OpenDCS 6

DCP Monitor User Guide

Document Revision 1

February, 2016

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1 Overview

The OpenDCS-Azul DCP Monitor is a web-based tool for monitoring your data collection activities.

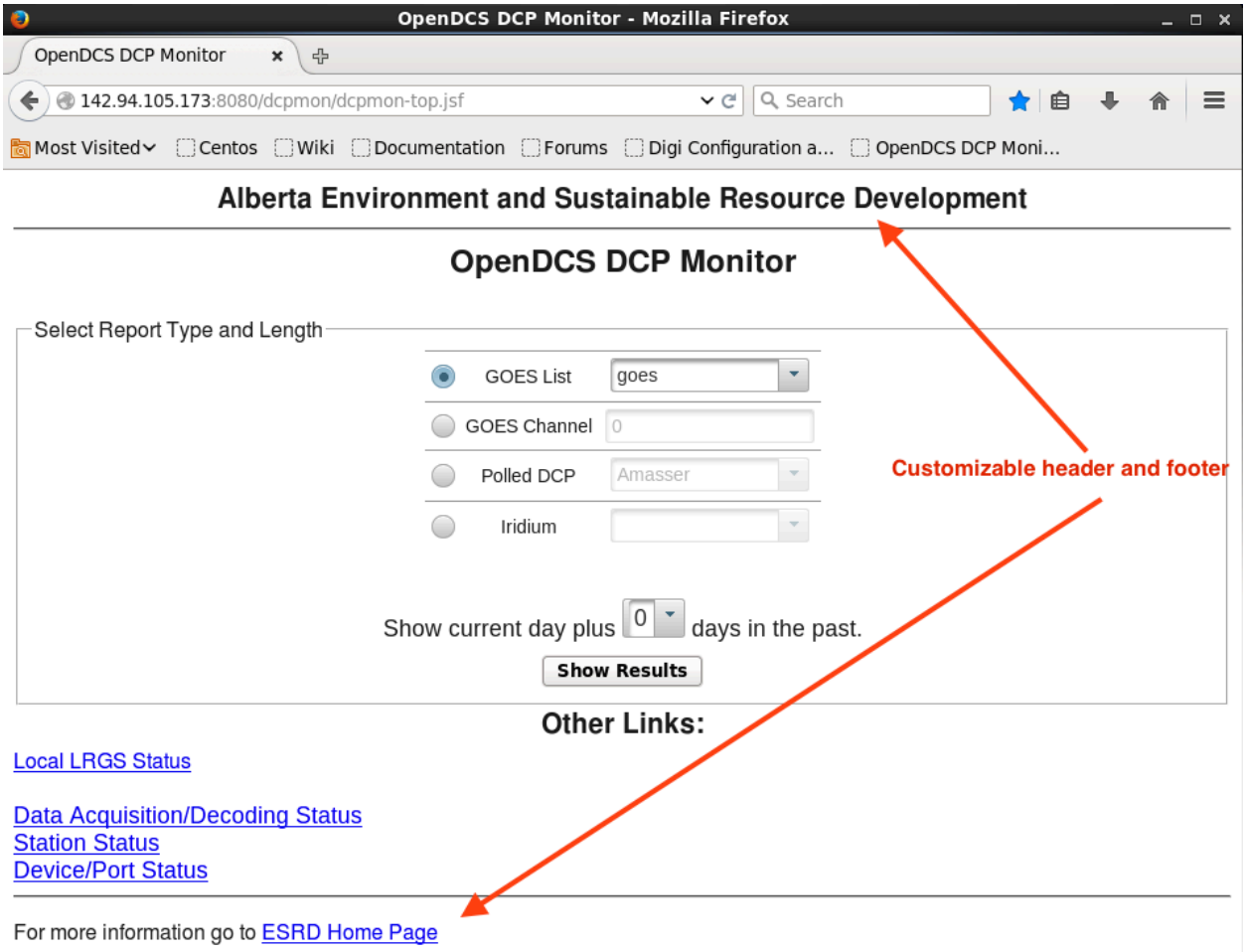
1.1 Glossary and List of Acronyms

CP	Computation Processor – the background program that executes computations as new data arrives.
CCP	CWMS Computation Processor – i.e. the CP configured for CWMS.
CWMS	Corps Water Management System (pronounced 'swims') - A system for hydrologic data storage and analysis used by USACE.
DAS	Data Acquisition Server – responsible for collecting raw DCP messages via a variety of satellite and internet links.
DBMS	Database Management System
DCP	Data Collection Platform – equipment in the field that collects and transmits raw environmental measurements.
DCS	Data Collection System
DECODES	DEviceCOnversion and DElivery System – A collection of software for decoding raw environmental data, and converting it to a time-series in a variety of formats.
ERD	Entity Relationship Diagram
GUI	Graphical User Interface
HDB	Hydrologic Database – A system for hydrologic data storage an analysis used by USBR.
LRGS	Local Readout Ground Station – This is synonymous with DAS. It is the legacy name for a Data Acquisition Server.
NWIS	National Water Information System - A system for hydrologic data storage an analysis used by USGS.
SDI	Site Data-type ID. In HDB this is used to denote a particular parameter at a particular site. It is stored as a numeric ID.
SQL	(a.k.a. "sequel") Structured Query Language
TSDB	Time Series Database
USACE	U. S. Army Corps of Engineers
USBR	U. S. Bureau of Reclamation
USGS	U. S. Geological Survey
XML	Extensible Markup Language

2 DCP Monitor Screens

2.1 The Opening Screen

The top level screen is shown below in the DCP Monitor for Alberta ESRD. The header and footer are customizable for each installation. These would typically contain the name of the organization and links to the organization's main web site.

