

From: Andy Shadrack [ashadra@telus.net]
Sent: Thursday, February 21, 2013 6:10 AM
To: Commission Secretary BCUC:EX
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ngabana@gmail.com; rhhobbs@shaw.ca; shonnahayes@shaw.ca; support@bcpiac.com;
support@bcpiac.com; tbraithwaite@bcpiac.com
Subject: Addenda Response to BCSEA/Sierra Club IR # 1.8
Attachments: Techadvantage eTwacs Release FINAL.PDF

Victoria

Thursday February 21

Attention Erica Hamilton, Commission Secretary

RE: FortisBC Inc Advance Metering Infrastructre CPCN

Subject: Addenda Response to BCSEA/Sierra Club IR # 1.8

On behalf of Area D, I submit the following email and attachment as an addenda to a response to BCSEA/Sierra Club IR # 1.8.

Repectfully submitted

Andy Shadrack
Director Area D
RDCK

From: "Weber, Bill" <BWeber@aclara.com>
To: 'Andy Shadrack' <ashadra@telus.net>
Subject: RE: Changes In TWACS Technology
Date: Tue, 19 Feb 2013 15:41:05 +0000

Hi Andy,

Thanks for sending the links to Idaho's filings. I got a chance to read through the material this morning. My response to this question is below:

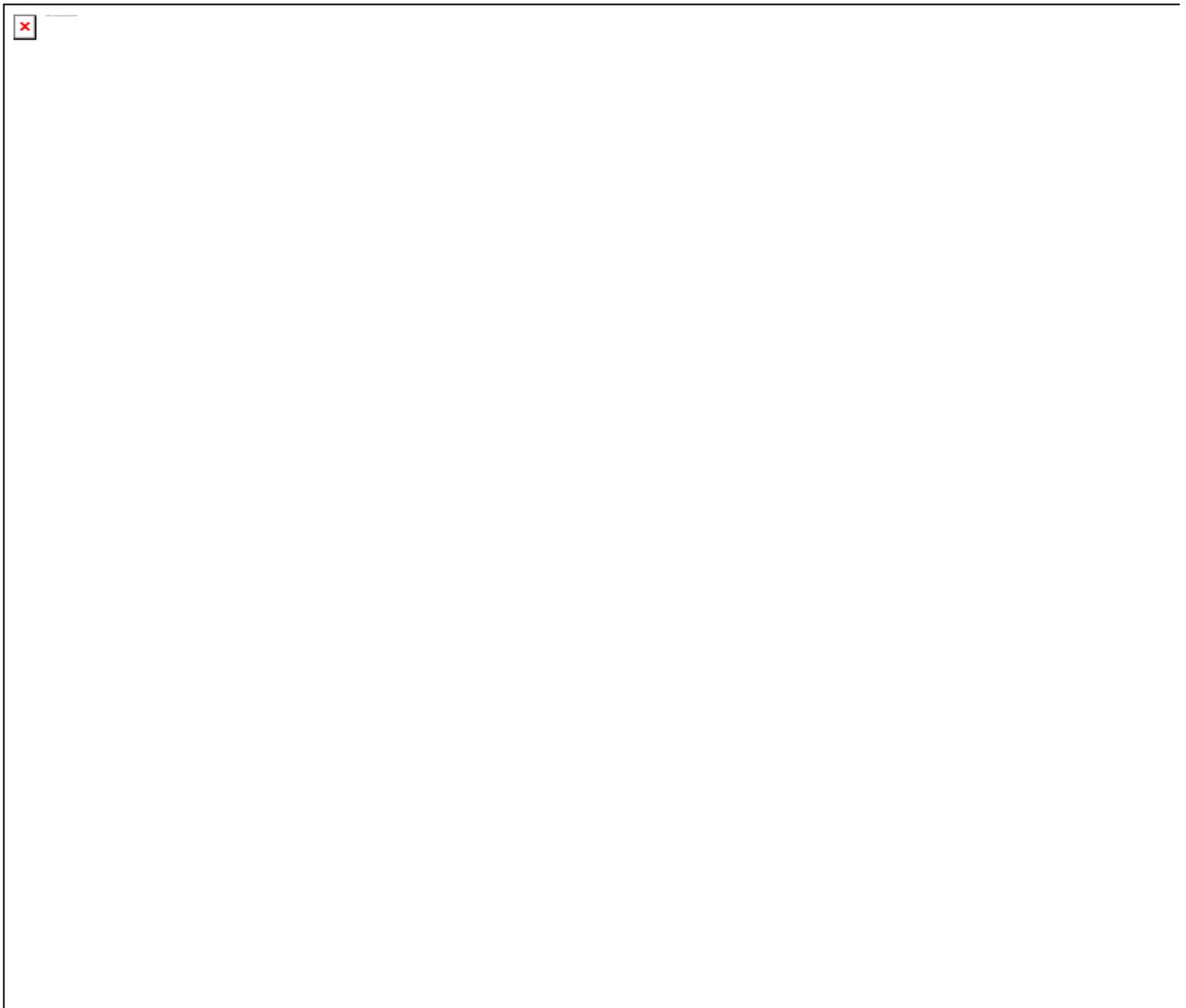
“What significant changes in technologies or costs of technologies for smart meters have emerged between the time of the Idaho Power Company AMI application and the present that might affect the expected capabilities and costs of a smart meter system being proposed today relative to when the Idaho Power Company filed its application?”

