Shivani Sidhar
Regulatory Case Manager
San Diego Gas and Electric Company
8330 Century Park Court
San Diego, CA 92123-1530

June 24, 2016

Sent Via CPUC FTP and FedEx

A.15-09-010
Wildfire Expense Memorandum Account

Ms. Nika Rogers
Office of Ratepayer Advocates
505 Van Ness Avenue, Room 4108
San Francisco, CA 94102

Re: SDG&E Response to ORA Data Request 05 - Wildfire Expense Memorandum Account

Dear Ms. Rogers:

Attached please find SDG&E's response to ORA Data Request 5 dated June 10, 2016. SDG&E's response includes general objections, narrative responses where applicable, associated attachments and native files.

If you have any questions or require additional information, please feel free to contact me by phone at (858) 637-7914 or e-mail: **SSidhar@semprautilities.com**.

Sincerely,

Signed

Shivani Sidhar
Regulatory Case Manager

Enclosures

cc: Chris Lyons – SDG&E
Nils Stannik – ORA
Ed Moldavsky - ORA

ORA DATA REQUEST
ORA-SDG&E DR-05, Q1-16
SDG&E WEMA PROCEEDING - A.15-09-010
SDG&E RESPONSE
DATE RECEIVED: June 10, 2016
DATE RESPONDED: June 24, 2016

I. GENERAL OBJECTIONS

1. SDG&E objects generally to each request to the extent that it seeks information protected by the attorney-client privilege, the attorney work product doctrine, statutory mediation confidentiality (see Cal. Evid. Code §§ 1115-28) or any other applicable privilege or evidentiary doctrine. No information protected by such privileges will be knowingly disclosed.

2. SDG&E objects generally to each request that is overly broad and unduly burdensome. As part of this objection, SDG&E objects to discovery requests that seek "all documents" or "each and every document" and similarly worded requests on the grounds that such requests are unreasonably cumulative and duplicative, fail to identify with specificity the information or material sought, and create an unreasonable burden compared to the likelihood of such requests leading to the discovery of admissible evidence. Notwithstanding this objection, SDG&E will produce all relevant, non-privileged information not otherwise objected to that it is able to locate after reasonable inquiry.

3. SDG&E objects generally to each request to the extent that the request is vague, unintelligible, or fails to identify with sufficient particularity the information or documents requested and, thus, is not susceptible to response at this time.

4. SDG&E objects generally to each request that: (1) asks for a legal conclusion to be drawn or legal research to be conducted on the grounds that such requests are not designed to elicit facts and, thus, violate the principles underlying discovery; (2) requires SDG&E to do legal research or perform additional analyses to respond to the request; or (3) seeks access to counsel's legal research, analyses or theories.

5. SDG&E objects generally to each request to the extent it seeks information or documents that are not reasonably calculated to lead to the discovery of admissible evidence.

6. SDG&E objects generally to each request to the extent that it is unreasonably duplicative or cumulative of other requests.

7. SDG&E objects generally to each request to the extent that it would require SDG&E to search its files for matters of public record such as filings, testimony, transcripts, decisions, orders, reports or other information, whether available in the public domain or through FERC or CPUC sources.

8. SDG&E objects generally to each request to the extent that it seeks information or documents that are not in the possession, custody or control of SDG&E.

9. SDG&E objects generally to each request to the extent that the request would impose an undue burden on SDG&E by requiring it to perform studies, analyses or calculations or to create documents that do not currently exist.

10. SDG&E objects generally to each request that calls for information that contains trade secrets, is privileged or otherwise entitled to confidential protection by reference to statutory protection. SDG&E objects to providing such information absent an appropriate protective order. With respect to the Office of Ratepayer Advocates, however, SDG&E will produce such information subject to the requirements of Public Utilities Code Section 583 and General Order 66-C.

II. EXPRESS RESERVATIONS

1. No response, objection, limitation or lack thereof, set forth in these responses and objections shall be deemed an admission or representation by SDG&E as to the existence or nonexistence of the requested information or that any such information is relevant or admissible.

2. SDG&E reserves the right to modify or supplement its responses and objections to each request, and the provision of any information pursuant to any request is not a waiver of that right.

3. SDG&E reserves the right to rely, at any time, upon subsequently discovered information.

4. These responses are made solely for the purpose of this proceeding (A.15-09-010) and for no other purpose.

ORA DATA REQUEST
ORA-SDG&E DR-05, Q1-16
SDG&E WEMA PROCEEDING - A.15-09-010
SDG&E RESPONSE
DATE RECEIVED: June 10, 2016
DATE RESPONDED: June 24, 2016

III. RESPONSES

Request 1:
Please provide records of all red flag warnings/watches issued since 2005 with specific times, dates, durations, and locations.

Objection: SDG&E objects to this request on the grounds set forth in General Objections 2, 8 and 9.

Response:
Subject to the foregoing objections, SDG&E responds as follows. The National Weather Service (NWS) is responsible for issuing and archiving all Red Flag Warnings (RFW) and Fire Weather Watches (FWW). SDG&E recommends that ORA contact the NWS office in San Diego to obtain the RFW and FWW records for San Diego and Orange Counties.

National Weather Service
San Diego Weather Forecast Office
11440 W. Bernardo Court, Suite 230
San Diego, California 92127

Tel: (858) 675-8700

ORA DATA REQUEST
ORA-SDG&E DR-05, Q1-16
SDG&E WEMA PROCEEDING - A.15-09-010
SDG&E RESPONSE
DATE RECEIVED: June 10, 2016
DATE RESPONDED: June 24, 2016

Request 2:
Please describe or provide:

a. All operational measures that SDG&E currently takes in response to red flag warnings and

b. All operational measures that SDG&E took in response to red flag warnings prior to the 2007 fires.

Objection: SDG&E objects to this request on the grounds set forth in General Objection 2.

Response:
Subject to the foregoing objection, SDG&E responds as follows.

a. All response activities are outlined in TMC1320.

b. As of October 21, 2007, TMC 1320 and ESP 109 addressed Red Flag Warning periods for transmission and distribution, respectively. See also, the SDG&E Wildland Fire Prevention and Fire Safety Guide. (All three documents are attached and titled: TMC1320; ESP109; and Wildland Fire Prevention and Fire Safety Guide)

ORA DATA REQUEST
ORA-SDG&E DR-05, Q1-16
SDG&E WEMA PROCEEDING - A.15-09-010
SDG&E RESPONSE
DATE RECEIVED: June 10, 2016
DATE RESPONDED: June 24, 2016

Request 3:
Provide the GPS coordinates of all weather stations listed on SDG&E's public weather website[1] to the nearest second.

Objection: SDG&E objects to this request on the grounds set forth in General Objections 2, 4, 5 and 9.

Response:

Subject to the foregoing objections, SDG&E responds as follows. See attached spreadsheet titled: SDGE_170WeatherStations_06152016.

[1] http://weather.sdgeweather.com/

ORA DATA REQUEST
ORA-SDG&E DR-05, Q1-16
SDG&E WEMA PROCEEDING - A.15-09-010
SDG&E RESPONSE
DATE RECEIVED: June 10, 2016
DATE RESPONDED: June 24, 2016

Request 4:
Please provide a list of the month and year in which each weather station listed on SDG&E's public weather website was built. In the context of this question, please interpret "built" to mean the month the weather station first entered service.

Objection: SDG&E objects to this request on the grounds set forth in General Objections 2, 4, 5 and 9.

Response:

Subject to the foregoing objections, SDG&E responds as follows. See attached spreadsheet titled: SDGE_170WeatherStations_06152016.

ORA DATA REQUEST
ORA-SDG&E DR-05, Q1-16
SDG&E WEMA PROCEEDING - A.15-09-010
SDG&E RESPONSE
DATE RECEIVED: June 10, 2016
DATE RESPONDED: June 24, 2016

Request 5:
Please provide any data collected from all of the weather stations that correlate with Santa Ana conditions since the 2007 fires or since the construction of the weather stations (whichever is later).

Objection: SDG&E objects to this request on the grounds set forth in General Objections 2, 5 and 9.

Response:

Subject to the foregoing objections, SDG&E responds as follows. The attached spreadsheet titled: Peak Wind Gusts, which contains a list of all Santa Ana wind events in the SDG&E service territory since October 2012 (44 wind events in total) and the corresponding peak wind gusts for 40 of our windiest weather stations. Those 40 weather stations were chosen because they each have a history of recording Santa Ana wind gusts greater than or equal to 55 mph at least once since installation. We chose to focus only on those events since October 2012 as that is when the SDG&E mesonet reached a point of relative maturity. Prior to that date, the mesonet was in a state of rapid expansion, growing from 0 stations at the beginning of 2009 to 128 stations by the fall of 2012.

ORA DATA REQUEST
ORA-SDG&E DR-05, Q1-16
SDG&E WEMA PROCEEDING - A.15-09-010
SDG&E RESPONSE
DATE RECEIVED: June 10, 2016
DATE RESPONDED: June 24, 2016

Request 6:
In relation to the direct testimony of Mr. Jon A. Peterka filed September 25, 2015 on behalf of SDG&E:

a. When calculating the gust factors for each location,[2] was any data taken from the site(s) used for the calculations or was data derived entirely from the wind tunnel models? Please describe.

b. Was the Z-value determined purely from Mr. Peterka's model or from the actual terrain of the site? For example, when accounting for terrain and surface roughness,[3] were actual, physical trees or buildings surrounding the sites of ignition for the Witch, Rice, and Guejito Fires factored into the model?

c. Were any measurements of wind speed taken at the location of the site of ignition for the Witch, Rice, and Guejito fires used in the model? If so, please provide these measurements (including the date and precise location at which they were taken) and describe how they were used in the model.

d. When calculating the change of wind speed due to height,[4] was the line height used the top of the electricity pole, the lowest point in the wire, or the average height of the wire?

Response:
a. Data to calculate gust factors at each fire site were obtained entirely from wind tunnel tests; no full scale data from the field were used. The shape of the vertical profile of mean velocity was used to assess the value of effective roughness Zo. This value was then used in a computer program that models atmospheric boundary layer winds to determine the gust factor. The theory underlying the computer program is given in two ESDU publication listed in the testimony (references 6 and 7 in Appendix 2).

b. The Zo value for each site was determined in the wind tunnel tests by including in the model both the shape of the terrain (terrain features) and by setting the local surface roughness on the model to match that of the trees and rock outcrops near the sites. The local roughness of the wind tunnel model surface was calibrated to reasonably match a suburban or open treed landscape such as the local tree and rock outcrop roughness of each site. Individual trees and houses were not modeled explicitly.

[2] Direct Testimony of Jon A. Peterka on Behalf of SDG&E, p. 3, line 8.
[3] Direct Testimony of Jon A. Peterka on Behalf of SDG&E, p. 8, line 10.
[4] Direct Testimony of Jon A. Peterka on Behalf of SDG&E, p. 7, line 18.

c. There were no anemometers at the sites of the fires, and no wind speed measurements were obtained at the sites.

d. The rationale for heights for evaluation of the wind speeds at the three sites are explained in detail in the table on page 3, in the text on pages 7 and 8, and in footnotes 5, 6, and 7 on pages 7 and 8 of Mr. Peterka's testimony. For Witch and Guejito, the height of the lowest line at the approximate point of ignition was used, while at the Rice site a point was used near the top of the tree canopy near the height of the broken branch.

ORA DATA REQUEST
ORA-SDG&E DR-05, Q1-16
SDG&E WEMA PROCEEDING - A.15-09-010
SDG&E RESPONSE
DATE RECEIVED: June 10, 2016
DATE RESPONDED: June 24, 2016

Request 7:
In the direct testimony of Mr. Steve Vanderburg, SDG&E references a wind speed of 92 miles per hour (MPH).[5]

How was the 92 MPH wind speed for West Santa Ysabel calculated? Please describe and provide all data used in order to calculate this wind speed.

Response:

Mr. Vanderburg divided the peak wind gust at West Santa Ysabel (WSY) by the peak wind gust at Julian RAWS (JULC1) for every Santa Ana wind event from the Fall of 2012 through the beginning of 2015. Mr. Vanderburg then calculated the median of those results to get the median gust multiplier for the two stations (including +/- 1 standard deviation). See attachment titled: WEMA_WSYcalcs.

[5] Direct Testimony of Steve Vanderburg on Behalf of SDG&E, p. 13 line 14

ORA DATA REQUEST
ORA-SDG&E DR-05, Q1-16
SDG&E WEMA PROCEEDING - A.15-09-010
SDG&E RESPONSE
DATE RECEIVED: June 10, 2016
DATE RESPONDED: June 24, 2016

Request 8:
In the direct testimony of Mr. Steve Vanderburg, SDG&E states that there are 170 weather stations currently in use.[6] However, ORA is only able to locate 162 stations on SDG&E's website. [7]

a. Please explain why there are fewer than 170 weather stations listed on SDG&E's website.

b. Are there any operating weather stations that are not publicly accessible? If so, please provide a list (including GPS coordinates) and describe why these stations are not listed on the website.

Response:

a. Weather stations are temporarily removed from the website if they are down for maintenance or are out of commission. Further, the number of stations in the SDG&E mesonet is not static and can change based on a variety of factors including observational needs, vandalism, access issues, etc. Currently, there are 170 weather stations in the SDG&E mesonet.

b. Yes, there are 8 portable weather stations which are periodically put into service to support various projects. They are not always in service and GPS coordinates are not always available because of the portable nature of these stations. The data from these portable weather stations are not made publicly available. The 170 weather stations mentioned in Mr. Vanderburg's testimony do not include these portable weather stations.

[6] Direct Testimony of Steve Vanderburg on Behalf of SDG&E, p. 5 line 19
[7] http://weather.sdgeweather.com/

ORA DATA REQUEST
ORA-SDG&E DR-05, Q1-16
SDG&E WEMA PROCEEDING - A.15-09-010
SDG&E RESPONSE
DATE RECEIVED: June 10, 2016
DATE RESPONDED: June 24, 2016

Request 9:
Please provide a clearer, high-resolution version of the chart (Operating Chart for Normal through Red Flag Conditions) on page 25 of SDG&E's Fire Prevention Plan (included as Appendix 2 to Mr. Geier's testimony).

Was this chart (or an earlier iteration) in use before the 2007 wildfires?

Response:
See the chart on the following page. This chart was not in use before the 2007 wildfires.