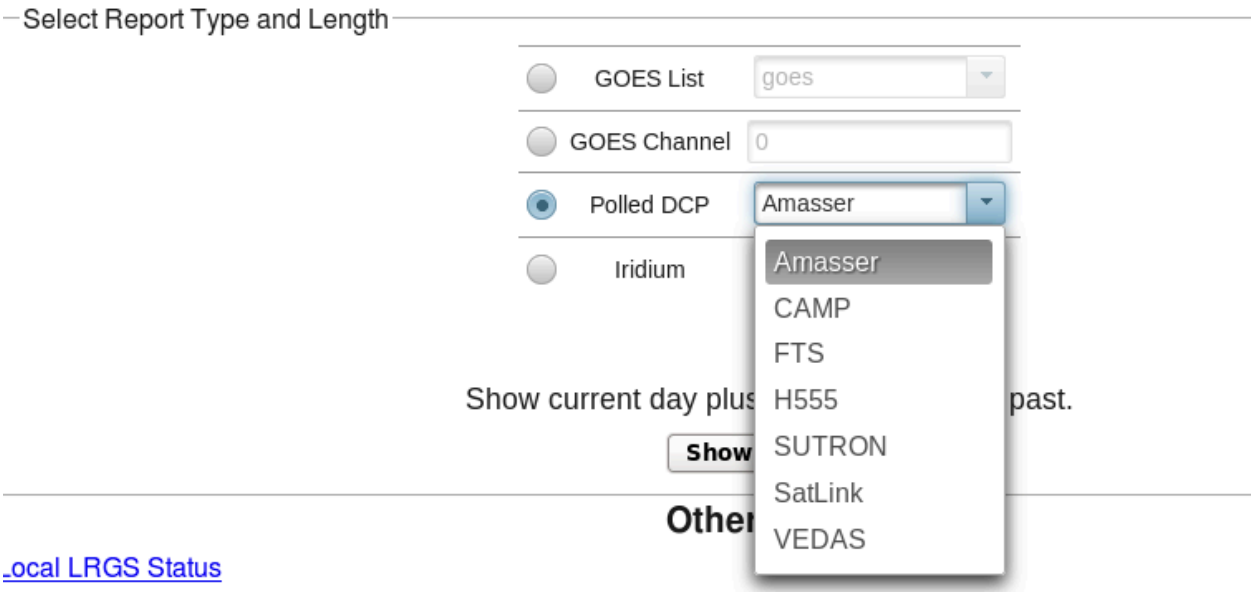


In the center area of the screen you select the DCP group that you want to monitor and the number of days to display. You can select by:

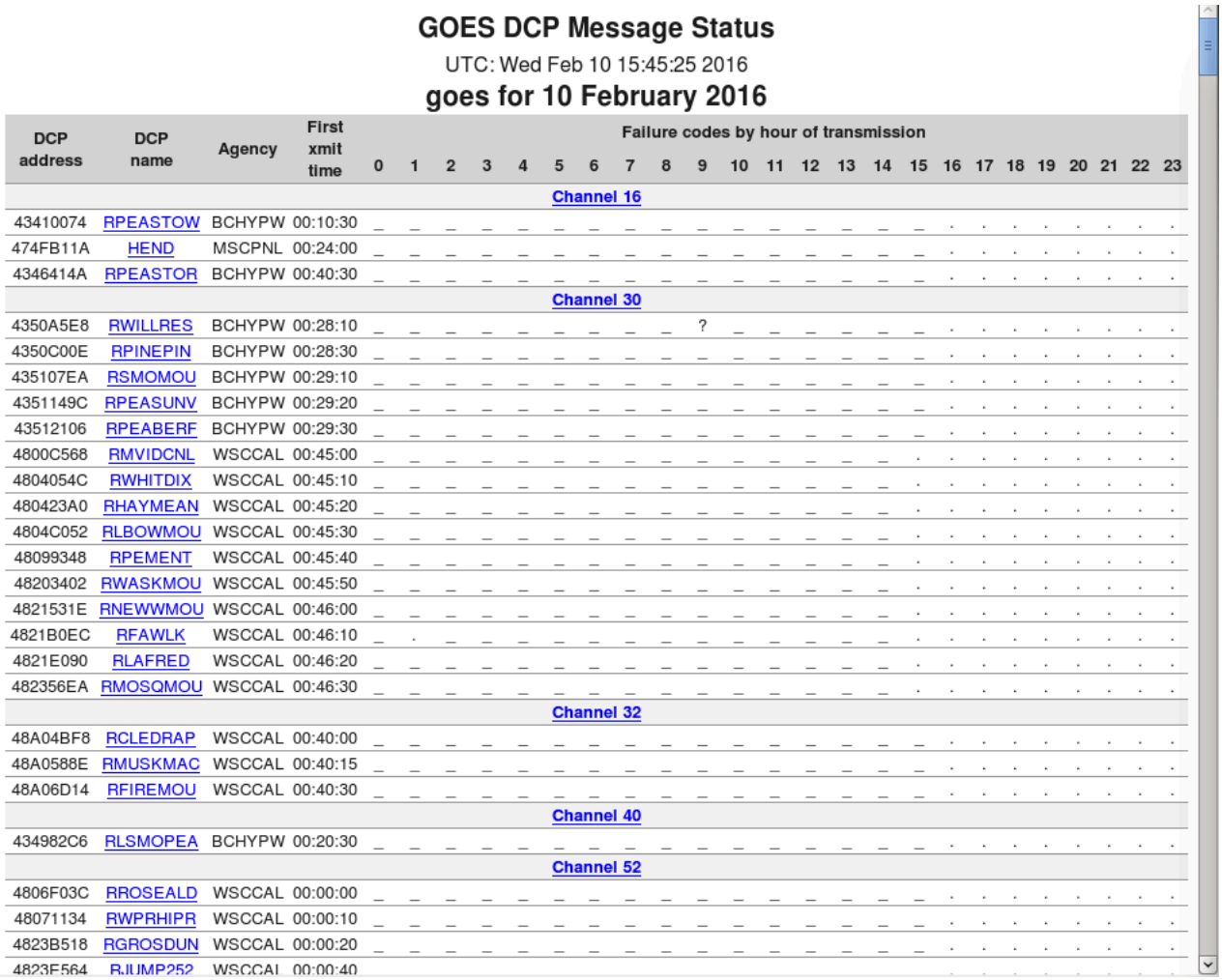
- GOES List: You can create any number of lists of DCPs, segregated by basin, region, etc.
- GOES Channel

- Polled DCP: These are modem, cell-modem, and network DCPs that are polled dynamically by the system. Again, you can create names groups.
- Iridium

The snap below shows that the Polled DCPs contains groups that we have defined for the type of DCP:



Once you have made your selection, click “Show Report”. This generates the high-level view of the data. The following snap shows the current day’s data for GOES platforms.



GOES DCP Message Status

UTC: Wed Feb 10 15:45:25 2016

goes for 10 February 2016

DCP address	DCP name	Agency	First xmit time	Failure codes by hour of transmission																							
				0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
				Channel 16																							
43410074	RPEASTOW	BCHYPW	00:10:30	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	.	.	.	.	.	.	.	.
474FB11A	HEND	MSCPNL	00:24:00	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	.	.	.	.	.	.	.	.
4346414A	RPEASTOR	BCHYPW	00:40:30	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	.	.	.	.	.	.	.	.
				Channel 30																							
4350A5E8	RWILLRES	BCHYPW	00:28:10	_	_	_	_	_	_	_	_	_	?	_	_	_	_	_	_	.	.	.	.	.	.	.	.
4350C00E	RPINEPIN	BCHYPW	00:28:30	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	.	.	.	.	.	.	.	.
435107EA	RSMOMOU	BCHYPW	00:29:10	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	.	.	.	.	.	.	.	.
4351149C	RPEASUNV	BCHYPW	00:29:20	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	.	.	.	.	.	.	.	.
43512106	RPEABERF	BCHYPW	00:29:30	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	.	.	.	.	.	.	.	.
4800C568	RMVIDCNL	WSCCAL	00:45:00	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	.	.	.	.	.	.	.	.	.
4804054C	RWHITDIX	WSCCAL	00:45:10	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	.	.	.	.	.	.	.	.	.
480423A0	RHAYMEAN	WSCCAL	00:45:20	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	.	.	.	.	.	.	.	.	.
4804C052	RLBOWMOU	WSCCAL	00:45:30	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	.	.	.	.	.	.	.	.	.
48099348	RPEMENT	WSCCAL	00:45:40	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	.	.	.	.	.	.	.	.	.
48203402	RWASKMOU	WSCCAL	00:45:50	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	.	.	.	.	.	.	.	.	.
4821531E	RNEWWMOU	WSCCAL	00:46:00	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	.	.	.	.	.	.	.	.	.
4821B0EC	RFAWLK	WSCCAL	00:46:10	_	.	_	_	_	_	_	_	_	_	_	_	_	_	_	.	.	.	.	.	.	.	.	.
4821E090	RLAFRED	WSCCAL	00:46:20	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	.	.	.	.	.	.	.	.	.
482356EA	RMOSQMOU	WSCCAL	00:46:30	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	.	.	.	.	.	.	.	.	.
				Channel 32																							
48A04BF8	RCLEDRAP	WSCCAL	00:40:00	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	.	.	.	.	.	.	.	.
48A0588E	RMUSKMAC	WSCCAL	00:40:15	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	.	.	.	.	.	.	.	.
48A06D14	RFIREMOU	WSCCAL	00:40:30	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	.	.	.	.	.	.	.	.
				Channel 40																							
434982C6	RLSMOPEA	BCHYPW	00:20:30	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	.	.	.	.	.	.	.	.
				Channel 52																							
4806F03C	RROSEALD	WSCCAL	00:00:00	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	.	.	.	.	.	.	.	.
48071134	RWPRHIPR	WSCCAL	00:00:10	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	.	.	.	.	.	.	.	.
4823B518	RGROSDUN	WSCCAL	00:00:20	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	.	.	.	.	.	.	.	.
4823F564	RJUMP252	WSCCAL	00:00:40																								

