

UCCSN Board of Regents' Meeting Minutes July 30-31, 1924

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Reno, Nevada
July 30, 1924

The Board of Regents met in the Office of President Clark at 7 o'clock Wednesday evening, July 30th. Present: Chairman Pratt, Mrs. Hood, Judge Talbot, Vice President Adams and Comptroller Gorman of the University, and Mr. Duncan, Junior member of the firm of Coddington and Duncan, who put in the central heating plant in 1908.

Mr. Duncan had been asked to come to Reno to make a survey of the heating system. His oral report was purely a preliminary report, since he had not finished his checking and had made no studied analysis of his findings. However, he stated the heating problem could be met in either one of 3 ways:

1. Perfection of the present plant
2. Changing from hot water to steam
3. Segregation of units
 - a. Central to take care of academic units
 - b. Dormitories
 - c. Outlying buildings used for only portion of University year

Whatever it is decided to do, Mr. Duncan advised that nothing be thrown away that could be used. A lot of the pipe is very good, as he found by examination of at least 8 points in the manholes and in the buildings. The pipe seems to be in very good shape except perhaps in one or two remote places where oxidation has taken place.

It is quite possible with a hot water system properly designed to heat buildings a mile away. The present plant was designed several years ago to take care of the Gymnasium, Lincoln and Manzanita Halls, Chemistry building, Hatch Station, Stewart Hall, President's House, Mechanical building and the Mackay School of Mines. The proposition was balanced and worked well. Attaching new buildings not at that time planned for had thrown the system out of balance. Approximately 2/3 of the radiation on the Campus is located in the two new units and those two buildings have

robbed the others. If radiation from hot water is to be used, the temperature of the water must be 180 degrees. Lincoln and Manzanita are receiving water at a temperature of 120 degrees, or 2/3 of what should be the heat. It is quite possible to make those buildings heat provided the distributing mains are made to suit.

The heating of the training quarters presents a distinctly separate problem, since it is not used more than 3 months consecutively. It might be wise to keep this building on the central heating plant, but valve it 500 feet this side of the building. It is valved at present at the building.

For the hot water distribution, I think you can add to your present system and still make it work. It will mean changing certain mains and increasing the boiler capacity. With any one of the 3 systems, I would still believe from my knowledge of the conditions now that it would be a very wise move to keep the central plant for reasons of economy and the Mechanical building as the logical point. The operating expense is considerably less where the heating is all cared for by one central plant.

Mr. Duncan was of opinion that unless this Board of Regents differed greatly from humankind in general, if "temporary" heating arrangements were made for the Dormitories and the Dining Hall, which were satisfactory, the temporary arrangements would be continued until they became permanent.

If change is made to steam, the problem is entirely one of whether the pipe size would be the correct size to feed the different buildings. For hot water system the pipe sizes are judged in this manner: Radiators closest to point of application of heat have connections very much smaller than those at the farthest end of the run. The radiator for the Mechanical building immediately over the boiler would require 1/4" pipe while radiators at Lincoln Hall would require 1 1/2" pipe for the simple reason that the radiation at more remote points is not so great. With steam the same size of pipe is used for same size radiator because steam is of one volume. In very long runs, pipe sizes are increased perhaps one size, from 1 1/4" to 1 1/2". For steam system vacuum pumps are required. Heat can be furnished much more quickly with a vacuum system which circulates steam into buildings so that they are warm in an hour and a half whereas it requires two or three more hours to heat a building with hot water system. Change in pipe sizes would have to be made in changing from hot water to steam, change would have to be made on all radiators, return elbow on the opposite side would have to be taken off and vacuum installed. I think all radiators can

be very easily changed over by installation of steam valve and vacuum pipe. With the present hot water system there is an 8" flow main which separates into two 5" mains. With steam the main pipe would need to be 10" with two 8" mains. However, the 8" main may be very satisfactory. There are now two 3" mains to Lincoln Hall which might have to be replaced by a 4" distributing pipe and a 1 1/2" vacuum return. However, the 3" pipes may be satisfactory. I cannot tell until I have checked the load. Larger pipes are required to carry steam than water if low pressure steam is used. If you use high pressure steam with reducing valve in every building you have a constant source of maintenance, almost as great as though there were a boiler in each building.

I believe your present boilers are overloaded.

Comptroller Gorman inquired if Mr. Duncan had considered at all the use of the Dairy building as the future site of the central heating plant. Mr. Duncan had and suggested that eventually the heating plant should be located in the Dairy building, that provision should be made for expansion, that the central heating plant should be made one of the show places of the Campus; that the change should be done well, if at all.