ORA DATA REQUEST
ORA-SDG&E DR-05, Q1-16
SDG&E WEMA PROCEEDING - A.15-09-010
SDG&E RESPONSE
DATE RECEIVED: June 10, 2016
DATE RESPONDED: June 24, 2016

CONDITION	Normal Condition **Fire Potential Index 1-11** Fuel and weather conditions are no longer conducive to significant fire growth. Based on fire indices and Fire Coordinator / Meteorologist Recommendation		Elevated Condition **Fire Potential Index 12-14** The burn environment of a specific area or district has become conducive for a large wildfire within the SDG&E service territory.		Extreme Condition **Fire Potential Index 15 and above** An extreme operating condition will be declared when the burn environment of a specific area or district has become conducive for a catastrophic wildfire within the SDG&E service territory. .		Red Flag Condition (NWS) RFW: Relative Humidity ≤ 15%, with sustained winds ≥ 25 mph and/or frequent gusts ≥ 35 mph (duration ≥ 6 hours) Declared by NWS	
	Distribution	**Transmission**	**Distribution**	**Transmission**	**Distribution**	**Transmission**	**Distribution**	**Transmission**
Highest Risk Fire Area	No change to reclosing policy. Line will be tested by recloser action.	No change to reclosing policy. Line will be tested by recloser action.	All reclosers will be turned off.		All reclosers will be turned off. Enable Sensitive Relay Setting at direction of EDO.		All reclosers will be turned off. Enable Sensitive Relay Setting at direction of EDO.	
			TESTING		**TESTING**		**TESTING**	
			Distribution	**Transmission**	**Distribution**	**Transmission**	**Distribution**	**Transmission**
			SGF Targets: Patrol entire line or line segment before energizing. Non-SGF Targets: Patrol line segment to load-side sectionalizing device before energizing.	Patrol entire line or line segment before energizing.	SGF Targets: Patrol entire line or line segment before energizing. Non-SGF Targets: Patrol line segment to load-side sectionalizing device before energizing.	Patrol entire line or line segment before energizing.	SGF Targets: Patrol entire line or line segment before energizing. Non-SGF Targets: Patrol line segment to load-side sectionalizing device before energizing.	Patrol entire line or line segment before energizing.
			If Control Center Management, SDG&E FC and/or Meteorologist determine that weather conditions do not warrant special considerations (such as wind, relative humidity, etc.), the line may be tested once, before it is patrolled. If a Distribution outage is caused by a Transmission/Substation outage, Distribution may re-energize without a patrol, as directed by Control Center Management, SDG&E FC and/or Meteorologist.		If a Distribution outage is caused by a Transmission/Substation outage, Distribution will consult with Fire Coordinator / Meteorologist and evaluate re-energization without a patrol. Crew Deployment Plan Activated by District		Crew Deployment Plan Activated Staging Sites Include: All C&O Centers Viejas, Santa Ysabel, Jamul, Del Mar, Fallbrook At a > 56 mph wind gust forecast, EDO will stage field observers, close to affected areas.	
FIRE THREAT ZONE	No change to reclosing policy. Line will be tested by recloser action.		All reclosers will be turned off.		All reclosers will be turned off.		All reclosers will be turned off.	
			TESTING		**TESTING**		**TESTING**	
			Distribution	**Transmission**	**Distribution**	**Transmission**	**Distribution**	**Transmission**
			SGF Targets: Patrol entire line or line segment before energizing. Non-SGF Targets: Patrol line segment to load-side sectionalizing device before energizing.	Patrol entire line or line segment before energizing.	SGF Targets: Patrol entire line or line segment before energizing. Non-SGF Targets: Patrol line segment to load-side sectionalizing device before energizing.	Patrol entire line or line segment before energizing.	SGF Targets: Patrol entire line or line segment before energizing. Non-SGF Targets: Patrol line segment to load-side sectionalizing device before energizing.	Patrol entire line or line segment before energizing.
			If Control Center Management, SDG&E FC and/or Meteorologist determine that weather conditions do not warrant special considerations (such as wind, relative humidity, etc.), the line may be tested once, before it is patrolled. If a Distribution outage is caused by a Transmission/Substation outage, Distribution may re-energize without a patrol as directed by Control Center Management, SDG&E FC and/or Meteorologist.		If Control Center Management, SDG&E FC and/or Meteorologist determine that weather conditions do not warrant special considerations (such as wind, relative humidity, etc.), the line may be tested once, before it is patrolled. If a Distribution outage is caused by a Transmission/Substation outage, Distribution may re-energize without a patrol as directed by Control Center Management, SDG&E FC and/or Meteorologist.		*For Coastal Zone 243 ONLY (wildland):* If Control Center Management, SDG&E FC and/or Meteorologist determine that weather conditions do not warrant special considerations (such as wind, relative humidity, etc.), the line may be tested once, before it is patrolled.	

ORA DATA REQUEST
ORA-SDG&E DR-05, Q1-16
SDG&E WEMA PROCEEDING - A.15-09-010
SDG&E RESPONSE
DATE RECEIVED: June 10, 2016
DATE RESPONDED: June 24, 2016

Request 10:

Please provide a map of what SDG&E identifies as “Fire Threat Zones” and the “Highest Risk Fire Areas” for San Diego County.

Response:
See attachment titled: FTZ_HRFA Map.

ORA DATA REQUEST
ORA-SDG&E DR-05, Q1-16
SDG&E WEMA PROCEEDING - A.15-09-010
SDG&E RESPONSE
DATE RECEIVED: June 10, 2016
DATE RESPONDED: June 24, 2016

Request 11:
In the direct testimony of Mr. David L. Geier, SDG&E states:

> *"SDG&E also revised transmission and distribution operating practices to incorporate procedures for coordination of operations during fire conditions with other entities, such as the U.S. Forest Service, Cal Fire, the City and County of San Diego and the law enforcement offices."*[8]

Please provide these revisions.

Response:
See response to Request 2.b. above.

[8] Direct Testimony of David L. Geier on Behalf of SDG&E, p. 17

ORA DATA REQUEST
ORA-SDG&E DR-05, Q1-16
SDG&E WEMA PROCEEDING - A.15-09-010
SDG&E RESPONSE
DATE RECEIVED: June 10, 2016
DATE RESPONDED: June 24, 2016

Request 12:
The fourth page of Appendix 2 of Mr. Don Akau's testimony is a spreadsheet pertaining to Vegetation Management Areas (VMAs).[9] Please provide:

a. A version of this spreadsheet in native format.

b. A key or legend for the colors used.

Response:

a. See separately attached excel files: C10 VMP Schedule.xls and Cycle 9 pole brush activity.xls. Both documents make up the contents of Don Akau's Appendix 2.

b. The legend for C10 VMP Schedule.xls begins within the attachment on line 136, columns C – P. The legend for Cycle 9 pole brush activity.xls begins within the attachment on line 136, column C.

[9] This page is unnumbered, but is a spreadsheet that contains multiple colored cells and immediately follows a page labeled "3 of 3." In the electronic version of Mr. Akau's testimony, this page is 28 of 141.

ORA DATA REQUEST
ORA-SDG&E DR-05, Q1-16
SDG&E WEMA PROCEEDING - A.15-09-010
SDG&E RESPONSE
DATE RECEIVED: June 10, 2016
DATE RESPONDED: June 24, 2016

Request 13:
If a tree were to have internal growth and/or rotting, where in the inspection record or report would this be indicated?

Does SDG&E maintain a database of this information? If so, please provide all entries in this database corresponding to trees that have internal growth and/or rotting.

Objection: SDG&E objects to this request on the grounds set forth in General Objection 3.

Response:
Subject to the foregoing objection, SDG&E responds as follows. The term, "internal growth" is an ambiguous term. If a tree were to display signs of disease or decay ("rotting") the condition may be noted in the tree record as a comment. SDG&E maintains a database of inventory trees. The current inventory contains over 460,000 trees. The archived database includes many thousands of additional inventory tree records. Vegetation Management does not maintain a report of any and all inventory trees whose record may have at one time or another included any comment of disease or decay.

ORA DATA REQUEST
ORA-SDG&E DR-05, Q1-16
SDG&E WEMA PROCEEDING - A.15-09-010
SDG&E RESPONSE
DATE RECEIVED: June 10, 2016
DATE RESPONDED: June 24, 2016

Request 14:
In the direct testimony of Mr. Gerry Akin, SDG&E states:

> *"The conductors have not yet been subjected to forensic investigation because they are in Cal Fire's possession and unavailable to SDG&E."*[10]

Have the conductor(s) undergone forensic analysis (including tension of the conductor, the state of the steel core, and any other relevant information) by either CalFire or SDG&E? If so, please provide the results of the analysis and supporting documents/data.

Objection:
SDG&E objects to this request on the grounds set forth in General Objection 1.

Response:
Subject to the foregoing objection, SDG&E responds as follows. The conductors were the subject of extensive examination and testing in 2008 and 2009 in connection with evidence protocols undertaken in conjunction with Cal Fire and other parties to the 2007 Wildfire Litigation. SDG&E will make available to ORA data collected in connection with those protocols, which was shared among the parties via a repository, by July 1, 2016.

[10] Direct Testimony of Gerry Akin SDG&E (Witch Fire), p. 8

ORA DATA REQUEST
ORA-SDG&E DR-05, Q1-16
SDG&E WEMA PROCEEDING - A.15-09-010
SDG&E RESPONSE
DATE RECEIVED: June 10, 2016
DATE RESPONDED: June 24, 2016

Request 15:
In the direct testimony of Mr. Gerry Akin, SDG&E states:

"After TL 637 was re-energized to reestablish service to the Santa Ysabel substation, another phase-to-phase fault involving phase C occurred on November 12, 2007"[11]

a. At what time on October 21, 2007 was TL 637 first re-energized?

b. Had TL 637 been inspected to check for tension before November 12, 2007?

c. Was the re-energization of TL 637 automatic (using automatic re-closers or similar devices) or manual?

d. If the answer to part (c) is 'manual,' who had determined that the line should be reenergized?

Objection:
SDG&E objects to this request on the grounds set forth in General Objection 3.

Response:
Subject to the foregoing objection, SDG&E responds as follows.

a. TL637 was re-energized at 3:02 p.m. on October 25, 2007 to re-establish service to the Santa Ysabel substation so that power could be restored to customers.
b. The conductors had been inspected following ignition of the Witch fire. SDG&E is not aware of tension measurements being taken prior to November 12, 2007.
c. TL637 was manually re-energized on October 25, 2007.
d. Grid Operations, and Transmission Construction & Maintenance Manager J. Bret Ball.

[11] Direct Testimony of Gerry Akin SDG&E (Witch Fire), p. 6

ORA DATA REQUEST
ORA-SDG&E DR-05, Q1-16
SDG&E WEMA PROCEEDING - A.15-09-010
SDG&E RESPONSE
DATE RECEIVED: June 10, 2016
DATE RESPONDED: June 24, 2016

Request 16:
In relation to the hard drive provided in response to ORA data request ORA-SDG&E-A.15-09-010-02 (ORA's second data request):

a. Within the SDGE PRODS/IMAGES/001 folder, SDGE0005079.TIF shows a chart displaying visits by Jorge Orellana for routine checks on 10/18/07. Is there a document showing a similar visit to FF1090 on 10/15/07? If so, please provide.

b. Within the SDGE PRODS/IMAGES/001 folder, SDGE0000789.TIF shows information for load drops through 2006. Is there a similar, more recent file displaying information in the year 2007? If so, please provide.

c. Within the SDGE PRODS/IMAGES/002 folder, SDGE0005778.TIF shows pre-inspection audit results for VMA 380. Please provide a similar data file for any audits done for VMA 379.

Objection:
SDG&E objects to this request on the grounds set forth in General Objection 2.

Response:
Subject to the foregoing objection, SDG&E responds as follows.

a. SDG&E has not located a document like SDGE0005079 for 10/15/07, but has confirmed in data responses served by Davey Tree Surgery on May 27, 2009, the "Tree History Report" for tree FF1090 reflects a visit by Jorge Orellana to the site of FF1090 on October 15, 2007. These documents were attached as Appendix 6 and Appendix 7 to the Prepared Direct Testimony of Don Akau.
b. SDGE0000789 appears to be data from SDG&E's forced outage database, which was produced in full (including data for 2007) in the 2007 Wildfire Litigation, e.g., at SDGE0314132-SDGE0314143.
c. SDGE0005775 and SDGE0005759 are similar data files related to VMA 379 audits that were produced by SDG&E in the 2007 Wildfire Litigation.

Attachment: TMC1320 CONFIDENTIAL

Attachment: ESP109

DEPARTMENT	DIVISION	EFFECTIVE DATE
ELECT. DISTRIBUTION ENGINEERING	DISTRIBUTION OPERATIONS	FEBRUARY 15, 2007

SECTION

GENERAL PRACTICES

SUBJECT TITLE

HAZARDOUS WILD LAND FIRE CONDITIONS

REVISION HISTORY

This standard practice has been updated to conform to the new Fire Plan written by the SDG&E Fire Coordinator

1.0 PURPOSE

1.1 This document outlines the notification and safety procedures required when the Weather Service issues a RED FLAG FIRE WARNING within SDG&E's service territory. See Attachment A.

2.0 APPLICABILITY

2.1 To all SDG&E employees whose job responsibilities involve being notified of or being required to change work procedures during periods, as defined and designated by the State of California Division of Forestry, when HAZARDOUS WILD LAND FIRE CONDITIONS exist.

3.0 DEFINITIONS

3.1 **BPOR** – Bulk Power Operations Report

3.2 **CAISO** – California Independent System Operator

3.3 **CDF** – California Department of Forestry

3.4 **DCC WF** – Distribution Control Center Working Foreman

3.5 **DCC** – Distribution Control Center

3.6 **GCC** – Grid Control Center

3.7 **OSS** – Operations Shift Supervisor, Grid Control

3.8 **TSO** – Transmission System Operator, Grid Control

3.9 **RED FLAG WARNING** - This warning is implemented by the Weather Service when hot and dry weather conditions are accompanied by sustained winds above 25 MPH and thus increasing fire danger in wild land areas.

ISSUED BY	APPROVED BY
GASPARE CIARAVINO / Vino / HAL MORTIER	*JOHN D. JENKINS*

DEPARTMENT	DIVISION	EFFECTIVE DATE
ELECT. DISTRIBUTION ENGINEERING	DISTRIBUTION OPERATIONS	FEBRUARY 15, 2007

SECTION

GENERAL PRACTICES

SUBJECT TITLE

HAZARDOUS WILD LAND FIRE CONDITIONS

4.0 PROCEDURE

4.1 SDG&E Contacts

NOTE: The following phone numbers are for fire purposes only and should only be given to personnel related to this procedure.

