

The Oxbow

FROM THE NORTH DAKOTA STATE WATER COMMISSION



Telemetry Innovations

Responding to legislative concerns about monitoring increased water usage by the oil industry, the Water Commission began a study in 2011 to determine the most effective and cost-efficient method of implementing telemetry to track withdrawals.

In general, the providers of remote telemetry have developed proprietary methodologies for collecting and compiling information for their respective meter installations. This resulted in a lack of uniformity in the organization of the data from one vendor site to the next. Accessing, collecting, and analyzing the data, would have required the Water Commission to maintain separate accounts and remotely log-in and collect the information for each

site. This process would have been very time-consuming, and would have required significant resources to maintain and verify account information for each site with the remote telemetry installed.

To utilize the existing telemetry technology, the Water Commission would have been required to mandate the use of either a single vendor, or a limited selection of vendors to develop some consistency in the water use monitoring process. The study examined a range of alternatives (see March issue of ND Water Magazine) and ultimately developed recommendations that included the establishment of uniform data specifications through which users would “push” reported measurements through a computer

program developed by the Water Commission. Using this approach, the Water Commission provided the means to standardize the data and the reporting process, while avoiding interfering with the relationship between the water user and the remote telemetry provider.

The water use information was tracked using a relatively simple program developed by Water Commission staff. The program provided specifications for exchanging formatted information between different computer and software systems via the Internet. The developed program provides a simple data format that allows water users to transmit data to a remote source.

The requirement to provide data in the same format through a standardized program has resulted in numerous benefits.

- 1) Ease and simplicity of data reporting
- 2) Simplicity and efficiency for data analysis
- 3) Portability for water users and regulatory entities

Prior to the implementation of the water use data computer program, water depot owners were required to file monthly meter

reading reports. In addition, Water Commission staff were required to spend significant time inputting data from the various water users, which delayed reporting efforts, and hampered analysis. The Water Commission-designed program allows the data to be quickly and easily filed, reviewed, categorized, and scanned for trends.

Because the Office of the State Engineer (OSE) is a regulatory entity, with the force of law behind its actions, it was able to require all water users to incorporate this

methodology into their activities. Other water and natural resource managers have been closely watching North Dakota's telemetry data gathering efforts, and are now incorporating these services into their own projects areas.

When the oil fracking boom came to North Dakota, it provided a lot of challenges. Implementation of the new telemetry program proves that challenges can often lead to innovation.

Water Depots

Monitor Telemetry Selected Records : 26

Name	Depot ID	Depot Approp	Status	Station ID	Location	Meter	Model	Units	Date	Reading	Elapsed D
	50	184.1	●	30	15110109CAAC	McCrometer MF-106	FC100-02-K	Barrels	8/8/13	693021	0
▼ McCrometer MF-106 (1) Water Depots											
	39	113.5	●	23	16310234CBBC	McCrometer	MF-106	Barrels	8/7/13	658889	1
	39	113.5	●	24	16310234CBBC	McCrometer	MF-106	Barrels	8/8/13	570303	0
▼ McCrometer MF-106 (2) Water Depots											
	26	495.7	●	31	15209015CCCC	McCrometer	FC100-02-K	Barrels	8/7/13	260977	1
	26	495.7	●	32	15209015CCCC	McCrometer	FC100-02-K	Barrels	8/7/13	369318	1
▼ Sensus T2AWWA Class I (2) Water Depots											
	22	200.0	●	20	14609120AADA	Sensus	T2AWWA Class I	Gallons	8/7/13	2183551	1
	22	200.0	●	21	14609120AADA	Sensus	T2AWWA Class I	Gallons	8/7/13	1799853	1
▼ McCrometer FC100-02M (2) Water Depots											
	11	729.5	●	48	15409618ADAAB	McCrometer	FC100-02M	Barrels	8/7/13	1290959	1
	11	729.5	●	49	15409618ADAAB	McCrometer	FC100-02-M	Barrels	8/7/13	132169	1
▼ McCrometer MF106 (2) Water Depots											
	9	729.5	●	25	15910017DAA	McCrometer	MF106	Barrels	8/6/13	304409	2
	9	266.1	●	26	15910017DAA	McCrometer	MF106	Barrels	8/6/13	302539	2
▼ McCrometer MF106 (2) Water Depots											
	4	729.5	●	1	15710005A	McCrometer	MF106	Barrels	8/7/13	965475	1
	4	266.1	●	2	15710005A	McCrometer	MF106	Barrels	8/7/13	825421	1
▼ McCrometer MF 104 (4) Water Depots											
	3	698.9	●	42	15409617BCAAB	McCrometer	MF 104	Barrels	7/31/13	14411	8
	3	698.9	●	40	15409617BCBB	McCrometer	MF 106	Barrels	8/7/13	1159509	1
	3	266.1	●	41	15409617BCBB	McCrometer	MF 106	Barrels	8/7/13	1460715	1
	3	266.1	●	44	15409617BCAAB	McCrometer	MF 106	Barrels	8/7/13	471060	1
▼ McCrometer MF 106 (4) Water Depots											
	2	800.0	●	50	16009732DDD	McCrometer	MF 106	Barrels	2/4/13	218843	185
	2	800.0	●	53	16009732DDD	McCrometer	MF 104	Barrels	4/11/13	98619	119
	2	495.7	●	51	16009732DDD	McCrometer	MF 106	Barrels	8/7/13	683311	1
	2	495.7	●	52	16009732DDD	McCrometer	MF 106	Barrels	8/7/13	804977	1

