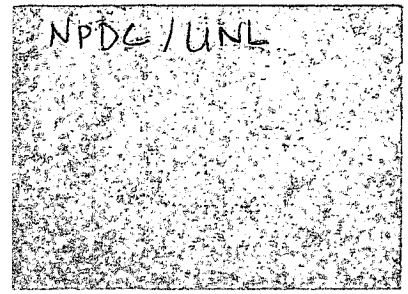

Ann Diers

From: Pam Andersen [pandersen@dnr.state.ne.us]
Sent: Tuesday, March 15, 2005 8:57 AM
To: adiers@dnr.state.ne.us; jschellpeper@dnr.state.ne.us
Subject: contract between UNL and NPDC

NPDC grmnt_HPRCCOnly_

I have reviewed the contract between the University and the North Platte Decree Committee. My comments appeared in a purpley-pink on my computer and printer. Pam

DRAFT

COOPERATIVE AGREEMENT
Between
THE BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA (UNIVERSITY)
And
THE NORTH PLATTE DECREE COMMITTEE (NPDC)

The UNIVERSITY has developed an Automated Weather Data Network (AWDN) and is interested in extending the coverage of the AWDN. The NPDC has sufficient interest in near-real time data from the AWDN and the associated climate archive to make a commitment to provide financial support and limited staff support to maintain four automated weather stations with one to be located near each of the following cities in Wyoming: **Torrington, Saratoga, Medicine Bow and Douglas.**

ARTICLE 1. ACQUISITION AND INSTALLATION OF EQUIPMENT FOR THE AUTOMATED WEATHER STATIONS AND ONGOING COMMUNICATION SERVICES.

(a) The UNIVERSITY is prepared to site a station near Torrington, Wyoming at a location conforming to the requirements of a well-sited station as determined by the description in Exhibit A. The NPDC has purchased the station equipment for this station, and agrees to provide telecommunication service (land line or cellular) to the approved station site, to pay for monthly communication service and furnish the telephone number to the UNIVERSITY. The UNIVERSITY agrees to acquire the station equipment from NPDC and install the station at the approved site. The equipment will be property of the UNIVERSITY.

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(b) The UNIVERSITY is prepared to site three stations, one near each of these towns: Saratoga, Medicine Bow and Douglas, Wyoming, at locations conforming to the requirements of a well-sited station as determined by the description in Exhibit A. The NPDC agrees to purchase the station equipment and the telephone or other telecommunication services (land line or cellular) to the approved station sites, to pay for monthly communication service and furnish the telephone numbers or the ability for other real-time communication access to the UNIVERSITY. The UNIVERSITY agrees to acquire the station equipment from NPDC and install it in the stations at the approved sites. The equipment will be property of the UNIVERSITY. The stations in Torrington, Saratoga, Medicine Bow and Douglas are hereafter referred to as the "AWDN Stations".

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ARTICLE 2. OPERATION, MAINTENANCE and DATA

(a) The UNIVERSITY agrees to perform quality control of the data collected from the AWDN Stations and to repair and calibrate the equipment as is necessary to keep the AWDN Stations in good working order.

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(b) The NPDC agrees to provide financial support for the annual maintenance of four AWDN Stations in the aggregate amount of up to $4,000 to defray costs of travel, computer, labor, telephone repair and any other necessary costs. Annual periods will begin July 1 and end on June 30 of the following year. The UNIVERSITY agrees to provide bills for such annual maintenance to the NPDC on an [annual/quarterly] basis. The NPDC agrees to promptly review all bills submitted by the UNIVERSITY and, in the absence of any dispute over those bills, to pay the UNIVERSITY the

amount billed within 60 days of receipt.

(c) The NPDC agrees to pay no more than $6,191.00 to purchase the equipment listed in Exhibit B for the stations near Saratoga, Medicine Bow and Douglas.

(d) From time to time the UNIVERSITY may request that trained, qualified NPDC staff members perform routine maintenance tasks not related to the UNIVERSITY'S duties described in Article 2 (a) at the AWDN Stations to keep the stations in working order. Such tasks may include but not be limited to replacing batteries, cleaning solar panels and installing instruments. These requests will enhance data accuracy, reduce maintenance costs and decrease "downtime."

(e) The NPDC will install fencing around the AWDN Stations consistent with the conditions of the surrounding land and or land use.

(f) The NPDC agrees to acquire access to the land where the AWDN Stations are located and shall be responsible for the cost of such access during the term of this Agreement.

(g) Data from these AWDN Stations will be shared between the NPDC and the HPRCC. (spell out HPRCC)

ARTICLE 3. SPECIAL PROVISIONS

(a) This shall be a continuing agreement that will remain in effect until properly terminated by either party.

(b) This agreement may be terminated by either party upon thirty days written notice to the other party.

(c) The location of the AWDN Stations may be changed only by mutual consent of the NPDC and the UNIVERSITY.

(d) The NPDC hereby agrees to indemnify and hold harmless the UNIVERSITY from any and all claims of liability that may arise out of or on account of failure on the part of the NPDC or NPDC employees to perform any service or duty as herein agreed.

