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November 2, 2020

Ms. Banu Acimis
Program & Project Supervisor
Electric Safety and Reliability Branch
Safety and Enforcement Division
California Public Utilities Commission

Reference: CPUC-ID: SA2020-870

Response to CPUC 2020 audit inspection findings report of PG&E's Cupertino Substation Headquarters

Dear Ms. Acimis:

During the week of July 6-10, 2020, staff from the California Public Utilities Commission (CPUC) conducted an audit of PG&E's Cupertino Substation Headquarters.

The CPUC submitted the audit findings report to PG&E on September 21, 2020, which contained alleged violations of General Order 174. The cover letter requested that PG&E provide a response to the CPUC by October 19, 2020, which was extended to November 2, 2020, of all corrective actions and preventive measures, taken or planned, to address the violations.

Attached is PG&E's response to the CPUC's audit findings report. The attached include CPUC's audit report followed by PG&E's response to each item. Section II lists PG&E's response, including corrective actions taken, to address items identified in the records violations section. Section IV lists PG&E's response, including corrective actions taken, to address items identified in the field inspection violations list section.

Please contact me at 415-420-0422 if you have any questions regarding this response.

Sincerely,

Lise Jordan
Senior Director, Regulatory Compliance and Quality Assurance

cc: Lee Palmer, Director, Safety and Enforcement Division, CPUC
Nika Kjensli, Program Manager, ESRB, SED, CPUC
Rickey Tse, Senior Utilities Engineer (Supervisor), ESRB, SED, CPUC
Nathan Sarina, Senior Utilities Engineer (Supervisor), ESRB, SED, CPUC
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CPUC AUDIT FINDINGS OF PG&E CUPERTINO
SUBSTATION HEADQUARTERS
JULY 6-10, 2020

I. Records Review

During the audit, ESRB reviewed the following standards, procedures, and records for Cupertino HQ:

- Lists and locations of all assigned PG&E substations
- Map showing all assigned PG&E substations
- Single-line diagrams of substations
- Last two routine substation inspection checklists
- PG&E Substation Equipment Maintenance Requirements, Utility Standard: TD-3322S with Attachments 1 through 12
- PG&E Condition Based Management Transition Process, TD-3322B-012
- PG&E Substation Inspections, TD-3322B-024
- PG&E Substation Inspection Implementation Plan, TD-3322B-026
- PG&E Substation Maintenance and Construction (SM&C) Manual
- PG&E Infrared Inspection Procedures
- PG&E Insulating Oil Testing Manual
- PG&E Circuit Breakers Booklet
- PG&E Substation Fire Protection Systems and Equipment – Inspection, Test and Maintenance of Fire Protection Systems and Equipment at Substations: TD-3320P-07
- List of inspections performed over the last five years
- Maintenance records for selected substations; Line Corrective (LC) Notifications in the last 24 months
- Infrared Testing records for selected substations in the last 24 months
- Last oil test results for selected substations
- Last electric test results for selected substations

II. Records Violations

ESRB observed the following violations during the records review portion of the audit:

General Order (GO) 174, Rule 12, General states in part:

> *"Substations shall be designed, constructed and maintained for their intended use, regard being given to the conditions under which they are to be operated, to promote the safety of workers and the public and enable adequacy of service.*
>
> *Design, construction and maintenance should be performed in accordance with accepted good practices for the given local conditions known at the time by those responsible."*

1. PG&E Substation Equipment Maintenance Requirements, Utility Standard: TD-3322S,[1] establishes PG&E's Basic Finish Date and Past Due dates as follows:

Table 1: Due Dates Per Priority Code

Priority Code	Basic Finish Date	Past Due Date
A	Within 30 days	1st day of the month following the month in which the basic finish date occurs
B	Within 90 days	1st day of the 2nd month following the month in which the basic finish date occurs
E	Within 365 days	1st day of the year following the year in which the basic finish date occurs

Based on the Table 1, ESRB noted two notifications that were closed after their past due dates. Therefore, ESRB determined that PG&E failed to take corrective actions and complete these two work orders by their past due date. See Table 2 below for past-due notifications.

Table 2: Overdue Notifications

Substation	Notification No	Notification Long Text	Priority	Created On	Closed On	CPUC Past Due
METCALF SUB	114441287		B	3/25/2018	8/14/2018	8/1/2018
VASONA SUB	114453359	* VASONA BATTERY HAS TWO BROKEN CELLS. CELL #14 AND #15. TYPE: C * AN	B	3/29/2018	9/17/2018	8/1/2018

PG&E Response: PG&E would like to note that both notifications listed in Table 2 above are completed and closed. Please see below for details with explanations on why these two notifications were completed late.

- Notification 114441287 was created to investigate a DC ground indication on the 115kV Modular Protection and Control (MPAC) Building battery system at Metcalf Substation and completed two weeks late. Troubleshooting can be difficult in large DC systems to identify the cause(s) of a ground indication. Actions can require individual branch circuits to be eliminated (isolated) as a possible contributor which could provide challenges when tracing for the source of a single ground or multiple grounds in a large DC system. The SAP accounting of labor charges to Metcalf Substation for this notification documents multiple attempts during April, May, June and August of 2018 to resolve the ground indication. PG&E provides this explanation in response for this notification's late closure and a screen shot from SAP that documents labor charges accrued over several months to identify and correct the DC Ground before the order was closed in August of 2018.