Operations Shift Supervisor (24 hour contact for emergencies)	619-296-5411
Facsimile	619-725-8629
Email	oss@semprautilities.com
Transmission System Operator (24 hour contact for all routine switching operations)	619-296-5400
Facsimile	619-725-8629
Email	bpsco@semprautilities.com
Primary SDG&E Fire Coordinator (Hal Mortier)	(work) 858-654-8683 (cell) 619-921-2330 (pager) 619-978-2105 (home) 760-789-1835
Alternate SDG&E Fire Coordinator (John Hotta)	(work) 858-541-5952 (cell) 619-743-3710 (pager) 619-978-2499 (home) 760-758-9507
Alternate SDG&E Fire Coordinator (Tim Knowd)	(work) 619-650-4050 (cell) 619-921-7384 (pager) 619-978-2280 (home) 760-789-8289

DEPARTMENT	DIVISION	EFFECTIVE DATE
ELECT. DISTRIBUTION ENGINEERING	DISTRIBUTION OPERATIONS	FEBRUARY 15, 2007

SECTION

GENERAL PRACTICES

SUBJECT TITLE

HAZARDOUS WILD LAND FIRE CONDITIONS

4.2 **CDF CONTACTS**

NOTE: The following phone numbers are for fire purposes only and should only be given to personnel related to this procedure.

Emergency Command Center (ECC)/CDF Dispatcher	619-401-7787
CDF Battalion Chief	(work) 619-590-3109 (fax) 619-590-3196
For doc review:	tom.gardner@fire.ca.gov dan.pagne@fire.ca.gov
Los Pinos Lookout Station	619-208-9477

4.3 **GENERAL**

4.3.1 RED FLAG WARNING - This warning is implemented by the Weather Service when hot and dry weather conditions are accompanied by sustained winds above 25 MPH and thus increasing fire danger in wild land areas. All "notification procedures" and "safety procedures" must be implemented as outlined later in this document.

4.3.2 The CDF Dispatcher will notify the SDG&E Fire Coordinator who in turn will notify the OSS when a Red Flag Fire Warning is issued that will effect company operations. The OSS is responsible for alerting designated company employees and the CAISO of an impending warning so that they may notify personnel in their area to take appropriate precautionary measures as described in the "safety procedures" section of this document.

4.3.3 Red Flag Fire Warnings issued by the Weather Service will usually be effective for the day of the warning only. Normal activities may resume in the designated fire areas following the warning period unless the initially declared fire warning remains in effect.

4.3.4 All incorporated areas, within SDG&E's service territory, are excluded from the safety procedures specified in this procedure.

DEPARTMENT	DIVISION	EFFECTIVE DATE
ELECT. DISTRIBUTION ENGINEERING	DISTRIBUTION OPERATIONS	FEBRUARY 15, 2007

SECTION
GENERAL PRACTICES

SUBJECT TITLE
HAZARDOUS WILD LAND FIRE CONDITIONS

4.4 **NOTIFICATION PROCEDURES**

4.4.1 ALL HOURS (Including weekends and holidays)

4.4.1.1 The CDF will notify the SDG&E Fire Coordinator who in turn will notify the OSS by 1500 on the day prior to the forecasted Red Flag Fire Warning. However, notification may occur at any time.

4.4.1.2 The OSS or TSO will make notifications to the following personnel:

Gas Control Center – Spence Street, Los Angeles, CA

Supervisor	323-266-5888 or
Dispatcher	323-266-5800

CAISO Dispatcher

Alhambra	626-537-2590 and/or
Folsom	916-351-2497

Distribution Control Center personnel (If DCC WF or DCC is notified, it is his/her responsibility to notify Distribution Operations management personnel).

Station Y, Trouble Dept. Personnel	619-725-5100

Send a page/email notification via the SDG&E Web Based Pager System http://pager.sdge.com/index.jsp to the "Fire Warning" distribution list. This notice should include detailed information as follows:

Date Red Flag Fire Warning is in effect.

Time Red Flag Fire Warning is effective and projected time to be terminated.

EXAMPLE: The Weather Service has issued a Red Flag Fire Warning effective at 0900 on 10/26/03 through 0900 on 10/27/03

If the SDG&E Intranet or GCC LAN is down and the SDG&E Web Based Pager System is not available, use the OSS Nextel phone to make notification to:

Distribution Operations

Station Y

Emergency Services On-Duty Pager

Field Crews working under GC Authorization

DEPARTMENT	DIVISION	EFFECTIVE DATE
ELECT. DISTRIBUTION ENGINEERING	DISTRIBUTION OPERATIONS	FEBRUARY 15, 2007

SECTION

GENERAL PRACTICES

SUBJECT TITLE

HAZARDOUS WILD LAND FIRE CONDITIONS

4.4.1.3 Department Managers/Supervisors or designated relief(s) are responsible for notifying affected personnel within their organization regarding the Red Flag Fire Warning.

4.4.1.4 A Red Flag Fire Warning shall be included in the BPOR under "ITEMS OF INTEREST" for the day(s) the warning is in effect.

4.4.1.5 900 MHz Radio Announcement Procedures:

Station Y, Trouble Department will initiate the "Fleet Wide Call (group call)" procedure to broadcast the Red Flag Fire Warning notice. Refer to COM8009 – 900 MHz Radio System, for detailed instructions on transmitting a Fleet Wide Call.

4.4.1.5.1 When notification of a Red Flag Fire Warning is given the day prior to the effective day, a broadcast will be made by 1600 on the notification day and also at 0800 on the day of the alert.

4.4.1.5.2 If the Red Flag Fire Warning is declared for multiple days, the Fleet Wide Call will be broadcast each morning at 0800, each day the Red Flag Fire Warning is in effect.

4.4.1.5.3 When notification is received on the day of the Red Flag Fire Warning, the broadcast will be made at the time of notification.

4.4.1.5.4 The announcement should include the following information:

- Geographic description of the area affected.
- Date the Red Flag Fire Warning is effective.
- Duration of the Red Flag Fire Warning (normally for 24 hours beginning at 0800 on the next day).

SAMPLE MESSAGE:

> –Station Y to all units. A Red Flag Fire Warning will be in effect from XXXX (begin time) through XXXX (end time) on DD/MM/YY. All of the company designated fire hazard areas will be effected.
>
> The message will be repeated twice within 30 minutes, via the "Fleet Wide Call" procedure.

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DEPARTMENT	DIVISION	EFFECTIVE DATE
ELECT. DISTRIBUTION ENGINEERING	DISTRIBUTION OPERATIONS	FEBRUARY 15, 2007

SECTION

GENERAL PRACTICES

SUBJECT TITLE

HAZARDOUS WILD LAND FIRE CONDITIONS

4.5 **SAFETY PROCEDURES**

Transmission lines and/or distribution circuits, which have tripped to lockout, will NOT be tested manually or remotely (See EXCEPTION below) until the line or line segment has been patrolled or the cause of the interruption has been identified and isolated, or repaired. A line patrol is also required prior to replacing sectionalizing or transformer station fuses that have blown.

EXCEPTION: A transmission line may be tested, one time only, if the loss of another transmission facility could lead to system instability or cascading outages.

4.5.1 Customer outage time should be held to a minimum by sectionalizing, patrolling, and energizing segments of the circuit.

4.5.2 Red Flag Warning

4.5.2.1 A fire guard will be assigned to any operation that could cause a fire.

4.5.2.2 No open burning will be permitted.

4.5.2.3 All fires will be extinguished.

4.5.2.4 All non-critical tree pruning and removal activities will cease. Permission may be obtained to continue scheduled tree related work by contacting the Area Forester, Contract Administrator, System Forester, Vegetation Program Manager, or the Fire Coordinator. Approval will be granted on a "case by case" basis, depending on the situation.

4.5.2.5 All blasting will be discontinued.

4.5.2.6 All welding will discontinue, except in enclosed buildings or within areas cleared of all flammable material for a radius of 15 feet.

4.5.2.7 Vehicular travel will be restricted to cleared roads except in case of an emergency. In no case will vehicles with hot exhaust systems be driven over or parked in grassy areas.

4.5.2.8 Smoking will not be permitted.

DEPARTMENT	DIVISION	EFFECTIVE DATE
ELECT. DISTRIBUTION ENGINEERING	DISTRIBUTION OPERATIONS	FEBRUARY 15, 2007

SECTION

GENERAL PRACTICES

SUBJECT TITLE

HAZARDOUS WILD LAND FIRE CONDITIONS

5.0 REFERENCES

5.1 COM8009 - 900 MHz Radio System

5.2 ESP108 – Use of Company Radios (900MHz)

5.3 Standard Operating Procedure, TMC1320; "Hazardous Fire Conditions-Red Flag Warning"

5.4 ESP148 – Fire Plan

6.0 ATTACHMENTS

6.1 Attachment A: Designated Fire Hazard Zone Map

6.2 Attachment B: List of Tie-lines and Substations in Red Flag Fire Area

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DEPARTMENT	DIVISION	EFFECTIVE DATE
ELECT. DISTRIBUTION ENGINEERING	DISTRIBUTION OPERATIONS	FEBRUARY 15, 2007

SECTION

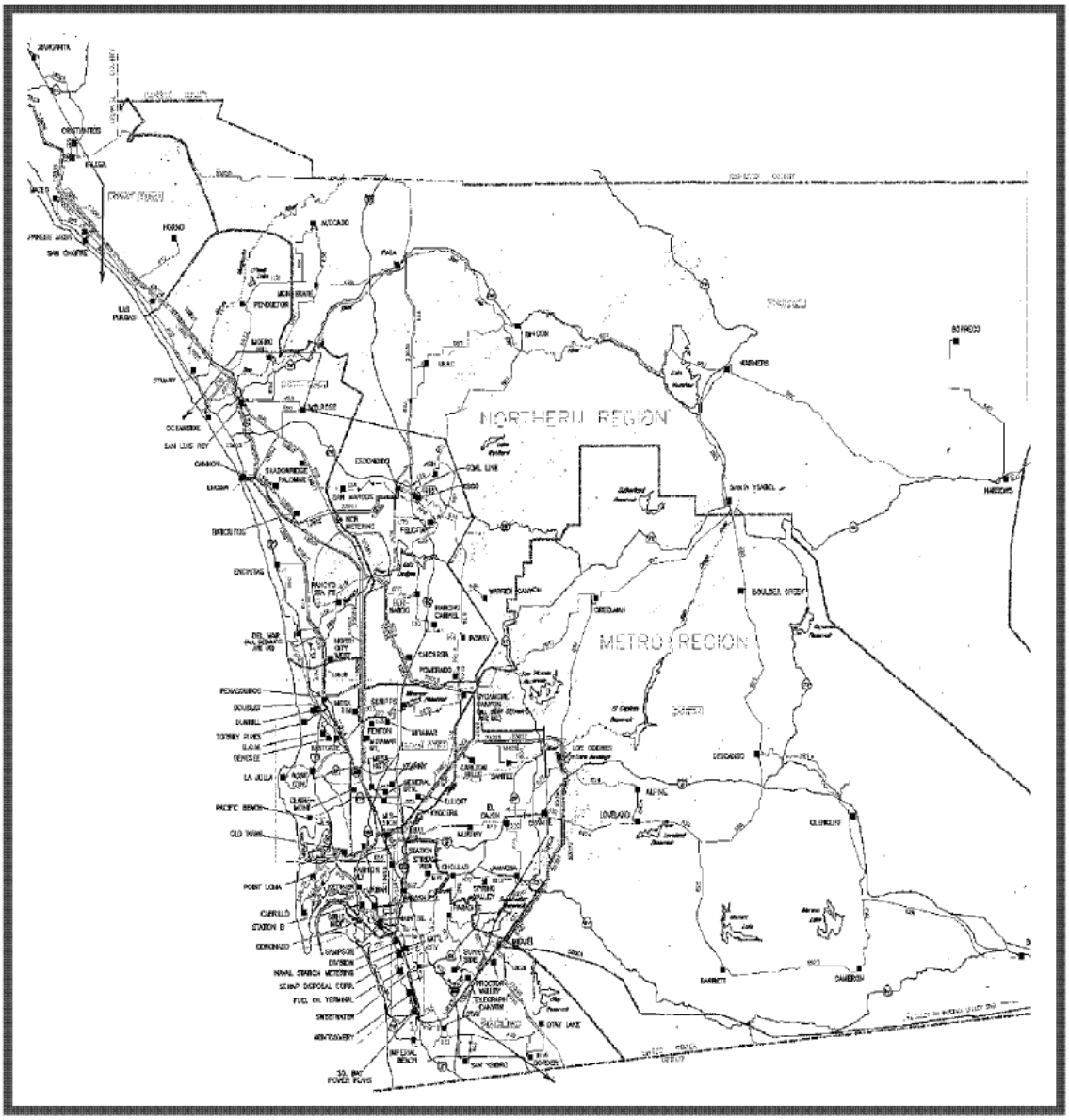
GENERAL PRACTICES

SUBJECT TITLE

HAZARDOUS WILD LAND FIRE CONDITIONS

ATTACHMENT A

Designated Fire Hazard Zone (Shaded Area)



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DEPARTMENT	DIVISION	EFFECTIVE DATE
ELECT. DISTRIBUTION ENGINEERING	DISTRIBUTION OPERATIONS	FEBRUARY 15, 2007

SECTION

GENERAL PRACTICES

SUBJECT TITLE

HAZARDOUS WILD LAND FIRE CONDITIONS

ATTACHMENT B

List of TL's & Substations in Red Flag Fire Area

TL	Tie-line Terminals in Red Flag Area	Subs in Red Flag Area
621	PARADISE - MIGUEL	ALPINE
625	LOVELAND - DESCANSO - BARRETT	AVOCADO
626	DESCANSO - BOULDER CREEK - SANTA YSABEL	BARRETT
629	DESCANSO - GLENCLIFF - CRESTWOOD - CAMERON	BORDER
631	EL CAJON - LOS COCHES	BORREGO
632	MIGUEL - LOS COCHES - GRANITE	BOULDER CREEK
634	ESCO - WARREN CANYON - POWAY	BOULEVARD
635	LOS COCHES - CREELMAN	CAMERON
636	ELLIOTT - LOS COCHES	CREELMAN
637	CREELMAN - SANTA YSABEL	CRESTWOOD
643	MIGUEL - JAMACHA	DESCANSO
649	OTAY - SAN YSIDRO - OTAY LAKES - BORDER	GLENCLIFF
678	LOS COCHES - ALPINE	HORNO
681	FELICITA - ASH - VALLEY CENTER	LILAC
682	RINCON - WARNERS	LOS COCHES
683	RINCON - LILAC	LOS PULGAS
685	WARNERS - SANTA YSABEL	LOVELAND
686	WARNERS - NARROWS	MARGARITA
687	BORREGO - NARROWS	MELROSE
688	ESCONDIDO - LILAC	MIGUEL
690	SAN LUIS REY - OCEANSIDE - STUART - LAS PULGAS	MONSERATE
691	CAMP PENDLETON - MONSERATE - AVOCADO	NARROWS
692	LAS PULGAS - HORNO - JAPANESE MESA	OTAY LAKE
694	SAN LUIS REY - MORRO HILL - MONSERATE	PALA
698	AVOCADO - MONSERATE - PALA	PENDLETON
800	NARROWS - (IID-SAN FELIPE)	PROCTOR VALLEY