(e) The UNIVERSITY hereby agrees to indemnify and hold harmless the NPDC from any and all claims of liability that may arise out of or on account of failure on the part of the UNIVERSITY or UNIVERSITY employees to perform any service or duty as herein agreed.

ARTICLE 4. PROJECT COORDINATOR

The UNIVERSITY'S Project Coordinator for this agreement is Dr. Kenneth G. Hubbard. All correspondence and other communication relating to this Agreement must be provided to the Project Coordinator or his designated appointee at the following address: Dr. Kenneth G. Hubbard, 244 L.W. Chase Hall, University of Nebraska, Lincoln, NE 68583-0728. All correspondence and communication to the NPDC must be provided to _____, Nebraska Community Foundation, P.O. Box 83107, Lincoln, NE 68501.

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Inserted: remit payment to the UNIVERSITY within 60 days of receipt unless...

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Study Sponsors
North Platte Decree Committee through its parties, the United States (Bureau of Reclamation), the State of Nebraska, the State of Colorado and the State of Wyoming
By: _____
Nebraska Community Foundation, its agent.

For the Board of Regents of The University of Nebraska

Manager, Chairman of Cooperative Hydrology

Vice Chancellor for Business and Finance

Vice Chancellor, Institute of Agriculture and Natural Resources

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EXHIBIT A

Automated Weather Data Network: Station Placement

The stations in the Automated Weather Data Network are placed at intervals of about 50 miles to represent the macroclimate of the state or, in other words, the climate of large areas of the state.

Stations at this spacing can certainly be expected to give relatively large differences in readings even when experiencing the same air mass because they represent areas that are much different in character. Stations in a large valley would be expected to have lower average wind speed, higher humidity, etc. than stations outside the valley. Even so, stations at this spacing will be statistically correlated. This fact should allow someone working midway between two stations to (with some experience) use one or both of the nearby stations with constant adjustment factors.

When possible, stations are placed in rural areas to establish a reference for those areas. Stations are generally located at some distance from isolated irrigated fields because the microclimate in such fields will vary considerably with the specific irrigation schedule. However, the NPDC is interested specifically in the microclimate of irrigated crops in the North Platte River Valley in Wyoming. For this reason, these particular stations will be placed with the goal of measuring as accurately as possible irrigated agriculture areas in Wyoming. Hopefully, measurements from the stations reflect the average characteristics of air that is present in a given vicinity and can be used as a reference point for irrigators, dryland farmers, ranchers and businessmen alike.

The stations in the network are located so as to avoid measurement of microclimate. For this reason, stations are placed over grass using the assumption that microclimatic features of the underlying surface disappear at about 4 times the surface height (our sensors are 5 to 6 times the height). The grass surface is mowed from time to time to ensure that it does not exceed 12 inched in height. Microclimates that exist because of tall trees, buildings or nearby terrain features are also avoided. Stations are located a distance away from such features equivalent to 6 to 10 times their height. A fetch of this length is assumed to be sufficient although greater fetch is desirable. Sites that represent mesoclimates (i.e., small valleys, depressions, and tops of hills) are also avoided.

Reference stations will be helpful to researchers who will one day want to apply their results to wide areas and who typically make weather measurements in or above a specific field of interest. To arrive at the best applications, the total environment must be considered. The microclimate is important because it is the local environment of the crop, insect, etc. The microclimate inside a field does vary with variations in the macroclimate making it important as well. Of primary importance, however, is the fact that on a large scale it is only practical to measure the macroclimate, therefore, the majority of climate networks are measuring macroscale features of the climate.

X:\Ken\AWDN Station Placement.wpd

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Exhibit B

Basic Weather Station Configuration				
Campbell Scientific, Inc.		Tel 435-753-2342		
815 W 1800 N		Fax 435-750-9540		
Logan, UT 84321-1784		www.campbellsci.com		
Quantity	Model	Description	Price	
1	CR10x	Measurement and Control Module & wiring panel	$1,250	
1	034A-L	Met One Wind Set (anemometer & vane)	$590	
1	LI200X-L	LiCor Silicon Pyranometer	$290	
1	LI2003S	Base and leveling fiture for LI200X	$58	
1	107B-L	Soil Temperature Probe	$70	
1	HMP45C	Vaisala temperature and RH probe	$545	
1	41002	RM Young 12 plate Gill radiation shield	$173	
1	TE525	Met ONE 12" Heated Rain Gage (0.01"/tip)	$1,050	
1	CM10	10 ft. tripod and grounding kit	$345	
1	ENC12/14	12"x14" white fiberglass-reinforced enclosure	$195	
1	PS12LA	12 V power supply w/charging regulator and sealed	$210	
		rechargeable battery		
1	MSX20	20 watt solar panel w/mounts	$380	
1	019ALU	Aluminum crossarm sensor mount	$75	
1	015ARM	Pyranometer mounting arm	$75	
1	SC12R	Two peripherial connect cable	$55	
				$5,361
Communication Equipment Options				
1	COM200	Telephone Modem	$340	**$5,701**
	Must have a CDMA cell phone coverage			
1	17260	Cell Phone	$520	
1	15664	Interface	$85	
1	14454	Antenna	$205	
1	14394	Mounting Kit	$20	
			$830	**$6,191**