

North Dakota State Water Commission

900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850
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Telephone Call-In Information

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***Audio Telephone Conference Call Meeting
Governor's Conference Room - Ground Floor
State Capitol
Bismarck, North Dakota***

***January 29, 2015
2:00 P.M. (Central Time)***

AGENDA

- A. Roll Call
- B. Consideration of *Agenda* - *Information pertaining to the agenda items is available on the State Water Commission's website at <http://www.swc.nd.gov>*
- C. ***Central North Dakota Water Supply Project*** **
- D. ***Missouri River Hydrogeologic Investigation*** **
- E. Other Business
- F. Adjournment

**** BOLD, ITALICIZED ITEMS REQUIRE SWC ACTION**

To provide telephone accessibility to the State Water Commission meeting for those people who are deaf, hard of hearing, deaf and/or blind, and speech disabled, please contact Relay North Dakota, and reference ... TTY-Relay ND ... 1-800-366-6888, or 711.

MINUTES

North Dakota State Water Commission Audio Telephone Conference Call Meeting Bismarck, North Dakota

January 29, 2015

The North Dakota State Water Commission held an audio telephone conference call meeting in the Governor's conference room at the State Capitol, Bismarck, North Dakota, on January 29, 2015. Governor Jack Dalrymple, Chairman, called the meeting to order at 2:00 p.m., and requested Todd Sando, State Engineer, and Chief Engineer-Secretary to the State Water Commission to call the roll. Governor Dalrymple announced a quorum was present.

STATE WATER COMMISSION MEMBERS PRESENT:

Governor Jack Dalrymple, Chairman
Doug Goehring, Commissioner, North Dakota Department of Agriculture, Bismarck
Arne Berg, Member from Devils Lake
Maurice Foley, Member from Minot
Larry Hanson, Member from Williston
George Nodland, Member from Dickinson
Robert Thompson, Member from Page
Harley Swenson, Member from Bismarck
Douglas Vosper, Member from Neche

OTHERS PRESENT:

Todd Sando, State Engineer, and Chief Engineer-Secretary,
North Dakota State Water Commission, Bismarck
State Water Commission Staff
Andrea Travnicek, North Dakota Office of the Governor, Bismarck
Jennifer Verleger, North Dakota Office of Attorney General, Bismarck
John Traeger, CHS, Inc., Laurel, MT
John Fjeldahl, Ward County Commission, Berthold, ND
Alan Walter, Ward County Commission, Minot, ND
Kip Kovar, Garrison Diversion Conservancy District, Carrington, ND
Merri Mooridian, Garrison Diversion Conservancy District, Carrington, ND
Ken Vein, Garrison Diversion Conservancy District, Grand Forks, ND (via telephone)
Kimberly Cook, Garrison Diversion Conservancy District, Carrington, ND (via telephone)
Jeff Lewis, Red River Basin Commission, Fargo, ND (via telephone)
Bob Keller, Bartlett and West, Bismarck, ND (via telephone)

Geneva Kaiser, Stutsman Rural Water District, Jamestown, ND (via telephone)
Representatives from Barnes Rural Water District, Valley City (via telephone)
Leo Walker, Dakota Resources Council, Maddock, ND (via telephone)
Approximately 10 people who were not identified (via telephone)

The attendance register is on file with the official minutes.

The meeting was recorded to assist in compilation of the minutes.

CONSIDERATION OF AGENDA

The agenda for the January 29, 2015 State Water Commission audio telephone conference call meeting was presented; there were no modifications to the agenda.

It was moved by Commissioner Foley, seconded by Commissioner Nodland, and unanimously carried, that the agenda be accepted as presented.

**CENTRAL NORTH DAKOTA
WATER SUPPLY PROJECT,
ENGINEERING SERVICES
RELATED TO FUTURE WATER
SUPPLY FOR JAMESTOWN AREA -
APPROVAL OF STATE COST
PARTICIPATION CH2M HILL (\$346,000);
GARRISON DIVERSION CONSERVANCY
DISTRICT (BLACK AND VEATCH-\$70,800)
(SWC Project No. 2051)**

On February 27, 2014, the State Water Commission adopted a motion authorizing the Secretary to the Commission to enter into a contract with CH2M HILL for an engineering study to determine the feasibility of supplying Missouri River water to areas east of the Missouri River and approved an allocation not to exceed \$375,000 from the funds appropriated to the State Water Commission in the 2013-2015 biennium (H.B. 1020) to support the contract.

CHS, Inc. has been working with the State Water Commission staff to identify a water supply for their proposed fertilizer plant near Jamestown, North Dakota. It has been determined that the Spiritwood aquifer could supply the needs of the plant for approximately five years at which point a more sustainable water source would need to be available. CHS has investigated the re-use of water from the city of Jamestown and other industries in the area.

