Mello said that the State funds being requested are 10% higher than originally projected. Dr. Scully said this is partially due to having fewer out-of-state students and that the Hughes gift is not coming in as anticipated.

Chairman Mello asked if the Medical School anticipates getting any monies from the Hughes estate. Dr. Baepler said that it is hoped that this money will be available, but there is no assurance that it will be received.

Mr. Hickey said that the Medical School was originally started because the University System said that slots were unavailable for Nevada students in other states' medical schools. Mr. Hickey said that Creighton University has seven slots that could be made available, and that this "taints" the entire testimony. Mr. Hickey asked about the cost of residence programs. Dr. Scully said that 30% of the cost is paid by the State with the Veteran's Administration and Southern Nevada Memorial Hospital paying the stipends for the other residents. Mr. Hickey asked why Washoe Medical will not pay for the resident programs if other hospitals will do so. Dr. Scully said that this was requested, but that Washoe Hospital had not done so. Chairman Mello said that Washoe County had not entirely accepted the medical program.

Mr. Webb asked the number of students funded for the residency program. Dr. Scully replied that 22 residents will be funded in the first year and 44 the second year. Mr. Webb said that the total stipends amount to \$600,000. Dr. Scully said that the stipends are reduced the second year and that the amount would be \$14,000 per student for stipends. Mr. Webb said that when this cost is combined with the educational cost per student, the total amounts to about \$45,000 per student. Dr. Scully said that the same faculty teaches both students and residents and this reduces the cost per student.

Mr. Vergiels pointed out that the Medical School is \$1.3 million over projected General Fund cost figures of two years ago. Dr. Scully said

that the difference is due to loss of anticipated non-State revenues such as the Hughes funds, out-of-state tuition based on the decision to take Nevada students, and conversion funds which were used to replace Hughes funds.

Mr. Glover asked the date that the Hughes gift was customarily received. Dr. Scully said that it has been received in July in the past. Mr. Glover asked if the University has any information regarding the progress of the Hughes litigation. Mr. Larry Lesley, General Counsel for the University, said that the litigation is going on in three states, California, Texas, and Nevada. Mr. Lesley said that there is a possibility that some claims will be paid from income earnings.

Mr. Rhoads asked if this Hughes gift would be returned to the General Fund to replace monies the State will now have to use for the Medical School. Dr. Baepler said that this could be done at the request of the legislature.

Mrs. Wagner asked if the main emphasis of the Medical School is on the practice of family medicine and rural health. She asked the number of faculty members in those two areas. Dr. Scully said that specialists in specific fields assist in all areas of varied training with 5.25 in family medicine, 10 in internal medicine, and 6 in pediatrics. He added that both students and faculty are going to rural areas.

Mr. Barengo asked if there is any requirement that the doctors spend time in rural areas. Dr. Scully said that this is a matter of individual choice.

Chairman Mello requested that Dr. Scully prepare a budget projection for the Medical School for the next six years. Dr. Scully said that this would take some time to get these figures, but that this information would be based on no increase of size of school and other school parameters remaining identical.

Chairman Mello asked about relationships with Washoe Medical Center. Dr. Scully said that there is improvement in this area with many of the students and faculty working there, although the hospital is not yet supporting the resident program. Chairman Mello pointed out that this whole program is based on residency, yet there is no contract with Washoe.

Mr. Webb said that the average salary for the staff is \$40,000, and asked that information be furnished detailing each position and their salary. Dr. Scully said that he would furnish this information.

Mrs. Cavnar asked if the Medical School had asked hospitals in Southern Nevada to take on the full load of the residency program. Dr. Scully said that Southern Nevada Memorial Hospital is taking additional residents and they have not yet heard from Sunrise Hospital regarding taking more residents. He said that in order to carry out the educational program, some residents should continue to receive training in Northern Nevada hospitals.

DESERT RESEARCH INSTITUTE

Dr. Baepler said that Desert Research has two different budgets: one which includes salaries of the president, vice-president, secretaries, and salaries of directors of each of the five centers, and administrative costs with the rest of DRI being self-supporting. The second budget is a list of recommended projects for State support, with information about each study (Exhibit "F").

Dr. Baepler introduced Dr. Lloyd Smith, Director, Desert Research Institute, to the Committee. Dr. Smith explained that DRI is the branch of the University of Nevada System which provides for the administration of organized research activities in such areas as Water Resources, Desert Biology, Social Studies, and Atmospheric Sciences.

Dr. Smith stated that State funds had previously been used in the area of Wind Energy which helped Dr. Telford invent a new type of vertical axis wind turbine. He requested money to continue work in the area of Space Heating and Cooling Systems.

Dr. Smith stressed the importance of assessing the various sources of energy available in Nevada because at the present time, 95% of Nevada's energy needs are met from outside the State. He commented that enough solar energy is incident on the State to satisfy the present energy needs of the entire United States and suggested the combination of solar energy with plants that are rich in sugar into high octane gasoline and methane gas.

Dr. Smith concluded with a request that the Committee consider the projects mentioned because of their impact on the economy of the State of Nevada.

Mr. Vergiels commented on the request for cloud seeding of \$477,000 during the first year of the biennium and \$487,000 for the second year and said it is more than double the amount of the previous biennium. He asked that when money is allocated for additional staff, but the money is not spent on the salaries, where does it go. He requested a salary breakdown. Mr. Copeman, Director, Atmospheric Sciences, commented that a staff member is not 100% utilized by any one program and said that employees charge their time to contracts as they are received. A person is occupied 75% of his time in 8 or 9 different projects and the remaining 25% of his time is covered by State funding. Mr. Copeman further commented that when money is allocated to Weather Modification, perhaps 25% of an employee's time is spent on Weather Modification.

Mr. Vergiels requested a detailed explanation of expenditures for Weather Modification.

Mr. Bob Cashell, Chairman, Board of Regents, commented to the Committee that in the future, the University budgets would be better prepared and would be presented in a more official manner. He said that the regents would no longer be a "rubber stamp" for the Chancellor's Office and the Presidents and that a better curriculum would be spread through the system. He also said that more professors would be in the classrooms and that all transfers would be fully explained and justified.

Mr. Hickey asked Dr. Baepler for a list of people on sabbatical leave during the last three years, those who have published, and the number of full-time teachers in the community colleges with a breakdown on what they are teaching.

The meeting was adjourned at 11:00 a.m.

NORTHERN NEVADA COMMUNITY COLLEGE

Areas of Concern Within Governor's Recommended Budget

1. Compensation for off-campus coordinators
2. Travel funds to Regents meetings
3. Student wages - library/custodial
4. Financial Aid Officer

I. Coordinator Compensation

Because of the distances involved between Elko and the off-campus centers, we have found over the past six years that our operation has been smoother with representatives in each community. The representative helps to determine classes, select instructors, register students, handle book sales, and is the central figure for all communication to and from NNCC.

<u>City</u>	<u>Distance</u>	<u>Coordinators</u>	<u>Students</u>	<u>1979-80 Wages</u>	<u>1980-81 Wages</u>
Winnemucca	122	2	225-250	\$ 6,600	\$ 7,128
Ely	190	1	90-125	2,000	2,160
Battle Mountain	72	1	60-80	1,000	1,080
McDermitt	195	1	30-40	500	540
Owyhee	110	1	45-60	600	648
Wells	50	1	40-50	500	540
				<u>\$11,200</u>	<u>\$12,096</u>
				8%	6%
				900	729
				<u>\$12,100</u>	<u>\$12,825</u>

II. Travel to Regents Meetings

With the elimination of the Community College Division president, I was called upon to represent NNCC at Chancellor's Cabinet Meetings and Regents meetings. Because our budget could not absorb the additional cost of the Faculty Senate Chairman and myself attending these meetings, the Regents made the funds available. It was understood that we would request these funds in the 1979-81 budget. The average expense for the two-year period was \$6,000. These funds were eliminated in the recommended budget.

\$ 6,000 \$ 6,500

III. Additional Student Employee Wages

With limited classified personnel available we have been dependent to a large degree on student help in two areas especially: library and custodial.

- a. Library - open roughly sixty hours a week. We have one professional and two classified (one an audio-visual tech). We need student help (two students, 1,000 hours). Request \$3,000. Recommended: -0-
- b. Janitorial - we have a single classified position for all custodial and maintenance responsibilities. We also have contracted janitor service, but in an effort to reduce expenses the contract is for nine months. Students are used during the summer and school year. Request \$4,000. Recommended: -0-

\$ 7,000 \$ 7,000

IV. Financial Aid Position

Individual to handle financial aid, veterans and counseling. \$22,000 \$23,500

TOTAL REQUEST

Coordination	\$12,100	\$12,825
Regents Meetings	6,000	6,500
Student Wages	7,000	7,000
Financial Aid Position	<u>22,000</u>	<u>23,500</u>
	<u>\$47,100</u>	<u>\$49,825</u>

UNIVERSITY OF NEVADA, LAS VEGAS

SOME NOTES ON THE REGENTS BUDGET AND EXECUTIVE BUDGET
FOR 1979-81

Reference
Executive Budget
Page Numbers

UNS Budget
Request
Page Numbers

230.6 & 230.7 #1 Student-Faculty Ratio

For university-level instruction, a student-faculty ratio of 20 to 1 which is called for in the executive budget is marginal in terms of the quality of educational experience to be offered. By small state university standards it is clearly on the thin side. A ratio of 18 to 1 would bring UNLV closer to the practices of what might be called the standard universities -- universities in our league.

