

OSIsoft PI System in SDG&E Electric Distribution Operations

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Agenda

- About SDG&E Electric Distribution System
- About our PI System
- Application Development Examples
 - PI System for Operations
 - PI System for SDG&E Load Curtailment
 - PI System for VISA (Virtual Integrated Systems Application)
 - PI System for Weather Station Network
 - PI System KPI for Smart Phone
- Summary and Benefits
- Next Steps/Future Plans

About SDG&E Electric Distribution System

- Total of 1.3 million Electric Customers
- Total of 142 Distribution Substations
- 986 Distribution Circuits
- 9,954 Miles of UG Dist Circuits
- 6,702 miles of OH Dist Circuits
- 1,242 Field Sites on SCADA
- 72 Dist Substations on SCADA (>50% in SCADA)



About Our PI System

PI Servers and Tags:

- One primary PI Server (at main Control Center) and one backup PI Server (at Backup Control Center site)
- Total ~139,000 PI Tags

Main PI System Interfaces:

- PI PRISM Interface for Distribution SCADA system
- PI OPC, PI HTML, etc.

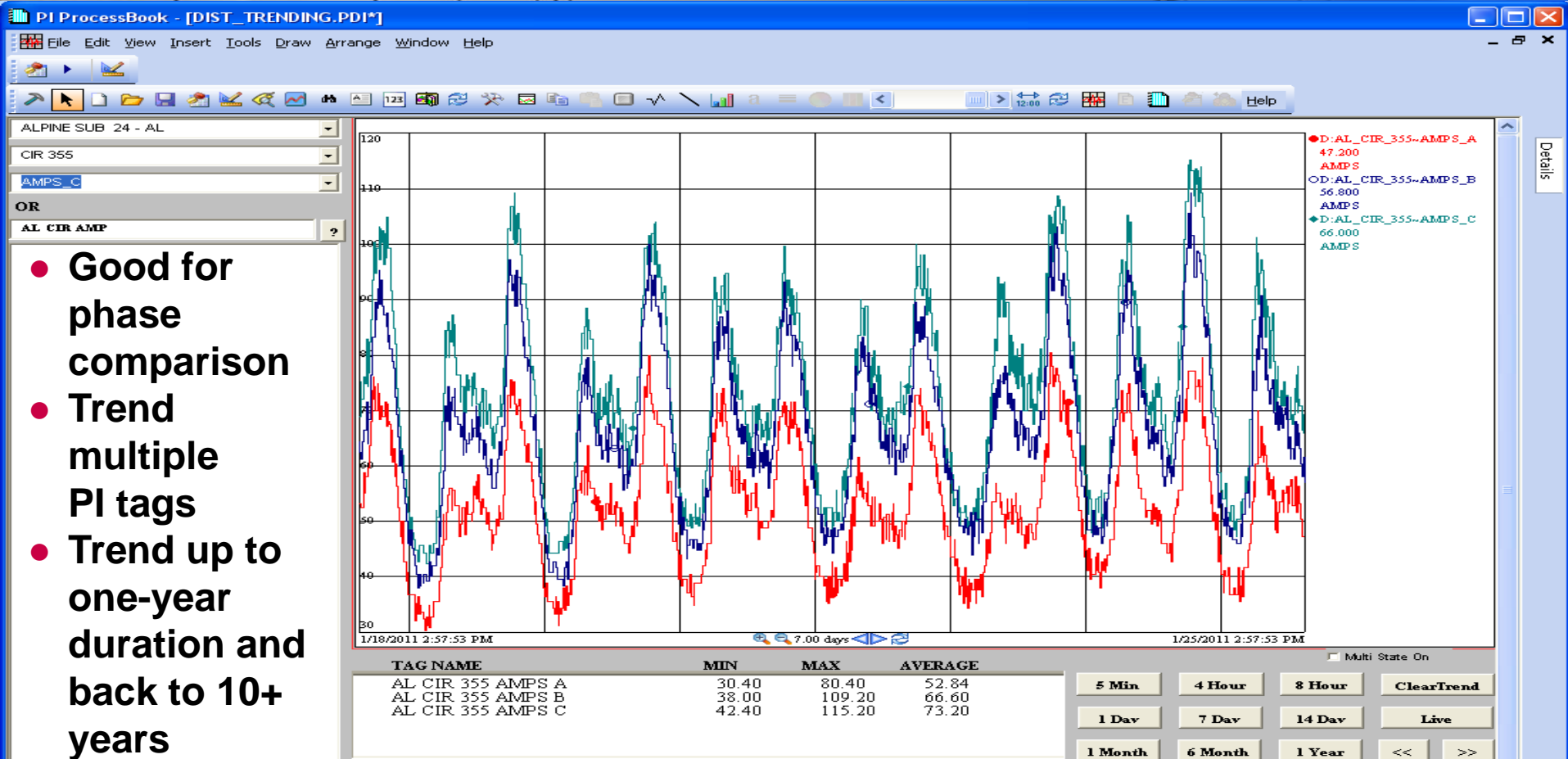
PI System Applications and Tools:

- For distribution operations SCADA system monitoring and analysis
- For Load Curtailment - SDG&E Emergency Operations and automatically updating on SDG&E public website
- For Virtual Integrated Systems Application (VISA)
- For Weather Station Network
- For KPI Dashboard and for Smart Phone
- Automatic email notifications and alerts