Because the availability of water in the Jamestown area is limited, the Commission staff determined an engineering study would be required to investigate alternatives to supply water from the Missouri River to the CHS Spiritwood facility and other potential municipal, rural, industrial and irrigation

users in the Jamestown area. The preliminary alternatives vary with regard to their alignment, length, and environmental requirements. The Commission staff discussed a preliminary alternative relating to the future water supply for the Jamestown area that would include the delivery of Missouri River water from the McClusky canal through a water service contract with the U.S. Bureau of Reclamation.

The engineering study work efforts are being coordinated through the joint efforts of the State Water Commission and the Garrison Diversion Conservancy District and their respective engineers (CH2M HILL and Black & Veatch - AE2S is a sub-consultant to both firms) to investigate the feasibility of delivering Missouri River water to the Jamestown area. The estimated total cost is \$464,000 (CH2M HILL - \$346,000; Black and Veatch - \$118,000). A request from the Garrison Diversion Conservancy District was considered by the State Water Commission for state cost participation for the eligible costs for engineering services performed by Black and Veatch; the Garrison Diversion Conservancy District has agreed to provide the local cost share of the Black and Veatch work. It is anticipated the project will provide information to support decisions about the project alternative selection by February 27, 2015, with the final report expected by March 13, 2015.

It was the recommendation of Secretary Sando that the State Water Commission authorize the Secretary to the Commission to execute a Specific Authorization, Amendment No. 1, with CH2M HILL, and approve an allocation not to exceed \$346,000 from the funds appropriated to the State Water Commission in the 2013-2015 biennium (H.B. 1020) to investigate the feasibility of delivering Missouri River water to the Jamestown area.

It was also the recommendation of Secretary Sando that the State Water Commission approve a state cost participation grant of 60 percent of the eligible costs of the engineering study efforts provided by Black and Veatch, not to exceed an allocation of \$70,800 from the funds appropriated to the State Water Commission in the 2013-2015 biennium (H.B. 1020), to the Garrison Diversion Conservancy District.

It was moved by Commissioner Foley and seconded by Commissioner Goehring that the State Water Commission:

- 1) authorize the Secretary to the Commission to execute Amendment No. 1 to Contract for Engineering with CH2M HILL;***
- 2) approve an allocation not to exceed \$346,000 from the funds appropriated to the State Water Commission in the 2013-2015 biennium (H.B. 1020) to CH2M HILL to investigate the feasibility of delivering Missouri River water to the Jamestown area; and***

3) approve a state cost participation grant of 60 percent of the eligible costs, not to exceed an allocation of \$70,800 from the funds appropriated to the State Water Commission in the 2013-2015 biennium (H.B. 1020), to the Garrison Diversion Conservancy District to support the engineering study efforts provided by Black and Veatch. These actions are contingent upon the availability of funds.

Commissioners Berg, Foley, Goehring, Hanson, Nodland, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

**RED RIVER VALLEY WATER
SUPPLY PROJECT ALTERNATIVE
ROUTE ENGINEERING STUDY,
MISSOURI RIVER HYDROGEOLOGIC
INVESTIGATION - APPROVAL OF
AMENDMENT NO. 1 TO CONTRACT
FOR ENGINEERING SERVICES
(SWC Project No. 325-102)**

On May 29, 2014, the State Water Commission authorized the Secretary to the Commission to investigate the potential for a bank filtration intake system on the Missouri River between Bismarck and Washburn, and approved an allocation not to exceed \$2,500,000 from the funds appropriated to the State Water Commission in the 2013-2015 biennium (H.B. 1020).

A request for engineering proposals was issued for a hydrogeologic investigation and conceptual bank filtration system design on the Missouri River in June, 2014. The purpose of the project was to categorize the potential for subsurface water intakes along the Missouri River between Bismarck and Washburn primarily to investigate the feasibility of a bank filtration system comprised of horizontal collector wells intake option for a potential Red River valley water supply project as well as potential subsurface intake locations for other uses. The scope of work included a review of existing data, geophysical exploration, soil borings, aquifer pumping tests and conceptual design of an intake and an estimate of probable costs. Three proposals were received and interviews were conducted in July, 2014. The team of CH2M HILL/AE2S, working in conjunction with Layne Ramney, was selected for this contract.