DEPARTMENT	DIVISION	EFFECTIVE DATE
ELECT. DISTRIBUTION ENGINEERING	DISTRIBUTION OPERATIONS	FEBRUARY 15, 2007

SECTION

GENERAL PRACTICES

SUBJECT TITLE

HAZARDOUS WILD LAND FIRE CONDITIONS

Cont'd

TL	Tie-line Terminals in Red Flag Area	Subs in Red Flag Area
6904	LOVELAND - ALPINE	RINCON
6910	MIGUEL - BORDER	SANTA YSABEL
6912	SAN LUIS REY - CAMP PENDLETON	STUART
6914	LOS COCHES - LOVELAND	VALLEY CENTER
6917	SYCAMORE CANYON - CREELMAN	WARNERS
6923	BARRETT - CAMERON	WARREN CANYON
6924	SYCAMORE CANYON - POMERADO	
6926	VALLEY CENTER - RINCON	
6931	CRESTWOOD - BOULEVARD	
6932	PALA - LILAC	
6935	BORDER WILDFLOWER - BORDER	
6936	BORDER – CAL PEAK	
13809	TELEGRAPH CANYON - PROCTOR VALLEY	
13819	SANTEE - LOS COCHES	
13821	SANTEE - CARLTON HILLS - CHICARITA	
13824	SOUTH BAY POWER PLANT - LOS COCHES	
13826	MIGUEL - PROCTOR VALLEY	
13830	MARGARITA - TRABUCO	
13831	TALEGA - MARGARITA	
23002	SAN ONOFRE - SAN LUIS REY	
23006	SAN ONOFRE - SAN LUIS REY	
23010	SAN ONOFRE - SAN LUIS REY	
23021	MIGUEL - SYCAMORE CANYON	
23022	MIGUEL - MISSION	
23030	TALEGA - ESCONDIDO	
23040	MIGUEL - TIJUANA	
50001	MIGUEL - IMPERIAL VALLEY	

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Attachment: Wildland Fire Prevention & Fire Safety Guide

SAN DIEGO GAS & ELECTRIC

WILDLAND FIRE PREVENTION & FIRE SAFETY GUIDE

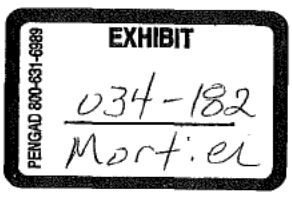
I. PURPOSE

Southern California provides one of the most dangerous natural wildland fuel scenarios and explosive fire weather potential in the world. Fire season generally runs from early May into November. Extended dry periods can bring us into fire season essentially any time of the year. SDG&E facilities, equipment, and activities present a potential wildland fire ignition risk which must be minimized to the extent reasonably possible. In the event of a fire, we must also be equipped to enable suppression efforts for small fires, thus possibly preventing a major fire. Most importantly, we must provide the resources and training necessary to keep our employees safe while working in the wildland areas. The intent of this document is to formalize some procedures and routine practices that will:

- Assist SDG&E employees in their understanding of fire prevention and improve their ability to prevent the start of any fire. The emphasis will be on wildland fires, especially during the critical times of the year when the fire risk is high.
- Set recommendations for certain tools and equipment to be present in our vehicles and on our work sites, when performing identified operational risks. This will assist with rapid extinguishment of small fires in the event one should occur.
- Incorporate State, Federal, and local requirements into our standard way of doing business to provide compliance with rules and regulations on a daily basis. This would include, but not be limited to: pertinent laws, Forest Practice Regulations, and "Special Use Permit" or "Right of Way" fire related requirements.
- Define restrictions mandated by "Red Flag Warnings", "Project Activity Levels", or other unique fire danger scenarios; provide means for determining when these restrictions are in effect, what activities they prohibit, and the precise locations to which they apply; and identify the notification procedures for all affected employees and contractors.
- Establish communication requirements when working in the wildland areas.
- Discuss additional and/or optional mitigation measures to reduce the risk of fire start in particularly hazardous situations or scenarios.
- Share some common sense practices, with regard to fire safety, that should be used in all activities to reduce the risk of fires and prevent injury to an employee as a result of a fire.

II. APPLICABILITY

This applies to SDG&E field personnel who will likely work in the wildland areas of the service territory during times that are conducive to wildland fire occurrence. This also includes Distribution and Transmission operating personnel who will be involved with field personnel in regards to safety, system reliability and/or restoration. Contractors performing work for SDG&E will be expected to comply with this Fire Plan as it relates to their activities as well.



III. DEFINITIONS

- Wildland Area
  - This is any area with significant wildland vegetation (trees, chaparral, grass, and ground litter) to support the ignition and spread of a wildland fire.
- State Responsibility Area (SRA)
  - This is the California Department of Forestry (CDF) jurisdiction for fire protection. It is comprised of primarily wildland vegetation or residential interface within the wildland areas.
- Fire Season
  - Fire season applies to those periods of time that the fire agencies determine conditions exist to be conducive to the start of wildland fires. The start and closing of each fire season is officially announced by the appropriate agencies. Other periods outside of fire season can be identified by "Proclamation" as having that same potential and thus requiring the same considerations.
- Pulaski
  - The Pulaski is an axe-like fire hand tool used primarily for cutting or grubbing forest fuels.
- McLeod
  - The McLeod is a fire hand tool used for raking and scraping forest fuels.
- Red Flag Warning
  - This is an early warning issued by the National Weather Service to advise occupants of the wildland areas of extreme fire weather conditions. Certain requirements and precautions are implied by this warning.
- Project Activity Levels
  - This is a federal program designed to reduce the risk of fire starts during forest related work on high fire danger days.

IV. PROCEDURES

EQUIPMENT & FACILITY RISK:

The nature of utility equipment and facilities in and of themselves presents a fire risk. As a result there are laws and regulations governing utilities in this regard. The following Public Resource Code (PRC) sections exist to reduce utility specific risks involved with wildland fire. SDG&E is proactive in insuring compliance with each of these on a continual basis.

- PRC Section 4290 - *Regulations Implementing Minimum Fire Safety Standards Related to Defensible Space Applicable to State Responsibility Lands.*
- PRC Section 4291 – *Reduction of Fire Hazards Around Buildings.*
- PRC Section 4292 – *Power Line Hazard Reduction, 10' clearance around power poles with non-exempt hardware.*
- PRC Section 4293 – *Power Line Clearance Required, between vegetation and conductors, 4' for 2,400-71,999 volts, 6' for 72,000-109,999 volts, and 10' for 110,000 and above.*

Some departments are tasked specifically with responsibility for compliance with these regulations. The SDG&E Vegetation Management Program, in the Construction Services Department, has an extensive tree pruning and removal program to provide adequate line clearance. They also treat all non-exempt power poles in the specified area to maintain the 10' clearance required by PRC 4292. Personnel from Land Services, Facilities, and Fire Coordination work together to meet defensible space requirements, as well as other fuel hazard reduction where applicable. **However, it is the responsibility of all SDG&E employees and contractors to support the company's efforts to comply with these regulations.**

OPERATIONAL RISKS:

The Control Centers, Dispatch Center, and Fire Coordinator will provide general information to SDG&E employees regarding fire season status. During these defined periods, the following SDG&E related activities present an elevated risk of fire ignition. Caution is critical during performance of any of these activities.

- Any off-road vehicle use.
- On highway activities located in particularly hazardous fuel conditions.
- Chain saw use of any kind.
- Operation of generators, pumps, augers, two-cycle motors, or other equipment capable of producing sparks or ample exhaust heat to cause ignition.
- Other tree removal equipment including but not limited to grinders, chippers, skidders, excavators, etc.
- Grinding and welding
- Blasting or other explosive work
- Working on energized electrical equipment or facilities.
- Smoking

TOOLS AND EQUIPMENT:

The following will be SDG&E recommendations regarding tools and equipment to be carried in or on described vehicles, or available at described work sites when engaged in any of the operational risks discussed above. These items will meet the California Forest Practice Rules; Public Resource Code Division 4, Chapter 6. Availability of this equipment will also meet the majority of the requirements mandated by the wildland fire agencies within the company service territory. Some additional project specific or weather specific requirements may be necessary and will be discussed later in this plan.

Passenger Vehicles (non-transient, performing work in the wildland areas);

- 1 round point shovel with overall length of at least 46"
- 1 serviceable fire extinguisher, minimum U.L. rated 2 BC, *rating found on fire ext. label)*

Trucks & 4 Wheel Drive Vehicles;

- 1 round point shovel with overall length of at least 46"
- 1 axe or "Pulaski"
- 1 (5) gallon backpack pump (optional) in lieu of or in addition to 2 BC rated extinguisher.

Heavy Machinery or Equipment (including tub grinders, whole tree chippers, drilling rigs, tractors, etc.);

- 1 round point shovel with overall length of at least 46"
- 1 axe or "Pulaski"
- 1 (5) gallon backpack pump or fully charged U.L. rated 4 BC or larger fire extinguisher

Chain Saw Use;

- 1 shovel within 25 feet of operation with unrestricted access
- or 1 serviceable fire extinguisher in their immediate possession

Major Operations Work Area (fire toolbox should be located on site, accessible to all);

- 1 (5) gallon backpack pump
- 2 axes or "Pulaskis"
- 2 "McLeod " fire tools
- Round point shovels 46" for each employee assigned to work site

Optional Considerations for Critically Hazardous Areas;

- Project Specific Fire Plan, developed with Fire Coordinator and/or Fire Department input.
- Water Supply, recommended 1500 gal. minimum (Tank, truck, or hydrant)
- Fire Hose (and associated accessories)
- Dozer or Tractor (capable of producing fire line)

FIRE PREVENTION & SAFETY CONSIDERATIONS:

The following Safety considerations will help to reduce the risk of fire start (Fire Prevention), as well as provide for the safety of company employees while working in the wildland areas (Fire Safety).

Fire Prevention

- At project initiation, conduct a formal "Safety Meeting" addressing fire concerns. Have regular tailboard fire safety meetings for the duration of the project.
- Smoke only in designated smoking areas or in a 10' clearing void of all grass and other vegetation.
- Avoid idling or parking in areas of brush, grass, or vegetation litter.
- Consider work hour restrictions where applicable. During critical fire weather, avoid working in the wildland areas during the hottest and driest part of the day.
- Use a "Fire Patrol" (person specifically assigned to mitigate fire hazards) on high fire danger days. Their duties would include: verification of compliance with the fire plan, observe activities for fire prevention & safety, and to re-check work area after the day's activities have been completed.
- Provide vegetation clearance or reduction around particularly hazardous work activities or work areas. Use special mitigation, as appropriate, to reduce the hazard.

Fire Safety

- Use proper P.P.E. (Personal Protective Equipment), standard SDG&E requirements apply. When working within an uncontrolled fire perimeter fire resistant clothing should be worn. Respiratory protection (painter's mask or bandana) is recommended as well.
- When working in or adjacent to a wildland fire, positive communications must be maintained internally using SDG&E work protocols. It is critical that employees have the ability to communicate with fire agencies as well, both for reporting fires and for the exchange of critical information during the duration of an incident.
- Work within the Incident Command System (ICS) while assigned to a fire incident. Understand the chain of command for the incident and who you are accountable to. Check in and check out when entering an uncontrolled fire perimeter.
- Pre-plan safety zones (areas large enough to safely retreat to) and escape routes (safe access to these safety zones) when working in the wildland areas during high fire danger days.
- Get proper rest during extended fire activity to avoid fatigue and help prevent accidents and/or injuries. It is recommended that you receive a minimum of 1 hour rest for every 2 hours worked.
- Exercise extreme caution when driving within a fire area and/or in smoky conditions. Beware of falling rocks, trees, and other debris as well as road obstructions and other traffic.

RED FLAG WARNINGS:

The Red Flag Warning System, a joint effort between state, federal and local fire agencies, was brought about after a very catastrophic 1970 Southern California fire season. The original intent was to pass along critical fire weather information to users and occupants in the wildland areas to bring about more prudent actions in all their wildland related activities. Currently SDG&E Grid Operations is operating under the direction of TMC1320, Hazardous Fire Conditions-Red Flag Warning, Transmission Monitoring and Control, 12/01/2003. Distribution Operations is operating under the direction of Electric Standard Practice No. 109, Hazardous Fire Conditions, June 01, 2000. When a Red Flag Warning is declared notifications take place as described in both

directives and the following actions take place: *(The affected area in both directives is identified on a map in an appendix, as the CDF protection area or SRA, State Responsibility Area)*

- Transmission lines and/or distribution circuits, which have tripped to lockout, will not be tested manually or remotely (see exception below) until the line or line segment has been patrolled or the cause of the interruption has been identified and isolated, or repaired. A line patrol is also required prior to replacing sectionalizing or transformer station fuses that have blown. *Exception: A transmission line may be tested, one time only, if the loss of another transmission facility could lead to system instability or cascading outages.*

- Customer outage time should be held to a minimum by sectionalizing, patrolling, and energizing segments of the circuit.

- A fireguard *(fire patrol)* will be assigned to any operation that has the potential to cause a fire.

- No open burning will be permitted.

- All fires will be extinguished.

- All non-critical line clearance tree pruning and removal activities will cease. Permission may be obtained to continue tree related work by contacting the Area Forester, Contract Administrator, System Forester, Vegetation Program Manager, or the Fire Coordinator. Approval will be granted on a case by case basis, depending on the situation.

- All Blasting will be discontinued.

- All grinding and welding will discontinue, except in enclosed buildings or within areas cleared of all flammable material for a radius of 15 feet.

- Vehicular travel will be restricted to cleared roads except in case of an emergency. In no case will vehicles with hot exhaust systems be driven over or parked in grassy areas.

- Smoking will not be permitted.

In addition to these requirements, extra caution should be used when performing any of the activities described as operational risks *(in an earlier section above)* while working in the State Responsibility Areas *(SRA)* or other wildland areas outside of the SRA.