The student-teacher ratio is closely related to enrollment projection. Without the use of any crystal ball, there are a number of factors which can be stated about UNLV enrollment. We were down by less than 4% last fall, our only semester in institutional history with a significant loss. This spring we are down .6% from last spring which was one of our healthiest springs of all in terms of the normally expected drop off from fall to spring. These are observations of FTE. In terms of head count, we are still increasing, but our budget formulas have never recognized head count.

The number of students at the various grades in Clark County high schools can be counted, too. Here is a table:

<u>GRADES</u>	<u>ACTUAL ENROLLMENT FALL 1978</u>
12	6,077
11	6,853
10	7,415
9	7,466

Noting that in the fall of 1977 before the table begins there were only 5,596 students in Clark County high school senior classes, one can see that in this component of UNLV's enrollment we are approaching a bulge which will hit the University in the years 1980 to 1983. By the time that tapers off because of declining birth rates a

generation ago -- and it will -- these students should be more than replaced by growth resulting from the still booming growth of the Las Vegas metropolitan area. Clark County planners both governmental and for the utilities predict growth in the metropolitan area to go to some 900,000 by the turn of the century.

The cost of 18/1 at UNLV with a 3% annual growth factor and planned salary increments may be represented thus:

	<u>Regents Budget</u>	<u>Executive Budget</u>	<u>Difference</u>
79-80	\$9,632,726	\$8,305,895	\$1,326,831
80-81	9,946,561	8,430,411	1,516,150

#2 Rollback in Classified Positions

The executive budget rolls back certain classified positions which are already filled and authorized in the 1978-79 Work Program and which have accordingly been recognized as legitimate and pressing needs. These are in the areas shown in the following table:

	<u>Location</u>	<u>Number</u>	
230.8	Dean's Office	1	F-46
230.8	Audio Visual	2	F-51
230.9	Library	1	F-53
230.10	Admissions & Records	1	F-57
230.15	Campus Security	1	F-70
230.15	Janitorial Services	.5	F-71
230.15	Repairs & Improvements	1	F-72
	TOTAL	<u>7.5</u>	

#3 New Classified Positions

230.15 In the second year of the bienium the new addition to the library will be open for use. We requested seven classified custodial positions to take care of the facility. If the library is finished during the second year without these positions, we will be in great trouble. Increasingly and as time goes by, it looks like we will be lucky to have the library during the spring of 1981 and accordingly one could estimate the seven positions at \$28,000 for the half year period. F-71

230.11

The Middle Income Assistance Act of the Federal Government will greatly increase student opportunities for financial aid and, necessarily, the work load of the Financial Aid office. The regents budget requested one faculty rank position at \$15,424 and one classified position at \$9,795 to meet this load.

F-60

#4 Compliance with Title IX

230.20 &
230.21

The Federal Government is requiring, beginning next fall, that female students be given the same opportunity and support as male students for participation in intercollegiate athletics. This additional burden has not been recognized in the executive budget and, indeed, the full impact of the federal policy was not known during the budget construction process. At UNLV we have just experienced a week long compliance review with respect to Title IX by HEW officials. The athletic department computed a compliance figure for the first year of the bienium only at \$352,500 and, if this appears to be shocking, Stanford University has just computed and publicized a figure of \$350,000 for the cost of compliance next year and they took into account only grants in aid to students. We would have to add certain professional positions to bring women's programs up to Title IX compliance standards. Failure to comply jeopardizes all federal grants to the institution -- program grants, research grants, student aid grants and everything.

#5 Museum

230.19

A classified position vital to the operation of the museum, which has a staff of only two classified currently, has been eliminated in the executive budget and really needs to be restored. This is the established position of a person who serves public school children when they come to the museum on field trips and this is truly one of the major services of the museum.

H-7

#6 Library Acquisitions

230.9

The regents budget calls for \$650,000 for library acquisitions in the first year of the bienium and \$775,000 for the second year. The executive budget reduces these amounts to \$535,027 and \$577,829 respectively. UNLV is a young university

F-54

with a library built in a series of acquisitions which have only begun to be substantial in the last decade. It is a small library and the size of the collection is a source of concern to everyone who cares about the university's academic programs. The regents budget request is not at all out of line when what has just been said is coupled to inflationary factors which in library acquisition run much higher than the cost of living, generally,

BUDGET REQUEST FOR U.N.L.V.
MARCHING BAND

	<u>1979-80</u>	<u>1980-81</u>	
OPERATING:			
Wages	\$ 2,000	\$ 2,220	
Team Travel	76,750	27,250	
Supplies & Maintenance	18,100	19,900	
Local Transportation	5,000	5,500	
In-State Travel	<u>2,000</u>	<u>2,200</u>	
Total Operating	\$104,350	\$ 57,600	
Marching Band Honoraria	35,000	40,000	
Out of State Travel	<u>2,500</u>	<u>2,750</u>	
SUB TOTAL	\$143,850	\$102,550	
Professional Salaries	<u>48,410*</u>	<u>49,410*</u>	TOTAL FOR
TOTAL	<u>\$192,260</u>	<u>\$151,960</u>	<u>2 YEARS</u>
			<u>\$344.220</u>

* This does not include fee waivers for graduate assistants
or any projected raises for the Director of Bands

	<u>AVE. PER YEAR</u> U.N.L.V. <u>MARCHING BAND</u>	<u>ACTUAL 1978-79</u> BUDGET CLARK COUNTY SCHOOL BANDS * (Grade, Jr. & Sr. High)
OPERATING:		
Wages	\$ 2,110	\$1,831,800 (129 Teach.)
Team Travel	39,737	
Music Materials	2,625	
Supplies & Maintenance	19,000	
Local Transportation	5,250	
In-State Travel	2,100	
Total Operating	<u>\$ 80,975</u>	<u>326,500</u>
Marching Band Honoraria	37,500	
Out-of-State Travel	2,625	
Professional Salaries	<u>48,910</u>	
TOTAL	<u>\$172,110</u>	<u>\$2,158,300</u>
		* 5,600 Students

Statement by Joe Crowley, Interim President of UNR

Assembly Ways and Means Committee

March 13, 1979

My name is Joe Crowley and I am the Interim President of the University of Nevada, Reno. I appreciate that, as the Chancellor has observed, there have been certain critical developments between the time our budget request was prepared and the time of its presentation to the Legislature. I appreciate also that these developments -- Question 6 in particular -- create difficult problems for the Legislature in determining appropriations for the coming biennium. Nevertheless, I believe it needs to be emphasized that our budget request is a defensible one. It is a product of a comprehensive internal preparation process directed toward the establishment of priorities on the basis of demonstrable needs. It is intended as a statement of what we believe is required to maintain and improve the quality of education at UNR. I would like to devote some of this presentation to a general explanation of our request, moving from there to a statement of particular priorities. First, however, it would be appropriate to provide some background information and analysis.

The 20-1 Student-Faculty Ratio

The University's budgetary fate has for some time now been determined by a formula based on Full-Time Equivalent students, which produces a student-faculty ratio. Inasmuch as a budget is a statement of policy, priorities and objectives, this formula is clearly of critical importance. I do not take issue with formula-based budgeting. Given the size, diversity and complexity of our university, formulas are very useful devices. They pro-

vide a simple and understandable vehicle of communication for policy-makers and administrators. However, since they are such a vital part of the budgetary process, their impacts and implications need to be carefully considered. Therefore, it seems appropriate to examine certain aspects of the 20-1 formula, which has been in use in Nevada since 1971.

The 20-1 formula resulted from a study -- Nevada Higher Education to 1980 -- completed in 1968 under the authority of a concurrent resolution of the Legislature.* The committee that prepared the study, which included legislators, regents and members of the general public, recommended that the 20-1 ratio become effective in 1978-79, when it was expected that UNR would achieve an enrollment of 8,910 FTE students. The approach suggested by the committee looked toward a gradually increasing student-faculty ratio as enrollments climbed steadily through the following decade, which is to say that the size of the ratio was to be significantly related to the size of the FTE student population.** Higher ratios could be applied to larger populations because of the economies of scale involved.