SAP Screen Shot of labor accrued for Notification #114441287 - Work Order #43308818

43308818 BATT-115 KV BATTERY GROUND LIGHT CLSD CLSD PCNF PRT MANC NMAT PRC SETC

#	Cap	Spl	Conf	F	C	PostDate	Work Ctr	Act. Work	Unt	ActTyp	Description		Act. Start	Act.Finis
010		0					SUB_ELE2	16.00	H	ETS50	Repair / adjustment		04/03/2018	08/14/201
		0	0001			04/06/18	SUB_ELE2	1.0	H	MO-DT	112058	Todd Bradford	04/03/2018	04/03/201
		0	0002			05/18/18	SUB_ELE2	2.0	H	MO	31445	James Stephen Drapchaty	05/17/2018	05/17/201
		0	0003			06/29/18	SUB_ELE2	0.5	H	MO	112058	Todd Bradford	06/28/2018	06/28/201
		0	0004			08/14/18	SUB_ELE2	2.5	H	MO	114919	Gene Hitoshi De Long	08/09/2018	08/09/201
		0	0005			08/14/18	SUB_ELE2	2.0	H	MO	114919	Gene Hitoshi De Long	08/09/2018	08/09/201
		0	0006			08/14/18	SUB_ELE2	6.0	H	MO	114370	Marcus Clemens Hathaway	08/09/2018	08/09/201
		0	0007			08/17/18	SUB_ELE2	2.0	H	MO	112058	Todd Bradford	08/14/2018	08/14/201

- Notification 114453359 was created to inspect a reported broken or cracked cell (jar) on two batteries that are part of the Vasona Substation DC system and completed six weeks late. After a closer examination was performed of cells #14 and #15, no further action was suggested at this time. Substation continues to monitor for any further concerns or corrective actions necessary. PG&E does not have a justification or reason why the order was closed late.

2. According to PG&E's Infrared (IR) inspection form TD-3322M-F80, anomalies have to be assigned a repair priority code of either A or B, which indicates either immediate repair, repair in 30 days, repair in 90 days, or re-inspect in 90 days.

Figure 1: Temperature Rise Chart Per Priority Code

Temperature Rise (ΔT)						
SAP Repair Priority Codes	Action	Direct View Targets Percent of Rated Load			Indirect View Targets	Main Tank compared to LTC
		0-40%	41-80%	81-100%		
A	Immediate Repair	> 100° C		> 125° C	> 10° C	> -5° C
A	Repair 30-days	80°-100° C		100°-125° C	NA	
B	Repair 90-days	60°-79° C	NA	80°-99° C	5°-9° C	-4° to -5° C
B	Re-inspect 90-days	15°-59° C	15°-79° C		2°-4° C	-2° to -3° C
NA	No Action	< 15° C			< 2° C	≤ -1° C

However, ESRB noted that in the list of notifications that PG&E provided, several hot spot-related notifications were given an "E" priority code, allowing 365 days to complete the necessary repair. ESRB noted eleven of these discrepancies, listed below in Table 3.

Table 3: Hot Spot-Related Notifications that have Priority Code E

Substation	Notification No	Notification Long Text	Priority	Created On	Closed On
SARATOGA SUB	114632878	* STEVE MEDINA AND JAMES CROSS. SWITCH OUT 1200/2, GROUND, REPAIR * HOT	E	5/24/2018	5/23/2018
SWIFT SUB	114673414	* REPLACE DISCONNECT DAMAGED DUE TO HOT SPOT. * Change priority to E du	E	6/7/2018	3/29/2019
VASONA SUB	117464761	* CLEAR AND GROUND BK-1, MITIGATE HOTSPOT ON ROOF BUSHINGS, RETURN * TO	E	6/19/2019	7/3/2019
METCALF SUB	117487138	* Metcalf Sub: Hot spot found during IR inspection.	E	6/24/2019	6/25/2019
SAN JOSE A SUB	117486288	* REPAIR B PHASE HOT SPOT ON S&C CIRCUIT SWITCHER BRAIN * COMPARTMENT.	E	6/24/2019	
BRITTON SUB	117781685	* BRITTON SUB * HOT SPOT ON 1108/7 C PHASE AT THE CONTACT. FOUND DURING	E	8/20/2019	1/4/2020
TRIMBLE SUB	117784876	* TRIMBLE SUB * HOT SPOT ON CB 1103/2 C PHASE AND BUSING ON THE LINE SI	E	8/21/2019	9/18/2019
HICKS SUB	117782328	* HICKS SUB * HICKS CB 1115/2 HOT SPOT ON THE B PHASE BUSHING. FOUND DU	E	8/21/2019	9/13/2019
SARATOGA SUB	117782730	* SARATOGA SUB * SARATOGA 1110/3 B PHASE HINGE HOT SPOT. PER INFRARED C	E	8/21/2019	5/9/2020
TRIMBLE SUB	117898727	* TRIMBLE HOT SPOT * PER STEVE WATSON REQUIRED END DATE IS CALCULATED F	E	9/19/2019	10/18/2019
METCALF SUB	118719013	* METCALF SUB * CB 562 HAS A HOT SPOT ON THE B PHASE STATION SIDE DROP	E	3/18/2020	

PG&E Response: PG&E has initiated a Corrective Action Program (CAP) investigation to address the 11 Infrared (IR) findings noted in Table 3 above for the Cupertino Headquarters. PG&E did not follow its own internal IR guidelines to correctly prioritize anomalies identified during inspections utilizing the 'A' or 'B' codes provided for corrective actions. An IR finding does not allow for an 'E' priority notification to be created for corrective action. CAP 119937689 has been created to record the investigation and corrective actions that will prevent the recurrence of such violations in the future. All 11 notifications are now completed and closed.