PROJECT ACTIVITY LEVELS:

The United States Forest Service has another program it utilizes to reduce the risk of fire on National Forest land, particularly in the timber or mountain areas. It is referred to as Project Activity Levels *(PAL's).* The San Diego Forest Area Safety Taskforce *(FAST)* has adopted this system for other timber and mountain areas of San Diego County. The FAST group, which includes USFS and SDG&E representation, has developed a standard interpretation of how the PAL's system will be applied throughout San Diego County. Each day, at 4:00 p.m., the PAL level will be determined for the following day. It may be a different level for different geographic areas of the county. This information will be available by calling (760) 233-9507 *NRCS PAL hotline),* (619) 557-5262 *(U.S. Forest Service Dispatch),* or (619) 442-1615 *(CDF Dispatch).* Although the intent of the PAL system is to reduce the risk of fire start from timber harvesting activities, restrictions should apply to any potential fire starting activities. The designations and resulting restrictions are shown below. Each level is progressive carrying the requirements of the lower level with it.

PAL Level:	Restrictions or Requirements:
A	Work as required by contract, use permit, and existing forest practice rules.
B	Furnish Fire Patrol when high-speed rotary head equipment (masticator) is being used, during and for two hours after operations have ceased.
C	Following are prohibited after 1:00 p.m. o Use of high speed rotary head (masticator) o Blasting o To use chainsaws after 1:00 p.m. the following must be available (within 100'): ▪ Fire Patrol w/shovel or McLeod and 5 gallon backpack pump ▪ Fire Patrol must function as patrol, with no other functions ▪ Additional water available on site (truck, trailer, or hydrant)
D	The following are prohibited after 1:00 p.m. o Use of tractor, skidder, feller buncher, forwarder, or chipper o Mechanized loading and hauling, except log trucks o Felling dead material that has died more than 3 years prior (punky wood) o Mechanized slash disposal
Ev *(E with a variance)*	Operations are permitted between daylight and 8:00 p.m. as described under Level D with the following exception: No steel track-mounted equipment shall be operated
E	All potential fire causing activities cease at 1:00 p.m.

As complicated as this system may seem, a careful look reveals very few SDG&E related activities being affected by the daily PAL level, with the exception of vegetation management work. When performing activities in the mountainous area that have a potential to ignite a wildland fire, ascertain the PAL level for the area you are working in and apply the information discussed above.

OTHER CRITICAL FIRE DANGER PROCLAMATIONS:

The Fire Chiefs with jurisdictional responsibility for a given area have the authority to proclaim certain restrictions in extreme fire conditions or when they are experiencing a critical shortage of resources. These cases will be very rare and it will be incumbent on them to insure we are informed of any temporary changes in fire restrictions for a particular area. Upon notification we would be required to comply as appropriate.

RECOMMENDED FIRE RELATED TRAINING:

It is recommended that all field employees have some basic fire safety training on an annual basis. This could be accomplished in one hour at a monthly safety meeting just prior to fire season. Review and discussion of this Fire Plan would be one means for providing this training. For those employees who are likely to be called to work within or immediately

adjacent to an uncontrolled fire area, the following additional training is recommended: Two hours of Fire Safety, Incident Command System, and Basic Fire Behavior. For supervisors, managers, and company officers, who could be assigned as the SDG&E Incident Commander on a major incident, additional advanced Incident Command System training is advised. The Fire Coordinator would serve as the conduit for this training. He/She would provide the training, bring in qualified instructors, or qualify additional SDG&E employees as instructors, using the train the trainer approach to assist with this training.

EOC AND CONTROL CENTERS:

The Dispatch Center, Distribution Operations, Grid Operations, & EOC play a vital role in any fire emergency. Communications with these groups, when applicable, is critical. Provide information updates and feedback to each of these as their areas of responsibility become affected. This should continue through the duration of the incident. Early notification to the EOC of potential activation is recommended when appropriate. Notification procedures are identified in ESP 113 and should be followed as prescribed.

FIRE COORDINATION:

SDG&E has established a permanent position for Fire Coordinator. This position is essentially the company liaison to the fire services, both during an emergency and in the course of daily business. Back-up coordinators are available as well to cover off time for the primary coordinator and for when multiple incidents occur. Questions regarding this plan or other fire related inquiries should be made through the Fire Coordinator or acting coordinator. The Fire Coordinator would be a key contact for fire related training as well.

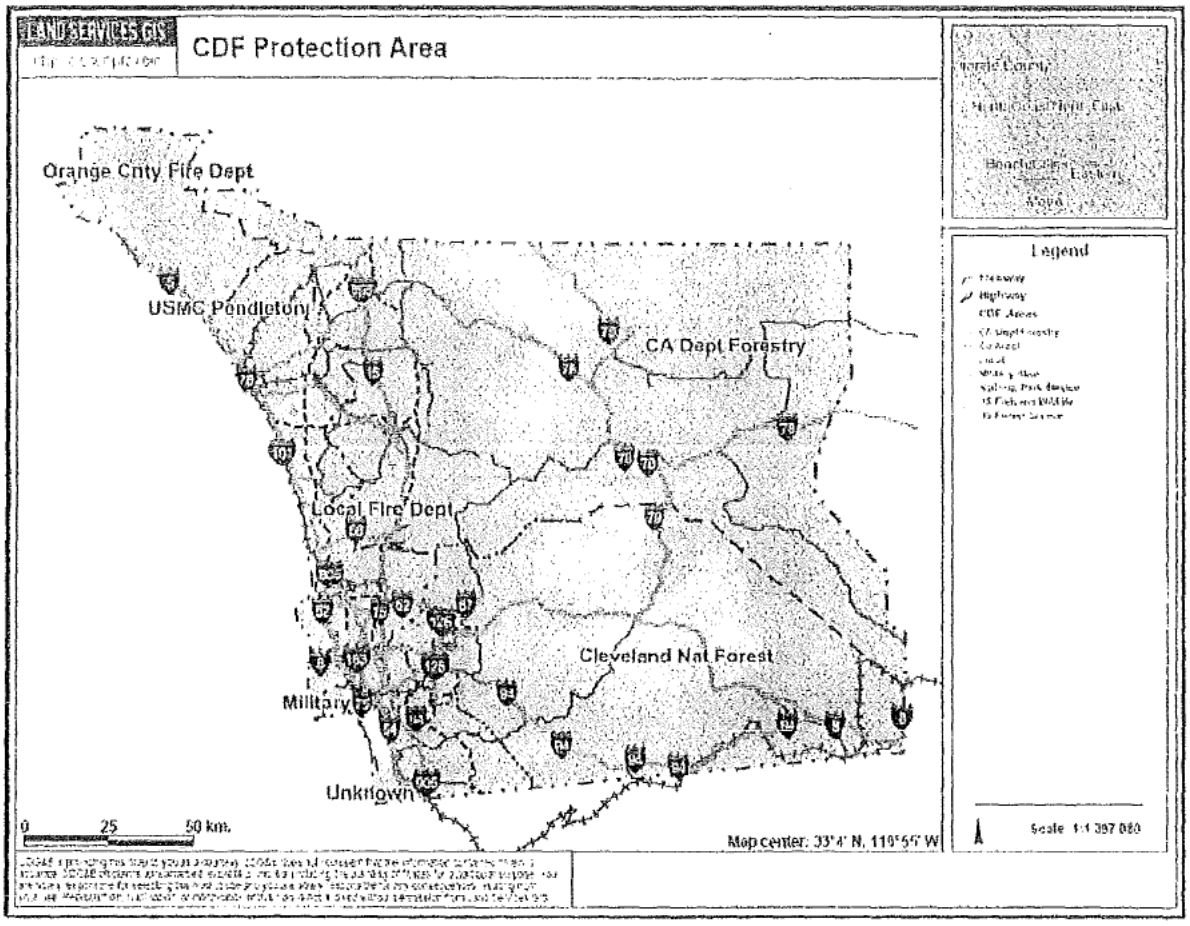
V. REFERENCES

- ESP 113 – Fire Coordination Electric Standard Practice
- TMC 1320 – Hazardous Fire Conditions-Red Flag Warning, Transmission Monitoring & Control
- ESP 109 – Hazardous Fire Conditions
- EOP 5700 – Incident Command System (ICS) for Major Incidents

VI. ATTACHMENT

State Responsibility Area (SRA) Map

State Responsibility Area



Attachment: SDGE_170WeatherStations_06152016

	A	B	C	D	E
1	**Code**	**WSName**	**LAT**	**LON**	**Installed**
2	ANE	Alpine	32.827078	-116.773356	8/14/2009
3	AMO	Ammo Dump	33.357121	-117.276505	8/4/2009
4	AVY	Anderson Valley	32.864675	-116.747970	7/18/2015
5	ARH	Archie Moore	33.040094	-116.959291	8/14/2010
6	AVO	Avocado	33.392510	-117.254700	6/24/2011
7	BNA	Barona	32.935080	-116.876710	8/14/2010
8	BRM	Barona Mesa	32.977700	-116.780300	6/12/2012
9	BRJ	Barrett Junction	32.601750	-116.684580	6/11/2011
10	BAJC1	Barrett RAWS	32.667500	-116.699400	9/24/2009
11	CAP	Bell Canyon	33.557510	-117.547413	8/1/2009
12	BLC	Black Canyon	33.098560	-116.827580	8/14/2010
13	BVY	Blossom Valley	32.867780	-116.843044	7/13/2010
14	BFD	Border Field	32.541970	-117.096732	4/18/2015
15	BRG	Borrego	33.262469	-116.348273	7/28/2011
16	BOC	Boulder Creek	32.940415	-116.636688	6/24/2010
17	BVD	Boulevard West	32.662130	-116.288840	8/21/2010
18	BMS	Buckman Springs	32.761981	-116.488716	6/9/2011
19	CMN	Cameron	32.714720	-116.471602	5/26/2009
20	CMC	Cameron Corners	32.647410	-116.496900	6/29/2011
21	MPE	Camp Elliot	32.852234	-117.119036	7/20/2009
22	CPO	Campo	32.598978	-116.492922	6/10/2010
23	CBD	Carlsbad	33.137352	-117.327141	10/20/2012
24	CRV	Carveacre	32.783560	-116.722997	6/12/2010
25	CHH	Chihuahua Valley	33.386227	-116.660772	7/6/2011
26	CHO	Chollas Lake	32.736035	-117.066590	4/16/2015
27	CVX	Chula Vista	32.601591	-117.058007	12/2/2014
28	CIR	Circle R	33.285505	-117.145804	7/24/2010
29	CGD	Cole Grade	33.284635	-117.015530	2/26/2010
30	CTM	Corte Madera	32.782850	-116.549670	7/9/2011
31	CES	Country Estates	33.028760	-116.792850	8/14/2010
32	CLM	Creelman	33.015660	-116.870890	8/14/2010
33	CST	Crest	32.811475	-116.854314	4/13/2010
34	CLN	Crestline	33.307930	-116.854808	7/28/2012
35	CWD	Crestwood	32.700800	-116.368300	5/25/2010
36	CRI	Cristianitos	33.474120	-117.550570	7/21/2010
37	CCR	Cuca Ranch	33.301305	-116.912993	6/22/2011
38	DHV	Deerhorn Valley	32.686950	-116.762208	6/9/2010
39	DEH	Dehesa	32.786856	-116.836156	6/19/2010
40	DMH	Del Mar Heights	32.963981	-117.222960	9/28/2011
41	DLZ	DeLuz	33.458390	-117.297350	7/17/2010
42	DZR	Dulzura	32.614888	-116.758058	6/24/2011
43	DYE	Dye Mountain	33.068817	-116.709897	8/29/2012
44	EWN	East Warners	33.226500	-116.620700	7/18/2011
45	EWR	East Willows Rd	32.836874	-116.682487	12/16/2013
46	ECJ	El Cajon	32.795470	-116.972735	12/7/2014
47	ELM	El Monte	32.867060	-116.895982	3/29/2010
48	ESC	Escondido	33.159170	-117.031380	6/15/2010
49	FBK	Fallbrook	33.354668	-117.167308	7/8/2010
50	FTV	Fruitvale	33.256140	-116.982010	6/26/2010
51	GOS	Goose Valley	33.067100	-116.845190	7/3/2009
52	GTY	Guatay	32.855230	-116.574300	6/21/2011

	A	B	C	D	E
1	**Code**	**WSName**	**LAT**	**LON**	**Installed**
53	HAR	Harbison Canyon	32.822250	-116.828840	5/25/2010
54	HRP	Harrison Park	33.039580	-116.560660	6/27/2011
55	HHC	Hellhole Canyon	33.224407	-116.923540	11/3/2012
56	HMD	Hidden Meadows	33.226510	-117.094150	7/27/2010
57	HID	Hideaway Lake	33.240013	-117.046098	7/13/2010
58	HVY	Highland Valley	33.029305	-116.936017	8/14/2010
59	HVW	Highland Valley West	33.067140	-116.990110	6/16/2012
60	HDM	Hodges Dam	33.042926	-117.134849	7/19/2011
61	HOS	Hoskings Ranch	33.082646	-116.657250	12/16/2013
62	IMP	Imperial Valley	32.745040	-116.037800	7/22/2010
63	IKP	In Ko Pah	32.636040	-116.118230	4/17/2010
64	IJP	Inaja Park	33.095030	-116.665700	4/18/2012
65	JAM	Jamul	32.713840	-116.869836	3/20/2010
66	JVR	Japatul Valley Rd	32.775700	-116.667900	6/23/2012
67	JUL	Julian	33.076470	-116.591566	6/6/2009
68	KCK	Keyes Creek	33.313206	-117.085778	7/24/2010
69	LJH	La Jolla Heights	32.844262	-117.239726	12/7/2014
70	LPT	La Posta	32.713771	-116.403757	6/6/2011
71	LAG	Laguna	32.845322	-116.472219	5/15/2010
72	LCM	Lake Cuyamaca	32.997390	-116.595150	6/16/2011
73	LKW	Lake Wohlford	33.178160	-116.995610	6/26/2010
74	LCK	Lawson Creek	32.743329	-116.732118	10/27/2014
75	LSV	Lawson Valley	32.735989	-116.823492	6/26/2010
76	LLC	Lilac	33.277111	-117.069299	6/23/2010
77	COC	Los Coches	32.851450	-116.895280	1/5/2010
78	COY	Los Coyotes	33.258167	-116.585350	8/14/2010
79	LLD	Loveland	32.808302	-116.788723	7/17/2010
80	LFR	Lucky Five Ranch	32.933060	-116.528060	6/29/2011
81	MGY	Mataguay	33.223306	-116.699606	6/16/2010
82	MGD	Mesa Grande	33.167593	-116.759273	8/14/2010
83	MTL	Mission Trails	32.842286	-117.056411	8/18/2012
84	MVN	Mission Valley North	32.781375	-117.137571	9/29/2011
85	BVDC1	Mission Valley RAWS (Relo from BVD)	32.783008	-117.136059	11/2/2015
86	MOR	Morena	32.688289	-116.512451	4/14/2010
87	TNSC1	Mountain Springs Grade RAWS	32.675000	-116.094500	4/29/2014
88	MLG	Mt. Laguna	32.878305	-116.424420	7/25/2009
89	MSD	Mt. Soledad	32.814168	-117.240864	8/27/2011
90	MGR	Mussey Grade	32.986316	-116.908692	8/14/2010
91	NRW	Narrows Sub	33.137111	-116.294275	8/6/2011
92	NHG	Nate Harrison Grade	33.322190	-116.961910	8/24/2011
93	NAT	National City	32.654335	-117.096691	4/13/2015
94	NBC	North Boulder Creek	32.980369	-116.663233	7/18/2011
95	NDC	North Descanso	32.883240	-116.646510	7/16/2011
96	NPT	North Potrero	32.629814	-116.585044	7/15/2011
97	OGV	Oak Grove	33.391770	-116.788120	8/14/2010
98	OLV	Olivenhain	33.080100	-117.129600	7/28/2011
99	ORT	Ortega	33.569545	-117.513829	6/5/2010
100	OTY	Otay	32.720220	-116.927830	7/12/2010
101	OMB	Otay Mesa Border	32.558135	-116.900453	9/8/2012
102	OTM	Otay Mountain	32.599270	-116.843410	6/29/2011
103	PZAC1	Pala RAWS	33.361236	-117.106105	9/24/2009

