Cedar… What's New

CiSCO Users Group

September 2019

Cedar Reports – Red Exceedances

Request to show hours with exceedances in red

- Daily, Monthly, etc., reports
- Audit reports
- Color must be enabled in Report Options
- Bold if not excluded, normal if excluded
- Cedar 7.20.20 and later

CeDAR 1-Hour Data

Demo Energy Center
### Data for 11/7/2017 8 AM thru 11/7/2017 8 PM

Timestamp	(Turbine 1) CO ppm @15% O2 1-Hr	(Turbine 1) CO lb/mmBtu 1-Hr	(Turbine 1) CO lbs 1-Hr	(Turbine 1) Process Code 1-Hr
11/7/17 8 AM	3.4	0.0075	20.0	8
11/7/17 9 AM	2.6	0.0058	14.7	8
11/7/17 10 AM	3.8	0.0085	22.9	8
11/7/17 11 AM	5.4	0.0122	35.8	8
11/7/17 12 PM	5.6	0.0126	37.6	8
11/7/17 1 PM	3.4	0.0075	19.5	8
11/7/17 2 PM	3.3	0.0074	19.5	8
11/7/17 3 PM	5.3	0.0119	34.2	8
11/7/17 4 PM	4.8	0.0108	30.7	8
11/7/17 5 PM	5.2	0.0116	33.1	8
11/7/17 6 PM	4.9	0.0110	30.5	8
11/7/17 7 PM	0.8	0.0018	4.1	8
11/7/17 8 PM	0.3	0.0008	1.8	8
Average (all)	3.8	0.0084	23.4	--
Total (all)	--	--	304.4	--
Minimum (all)	0.3	0.0008	1.8	--
Maximum (all)	5.6	0.0126	37.6	--
Average (valid values only)	3.8	0.0084	23.4	--
Total (valid values only)	--	--	304.4	--
Count (valid values only)	13	13	13	--

Demo Energy Center
Location, US
Turbine 1- Daily Emissions Report
November 7, 2017

		Hourly Emission Limits			
		NOx ppm @15% O2	NOx lbs	CO ppm @15% O2	CO lbs
Without DB's		2.0	16.3	2.0	9.9
With DB's		2.0	20.5	2.0	12.5

30-Day Rolling Emission Limits
NOx ppm @15% O2 - NSD

Hour	O2%	NOx ppm	NOx ppm @15% O2	NOx lb/mmBtu	NOx lbs	CO ppm	CO ppm @15% O2	CO lb/mmBtu	CO lbs	Process Status
00	13.40	1.90	1.5	0.0055	12.4	0.46	0.4	0.0008	1.8	Normal
01	13.40	1.90	1.5	0.0055	12.4	0.46	0.4	0.0008	1.8	Normal
02	13.41	1.90	1.5	0.0055	12.4	0.47	0.4	0.0008	1.8	Normal
03	13.43	1.90	1.5	0.0055	12.4	0.49	0.4	0.0009	2.0	Normal
04	13.42	1.90	1.5	0.0055	12.4	0.50	0.4	0.0009	2.0	Normal
05	13.41	1.90	1.5	0.0055	12.4	0.35	0.3	0.0006	1.4	Normal
06	13.41	1.90	1.5	0.0055	12.3	0.34	0.3	0.0006	1.4	Normal
07	13.12	2.01	1.5	0.0056	13.4	1.73	1.3	0.0029	7.0	Normal
08	12.65	2.15	1.5	0.0057	15.2	4.70	3.4	0.0075	20.0	Normal
09	12.89	2.08	1.5	0.0056	14.1	3.54	2.6	0.0058	14.7	Normal
10	12.59	2.20	1.6	0.0057	15.4	5.34	3.8	0.0085	22.9	Normal
11	12.18	2.51	1.7	0.0062	18.2	8.05	5.4	0.0122	35.8	Normal
12	12.11	2.55	1.7	0.0063	18.8	8.41	5.6	0.0126	37.6	Normal
13	12.73	2.19	1.6	0.0058	15.1	4.64	3.4	0.0075	19.5	Normal
14	12.68	2.16	1.6	0.0057	15.0	4.63	3.3	0.0074	19.5	Normal
15	12.24	2.45	1.7	0.0061	17.5	7.80	5.3	0.0119	34.2	Normal
16	12.43	2.32	1.6	0.0059	16.8	6.92	4.8	0.0108	30.7	Normal
17	12.31	2.35	1.6	0.0059	16.8	7.54	5.2	0.0116	33.1	Normal
18	12.40	2.31	1.6	0.0059	16.4	7.06	4.9	0.0110	30.5	Normal
19	13.33	1.86	1.4	0.0053	12.0	1.04	0.8	0.0018	4.1	Normal
20	13.41	1.91	1.5	0.0055	12.4	0.44	0.3	0.0008	1.8	Normal
21	13.42	1.93	1.5	0.0056	12.5	0.44	0.3	0.0008	1.8	Normal
22	13.43	1.93	1.5	0.0056	10.7	0.42	0.3	0.0007	1.3	Normal
23	13.41	1.88	1.5	0.0054	11.8	0.43	0.3	0.0008	1.8	Normal
Average	13.0	2.1	1.5	0.0057	14.1	3.2	2.2	0.0050	13.7	
Total					338.8				328.5	
30-Day Roll			NSD							