The formula recommended for application in 1978 was applied instead in 1971, and it has been the foundation for the University budgeting since that time. It has, indeed, assumed a kind of sacred quality which does not square well with either the intentions of those who originally recommended it or with the substantially changed situation of the University. In his State of the State message, Governor List referred to the 20-1 formula

*Assembly Concurrent Resolution No. 16, File Number 70, 1967.

**Nevada Higher Education to 1980, V. II, p. 53.

as "the accepted student-faculty ratio." It is interesting to compare that statement with one from a Legislative Commission report of three years ago which observed that:

Formulas, once devised and generally accepted, must not be taken for granted as satisfactory for all time." (emphasis mine)

The report goes on to suggest that accepted formulas be monitored "for equity and adequacy in meeting the objectives of the System."*

Well, we have accepted that advice and have monitored 20-1. The era of Question 6 may be a less than opportune time for suggesting that 20-1 is past its prime, but it is difficult to escape that conclusion. To put the matter briefly, the University differs significantly from what it was eight years ago. One major change, illustrated in Table I, is in the mix of our students in relation to levels of instruction:

<u>TABLE I</u>				
UNR Regular Headcount Student Enrollment By Level of Instruction, 1971 and 1978				
Year	Lower Division	Upper Division	Graduate	Total Regular Headcount Students*
Fall 1971	3681 (52.2%)	2236 (31.7%)	1136 (16.1%)	7053
Fall 1978	3285 (45.6%)	2427 (33.7%)	1485 (20.6%)	7197
*Does not include nondegree students and auditors.				

Table I demonstrates that we are now much more an upper division and graduate level institution than we were in 1971.

*Budget Formulas and Formats for the University of Nevada System, Bulletin No. 77-5, Legislative Commission of the Legislative Counsel Bureau, State of Nevada, January 1976, p. 3.

Given the advent and growth of the Community College system, this change is not surprising. It has a bearing on the 20-1 formula because a greater focus on upper division and graduate study inevitably means that a greater number of smaller classes is needed than was previously the case. Lower division classes can generally handle larger numbers of students. Graduate seminars clearly cannot. Upper division courses are somewhere in the middle. The 20-1 formula simply has a different, and more adverse, impact on the University in 1979 than it did in 1971.

A second major change we have undergone, in company with institutions of higher education across the country, is in the types of students we attract. The student population is now an older population, with many more part-time enrollees than before. In 1971, the part-time student percentage of the regular student population was 21%. The average student age was 22.8 years. This year, the parallel figures are 36% and 24 years. The part-time figures do not include nondegree students, whose number has increased 25.6% since 1971. The 1.2 year difference in average student age is a significant one. Table II provides a more illustrative measure of the age difference.

TABLE II

Numbers of Students 25-40 Years of Age
1971 and 1978

	<u>Number of Students 25-40</u>	<u>Percentage Student Population</u>
1971	1523	21.6
1978	2119	28.9
Increase	39.1%	33.8%

The fact that there are now more older students in the population than in 1971 is important for two reasons. Older students, as a rule, are more serious and more demanding of an instructor's time. They are also more likely to be attending school on a part-time basis. And part-time students are not adequately provided for in an FTE ratio, in terms of both the instructional and the administrative services they require. All of this information can be indirectly summarized by examining the altered relationship between Full Time Equivalent students and Headcount students. Table III provides such a summary:

Year	Total Headcount*	Annual Net FTE	FTE % of Headcount
Fall 1973**	6973	6271	90%
Fall 1978	7865	6012	77%

*Includes all students, including nondegree and auditors.
**Annual net FTE calculations were first made in 1973. Accurate annual net figures are not available for prior years.

Table III depicts a widening gap between FTE students and Headcount students. The more the gap widens, the less suitable the FTE-based formula (which by definition does not acknowledge Headcount numbers) becomes. This is not to suggest the abandonment of such formulas. It is reasonable to observe, however, that the change in FTE-Headcount relationships further undermines the adequacy and equitability of the current formula. A changeover to a more adequate and equitable formula, such as the 18-1 student-faculty ratio used in the University's budget re-

quest, is needed. It is worth noting, in this regard, that for the size of the FTE student population we currently have, the Higher Education Advisory Committee suggested an even smaller ratio. Enrollments have not expanded as rapidly as it appeared they would from the perspective of 1968, when the Committee's report was prepared. We are nearly 3,000 FTE students short of the number which the Committee deemed appropriate for application of the 20-1 ratio. The proper ratio for our current size, the Committee suggested, is 16-1.* Further, the Committee utilized Fall Gross Enrollments in calculating ratios. This measure was used by the State until the 1975-77 biennium. In 1975, the State changed from Fall Gross to an Annual Net base, which cost the University about nine percent of its FTE's and thus intensified the adverse impacts of 20-1.

One additional comment on the impact of an FTE driven formula would perhaps be in order at this juncture. Again, I am not arguing against the use of such formulas; only that they need to be carefully examined in the context of their application. UNR's enrollment decline over the last three years totals approximately 560 FTE students, an average of 187 students annually. The University offers about 2,000 regularly scheduled classes each academic year. If one assumes that the average full-time student load is 10 courses per year, or approximately 1900 courses per year for all 187 students, the program impact of these missing FTE's is almost negligible. Specifically, that impact is in the magnitude of one less student enrolled for each of our regularly scheduled courses. Of course, parti-

*Nevada Higher Education to 1980, V. II, p. 53.

cular courses experienced significantly greater decreases, but one per course is the equivalent impact. Equivalent ratios need to be analyzed in terms of equivalent impacts.

The Last Ten Years At UNR

It is instructive to consider the University's request for the 1979-81 biennium against a background of our budgetary history over the course of the last decade. Table IV summarizes that history:

<u>TABLE IV</u>				
UNR -- A Ten Year Profile				
FTE Positions and Work Program Expenditures*				
	<u>1969-70</u>		<u>1978-79</u>	
	FTE	\$	FTE	\$
<u>Instruction</u>				
Professional	334.47	4,878,152	346.11	8,945,094
Classified	68.86	585,257	62.10	875,537
Teach. Assist.	44.5	333,750	41.82	481,063
Wages		76,553		86,459
Operating		355,602		409,956
O-S Travel		26,344		17,305
Total	447.83	6,255,658	450.03	10,815,414
<u>All Other</u>				
Professional	57.09	923,624	71.30	2,025,641
Classified	242.21	1,697,201	281.00	4,027,934
Teach. Assist.	1.85	13,900	1.33	15,150
Wages		90,209		183,013
Operating		1,315,831		3,990,753
O-S Travel		7,329		5,065
Total	301.15	4,048,094	353.63	10,247,556
<u>Totals</u>				
Professional	391.56	5,801,776	417.41	10,970,735
Classified	311.07	2,282,458	343.10	4,903,471
Teach. Assist.	46.35	347,650	43.15	496,213
Wages		166,762		269,472
Operating		1,671,433		4,400,709
O-S Travel		33,673		22,370
Total	748.98	10,303,752	803.66	21,062,970

*The Table includes for 1969-70 only those programs which are a part of the UNR appropriation area for 1978-79. For example, Intercollegiate Athletics was a part of the UNR budget in 1969-70 while it is now a separate appropriation area. It is not included, nor are any other such programs in the Table figures for 1969-70.

TABLE IV, Part 2

FTE Fall Gross Enrollments
and Student-Faculty Ratios

	<u>1969-70</u>	<u>1978-79</u>
Undergraduate	5,413	5,724
Graduate	<u>721</u>	<u>800</u>
Total	6,134	6,524
Student-Faculty Ratio	18.3-1	18.8-1

Of course, there have been ups and downs during the years since 1969-70, but the overall pattern is one of stability. There has been modest growth in instructional positions, although to maintain the student-faculty ratio that obtained in 1969-70 would require 11 more professional positions than we have this year. There has been significant growth in support positions, largely staff in vital support areas such as the Library, Student Services and Buildings and Grounds. There has been a substantial decline in the purchasing power of instructional operating dollars. This year's figure is worth 60% of the figure for 1969-70. To put it another way, it would require an additional \$273,000 more than is allocated for instructional operating this year to equal the purchasing power of the 1969-70 expenditure.

With all of the above, we have held our own in terms of the cost per FTE student, as Table V makes clear:

TABLE V

Cost Per FTE Student
1969-70 and 1978-79

	<u>1969-70</u>	<u>1978-79</u>	<u>1978-79, Adjusted for inflation (92.4%)</u>
Instruction	\$1,020	\$1,658	\$ 862
Other	660	1,571	817
Total	\$1,680	\$3,229	\$1,679

When adjusted for the Consumer Price Index inflation increase for the period involved, the per student cost for the current year is one dollar less than the figure for 1969-70. The actual instructional cost per FTE student, when adjusted for inflation, is 15.5 percent less (i.e., \$862 for 1978-79 compared with \$1,020 for 1969-70). A large part of the growth in "other" costs results from an extraordinary increase, approximating 283 percent, in utilities expenditures since 1969-70. We estimate our utilities expense at slightly in excess of \$600,000 for that year. In the current year, we have allocated \$2.3 million for utilities. Finally, it should be noted that the UNR cost per FTE student has consistently been, and continues to be, a good deal less than the national average for all institutions of higher education.

