Note: Redactions per utility claims of confidentiality. Subject to change.

Incident Investigation Report Supporting Documents SED Incident E20220819-01 RIDGE FIRE (Ridge Fire)

DATA REQUEST SET SED-Ridge-002

To: SED

Prepared by: Al Watson

Title: Asset and Ops Integration, Sr Mgr

Dated: 7/26/2023

Question Q. 02 Follow Up:

In response to SED-001-Ridge Fire, Question 9 subparts (f), (g) and (h), SCE stated in part, "... see attached workbook titled SED-01-Ridge Fire_Response 25 ODRM.xlsx." SED did not find a document by that title, but did find SED-01-Ridge Fire_Response 25.

SED-001 Ridge Fire Confidential Decl (2) jts signed

SED-01-Ridge Fire_Response 25

SED-Ridge Fire-001_Response 09

SED-Ridge Fire-001_Response 09 ODRM

Figure 1. Partial screenshot of the zip folder SCE sent in response to SED-001-Ridge Fire a. Is SED-01-Ridge Fire_Response 25 that is highlighted above the same document that the responses to Question 9 subparts (f), (g) and (h)are referring to?

b. In SED-01-Ridge Fire_Response 25, the only incident in August of 2022 that impacted customers was the one shown below, which occurred prior to the Ridge Fire. From this data, SED's conclusion is that no customers were impacted by the outage. Is our understanding correct?



Figure 2. Screenshot of SED-01-Ridge Fire_Response 25 for August of 2022.

Response to Question Q. 02 Follow Up:

- a. The response to SED-001-Ridge Fire, question 9 subparts (f), (g) and (h) should have read, see attached workbook titled SED-001-Ridge Fire Response 9 ODRM.xlsx.
- b. SED's conclusion/understanding is incorrect. Please note that SED-01-Ridge Fire Q25 requested notifications from customers. In response, SCE provided attachment titled SED-01-Ridge Fire Response 25.xlsx, which is a recorded list of customer calls and associated notes that does not reflect the total number of customers who may have been impacted by the outage. For information on customers impacted by the outage, please see attachment SED-001-Ridge Fire Response 9 ODRM.xlsx, Column AC.

*Please note SCE has highlighted portions that should be redacted to the public. Employee names are considered confidential and should be treated as such.

Interruption Report

Interruption Log Sheet

Mesa Switching Center Status: Closed

Initial when Entered	
DTOM Info:	
CB KO Recap:	

Interruption Log Sheet # 11720

			TI Log Officet II TITLO		
Circuit Name : Jarvis	No. of Interruptions: 1	Date: 08/19/2022	Time: 1510		
Station: Dalton		RAR: 0990	Voltage: 12		
Relay Targets: A & B	No. of Operations: 1	Tested: Bad	District: 27		
Circuit Conditions: Normal	Time/Date Part Load Up: 1052:00 08/20/2022				
Downstream Sub Interrupted: No	Time/Date All Load Up: 1406:00 08/20/2022				
Cause of Interruption: Mylar balloons W/O 4160275E					
Persons Notified:					

Switching

Time * * * SWITCHING * * *

DMS

1510 Jarvis 12kv line relay @ RAR 0990. SOB 322 in effect.



- Received alarm from RFI 02401 "B" phase, Jarvis 12kv line.
- Received alarm from RFI 02401 "A" phase, Jarvis 12kv line.



1514 Notified DOC.



1515 Notified TM.

1929



- 1706 TM reports RAR0990 found open, one counter operation, A & B phase targets, and equipment checks OK.
 - TM reports mylar balloons made contact W/O 4160275E. Damage to insulators.

Map says 1/0 ATW but is actually 336 wire. Crew will be out Saturday to make repairs and put in covered conductor.

MONROVIA DISTRICT

NTO

- has No Test Orders on the Jarvis 12kv line beyond RAR0990 Crew to make repairs to wire and cross arms E/O pole 4366589E
- Opened Over the Arm Taps E/O pole 4366589E, Jarvis 12kv dead line Crew took TLC on a section of the Jarvis to make reapirs.

TROUBLEMAN

1044 T/M reports completed aerial patrol beyond RAR0990 on the Jarvis 12kv line and everything appears to

Printed 10/27/2022 08:43:42 AM

Page 1

check ok to the end of the line. T/M also reports ready to test a section of the Jarvis 12kv line beyond RAR0990 to open Over the Arm Taps E/O pole 4366589E and also notified District crew working on line.

MESA SUB

- Made Fast Curve relay solid at RAR0990 via DMS on the Jarvis 12kv line
- 1052 Closed RAR0990 via DMS, energizing and testing a section of the Jarvis 12kv line to open Over the Arm Taps E/O pole 4366589E. Tested Good. **PLU**
- Made Fast Curve relay auto at RAR0990 via DMS on the Jarvis 12kv line

MONROVIA DISTRICT

1241 Crew released TLC on the Jarvis 12kv line from Opened Over the Arm Taps E/O pole 4366589E and completed work.

MESA SUB

Made Fast Curve relay solid at RAR0990 via DMS on the Jarvis 12kv line

MONROVIA DISTRICT

- 1406 Closed Over the Arm Taps E/O pole 4366589E, energizing a section of the Jarvis 12kv line to EOL Tested Good and All Load Up
- 1407 Vigier cancels No Test Order on the Jarvis 12kv line

MESA SUB

1410 Made Fast Curve relay auto at RAR0990 via DMS on the Jarvis 12kv line

Grid Ops Analyst Comments Grid Ops Analyst Feedback Grid Ops Daily Report Review Reviewed By

DATA REQUEST SET SED-Ridge-001

To: SED

Prepared by: Thomas Jacobus Title: Bus Resiliency, Prin Mgr

Dated: 12/7/2022

Question 01:

Provide a timeline of the actions Southern California Edison Company (SCE) took which were directly related to the Ridge Fire. The timeline should begin 24 hours prior to the start of the Fire to after LACoFD obtained utility facilities for evidence, LACoFD released the incident scene, or all repairs were completed, whichever event occurred last.

Response to Question 01:

SCE objects to this question on the grounds that it is premature, vague, and ambiguous. The Ridge Fire is still under investigation and all facts are not known at this time. Los Angeles County Fire Department (LACFD) continues to investigate the Fire and has not produced the findings of its investigations or shared key facts and evidence with SCE about the Ridge Fire. In light of the potential for litigation, SCE is also performing its own investigation of the Fire at the direction of the its Law Department and subject to attorney client privilege and/or the attorney client work product doctrine and accordingly, objects to the production of information called for by the Request that are protected from disclosure.

Subject to and without waiving its objections, SCE provides the following timeline for the Ridge Fire. Among other things, this timeline focuses on SCE's efforts to coordinate with LACFD investigators and to discharge its notice obligations to the Commission. This general timeline is not a comprehensive accounting of every action that SCE took regarding the Fire, and SCE reserves the right to update this timeline (without obligating itself to do so) based on additional information learned during its investigation of the Ridge Fire.

08/18/2022 (24-hours prior to ignition)

- The California Independent System Operator (CAISO issued a Grid Restricted Maintenance Operations notice for Thursday (8/18/22) from 1200 hours through 2200 hours, due to anticipated high loads and temperatures across the CAISO Grid
- The SCE Energy Procurement and Management (EPM) Forecasting Team issued an EPM YELLOW WARNING* for Thursday (8/18) and an EPM Alert** for Friday (8/19)
 - *EPM Yellow Warning is issued for any potential constrained system with a possibility of deployment of reliability demand response resources
 - **EPM Alert is issued for a regional heat wave with system conditions that are not expected to be severe
- Electrical Services Incident Management Team, the Electric Emergency Action Plan (EEAP) Task Force, and the Pool Teams, were placed on alert through Friday (8/19) but were not activated
- An SCE-issued Fire Weather Threat (FWT) was declared for portions of Riverside, Santa Barbara, Kern, and **Los Angeles** counties from 1300 hours on Thursday (8/18) through 0500

hours on Friday (8/19), based on weather forecasts. SOB 322 operating requirements and restrictions will be in effect

08/19/2022

- The SCE EPM Forecasting Team issued an EPM Alert for Thursday (8/19)
 - *EPM Alert is issued for a regional heat wave with system conditions that are not expected to be severe
- The SCE-issued FWT declared for portions of Riverside, Santa Barbara, Kern, and Los Angeles counties is extended through 1900 hours on Saturday (8/20), based on weather forecasts. SOB 322 operating requirements and restrictions were in effect
- At 3:10 p.m. a portion of the Jarvis 12kV Circuit out of Dalton Substation relayed to lockout with SOB 322 operating requirements and restrictions in effect
- At 3:15 p.m. the Ridge Fire is reported to be burning near the area of North San Gabriel Canyon and Old San Gabriel Canyon roads and had consumed approximately 6 acres of medium to heavy brush, according to the Los Angeles County Fire Department
- At approximately 6:00 p.m., the scene of the fire was released by the Los Angeles County Fire Department
 - The Los Angeles County Fire Department inspectors did not retain any materials or items as evidence
- At approximately 6:12 p.m., SCE Claims Department employee Eric Coolidge submitted an Electronic Safety Incident Report to the CPUC concerning the Ridge Fire.
- At 10:00 p.m. reports from the SCE Fire Management Team indicate the Ridge Fire was fully contained

DATA REQUEST SET SED-Ridge-002

To: SED

Prepared by: Al Watson
Title: Asset and Ops Integration, Sr Mgr

Dated: 7/26/2023

Question Q. 01 Follow Up:

In response to SED-002-Ridge Fire, Question 1, SCE stated in part, "Please see attachment titled sob0322.pdf." Also, in response to SED-002-Ridge Fire, Question 5 follow up of June 23, 2023, SCE stated in part, "As to the specific RAR 0990 on the subject date and time, it was not set to reclose due to a Bulletin 322 being in effect."

- a. Please specify the page number(s) of this document that is relevant to this case.
- b. When did SOB 322 operating requirements and restrictions go into effect for RAR0990 for this case?
- c. Why did SOB 322 operating requirements and restrictions go into effect for RAR0990 for this case?

Response to Question Q. 01 Follow Up:

a. Regarding the expected operating requirements for Automated Distribution Circuits when Reclosing Restrictions are in effect, refer to *SOB-322* Section 3.3, Automated Distribution Circuits (p.8 of 48).

Regarding the process by which Fire Climate Zones are declared by SCE, refer to *SOB-322* Section 5, Declaration of RFW, FWT, FCZ, Thunderstorm Threat or PSPS Proximity Threat, Step 5 (p. 16 of 48).

Regarding the expected operating requirements for Automated Distribution Circuits when Operating Restrictions are in effect, Refer to *SOB-322* Section 6, Operating Restrictions, Step 2E (pg 19 of 48), and Section 6.2, Operation and Outage Management of Automated and Non-Automated Distribution Circuits (p. 24 of 48).