Enable color for reports
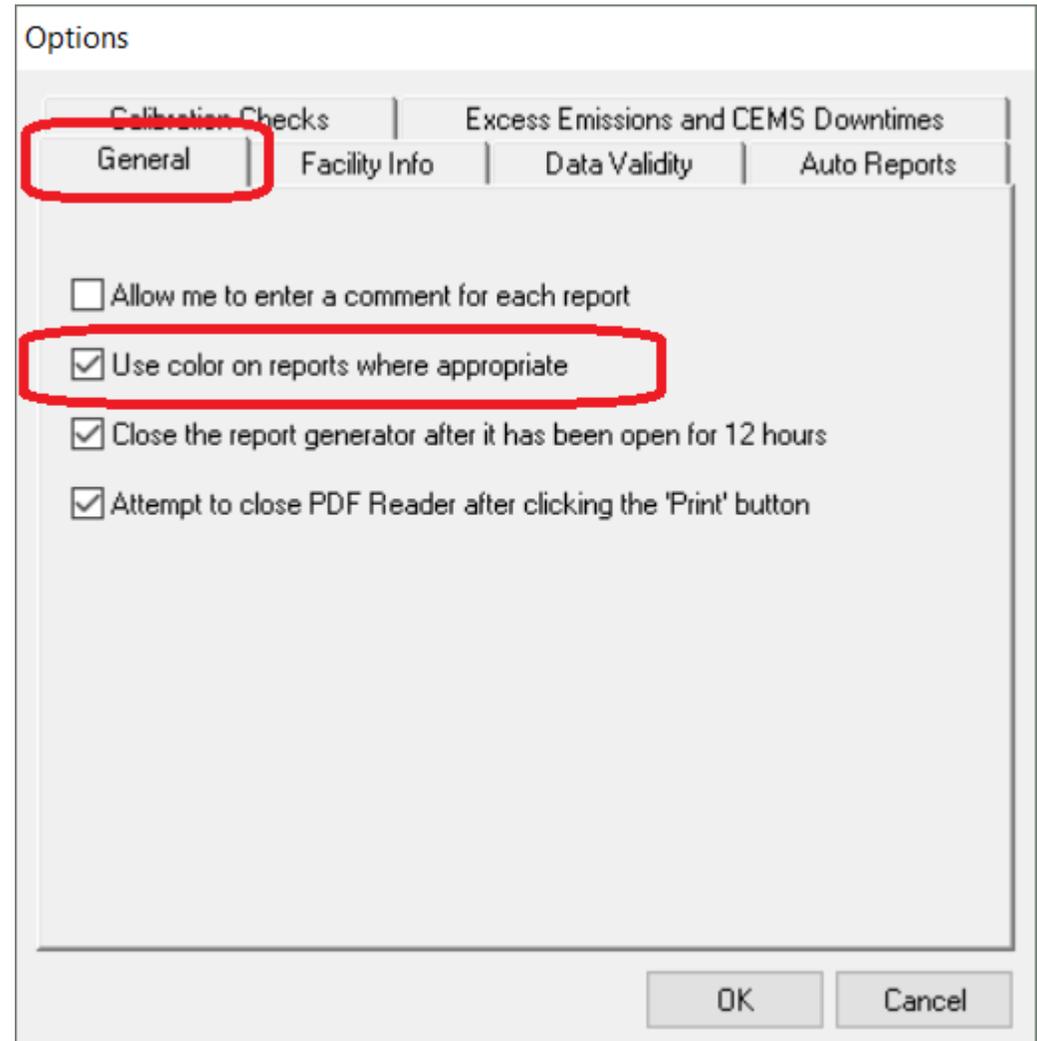