Examples of PI System Applications

Substation Point Trending



Load Comparison



SCADA Device Status/Alarm Tracking

Distribution SCADA Polyline Misc Alarms

Display that are

(Data may take a few minutes to load)

	Site	Name	Timestamp
1.	1041	521-700R	1/11/2011 9:06:21 AM
2.	1082	239-15R	1/11/2011 8:52:21 AM
3.	1140	521-18R	1/11/2011 9:05:27 AM
4.	1463	521-29R	1/11/2011 9:04:29 AM
5.	1477	221-31R	1/11/2011 8:52:40 AM
6.	1479	1233-259R	>2 days ago
7.	1497	149-20R	>2 days ago
8.	1526	221-33R	1/11/2011 8:53:00 AM
9.	733	204-32R	1/11/2011 11:14:10 AM
10.	738	274-23R	1/11/2011 7:53:23 AM

- **Select different point types from the list**
- **Select different available digital states**
- **Show exactly when the device changed state**

Breaker/Switch Analysis

Distribution Breaker/Switch Analysis

Display Breakers/Switches that

and state change if in the last days

Exclude Tie Switches
(a may take a few minutes to load)

	Substation	Type	Name	Time of Status Change	MW's (Before Opened)
1.	EN	CIR	286	-	-
2.	LNL	CIR	1073	-	-
3.	MR	CIR	225	04/03/2007 9:53:30 AM	0.012 MW
4.	OT	CIR	BK30MAINT	-	N/A
5.	OT	CIR	BK31MAINT	-	N/A
6.	PAR	CIR	TRANSFER	-	-
7.	PI	CIR	994	-	-
8.	RCL	CIR	938	-	-
9.	RCL	CIR	939	-	-

- Select different point types from the list
- Select different available states
- Show which devices changed state in the last selected number of days

There are 9 open breakers

SCADA RTU & Communication Statistics

Distribution SCADA RTU Communications

Display SCADA sites that
are currently of communication.

show time stamp if event occurred within the last day(s)

(Data may take a few minutes to load)

	Site	Time of Status Change
1.	EN	currently OUT
2.	KE	04/03/2007 8:31:26 AM

- Show RTU's out of communication for a number of days
- Show RTU's with poor communication statistics for investigation
- Show communication channels with poor communication statistics for investigation

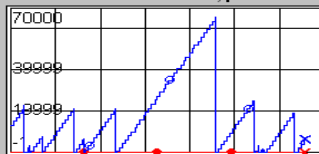
There are 2 items.

To view specific substation or channel
Statistics use selections below

Substation Abbreviation

Channel Number/Name

Selected item will automatically be inserted to the trend
Double click trend to maximize, print maximized



SCADA Site KE

Currently

Comm Status: OUT
Total Good: 0
Total Requests: 6460
Total Bad: 0
Total NO: 6460
Percent Comms: 0.0

Select Points to Trend

- RTU Channel Status
- RTU Total Master Requests
- RTU Total Good Replies
- RTU Total Bad Replies
- RTU Total No Replies
- RTU Percent Comms

Display SCADA sites with
communication statistics

between and Percent

(Data may take a few minutes to load)

	Site	Comm Stats(%)
1.	BAR (RTU 62)	95.7
2.	EN (RTU 913)	1.0

There are 2 items.

PI System for SDG&E Load Curtailment (i.e. Rolling Blackouts)

- Enter total MW's required to be dropped
- Show circuit breakers status and MW load
- Automatically calculate how many breakers need to be opened and total customers are out
- Automatically publish to SDG&E public website and report to CPUC and Regulator

Microsoft Excel

Dist LC 2010_Master_Final.xls [Compatibility Mode]

Daily Totals		Recalc	ISO Requested MW:	Run #1	Run #2	Run #3
ISO Requested MW:	0.00	Force Inhibit	25.00	25.00	25.00	
SDG&E MW Total:	0.00	Include non-SCADA	35.72	30.62	27.30	
PGP MW Total:	0.00	Project	0	0	0	
MW Dropped:	0.00	Test Mode	Run Start Time:	0	0	0
Cust Affected:	0	Send	Run End Time:	0	0	0
		Don't Send to Web	Firm MW Dropped:	35.72	30.62	27.30
			Customers Affected:	21,945	15,636	12,776