ESRB also noted that PG&E TD-3322S permits staff to deviate from procedures, if the line supervisor obtains approval from the local transmission field specialist. It requires that the variance must be documented in the long-text field of the SAP order for the maintenance work and refer to the approved form TD-3322M-F90 "SM&C Manual Procedure Variance Review". However, the notifications above do not refer to a form TD-3322M-F90. Additionally, it is unclear if the procedures that permit deviations apply to those notifications that were recorded by PG&E with a Priority E status but were completed with 90 days of being created.

The "corrective" notifications listed in Table 3 above were created as a result of Substations Annual IR Inspections performed at each substation. The corrective action(s) required are not subject to deviation as documented in TD-3322S, Section 2.2. However, "preventative maintenance" tasks may be subject to deviation as explained below.

PG&E Response: TD-3322S, Section 2.2 does provide guidance if deviating from procedures in the SM&C Manuel booklets if the first line supervisor obtains approval from the local transmission field specialist before proceeding. The booklets referenced in the SM&C Manual provide procedures, recommended actions, and general specifications to inspect, test, and maintain substation equipment. Compliance with the information in the booklets ensures uniformity in performing procedures and supports system reliability.

The booklets referenced are equipment specific and provide guidance and direction when performing individual maintenance tasks. PG&E's prescribed "preventative maintenance

plans" were developed as a result of extensive investigation into good utility practices, manufacturers' recommendations, and the experience of PG&E employees.

The deviation and variance noted in TD-3322S, Section 2.2, refer to "preventative maintenance" tasks and is not inclusive of "corrective" actions that can result from preventative maintenance performed. As an example, the noted IR work performed was part of Substations Annual IR preventative maintenance plans documented in TD-3322S, Attachment 5; "Infrared Inspections" provided in a pre-audit data request to the CPUC. Any deviations to that prescribed maintenance task would require the local transmission field specialist review including form TD-3322M-F90.

ESRB finds it unreasonable to assign priority codes other than those outlined in the inspection forms. Therefore, if the priority code B requirements were applied to the notifications above, then the following notifications shown in Table 4 are also overdue.

Table 4: Priority E Notifications That Would Be Overdue As Priority B

Substation	Notification No	Created On	Closed On
BRITTON SUB	117781685	8/20/2019	1/4/2020
SARATOGA SUB	117782730	8/21/2019	5/9/2020
SWIFT SUB	114673414	6/7/2018	3/29/2019

PG&E Response: Referencing our response provided earlier, PG&E has initiated a Corrective Action Program (CAP) investigation to address the 11 Infrared (IR) findings noted in Table 3. The 3 IR findings noted in Table 4 above were included in Table 3. PG&E did not follow its own internal IR guidelines to correctly prioritize anomalies identified during inspections utilizing the 'A' or 'B' codes provided for corrective actions. An IR finding does not allow for an 'E' priority notification to be created for corrective actions. CAP 119937689 has been created to record the investigation and corrective actions that will prevent the recurrence of such violations in the future.

3. Based on PG&E's Substation Equipment Maintenance Requirements (TD-3322S Attachment 5)[2], infrared inspections are triggered yearly. Also, PG&E's SM&C Manual, which includes an Infrared Inspections section states in part:

"Infrared inspections are conducted in electric substations, as triggered in Utility Standard TD-3322S Attachment 5 maintenance template or by condition or trouble."[3]

Based on ESRB's review of completed infrared inspection forms (TD-3322M-F80), PG&E did not perform infrared re-inspections or maintenance activities as required by the results of each completed form. ESRB identified the following five missed re-inspections for the substations listed in Table 5.

Table 5: Substations Missing Reinspection Forms

Substation	2018 Infrared Inspection Result
Mckee	Reinspect in 90 days (5/30)
Metcalf	Reinspect in 90 days (6/21)
Morgan Hill	Reinspect in 90 days (5/17)
Stelling	Reinspect in 90 days (5/22)
Trimble	Reinspect in 90 days (6/21)

PG&E Response:

- Mckee Substation 2018 IR: SAP records indicate a re-inspection occurred for Mckee SW 1105/1 'C' and SW 1106/3 'A' under Notification 114891734. The work was completed and closed on 8/14/2018 within the 90-day timeframe for re-inspection. PG&E agrees the IR re-inspection form is missing. The 2019 and 2020 Metcalf Infrared Inspections did not identify any concerns with the same switches identified in 2018. This finding will be included as part of the CAP investigation.

- Metcalf Substation 2018 IR: SAP records do not indicate a re-inspection occurred at Metcalf Substation as required for the identified 2018 Infrared Inspection Findings on SW 613 and SW 413. The 2019 and 2020 Metcalf Infrared Inspections did not identify any concerns with the same switches identified in 2018. This finding will be included as part of the CAP investigation.

- Morgan Hill Substation 2018 IR: SAP records indicate a re-inspection occurred for Morgan Hill CB 172 'C' bushing under Notifications 114627795 and 114622412. The work was completed and closed on 8/14/2018 for both orders within the 90-day timeframe for re-inspection. PG&E agrees the IR re-inspection form is missing. The 2019 and 2020 Metcalf Infrared Inspections did not identify any concerns with the same switches identified in 2018. This finding will be included as part of the CAP investigation.