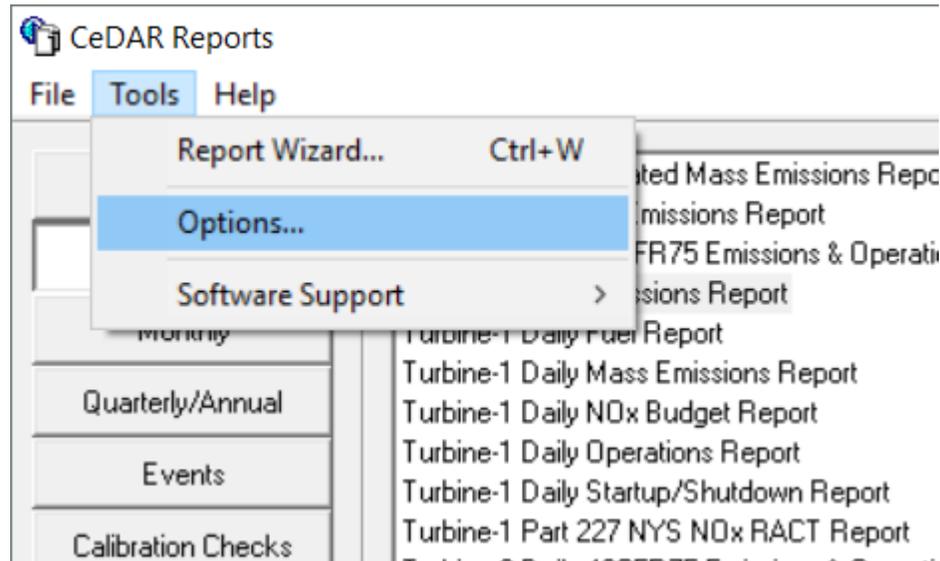
Cedar – Redundant DAS Servers