The UNR Request

The UNR budget is comprised of six separate appropriation areas. Page numbers for these areas in the University Budget Request and in the Executive Budget are as follows:

	<u>University Request</u>	<u>Executive Budget</u>
University of Nevada, Reno	B-1	230.33
School of Medical Sciences	C-1	230.58
Statewide Programs	E-1	230.46
Intercollegiate Athletics	D-1	230.52
Cooperative Extension Service	M-1	230.62
Agricultural Experiment Station	N-1	230.64

Dean Tom Scully will be presenting the Medical School budget. My remarks will be confined largely to the UNR appropriation area, though I will allude to certain needs in the other areas as well.

The Chancellor has described the basic parameters of our budget request. I would like to provide some additional information on one of these parameters; in many ways, the most troublesome and uncertain one. That would be our enrollment projections. I will grant that it is difficult to defend projected enrollment increases after a three-year decline -- even if a relatively modest decline -- in Full Time Equivalent students. I can only observe that we made a comprehensive effort to track down the available demographic data and that we utilized the data carefully and conservatively. We looked at Nevada population growth figures, high school enrollment increases in our service area, the expansion in community college enrollment, and at relevant characteristics of the economic and population boom experienced in the Northwestern part of the State. These demographic indices suggest a likelihood of enrollment growth at UNR. I acknowledge that demographics, especially in the current Nevada context, is a game for gamblers and for people who take comfort -- or find frustration -- in weather predictions. Under the circumstances, a firmly anchored and clearly credible set of enrollment projections is very difficult to come by. We have made an earnest and cautious attempt. I have attached to this report, for your information, a summary description of our projections and the process for determining them (Appendix A).

The UNR Budget request is for an increase of 20.4 percent in

the State appropriation for 1979-80 and an additional 12.8 percent for 1980-81. These increases seemed to us eminently modest and responsible when we proposed them early last fall. A substantial amount of the increases was intended simply to allow us to keep pace with inflation. The balance was for a moderate measure of program enrichment. Question 6, of course, has intervened since then and, as a consequence, budget increases have become more difficult to justify. Notwithstanding, I believe our request is still a responsible one. It looks toward restoring our instructional operating funds to a level, in real dollars, something like that which obtained 10 years ago; toward the provision of classified assistance commensurate with the burgeoning demands on secretarial and technical personnel; toward keeping up with growth we have experienced in graduate program enrollments; and toward filling important needs in professional positions.

In the latter category, in the instructional portion of the budget, we show a proposed increase of 16 positions for the biennium. In every case, these new positions are directed either toward filling serious gaps in academic programs or toward helping individual departments keep up with substantial growth in enrollment. In many cases, the proposed positions meet both of these needs. Criminal Justice, Mathematics, Recreation and Physical Education, Economics, Accounting, Managerial Science, Educational Administration, Civil Engineering and Engineering Technology have all been increasing their enrollments in recent years. The English Department requires urgent assistance in its remedial program. Chemistry needs an analytic chemist to cover an area of major specialization. The College of Business Admini-

stration needs to provide expertise in such areas as government accounting, taxation, regional and urban planning, public finance and casino management. These are the kinds of badly needed instructional positions we seek to add over the next two years (a list of all requested professional positions in the instructional area, including a brief explanation of need, is attached as Appendix B).

Despite these documentable needs, and apparently because of an FTE enrollment decline of modest proportions, the Executive Budget proposes a large scale reduction in instructional staffing. The enrollment decline, with a few exceptions, has not had a significant effect on programs. The impact of the proposed reductions on the University, however, would be massive.

We do understand the constraints imposed on the Legislature by the mandate for tax reduction, with its inevitable consequences for State expenditures. We are involved at the University in a comprehensive, internal review process which will provide the basis on which to make reductions should we be faced with the unpleasant necessity of making them. That process, which includes an examination of staffing patterns, programs and curricula, organization and operating priorities, will become a continuing one and will allow us over the long term to improve our operations and better allocate our resources. However, no process will permit us to maintain program quality at the level of reduction proposed in the Executive Budget. The transitional funds recommended by the Governor for the first year of the biennium (Executive Budget, page A18) would certainly be helpful, but even that recommendation calls upon us to reduce

835

EXHIBIT D

27 positions by July 1. We simply cannot do that without inflicting severe damage on some programs.

Our options for achieving a reduction of this magnitude are not programmatic options. Basically, we would be faced with the necessity of reducing through attrition, which means cutting positions filled by temporary appointments and those vacated through retirement or which are vacant for other reasons. As it happens, a very large proportion of these positions is in areas of FTE growth -- Business, Engineering, Criminal Justice, Mathematics, Geology. In a number of cases, accreditation problems will surely ensue from a reduction in positions. In a significant number of cases, reduction will lead to enrollment limitation or the foreclosure of program options which down the line will adversely affect our FTE numbers. Examples of these and other problems abound. Several of them are cited in an attached document (Appendix C), with no attempt to exaggerate consequences. They are representative of decisions that will have to be made if the Executive Budget holds, and they are discussed here because I believe the information will assist the Legislature in making its own decisions.

Statement of Priorities

The above discussion of impacts, together with the Appendix on vacancies, constitute an argument against something -- the Executive Budget. The against position is not an enviable one, though it is necessary to assume it in light of the Governor's proposals. It is imperative that the potential consequences of those proposals be understood. However, I would turn now to arguing for some things, to a statement of our top priorities for the 1979-81 biennium:

1. In the UNR appropriation area, I urge you to consider

EXHIBIT D

836

needs in six categories:

a. Instructional Positions. (University Request, p. B-5, Executive Budget, p. 230.35) The difference between the UNR request and the Executive Budget recommendation is 47.3 positions (\$978,350) for 1979-80 and 58.3 positions (\$1,176,112) for 1980-81. Our most basic need is to have as many of these positions as possible provided.

b. Graduate Assistantships. (Executive Budget, p. 230.35) Minimally, we need to retain the number of Graduate Assistantships in the instructional area that we currently have (41.82 FTE positions). The Executive Budget recommends a reduction of 10.32 positions, or 31 Assistantships. That is a reduction approximating 25 percent. The pattern of graduate enrollments at UNR has been one of overall expansion, with occasional decreases. Since 1967, our Headcount regular graduate enrollment has more than doubled (from 694 students to 1,485). We experienced decline during 1972-73, 1973-74 and, after four years of steady growth, again in the current year. Graduate Assistantships are the core of graduate educational programs and a major support for the research mission of the University. UNR now offers seven types of Masters degrees, two Doctorates and several other special and professional graduate degrees. A variety of Masters degrees is available through 37 departments. There are 16 Ph.D. programs and a Doctorate of Education. The life and quality of these programs, 72 percent of whose students are legal residents of Nevada, are directly related to the availability of assistantships. Among this year's assistants, 55 percent are graduates of Nevada high schools or universities. The number of assistantships now offered

is less than the number available in 1969-70 (44.5 vs. 41.8) even though the number of programs is greater now and the number of students enrolled has increased, particularly in Headcount terms. The biennial costs of several options in relation to Graduate Assistantships are reflected in Table VI:

<u>TABLE VI</u>		
	<u>1979-80</u>	<u>1980-81</u>
Executive Budget	31.50 FTE \$359,300	31.50 FTE \$359,300
University Request	50.30 FTE \$573,949	51.63 FTE \$589,120
Current Number Continued	41.82 FTE \$477,166	41.82 FTE \$477,166

c. Master's Program in Speech Pathology and Audiology.

Funding is needed here to support 1.75 positions, plus associated program costs, currently subsidized by the Federal Government. Federal funding is now seriously jeopardized and it is likely that the positions can be maintained only if they are state supported. In Speech Pathology and Audiology these positions ought to be state supported. The bachelor's program is pre-professional. The master's is the terminal professional degree. UNR provides the only education in this area in the State and without funding for the existing 1.75 positions, the program will lose accreditation and conceivably be terminated altogether. In this event, there will also be no source of continuing education courses to meet certification requirements for practicing Nevada professionals and the State-

funded speech and hearing positions in rural schools will be difficult to fill. The vast majority of Speech Pathology and Audiologists in Nevada are graduates of UNR. All UNR graduates in the Master's program have remained in Nevada. The cost to the State to support the Master's program would be \$58,690 for 1979-80 and \$64,385 for 1980-81.