Existing hydrogeologic information was assembled and reviewed to seek out the best areas to begin the field investigations under Specific Authorization No. 1, at a cost of \$225,000. Three initial locations were identified and field investigations were conducted under Specific Authorization No. 2, at an estimated cost of \$1,560,000, which began in September, 2014. The field investigations included drilling of bore holes, ground-based geophysical surveys, and an

aerial geophysical survey covering approximately 74 river miles and 700 flight miles of the Missouri River from near Garrison Dam to south of Bismarck. The information from the soil borings and the ground-based geophysical surveys was used to calibrate the information from the aerial survey.

Two sites were selected for aquifer pumping tests which included the construction of a 16-inch test well and multiple monitoring wells. Data from these tests combined with the information from the soil borings and geophysical work will be used for the conceptual design of the bank filtration system. Results of the pumping tests were provided to the Commission staff in December, 2014, and the draft report was available in January, 2015. It was determined that neither of the sites tested would be sufficient to provide the quality of water called for by the initial Request For Proposal.

The consultant recommended extending the project under Specific Authorization No. 3 for the purpose of conducting further field investigations including soil borings and related analyses. The estimated cost of Specific Authorization No. 3 is \$556,400. Amendment No. 1 to Contract for Engineering Services would extend the completion date of the contract to January 31, 2017, and adjust the compensation rates to 2015 values.

It was the recommendation of Secretary Sando that the State Water Commission authorize the Secretary to the Commission to execute Amendment No. 1 to Contract for Engineering Services to CH2M HILL/AE2S.

It was moved by Commissioner Goehring and seconded by Commissioner Swenson that the State Water Commission authorize the Secretary to the Commission to execute Amendment No. 1 to Contract for Engineering Services to CH2M HILL/AE2S.

Commissioners Berg, Foley, Goehring, Hanson, Nodland, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

There being no further business to come before the State Water Commission, Governor Dalrymple adjourned the January 29, 2015 audio telephone conference call meeting at 2:30 p.m.

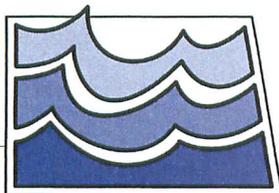




Jack Dalrymple, Governor
Chairman, State Water Commission



Todd Sando, P.E.
North Dakota State Engineer,
and Chief Engineer-Secretary
to the State Water Commission



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Agenda C

MEMORANDUM

TO: Governor Jack Dalrymple
Members of the State Water Commission
FROM: *TSD* Todd S. Sando, P.E., Chief Engineer - Secretary
SUBJECT: Central North Dakota Water Supply Project
DATE: January 27, 2015

CHS, Inc. has been working with the Appropriation Division to identify a water supply for the proposed fertilizer plant near Jamestown. The Appropriation Division has determined that the Spiritwood aquifer in the area could supply the needs of the plant for five years, at which point a more sustainable water source would need to be available. They have investigated the re-use of water from Jamestown and other industries in the area, but the cost of treating sufficient water from these sources is estimated to be equal to or higher than the cost of piping Missouri River water to the area. The use of Missouri River water also provides a more dependable and reliable supply.

The Missouri River water could be delivered from the McClusky canal through a water service contract with the Bureau of Reclamation.

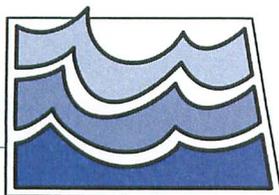
The State Water Commission staff has been working with the Garrison Diversion Conservancy District to determine the feasibility of delivering Missouri River water to the Jamestown area. Since available water in the Jamestown area is limited, we are considering systems that would not only supply water for the CHS plant (11.2 cfs), but that would also supply the current MR&I users in the area (58 cfs) and that would also supply water for irrigation uses (100 cfs).

The State Water Commission contracted with CH2MHill to determine the feasibility of supplying Missouri River water to areas east of the river. The Garrison Diversion Conservancy District has a contract with Black and Veatch to provide engineering service to the District. AE2S is a sub-consultant to both firms. The firms have agreed to work together to investigate the feasibility of delivering Missouri River water to the Jamestown area. The C-District has agreed to provide local cost share for the Black and Veatch portion of the work.

The estimated cost of the effort is \$464,000 with the CH2MHill/AE2S portion being \$346,000 and the Black and Veatch portion being \$118,000.

I recommend that the State Water Commission authorize the Chief Engineer to execute a specific authorization with CH2MHill in the amount of \$346,000 to investigate the feasibility of delivering Missouri River water to the Jamestown area. I further recommend that the State Water Commission approve the request from the Garrison Diversion Conservancy District to cost share 60 percent of the cost of Black and Veatch portion of the investigation at an amount not to exceed \$70,800 from the funds appropriated to the State Water Commission in the 2013 – 2015 biennium.