- b. Fire Climate Zones (FCZ) 1, 2, 3 and 4 went into effect on May 12, 2022, at 10:08 a.m. The Jarvis circuit, including RAR0990 are part of FCZ3.
- c. FCZs went into effect for Zones 1, 2, 3 and 4 on May 12, 2022 based on fire seasonality. The Jarvis circuit is within FCZ3 and restrictions were in place.

DATA REQUEST SET SED-Ridge-002

To: SED
Prepared by: Al Watson
Title: Op Mid, Sr Mgr
Dated: 4/3/2023

Question 02:

In response to DR1, Question 9, subpart(a), SCE provided a document titled "Response 09.pdf." Page 1 of that document stated:

"1512 Received alarm from RFI 02401 "B" phase, Jarvis 12kv line.

1512 Received alarm from RFI 02401 "A" phase, Jarvis 12kv line."

- a. Explain the meaning of "RFI."
- b. What did these alarms mean?

Response to Question 02:

SCE objects to this data request as vague, ambiguous, and overbroad. Subject to and without waiving its objections, SCE responds as follows:

- a. RFI means Remote Fault Indicator.
- b. RFI 0241 detected faults on the A and B phases and alarms were generated at 1512. A Fault Indicator (FI) is a monitoring device that is installed on Distribution System Lines to detect fault conditions. Fault Indicators are used by a Troubleman to help locate the cause of the fault condition. A conventional FI being used today by SCE consists of a current transformer (to measure the line current magnitude), electronic control system (to evaluate the magnitude of the current) and a bright light source (that will start flashing if the line current exceeds a preset value). When a fault occurs on a distribution system, the resulting fault current can be 10 to 20 times higher than the normal line current. This elevated level of line current will trigger the FI to start flashing. A Troubleman responding to the outage condition will drive the circuit looking for a flashing FI. The flashing FI is then used by a Troubleman to help locate the origin of the fault. This process can take a considerable amount of time. The Remote Fault Indicator (RFI) can help with this problem. An RFI is similar to a traditional FI in that it has a Current Transformer, Electronic Control Module and a bright light source. In addition to the traditional components, it is also equipped with its own power system that harvests power from the distribution line and a radio that is configured remotely to communicate with SCE's Distribution Monitoring System.

DATA REQUEST SET SED-Ridge-001

To: SED

Prepared by: Thomas Jacobus Title: Bus Resiliency, Prin Mgr

Dated: 12/7/2022

Question 01:

Provide a timeline of the actions Southern California Edison Company (SCE) took which were directly related to the Ridge Fire. The timeline should begin 24 hours prior to the start of the Fire to after LACoFD obtained utility facilities for evidence, LACoFD released the incident scene, or all repairs were completed, whichever event occurred last.

Response to Question 01:

SCE objects to this question on the grounds that it is premature, vague, and ambiguous. The Ridge Fire is still under investigation and all facts are not known at this time. Los Angeles County Fire Department (LACFD) continues to investigate the Fire and has not produced the findings of its investigations or shared key facts and evidence with SCE about the Ridge Fire. In light of the potential for litigation, SCE is also performing its own investigation of the Fire at the direction of the its Law Department and subject to attorney client privilege and/or the attorney client work product doctrine and accordingly, objects to the production of information called for by the Request that are protected from disclosure.

Subject to and without waiving its objections, SCE provides the following timeline for the Ridge Fire. Among other things, this timeline focuses on SCE's efforts to coordinate with LACFD investigators and to discharge its notice obligations to the Commission. This general timeline is not a comprehensive accounting of every action that SCE took regarding the Fire, and SCE reserves the right to update this timeline (without obligating itself to do so) based on additional information learned during its investigation of the Ridge Fire.

08/18/2022 (24-hours prior to ignition)

- The California Independent System Operator (CAISO issued a Grid Restricted Maintenance Operations notice for Thursday (8/18/22) from 1200 hours through 2200 hours, due to anticipated high loads and temperatures across the CAISO Grid
- The SCE Energy Procurement and Management (EPM) Forecasting Team issued an EPM YELLOW WARNING* for Thursday (8/18) and an EPM Alert** for Friday (8/19)
 - *EPM Yellow Warning is issued for any potential constrained system with a possibility of deployment of reliability demand response resources
 - **EPM Alert is issued for a regional heat wave with system conditions that are not expected to be severe
- Electrical Services Incident Management Team, the Electric Emergency Action Plan (EEAP) Task Force, and the Pool Teams, were placed on alert through Friday (8/19) but were not activated
- An SCE-issued Fire Weather Threat (FWT) was declared for portions of Riverside, Santa Barbara, Kern, and **Los Angeles** counties from 1300 hours on Thursday (8/18) through 0500

hours on Friday (8/19), based on weather forecasts. SOB 322 operating requirements and restrictions will be in effect

08/19/2022

- The SCE EPM Forecasting Team issued an EPM Alert for Thursday (8/19)
 - *EPM Alert is issued for a regional heat wave with system conditions that are not expected to be severe
- The SCE-issued FWT declared for portions of Riverside, Santa Barbara, Kern, and Los Angeles counties is extended through 1900 hours on Saturday (8/20), based on weather forecasts. SOB 322 operating requirements and restrictions were in effect
- At 3:10 p.m. a portion of the Jarvis 12kV Circuit out of Dalton Substation relayed to lockout with SOB 322 operating requirements and restrictions in effect
- At 3:15 p.m. the Ridge Fire is reported to be burning near the area of North San Gabriel Canyon and Old San Gabriel Canyon roads and had consumed approximately 6 acres of medium to heavy brush, according to the Los Angeles County Fire Department
- At approximately 6:00 p.m., the scene of the fire was released by the Los Angeles County Fire Department
 - The Los Angeles County Fire Department inspectors did not retain any materials or items as evidence
- At approximately 6:12 p.m., SCE Claims Department employee Eric Coolidge submitted an Electronic Safety Incident Report to the CPUC concerning the Ridge Fire.
- At 10:00 p.m. reports from the SCE Fire Management Team indicate the Ridge Fire was fully contained

DATA REQUEST SET SED-Ridge-005

To: SED

Prepared by: Al Watson
Title: Asset and Ops Integration, Sr Mgr

Dated: 10/3/2023

Question 02:

In response to Data Request SED-01-Ridge Fire, Question 9, SCE provided SED-001-Ridge Fire_Response 09.pdf, which states:

"Map says 1/0 ATW but is actually 336 wire. Crew will be out Saturday to make repairs and put in covered conductors."

In its June 23, 2023 follow-up request to SED-01-Ridge Fire, Question 9, SED stated, "Our understanding is that one span of conductors was replaced by covered conductors, between Pole Number 4366589E and Pole Number 4160275E." In its July 3, 2023 response, SCE confirmed SED's understanding.

SED's understanding is that "336 wire" between Pole Number 4366589E and Pole Number 4160275E refers to 336 ATW.

- a. Is SED's understanding correct?
- b. If SED's understanding is not correct:
- i. Provide the full technical name of the 336 wire.
- c. Is a 336 wire a conductor without a protective covering?
- d. Please explain the difference between 336 wire and 1/0 ATW with regard to size.
- e. Please explain the difference between 336 wire and 1/0 ATW with regard to the type and materials of each unit's protective covering.

Response to Question 02:

- a. SED's understanding is incorrect.
- b. i. The technical name is 336 ACSR (Aluminum Conductor Steel Reinforced). All 336 wire is 336 ACSR.
- c. 336 wire (336 ACSR) can be either bare conductor or covered conductor. On SCE's mapping, if it is labeled "336A" it denotes bare wire. If it is labeled "336 ATW" it denotes covered conductor ("ATW" = Aluminum Tree Wire). Accordingly, on information and belief, the reference in "SED-001-Ridge Fire Response 09.pdf" to "is actually 336 wire," is a reference to 336 ACSR bare wire.
- d. 336 wire is larger in diameter than 1/0 ATW.
- e. If the question is as to 336 ACSR bare conductor (denoted as "336A"), then the difference would be that the 336 wire is bare conductor and the 1/0 ATW is covered conductor (because of the "ATW"). If the question is as to 336 ACSR covered conductor (denoted as "366 ATW"), then the type and materials of the protective covering for both sizes of wire (366 and 1/0) would be the same. See description and figure of the protective coating in SCE's response to SED Ridge 05- Question 01 (a.iii).

DATA REQUEST SET SED-Ridge-005

To: SED

Prepared by: Raymond Fugere Title: Dir Wildfire Safety Dated: 10/3/2023

Question 01:

In response to SED's June 23, 2023 follow-up to Data Request SED-01-Ridge Fire, Question 4, SCE states:

- "336 ATW is 336 kcmil Aluminum Covered Conductor.1 ... The difference between the 336 ATW and 1/0 ATW is the size of the conductor. The difference between the underground cable and 1/0 ATW is the size of the cable and overhead covered conductor and underground cable.2"
- a. By "... 1/0 ATW is ... overhead covered conductor," does SCE mean 1/0 ATW is a conductor with a protective coating over the conducting material?
- i. Please confirm or clarify.
- ii. Define and describe "1/0 ATW".
- iii. What material is the protective coating over the 1/0 ATW conductor?
- b. Regarding SCE's statement that "336 ATW is 336 kcmil Aluminum Covered Conductor ... The difference between the 336 ATW and 1/0 ATW is the size of the conductor":
- i. Is another difference between 336 ATW and 1/0 ATW that 336 ATW has no protective coating over the conducting material, and 1/0 ATW has a protective coating over the conducting material?
- ii. If your answer to 1(b)(i) above is no, state your reasons.
- iii. Define and describe what an "Aluminum Covered Conductor" is.
- iv. Is the aluminum cover of 336 ATW part of the conductor, and not considered protection for the conductor?
- v. If your answer to 1(b)(iv) above is no, state your reasons.