The University has three additional new program proposals, listed in Appendix D. The Master's in Speech Pathology and Audiology is the top priority among them and a major priority for the University in general.

d. Library Book Acquisition Fund (University Request, p. B-63, Executive Budget, p. 230.36). We are requesting an increase in this fund which equals approximately 26 percent for the first year of the biennium and 9 percent for 1980-81. The Executive Budget recommends approximately 8 percent for each year. We have never been able to bring our library holdings up to the level recommended by the standard national formulas. Our request, if honored, would not get us to that level. The Executive Budget recommendation would in fact produce a decline in our position, because of the significantly higher-than-average inflation factors that apply to library acquisitions. According to the Higher Education Price Index, the average yearly price increase for American periodicals since 1971 has been 17.5 percent, and for hardcover books, 11.6 percent. For foreign publications, the rates of increase are even higher. In the context of this kind of inflation, which shows no signs of lessening, the University request is conservative.

e. Financial Aid Support (University Request, p. B-75, Executive Budget, p. 230.38). To provide funding for the

added staff and equipment needed to implement the expanded student financial aid program discussed by the Chancellor. The cost here would be \$36,733 for 1979-80 and \$38,937 for 1980-81.

f. Bankhead-Jones Funds (University Request, p. B-1, Executive Budget, p. 230.34). As the Chancellor has explained, the Federal Executive branch has proposed for a number of years that the Bankhead-Jones landgrant support for state universities be eliminated. Up until this year, Congress has always restored the funding. The likelihood of restoration this year seems less than in the past. Previously, the State has allowed for replacement funds, to be returned in the event the Bankhead-Jones money was restored. We request a similar commitment for the coming biennium. The cost would be \$83,791 for 1979-80 and \$83,791 for 1980-81.

Statewide Programs

The Executive Budget (p. 230.46) reduces the University request by \$208,706 (12%) for 1979-80 and \$326,305 (17%) for 1980-81. Our chief priority in this appropriation area is for one additional professional position in the Bureau of Business and Economic Research (University Request, p. E-1 and Executive Budget, p. 230.46). The Bureau performs public service research for the business community and governmental agencies in the State and the demands for its services have increased considerably. The cost of adding one position would be \$24,100 for 1979-80 and \$25,570 for 1980-81.

Intercollegiate Athletics (University Request, p. D-1, Executive Budget, p. 230.52)

The University request for this area is based on two major needs: (1) upgrading the women's program and (2) increased program costs associated with a change in conference affiliation. The Executive Budget recognizes neither of these needs. Instead, it proposes to carry forward the existing program with allowance for inflation. We estimate that the cost increases attendant upon membership in the Big Sky Conference (travel, guarantees, officials and dues) will be \$95,000 for 1979-80 and a similar amount for 1980-81.

With regard to upgrading the women's program, we face not only the question of need but the mandate of the Federal Government as well. To be in compliance with newly changed Federal requirements for Title IX of the Education Amendments of 1972, we calculate that an additional expenditure of approximately \$200,000 will be necessitated. At least that amount, and probably more, will be needed for the second year of the biennium, although the vagueness of the new Policy Interpretation does not permit an accurate estimate. If additional State funding is not provided, major and adverse changes in the intercollegiate program will be required if we are to be in compliance with Federal law.

Cooperative Extension Service (University Request, p. M-1, Executive Budget, p. 230.62)

The major priority in this area is to restore operating funding to a level commensurate with previous years. During the current biennium, the operating category had to be severely reduced in order to provide funds for professional salary adjust-

ments. We are requesting \$306,700 in operating for the first year of the biennium and \$337,400 for 1980-81.

Agricultural Experiment Station (University Request, p. N-1, Executive Budget, p. 230.64)

In this area, the top priority is for a researcher in sheep production. In light of the severe problems of the sheep industry, the College of Agriculture Advisory Board has strongly recommended the addition of this professional position. The industry itself has also requested that the position be made a major priority for the Experiment Station. The cost of this position would be \$24,120 for 1979-80 and \$25,570 for 1980-81.

Special Equipment Request

The University has assembled a request for equipment, totalling \$1,346,620, to be funded from the surplus for the current biennium. The equipment list, in order of priority and with explanations for each item, is attached as Appendix E. Here, I would like to note in particular the three highest priority items on the list:

a. An electron microscope facility (\$428,000), essential for the training of students in a number of disciplines and for combining equipment in one central place rather than leaving each unit to seek its own.

b. A library circulation control system which would greatly improve service and information access while allowing UNR to join UNLV, Clark County Community College and the Clark County Library in the use of this system. This would make available library resources in southern Nevada available to northern users, and vice versa. The cost of the system is \$255,000.

c. Engineering laboratory equipment is needed to replace obsolete equipment and update teaching laboratories in the Electrical and Mechanical Engineering Departments. Total cost for the five needed pieces of equipment is \$175,720.

POSITION PAPER
UNR ENROLLMENT

I. Introduction

The FTE enrollment at UNR has declined by small percentages each of the past three years. The most recent decline was by 4.2% between fall, 1977 and fall, 1978. This seems incongruous in the face of the population increases of Northwestern Nevada during the past year. It is true that enrollment in higher education has declined nationally because of the inability of the labor market to absorb and reward graduates of higher education programs and because of the decline of the traditional college age population (18-24). However, the strong in-migration to Northwestern Nevada and the gradual increase in the average age of the student body at UNR, indicating that there is an increase in "adult" enrollment, would seem to be enough to more than offset these negative influences.

This feeling caused the administration at UNR to investigate the various economic and demographic factors that would influence enrollment at UNR. The purpose of this paper is to report the results of this investigation and to draw some inferences from the data collected.

II. Population Growth

- A. The official population estimates and projections from the Governor's Office indicate that Washoe County population will increase at the rate of about 12% per year until 1980 and then at an annual rate of 5% from 1980 through 1985. Carson City is projected to increase by about 5% per year, Churchill County is projected to increase by 4% per year and Douglas County is projected to increase by 8% per year.
- B. The community of Fernley is undergoing a tremendous growth. Local officials in the area are predicting a population of 40,000 by 1982.

III. School Population Growth -- A survey of the school districts in Northwestern Nevada shows the following:

- A. Fallon High School enrollment increased from 662 last fall to 741 this fall which is an increase of 11.9%.
- B. Fernley High School enrollment increased from 260 last fall to 335 this fall, an increase of 28.8%.
- C. Carson City High School enrollment increased from 1,467 last fall to 1,581 this fall, an increase of 7.8%.
- D. Minden-Gardnerville High School enrollment increased from 813 to 890, an increase of 9.5%.

- E. Washoe County High School enrollment increased from 9,153 last fall to 9,296 this fall, an increase of 1.6%.
- F. WNCC enrollment has increased by 9% from fall, 1977 to fall, 1978.
- G. CCCC enrollment has increased by 20% from fall, 1977 to fall, 1978.
- H. NNCC enrollment has increased by 12% from fall, 1977 to fall, 1978.

IV. The "Boom" Phenomenon

The apparent incongruency between the increase of the Washoe County population of 12% and the increase of 1.6% in Washoe County high school enrollment caused the administration to survey the principal new employers in the area to determine if there were some common characteristics of the new employees which would explain this phenomenon. Each of the employers contacted indicated that the bulk of their new employees were young, single or married without children and both partners employed. They also stated that they had a number of college students who plan to resume their education once they have established residency.

This fact indicates that we are on the front end of a "boom." Historically, the secondary wave of population which occurs in a boom that is sustained is made up of people who provide services for the first wave and the increased business activity. These people are usually family oriented and should have a positive impact on UNR enrollment. A boom of this nature has a "ratchet" effect on school population by temporarily reducing it because of the increased number of employment opportunities for school age people and then causing it to increase from the impact of the secondary wave of population.

The Bureau of Business and Economic Research estimates that 11,800 new jobs were created in the last year which probably fueled the reduction phase of the "ratchet" and should certainly cause the increase phase to follow. The Bureau estimates that these 11,800 new jobs cost UNR 800+ students in fall, 1978.

V. Conclusions

- A. The increase in high school enrollments in the surrounding counties and Washoe County will cause the Freshman class to increase by 192 students in 1979-80 and an additional 24 students in 1980-81.

- B. The 10% increase in Community College enrollment which is currently being experienced by those institutions will result in an increase in the Sophomore and Junior classes at UNR of 65 students in 1979-80 and by 72 in 1980-81.
- C. The graduate enrollment will increase at UNR by 84 students in 1979-80 and by 48 additional students in 1980-81. This is a straight line projection based on the actual enrollment of the past five years.
- D. The two-year enrollment will remain constant in 1979-80 and will decrease by 11 in 1980-81. This is based on the actual enrollments for the past five years.
- E. The increase in the current freshman class will increase the sophomore class by 30 students in 1979-80 and the projected increase in the freshman class in fall, 1979 will result in a sophomore class increase in 1980-81 of 119.
- F. The beginning of the second phase of the "boom" in Washoe County will increase the freshman class in 1980-81 by 100 students.
- G. The combined increases included in conclusions A-E will result in an increased headcount enrollment of 371 in 1979-80 and 287 in 1980-81.
- H. Using the fall, 1978 relationship of FTE to headcount enrollment, the headcount increase shown in conclusion G would become FTE increases of 310 and 340, respectively; however, we decided to make a conservative request of 3% per year which would amount to 181 and 186 FTE for the two years of the biennium.