Order	Block	Circuit	Station	Total Customers	PI Breaker Status Tag	MW Tag	Real Time MV	BKR Status Time	Status	MW Dropped
1	1A	434	SS	2470	D-SS CIR 434-BRKR 3PH	D-SS CIR 434-MW 3PH	4.60		CLOSE	4.60
2	1A	229	MR	1808	D-MR CIR 229-BRKR 3PH	D-MR CIR 229-MW 3PH	2.87		CLOSE	2.87
3	1A	350	LI	1517	D-LI CIR 350-BRKR 3PH	D-LI CIR 350-MW 3PH	3.50		CLOSE	3.50
4	2A	463	SYD	1760	D-SYO CIR 463-BRKR 3PH	D-SYO CIR 463-MW 3PH	5.76		CLOSE	5.76
5	2A	456	AS	2407	D-AS CIR 456-BRKR 3PH	D-AS CIR 456-MW 3PH	3.05		CLOSE	3.05
6	2A	516	ESCO	934	D-ESCO CIR 516-BRKR 3PH	D-ESCO CIR 516-MW 3PH	4.13		CLOSE	4.13
7	3A	831	NCW	4465	D-NCW CIR 831-BRKR 3PH	D-NCW CIR 831-MW 3PH	5.46		CLOSE	5.46
8	3A	311	LNL	3163	D-LNL CIR 311-BRKR 3PH	D-LNL CIR 311-MW 3PH	2.63		CLOSE	2.63
9	3A	63	DM	2524	D-DM CIR 63-BRKR 3PH	D-DM CIR 63-MW 3PH	3.73		CLOSE	3.73
10	4A	83	MY	2354	D-MY CIR 83-BRKR 3PH	D-MY CIR 83-MW 3PH	1.79		CLOSE	1.79
11	4A	72	EC	2587	D-EC CIR 72-BRKR 3PH	D-EC CIR 72-MW 3PH	1.99		CLOSE	1.99
12	4B	382	EL	1169	D-EL CIR 382-BRKR 3PH	D-EL CIR 382-MW 3PH	7.58		CLOSE	7.58
13	5A	988	MAR	1243	D-MAR CIR 988-BRKR 3PH	D-MAR CIR 988-MW 3PH	1.92		CLOSE	1.92
14	5A	944	TC	1735	D-TC CIR 944-BRKR 3PH	D-TC CIR 944-MW 3PH	1.57		CLOSE	1.57
15	5B	177	PO	1335	D-PO CIR 177-BRKR 3PH	D-PO CIR 177-MW 3PH	7.00		CLOSE	7.00
16	6A	500	CC	2761	D-CC CIR 500-BRKR 3PH	D-CC CIR 500-MW 3PH	3.47		CLOSE	3.47
17	7A	740	PL	2452	D-PL CIR 740-BRKR 3PH	D-PL CIR 740-MW 3PH	5.20		CLOSE	5.20
18	6B	258	MG	2	D-MG CIR 258-BRKR 3PH	D-MG CIR 258-MW 3PH	1.02		CLOSE	1.02
19	7A	850	SH	410	D-SH CIR 850-BRKR 3PH	D-SH CIR 850-MW 3PH	4.60		CLOSE	4.60
20	7A	1153	EG	2	D-EG CIR 1153-BRKR 3PH	D-EG CIR 1153-MW 3PH	0.00		CLOSE	0.00
21	7A	1166	LL	314	D-LL CIR 1166-BRKR 3PH	D-LL CIR 1166-MW 3PH	0.26		CLOSE	0.26
22	8A	358	AL	1184	D-AL CIR 358-BRKR 3PH	D-AL CIR 358-MW 3PH	4.42		CLOSE	4.42
23	8A	291	BE	2051	D-BE CIR 291-BRKR 3PH	D-BE CIR 291-MW 3PH	3.82		CLOSE	3.82
24	8B	210	VR	192	D-VR CIR 210-BRKR 3PH	D-VR CIR 210-MW 3PH	0.88		CLOSE	0.88
25	9A	443	SYD	5	D-SYO CIR 443-BRKR 3PH	D-SYO CIR 443-MW 3PH	0.95		CLOSE	0.95
26	9A	103	OT	1618	D-OT CIR 103-BRKR 3PH	D-OT CIR 103-MW 3PH	3.02		CLOSE	3.02
27	9A	512	DM	2578	D-DM CIR 512-BRKR 3PH	D-DM CIR 512-MW 3PH	3.42		CLOSE	3.42
28	10A	290	BE	3127	D-BE CIR 290-BRKR 3PH	D-BE CIR 290-MW 3PH	2.33		CLOSE	2.33
29	10A	768	TB	1393	D-TB CIR 768-BRKR 3PH	D-TB CIR 768-MW 3PH	2.58		CLOSE	2.58
30	10B	775	MSH	779	D-MSH CIR 775-BRKR 3PH	D-MSH CIR 775-MW 3PH	6.72		CLOSE	6.72
31	11A	797	LNL	2767	D-LNL CIR 797-BRKR 3PH	D-LNL CIR 797-MW 3PH	2.18		CLOSE	2.18
32	11A	588	PAR	101	D-PAR CIR 588-BRKR 3PH	D-PAR CIR 588-MW 3PH	5.44		CLOSE	5.44
33	11B	774	MSH	478	D-MSH CIR 774-BRKR 3PH	D-MSH CIR 774-MW 3PH	6.84		CLOSE	6.84
34	12A	452	AS	3102	D-AS CIR 452-BRKR 3PH	D-AS CIR 452-MW 3PH	2.35		CLOSE	2.35
35	12A	517	ESCO	459	D-ESCO CIR 517-BRKR 3PH	D-ESCO CIR 517-MW 3PH	2.15		CLOSE	2.15
36	12B	487	MR	1667	D-MR CIR 487-BRKR 3PH	D-MR CIR 487-MW 3PH	2.24		CLOSE	2.24
37	13A	745	GE	17	D-GE CIR 745-BRKR 3PH	D-GE CIR 745-MW 3PH	4.50		CLOSE	4.50
38	13A	986	MAR	2843	D-MAR CIR 986-BRKR 3PH	D-MAR CIR 986-MW 3PH	2.20		CLOSE	2.20
39	13A	975	CRE	1341	D-CRE CIR 975-BRKR 3PH	D-CRE CIR 975-MW 3PH	1.43		CLOSE	1.43
40	14A	590	PV	2637	D-PV CIR 590-BRKR 3PH	D-PV CIR 590-MW 3PH	2.94		CLOSE	2.94
41	14A	468	UB	112	D-UB CIR 468-BRKR 3PH	D-UB CIR 468-MW 3PH	2.21		CLOSE	2.21
42	14A	1117	BQ	3865	D-BQ CIR 1117-BRKR 3PH	D-BQ CIR 1117-MW 3PH	4.30		CLOSE	4.30
43	15A	296	SM	3175	D-SM CIR 296-BRKR 3PH	D-SM CIR 296-MW 3PH	2.77		CLOSE	2.77
44	15A	438	SS	4058	D-SS CIR 438-BRKR 3PH	D-SS CIR 438-MW 3PH	4.54		CLOSE	4.54
45	15A	68	DM	1479	D-DM CIR 68-BRKR 3PH	D-DM CIR 68-MW 3PH	3.77		CLOSE	3.77
46	16A	152	DB	2	D-DB CIR 152-BRKR 3PH	D-DB CIR 152-MW 3PH	0		CLOSE	0
47	16A	947	GA	0	D-GA CIR 947-BRKR 3PH	D-GA CIR 947-MW 3PH	0		CLOSE	0
48	16A	510	DM	1806	D-DM CIR 510-BRKR 3PH	D-DM CIR 510-MW 3PH	0		CLOSE	0