Response to Question 01:

a:

- i: 1/0 ATW is SCE's 1/0 aluminum covered conductor. "ATW" stands for Aluminum Tree Wire, which is another name for covered conductor. Covered conductor is an overhead conductor that is protected by layers of insulating material.
- ii: 1/0 ATW is an aluminum conductor that is steel-reinforced (ACSR) that is protected by a 3-layer coating. The ACSR conductor is sized at 1/0 AWG (American Wire Gauge) and is made up of 6 aluminum strands and one steel core.
- iii: The protective coating is made up of three layers. As shown in the figure below, the first layer is the conductor shield, which is a semiconducting thermoset polymer. The inner layer is crosslinked low density polyethylene and the outer layer is a crosslinked high-density polyethylene.



b:

- i) The "ATW" designation stands for Aluminum Tree Wire. Tree wire is another name for covered conductor. Therefore, 336 ATW also has a protective coating over the aluminum conductor.
- ii) The difference between 1/0 ATW and 336 ATW is the size of the conductor, because both have the same 3-layer protective coating. The 1/0 ATW conductor is sized at 1/0 AWG and is made up of 6 aluminum strands and one steel core. The 336 ATW conductor is sized at 336 kcmil and is made up of 18 aluminum strands and one steel core or 30 aluminum strands and 7 steel cores, depending on the application. Because of its larger size, the 336 ATW conductor can carry more current and has a higher breaking strength than the 1/0 ATW.
- iii) The image above is of SCE's aluminum conductor. The conductor design is Aluminum Conductor Steel-Reinforced (ACSR). The conductor is protected by a 3-layer covering. See response to question 1.a.iii for the description of the three layers.
- iv) The "Aluminum" in "Aluminum Covered Conductor" is in reference to the ACSR conductor material. It does not refer to the material for the 3-layer protective coating. See response to question 1.a.iii for the description of the three layers that make up the protective coating.
- v) N/A

DATA REQUEST SET SED-Ridge-001

To: SED

Prepared by: Al Watson

Title: Asset and Ops Integration, Sr Mgr

Dated: 7/3/2023

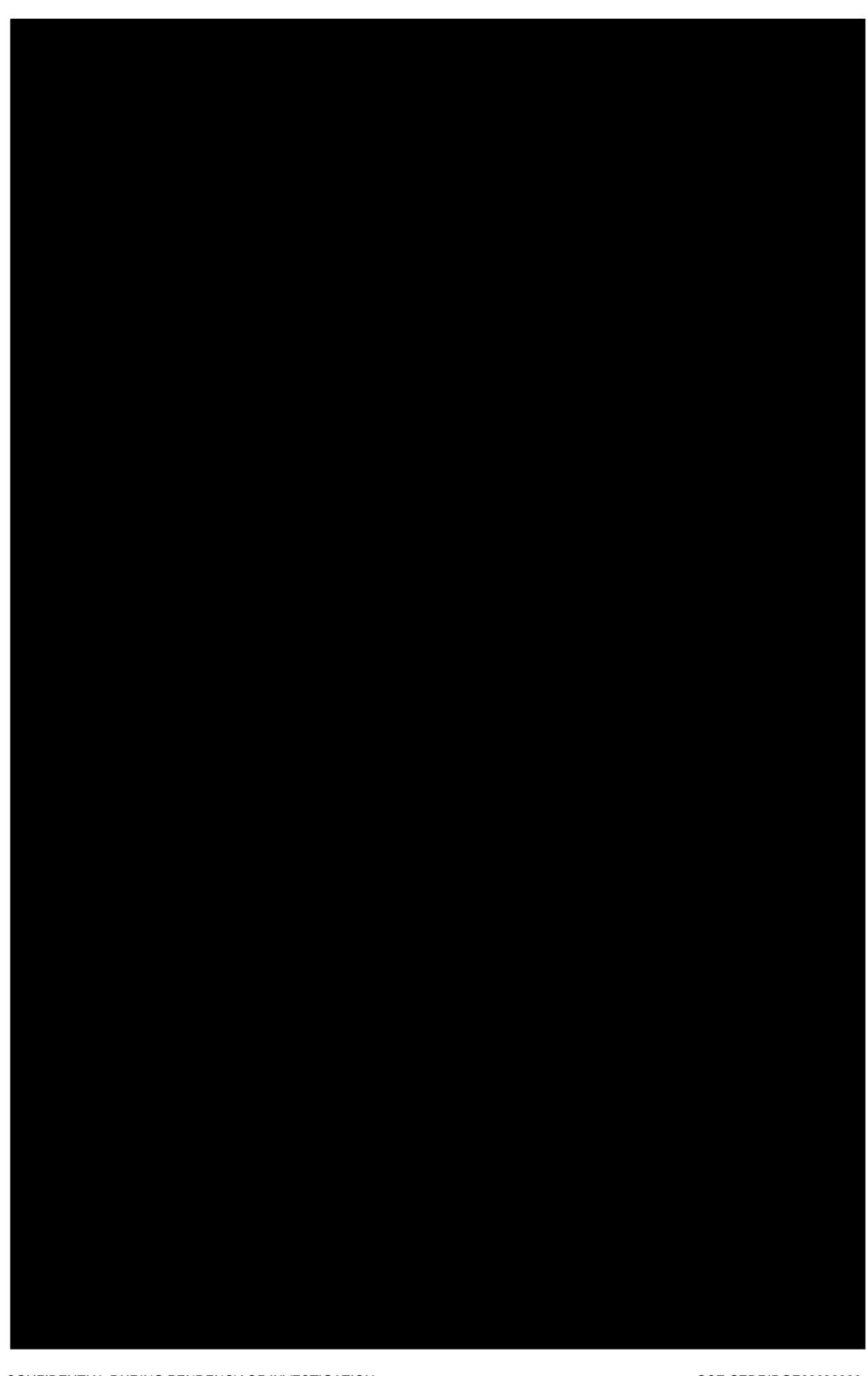
Question Q. 09 Follow Up:

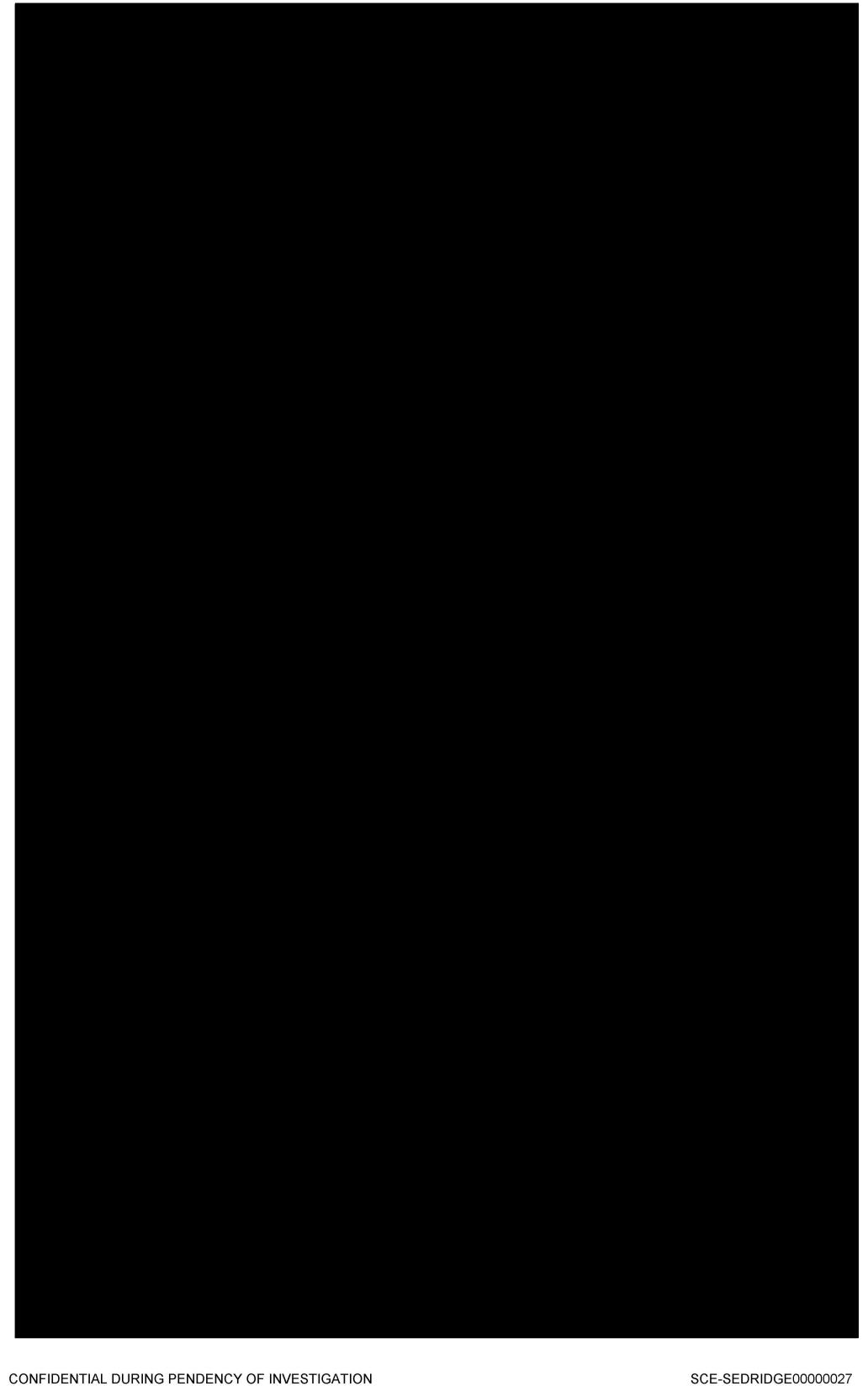
1. SED-001-Ridge Fire_Response 09.pdf states, "Crew will be out Saturday to make repairs and put in covered conductors." Our understanding is that one span of conductors was replaced by covered conductors, between Pole Number 4366589E and Pole Number 4160275E.

Is our understanding correct? If not, please provide an explanation of what span of covered conductors were replaced.

Response to Question Q. 09 Follow Up:

Yes, your understanding is correct. Our crews replaced the conductor between 4366589E and 4160275E on 8/20/22. It was replaced with 1/0 covered conductor.





DATA REQUEST SET SED-Ridge-001

To: SED

Prepared by: Thomas Jacobus Title: Bus Resiliency, Prin Mgr Dated: 12/7/2022

Question 20:

Did the weather on 8/19/2022 meet any of the criteria for SCE to proactively de-energize any circuits for a Public Safety Power Shutoff (PSPS) event?

- a. If the weather on 8/19/2022 met any of the criteria for activation of a PSPS event, please indicate what criteria were met;
- b. Provide a copy of the utility procedures for determining when to activate a PSPS event on a circuit which were in effect as of the date of the incident.

Response to Question 20:

SCE objects to this data request as vague, ambiguous, and overbroad. Subject to and without waiving its objection, SCE responds as follows:

- a. No circuits within SCE's service territory, including Jarvis, were forecast to meet or exceed SCE's PSPS criteria and thus, none were being monitored for PSPS at the time the Ridge Fire ignited nor were any de-energized for PSPS.
- b. Please see attachment titled *Business**Resiliency_Fire_Weather_Threat_Decision_Making_v2.docx for SCE's procedures in effect at the time of the subject fire.

Please note that the names of employees, and employees of contractors and/or other utilities are considered confidential and should be treated as such. Such information also should not be released to the public regardless of the pendency of SED's investigation.

