

QUICK START GUIDE

PQ Canvass AI-powered features.

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Waveform Classifier*

The Waveform Classifier is available for use on uploaded recordings. First, open an uploaded recording. Click the "Waveform Capture" button in the top section to open the waveform list.

osc2.nsf

Graph

Interval Daily Profile Histogram **Waveform Capture** 3D Harmonics

Report

Analytics **BETA** Recording Interval Single-Cycle

General		Measures	Min	Ave	Max	
Title	osc2.nsf		✓	✓	✓	
Serial Number	62075	Type	Ch 1	Ch 2	Ch 3	Ch 4
Created	10/20/2022, 4:13 PM	RMS Voltage	✓	✓	✓	✗
Report Parameters	Edit	RMS Current	✓	✓	✓	✗
File		Real Power	✓	✓	✓	✗
Size	34 MB	Reactive Power	✓	✓	✓	✗
Download	osc2.nsf	Apparent Power	✓	✓	✓	✗
Overview		Phase Angle	✓	✓	✓	✗
File Headers	—	Power Factor	✓	✓	✓	✗
Uploaded	Yes	Displacement Power Factor	✓	✓	✓	✗
Start	8/14/2015, 7:10:07 AM	Frequency	✓	✗	✗	✗
End	8/25/2015, 2:06:48 PM	Voltage Harmonic Magnitude	✓	✓	✓	✗
Duration	11 days, 06:56:41	Current Harmonic Magnitude	✓	✓	✓	✗
		Voltage Unbalance	✓	✓	✓	✓

On the waveform list, click the "Classify Waveforms With AI" button.

Waveform List, osc2.nsf							
#		Timestamp	Cycle	Ch	Duration (Cycles)	Trigger	Value
1		8/14/2015, 8:15:54 PM	43	2	9	RMS Voltage	-6.1V
2		8/16/2015, 1:13:07 AM	5	1	9	RMS Voltage %	-38.0%
3		8/16/2015, 6:19:52 AM	19	1	9	Waveshape	104.0%
4		8/17/2015, 1:29:02 AM	30	1	9	RMS Voltage %	-26.0%
5		8/17/2015, 6:21:12 AM	52	2	9	Waveshape	97.0%
6		8/20/2015, 7:52:33 AM	41	2	9	Waveshape	96.0%
7		8/21/2015, 10:29:48 AM	40	2	9	Waveshape	111.0%
8		8/22/2015, 9:09:48 PM	24	2	9	Waveshape	50.0%
9		8/22/2015, 9:16:48 PM	14	2	9	RMS Voltage %	-154.0%
10		8/22/2015, 9:16:50 PM	16	3	9	RMS Voltage	-6.1V


Classify Waveforms With AI


If the recording has never had the Waveform Classifier tool run on it, it will begin to run. A loading screen will appear, showing information about the progress, it will take a minute or two. You can click away from the loading screen to perform other tasks in PQ Canvass while the Classifier runs, it will continue in the background. If the recording has had a classification run already, you will be taken straight to the results page (with the option to run again at the bottom).



Cancel Classification



What is this?

TOP WAVEFORMS OF INTEREST

SEVERITY	INTERRUPTION	CAPTURE
9	Interruption onset near 120 ms; sustained V2 undervoltage.	15
9	Single-phase interruption; brief LF oscillatory ring	24
9	Interruption; Vrms <0.1 pu throughout capture	17
9	Interruption entire capture; Vrms < 0.1 pu	16

 Rerun Classification
 What is this?

On the results page, the Waveforms will be sorted by severity, with the most severe at the top. Click on a waveform to expand for more information. This will include a brief analysis of the waveform, as well as a preview of the waveform with Voltage on top, Current below. If you click on the waveform preview, PQ Canvass will open the full waveform for more detailed analysis.