Load Curtailment for SDG&E Public Website

Rotating Electric Outages - Microsoft Internet Explorer provided by Sempra Energy

Address: <http://reo.sempra.com/>

Links: data on nas-cp1b ACS Use News Advanced Bash-Scripting Guide Bank of America Home Personal California ISO Chase Banking Citrix Controlfile(s) CREATE PROCEDURE

RESTORED	CURRENT OUTAGE approx.	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 5
BLOCK	CIRC	COMMUNITIES				
1A	434	SCRIPPS MIRAMAR RANCH				
1A	229	MIRA MESA				
1A	350	LILAC, COUSERCANYON S, COUSERCANYON				
2A	463	SAN YSIDRO, CHULA VISTA S				
2A	456	ESCONDIDO				
2A	516	ESCONDIDO				
3A	831	CARMEL VALLEY, MIRA MESA				
3A	311	LAGUNA NIGUEL, MONARCH BEACH				
3A	63	SOLANA BEACH, RHO SANTA FE S, LOMAS SANTA FE				
4A	83	LA MESA, SAN CARLOS				
4A	72	EL CAJON				
4B	382	TIERRASANTA				
5A	988	LADERA				
5A	944	RHO DEL REY				
5B	177	POWAY				
6A	500	RANCHO PENASQUITOS				
6A	740	PT. LOMA N				
6B	258	CHULA VISTA				
7A	850	VISTA S				
7A	1153	MIRA MESA				
7A	1166	DEHESA				
8A	358	ALPINE W, VIEJAS, VICTORIA				
8A	291	RHO BERNARDO, LAKE HODGES S				
8B	210	WARNER SPRINGS, AGUA CALIENTE				
9A	443	SAN YSIDRO				
9A	103	BAY PARK				
9A	512	SOLANA BEACH, DEL MAR, EDEN GARDENS				
10A	290	RHO BERNARDO				
10A	768	MISSION VIEJO, LAGUNA HILLS				
10B	775	CLAIREMONT, KEARNY MESA				
11A	797	LAGUNA NIGUEL				

- Show what circuits and communities are currently affected
- Show what circuits and communities will be affected in the next run
- Let customers know the rolling blackout status

Done Local intranet

Virtual Integrated Systems Application (VISA)



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Admin **SDGE** Weather Station Dashboard Dashboard Demo Help Weather Station WeatherDemo StandBy Manual Map Tieline

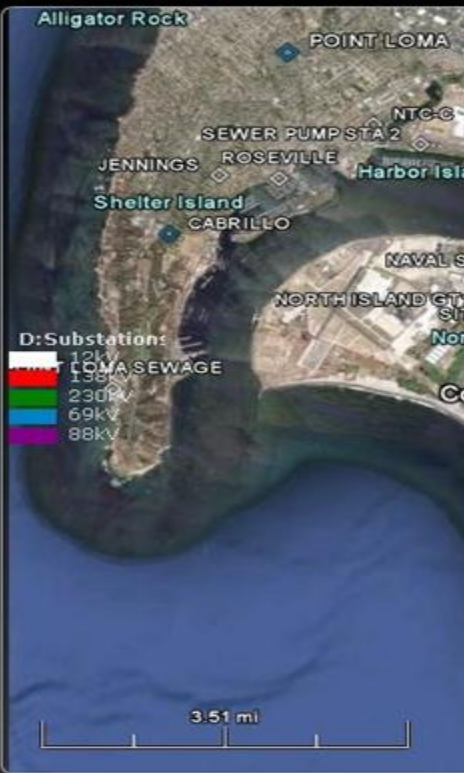
Change Password Logout



Layers

- Boundaries
- Transmission
- Distribution
- Substations Dis
- Circuit
- Fire
- Earthquake
- Weather
- Search
- Environmental
- Thomas Brother
- Public Infrastructure
- Crew Mobilization
- Demo
- Media
- System Load