DATA REQUEST SET SED-Ridge-001

To: SED

Prepared by: Matthew Wageman Title: Sr Engineer 1

Dated: 12/7/2022

Question 15:

For each fault and other protective relay operation that occurred for the portion of the Subject Circuit spanning three poles in both directions from the Incident Location from 8/19/2021 to 8/19/2022, provide the following:

- a. Current magnitude;
- b. Event duration;
- c. Actual relay time delay;
- d. Actual circuit breaker opening time;
- e. Whether the fault was phase to phase or phase to ground;
- f. If the fault was phase to phase, identify the phases involved; and
- g. Corrective actions by SCE to clear the fault or eliminate the condition that triggered the event.

Response to Question 15:

SCE objects to this data request as vague, ambiguous, and overbroad. Subject to and without waiving its objections, SCE responds as follows:

a. Current magnitude:

Event Date	IA	IB	IC	IN	IG	312
10/8/2021	7	5	58	46	50	52
1/21/2022	103	14	1025	1	4	1718
8/19/2022	1380	1401	34		4	

b. Event duration:

Event Date	Event Duration
10/8/2021	.70 second
1/21/2022	1.61 seconds
8/19/2022	.94 second

c. Actual relay time delay:

Event Date	Relay Time Delay
10/8/2021	.63 second
1/21/2022	1.54 seconds
8/19/2022	.89 second

d. Actual circuit breaker opening time:

Event Date	Circuit Breaker Opening Time
10/8/2021	Trip issued at 7:23:35.35400 fault cleared at 7:23:35.42278 = 0.0687 seconds
1/21/2022	Trip issued at 9:37:38.87600 fault cleared at 9:37:38.94593 = 0.06993 seconds

e. Phase to Phase or Phase to Ground:

Event Date	Fault Type
10/8/2021	Phase to Ground
1/21/2022	Phase to Phase
8/19/2022	Phase to Phase

f. Identify phases involved:

Event Date	Phases Involved
10/8/2021	C and Ground
1/21/2022	A and C
8/19/2022	A and B

g. Corrective actions:

Event Date	Corrective actions
	RAR 0990 automatically detected the event and tripped unaided. SCE Maintenance
10/8/2021	crew performed repairs for the circuit beyond RAR 0990.
	RAR 0990 automatically detected the event and tripped unaided. SCE Maintenance
1/21/2022	crew found metallic balloons beyond RAR 0990 and removed them. No repairs needed.
	RAR 0990 automatically detected the event and tripped unaided. SCE Maintenance
	crew found mylar balloons and damage to insulators beyond RAR 0990. SCE
8/19/2022	Maintenance crew removed the balloons and repaired the damage to insulators.

JARVIS 12KV IA AMPS - All Values (Raw)		2KV IB AMPS - All Values (Raw)		2KV IC AMPS - All Values (Raw)		V IN AMPS - All Values (Raw)		, ,	` ,	, ,	, ,	,	` ,	,	JARVIS 12KV FAST CURVE- All Values (Raw)
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JAF	VIS 12KV CB - All Values (Raw)		JARVIS 12KV REC - All Values (Raw)	JARVIS 12	KV GRD RLY - All Values (Raw)	JARVIS 12	KV PH TRGT - All Values (Raw)	JARVIS 12KV G T	RGT - All Values (Raw)	JARVIS 12KV FAST (CURVE- All Values (Raw)	
W) Dat	e and Time	Value	Date and Time V	/alue Date and	Time \	Value Date and	Time	Value Date and Time	V	/alue Date and Time		Value
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9714	08/18/2022 3:26:06 PM	1	08/18/2022 3:26:04 PM	1	08/18/2022 3:26:04 PM	1	08/18/2022 3:26:06 PM	0	08/18/2022 3:26:04 PM	0	08/18/2022 3:14:10 PM	0
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9943	08/18/2022 5:26:24 PM	1	08/18/2022 5:26:24 PM	1	08/18/2022 5:26:24 PM	1	08/18/2022 5:26:24 PM	0	08/18/2022 5:26:24 PM	0	08/18/2022 5:14:12 PM	0
9866	08/18/2022 6:26:44 PM	1	08/18/2022 6:26:44 PM	1	08/18/2022 6:26:44 PM	1	08/18/2022 6:26:44 PM	0	08/18/2022 6:26:44 PM	0	08/18/2022 6:14:12 PM	0
9714	08/18/2022 6:55:53 PM	1	08/18/2022 6:55:53 PM	1	08/18/2022 6:55:53 PM	1	08/18/2022 6:55:53 PM	0	08/18/2022 6:55:53 PM	0	08/18/2022 6:55:53 PM	0
0114	08/18/2022 6:56:05 PM	1	08/18/2022 6:56:05 PM	1	08/18/2022 6:56:05 PM	1	08/18/2022 6:56:05 PM	0	08/18/2022 6:56:05 PM	0	08/18/2022 6:56:05 PM	0
0038	08/18/2022 7:27:06 PM	1	08/18/2022 7:27:05 PM	1	08/18/2022 7:27:05 PM	1	08/18/2022 7:27:06 PM	0	08/18/2022 7:27:05 PM	0	08/18/2022 8:14:15 PM	0
0114	08/18/2022 8:27:26 PM	1	08/18/2022 8:27:26 PM	1	08/18/2022 8:27:26 PM	1	08/18/2022 8:27:26 PM	0	08/18/2022 8:27:26 PM	0	08/18/2022 9:14:17 PM	0
0038	08/18/2022 9:27:47 PM	1	08/18/2022 9:27:47 PM	1	08/18/2022 9:27:47 PM	1	08/18/2022 9:27:47 PM	0	08/18/2022 9:27:47 PM	0	08/18/2022 10:14:19 PM	0
0019	08/18/2022 10:27:47 PM	1	08/18/2022 10:27:47 PM	1	08/18/2022 10:27:47 PM	1	08/18/2022 10:27:47 PM		08/18/2022 10:27:47 PM	0	08/18/2022 11:14:20 PM	
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9714	08/19/2022 1:15:49 AM	1	08/19/2022 1:15:49 AM	1	08/19/2022 1:15:49 AM	1	08/19/2022 1:15:49 AM		08/19/2022 1:15:49 AM	0	08/19/2022 2:14:44 AM	
0095	08/19/2022 2:29:03 AM	1	08/19/2022 2:29:03 AM	1	08/19/2022 2:29:03 AM	1	08/19/2022 2:29:03 AM		08/19/2022 2:29:03 AM	0	08/19/2022 3:15:03 AM	
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9695	08/19/2022 5:30:04 AM	1	08/19/2022 5:30:04 AM	- 1	08/19/2022 5:30:04 AM	1	08/19/2022 5:30:04 AM		08/19/2022 5:30:04 AM	0	08/19/2022 6:15:45 AM	
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9714	08/19/2022 9:31:04 AM	1	08/19/2022 9:31:04 AM	1	08/19/2022 9:31:04 AM	1	08/19/2022 9:31:04 AM		08/19/2022 9:31:04 AM	0	08/19/2022 11:16:31 AM	
9979	08/19/2022 10:31:24 AM	1	08/19/2022 10:31:24 AM	1	08/19/2022 10:31:24 AM	1	08/19/2022 10:31:24 AM		08/19/2022 10:31:24 AM	0	08/19/2022 12:16:51 PM	
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0019	08/19/2022 12:32:05 PM	1	08/19/2022 12:32:04 PM	1	08/19/2022 12:32:04 PM	1	08/19/2022 11:31:43 AW		08/19/2022 12:32:04 PM	0	08/19/2022 2:16:54 PM	
9943	08/19/2022 1:32:24 PM	1	08/19/2022 1:32:24 PM	1	08/19/2022 1:32:24 PM	1	08/19/2022 1:32:24 PM		08/19/2022 1:32:24 PM	0	08/19/2022 3:17:12 PM	
9771	08/19/2022 2:32:44 PM	1	08/19/2022 1:32:24 PM	1	08/19/2022 1:32:24 PM	1	08/19/2022 1:32:24 PM		08/19/2022 1:32:24 PM 08/19/2022 2:32:44 PM	0	08/19/2022 4:17:34 PM	
9924	08/19/2022 2:32:44 PM	1	08/19/2022 2:32:44 FM 08/19/2022 3:33:04 PM	1	08/19/2022 2:32:44 FW	1	08/19/2022 2:32:44 PM 08/19/2022 3:33:04 PM		08/19/2022 3:33:04 PM	0	08/19/2022 4:17:54 PM	
	08/19/2022 4:33:25 PM	1	• •	1	08/19/2022 4:33:24 PM	1	08/19/2022 4:33:25 PM		08/19/2022 3:33:04 PM 08/19/2022 4:33:24 PM	0	,	
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9924	08/19/2022 4:59:53 PM	1	08/19/2022 4:59:53 PM	1	·	1	08/19/2022 4:59:53 PM		08/19/2022 4:59:53 PM	0	08/19/2022 6:08:49 PM	
4.25	08/19/2022 5:00:05 PM	1	08/19/2022 5:00:05 PM	1	08/19/2022 5:00:05 PM	1	08/19/2022 5:00:05 PM		08/19/2022 5:00:05 PM	0	08/19/2022 6:09:01 PM	
9847	08/19/2022 5:33:44 PM	1	08/19/2022 5:33:44 PM	1	08/19/2022 5:33:44 PM	1	08/19/2022 5:33:44 PM		08/19/2022 5:33:44 PM	0	08/19/2022 7:18:14 PM	
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9847	08/19/2022 6:09:01 PM	1	08/19/2022 6:09:01 PM	1	08/19/2022 6:09:01 PM	1	08/19/2022 6:09:01 PM		08/19/2022 6:09:01 PM	0	08/19/2022 9:18:52 PM	
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08/19/2022 11:08:24 PM	144	08/20/2022 10:11:22 AM	88	08/20/2022 10:14:08 AM	87
08/19/2022 11:08:56 PM	148	08/20/2022 10:14:08 AM	83	08/20/2022 10:22:23 AM	91
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08/19/2022 11:20:55 PM	135	08/20/2022 10:29:07 AM	87	08/20/2022 10:41:22 AM	95
08/19/2022 11:33:22 PM	131	08/20/2022 10:29:37 AM	83	08/20/2022 10:51:22 AM	91
08/19/2022 11:35:36 PM	136	08/20/2022 10:31:22 AM	87	08/20/2022 10:52:39 AM	101
08/19/2022 11:48:39 PM	140	08/20/2022 10:34:07 AM	83	08/20/2022 10:57:37 AM	105
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08/20/2022 12:34:08 AM	131	08/20/2022 10:38:08 AM	83	08/20/2022 11:08:08 AM	105
08/20/2022 12:40:23 AM	136	08/20/2022 10:41:22 AM	88	08/20/2022 11:11:22 AM	110
08/20/2022 12:45:36 AM	132	08/20/2022 10:46:39 AM	94	08/20/2022 11:22:39 AM	117
08/20/2022 12:54:55 AM	128	08/20/2022 10:46:55 AM	89	08/20/2022 11:25:07 AM	112
08/20/2022 12:56:55 AM	132	08/20/2022 10:48:08 AM	85	08/20/2022 11:29:22 AM	117
08/20/2022 1:02:55 AM	128	08/20/2022 10:52:39 AM	93	08/20/2022 11:36:08 AM	121
08/20/2022 1:25:07 AM	124	08/20/2022 10:57:37 AM	97	08/20/2022 11:36:39 AM	117
08/20/2022 1:30:39 AM	128	08/20/2022 11:04:55 AM	101	08/20/2022 11:46:39 AM	122
08/20/2022 1:31:37 AM	124	08/20/2022 11:08:08 AM	97	08/20/2022 11:48:39 AM	117
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08/20/2022 1:56:55 AM	111	08/20/2022 11:13:51 AM	103	08/20/2022 11:56:39 AM	122
08/20/2022 2:04:08 AM	116	08/20/2022 11:23:07 AM	107	08/20/2022 11:57:37 AM	118
08/20/2022 2:17:07 AM	112	08/20/2022 11:26:24 AM	103	08/20/2022 11:58:07 AM	122
08/20/2022 2:36:41 AM	112	08/20/2022 11:32:39 AM	107	08/20/2022 12:06:23 PM	126
08/20/2022 3:30:40 AM	116	08/20/2022 11:40:39 AM	103	08/20/2022 12:16:56 PM	130
08/20/2022 3:31:22 AM	112	08/20/2022 11:43:36 AM	107	08/20/2022 12:22:07 PM	126
08/20/2022 3:49:36 AM	108	08/20/2022 11:45:37 AM	112	08/20/2022 12:22:55 PM	130
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08/20/2022 4:04:24 AM	107	08/20/2022 11:57:51 AM	112	08/20/2022 12:31:52 PM	130
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08/20/2022 5:05:52 AM	108	08/20/2022 12:32:07 PM	121	08/20/2022 1:00:55 PM	131
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08/20/2022 7:53:51 AM	104	08/20/2022 1:20:08 PM	129	08/20/2022 1:37:07 PM	145
08/20/2022 7:58:56 AM	109	08/20/2022 1:21:21 PM	134	08/20/2022 1:40:23 PM	149
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08/20/2022 8:19:21 AM	104	08/20/2022 1:27:06 PM	130	08/20/2022 1:51:07 PM	153
08/20/2022 8:19:52 AM	109	08/20/2022 1:27:52 PM	134	08/20/2022 1:54:24 PM	149
08/20/2022 8:42:39 AM	105	08/20/2022 1:29:22 PM	130	08/20/2022 1:57:51 PM	153
08/20/2022 8:47:37 AM	109	08/20/2022 1:30:56 PM	134	08/20/2022 1:58:39 PM	149
08/20/2022 8:51:06 AM	113	08/20/2022 1:32:55 PM	138	08/20/2022 2:00:39 PM	154
08/20/2022 8:52:39 AM 08/20/2022 8:56:07 AM	109 105 100	08/20/2022 1:33:22 PM 08/20/2022 1:39:37 PM	134 130 134	08/20/2022 2:03:37 PM 08/20/2022 2:21:37 PM 08/20/2022 2:23:52 PM	158 162 167
08/20/2022 9:02:23 AM	100	08/20/2022 1:40:08 PM	134	08/20/2022 2:23:32 PM	167
08/20/2022 9:05:22 AM	105	08/20/2022 1:42:23 PM	140	08/20/2022 2:24:39 PM	163
08/20/2022 9:11:37 AM	109	08/20/2022 1:42:56 PM	136	08/20/2022 2:28:39 PM	167
08/20/2022 9:12:08 AM	104	08/20/2022 1:45:37 PM	140	08/20/2022 2:29:37 PM	162
08/20/2022 9:16:55 AM	100	08/20/2022 1:46:39 PM	145	08/20/2022 2:39:22 PM	167
08/20/2022 9:24:23 AM	104	08/20/2022 1:52:23 PM	149	08/20/2022 2:42:55 PM	163
08/20/2022 9:28:55 AM	108	08/20/2022 1:52:39 PM	144	08/20/2022 2:45:52 PM	167
08/20/2022 9:29:21 AM	103	08/20/2022 1:53:51 PM	140	08/20/2022 2:50:08 PM	171
08/20/2022 9:34:39 AM	108	08/20/2022 2:00:56 PM	144	08/20/2022 2:54:08 PM	167
08/20/2022 9:38:42 AM	108	08/20/2022 2:02:07 PM	148	08/20/2022 3:02:23 PM	163
08/20/2022 9:45:22 AM	103	08/20/2022 2:09:07 PM	152	08/20/2022 3:02:39 PM	167
08/20/2022 9:46:07 AM	107	08/20/2022 2:11:37 PM	147	08/20/2022 3:05:37 PM	171
08/20/2022 9:52:56 AM	103	08/20/2022 2:15:52 PM	151	08/20/2022 3:06:55 PM	167
08/20/2022 9:54:39 AM 08/20/2022 10:02:24 AM	107 113	08/20/2022 2:18:08 PM 08/20/2022 2:18:55 PM	156 151		
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08/20/2022 11:42:08 AM	138
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08/20/2022 12:42:07 PM	157
08/20/2022 12:46:07 PM	161
08/20/2022 12:52:23 PM	157
08/20/2022 1:00:08 PM	161
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08/20/2022 1:05:22 PM	162
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08/20/2022 1:12:55 PM	171
08/20/2022 1:13:37 PM	166
08/20/2022 1:15:07 PM	171
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08/20/2022 1:46:08 PM	179
08/20/2022 1:51:37 PM	184
08/20/2022 1:53:22 PM	180
08/20/2022 1:56:07 PM	176
08/20/2022 2:00:39 PM	180
08/20/2022 2:02:07 PM	184
08/20/2022 2:06:39 PM	188
08/20/2022 2:19:52 PM	192
08/20/2022 2:23:52 PM	196
08/20/2022 2:24:39 PM	192
08/20/2022 2:28:39 PM	197
08/20/2022 2:29:37 PM	193
08/20/2022 2:33:18 PM	197
08/20/2022 2:47:37 PM	202
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08/20/2022 2:55:22 PM	
08/20/2022 2:57:52 PM	194
08/20/2022 2:59:22 PM	198
08/20/2022 3:02:07 PM	194
08/20/2022 3:02:55 PM	199