	A	B	C	D	E
1	**Code**	**WSName**	**LAT**	**LON**	**Installed**
104	PTM	Pala Temecula	33.419210	-117.081860	7/2/2010
105	PVD	Palo Verde	32.813097	-116.734094	6/12/2010
106	PAM	Palomar	33.352140	-116.862860	8/29/2009
107	POV	Pamo Valley	33.143417	-116.848054	12/9/2013
108	PMA	Pauma	33.312360	-117.003490	7/10/2010
109	PCK	Pauma Creek	33.328876	-116.980929	9/25/2014
110	PAU	Pauma Valley	33.371110	-117.078940	7/9/2010
111	PTZ	Peutz Valley	32.859398	-116.767955	11/1/2014
112	PIH	Pine Hills	33.049430	-116.636970	8/6/2009
113	PIV	Pine Valley	32.817440	-116.520848	7/15/2015
114	POM	Poomacha	33.276050	-116.872899	5/2/2015
115	POT	Potrero	32.606357	-116.576878	5/16/2009
116	POW	Poway	32.982024	-117.039851	3/21/2015
117	RNB	Rainbow	33.418922	-117.144130	6/30/2010
118	RBH	Rainbow Heights **Re-install pending**	33.414030	-117.127320	6/30/2010
119	RBV	Rainbow Valley	33.401221	-117.170167	6/28/2010
120	RAM	Ramona	33.072985	-116.857973	8/14/2010
121	RCH	Ranchita	33.210340	-116.509261	8/14/2010
122	RHS	Rancho Heights	33.411213	-117.057156	11/7/2014
123	RPQ	Rancho Penasquitos	32.971628	-117.117307	12/30/2014
124	RSF	Rancho Santa Fe	33.033372	-117.189614	10/19/2009
125	RIN	Rincon	33.287790	-116.956420	6/26/2010
126	RCE	Rincon Central	33.270666	-116.946043	3/7/2015
127	RCR	Rincon Reservation	33.251430	-116.957070	6/26/2010
128	RIO	Rios Canyon	32.843290	-116.881130	4/30/2010
129	RPO	Round Potrero	32.647912	-116.631445	6/11/2010
130	SCR	San Clemente Ridge	33.435665	-117.589847	10/13/2012
131	SMC	San Marcos	33.129027	-117.192260	2/28/2015
132	MIG	San Miguel	32.684751	-116.980896	5/23/2009
133	PSQC1	San Pasqual RAWS	33.091513	-117.012210	9/24/2009
134	SPV	San Pasqual Valley	33.093000	-116.954800	6/9/2012
135	SVC	San Vicente	32.912441	-116.952078	5/7/2010
136	STV	Santa Teresa Valley	33.068772	-116.761751	10/18/2014
137	YSA	Santa Ysabel North	33.113150	-116.671680	8/14/2010
138	SYR	Santa Ysabel Ranch	33.132190	-116.685930	7/16/2011
139	SHC	School House Canyon	33.145630	-116.641258	12/7/2014
140	SQT	Sequan Truck Trail	32.797668	-116.779248	3/14/2015
141	SHV	Sherilton Valley	32.914475	-116.620218	10/13/2014
142	STT	Shockey Truck Trail	32.633868	-116.423472	6/24/2011
143	SIL	Sill Hill	32.954055	-116.642846	9/22/2012
144	SVL	Sky Valley	32.720760	-116.702420	6/28/2011
145	SOB	Solana Beach	33.007305	-117.276228	10/27/2012
146	SPP	Spangler Peak	32.997288	-116.789337	8/14/2010
147	SRH	Sunrise Highway	32.808490	-116.508300	5/25/2010
148	SSO	Sunset Oaks	33.074520	-116.813700	7/7/2010
149	SSS	Sunshine Summit	33.343970	-116.731740	7/5/2011
150	SWR	Sweetwater River	32.831738	-116.628345	6/11/2012
151	SYC	Sycamore	32.914310	-117.029590	3/13/2010
152	TLG	Talega	33.478400	-117.485100	8/12/2009
153	TCN	Tecolote Canyon	32.791156	-117.184099	12/29/2014
154	TDS	Tierra Del Sol	32.644549	-116.346915	4/10/2010

	A	B	C	D	E
1	**Code**	**WSName**	**LAT**	**LON**	**Installed**
155	TLK	Turner Lake	33.226073	-117.075749	7/17/2010
156	TWO	Twin Oaks	33.193770	-117.153010	6/29/2010
157	VLC	Valley Center	33.235645	-117.007655	8/3/2009
158	VJS	Viejas	32.845592	-116.706262	6/12/2010
159	VGD	Viejas Grade	32.863554	-116.662306	12/9/2013
160	VIS	Vista	33.205472	-117.253897	11/20/2014
161	VCM	Volcan Mountain	33.103010	-116.579742	6/29/2012
162	WAR	Warners	33.247920	-116.697290	6/12/2010
163	WAL	West Alpine	32.830103	-116.799526	8/24/2010
164	WDC	West Descanso	32.849522	-116.629868	6/29/2011
165	WPT	West Potrero	32.612144	-116.613335	6/12/2010
166	WRB	West Rancho Bernardo	33.031135	-117.122459	7/1/2011
167	WSY	West Santa Ysabel	33.086780	-116.689740	7/1/2011
168	WWY	West Wynola	33.105110	-116.652940	7/23/2011
169	WCV	Wisecarver	32.732756	-116.761728	6/24/2011
170	WCK	Witch Creek	33.072694	-116.737881	5/24/2010
171	WYN	Wynola	33.104617	-116.602467	8/14/2010

Attachment: Peak Wind Gusts

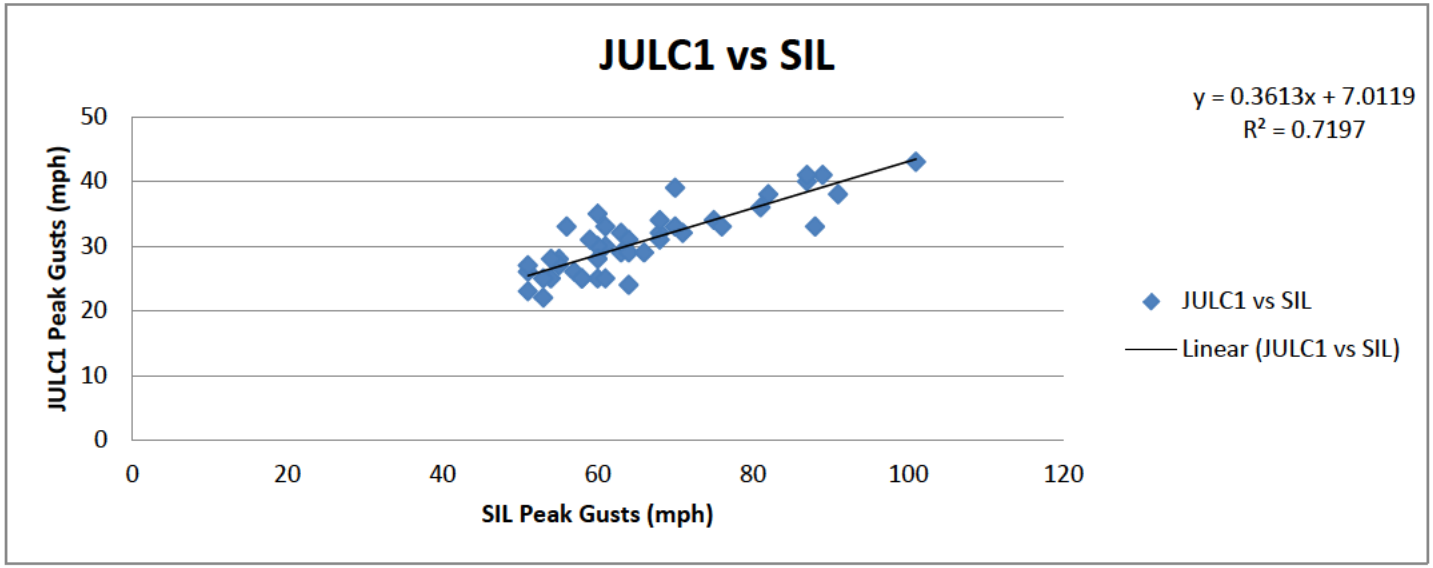
Event Start	Event End	SIL Max	BOC Max	VGD Max	CWD Max	HHC Max	WSY Max	BOC Max	EWR Max	LPT Max	LFR Max	NBC Max	NDC Max	SRH Max	IJP Max	RPO Max	CMN Max	CES Max	DYE Max	HOS Max
4/17/2016	4/17/2016	51	28	44	41	39	25	34	40	36	37	32	38	22	29	36	27	26	25	32
4/6/2016	4/6/2016	61	46	45	46	47	47	47	34	47	50	52	48	37	48	44	35	29	48	43
2/14/2016	2/15/2016	55	54	32	47	38	35	38	35	46	44	38	33	38	45	36	36	20	33	37
2/4/2016	2/9/2016	68	57	44	54	62	47	52	54	51	46	56	54	42	52	48	41	36	50	47
1/25/2016	1/26/2016	61	56	42	51	31	45	43	48	51	47	41	36	34	43	41	38	30	37	43
1/21/2016	1/21/2016	55	45	42	40	55	44	37	45	43	35	49	43	22	45	41	31	36	43	37
1/11/2016	1/12/2016	60	41	37	N/A	46	43	47	45	42	36	39	37	29	43	29	30	23	43	39
12/26/2015	12/27/2015	70	49	48	50	34	42	52	52	47	61	49	53	29	43	36	44	34	39	48
11/20/2015	11/21/2015	53	40	36	37	51	37	45	47	35	33	41	45	31	36	39	28	31	39	32
11/12/2015	11/13/2015	54	37	32	43	40	37	43	38	42	31	38	34	26	42	24	29	22	40	32
11/6/2015	11/7/2015	57	34	34	45	45	41	43	40	42	38	39	34	25	41	36	32	28	38	35
4/16/2015	4/16/2015	58	42	46	39	50	41	46	47	37	39	44	45	38	38	42	31	30	41	33
3/26/2015	3/26/2015	63	36	31	46	28	31	42	34	38	44	N/A	31	31	33	28	32	25	30	31
3/13/2015	3/13/2015	56	47	33	56	41	32	45	37	49	46	N/A	31	37	36	31	35	26	31	41
3/5/2015	3/7/2015	71	46	46	44	34	51	46	51	47	54	N/A	52	37	42	32	37	28	41	43
2/11/2015	2/13/2015	82	53	50	58	75	48	66	54	44	62	N/A	47	42	52	46	39	36	51	53
1/22/2015	1/26/2015	89	68	67	58	62	58	58	68	57	55	N/A	66	55	53	57	47	43	55	57
1/14/2015	1/15/2015	63	29	49	49	40	34	51	40	48	50	N/A	35	23	49	39	33	26	37	44
12/26/2014	12/27/2014	60	46	37	57	48	46	46	44	48	50	N/A	43	36	52	36	35	29	42	49
12/23/2014	12/23/2014	60	52	42	52	50	48	45	42	50	43	N/A	37	37	49	39	32	27	38	41
11/23/2014	11/25/2014	87	54	48	58	55	51	66	56	53	64	N/A	45	38	44	50	41	36	52	45
11/16/2014	11/18/2014	59	45	42	59	47	N/A	47	45	44	50	N/A	41	34	47	39	38	31	45	37
11/4/2014	11/5/2014	68	42	51	61	40	44	52	56	51	61	N/A	53	33	40	50	40	35	41	41
10/2/2014	10/2/2014	53	32	28	36	41	33	43	31	29	37	N/A	32	17	34	35	27	25	29	28
5/12/2014	5/15/2014	87	61	77	59	75	63	64	69	55	63	N/A	64	48	62	65	48	64	63	58
4/29/2014	5/1/2014	101	87	69	76	55	75	72	72	69	69	N/A	69	69	66	58	64	42	63	63
4/14/2014	4/14/2014	64	55	43	44	61	47	52	47	43	47	N/A	48	39	47	53	36	36	50	40
3/8/2014	3/9/2014	57	52	41	63	43	N/A	51	43	54	68	N/A	34	49	45	46	38	26	38	54
1/23/2014	1/24/2014	51	45	35	38	51	41	40	35	37	40	N/A	41	32	35	32	29	29	43	36
1/13/2014	1/17/2014	88	61	51	52	60	56	58	53	55	55	N/A	49	48	51	48	38	38	46	49
12/14/2013	12/16/2013	81	67	50	58	49	61	61	N/A	58	60	N/A	53	44	57	53	46	31	53	
12/9/2013	12/9/2013	75	59	N/A	56	57	56	57	N/A	55	50	N/A	57	39	58	48	40	36	57	
10/4/2013	10/6/2013	70	56	N/A	53	59	48	58	N/A	47	56	N/A	46	42	50	43	40	38	50	
5/2/2013	5/2/2013	58	49	N/A	46	55	42	51	N/A	43	41	N/A	42	42	42	45	36	29	40	
4/18/2013	4/19/2013	64	43	N/A	41	48	36	49	N/A	37	38	N/A	36	29	39	33	29	28	32	
2/28/2013	3/1/2013	68	53	N/A	48	56	49	53	N/A	44	47	N/A	50	43	47	49	41	42	50	
2/24/2013	2/24/2013	60	44	N/A	54	37	36	43	N/A	44	42	N/A	37	31	40	34	38	31	40	
2/15/2013	2/16/2013	91	61	N/A	58	61	58	55	N/A	59	61	N/A	52	45	63	46	44	33	57	
1/30/2013	1/31/2013	61	56	N/A	46	38	41	46	N/A	43	41	N/A	38	34	42	29	34	23	38	
1/15/2013	1/17/2013	76	52	N/A	56	44	55	58	N/A	53	58	N/A	46	44	56	39	41	34	61	
1/1/2013	1/2/2013	64	55	N/A	52	55	52	53	N/A	51	48	N/A	47	34	46	34	42	42	53	
11/13/2012	11/13/2012	54	32	N/A	46	N/A	34	41	N/A	40	32	N/A	34	20	43	29	25	29	41	
10/26/2012	10/27/2012	66	51	N/A	52	N/A	49	55	N/A	48	45	N/A	46	32	45	50	36	38	49	
10/14/2012	10/14/2012	51	38	N/A	42	N/A	29	40	N/A	35	46	N/A	41	32	35	35	28	26	28	