APPENDIX B

PROFESSIONAL INSTRUCTIONAL POSITIONS
REQUESTED FOR 1979-81 BIENNIUM
UNR APPROPRIATION AREA

EXHIBIT D - 017

Unit	Requested Increases in FTE Positions 1979-80	Requested Increases in FTE Positions 1980-81	Brief Explanation of Need
Agriculture		.50	To offer multiple sections that are needed for increased enrollments in Animal Science.
Chemistry Department		1.00	Need is for an analytic chemist, a specialty now not properly covered.
Criminal Justice	1.00		A police specialist is needed for core curriculum and to cover greatly increased enrollment.
English Department	1.00	1.00	Full-time faculty are needed to handle remedial English and English as a second language. Demands in both areas are increasing.
Journalism Department	1.00		Need is for a generalist in the core curriculum to free existing faculty to conduct graduate work.
Mathematics		1.00	Faculty member needed to increase instructional lead in freshman courses.
Recreation and P.E.		1.00	Growing enrollments, together with a need for an aquatics director, dictate this position.
Accounting and Information Systems		.50	Position to be used to provide expertise in government accounting. Enrollment demand is heavy in Accounting.
Economics	.50	.50	Needed to provide expertise in regional and urban planning and public finance. Substantial enrollment increases in Economics.
Managerial Science	.50	.50	This request will provide for coverage of tourism, casino management and finance. Managerial Science is also experiencing significant enrollment growth.

U	Requested Increases in FTE Positions 1979-80	Requested Increases in FTE Positions 1980-81	Brief Explanation of Need
Education Admini- stration & Higher Education		1.00	Position is needed to assist in one of the largest and fastest growing graduate programs on campus.
Curriculum and Instruction		1.00	This position is requested to teach classes which have been taught by part-time faculty.
Civil Engineering	.50		Enrollments are growing in Engineering which necessitates the opening of multiple sections of existing courses.
Engineering Technology	.57		This request will bring the current partial position in architectural design to full time.
Home Economics		.50	To provide specialist in interior design.
Mining Engineering		1.00	Enrollment increases in this area are causing a need for multiple sections of some courses.
Nursing		1.00	A position is needed to make it possible to increase the upper division enrollment to meet demand.

APPENDIX C

Representative Examples of Current Attrition Positions at UNR

Attrition positions are basically of three types. One type is retirements, of which the University will have 5.78 in instruction as of one July, 1979. A second is comprised of a diversity of positions filled by temporary appointments. They constitute a complex mix and a precise count is not possible. In some cases, for example, temporary appointees fill positions regularly occupied by permanent faculty on leave. A reliable estimate of the temporary appointment vacancies would be in the range of 25-30 positions. A third type of vacancy is in positions which are not currently filled at all, as for example where recent resignations or deaths have occurred. There are very few of these vacancies.

The following list covers the majority of currently vacant positions of all types:

1. The College of Business has 6.5 positions on temporary appointments. Some are in areas covered by a special appropriation of the 1977 Legislature. All are in areas of high enrollment growth. Serious accreditation problems could result from a failure to fill these vacancies.

2. There are 3.4 attrition positions in the Mackay School of Mines. Most of these positions are in areas troubled two years ago by accreditation problems, to which the Legislature responded by a special appropriation. Elimination of any of these positions would engender a similar set of problems.

3. Two vacancies exist in the Department of Civil Engineering, which already has a Student-Faculty ratio of 15.4-1, well above the 12-1 recommended by the Engineer's Council for

Professional Development -- the relevant accrediting body. This Department, along with the entire College, has experienced considerable growth over the last five years -- a Headcount increase of 43% and an FTE increase of 30%. Withdrawal of accreditation is again a likely result if these vacancies are not filled, unless enrollments are limited. The latter is not a desirable alternative in a time of great demand for civil engineers in Nevada.

4. There is one retirement and a temporary position in Mathematics, a Department whose five year FTE growth is 15%. If either is not filled, the Department will need to limit enrollments in lower division courses.

5. Criminal Justice has a single vacancy, which constitutes one-third of the Department faculty. This Department has experienced a 21% FTE growth since 1974. The consequences of not filling this position would be twofold: enrollment limitations would need to be applied and at least one program option could not be maintained.

6. In Home Economics, 1.5 positions are currently filled by temporary appointments. The one full position is in the Foods and Nutrition area. That, to put it another way, amounts to one-half of the only dietetics program in the State.

7. We have, in the Atmospheric Physics program, one full position staffed by a series of part-time temporary appointments from DRI faculty. The loss of this position would terminate an entire program.

Appendix C

Page 3

8. In Biology, there is one vacancy caused by retirement. This is the Department's only microbiologist. Microbiology is a key specialty, the elimination of which would hurt the Department, but would also seriously affect programs in nursing, nutrition and medical technology, all of which rely on the microbiology curriculum.

9. The Debate program is currently staffed by a temporary appointment. Failure to continue this position would terminate the program.

10. Although it does not focus on attrition per se, one approach to achieving reductions in the College of Arts and Science could have severe effects on Intercollegiate Athletics. In order to achieve the necessary reduction level by July 1, it is possible that the use of coaches to teach classes in Recreation and Physical Education would no longer be financially feasible. The portion of the coaches' salaries paid for by the College -- \$63,000 -- would thus be transferred to Intercollegiate Athletics, an appropriation area that is potentially itself in serious financial difficulty.

The clear message emanating from these several examples, to repeat the point made earlier, is that we cannot eliminate 27 positions by July 1, 1979, without causing damage to programs, including programs that are in heavy demand.

EX HIBIT D

011

APPENDIX D

NEW PROGRAMS - UNR

<u>Title</u>	<u>1979-80 Funding</u>	<u>1980-81 Funding</u>
1. M.S. Speech Pathology	\$58,690	\$64,385
2. M.S. Computer Science	\$57,610	\$63,215
3. M.S. Land Use Planning	\$38,631	\$42,366
4. M.A. Geography	\$55,830	\$61,295

UNR 1979-81

Priority
NumberEstimated
Cost

I	Electron Microscope Facility	\$ 428,000
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The request is for 4 microscopes and the necessary support equipment, They are:

A.	Transmission Microscope, research	\$160,000
B.	Transmission Microscope, teaching	50,000
C.	Scanning Microscope, research	105,000
D.	Scanning Microscope, teaching	62,000
E.	Support Equipment	51,000
	Total	\$428,000

The concept is to establish a central facility to be used by all units who have need of this equipment rather than to purchase individual equipment for each unit. This equipment is absolutely necessary to instruction and research in several areas, such as the Department of Biology, the College of Agriculture and the Division of Biochemistry. Any graduate of these programs who has not had training in the use of these instruments or who has not been exposed to the knowledge associated with the use of this equipment is severely handicapped when competing against other graduates in either the job market or in graduate school, since he has a gap in the basic precepts of his discipline.

II	The CLSI Circulation Control System	255,000
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The acquisition of this system would greatly increase the ability of the UNR Library to better serve its clientele and would greatly facilitate the coordination of all of the library resources of the State of Nevada.

The system would do the following things:

1. Provide extremely rapid check-out and check-in of materials using bar-code labels and light-pens.
2. Electronically handle the entire control of the collection concerning overdue notices, calculation of fines and production of invoices.
3. Provides CRT display of vital information on request concerning the location of a book, who has it if it is out, when it is due for return, whether there are any holds on it or if it is available from other libraries or on interlibrary loan.
4. Provides detailed reports concerning borrower activity, frequency of use of each volume and each borrower. These reports assist the managers to know how to best utilize personnel and book acquisition resources.

UNLV, CCCC and the Clark County Library already are using this system. As soon as UNR has this equipment, the southern Nevada resources will be available to northern Nevada and vice versa.

III Engineering Lab Equipment \$ 175,720

The College of Engineering has received relatively small equipment budgets in the past several years and, therefore, has been unable to update the teaching laboratory equipment to reflect the rapidly changing technology and to replace worn-out equipment. This request is to modernize and re-equip the following laboratories:

A. The Power Laboratory (Elect. Engr.)	\$ 44,120
B. The General Instrumentation Lab. (EE)	42,250
C. The Vibrations Laboratory (Mech. Engr.)	36,050
D. Heat Transfer Laboratory (ME)	13,300
E. Integrated Circuit Lab. (EE)	40,000
Total	\$ 175,720

Instruction in these labs is vital to the learning of the basic concepts of these two disciplines.