- Stelling Substation 2018 IR: SAP records indicate a re-inspection occurred on Stelling CB 1113/2 'A' bushing under Notification 114626565. The work was completed and closed on 8/15/2018 within the 90-day timeframe for re-inspection. PG&E agrees the IR re-inspection form is missing. The 2019 and 2020 Metcalf Infrared Inspections did not identify any concerns with the same switches identified in 2018. This finding will be included as part of the CAP investigation. No additional action is required based on the re-inspection results.

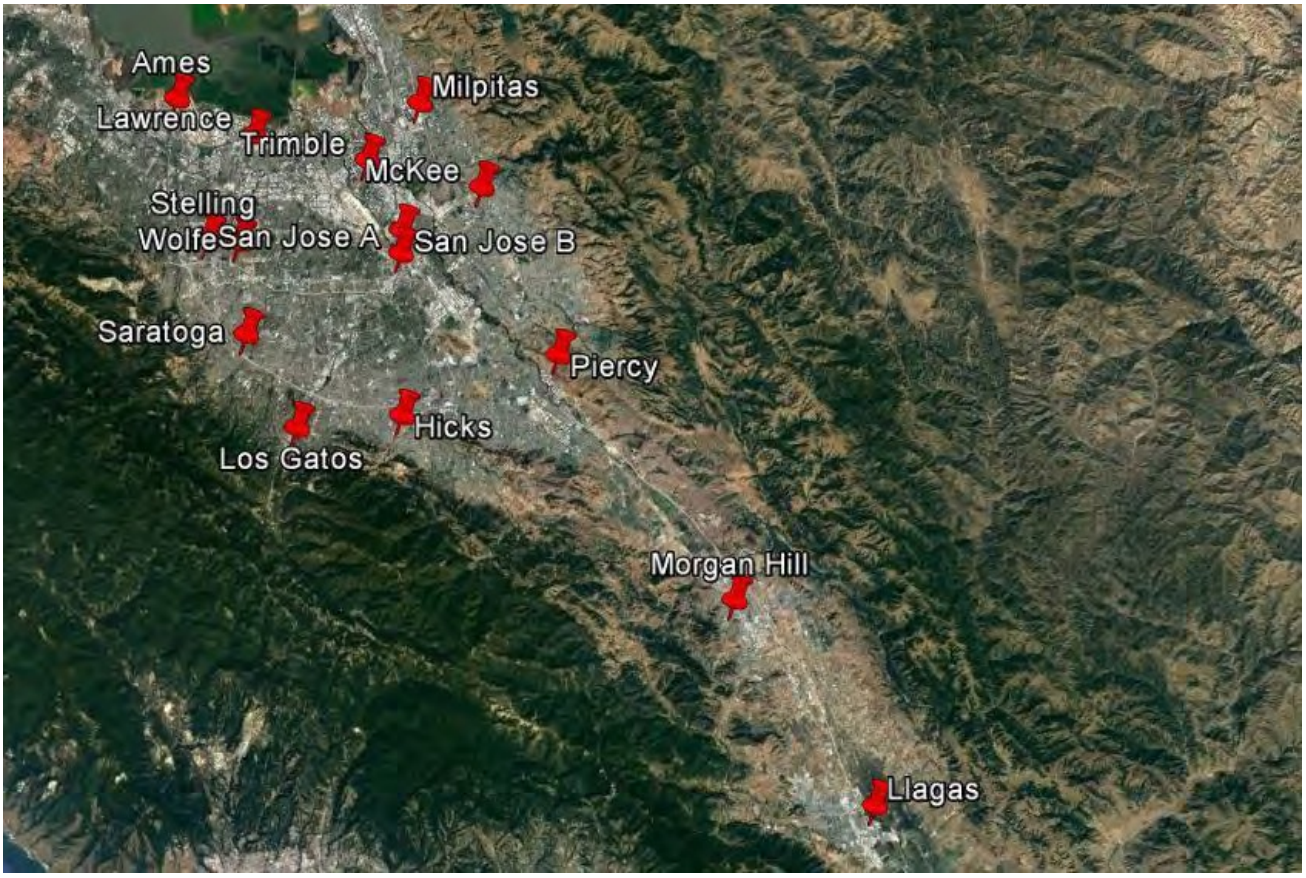
- Trimble Substation 2018 IR: SAP records indicate a re-inspection occurred for Trimble SW 1103/3 under Notification 114722422. The work was completed and closed on 8/16/2018 within the 90-day timeframe for re-inspection. PG&E agrees the IR re-inspection form is missing. The 2019 and 2020 Metcalf Infrared Inspections did not identify any concerns with the same switches identified in 2018. This finding will be included as part of the CAP investigation.