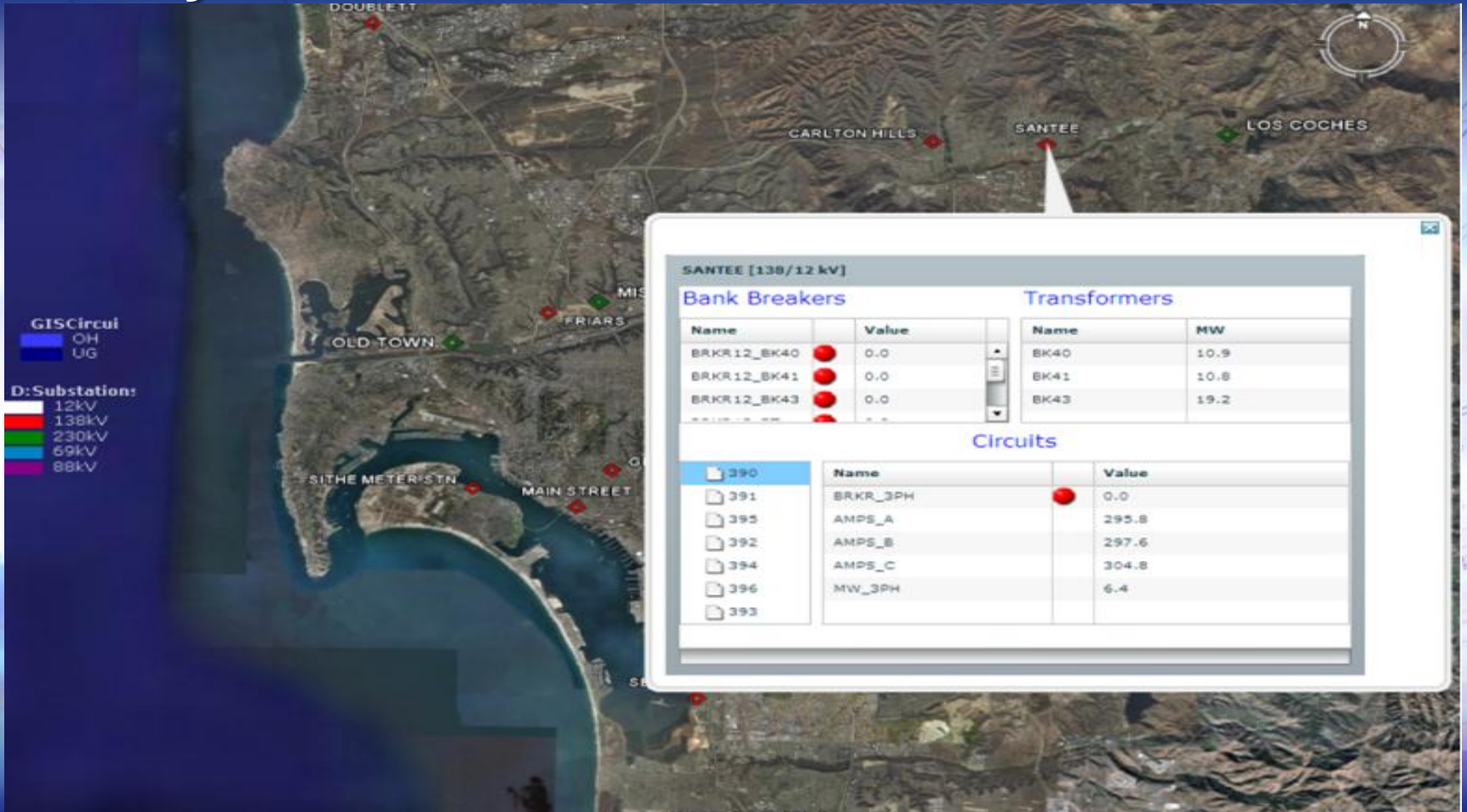
- Favorites
- Rubber Banding
- Google Earth Layers
- Google Earth Controls



Real-Time Situational Awareness

- **Boundaries**
- **Transmission Infrastructure**
- **Tie Lines, Structures and Switches, etc.**
- **Substations**
- **Transmission & Distribution**
- **Distribution Infrastructure**
- **Circuits and Real-Time Data, etc.**
- **Fire Data**
- **High Risk Fire Zones, Real Time Alerts, etc.**
- **Earthquake Data**
- **Weather and Storm Data**

PI System Data for Distribution Substation



SDG&E Weather Stations Project



SITE INFORMATION
 ID: CMNC1
 NAME: CAMERON FIRE STATION
 LATITUDE: 32.7211
 LONGITUDE: -116.4639
 ELEVATION: 3443 ft
 MNET: RAWS



(Click for [topo/terrain map](#))
 (Click for [satellite](#))