Mr. Duncan stated that it would take him a month to make a detailed report so that the contractor could bid intelligently and that the contractor would need at least two weeks to prepare the bids. This would leave but two weeks before the first of October, at which time the Regents felt that heat must be available. The necessary work involved by a change to steam, or of putting the hot water system in balance could not possibly be accomplished in that time. The calculations involved in a hot water system are about 10 times as great as in steam system. Only two plans are feasible for this year; either continuation of hot water distributing system or temporary plants in outlying buildings; that is, using present plant and forcing circulation of water to remote buildings by installation of pump or installing boilers in outlying buildings. The hot water system is the only system where continuous heat is required for 24 hours for a period of a month or more.

The University has paid for radiators in Agricultural and Education buildings 3 times larger than are needed because the heating plans for these 2 buildings were made by the architect and not by a heating engineer. The architect's only concern was that the buildings should be heated, so the owner suffers by paying for larger pipe sizes, more radiation, overheating buildings and the robbing of outlying buildings. The cost of the surplus

radiation would have paid 3 or 4 times over for engineering services. When you build new buildings, let the people who laid out your system put it in balance for you.

In a steam system the return pipe should be half as large as the distributing pipe and a vacuum pump is required. The pipe rises at this Institution are all exposed so the change to steam could readily be made.

The Agricultural and Education buildings are receiving 11,600 square feet of radiation as against 19,200 square feet on the Campus, or 11/19 of the entire load.

Mr. Duncan said air silk cover is the poorest kind of insulation and that 85% magnesia covering should be used. All basement pipes should be covered to conserve heat since radiators furnish sufficient heat for basements.

Mr. Duncan asked the Board for definite instructions as to what they desired him to cover in his report so that he might waste no time in elaboration of some phase of the system in which they were not interested. The Board instructed him to make complete report on both temporary and permanent propositions.

Mr. Duncan then withdrew.

The minutes of the meeting of June 28th were read, and, on motion of Chairman Pratt, approved, by the following vote:

Mrs. Hood	Aye
Judge Talbot	Aye
Mr. Pratt	Aye

List No. 20, State Claims Nos. 204 to 212 inclusive, for the net sum of \$21,991.41, and List No. 20, Regents Checks Nos. 4069 to 4072, for the net sum of \$30,847.39 were, on motion of Judge Talbot, approved by the following vote:

Mrs. Hood	Aye
Judge Talbot	Aye
Mr. Pratt	Aye

Vice President Adams read letters of appreciation for increase in salary from Ruth Anna Billinghamurst and F. W. Traner. Vice President Adams recommended the re-election of Mrs. Verna S. Paterson as teaching fellow in Chemistry for the coming University year at a stipend of \$600. Mrs. Hood moved the adoption of Dr. Adams' recommendation. Vote:

Mrs. Hood	Aye
Judge Talbot	Aye
Mr. Pratt	Aye

Vice President Adams suggested that the Board might like to pass a motion before the opening of the University's first semester on the automobile nuisance on the Campus. After a general discussion Judge Talbot moved that automobiles, motorcycles and other vehicles be denied the right to come on the University grounds during the hours 7 A.M. to 5 P.M. all days except Saturday afternoons and Sundays and University holidays during the University year, except mail, express and delivery cars and such persons as have special permits; that all automobiles appearing on the Campus do so at their own risk; and that gates be installed at all entrances to the University Campus. Vote:

Mrs. Hood	Aye
Judge Talbot	Aye
Mr. Pratt	Aye

Regent Pratt then opened the bids for fuel oil, which were as follows:

Standard Oil Company, September 1, 1924 to August 31, 1925, \$1.15 per bbl. at Segura, California, this price not to be exceeded more than 25 cents per bbl. from September 1, 1924 to February 28, 1925 and 50 cents per bbl. from March 1, 1925 to August 31, 1925.

Union Oil Company, seller's open market list price on date of delivery but in no event to exceed \$1.50 during the first six months and \$1.75 during the second six months of this contract, F. O. B. seller's tanks Maltha, California, for year September 1, 1924 to August 31, 1925.

Shell oil company of California, from September 1, 1924 to May 1, 1925, current market price for similar deliveries F. O. B. tank cars Martinez, California, less 25 cents per bbl. for shipment F. O. B. tank cars at Ora, California, the maximum price not to exceed \$1.40 per bbl. F. O. B. tank cars Ora, California during period ending February 29, 1925; the maximum not to exceed \$1.65 per bbl. F. O. B. Ora during period March 1, 1925 to May 1, 1925.

Action on oil bids was postponed until the adjourned meeting of the Board.

Chairman Pratt made a brief report on his week's visit in San Francisco re. heating plant matters.

Judge Talbot moved to adjourn the meeting until 10 o'clock Wednesday morning, August 6th, with understanding that if quorum is not present, they will adjourn until 10 o'clock, Saturday morning, August 9th, and that if quorum is not then present, they will adjourn until 10 o'clock Monday morning, August 11th. Vote:

Mrs. Hood	Aye
Judge Talbot	Aye
Mr. Pratt	Aye

Walter E. Pratt
Chairman

Carolyn M. Beckwith
Secretary