08/20/2022 11:33:37 AM 138

DATA REQUEST SET SED-Ridge-002

To: SED

Prepared by: Matthew Wageman Title: Sr Engineer 1

Dated: 4/3/2023

Question 010:

In response to DR1, Question 15, subpart (a), SCE provided the following:

a. Current magnitude:

Event Date	IA	IB	IC	IN	IG	312
10/8/2021	7	5	58	46	50	52
1/21/2022	103	14	1025	1	4	1718
8/19/2022	1380	1401	34		4	

In response to DR1, Question 14, SCE stated in a document titled "49597.pdf":

"Please note that RAR 0990 had Fast Curve settings enabled at the time of the fire. For RAR 0990, the standard Phase Minimum Trip is set at 340A. The High current trip - phase is set to 5 times the Phase Minimum Trip. Therefore, at the time of the fire, the application of the Fast Curve means that the High current trip - phase was set to 1700A." [italics added]

If the fault currents for phases A and B-1380 amps and 1401 amps, respectively – were lower than the RAR 0990 trip setting of 1700 amps, why did RAR 0990 trip?

Response to Question 010:

There are two Phase current elements that can trip the circuit breaker. One is the High Current trip element, set at 1700A. The other is the Phase Time Overcurrent element set at 340A. The relay picked up on Phase Time overcurrent and issued a trip to the circuit breaker.

*Please note SCE has highlighted portions that should be redacted to the public. Employee names are considered confidential and should be treated as such.

Interruption Report

Interruption Log Sheet

Mesa Switching Center Status: Closed

Initial when Entered	
DTOM Info:	
CB KO Recap:	

Interruption Log Sheet # 11720

Circuit Name : Jarvis	No. of Interruptions: 1	Date: 08/19/2022	Time: 1510
Station: Dalton		RAR: 0990	Voltage: 12
Relay Targets: A & B	No. of Operations: 1	Tested: Bad	District: 27
Circuit Conditions: Normal		Time/Date Part Load U	Jp: 1052:00 08/20/2022
Downstream Sub Interrupted: No		Time/Date All Load Up	: 1406:00 08/20/2022
Cause of Interruption: Mylar balloons W/C	4160275E		
Persons Notified:			

Switching

Time * * * SWITCHING * * *

DMS

1510 Jarvis 12kv line relay @ RAR 0990. SOB 322 in effect.

- 1512 Received alarm from RFI 02401 "B" phase, Jarvis 12kv line.
- 1512 Received alarm from RFI 02401 "A" phase, Jarvis 12kv line.
- 1514 Notified DOC.
- 1515 Notified TM.
- 1706 TM reports RAR0990 found open, one counter operation, A & B phase targets, and equipment checks OK.
- 1929 TM reports mylar balloons made contact W/O 4160275E. Damage to insulators. Map says 1/0 ATW but is actually 336 wire. Crew will be out Saturday to make repairs and put in covered conductor.

MONROVIA DISTRICT

NTO

- 0734 has No Test Orders on the Jarvis 12kv line beyond RAR0990 Crew to make repairs to wire and cross arms E/O pole 4366589E
- Opened Over the Arm Taps E/O pole 4366589E, Jarvis 12kv dead line Crew took TLC on a section of the Jarvis to make reapirs.

TROUBLEMAN

1044 T/M reports completed aerial patrol beyond RAR0990 on the Jarvis 12kv line and everything appears to

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check ok to the end of the line. T/M also reports ready to test a section of the Jarvis 12kv line beyond RAR0990 to open Over the Arm Taps E/O pole 4366589E and also notified District crew working on line.