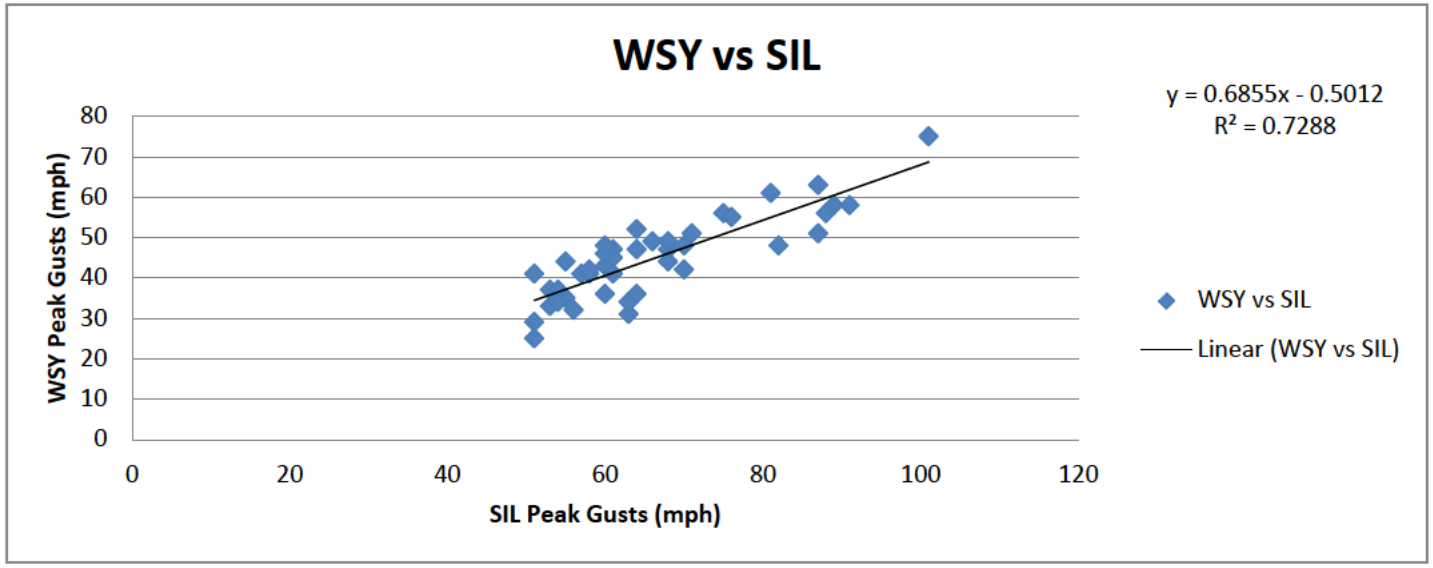
OTM Max	NHG Max	WDC Max	WCK Max	CTM Max	CCR Max	SHC Max	STT Max	VCM Max	SYR Max	POV Max	POT Max	VJS Max	BVD Max	HRP Max	LAG Max	MGD Max	RCR Max	WWY Max	CPO Max	ANEC1
31	26	33	28	25	40	28	37	35	30	35	31	26	37	34	35	29	23	25	36	37
43	16	35	45	42	30	44	40	39	46	36	36	27	32	40	36	35	23	40	34	42
27	19	30	28	31	37	39	37	32	36	18	38	24	30	31	35	33	12	33	29	40
52	22	39	49	37	40	50	43	41	49	36	47	53	34	37	38	44	42	41	33	57
	23	32	37	34	22	42	36	44	31	25	39	34	39	34	37	39	13	33	37	65
49	11	31	42	19	29	53	34	34	41	18	42	38	23	29	34	30	40	37	31	46
33	16	32	32	28	22	41	31	35	33	13	37	31	27	34	32	34	12	34	28	46
38	35	42	37	33	40	43	41	51	46	N/A	34	36	46	48	44	47	22	37	41	51
48	17	27	35	28	26	38	31	32	36	26	36	38	23	26	32	29	36	30	31	48
15	12	28	33	17	17	43	36	33	36	16	33	26	28	27	32	30	17	35	28	45
31	13	31	31	22	21	45	36	38	33	23	35	29	31	31	37	31	33	34	31	44
42	27	31	35	26	41	40	32	36	38	29	37	33	28	30	32	35	36	32	31	48
24	15	29	28	20	22	36	35	37	26	22	29	28	33	37	33	26	18	31	29	31
29	34	39	34	39	29	39	42	38	41	24	30	27	42	42	42	32	23	36	37	38
39	30	36	35	34	27	45	43	38	39	22	36	29	37	36	37	33	21	40	34	49
57	27	36	46	38	51	55	42	53	48	48	43	41	40	50	44	45	56	40	43	50
51	57	49	50	52	61	55	53	49	50	48	58	51	41	43	46	41	34	45	49	72
46	17	29	28	18	27	50	38	40	29	23	30	36	29	36	37	39	27	40	34	43
32	28	36	39	29	40	48	44	43	35	31	46	31	43	38	36	39	26	41	35	40
29	19	33	34	27	30	50	42	37	41	26	40	31	37	36	35	38	36	39	36	52
59	30	34	47	35	N/A	49	45	50	47	29	48	42	41	48	44	45	31	39	38	56
34	18	33	40	25	N/A	45	42	43	39	35	43	36	40	37	41	39	41	37	39	52
43	27	41	38	37	N/A	N/A	36	43	36	36	51	37	38	44	49	37	19	32	36	58
49	17	24	29	26	N/A	N/A	27	40	25	21	N/A	23	26	35	38	29	24	27	30	35
61	43	46	59	50	N/A	55	50	56	57	58	N/A	51	43	51	49	52	51	51	49	69
44	62	62	62	61	N/A	57	61	60	57	35	N/A	58	57	53	56	56	39	56	55	69
54	21	33	45	31	N/A	48	39	44	46	30	N/A	38	34	39	34	35	36	40	40	52
51	24	32	38	37	N/A	61	40	58	37	27	N/A	34	44	57	51	42	35	49	39	38
45	15	27	43	30	N/A	41	31	33	36	27	N/A	30	24	31	32	32	33	32	29	31
53	29	43	39	35	N/A	49	41	41	50	32	N/A	43	36	42	47	45	37	44	40	52
41	15	43	43	42	N/A	61	43	44	41	30	N/A	44	36	42	42	52	28	50	38	63
42	28	43	49	30	N/A	N/A	43	45	54	N/A	N/A	44	32	35	39	54	46	48	39	65
39	32	39	45	36	N/A	N/A	44	47	52	N/A	N/A	40	33	43	42	43	37	48	39	47
36	21	31	34	32	N/A	N/A	37	37	38	N/A	N/A	35	34	34	35	36	23	36	40	47
36	29	30	30	23	N/A	N/A	32	34	33	N/A	N/A	29	33	32	33	31	29	30	N/A	39
40	21	34	45	34	N/A	N/A	41	44	45	N/A	N/A	41	31	35	39	39	35	42	36	54
24	25	40	35	31	N/A	N/A	40	39	32	N/A	N/A	29	39	36	34	38	23	39	37	42
62	35	38	51	43	N/A	N/A	46	51	59	N/A	N/A	41	41	48	48	41	34	49	49	50
35	11	36	30	31	N/A	N/A	30	37	34	N/A	N/A	25	26	33	33	N/A	13	37	29	N/A
32	15	40	58	28	N/A	N/A	45	40	51	N/A	N/A	39	36	39	49	51	33	42	40	N/A
50	14	38	42	30	N/A	N/A	41	37	42	N/A	N/A	39	30	32	39	N/A	39	40	33	N/A
38	15	30	36	23	N/A	N/A	32	35	29	N/A	N/A	26	27	27	33	30	26	35	30	N/A
51	15	37	41	26	N/A	N/A	37	40	46	N/A	N/A	40	35	36	39	36	39	38	33	N/A
22	15	34	31	28	N/A	N/A	35	37	29	N/A	N/A	31	30	37	34	28	22	30	31	N/A

Attachment: WEMA_WSYcalcs

Event Start	Event End	SIL Max	WSY Max	JULC1 Max	WSY/JULC1	SIL/JULC1	WSY/SIL
4/17/2016	4/17/2016	51	25	23	1.09	2.22	0.49
4/6/2016	4/6/2016	61	47	30	1.57	2.03	0.77
2/14/2016	2/15/2016	55	35	28	1.25	1.96	0.64
2/4/2016	2/9/2016	68	47	32	1.47	2.13	0.69
1/25/2016	1/26/2016	61	45	33	1.36	1.85	0.74
1/21/2016	1/21/2016	55	44	27	1.63	2.04	0.80
1/11/2016	1/12/2016	60	43	25	1.72	2.40	0.72
12/26/2015	12/27/2015	70	42	39	1.08	1.79	0.60
11/20/2015	11/21/2015	53	37	22	1.68	2.41	0.70
11/12/2015	11/13/2015	54	37	25	1.48	2.16	0.69
11/6/2015	11/7/2015	57	41	26	1.58	2.19	0.72
4/16/2015	4/16/2015	58	41	25	1.64	2.32	0.71
3/26/2015	3/26/2015	63	31	29	1.07	2.17	0.49
3/13/2015	3/13/2015	56	32	33	0.97	1.70	0.57
3/5/2015	3/7/2015	71	51	32	1.59	2.22	0.72
2/11/2015	2/13/2015	82	48	38	1.26	2.16	0.59
1/22/2015	1/26/2015	89	58	41	1.41	2.17	0.65
1/14/2015	1/15/2015	63	34	32	1.06	1.97	0.54
12/26/2014	12/27/2014	60	46	35	1.31	1.71	0.77
12/23/2014	12/23/2014	60	48	30	1.60	2.00	0.80
11/23/2014	11/25/2014	87	51	40	1.28	2.18	0.59
11/16/2014	11/18/2014	59	N/A	31	N/A	1.90	N/A
11/4/2014	11/5/2014	68	44	34	1.29	2.00	0.65
10/2/2014	10/2/2014	53	33	25	1.32	2.12	0.62
5/12/2014	5/15/2014	87	63	41	1.54	2.12	0.72
4/29/2014	5/1/2014	101	75	43	1.74	2.35	0.74
4/14/2014	4/14/2014	64	47	31	1.52	2.06	0.73
3/8/2014	3/9/2014	57	N/A	N/A	N/A	N/A	N/A
1/23/2014	1/24/2014	51	41	26	1.58	1.96	0.80
1/13/2014	1/17/2014	88	56	33	1.70	2.67	0.64
12/14/2013	12/16/2013	81	61	36	1.69	2.25	0.75
12/9/2013	12/9/2013	75	56	34	1.65	2.21	0.75
10/4/2013	10/6/2013	70	48	33	1.45	2.12	0.69
5/2/2013	5/2/2013	58	42	25	1.68	2.32	0.72
4/18/2013	4/19/2013	64	36	24	1.50	2.67	0.56
2/28/2013	3/1/2013	68	49	31	1.58	2.19	0.72
2/24/2013	2/24/2013	60	36	28	1.29	2.14	0.60
2/15/2013	2/16/2013	91	58	38	1.53	2.39	0.64
1/30/2013	1/31/2013	61	41	25	1.64	2.44	0.67

1/15/2013	1/17/2013	76	55	33	1.67	2.30	0.72
1/1/2013	1/2/2013	64	52	29	1.79	2.21	0.81
11/13/2012	11/13/2012	54	34	28	1.21	1.93	0.63
10/26/2012	10/27/2012	66	49	29	1.69	2.28	0.74
10/14/2012	10/14/2012	51	29	27	1.07	1.89	0.57
	Median (all events)				1.52	2.17	0.69
	Standard Deviation (all events)				0.22	0.21	0.08
	Median (SIL ≥ 65 mph)				1.54	2.19	0.69
	Standard Deviation (SIL ≥ 65 mph)				0.19	0.18	0.06


JULC1 vs SIL
y = 0.3613x + 7.0119
R² = 0.7197
JULC1 Peak Gusts (mph)
SIL Peak Gusts (mph)
JULC1 vs SIL
Linear (JULC1 vs SIL)
0
10
20
30
40
50
0
20
40
60
80
100
120


WSY vs SIL
y = 0.6855x - 0.5012
R² = 0.7288
WSY Peak Gusts (mph)
SIL Peak Gusts (mph)
WSY vs SIL
Linear (WSY vs SIL)
0
10
20
30
40
50
60
70
80
0
20
40
60
80
100
120