The columns of the report are:

- DCP Address
- DCP Name – as defined in your DECODES database
- Agency – as defined in the NOAA Platform Description Table
- First Transmit Time of Day – as assigned by NOAA
- 0…23 hour of day

Data is sorted by channel and by time within the channel. This way, you see adjacent time slots so that you can easily detect cases where one DCP transmits late (or early) and interferes with another.

The main body of the report shows codes for messages received within the hour. The underscore means a good message. Period means no message received (yet) for that your. This way, any error codes pop out.

A field of underscores = GOOD!

At the bottom of the report you find a legend explaining all the possible codes:

Failure code legend

_ or G	Good DCP Message
?	DCP Message with Parity Error
A	DCP message contained a correctable address error
B	DCP message contained a bad (unknown) address
D	DCP message was duplicated (i.e. received on multiple channels)
I	DCP message had an invalid address
M	The DCP message for the referenced platform was missing (not received in its proper time slice)
N	The referenced platform has a non-complete entry in the DAPS Platform Description Table (PDT)
Q	DCP message had bad quality measurements
T	DCP message was received outside its proper time slice (early/late)
U	DCP message was unexpected
W	DCP message was received on the wrong channel
C	Excessive carrier before start of message
S	Low signal strength
F	Excessive frequency offset
X	Bad modulation index
V	Low battery voltage

Note the '?' code for RWILLRES during the 9 o'clock hour. This means that the message arrived with parity errors.

Here's another section of the same report:

346346E0	RSMYLK	BURGPR	00:20:35	_V	_V	_V	_V	_V	_V	_V	_V	_V	_V	_V	_V	_V	_V	_V	_V
48246144	RGREGLK	WSCCAL	00:28:40	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
45583F32	RPONYCHA	WSCCAL	00:28:50	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
48057126	RBATTFOR	WSCCAL	00:29:00	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
45490FCC	RMCLWHIT	WSCCAL	00:29:10	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
4549011E	RSAGWILD	WSCCAL	00:29:20	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
4551BF7A	RHAYHAY	WSCCAL	00:29:30	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
480076E6	RSMOHELL	WSCCAL	00:29:40	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
4800A08E	RPEIGPAK	WSCCAL	00:29:50	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
4803816C	RSWABLK	WSCCAL	00:40:10	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
4803921A	RROSECAR	WSCCAL	00:40:20	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
4803E48A	RBERRMOU	WSCCAL	00:40:40	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
480BB050	RSHEBPRA	WSCCAL	00:41:00	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
480FE516	ROLDMOU	WSCCAL	00:41:10	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
48070242	RSHORNLK	WSCCAL	00:41:20	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
4809A6D2	RBLINBLA	WSCCAL	00:41:40	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
4800B3F8	RBIRALIC	WSCCAL	00:41:50	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
482094FA	RBROWFOR	WSCCAL	00:42:00	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
48044646	RFREEFTA	WSCCAL	00:42:10	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
4804D324	RSAMSCHU	WSCCAL	00:42:20	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
4804F5C8	RJACKWAD	WSCCAL	00:47:00	_	_	_	_	_	_	_	_	_	_	_	_	_	_	.	.
48202774	RPINUCNL	WSCCAL	00:47:10	_	_	_	_	_	_	_	_	_	_	_	_	_	_	.	.
48204292	RPINEOUT	WSCCAL	00:47:20	_	_	_	_	_	_	_	_	_	_	_	_	_	_	.	.
482051E4	RPINERES	WSCCAL	00:47:30	_	_	_	_	_	_	_	_	_	_	_	_	_	_	.	.
48268742	RWILOXL	WSCCAL	00:47:40	_	_	_	_	_	_	_	_	_	_	_	_	_	_	.	.
48269434	RBOWMOU	WSCCAL	00:54:00	_	_	_	_	_	_	_	_	_	_	_	.	.	.	.	.
482710DA	RBEARSUN	WSCCAL	00:54:10	_T	_T	_	_T	_T	_T	_T	_	_T	_T	_T	_T	_T	_T	_T	.
444225E8	GW0983	ALBERT	02:04:00																

We see that RSMYLK is reporting low battery voltage on every message.