MESA SUB

- 1049 Made Fast Curve relay solid at RAR0990 via DMS on the Jarvis 12kv line
- 1052 Closed RAR0990 via DMS, energizing and testing a section of the Jarvis 12kv line to open Over the Arm Taps E/O pole 4366589E. Tested Good. PLU
- 1059 Made Fast Curve relay auto at RAR0990 via DMS on the Jarvis 12kv line

MONROVIA DISTRICT

1241 Crew released TLC on the Jarvis 12kv line from Opened Over the Arm Taps E/O pole 4366589E and completed work.

MESA SUB

1242 Made Fast Curve relay solid at RAR0990 via DMS on the Jarvis 12kv line



MONROVIA DISTRICT

- 1406 Closed Over the Arm Taps E/O pole 4366589E, energizing a section of the Jarvis 12kv line to EOL Tested Good and All Load Up
- 1407 Vigier cancels No Test Order on the Jarvis 12kv line



MESA SUB

1410 Made Fast Curve relay auto at RAR0990 via DMS on the Jarvis 12kv line

Grid Ops Analyst Comments Grid Ops Analyst Feedback Grid Ops Daily Report Review Reviewed By

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DATA REQUEST SET SED-Ridge-005

To: SED

Prepared by: Raymond Fugere Title: Dir Wildfire Safety Dated: 10/3/2023

Question 01:

In response to SED's June 23, 2023 follow-up to Data Request SED-01-Ridge Fire, Question 4, SCE states:

- "336 ATW is 336 kcmil Aluminum Covered Conductor.1 ... The difference between the 336 ATW and 1/0 ATW is the size of the conductor. The difference between the underground cable and 1/0 ATW is the size of the cable and overhead covered conductor and underground cable.2"
- a. By "... 1/0 ATW is ... overhead covered conductor," does SCE mean 1/0 ATW is a conductor with a protective coating over the conducting material?
- i. Please confirm or clarify.
- ii. Define and describe "1/0 ATW".
- iii. What material is the protective coating over the 1/0 ATW conductor?
- b. Regarding SCE's statement that "336 ATW is 336 kcmil Aluminum Covered Conductor ... The difference between the 336 ATW and 1/0 ATW is the size of the conductor":
- i. Is another difference between 336 ATW and 1/0 ATW that 336 ATW has no protective coating over the conducting material, and 1/0 ATW has a protective coating over the conducting material?
- ii. If your answer to 1(b)(i) above is no, state your reasons.
- iii. Define and describe what an "Aluminum Covered Conductor" is.
- iv. Is the aluminum cover of 336 ATW part of the conductor, and not considered protection for the conductor?
- v. If your answer to 1(b)(iv) above is no, state your reasons.

Response to Question 01:

a:

- i: 1/0 ATW is SCE's 1/0 aluminum covered conductor. "ATW" stands for Aluminum Tree Wire, which is another name for covered conductor. Covered conductor is an overhead conductor that is protected by layers of insulating material.
- ii: 1/0 ATW is an aluminum conductor that is steel-reinforced (ACSR) that is protected by a 3-layer coating. The ACSR conductor is sized at 1/0 AWG (American Wire Gauge) and is made up of 6 aluminum strands and one steel core.
- iii: The protective coating is made up of three layers. As shown in the figure below, the first layer is the conductor shield, which is a semiconducting thermoset polymer. The inner layer is crosslinked low density polyethylene and the outer layer is a crosslinked high-density polyethylene.



b:

- i) The "ATW" designation stands for Aluminum Tree Wire. Tree wire is another name for covered conductor. Therefore, 336 ATW also has a protective coating over the aluminum conductor.
- ii) The difference between 1/0 ATW and 336 ATW is the size of the conductor, because both have the same 3-layer protective coating. The 1/0 ATW conductor is sized at 1/0 AWG and is made up of 6 aluminum strands and one steel core. The 336 ATW conductor is sized at 336 kcmil and is made up of 18 aluminum strands and one steel core or 30 aluminum strands and 7 steel cores, depending on the application. Because of its larger size, the 336 ATW conductor can carry more current and has a higher breaking strength than the 1/0 ATW.
- iii) The image above is of SCE's aluminum conductor. The conductor design is Aluminum Conductor Steel-Reinforced (ACSR). The conductor is protected by a 3-layer covering. See response to question 1.a.iii for the description of the three layers.
- iv) The "Aluminum" in "Aluminum Covered Conductor" is in reference to the ACSR conductor material. It does not refer to the material for the 3-layer protective coating. See response to question 1.a.iii for the description of the three layers that make up the protective coating.
- v) N/A

DATA REQUEST SET SED-Ridge-005

To: SED

Prepared by: Al Watson
Title: Asset and Ops Integration, Sr Mgr

Dated: 10/3/2023

Question 02:

In response to Data Request SED-01-Ridge Fire, Question 9, SCE provided SED-001-Ridge Fire_Response 09.pdf, which states:

"Map says 1/0 ATW but is actually 336 wire. Crew will be out Saturday to make repairs and put in covered conductors."

In its June 23, 2023 follow-up request to SED-01-Ridge Fire, Question 9, SED stated, "Our understanding is that one span of conductors was replaced by covered conductors, between Pole Number 4366589E and Pole Number 4160275E." In its July 3, 2023 response, SCE confirmed SED's understanding.

SED's understanding is that "336 wire" between Pole Number 4366589E and Pole Number 4160275E refers to 336 ATW.

- a. Is SED's understanding correct?
- b. If SED's understanding is not correct:
- i. Provide the full technical name of the 336 wire.
- c. Is a 336 wire a conductor without a protective covering?
- d. Please explain the difference between 336 wire and 1/0 ATW with regard to size.
- e. Please explain the difference between 336 wire and 1/0 ATW with regard to the type and materials of each unit's protective covering.

Response to Question 02:

- a. SED's understanding is incorrect.
- b. i. The technical name is 336 ACSR (Aluminum Conductor Steel Reinforced). All 336 wire is 336 ACSR.
- c. 336 wire (336 ACSR) can be either bare conductor or covered conductor. On SCE's mapping, if it is labeled "336A" it denotes bare wire. If it is labeled "336 ATW" it denotes covered conductor ("ATW" = Aluminum Tree Wire). Accordingly, on information and belief, the reference in "SED-001-Ridge Fire Response 09.pdf" to "is actually 336 wire," is a reference to 336 ACSR bare wire.
- d. 336 wire is larger in diameter than 1/0 ATW.
- e. If the question is as to 336 ACSR bare conductor (denoted as "336A"), then the difference would be that the 336 wire is bare conductor and the 1/0 ATW is covered conductor (because of the "ATW"). If the question is as to 336 ACSR covered conductor (denoted as "366 ATW"), then the type and materials of the protective covering for both sizes of wire (366 and 1/0) would be the same. See description and figure of the protective coating in SCE's response to SED Ridge 05- Question 01 (a.iii).