TS:BE:ph



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Agenda

MEMORANDUM

TO: Governor Jack Dalrymple
Members of the State Water Commission
FROM: *T.S.* Todd Sando, P.E., Chief Engineer-Secretary
SUBJECT: Contract for Engineering Services #325-102 – Missouri River Hydrogeologic Investigation Amendment No. 1
DATE: January 21, 2015

The North Dakota State Water Commission (NDSWC) authorized the Chief Engineer – Secretary to investigate the potential for a bank filtration system intake system on the Missouri River between Bismarck and Washburn at its May 29, 2014, meeting for a cost of up to \$2.5 million. A request for engineering proposals (RFP) was issued for a hydrogeologic investigation and conceptual Bank Filtration System (BFS) design on the Missouri River in June. The purpose of the project was to categorize the potential for subsurface water intakes along the Missouri River between Bismarck and Washburn primarily to investigate the feasibility of a BFS comprised of Horizontal Collector Wells (HCW) intake option for a potential Red River Valley Water Supply Project as well as potential subsurface intake locations for other uses. The scope of work included review of existing data, geophysical exploration, soil borings, aquifer pumping tests and conceptual design of an intake along with estimate of probable costs. Three proposals were received and interviews were conducted July. The team of CH2MHill/AE2S working in conjunction with Layne Ranney was selected for this contract.

Existing hydrogeologic information was assembled and reviewed to seek out the best areas to begin the field investigations under Specific Authorization (SA) No. 1. Three initial locations were identified and field investigations were conducted under SA No. 2 which began in September. The field investigations included drilling of boreholes, ground based geophysical surveys, and an aerial geophysical survey covering approximately 74 river miles and 700 flight miles of the Missouri River from near Garrison Dam to south of Bismarck both along the channel, either bank, and 1000 feet out from either river bank. The soil information from the test bores and the ground based geophysical surveys was used to calibrate the information from the aerial survey.

The two most promising sites were selected for aquifer pumping tests. Aquifer tests included construction of a 16-inch test well and multiple monitoring wells. The test wells were pumped for the requisite time frame to define the aquifer characteristics beginning the week of November 17th. Water samples were taken to define the water quality and interaction with the river. Data from these tests combined with the information from the soil borings and geophysical work will be used for the conceptual design of the BFS. Results of the pumping tests were presented to the SWC staff in the first week of December. A draft report was

JACK DALRYMPLE, GOVERNOR
CHAIRMAN

TODD SANDO, P.E.
CHIEF ENGINEER AND SECRETARY

January 21, 2015

presented to the SWC staff in early January. None of the sites tested would be sufficient to provide the quantity of water called for by the initial RFP. The consultant recommends extending the project under a third specific authorization to conduct further field investigations including soil borings and related analyses. Another round of aquifer pumping tests may be warranted pending the findings of the next round of soil borings. The cost of SA No. 1 was \$225,000, the estimated cost of SA No. 2 is \$1.56 million and the estimated cost of the proposed SA No. 3 is \$556,400. Amendment No. 1 to Contract for Engineering Services #325-102 would extend the completion date of the contract and adjust compensation rates to 2015 values.

I recommend the State Water Commission approve Amendment No. 1 to Contract for Engineering Services #325-102.

TS:TF:ph/325-102

**AMENDMENT ONE to
SWC Project #325-102
Contract for Engineering Services**

This Amendment No. 1 is to CH2M HILL's Contract for Engineering Services dated September 2014.

The purpose of this Amendment is to extend the period of performance for services to allow for additional Specific Authorizations to further advance the Red River Valley Water Supply Project and to update the Compensation Schedule to 2015 rates.

1. Replace the Background as follows: Commission requires investigations and engineering services to provide Missouri River water for the Red River Valley Water Supply Project and other potential users.
2. Modify the Scope of Work as follows:
 - a. Modify Paragraph "d" as follows: Provide the completed project deliverables as identified in each Specific Authorization to the Commission by the date(s) specified in the Specific Authorization.
3. Modify the Term of Contract as follows:
 - a. Replace "January 31, 2015" with "January 31, 2017".
4. Modify Exhibit A, CH2M HILL Compensation Schedule as follows:
 - a. Change "2014" to "2015".
 - b. Increase hourly rates for Per Diem Codes 1 through 4 by 1.5% and 5 through 19 by 3%.

This Amendment and the services covered by this Amendment will be performed in accordance with the Provisions and any attachments or schedules of the Contract. This Amendment will become a part of the referenced Contract when executed by both parties.

North Dakota State Water Commission:

CH2M HILL ENGINEERS, INC.:

Signature _____
Name Todd Sando, P.E.
Title Chief Engineer and Secretary
Date _____

Signature _____
Name Thomas J. Helgeson
Title Vice President and Area Manager
Date _____