We also see the RBEARSUN is transmitting outside its NOAA-assigned window on most messages. Let us dig down to find out why. Click the link on platform name 'RBEARSON' to get a detailed report for that platform:

GOES DCP Full Performance Parameters

UTC: Wed Feb 10 15:58:26 2016

RBEARSUN

DCP Address:	482710DA
First transmit window:	00:54:10
Self-timed channel:	138
Transmission interval:	01:00:00
Transmission window:	10
Baud rate:	300

GOES channel	Date	Transmit start	Transmit end	Window start	Window end	Failure code	Signal strength	Message length	Frequency offset	Modulation index	DRGS code	Battery voltage
138	02/10/2016	00:54:19.3	00:54:23.9	00:54:10	00:54:20	GT	51	179	0	N	UB	N/A
138	02/10/2016	01:54:19.3	01:54:23.9	01:54:10	01:54:20	GT	51	179	0	N	UB	N/A
138	02/10/2016	02:54:19.3	02:54:23.9	02:54:10	02:54:20	G	50	179	0	N	XW	N/A
138	02/10/2016	03:54:19.3	03:54:23.9	03:54:10	03:54:20	GT	50	179	-1	N	XW	N/A
138	02/10/2016	04:54:19.3	04:54:23.8	04:54:10	04:54:20	GT	51	179	-1	N	XW	N/A
138	02/10/2016	05:54:19.3	05:54:23.8	05:54:10	05:54:20	GT	51	179	0	N	UB	N/A
138	02/10/2016	06:54:19.5	06:54:27.0	06:54:10	06:54:20	GT	51	179	0	N	UB	N/A
138	02/10/2016	07:54:19.5	07:54:26.9	07:54:10	07:54:20	G	50	179	0	N	XW	N/A
138	02/10/2016	08:54:19.5	08:54:24.0	08:54:10	08:54:20	GT	51	179	-1	N	UB	N/A
138	02/10/2016	09:54:19.4	09:54:24.0	09:54:10	09:54:20	GT	51	179	0	N	UP	N/A
138	02/10/2016	10:54:19.4	10:54:23.9	10:54:10	10:54:20	GT	51	179	-1	N	XW	N/A
138	02/10/2016	11:54:19.4	11:54:23.9	11:54:10	11:54:20	GT	51	179	-1	N	XW	N/A
138	02/10/2016	12:54:19.3	12:54:23.9	12:54:10	12:54:20	GT	51	179	-1	N	XW	N/A
138	02/10/2016	13:54:19.3	13:54:23.9	13:54:10	13:54:20	GT	51	179	0	N	XW	N/A
138	02/10/2016	14:54:19.3	14:54:23.8	14:54:10	14:54:20	GT	50	179	0	N	XW	N/A
138	02/10/2016	15:54:19.5	15:54:26.0	15:54:10	15:54:20	GT	50	179	-1	N	XW	N/A

The report above shows more detail on each message received for a single platform. Hear each row represents a message.

Here we can easily see that the platform is transmitting late. It is starting its transmission just before the end of its assigned window, meaning that the transmit-end (highlighted in red) is several seconds into the adjacent window.

⇨ This platform is probably interfering with another platform on this channel!

Click on one of the Transmit Start links to see an individual message:

RBEARSUN - 02/10/2016 05:54:19.3 (UTC)
Bearberry Creek near Sundre (05CA011) - WSC

Message Parameters:

DCP Address: 482710DA	Quality Codes: GT
Signal Strength: 51 dBM	Frequency Offset: 0 (* 50 Hz)
GOES Channel: 138W	Message Length: 142 (bytes)
DRGS code: UB	Battery: N/A (volts)
Carrier Start (UTC): 05:54:19.3	Carrier Stop (UTC): 05:54:23.8