View by Status Group by Depot ● BELOW ● NEAR ● AT/OVER Done

A screen capture of the standardized telemetry program. A side benefit of the newly developed program, is that it is now simple to determine where water users stand in relation to their annual allowable water appropriation amounts. The colored "Status" column indicates where the water user is in relation to their annual allowable appropriation of water.

Water Theft & Unauthorized Water Sales for Industrial Uses in North Dakota: Know The Facts



The increasing need for water to serve the oil and gas industry has also increased the temptation to take or sell water from locations where it is readily available. However, the taking or selling of water for industrial use without a permit is illegal in North Dakota.

There are joint criminal and civil penalties that can be applied in instances involving the unauthorized use or sale of water. The criminal penalty is a Class A misdemeanor, and the civil penalty is a fine of up to \$25,000 per day. This can apply to individuals, communities, or businesses.

The following frequently asked questions address a number of common issues associated with the unauthorized use, taking, or sale of water for industrial Purposes:

I'm a landowner, and I've caught individuals filling water trucks from a pond on my property without my permission. What recourse do I have?

Not only are those individuals trespassing, but it is also illegal for them to take water from a pond (or any other source) without a permit. There are joint criminal and civil penalties that can be applied in instances involving the unauthorized use of water.

If a company offers to pay an individual, community, or business for water, can the water be sold?

The Office of the State Engineer must grant a permit before any water can be used or sold for industrial purposes. The permit will specify the source of water and how much can be pumped each year.

If water is sold for industrial purposes without a water permit, what can happen?

There are joint criminal and civil penalties that can be applied in instances involving the unauthorized use or sale of water. The criminal penalty is a Class A misdemeanor, and the civil penalty is a fine of up to \$25,000 per day.

If more water is sold than is authorized in a permit, what can happen?

The amount of water sold or used beyond the allocated annual amount is subtracted from the amount available the following year, and a fine is levied based on the amount of overuse. In addition, offenders may have their water permit revoked

If I see an illegal taking of selling of water, whom should I contact?

If you see or are made aware of the unauthorized taking or sale of water, please contact North Dakota's Office of the State Engineer (OSE) at (701) 328-2754. Be as descriptive as possible – including who, when, about how much, and where the potential offense took place. If the unauthorized use or taking of water involves trespassing, please contact local law enforcement.

To assist law enforcement agencies throughout the counties affected by the oil and gas industry, the OSE is providing training opportunities to help further their understanding of water laws and unauthorized sales of water in ND. The OSE hopes that agencies will become more aware of the issues and share information when opportunities arise.



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