III. Field Inspection

During the field inspection, ESRB inspected the following substations:

Substation	Approximate Location	City
Wolfe	S/O Homestead Rd, Rear of Cupertino	Cupertino
Stelling	S/O Homestead Rd, W/O Stelling Rd	Cupertino
Ames	Moffet Blvd, North of Hwy 101	Mountain View
Lawrence	Fair Oaks Blvd, E/O Hwy 101	Sunnyvale
Trimble	N 1st Street &Trimble Road	San Jose
Milpitas	N/O Landess & Capitol, W/O Dempsey	Milpitas
McKee	2529 Mueller	San Jose
San Jose A	17 Otterson	San Jose
San Jose B	415 Coleman Avenue	San Jose
Llagas	Gilman Rd, off Gilman & Old Gilroy	Gilroy
Morgan Hill	Main St, SW/O Hale Ave	Morgan Hill
Piercy	Hellyer Ave near Silver Creek Valley	San Jose
Los Gatos	Saratoga Ave, S/O Wraight & Woodland	Los Gatos
Hicks	Singletree e/o Camden	San Jose
Saratoga	1297 Glen Brae	Saratoga

Figure 2: Map of Substations Inspected



IV. Field Inspection –Violations List

ESRB observed the following violations during the field inspection:

GO 174, Rule 12, General states in part:

> *"…Substations shall be designed, constructed and maintained for their intended use, regard being given to the conditions under which they are to be operated, to promote the safety of workers and the public and enable adequacy of service.*
>
> *Design, construction and maintenance should be performed in accordance with accepted good practices for the given local conditions known at the time by those responsible."*
>
> PG&E's Substation Inspection Program was developed to perform visual assessments to find indications of abnormal conditions before the equipment fails. These condition assessments are an essential element of the substation's Condition-Based Maintenance

Program. The ability to visually inspect our substation equipment, buildings and property will ensure the substations' safety, reliability and compliance with environmental standards.

Many of the ESRB's observations made during the field portion of the audit were not identified and recorded properly when PG&E's station inspections occurred. PG&E Substation Department is taking action to communicate these observations reported with the broader organization. This communication will include "when" and "how" to properly document abnormal conditions found during the station inspections following prescribed guidance included in our Condition-Based Maintenance Program. After these communications are completed, a sampling of station inspections completed will be reviewed against current station inspection procedures.

1. Wolfe Substation

1.1. There are oil leaks at Transformer #1 and Transformer #2.

PG&E Response: Both oil leaks have been corrected:

- Wolfe Substation Transformer Bank #1 oil leaks were corrected, and the areas impacted was cleaned. Work was completed on 7/28/2020 under Notification 119363519.

- Wolfe Substation Transformer Bank #2 oil leaks were corrected, and the area impacted was cleaned. Work was completed on 8/09/2020 under Notification 119571993.

1.2. A hot stick has a 2017 sticker. This is in violation of PG&E Utility Standard TD-3322S, which requires testing of hot sticks every two years.

PG&E Response: PG&E's Inspection, Care and Testing of Live-Line Tools policy is covered by Utility Procedure TD-2008P-01 (Attachment 1_TD-2008P-01.pdf). This utility procedure establishes requirements and processes for inspecting, caring for and testing of live-line tools every two years. Section 6.1 covers "Test Verification Stickers" which validates the year the tool was last tested and directs the user to "Never use a hot stick/live-line tool that does not have a current date test sticker."

The 'Hot stick ground extension' identified during the field portion of the audit was out of date, was in storage and not in use. Immediate actions were taken to remove it from storage until it had been properly tested and documented for service.

1.3 The National Fire Protection Association (NFPA) 704 Diamond on the door for the control room is faded and needs to be replaced.

PG&E Response: The faded NFPA sign on the control room door at Wolfe Substation was replaced as part of the August Station Inspection. No corrective notification was created to remove and replace the sign.

2. Stelling Substation

2.1. Transformer #1 has radiator fans that are not operating. PG&E Utility Standard TD-3350P-12 requires that fans be set to run 24/7 (the manual/ON position) by June 1 of each year. Fans and pumps are returned to normal operation by October 1 of each year.

PG&E Response: The radiator cooling fans at Stelling Substation for Transformer Bank #1 were investigated and corrected under the CPUC's visibility before the audit team left the station on 7/07/2020. The fans were left on manual control to run 24/7 as directed by TD-3350P-12. No follow up actions were necessary, and no corrective notification was created.

2.2. Transformer #1 has oil seeping from a radiator fin.

PG&E Response: The Stelling Transformer Bank #1 radiator fins were cleaned 9/17/2020 under Notification 119571885. Substation will monitor for any future leaks during the monthly station inspections and take action if necessary.

2.3. Transformer #3 has radiator fans that are not operating. This is in violation of PG&E Utility Standard TD-3350P-12 which requires that fans be set to run 24/7 after June 1 each year.

PG&E Response: PG&E documented and reviewed with the CPUC representatives during the field audit that (1) cooling fan was not operating on Stelling Transformer #3. Notification 119557465 was created to remove and replace the non-operating fan. This work was completed on 8/02/2020.

2.4. The animal abatement on CB (Circuit Breaker) 1113/2 is damaged.

PG&E Response: As responded in CPUC Data Request #2 (CPUC Reference Number: SA2020-870), in response to Question 1.b., PG&E representatives noted the animal abatement "flagging" observed on CB 1113/2 specifically on 1113/1 'A' phase drop to the breakers bushing. This observation poses no immediate risk and will be bundled with the next planned breaker maintenance that requires an electrical clearance to be completed before the end of Q1 2021.