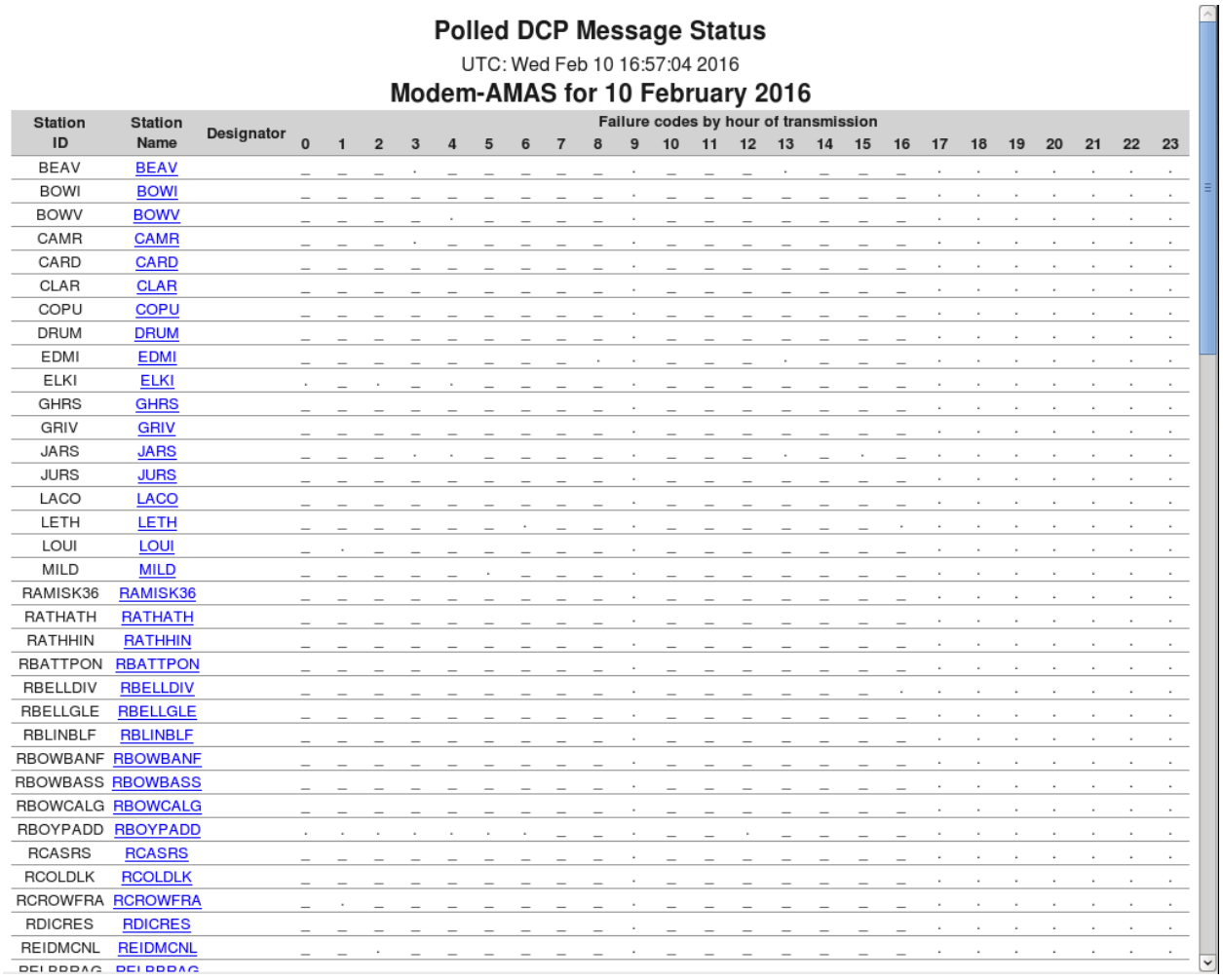
Raw Data:

```
482710DA16041055420G51+0NN138WUB00142  :HG 3 #5 1.9870 1.9790 1.9810 1.9860 1.9870 1.9820 1.9770 1.9840 1.9840 1.9880 1.9850
```

Decoded Data:

UTC	Water Level HG M	Battery VB V
02/10/2016 04:55:00	1.986	
02/10/2016 05:00:00	1.985	13.08
02/10/2016 05:05:00	1.988	
02/10/2016 05:10:00	1.984	
02/10/2016 05:15:00	1.984	
02/10/2016 05:20:00	1.977	
02/10/2016 05:25:00	1.982	
02/10/2016 05:30:00	1.987	
02/10/2016 05:35:00	1.986	
02/10/2016 05:40:00	1.981	
02/10/2016 05:45:00	1.979	
02/10/2016 05:50:00	1.987	

The Screens work for Non-GOES Platforms also. Here is a screen where the group AMASSER polled DCPs has been selected:



Polled DCP Message Status

UTC: Wed Feb 10 16:57:04 2016

Modem-AMAS for 10 February 2016

Station ID	Station Name	Designator	Failure codes by hour of transmission																							
			0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
BEAV	BEAV		_	_	_	.	_	_	_	_	_	.	_	_	_	.	_	_	_	.	.	.	.	.	.	.
BOWI	BOWI		_	_	_	_	_	_	_	_	_	.	_	_	_	_	_	_	_	.	.	.	.	.	.	.
BOWV	BOWV		_	_	_	_	.	_	_	_	_	.	_	_	_	_	_	_	_	.	.	.	.	.	.	.
CAMR	CAMR		_	_	_	.	_	_	_	_	_	.	_	_	_	_	_	_	_	.	.	.	.	.	.	.
CARD	CARD		_	_	_	_	_	_	_	_	_	.	_	_	_	_	_	_	_	.	.	.	.	.	.	.
CLAR	CLAR		_	_	_	_	_	_	_	_	_	.	_	_	_	_	_	_	_	.	.	.	.	.	.	.
COPU	COPU		_	_	_	_	_	_	_	_	_	.	_	_	_	_	_	_	_	.	.	.	.	.	.	.
DRUM	DRUM		_	_	_	_	_	_	_	_	_	.	_	_	_	_	_	_	_	.	.	.	.	.	.	.
EDMI	EDMI		_	_	_	_	_	_	_	_	.	.	_	_	_	.	_	_	_	.	.	.	.	.	.	.
ELKI	ELKI		.	_	.	_	.	_	_	_	_	.	_	_	_	_	_	_	_	.	.	.	.	.	.	.
GHRS	GHRS		_	_	_	_	_	_	_	_	_	.	_	_	_	_	_	_	_	.	.	.	.	.	.	.
GRIV	GRIV		_	_	_	_	_	_	_	_	_	.	_	_	_	_	_	_	_	.	.	.	.	.	.	.
JARS	JARS		_	_	_	.	.	_	_	_	_	.	_	_	_	.	_	.	_	.	.	.	.	.	.	.
JURS	JURS		_	_	_	_	_	_	_	_	_	.	_	_	_	_	_	_	_	.	.	.	.	.	.	.
LACO	LACO		_	_	_	_	_	_	_	_	_	.	_	_	_	_	_	_	_	.	.	.	.	.	.	.
LETH	LETH		_	_	_	_	_	_	.	_	_	.	_	_	_	_	_	_	.	.	.	.	.	.	.	.
LOUI	LOUI		_	.	_	_	_	_	_	_	_	.	_	_	_	_	_	_	_	.	.	.	.	.	.	.
MILD	MILD		_	_	_	_	_	.	_	_	_	.	_	_	_	_	_	_	_	.	.	.	.	.	.	.
RAMISK36	RAMISK36		_	_	_	_	_	_	_	_	_	.	_	_	_	_	_	_	_	.	.	.	.	.	.	.
RATHATH	RATHATH		_	_	_	_	_	_	_	_	_	.	_	_	_	_	_	_	_	.	.	.	.	.	.	.
RATHHIN	RATHHIN		_	_	_	_	_	_	_	_	_	.	_	_	_	_	_	_	_	.	.	.	.	.	.	.
RBATTPON	RBATTPON		_	_	_	_	_	_	_	_	_	.	_	_	_	_	_	_	_	.	.	.	.	.	.	.
RBELLDIV	RBELLDIV		_	_	_	_	_	_	_	_	_	.	_	_	_	_	_	_	_	.	.	.	.	.	.	.
RBELLGLE	RBELLGLE		_	_	_	_	_	_	_	_	_	.	_	_	_	_	_	_	_	.	.	.	.	.	.	.
RBLINBLF	RBLINBLF		_	_	_	_	_	_	_	_	_	.	_	_	_	_	_	_	_	.	.	.	.	.	.	.
RBOWBANF	RBOWBANF		_	_	_	_	_	_	_	_	_	.	_	_	_	_	_	_	_	.	.	.	.	.	.	.
RBOWBASS	RBOWBASS		_	_	_	_	_	_	_	_	_	.	_	_	_	_	_	_	_	.	.	.	.	.	.	.
RBOWCALG	RBOWCALG		_	_	_	_	_	_	_	_	_	.	_	_	_	_	_	_	_	.	.	.	.	.	.	.
RBOYPADD	RBOYPADD		.	.	.	.	.	.	.	_	_	.	_	_	.	_	_	_	_	.	.	.	.	.	.	.
RCASRS	RCASRS		_	_	_	_	_	_	_	_	_	.	_	_	_	_	_	_	_	.	.	.	.	.	.	.
RCOLDLK	RCOLDLK		_	_	_	_	_	_	_	_	_	.	_	_	_	_	_	_	_	.	.	.	.	.	.	.
RCROWFRA	RCROWFRA		_	.	_	_	_	_	_	_	_	.	_	_	_	_	_	_	_	.	.	.	.	.	.	.
RDICRES	RDICRES		_	_	_	_	_	_	_	_	_	.	_	_	_	_	_	_	_	.	.	.	.	.	.	.
REIDMCNL	REIDMCNL		_	_	.	_	_	_	_	_	_	.	_	_	_	_	_	_	_	.	.	.	.	.	.	.
RELRRAG	RELRRAG																									

The same legend applies. Click on a platform name for details.

Polled DCP Full Performance Parameters

UTC: Wed Feb 10 16:59:31 2016

RATHATH

Station ID: RATHATH
Description: Athabasca River at Athabasca (07BE001) - WSC
Agency:
First Message: N/A
Number of Message: 0