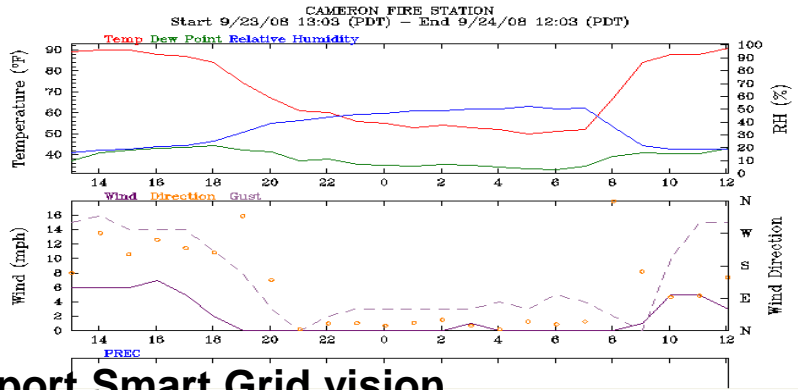
- SITE LINKS**
[Help](#)
[ROMAN](#)
- SITE LINKS**
[Help](#)
[ROMAN](#)
[Metric Units](#)
[Greenwich Mean Time](#)
[2 Week Summary](#)
[Past Data](#)
[Data Quality](#)
[Station Information](#)
[Station Status](#)
[Restrictions](#)
[Data in Spreadsheet Format](#)
- DATA COURTESY OF**
 Bureau of Land Management
 and
 USDA Forest Service

Weather Conditions for CMNC1

Current time: September 24, 2008 - 12:06 PDT
 Most Recent Observations at September 24, 2008 - 12:03 PDT

	12:03	Max since Midnight	Min since Midnight	24 Hour Max	24 Hour Min
Temperature	91.0° F	91.0 at 12:03	50.0 at 5:03	91.0 at 12:03	50.0 at 5:03
Dew Point	43.0° F	43.0 at 12:03	33.0 at 6:03	44.4 at 18:03	33.0 at 6:03
Relative Humidity	19%	52 at 5:03	19 at 10:03	52 at 5:03	16 at 13:03
Wind Speed	3 mph from SSE	5 at 10:03	0 at 0:03	7 at 16:03	0 at 19:03
Wind Gust	15 mph	15 at 11:03	0 at 9:03	16 at 14:03	0 at 21:03
Solar Radiation	0.0 W/m ²	0.0 at 0:03	0.0 at 0:03	0.0 at 13:03	0.0 at 13:03
Fuel Temperature	106.0° F	106.0 at 12:03	46.0 at 5:03	106.0 at 12:03	46.0 at 5:03
10 hr Fuel Moisture	0 gm	0 at 0:03	0 at 0:03	0 at 13:03	0 at 13:03
Battery voltage	13.30 volt	13.40 at 9:03	12.30 at 5:03	13.40 at 9:03	12.30 at 5:03

Select Previous Periods: [12 Hours](#) [24 Hours](#) [2 Days](#) [5 Days](#) [7 Days](#) [10 Days](#) [30 Days](#)
[Hodograph](#)



- Installing SDG&E weather instrumentation to support Smart Grid vision
- To date, with the 4th largest privately owned weather station network in US; the densest weather station network in the world
- Each location chosen by SDG&E's own Meteorologist, based on topography, field observations, and fire potential

Weather Station Network Project

- Real-time weather data every 10 minutes (wind direction, wind speed, wind gust, temperature, and relative humidity, etc.) to provide SDG&E with a better tool to maintain and operate the system safely
- Viewing winds in areas that have never been monitored to help to “harden” overhead electric system with larger conductors and steel poles to better withstand high winds
- Sharing data with the public, local universities and posting on the National Weather Service (NWS) Site and MesoWest
- San Diego First Responders (Fire Agencies) have been provided a mobile SDG&E weather station application and website to access to all SDG&E weather station data and maps

Weather Station Dashboard



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[Change Password](#) | [Logout](#)

No Of Records 93 **Wind Gusts**
■ <= 29 mph
 ■ >=30 mph and <=44 mph
 ■ >=45 mph and < 56 mph
 ■ >= 56 mph