3. <u>Ames Substation</u>

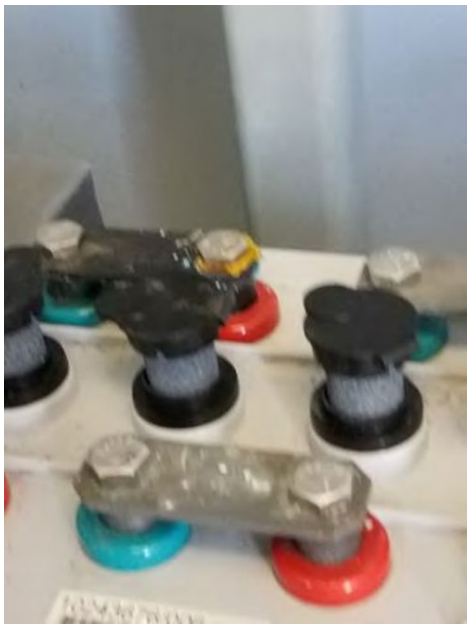
3.1. There is a bird nest in a fin of Transformer #1.

PG&E Response: The bird nesting material observed on Ames Transformer Bank #1 radiator fins was removed under Notification 119550956 and completed on 8/11/2020.

3.2. Transformer #1 has a fan that is not operating, which is in violation of PG&E's TD-3350P-12.

PG&E Response: Notification 119551290 was created to remove and replace the non-operating fan on Ames Transformer #1. This work was completed on 8/02/2020.

3.3. The substation battery #2 has corrosion.



PG&E Response: Notification 119582030 was created to remove the corrosion observed on battery cell #2 of the Ames Substation DC system. This work was completed on 8/09/2020.

4. <u>Lawrence Substation</u>

4.1. There is concrete damage by CB 1108/2.

PG&E Response: Notification 119581435 was created to assess all concrete foundations at Lawrence Substation. The assessment from Substation Civil Engineering for this foundation deemed this damage superficial and nonstructural with no further action required at this time. Substation will continue to monitor for further degradation and take corrective actions if necessary.

4.2. There are cracks in the concrete foundation for Transformer #1/A.

PG&E Response: Notification 119581435 was created for Substation Civil Engineering to evaluate the cracked foundation observed for Lawrence Transformer Bank #1/A. The assessment from the civil engineer recommended epoxy injections into all cracks present to prevent any further degradation of the foundations. This Transformer Bank is still undergoing an extensive evaluation for repair versus replacement. If the Transformer Bank is replaced, new foundations will have to be installed to accommodate the larger footprint for the new bank.

4.3. There is a bird nest in one of Transformer #1/B's fan cages.

PG&E Response: The bird nesting material observed on Lawrence Transformer Bank #1

'B' was removed during the October Station Inspection. No corrective notification was created to remove the bird nesting material.

4.4. There is an abandoned pole by CB-142.

PG&E Response: Notification 119551949 was created to remove the abandoned wood pole in the Lawrence Substation yard near CB 142. This work was completed on 8/05/2020.

4.5. There is a leak at Transformer #1/C.

PG&E Response: Lawrence Transformer Bank #1 is still undergoing an extensive

evaluation for repair versus replacement. If the Transformer Bank is repaired or replaced, the identified oil leaks would not require additional work beyond continued mitigation to prevent oil from hitting the ground by changing the oil absorbent pads observed until the equipment is removed from service.

5. Trimble Substation

5.1. There is concrete damage at risers by CB1107/2 and by 1108 bus

PG&E Response: Notification 119571995 (CB 1107 riser) and Notification 119571997 (CB 1108 bus) were created for Substation Civil Engineering to evaluate the cracked foundation observed for Trimble CB 1107 riser near the 1108 bus. The assessments completed on 8/12/2020 recommended repair. This work is currently under bid with an approved civil contractor to be completed before the end of Q1 2021.

5.2. There is a nut that is not firmly attached to a bolt by a steel at bus 2116/2.

PG&E Response: The loose nut observed on Trimble CB 2116 structure was tightened under Notification 119557685 and completed on 8/03/2020.

5.3. There are capacitor banks that are no longer in use and have moss growing on them.

PG&E Response: The shunt distribution capacitor banks at Trimble Substation are being evaluated for possible removal if no longer necessary for voltage support. The capacitors will remain out of service pending the evaluation results and determination for further use.

6. Milpitas Substation

6.1. Transformer #3 has rust on a radiator fin and on a radiator fin tube.

PG&E Response: Notification 119581479 has been created to remove the fans and paint the rusty radiators on Milpitas Transformer Bank #3. This work is currently scheduled to be completed before the end Q1 2021.

6.2. There are broken and blocked meter covers near Transformer #3, creating a tripping hazard.

PG&E Response: Notification 119556176 was created to replace the damaged lid and raise the Junction Box (JB) pictured on the right to allow access to the blocked box below. This work was completed on 8/05/2020.

6.3. There is an open riser by CB 1108.

PG&E Response: Notification 119556176 was created for Substation Civil Engineering to evaluate the open riser observed by Milpitas CB 1108. The evaluation recommended to leave the conduit in place and cap it appropriately. This work was completed on 8/05/2020.

6.4. There is a crack in the concrete by CB1200/2.

PG&E Response: Notification 119581478 was created for Substation Civil Engineering to evaluate the cracked concrete pads by Milpitas CB 1200. The evaluation indicated these cracks were superficial and did not lead to structural concerns. The evaluation was

completed on 8/26/2020 and Substation will continue to monitor for further degradation and take corrective actions if necessary.