So in reading the material provided, it is not specific enough to identify the differences you ask about. Idaho Power's deployed TWACS hardware(substation equipment and meters) supports the eTWACS discussed in the

attached announcement, but to date has not been utilized by Idaho Power because the head end software to support it was not available. That software has recently been released. eTWACS was tested and validated at Idaho Power. eTWACS provides the ability to collect data faster, leaving more network capacity to collect additional data(Voltage, smaller intervals - 15 Min vs. hourly, more intervals – multiple channels such as Voltage, support outage and restoration efforts and perform demand response.

As an example of Demand Response, Florida Power and Light has deployed the TWACS system only for Demand Response. They use it for peak shaving, economic benefit of not having to purchase expensive power off the grid at peak times and as a frequency response tool – shedding load in 18-20 seconds is faster than starting additional generation to extinguish frequency variations due to load shifts.

Here is a chart that shows TWACS-10 Vs. eTWACS – albeit a bit busy:



The blue bars show meters per bus. The reddish-brown squares show the remaining network capacity(%) with TWACS-10 following a collection of AMI interval and daily consumption data. The green triangles show the

remaining network capacity with eTWACS for the same data collected. Notice the bigger busses on the left have a dramatic available capacity increase. With TWACS-10 there is only 20-30% capacity left. With eTWACS, there is 70-80% capacity available. Both TWACS-10 and e-TWACS will read 99.7% of all requested data! It is very reliable day in and day out. The smaller buses on the right of the chart do not show much network capacity improvement, but guess what, they don't need it, they already have plenty of network capacity available. Hence eTWACS can be deployed selectively. eTWACS automatically scales up based on the number of feeders on a bus. Four feeders will generally provide a 3 times improvement in network capacity while an eight feeder bus will provide around a 6 times increase in network capacity.

The neat thing for our existing customers is that they can selectively migrate to this technology based on data requirements and substation size at a fraction of the cost to redeploy an entire new AMI system. For new customers, the system cost remains flat with a significant increase in system capacity and functionality.

I hope this helps you in your quest. I am happy to provide the information as I believe it will also help Aclara. I would greatly appreciate an introduction to BC Hydro, FortisBC and to municipals that you believe would have an interest in our TWACS System,

The key to TWACS and eTWACS is that it provides the utility with surety of network costs while providing a 100% reliable communication with endpoints with the capacity to do whatever the utility may encounter over the upcoming years.

Thank-you
Bill

Bill Weber
Director, Account Management

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From: Andy Shadrack [<mailto:ashadra@telus.net>]
Sent: Friday, February 15, 2013 8:45 AM
To: Weber, Bill
Subject: RE: Changes In TWACS Technology

Kaslo

Friday February 15

Bill, you can find Idaho Powers application as it was filed before the Idaho Public Utilities Commission at:

AMI CPCN: <http://www.puc.idaho.gov/internet/cases/summary/IPCE0816.html>

The application itself was filed on August 5, 2008 and includes a general description, indented, of benefits at page 6

<http://www.puc.idaho.gov/internet/cases/elec/IPC/IPCE0816/20080805APPLICATION.PDF>

Mark Heintzleman describes the deployment of TWACS at:

<http://www.puc.idaho.gov/internet/cases/elec/IPC/IPCE0816/company/20080805HEINTZELMAN%20DIRECT.PDF>

An explicit description starts at page 8 line 11 and continues to page line 10.