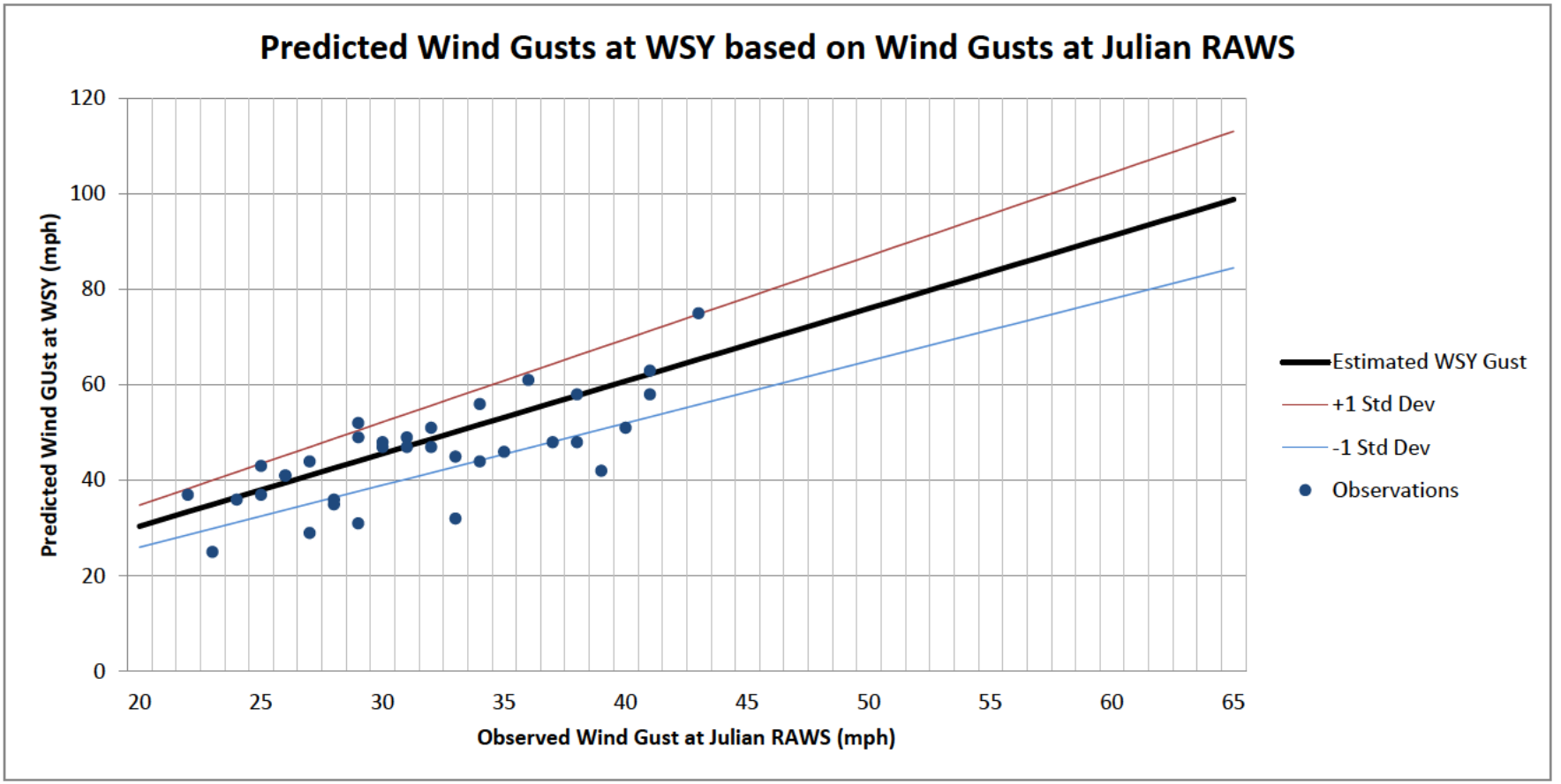
Predicted peak wind gusts at WSY based on wind gusts at JULC1

JULC1 (mph)	WSY (mph)	+1 std dv	-1 std dv
20	30	35	26
21	32	37	27
22	33	38	29
23	35	40	30
24	36	42	31
25	38	44	33
26	40	45	34
27	41	47	35
28	43	49	36
29	44	50	38
30	46	52	39
31	47	54	40
32	49	56	42
33	50	57	43
34	52	59	44
35	53	61	46
36	55	63	47
37	56	64	48
38	58	66	49
39	59	68	51
40	61	70	52
41	62	71	53
42	64	73	55
43	65	75	56
44	67	77	57
45	68	78	59
46	70	80	60
47	71	82	61
48	73	84	62
49	74	85	64
50	76	87	65
51	78	89	66
52	79	90	68
53	81	92	69
54	82	94	70
55	84	96	72
56	85	97	73

Actual WSY Observations

37					
25					
36					
43	37	41	33	42	41
41	41				
44	29				
35	36	34			
31	52	49			
47	48				
47	49				
47	51				
45	32	56	48	55	
44	56				
46					
61					
48					
48	58				
42					
51					
58	63				
75					

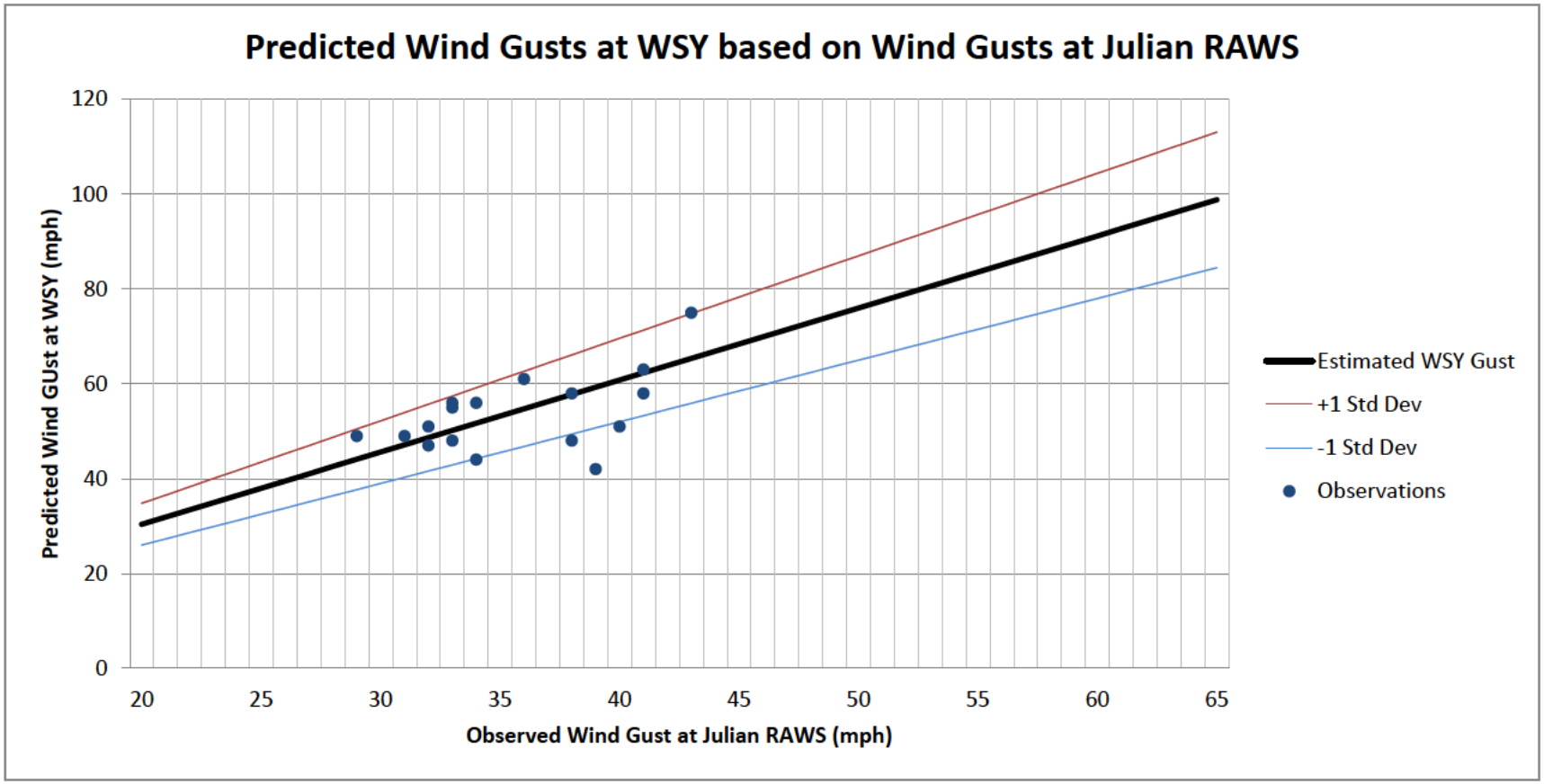
57	87	99	74
58	88	101	75
59	90	103	77
60	91	104	78
61	93	106	79
62	94	108	81
63	96	110	82
64	97	111	83
65	99	113	85



Predicted peak wind gusts at WSY based on wind gusts at JULC1 during Moderate to Strong Santa Ana wind events

JULC1 (mph)	WSY (mph)	+1 std dv	-1 std dv	Actual WSY Observations			
20	30	35	26				
21	32	37	27				
22	33	38	29				
23	35	40	30				
24	36	42	31				
25	38	44	33				41
26	40	45	34				
27	41	47	35				
28	43	49	36				
29	44	50	38	49			
30	46	52	39				
31	47	54	40	49			
32	49	56	42	47	51		
33	50	57	43	56	55	48	
34	52	59	44	44	56		
35	53	61	46				
36	55	63	47	61			
37	56	64	48				
38	58	66	49	48	58		
39	59	68	51	42			
40	61	70	52	51			
41	62	71	53	58	63		
42	64	73	55				
43	65	75	56	75			
44	67	77	57				
45	68	78	59				
46	70	80	60				
47	71	82	61				
48	73	84	62				
49	74	85	64				
50	76	87	65				
51	78	89	66				
52	79	90	68				
53	81	92	69				
54	82	94	70				
55	84	96	72				
56	85	97	73				

57	87	99	74
58	88	101	75
59	90	103	77
60	91	104	78
61	93	106	79
62	94	108	81
63	96	110	82
64	97	111	83
65	99	113	85



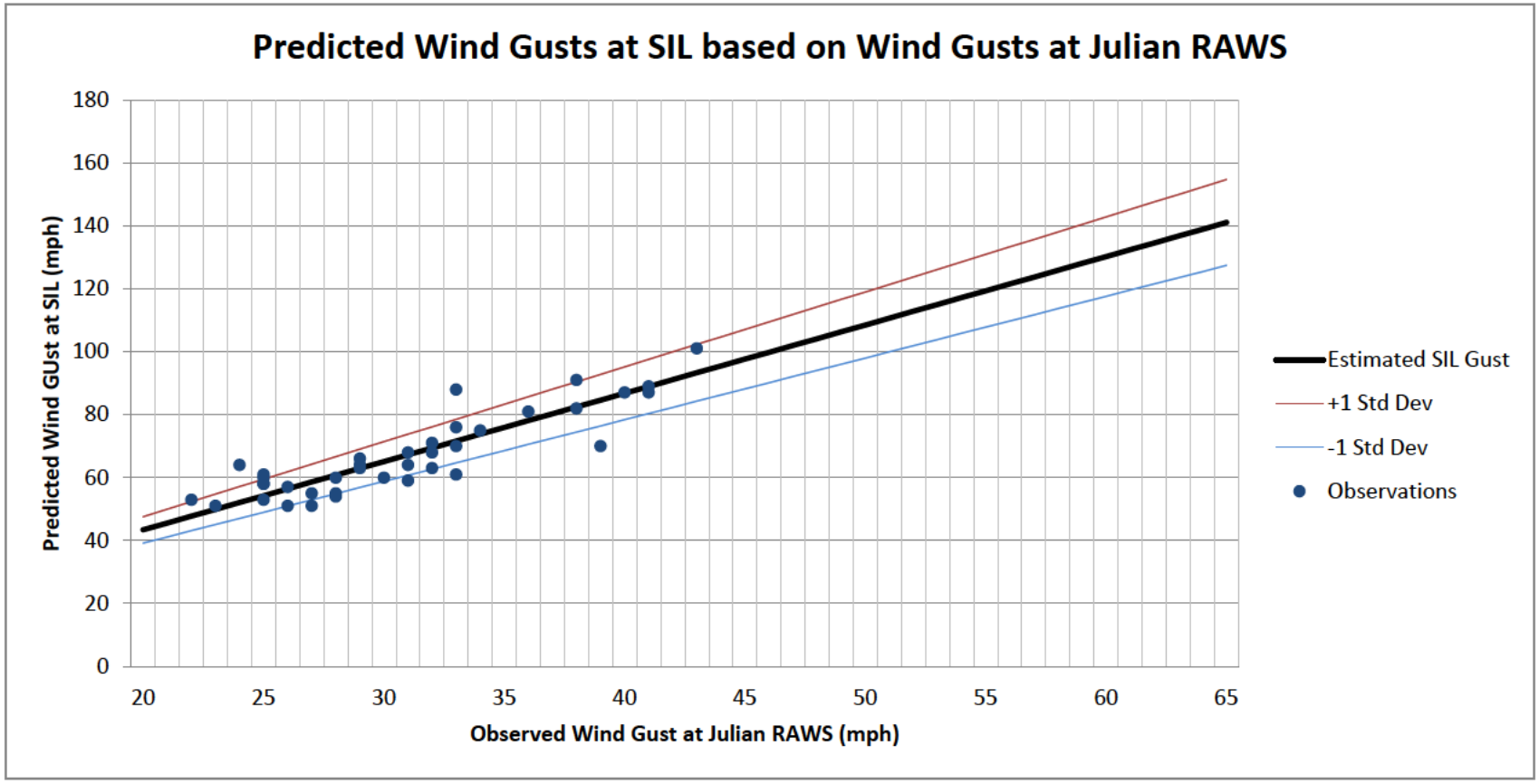
Predicted peak wind gusts at SIL based on wind gusts at JULC1

JULC1 (mph)	SIL (mph)	+1 std dv	-1 std dv
20	43	48	39
21	46	50	41
22	48	52	43
23	50	55	45
24	52	57	47
25	54	60	49
26	56	62	51
27	59	64	53
28	61	67	55
29	63	69	57
30	65	71	59
31	67	74	61
32	69	76	63
33	72	79	65
34	74	81	67
35	76	83	69
36	78	86	71
37	80	88	73
38	82	90	74
39	85	93	76
40	87	95	78
41	89	98	80
42	91	100	82
43	93	102	84
44	95	105	86
45	98	107	88
46	100	109	90
47	102	112	92
48	104	114	94
49	106	117	96
50	109	119	98
51	111	121	100
52	113	124	102
53	115	126	104
54	117	129	106
55	119	131	108
56	122	133	110

Actual SIL Observations

53					
51					
64					
61	60	58	58	54	53
57	51				
55	51				
60	55	54			
66	64	63			
61	60				
68	64	59			
71	68	63			
88	76	70	61	56	
75					
60					
81					
91	82				
70					
87					
89	87				
	30				
101					

57	124	136	112
58	126	138	114
59	128	140	116
60	130	143	118
61	132	145	120
62	135	148	122
63	137	150	123
64	139	152	125
65	141	155	127



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