SEVERITY

INTERRUPTION

CAPTURE

9

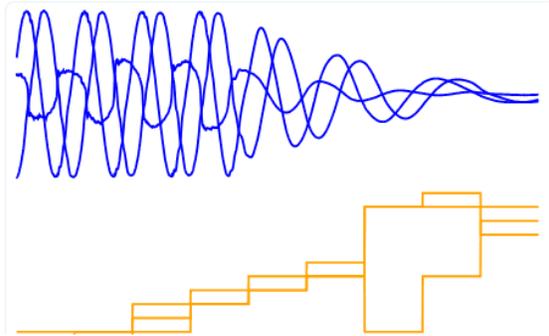
Interruption onset near 120 ms; sustained V2 undervoltage.

15

Voltages decay into a momentary interruption at the record end: V2 drops <0.1 pu from ~ 120 – 140 ms and remains near-zero; V1/V3 fall to ~ 0.11 – 0.13 pu and persist to end, indicating the outage likely continued beyond the capture (IEEE 1159 §4.4.2.3). Prior to loss, V1/V3 experienced deep sags (~ 50 – 70 ms decaying), while V2 was already severe undervoltage across the capture (IEEE 1159 §4.4.2.2). Severity set by the interruption; the preceding sag is deep enough to likely exceed SEMI F47. Upstream source opened (utility feeder or protective device), causing a collapsing supply with motor back-EMF decay and a resulting interruption.