IV Integrated Education & Research Video System \$ 60,000

The system contains a 3/4 inch color cassette unit with 3 color cameras, 1 high resolution monochromatic camera and automated editing and switching equipment. Video equipment of this sort has become as important to the empirical social and behavioral sciences as the microscope is to the biological laboratory sciences. The major purpose of this system is to train advanced behavioral science students in the detailed analysis of social interaction. This equipment also will be used by the Departments of Art and Journalism and by the School of Home Economics. The system would be housed and administered centrally to promote maximum efficiency and utilization. There is no such system at UNR, and its acquisition is critical to the continued excellence of the social and behavioral sciences on this campus.

V X-Ray Diffractometer \$ 138,900

This equipment is used to make rapid and accurate determination of the exact structures of molecules. Such determination is extremely important in the study of organic and inorganic chemistry, molecular biology and solid state physics. It would also be used by the Department of Geology and the Department of Biochemistry. No such instrumentation exists in the State of Nevada. The equipment has been refined and simplified until it can now be used by undergraduate and graduate students, as well as highly trained research personnel. The type of analysis made possible by this equipment is extremely important to any student in these areas, and to have no training of this type creates a serious gap in their knowledge of the various disciplines.

VI. Invitro Culture Laboratory

\$ 38,000

This request is designed to purchase the equipment necessary to establish an invitro culture laboratory for the purpose of providing instruction in cell and developmental biology. This area has become increasingly important in recent years and constitutes one of the two central instructional themes of the Department of Biology. It is not possible to provide adequate instruction without a suitable laboratory for tissue and cell culture. No laboratory of this type presently exists in the department.

VII Gas Chromatograph - Mass Spectrometer \$ 121,000

This instrumentation would be used in the analysis of organic chemicals by routinely identifying and quantifying the chemical makeup of complex mixtures. Such analysis is very important in nearly every facet of science including biochemistry, medicine, toxicology, chemistry and biology. Effective instruction and research in this area cannot be carried out without such analyses. Since there is no such equipment available in the State it will also meet the needs of private industry and other state agencies.

VIII Laboratory Equipment for Speech Pathology and Audiology \$ 26,000

The two pieces of equipment requested are a Sona-Graph and an Evoked Response Audiology Unit. This equipment will be used to train students in phonetics, speech science, vocal disorders and stuttering, and to perform all types of auditory brain stem response testing. These areas form the core of the instructional program in this department, and the lack of the proper equipment is a serious handicap in this effort.

IX Data Acquisition and Processing System \$ 44,000

The purpose of this equipment is to accumulate, analyze and present output data in intelligible form from various research projects which are being performed in Physics, Chemistry, Biochemistry, and Animal Science. This system would make it possible to process such data for as many as 8 experiments at one time, thus greatly increasing the utilization of the other equipment in the accelerator laboratory where this would be utilized.

X Mini Computer \$ 60,000

This piece of equipment is needed to set up a software laboratory for which this would be the nucleus. Such a lab is essential to provide the necessary computer training for students in the Department of Mathematics. Most casinos and other businesses in the State of Nevada are using similar computers. Thus training of this nature will enable our graduates to assist local businesses with their computer needs. This mini computer also would enhance the proposed masters program in Computer Science, should that program be approved.

Total Request

\$1,346,620

EXHIBIT D

915

UNR 1979-81

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Total Request \$1,346,620

EXHIBIT D

SCHOOL OF MEDICAL SCIENCES
UNIVERSITY OF NEVADA

Thomas J. Scully, M.D., Dean

Progress Report and 1979-81
Biennial Budget Request

to
The Nevada State Legislature
March 1979

1. Students
2. Alumni
3. Facilities
4. Faculty
5. Educational Programs
6. Finances
7. 1979-81 Biennium

1. Medical Students: 1971-78

- 8 classes admitted
- 6,085 applicants screened
- 929 applicants were Nevadans
- 365 students admitted
 - 338 (92%) Nevadans
 - 76 (21%) Women
- 36% of Nevada applicants admitted

2. Alumni: 1973-77 Transfers

- 5 classes transferred
- 221 students transferred
- 4 classes have received M.D. degree
- 166 physicians began at University of Nevada
 - most still in graduate residency training
- 4 physicians practicing in Nevada
 - Ely, Carson City, Reno, Las Vegas
 - more returning this summer

3. Facilities: 1971-78 (Campus)

- 50,000 square feet; 3 phases
- \$4,201,000 capital improvements
- NO State Funds
 - \$2,545,000 (61%) Federal
 - 1,018,000 (24%) Gifts
 - 638,000 (15%) Non-Appropriated fees

1977-79 (Community)

- 10,000 square feet; Veterans Administration provided
- 2,000 square feet; Washoe Medical Center provided
- 8,000 square feet; leased in Reno

1979 - Future

- \$2,000,000 gift; Mr. Claude Howard; Phase IV
- 13,000,000 Veterans Administration modernization

4. Faculty: 1978-79 Academic Year

- 60 professional positions (total)
- 52 F.T.E. teaching positions (instruction)
 - 23 Ph.D.
 - 29 M.D.
- Teaching 3 classes of medical students
 - 96 Basic Science (1-2)
 - 37 Clinical Science (3)
- Conducting biomedical research
 - 43 papers published
 - 20 abstracts accepted
 - 36 individual grants funded
 - \$612,000

- Providing medical services
 - Community Health Center
 - funded by H.E.W. - Urban Health Initiative Grant
- Established six new clinical departments essential to conversion
 - Internal Medicine
 - Pediatrics
 - Family and Community Medicine
 - Surgery
 - Obstetrics and Gynecology
 - Psychiatry and Behavioral Sciences

5. Educational Programs: 1978-79 Academic Year

- Continue Accredited 2 year basic science program established in 1971
- Implemented 3rd year clinical clerkships
 - began August 21, 1978
 - Reno: Medicine, Pediatrics, Surgery, Psychiatry, Family and Community Medicine
 - Las Vegas: Obstetrics and Gynecology
- Planning 4th year clinical electives
- Planning Primary Care residencies in Medicine, Pediatrics, Family Medicine
- Community Based:
 - NO University hospital
 - utilizing part-time practicing physicians
 - utilizing Washoe Medical Center, Veterans Administration, St. Mary's, Southern Nevada Memorial and Womens hospitals
 - Community Health Center in Reno
 - physicians offices; state and county agencies

6. Finances: 1969-79 (10 Years)

- \$15,600,000 operating dollars expended
 - \$5,700,000 (36%) STATE
 - 9,900,000 (64%) OTHER

1977-79 Biennium

- Operating \$5,970,650 TOTAL
2,616,383 STATE (44%)
- Obtained \$2,400,000 Federal Conversion Grant
294,000 Federal Capitation Grant
706,000 Other grants - gifts
188,000 Hughes gift

7. 1979-81 Biennium

- July 1979: 22 residents in Primary Care
(Medicine/Pediatrics/Family Medicine)
- August 1979: 37 seniors
47 juniors
48 sophomores 180 students
48 freshmen

- May 1980: 1st M.D. degree to be awarded
- Faculty: 14 additional M.D.'s to be added to reach 74 F.T.E. (total) and 66 F.T.E. (instruction)
- Educational programs:
 - Continue Year 1 - 2 - 3 programs
 - implement state-wide 4th year electives
 - 1 month rural experience, Nevada
 - selected out-of-state electives
 - implement primary care residencies
 - increase state-wide continuing medical education programs for physicians
- Budget:
 - see Executive Budget
pp 230.58 - 230.61
 - see University of Nevada System Budget
C 1 - 20

DESERT RESEARCH INSTITUTE

RECOMMENDED PROJECTS

923

Weather Modification to Increase Nevada Water Supplies

In 1977 at the request of the legislature DRI scientists designed a multiphase cloud seeding project to increase the available water in five areas of Nevada: the Tahoe-Truckee area, the Walker River area, the Spring Mountains area, the Elko area, and the Ely area. Results of these and other winter cloud seeding projects in the western United States indicate that it is reasonable to anticipate an increase in snowfall by 10 to 30% when scientifically conducted. This would translate into a total average increase in total water of approximately 245,000 acre feet per year which at \$20 per acre foot amounts to nearly \$5 million worth of water per year. Because of existing water shortages it is most important that this project be continued.

Truckee River Studies

The DRI has monitored the water quality of the Truckee River for some time. The monitoring operation has been valuable in alerting agencies to any deterioration of the water quality. The quality of Truckee River water is more important than ever because of the pressures of unprecedented development along the river.

The monitoring includes sampling at seven state sites for the Nevada Division of Environmental Protection's Truckee River Ambient Monitoring System and twenty additional sites throughout upstream and downstream reaches.

Funding of this project would enable DRI to 1) continue Truckee River monitoring to determine how the water quality reacts to varying influences, and 2) examine and identify both the natural and man induced changes in the water quality in the reach below the Truckee Meadows.

EXHIBIT "F"

Wind Energy

With the help of State funding, Dr. Telford has invented a new type of vertical axis wind turbine which is being covered by a patent assigned to the DRI. The turbine should be reliable in severe weather conditions, should have low maintenance cost and should not have a high capital cost.