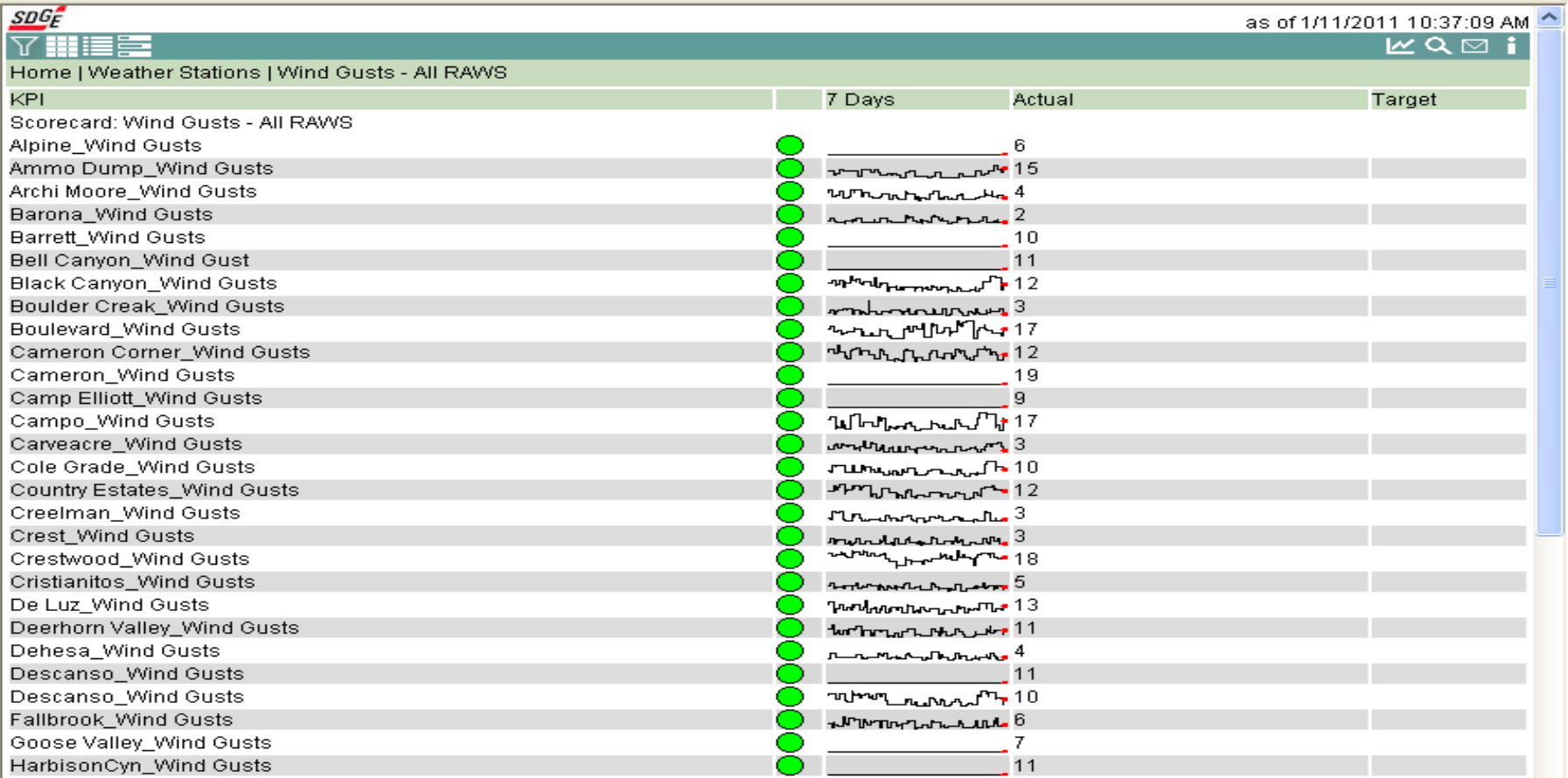
[Valley / Inland](#) | [Coastal](#) | [Mountain](#) | [Desert](#) | [All Stations](#) | [High Wind Gusts](#) | [Tie Lines](#)

Station	District	Temperature (F)	Relative Humidity (%)	Wind Direction	Sustained Wind Speed	Wind Gust	Red Flag	Last Observed time	Circuits/TL
SDG&E Rainbow	NE	54	29	N	10	17	N	01-11-2011 10:10:00 AM	MONITORING
SDG&E Rainbow Hts	NE	53	29	ENE	8	13	N	01-11-2011 10:10:00 AM	1233, RB1
SDG&E Carvacre	EA	62	18	WSW	2	4	N	01-11-2011 10:10:00 AM	1166, 625
SDG&E Los Coches	EA	59	33	NNW	2	3	N	01-11-2011 10:10:00 AM	MONITORING
SDG&E Hideaway Lake	NE	61	24	SW	2	4	N	01-11-2011 10:10:00 AM	MONITORING
SDG&E Sunset Oaks	RA	56	20	E	10	14	N	01-11-2011 10:10:00 AM	MONITORING
SDG&E Pala	NE	54.9	74	WSW	10.6	14.6	N	01-07-2011 4:50:00 PM	MONITORING
SDG&E Tierra Del Sol	ME	44	28	ENE	10	16	N	01-11-2011 10:10:00 AM	445
SDG&E Witch Creek	RA	54	20	E	12	16	N	01-11-2011 10:10:00 AM	MONITORING
SDG&E Alpine	EA	62	23	NNW	1	3	N	01-11-2011 10:20:00 AM	355
SDG&E Keyes Creek	NE	57	31	N	4	7	N	01-11-2011 10:10:00 AM	MONITORING
SDG&E Mt. Laguna	ME	54	8	WSW	2	4	N	01-11-2011 10:10:00 AM	MONITORING
SDG&E Ranchita	RA	42	30	E	9	13	N	01-11-2011 10:10:00 AM	211
SDG&E San Miguel	CM	60	32	WSW	2	4	N	01-11-2011 10:10:00 AM	MONITORING
SDG&E Crestwood	ME	42	27	ENE	14	19	N	01-11-2011 10:10:00 AM	1215, 6931, 629
SDG&E Warners	RA	50	26	NW	3	5	N	01-11-2011 10:10:00 AM	MONITORING
SDG&E Boulevard	ME	46.3	54	WSW	9.9	14.6	N	01-07-2011 4:50:00 PM	MONITORING
SDG&E Mataguay	RA	50	76	SW	13	20	N	10-30-2010 7:00:00 AM	MONITORING
SDG&E Hidden Meadows	NE	62	20	SE	3	5	N	01-11-2011 10:10:00 AM	353, 354
SDG&E Lilac	NE	62	31	NW	2	7	N	01-11-2011 10:10:00 AM	352, 1022, 350
SDG&E Round Potrero	ME	56	21	E	6	9	N	01-11-2011 10:10:00 AM	6923
SDG&E West Alpine	EA	60	24	NW	0	2	N	01-11-2011 10:10:00 AM	MONITORING
SDG&E Rios Canyon	EA	60	39	WSW	1	3	N	01-11-2011 10:10:00 AM	MONITORING
SDG&E Rincon	NE	57	34	WNW	4	6	N	01-11-2011 10:10:00 AM	682