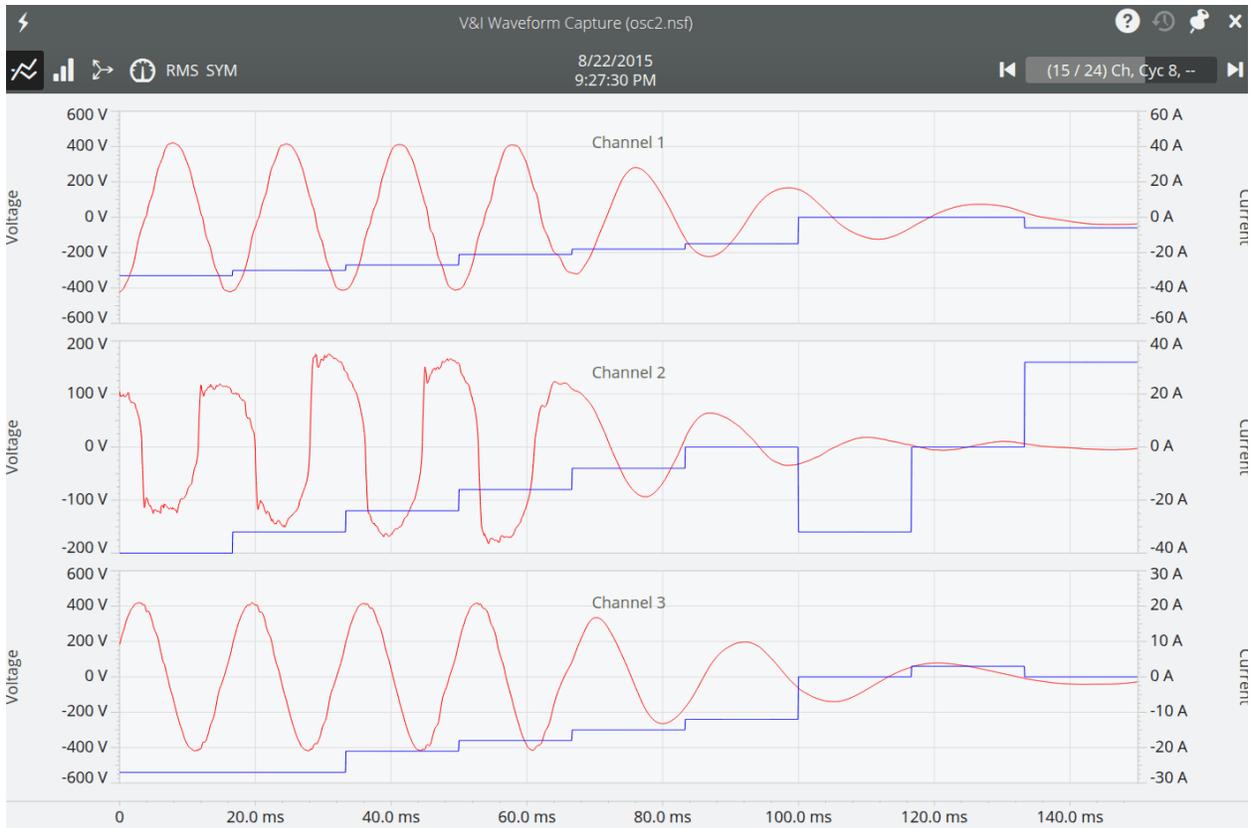
DEBUG REASONING

- RMS check: V2 <0.1 pu ≥ 1 cycle
- Baseline V1/V3 ≈ 297 V; decay to ~ 30 – 35 V
- V2 first/last rms: 100.8 V $\rightarrow 3.5$ V
- Interruption persists to end; likely ongoing
- Sag metric 4.4 ms conflicts with visual long sag
- Severity set to 9 for interruption



CAPTURE DETAILS

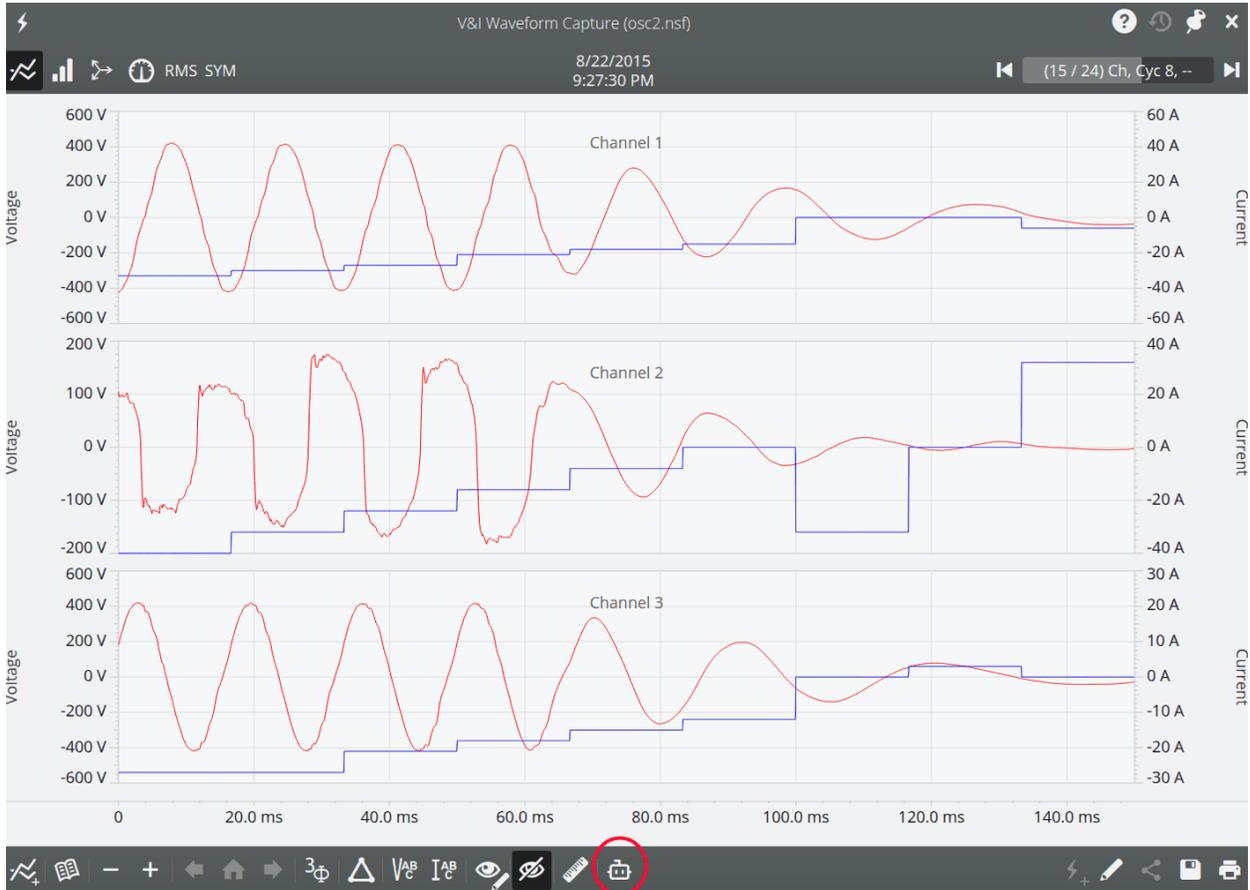
Timestamp	8/22/2015, 9:27 PM	Cycle	8
Channel	N/A	Duration	9
Trigger	--	Value	N/A