PRINT

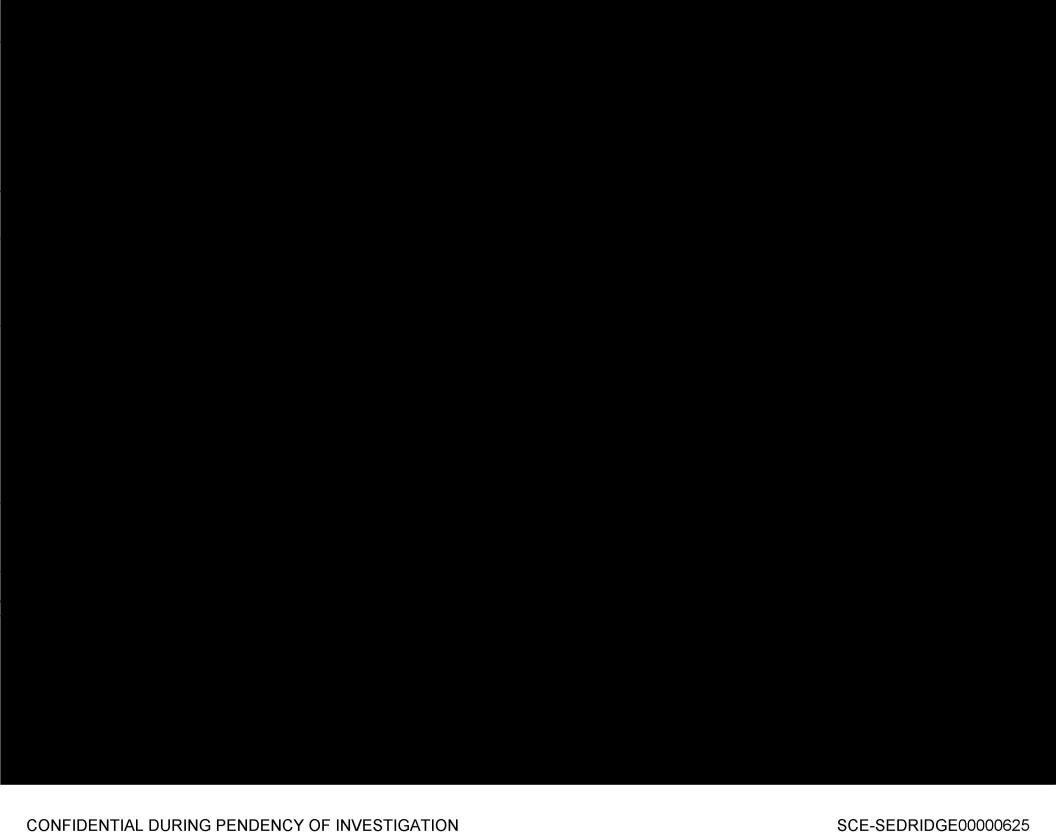
SAVE AS

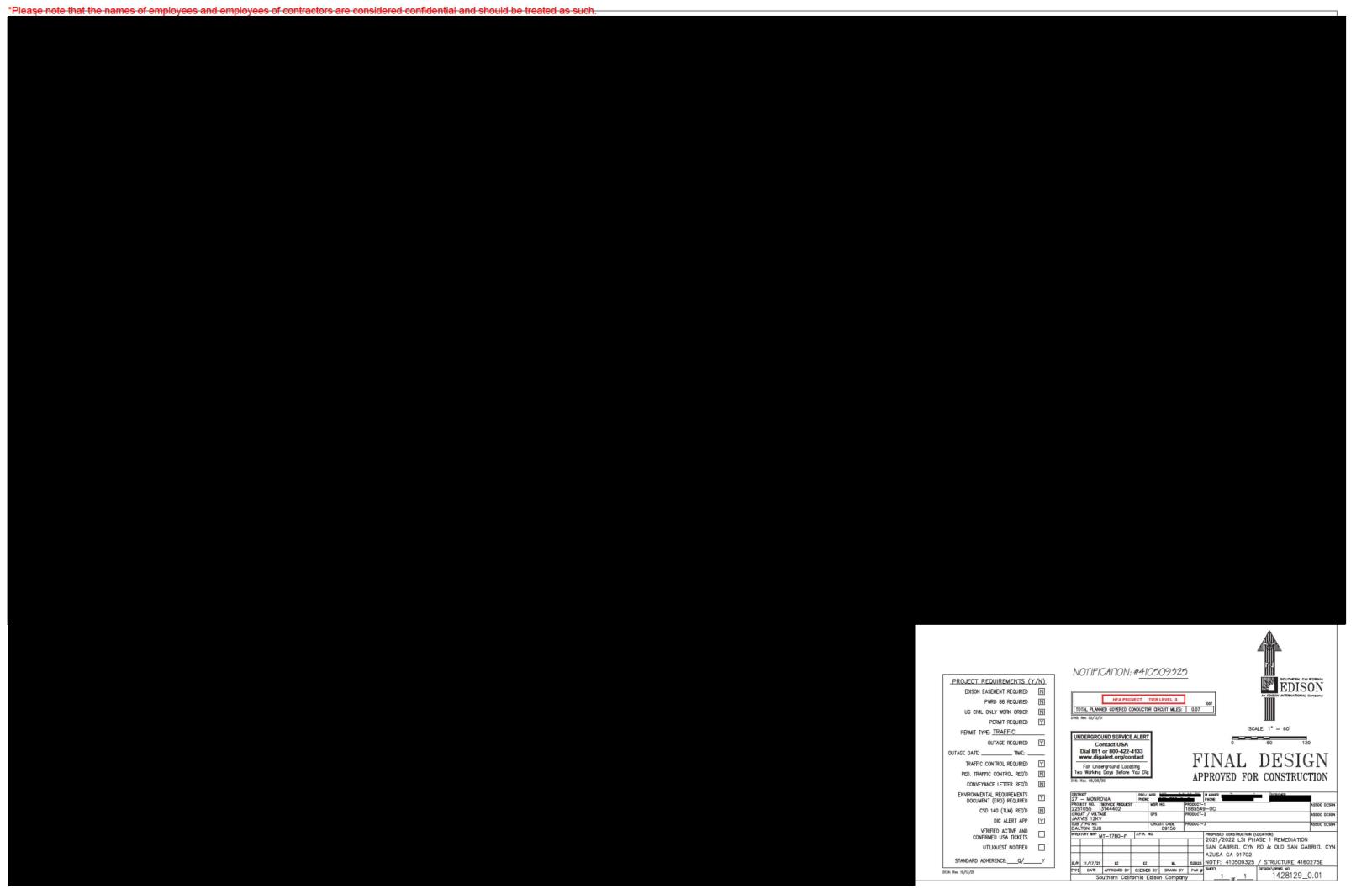
CLEAR

CIRCUIT MAP REVISION REQUEST FORM

To: Grid Ops Circuit Ma	apping (GCM)	Date:	6/7/22
For: All holders of	27-MONROVIA		circuit maps
Work Order #:	(District/Sector) 885549		
Circuit Name:	JARVIS 12KV	_KV	Page(s):
Substation Name:	DALTON	_	
Key Structure Number(s): 4160275E, 4141400E		
Requestor Name:			
SCE Contractor	Phone #:		
✓ Completed in field:	6/6/22 Date		
Proposed in field:		_	
Found in field:	Date		
	Date		
Pre-Mapped Yes Yes			
Proposed Completion Da			
Entered in Circuit Map l	Revision Log? Yes	Initia	1
Package includes:			
✓ Work Order map Builders "Tract" map	(
Circuit Map revision sen			
Pony			
✓ E-mail	Date 6/7/22		
Hand delivered	Date		
Items affected by this cha	Date		
Parallels	RAR		p Bank
System Parallels Single Line	RCS Switch Transformer		anch Line Fuse ult Indicator
Important Load	✓ Conductor/Cable	_	her
Verified mapped as cons			6/7/22
	(Foreman	n Name)	Date
Supervisor Approval:			
Г	Mannara II.a		Date
For	Mappers Use		
TD203 REV 6/13			













Southern California Edison NDDR Non-Docketed Data Request

DATA REQUEST SET SED-Ridge-006

To: SED

Prepared by: Raymond Fugere Title: Dir Wildfire Safety Dated: 12/22/2023

Question 01-A Follow Up:

- 1. If there was no identified wildfire mitigation project to install covered conductor on this span prior to the event, why does circuit map M3 show that the equipment between poles 4160275E and 4366589E were "1/0 ATW"?
- 2. When was the span of the line between poles 4160275E and 4366589E indicated as "1/0 ATW" on circuit map M3?
- 3. Regarding the rest of the conductors that are shown as 1/0 ATW overhead covered conductors on circuit map M3 between poles 4160275E and 171161E were the conductors 1/0 ATW or another type at time of the event?
- 4. If the response to Question 3 is another type, what type of conductors are they?
- 5. If the response to Question 3 is another type, when was that section of the line between poles
- 4160275E and 171161E indicated as 1/0 ATW covered conductors on circuit map M3?
- 6. For the circuit map M3 that SCE provided, (Bates numbers SCE-SEDRIDGE00000026 and SCE-SEDRIDGE00000513) SED's understanding is that the two latest revisions were on 6/7/2022 and 6/13/2019. Is SED's understanding correct?

Response to Question 01-A Follow Up:

- 1. Prior to the event, some of the spans on the subject circuit had already been evaluated for installation of covered conductor as part of SCE's long span initiative (one of SCE's Wildfire Mitigation Strategies) and covered conductor was installed on those spans; however, the subject span did not meet the criteria of a long span, and so was not identified as part of that wildfire mitigation project. When the aforementioned work was performed to install covered conductor, the contractor submitted a Circuit Map Revision Request Form to update SCE's map to reflect the newly installed covered conductor; however, the contractor incorrectly included the subject span as having been part of the project when it was not. Consequently, when the map was updated on June 7, 2022, it incorrectly indicated covered conductor on the subject span. See attached PDF titled SED-Ridge-006-Q01-A-FollowUp.pdf.
- 2. Map M3, was updated to indicate that the span between poles 4160275E and 4366589E was "1/0 ATW" on June 7, 2022.
- 3. The conductors between poles 4160275E and 171161E were part of the long span project mentioned above with the work having been completed on June 6, 2022. Accordingly, at the time of the event, those spans contained 1/0 ATW.
- 4. N/A
- 5. See response to Part 3.
- 6. See response to Part 3.
- 7. Yes, the mapping was revised on 6/7/2022 and 6/13/2019.

Please note that attachments contain the names of employees, and/or employees of contractors that

ar re	are considered confidential and should be treated as such. Such information also should not be released to the public regardless of the pendency of SED's investigation.				



> El Monte, CA 91731 Phone: 626-433-1011 Fax: 626 433-1016

Incident Initiation Report

Case Number: 22-197 Incident Date: 08/19/2022 15:19
Case Type: Brush Fire Lead Investigator: Crawford, James

Title: Ridge IC

Address: SAN GABRIEL CANYON RD/OLD SAN GABRIEL CANY

Incident Summary

Total Loss:\$ 0.00Incident Type:BRUSH FIRE# Victims:1Offense Category:NONE

Offenders: 0 _____

Responding Agency:
LACoFD-E97

County:

District: Assisting Agency:
LACoFD-P97

Reported By: Doe, John Incident Official:

Dispatch:

Request Date: 08/19/2022 15:19 **Arrival Date:** 08/19/2022 15:19

Clear Date: 08/19/2022 20:10

Scene

Scene Condition: Unaltered Scene Secured By:
Entry Method: L. A. County Arson Unit

Exit Method:

Scene Condition:

Weather

Weather ConditionsHot/DryWind Speed14mphTemp.95Wind DirectionSouthwest

Lighting Natural Humidity 22

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Incident Initiation Report

Case Number: 22-197 Incident Date: 08/19/2022 15:19
Case Type: Brush Fire Lead Investigator: Crawford, James

Title: Ridge IC

Address: SAN GABRIEL CANYON RD/OLD SAN GABRIEL CANY

Details

This was an approximate 6 acre medium brush fire in a lightly populated area adjacent to a road way. This is FS 97's district.

James A. Crawford

Submitted By James Crawford Inv. 12

10/17/2022 13:42

Date

Approved By Raul Ramirez INV10

10/18/2022 08:31

z...l. z --

Date

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> El Monte, CA 91731 Phone: 626-433-1011 Fax: 626 433-1016

Case Initiation Report

Case Number: 22-197 Incident Date: 08/19/2022 15:19
Case Type: Brush Fire Lead Investigator: Crawford, James

Title: Ridge IC

Address: SAN GABRIEL CANYON RD/OLD SAN GABRIEL CANY

Case	Req	uest

Address

SAN GABRIEL CANYON RD/OLD SAN GABRIEL CANYON RD Incident Number 22-280336 AZUSA CA Open Date 08/19/2022

Close Date 10/17/2022

County Victims 1
District Offenders 0

Assigned ByCrosby, ScottInvestigator Requested08/19/202216:07Lead InvestigatorCrawford, JamesInvestigator Arrived08/19/202216:20Assisting InvestigatorsAaron MarksScene Cleared08/19/202217:00

Requested By Jimenez, Arturo

Official Spoken With Case Notifications

Case Summary

Incident Name: Ridge IC Incident #:22280336 Jurisdiction: 97 Time: 1519 Date: 8/18/2022 Engine Company: 97 Battalion: 16 Division: 2 Type of Incident (Structure, Brush, MCI): Brush

Location/Address: N. San Gagriel / San Gabriel Canyon

City: Azusa Zip: 91010

RESOURCES

First Alarm Units: E97, E32, E44, E152, E85, E286, Copt 14,WT 120

Second Alarm Units:

Additional Units: Copt 21, P97, P44, EST85, S32, BC16, BC2,CC8-3,CC9-1,CC 12-2,12-3,Sup9, Sup 12, ANF BC 22, ANF E311,321,323,324,325,327, A 712, CDF CC912,ANF

WT210

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Case Initiation Report

Case Number: 22-197 Incident Date: 08/19/2022 15:19
Case Type: Brush Fire Lead Investigator: Crawford, James

Title: Ridge IC

Address: SAN GABRIEL CANYON RD/OLD SAN GABRIEL CANY

Assisting Fire Department Agencies (LFD,ORC, etc): LFDCopt, HTNK55

Other Agencies Resources: (check appropriate boxes)

Law: Gas: Electric: Ambulance:

Red Cross: HHM: Other:

OCCUPANCY INFORMATION

Occupancy Use: N/A Occupancy Type Other: Roof Construction: N/A Roof Construction Other:

Number of Floors: Subfloor: N/A Sprinklers: Non Sprinklered Date of Most Recent Inspection: Fire Code Violation Description:

FIRE INFORMATION

Fire Origin: Cause:

Determination of Cause: Accidential Structure Value: \$ Contents Value: \$ Structure Loss: \$ Contents Loss: \$

Comments: INJURIES

Civilian: No Injuries Firefighter: Injury(s)
Death #: Injury #: Death #: Injury #: 1
Comments (Gender/Injuries/Disposition)

Comments (Gender/Injuries/Disposition): Minor injury to FSA CC123 BC46 to handle transport to Henry Mayo

INCIDENT OPERATIONS

Condition On Arrival:E97 arrived to find fire running uphill in heavy brush at a rapid rate of spread, 10 mph south east wind with structures threatened. 100% LRA with threat to FRA in IAZ.

Initial Action: E152 assigned to hellispot, E97 size-up and initiated left and right flank at heel of fire, E97 also initiated aggressive fire attack with ground crews, E32 structure protection.