I assume that with TWACS the main change can be in the software improving, rather than the hardware.

Cheers
Andy
Director Area D

At 04:45 AM 15/02/2013, you wrote:
Hi Andy,

Can you tell me when Idaho Power Company filed their AMI application? Do you have a copy of what they filed? Reason being, they may have filed conservatively and not included all capabilities. Idaho Power has our latest network and endpoints. I know they are not yet using the network to its fullest capabilities.

We will have a big announcement regarding our network capabilities next week at TechAdvantage. Idaho Power's network supports this capability, but our company is very conservative and does not make these announcements until the system is working and validated in an operating system.

Regards,
Bill

From: Andy Shadrack [<mailto:ashadra@telus.net>]
Sent: Thursday, February 14, 2013 4:51 PM
To: Weber, Bill
Subject:

Kaslo

Thursday February 14

Bill any insight you can give me for this question would be most appreciated:

1.7 What significant changes in technologies or costs of technologies for smart meters have emerged between the time of the Idaho Power Company AMI application and the present that might affect the expected capabilities and costs of a smart meter system being proposed today relative to when the Idaho Power Company filed its application?

Further in terms of BC BC Hydro and FortisBC are the two largest electric utilities in BC, after which there are only a few municipal ones, but I would be more than happy to find a way to introduce you to some of them.

Cheers
Andy
Director Area D
RDCK

ACLARA ANNOUNCES ITS NEXT GENERATION ADVANCED METERING INFRASTRUCTURE COMMUNICATION SYSTEM FOR ELECTRIC UTILITIES AT TECHADVANTAGE

ST LOUIS – Feb. 19, 2013 – Aclara Technologies LLC, a leading provider of intelligent infrastructure solutions and a member of the utility solutions group of ESCO Technologies Inc. (NYSE: ESE), today announced enhanced TWACS® (eTWACS™) at TechAdvantage 2013 in New Orleans. Aclara's TWACS power-line communications technology is the leading advanced metering infrastructure (AMI) solution nationwide, communicating with more than 13.5 million deployed smart devices and retrieving hourly data with a read rate higher than 99 percent for over 360 utilities.

With eTWACS, utilities now can send and receive more data over power lines than they could with earlier generations of TWACS. The eTWACS protocol allows concurrent, bidirectional transmission of data on all three phases of an AC electrical distribution feeder as well as on all busses and substations simultaneously. The net effect in most cases can triple the communications capacity of an Aclara power-line communications system and add significant capacity for future communication needs.

What does this mean to the utility? Utilities now can use the additional capacity provided by eTWACS to handle smart grid applications above and beyond meter reading. Utilities deploying eTWACS now will have plenty of capacity to handle tasks such as outage management, load control, and distribution management. For example, testing by Aclara confirmed that with eTWACS the time to retrieve a full complement of "shifted" meter data from a 5000-meter bus, including intervals, voltages, kilowatt hours, tamper indicators, error flags, and demand, could be reduced from 60 to 20 minutes.

"For utilities that are looking for solid, reliable, high-capacity performance from an AMI system, Aclara eTWACS really cannot be beaten," said Ed Kobeszka, product manager for Aclara. "Each eTWACS-enabled meter is capable of providing significant data to the utility including interval reads, load profiles, voltage reads, outage data, and tamper notifications as well insight into power quality. With eTWACS this data is collected both quickly and accurately."

The two-way functionality of eTWACS also allows the utility to communicate effectively to each endpoint to issue on-request reads, control load-shed events, remotely connect and disconnect meters, and download feature enhancements. Aclara eTWACS is fully backward compatible with previous versions of TWACS equipment so that eTWACS-capable and earlier generation TWACS technology endpoints can coexist while maximizing communication capacity.

For media inquiries:**Nancy E. Talley**

Marketing Communications Manager

440-528-7287

ntalley@aclara.com**About Aclara**

Aclara® represents the industry's leading Intelligent Infrastructure technologies for providing device networking, data-value management, and customer communications to water, gas, and electric utilities globally. Over 500 utilities in nine countries rely on proven Aclara solutions to connect with their customers. Aclara Technologies LLC is part of the Utility Solutions Group of ESCO Technologies Inc. (NYSE: ESE), St. Louis. Create Your Intelligent Infrastructure™ www.Aclara.com.