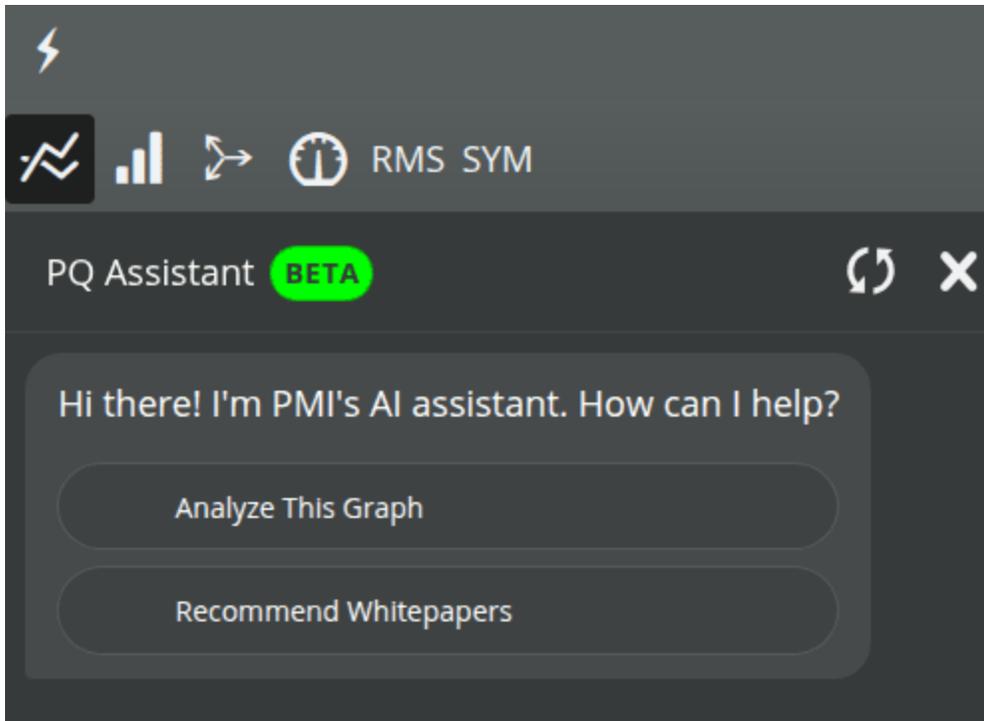
*Waveform Classifier is currently only available in the Beta Access program. Classification is limited to the first 100 waveforms of a recording at this time.

PQ Assistant*

From a recording waveform or stripchart, you can access another tool, the PQ Assistant chat function. Click the button near the bottom to begin a session.



In the chat, you have the option to "Analyze This Graph" or "Recommend Whitepapers". Start by selecting "Analyze This Graph", providing additional context if desired (e.g. This waveform was captured near an industrial park), and clicking send. The PQ Assistant will look at the graph and summarize the findings. After the PQ Assistant has finished responding, you can choose "Discuss the Analysis" to ask further questions or "Recommend Whitepapers" to recommend whitepapers from PMI's deep library.



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