Water plan established. Wharf hydrant accessed and shuttled by E44

Incident/Fire Ground Tactics: Consisted of an aggressive air attack with multiple drops which

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Case Initiation Report

Case Number: 22-197 Incident Date: 08/19/2022 15:19
Case Type: Brush Fire Lead Investigator: Crawford, James

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Address: SAN GABRIEL CANYON RD/OLD SAN GABRIEL CANY

also included one phos-chek tanker drop. Ground crews provided a coordinated and aggressive direct attack on left and right flanks along with hand crews and collaborating agencies.

Unit Assignments:

IC - BN2/ AC2

OPS - BC16

DIV A - E97

DIV Z - ANF 311

STRUCTURE PROTECTION - E32

HELLISPOT E152

UNITS ASSIGNED TO DIV A - E151, E85, ANF 521, EST 85, E286, E32, E44, SUP 9 SUP 12, CC 8-3, CC 12-2, CC 12-3, ANF 323, ANF 325, ANF 327, CAL FIRE 912. ANF WT 210

UNITS ASSIGNED TO DIV Z - E97, E511, E311, WT 120

Description of Cause: Under investigation

Status of Victims/Occupants: 3 adults, 2 female, 1 male evacuated from nearby apartments by

E32 and Azusa PD. All evacuated persons refused assistance and vacated the premises. Disposition of Incident: Fire contained to approximately 6 acres. Line placed around fire

100%. Hose lines left in place. Fire watch established throughout the night by E97, P97, P44.

NOTE: HIT F1 FOR EXAMPLES ON ENTRIES

ADDITIONAL COMMENTS

Comments:

REPORTED BY

Reporting Officer: Captain Salmo (FFS Rodriguez) Rank: Captain

IC(s): BC Jimenez Rank: BC BC Submitting: BC Jimenez

Submitted By
James Crawford

Inv. 12

10/17/2022 13:42

Date

Approved By Raul Ramirez INV10

Z.ml. Z.-

10/18/2022 08:31

Date

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> El Monte, CA 91731 Phone: 626-433-1011 Fax: 626 433-1016

Narrative Report

Case Number: 22-197 Incident Date: 08/19/2022 15:19
Case Type: Brush Fire Lead Investigator: Crawford, James

Title: Ridge IC

Address: SAN GABRIEL CANYON RD/OLD SAN GABRIEL CANYON RD AZUSA CA

Author Crawford, James Date 10/17/2022

Fire Origin and Cause Investigation:

The opinions and conclusions in this report are based upon on scene examination, physical evidence, photos, statements, analysis of fire damage and fire scene analysis. Barring the introduction of any additional relevant information, the following are my opinions and conclusions regarding this investigation.

Notification:

On 8/18/22 at approximately 1621 hours, Los Angeles County Arson Fire Investigation Unit was dispatched to a brush fire for an origin and cause investigation in Fire Station 97's jurisdiction. The location of the fire was a brush hillside in Azusa Canyon. More specifically, the brush fire originated off the entrance road to the abandoned "El Encanto" restaurant. Investigation #22-197 was assigned to this investigation and Investigators J. CRAWFORD (#643188) and A. MARKS (#643191) responded to the scene of the fire.

Preliminary Observations:

Upon AFIU arrival, my first observations were that fire crews were continuing to extinguish hot spots and had stopped forward expansion of the fire. Hand crews were continuing to put perimeter lines all the way around the fire.

Investigators initiated a face-to-face with BC A. JIMENEZ (Bn16) who was assigned Operations for this incident. Chief JIMENEZ advised us of the ongoing operations and the need for a cause determination.

Weather Conditions:

AZUSA RAWS:

Date: Thursday, August 18, 2022

Time: 1519 hours
Temperature: 95.0° F
Dew Point: 22.3° F
Relative Humidity: 22%

Wind Speed: 14.0 mph, with gusts to 20.0 mph

Wind Direction: Out of the west

Examination:

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Phone: 626-433-1011 Fax: 626 433-1016

Narrative Report

Case Number: 22-197 Incident Date: 08/19/2022 15:19
Case Type: Brush Fire Lead Investigator: Crawford, James

Title: Ridge IC

Address: SAN GABRIEL CANYON RD/OLD SAN GABRIEL CANYON RD AZUSA CA

Based on an examination of the fire area and the statements of the first-in units, investigators were pointed to the base of the steep hillside at the farthest west point of the fire. This area of origin (AOO) can be described as a plateau about 15ft above and to the south of the driveway to the restaurant. This plateau area stretched approximately 50ft by 300ft. The specific AOO is at the far North/West area of the plateau. Within the AOO there was one power pole currently in service, and additional poles that were abandoned and out of service. Additionally, scattered around this plateau were multiple "camp sites" were apparently Persons Experiencing Homelessness had been spending time. There were many different rock formations which appeared to be cooking areas.

Closer Examination:

A closer examination of fire indicators led this investigator to the specific area of origin.

Based on statements of first arriving fire units and fire patterns, a more specific area of origin was established. Micro indicators such as directionally downed grassy fuels, angled burns to bunched grasses and bushes, burn patterns to ground debris, in addition to lateral and backing patterns served to confirm this specific area origin SAO. The SAO was approximately 4-5 feet N/W of the power pole at the base of the fire. No ignition sources were found at the (SAO) other than over head power lines.

Fuel Sources:

Available fuel(s) located within the AOO included light flashy fuels, medium brush, and multiple yucca plants located the base of the power pole.

Ignition Sources:

An examination was conducted in an effort to identify any available ignition sources within the general AOO. Althoug there was significant evidence of homeless living in the area, no lighters, matches or other ignition sources were found. The power pole and lines that were in service at the time of the fire were the only potential ignition sources found in the area.

Opinions and Conclusions:

Based on first responder statements, fire patterns, fire damage, macro and micro indicators, the specific area of origin was located but a definitive cause was not.

This investigator was not able to rule out human involvement or electrical involvement from the pole or power lines.

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> El Monte, CA 91731 Phone: 626-433-1011 Fax: 626 433-1016

Narrative Report

Case Number: 22-197 Incident Date: 08/19/2022 15:19
Case Type: Brush Fire Lead Investigator: Crawford, James

Title: Ridge IC

Address: SAN GABRIEL CANYON RD/OLD SAN GABRIEL CANYON RD AZUSA CA

After ignition, the fire spread outward to affected areas in directions dictated by available fuels, wind direction and topography.

During the course of this investigation digital photographs were taken at scene.

Janus A. Cianford

Submitted By James Crawford Inv. 12

10/18/2022 08:25

Date

Approved By Raul Ramirez INV10

10/18/2022 08:35

z...l. z --

Date

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> El Monte, CA 91731 Phone: 626-433-1011 Fax: 626 433-1016

Case Photo Log

Case Number: 22-197 Incident Date: 08/19/2022 15:19
Case Type: Brush Fire Lead Investigator: Crawford, James

Title: Ridge IC

Address: SAN GABRIEL CANYON RD/OLD SAN GABRIEL CANY

Camera Type:	ASA:	
Film Type:	Film Speed:	

	1	1	1
Number	Taken By	Description	Date
1	jcrawford	IMG_2321.JPG	10/17/2022
2	jcrawford	IMG_2322.JPG	10/17/2022
3	jcrawford	IMG_2323.JPG	10/17/2022
4	jcrawford	IMG_2324.JPG	10/17/2022
5	jcrawford	IMG_2325.JPG	10/17/2022
6	jcrawford	IMG_2326.JPG	10/17/2022
7	jcrawford	IMG_2327.JPG	10/17/2022
8	jcrawford	IMG_2328.JPG	10/17/2022
9	jcrawford	IMG_2329.JPG	10/17/2022
10	jcrawford	IMG_2330.JPG	10/17/2022
11	jcrawford	IMG_2331.JPG	10/17/2022
12	jcrawford	IMG_2332.JPG	10/17/2022
13	jcrawford	IMG_2333.JPG	10/17/2022

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> El Monte, CA 91731 Phone: 626-433-1011 Fax: 626 433-1016

Case Photo Log

Case Number: 22-197 Incident Date: 08/19/2022 15:19
Case Type: Brush Fire Lead Investigator: Crawford, James

Title: Ridge IC

Address: SAN GABRIEL CANYON RD/OLD SAN GABRIEL CANY

Camera Type:	ASA:	
Film Type:	Film Speed:	

Number	Taken By	Description	Date
14	jcrawford	IMG_2334.JPG	10/17/2022
15	jcrawford	IMG_2335.JPG	10/17/2022
16	jcrawford	IMG_2336.JPG	10/17/2022
17	jcrawford	IMG_2341.JPG	10/17/2022

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Phone: 626-433-1011 Fax: 626 433-1016

Case Photo Report

Case Number: 22-197 Incident Date: 08/19/2022 15:19
Case Type: Brush Fire Lead Investigator: Crawford, James

Title: Ridge IC

Address: SAN GABRIEL CANYON RD/OLD SAN GABRIEL CANY



IMG 2321.JPG



IMG_2323.JPG



IMG 2322.JPG



IMG 2324.JPG

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Phone: 626-433-1011 Fax: 626 433-1016

Case Photo Report

Case Number: 22-197 Incident Date: 08/19/2022 15:19
Case Type: Brush Fire Lead Investigator: Crawford, James

Title: Ridge IC

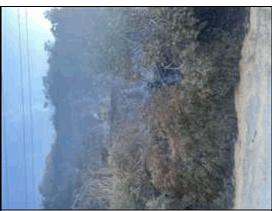
Address: SAN GABRIEL CANYON RD/OLD SAN GABRIEL CANY



IMG 2325.JPG



IMG_2327.JPG



IMG 2326.JPG



IMG_2328.JPG

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Phone: 626-433-1011 Fax: 626 433-1016

Case Photo Report

Case Number: 22-197 Incident Date: 08/19/2022 15:19
Case Type: Brush Fire Lead Investigator: Crawford, James

Title: Ridge IC

Address: SAN GABRIEL CANYON RD/OLD SAN GABRIEL CANY



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IMG_2331.JPG



IMG 2330.JPG



IMG_2332.JPG

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> Phone: 626-433-1011 Fax: 626 433-1016

Case Photo Report

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Address: SAN GABRIEL CANYON RD/OLD SAN GABRIEL CANY



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IMG_2335.JPG



IMG 2334.JPG



IMG_2336.JPG

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> El Monte, CA 91731 Phone: 626-433-1011 Fax: 626 433-1016

Case Photo Report

Case Number: 22-197 Incident Date: 08/19/2022 15:19
Case Type: Brush Fire Lead Investigator: Crawford, James

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Address: SAN GABRIEL CANYON RD/OLD SAN GABRIEL CANY



IMG 2341.JPG

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