6.5. There is an open riser at an empty pad by buses 1106/2 and 1200/2.

PG&E Response: Notification 119556176 was created for Substation Civil Engineering to evaluate the open risers observed by Milpitas CB 1106 and CB 1200. The evaluation recommended to leave the conduit in place and cap it appropriately. This work was completed on 8/05/2020

6.6. Transformer #2 has a bolt missing at its load tap changer (LTC).

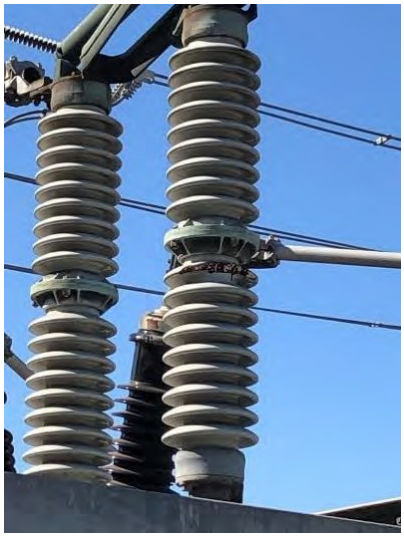
PG&E Response: Notification 119875799 was created to replace the missing bolt on Milpitas Transformer #2 LTC compartment door. This missing bolt does not affect the structural integrity of the compartment door as there are approximately 50+ bolts that surround the compartment. This work is currently scheduled to be bundled with a planned LTC inspection before the end of Q1 2021.

6.7. Transformer #2 has a fan that is not operating, which is in violation of PG&E's TD-3350P-12.

PG&E Response: Notification 119326859 was created to remove and replace the non-operational fan on Milpitas Transformer #2. This work is currently scheduled to be completed before the end of Q1 2021.

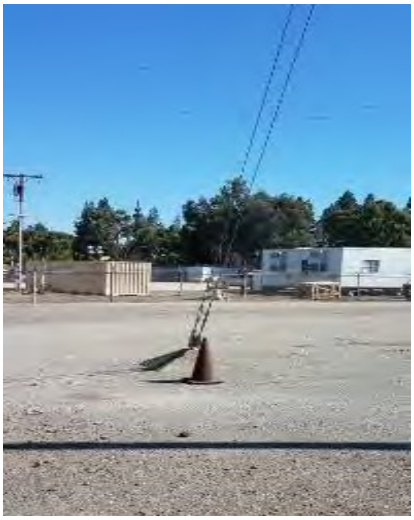
7. McKee Substation

7.1. There is a chipped insulator disk at Switch 152.



PG&E Response: As responded in CPUC Data Request #2 (CPUC Reference Number: SA2020-870), in response to Question 1.f.i., Notification 119552747 was created to replace the broken skirt on McKee SW 153 for CB 152. This work will require an electrical clearance after summer loading restrictions to perform the replacement safely. This work is scheduled to be completed by the end of Q1 2021.

7.2. There is a guy wire by Switch 163 missing a guy guard.



PG&E Response: This work was completed during other planned work at McKee Substation and a separate Notification was not created. The guy guard was installed on 9/20/2020.

7.3. There is a cracked foundation by CB 1103/2.

PG&E Response: Notification 119581475 was created for Substation Civil Engineering to evaluate the cracked foundation observed near McKee CB 1103. The assessments completed on 9/14/2020 recommended repair. This work is currently under bid with an approved civil contractor to be completed before the end of Q1 2021.

7.4. Transformer #1 has a leak at one of the temperature probes.

PG&E Response: As responded in CPUC Data Request #2 (CPUC Reference Number: SA2020-870), in response to Question 1.f.iv., the oil absorbent pads observed on Transformer Bank #1 at McKee Substation resulted from a temperature probe leak at the well into the main tank. A repair was attempted in service during the August Station Inspection but was unsuccessful. This work is subject to obtaining a clearance to perform the oil leak repairs under Notification 119581476. The work is currently scheduled to begin on 12/09/2020 with an expected completion of 12/12/2020. In the interim, the oil absorbent pads observed will remain in place to mitigate any potential oil residue or accumulations from hitting the ground. This mitigation will continue to be managed during the station inspections until permanent repairs are completed.

8. **San Jose A Substation**

8.1. There is a dead bird at Transformer #3.

PG&E Response: The dead bird observed at San Jose 'A' Transformer Bank # 1 was removed during the CPUC Station Audit on 7/08/2020. No further actions are required.

8.2. Transformer #2 has a fan missing.

PG&E Response: Notification 119571627 was created to replace the missing fan on San Jose 'A' Transformer # 2. This work was completed on 8/14/2020.

8.3. There is a leak on one of the temperature probes on Transformer #1.

PG&E Response: Notification 119571626 was created to tighten and clean the leaking temperature probes on San Jose 'A' Transformer Bank #1. This work was completed on 8/11/2020. Substation will monitor for any future leaks during the monthly station inspections and take action if necessary.

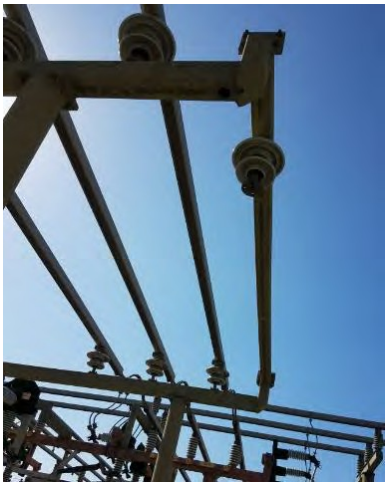
9. <u>Llagas Substation</u>

9.1. There is an abandoned weather monitor by Transformer #3.

PG&E Response: The weather station is currently "in-service" and no corrective actions

are warranted at this time.