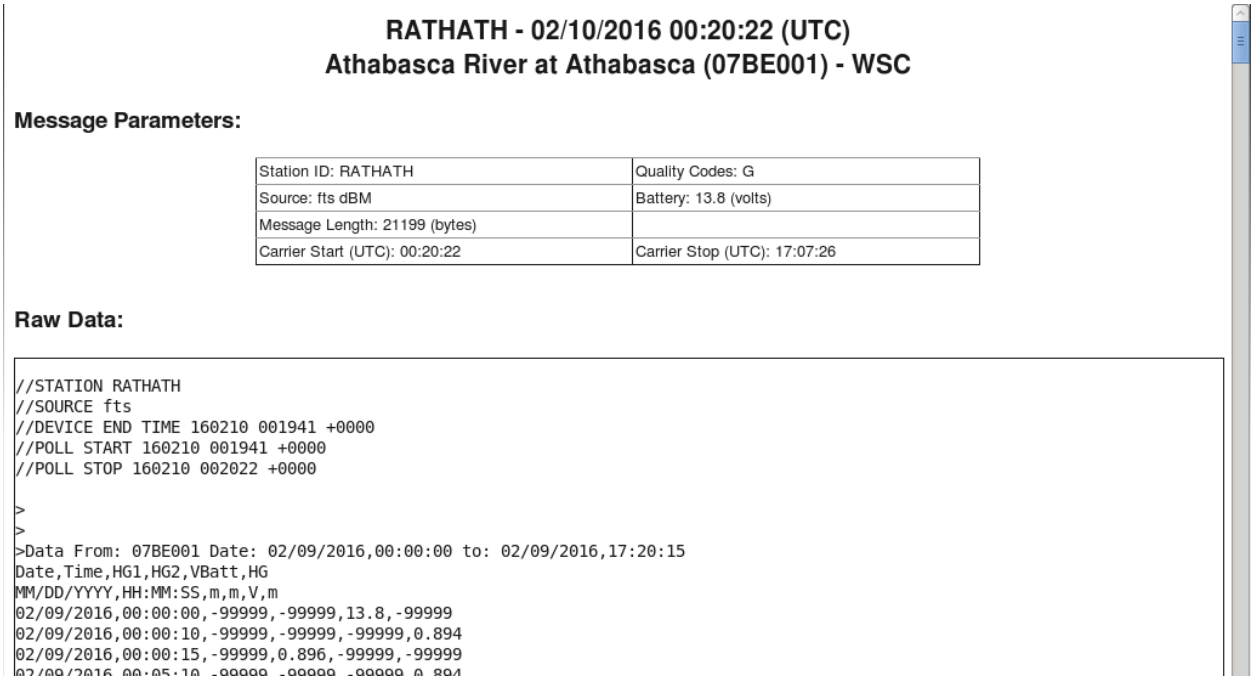
Date	Session start	Session end	Failure code	Device	Message length	Battery voltage
02/10/2016	00:20:22	17:07:26	G	fts	21199	13.8
02/10/2016	01:15:33	18:02:37	G	fts	11818	13.8
02/10/2016	02:25:09	19:12:13	G	fts	10908	13.8
02/10/2016	03:28:00	20:15:04	G	fts	24988	13.8
02/10/2016	04:22:05	21:09:09	G	fts	11920	13.8
02/10/2016	05:30:05	22:17:09	G	fts	1555	13.8
02/10/2016	06:17:53	23:04:57	G	fts	28393	13.8
02/10/2016	07:19:14	00:06:18	G	fts	11860	13.8
02/10/2016	08:17:52	01:04:56	G	fts	30791	13.8
02/10/2016	10:15:35	03:02:39	G	fts	4321	13.8
02/10/2016	11:19:20	04:06:24	G	fts	5615	13.8
02/10/2016	12:26:44	05:13:48	G	fts	7003	13.8
02/10/2016	13:12:15	05:59:19	G	fts	6132	13.8
02/10/2016	14:16:37	07:03:41	G	fts	9206	13.8
02/10/2016	15:12:49	07:59:53	G	fts	10312	13.8
02/10/2016	16:11:10	08:58:14	G	fts	11511	13.8

Failure code legend

_ or G	Good DCP Message
Q	DCP message had bad quality measurements
V	Low battery voltage

The header fields for polled DCPs are different than for GOES DCPs. Note that message lengths can be significantly larger because a longer time range is typically polled.

As above, click the session start time to see an individual message:



RATHATH - 02/10/2016 00:20:22 (UTC)
Athabasca River at Athabasca (07BE001) - WSC

Message Parameters:

Station ID: RATHATH	Quality Codes: G
Source: fts dBM	Battery: 13.8 (volts)
Message Length: 21199 (bytes)	
Carrier Start (UTC): 00:20:22	Carrier Stop (UTC): 17:07:26

Raw Data:

```
//STATION RATHATH
//SOURCE fts
//DEVICE END TIME 160210 001941 +0000
//POLL START 160210 001941 +0000
//POLL STOP 160210 002022 +0000

>
>
>Data From: 07BE001 Date: 02/09/2016,00:00:00 to: 02/09/2016,17:20:15
Date,Time,HG1,HG2,VBatt,HG
MM/DD/YYYY,HH:MM:SS,m,m,V,m
02/09/2016,00:00:00,-99999,-99999,13.8,-99999
02/09/2016,00:00:10,-99999,-99999,-99999,0.894
02/09/2016,00:00:15,-99999,0.896,-99999,-99999
02/09/2016,00:05:10,-99999,-99999,-99999,0.894
```