- Pair of DAS servers
  - Primary
  - Secondary
- Automatic data synchronization

- Data Monitor
  - Uses primary server by default
  - Automatically switches to secondary server if primary unhealthy

Data Monitor – Connected to primary DAS

Data Monitor – Connected to secondary DAS

Cedar – Audit Report

New option to show values and monitor codes in separate columns

Useful when importing to Excel

Audit Report – Combined Value and MC

CeDAR 1-Minute Data
Demo Energy Center
Data for 1/8/2019 10:40 AM thru 1/8/2019 11:20 AM

Timestamp	(Turbine 1) 60-O2% 1-Min	(Turbine 1) 60-NOx ppm 1-Min	(Turbine 1) NOx ppm @15% O2 1-Min	(Turbine 1) 60-NOx lb/mmBtu 1-Min	(Turbine 1) NOx lb/hr 1-Min Avg	(Turbine 1) CO ppm 1-Min
1/8 10:40	12.17	2.00	1.35	0.0050	12.47	2.83
1/8 10:41	12.17	2.00	1.35	0.0050	12.48	2.83
1/8 10:42	12.17	2.00	1.35	0.0050	12.47	2.93
1/8 10:43	12.16	2.00	1.35	0.0050	12.48	2.87
1/8 10:44	12.16	2.00	1.35	0.0050	12.45	2.88
1/8 10:45	12.16	1.99	1.34	0.0049	12.23	2.92
1/8 10:46	19.61 <14>	1.72 <14>	7.87 <14>	0.0289 <14>	71.96 <14>	15.64 <14>
1/8 10:47	20.90 <14>	0.44 <14>	-- <14>	-- <14>	0.00 <14>	2.71 <14>
1/8 10:48	20.91 <37>	0.37 <37>	-- <37>	-- <37>	0.00 <37>	2.88
1/8 10:49	20.90 <14>	0.41 <14>	-- <14>	-- <14>	0.00 <14>	1.85 <14>
1/8 10:50	20.91 <14>	0.18 <14>	-- <14>	-- <14>	0.00 <14>	1.34 <14>
1/8 10:51	4.57 <14>	3.75 <14>	1.35 <14>	0.0050 <14>	12.49 <14>	0.62 <14>

Audit Report – Separate Value and MC (new option)

CeDAR 1-Minute Data
Demo Energy Center
Data for 1/8/2019 10:40 AM thru 1/8/2019 11:20 AM

Timestamp	(Turbine 1) 60-O2% 1-Min	(Turbine 1) MC	(Turbine 1) 60-NOx ppm 1-Min	(Turbine 1) MC	(Turbine 1) NOx ppm @15% O2 1-Min	(Turbine 1) MC
1/8 10:40	12.17	<00>	2.00	<00>	1.35	<00>
1/8 10:41	12.17	<00>	2.00	<00>	1.35	<00>
1/8 10:42	12.17	<00>	2.00	<00>	1.35	<00>
1/8 10:43	12.16	<00>	2.00	<00>	1.35	<00>
1/8 10:44	12.16	<00>	2.00	<00>	1.35	<00>
1/8 10:45	12.16	<00>	1.99	<00>	1.34	<00>
1/8 10:46	19.61	<14>	1.72	<14>	7.87	<14>
1/8 10:47	20.90	<14>	0.44	<14>	--	<14>
1/8 10:48	20.91	<37>	0.37	<37>	--	<37>
1/8 10:49	20.90	<14>	0.41	<14>	--	<14>
1/8 10:50	20.91	<14>	0.18	<14>	--	<14>
1/8 10:51	4.57	<14>	3.75	<14>	1.35	<14>

Cedar – Miscellaneous

- Wind vector averaging

- 7-day drift – Performance Specification 9 (gas chromatograph CEMS)

- Monitor Code 75 – Hour is valid but one or two 15-minute periods are invalid due to calibration or maintenance   Cedar 7.03.20

Cedar – Miscellaneous

Daily cal auto start issue

- Cedar could start auto cal when I/O restored after communication failure or server slowdown
- Logic saw I/O interruption as unit offline, then online
- Extraneous cal only occurred if unit online and "start cal X minutes after startup" or "start cal X minutes after normal ops" selected
- Resolved in Cedar 7.03.25

Breeze – 40 CFR 60 Subpart TTTT

CO2 efficiency standard

    450 kg CO_2 per MWh gross output

    12 operating month basis

    Applies to units (re)constructed in 2014 and later

Available in Breeze 4.80

Breeze – Changes for 2019 Q3

New EPA requirement to report Component ID and/or System ID for missing data hours

MODC 46 for missing data hours – invalid data

Available in Breeze 5.00
** All users will need this update **

Breeze – Changes for 2019 Q3

Turbine with monitored bypass stack

New EPA requirement to report emissions from both stacks for hours where both stacks in use

New MODCs 46, 47, 48

Available in late September

Questions

Reminder alarms for CGAs, similar to linearity checks?

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