PI System KPI – Load and Device Status Scorecards

SDGE		as of 1/11/2011 10:35:30 AM	
Home Distribution Service Restorers All Scorecards			
KPI	7 Days	Actual	Target
Scorecard: Beach Cities			
54-279R (F5) _____ Status	<input type="checkbox"/>	CLOSE	
54-279R_Recloser	<input type="checkbox"/>	ON	
54-279R_Amps A Ph		27	
54-279R_Amps B Ph		27	
54-279R_amps C Ph		26	
54-279R_Amps N		0	
54-279R_MW		0.02	
58-382R (F5) _____ Status	<input type="checkbox"/>	CLOSE	
58-382R_Recloser	<input type="checkbox"/>	ON	
58-382R_Amps A Ph		39	
58-382R_Amps B Ph		34	
58-382R_amps C Ph		35	
58-382R_Amps N		4	
58-382R_MW		0.29	
59-24R (F5) _____ Status	<input type="checkbox"/>	CLOSE	
59-24R_Recloser	<input type="checkbox"/>	ON	
59-24R_Amps A Ph		174	
59-24R_Amps B Ph		166	
59-24R_amps C Ph		146	
59-24R_Amps N		14	
59-24R_MW		-0.21	
60-363R (F5) _____ Status	<input type="checkbox"/>	CLOSE	
60-363R_Recloser	<input type="checkbox"/>	ON	
60-363R_Amps A Ph		205	
60-363R_Amps B Ph		205	
60-363R_amps C Ph		186	
60-363R_Amps N		6	
60-363R_MW		2.55	
116-12R (F6) _____ Status	<input type="checkbox"/>	CLOSE	
116-12R_Recloser	<input type="checkbox"/>	ON	
116-12R_Amps A Ph		85	
116-12R_Amps B Ph		103	

PI System KPI – Weather Stations Wind Gusts



Automatic Email Notifications

- If data values didn't get updated after a certain period of time, PI Admin and responsible personnel are notified by emails

From: [PI-Admin](#)
Sent: Wednesday, June 02, 2010 3:50 PM
To: Vo, Khoa
Subject: Non-Update Weather Websites (18)

There were 18 items found older than 4 hour(s).

Index	PI Tag Name	Values	How Old (min)
1.	D:AMOC1_WindGust	6	248 min.
2.	D:Barrett_WindGust	10	280 min.
3.	D:Boulevard_WindGust	10	280 min.
4.	D:CMNC1_WindGust	9	267 min.
5.	D:GOSC1_WindGust	4	278 min.
6.	D:JULC1_WindGust	10	275 min.
7.	D:MIGC1_WindGust	9	280 min.
8.	D:MLGC1_WindGust	9	267 min.
9.	D:MPEC1_WindGust	11	246 min.
10.	D:OGVC1_WindGust	12	266 min.
11.	D:Pala_WindGust	12	280 min.
12.	D:PAMC1_WindGust	11	255 min.
13.	D:POTC1_WindGust	11	243 min.
14.	D:RCHC1_WindGust	13	263 min.
15.	D:SanPasqual_WindGust	9	280 min.
16.	D:SantaYsabel_WindGust	9	280 min.
17.	D:TLGC1_WindGust	2	247 min.
18.	D:VLCC1_WindGust	9	256 min.

Summary and Benefits

- Improving efficiency and effectiveness of electric distribution operations monitoring and analysis
- Revolutionizing how distribution improves customer outage handling, restoration priority and strategy and demand response
- Enhancing decision making through better situational awareness to improve the SAIDI, SAIFI indices, system reliability, sustained performance over time, accuracy in predicting its capabilities, and communicating with customers
- Helping safe, reliable energy and improved quality of life for service area
- Enabling SDG&E to more effectively plan, prepare and respond to major events, therefore delivering the highest level of customer satisfaction

Next Steps/Future Plans

- Interfacing weather data into SDG&E CBM (Condition Based Maintenance) PI System to make better operational decisions from real-time alarms and scheduling of future maintenance
- Implementing dynamic line rating on distribution circuits
- Fault Indicators for distribution lines
- Maximizing transformer capacity by monitoring the current consumption, and scheduling electric vehicle charging and smart appliances during low loading periods
- Helping demand response and energy efficiency programs for customer and residential programs, thereby providing better monitoring and control to the customer

Questions ???

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