Wind energy converted to electrical energy and mechanical energy for pumping water by means of this unique turbine should provide economical power installations in many small towns and communities as well as ranches throughout Nevada.

A model to demonstrate the validity of the principle has been constructed. Under this suggested project, the design would be optimized for obtaining maximum usable power at minimum cost. Suitable sites would be selected and pumping and electrical power generation installations would be demonstrated.

Space Heating and Cooling Systems in Nevada

At present water and space heating and space cooling using solar energy for homes and public buildings in Nevada constitutes an effective means of reducing the energy that Nevada must import. The DRI will attempt to improve such systems through new and innovative developments.

Energy Assessment Program

In order for Nevada to have a reliable guide to make the maximum use of the state's resources for an economical energy system a comprehensive energy assessment should be undertaken immediately. The resources to be examined would be water and energy. The best combination of solar, wind, geothermal, nuclear energy and fossil utilization would be determined. The geological, agricultural, environmental and social impact of such energy systems would be examined.

Liquid and Gaseous Fuels From Biomass

Nevada depends on the importation of 95% of the energy needed to sustain life, business and industry in the state. On the other hand enough solar energy is incident on the state to satisfy the present energy needs of the entire United States. The aim of this research and development project is to convert solar energy into high octane gasoline and methane gas by growing plants rich in sugar using the nutrients in sewage effluents from Nevada cities thereby avoiding the high capital and operating costs of tertiary treatment plants. Some contemplated processes show great potential promise of success. A technical and economic feasibility investigation would be made of the best process followed by a pilot plant demonstration for commercialization. If the results turn out to be as successful as we believe, plants using the process could supply Nevada with a significant amount of high octane gasoline and thus make a valuable economic impact within the state.

Ground Water Basins

This study would attempt to estimate available groundwater in various localities and the availability of this water as a function of time. The process of replenishment or recharge of the groundwater reservoirs would be made since the recharge rate is poorly known. The investigation would strive to arrive at the groundwater supply as a function of time taking into account the average rate of extraction of the groundwater and the rate of replenishment over short and long time periods.

Water Data Information Service

In 1966 a computerized water data storage and retrieval system was established to assist resource users, investigators and state agencies. This data is not duplicated, but complements the EPA's STORET and USGS's NAWDEX systems. For lack of funding, the data file could not be kept up to date. DRI feels that it is very important to keep this up to date. Funding of this project would permit DRI to bring this data bank up to date and in addition make its contents more available to state and local water planners.

EXHIBIT F - 025

Solar Energy for Industrial Processes in Nevada

The cost of energy for industrial uses will continue to increase. In this project, ways and means of using solar energy for industrial processes would be investigated. It may be economical to use solar energy to supply energy for such processes in the temperature range from 120°F to 500°F. Experiments will be conducted at the Center to determine the most economical system to provide energy in this temperature range.

Ecosystem Evaluation Prior to Valmy Power Plant

The natural ecosystem surrounding the proposed Valmy Power Plant would be studied so that any changes in the ecosystem resulting in the operation of this plant could be determined. Information resulting from this investigation is needed in order to be able to assess the effects on the ecosystems surrounding any future large-scale energy developments within the State of Nevada.

Air Quality

A search of existing data indicates that air quality dispersion and visibility data for the greater Las Vegas and Reno areas is inadequate and should be established. We estimate that one full year of information would be required at each location and should include observations of winds aloft, atmospheric stability (i.e., dispersion characteristics) and continuous surface wind measurements. Concurrent visibility measurements would include analysis of airborne particulate matter including the size distribution and composition, both of which are significant visibility parameters. After collecting the data for one year, the information would be analyzed to yield a definitive source of usable visibility and dispersion data for the Las Vegas and Reno areas.

The above information would be invaluable when attempting to predict the net improvement in air quality that might result from various transportation control strategies and vehicle emission inspection and maintenance programs. The data will also be essential when comparing the "before and after" conditions of visibility after various controls are implemented.

0007

EXHIBIT F

Lahontan Reservoir Water Quality

Water entering the reservoir is currently carrying contaminants from both the Truckee and Carson River systems which add to the degradation and eutrophication of the reservoir. This situation is of concern to the Nevada Division of Parks, the Nevada Department of Fish and Game, the Nevada Division of Health, the Nevada Division of Environmental Protection as well as local government agencies.

The proposed project would determine and evaluate the effects that upstream water usage and subsequent discharge has had on the reservoir ecosystem since its completion in 1915. The biological, chemical and physical study would provide the needed data for making future decisions.

Geothermal Energy

More use should be made of geothermal energy sources in Nevada. Under this project the most promising geothermal sources in Nevada would be explored to obtain information with which to plan future extensive geophysical and drilling programs. Data on water temperature, chemistry, etc., would be obtained for potentially useful geothermal sources. The best use to which a given source could be put would be investigated.

Wastewater - It Need Not Be Wasted

Because of increasing water shortages in Nevada attention must be focused on the reuse of wastewater. Scientific wastewater treatment can be adapted for individual situations so that it can be reused. The objective of this project would be to determine the quality and quantity of existing community treatment plants in Nevada and make recommendations for the type of facility needed to comply with EPA standards in communities which are not reusing the wastewater.

Areas that would be considered include Battle Mountain, Boulder City, Caliente, Eureka, Fallon, Hawthorne, Henderson, McDermitt, McGill, New Ruth, Tonopah, Winnemucca, Yerington, Empire, Incline Village, Minden, Round Hill, Ely, Fernley, Wells, Virginia City, Elko, Carlin, Gabbs, Pioche, Weed Heights and Lovelock.

Desert Research Institute

Solar Power Generation

It is important to find ways of converting solar energy into electricity which would be competitive with conventional electric service. It appears that this is a distinct possibility in the case of certain applications in certain areas of Nevada.

Research and development would be directed to the optimum combination of solar concentrators and the best photovoltaic cells.

Hydroelectric Power for Small Communities

There are a number of communities in Nevada which either do not have electric power or cannot afford to increase their electric supply because of additional transmission line construction. The purpose of this investigation would be to assess the potential for small scale hydroelectric power generation produced by harnessing groundwater or active stream-flow at the mouth of canyons where water could be made to flow from a point 400 to 600 feet above an alluvial fan. A typical system at Kingston Village near Austin produces 50 kw.

Non-Agricultural Solar Water Pumping

In this project the use of solar energy for non-agricultural water pumping would be determined. Considerable energy is used to pump water from wells or streams for small communities or urban use. The economic use of solar pumping stations for such applications would be determined.

Topaz Lake Water Quality

Tapaz Lake is an off-stream storage reservoir in the headwaters of the Walker River Basin. The shoreline is partially developed as a residential development. It is feared that continued unrestricted construction and population expansion will damage surface and groundwater quality. This research will investigate the relationship of existing and planned future land use on lake and groundwater quality. The Nevada Division of Health has encouraged the investigation as it will provide data that will assist them in the planning and regulation of lakeshore development.

The results of this project will provide biologic, physical and chemical data on which State action agencies can make sound future decisions.

929

Self-Propelled Circulation Systems for Solar Home Heating

A novel method of a self-propelled circulation system for solar home heating, consisting of a solar collector and a heat storage tank is proposed. By heating "from below", fluid circulation is always possible by thermal convection. Since solar collectors are normally installed above the heat storage system, for example the collector on the roof and the storage tank in the basement, heating is "from above" and fluid circulation by convection not possible. However, by using two valves, having a nonlinear force-displacement characteristic, an auxiliary tank, to be pressurized by thermal energy drawn from the collectors, and an auxiliary expansion tank, fluid circulation is possible even for heating "from above". Such a self-propelled system is here described and it is the principal objective of the proposal to build 1) in the first phase a scaled-down working model, and 2) in the second phase a full scale device.

EXHIBIT F

Studies of Solar Radiation Concentrators

Solar radiation concentrators based on optical tracking and focusing systems are quite expensive. An alternative system is proposed having the prospect of high radiation concentration using synthetic dielectrics with a large refractive index. These synthetic dielectrics could conceivably be produced by implanting small conduction particles or slivers into a dielectric background medium. Apart from this possibility the proposal is also a challenge for the search and development of highly refractive materials using different principles.

It is shown that the proposed radiation concentrator, in combination with a direct energy conversion system such as a photovoltaic or thermionic conversion system, may lead to a substantial cost reduction for the conversion of solar energy into electrical energy. The same principle of radiation concentration may also lead to an improved solar heat generation system. Because of the enlarged radiation flux at the heat collector tubes, higher temperatures of the working fluid can be attained. This may make possible the use of liquid metals instead of water for the heat transport. These elevated temperatures would have also the advantage of 1) a higher energy thermodynamic efficiency in heat engines, and 2) a higher energy concentration in energy storage systems thereby reducing their size and cost.