9.2. There is an abandoned insulator attached to the bus at an empty bay by Transformer #2.



PG&E Response: The abandoned insulator on the 12kV Main Bus at Llagas Substation was removed on 8/03/2020 under Notification 119556289.

9.3. There is a crack in the concrete by CB 152.

PG&E Response: The concrete pad for Llagas CB 152 was reused when the old oil breaker was removed from service and replaced with the current SF6 breaker. It was evaluated structurally at the time of that replacement by Substation Civil Engineering. Notification 119581438 was created for Substation Civil Engineering to re-evaluate the cracked foundation observed for CB 152. The assessments completed on 8/27/2020 recommended repair. This work is currently under bid with an approved civil contractor to be completed before the end of Q1 2021.

9.4. There is a wood pole in the center of the substation that needs a guy guard.

PG&E Response: Notification 119552581 was created for Substation to work with our Line Department for installation of the missing guy guard. This work was completed on 8/05/2020.

9.5. There is a hot stick that has not been tested since 2017, which is in violation of PG&E Utility Standard TD-3322S.

PG&E Response: PG&E's Inspection, Care and Testing of Live-Line Tools policy is covered by Utility Procedure TD-2008P-01 (Attachment 1). This utility procedure establishes requirements and processes for inspecting, caring for, and testing of live-line tools every two years. Section 6.1 covers "Test Verification Stickers" which validates the year the tool was last tested and directs the user to "Never use a hot stick/live-line tool that does not have a current date test sticker."

The ‘Hot stick ground extension’ identified during the field portion of the audit was out of date, was in storage and not in use. Immediate actions were taken to remove it from storage until it had been properly tested and documented for service.

9.6. There is a wasp nest on Transformer #2.

PG&E Response: The wasp nest observed at Llagas Transformer Bank #2 was removed during the August Station Inspection. No corrective notification was created to remove the wasp nest.

9.7. Transformer #2 has a leak at one of the temperature probes.

PG&E Response: The oil leak repairs were completed on 10/14/2020 under Notification 119581472.

9.8. The NFPA 704 Diamond is on the inside of the gate at the entrance to the substation.

PG&E Response: The NFPA sign observed at Llagas Substation main gate was relocated to the front of the gate during the August Station Inspection. No corrective notification was created to relocate the sign.

10. <u>Morgan Hill Substation</u>

10.1. There are spare insulators on the tower by CB 172.

PG&E Response: The two standoff insulators at Morgan Hill Substation on the tower near CB 172 were removed under Notification 119556289. Work was completed on 8/03/2020.

10.2. Transformer #2 has a fan missing.

PG&E Response: PG&E Substation has inspected all cooling fans installed on Morgan Hill Transformer Bank #2. They're all functioning as designed and there is no missing fan. No follow up actions are necessary.

10.3. There is a leak underneath the radiator fins of Transformer #2.

PG&E Response: Notification 119581503 was created to clean the oil observed below Morgan Hill Transformer Bank #2 radiators. After cleaning, the leak continued and is now scheduled for repairs in Q1 2021. In the interim, the oil absorbent pads observed will remain in place to mitigate any potential oil residue or accumulations from hitting the ground. This mitigation will continue to be managed during the station inspections until permanent repairs are completed.

10.4. There is an extra nitrogen tank by CB 182, which is an SF6 circuit breaker.

PG&E Response: The spare nitrogen bottle observed next to Morgan Hill CB 182 was removed under the CPUC's visibility before the audit team left the station on 7/09/2020. No follow up actions were necessary, and no corrective notification was created.

10.5. There is a hole dug into the side of the foundation of CB 2110.

PG&E Response: Notification 119581501 was created to fill in the hole observed adjacent to the Morgan Hill CB 2110 foundation. This work was completed on 8/27/2020. No further activity has resulted after the holes were filled.

10.6. CB 2200 counter is not clearly legible.

PG&E Response: Notification 119581502 was created to replace Morgan Hill CB 2200 operations counter. This work was completed on 8/20/2020.

10.7. Pole from Transformer #2 has a crack.

PG&E Response: PG&E believes the CPUC is referring to the concrete pad cracks not a pole near Transformer #2. Notification 119581504 was created for Substation Civil Engineering to evaluate the cracked foundation observed near Morgan Hill Transformer #2. The assessments completed on 8/26/2020 recommended repair. This work is currently under bid with an approved civil contractor to be completed before the end of Q1 2021.

10.8. There is an abandoned communications cabinet by CB 2106/2.

PG&E Response: Notification 119556615 was created for PG&E's Telecommunication Group to evaluate further use of the communications cabinet observed at Morgan Hill Substation. Based on their evaluation and recommendation, these cabinets still have active circuits that are "in-service" and should remain. This evaluation was completed on 8/04/2020 with no actions recommended at this time.

10.9. The warning label on CB 2106/2 is faded and needs to be replaced.

PG&E Response: This faded manufacturer label alerts those who perform maintenance on this style of breaker of the hazards associated when Hi Pot tests are performed on the breakers vacuum bottles. This is a manufacturer label which Substation Electricians are trained to be cognizant of when performing this specific testing while the breaker is electrically cleared and the high voltage compartment is exposed. Substation will remove and replace the faded label during the breakers next planned maintenance task. There is no risk present under normal in-service operations.

10.10. An NFPA 704 Diamond is missing from the front gate entry to the substation.

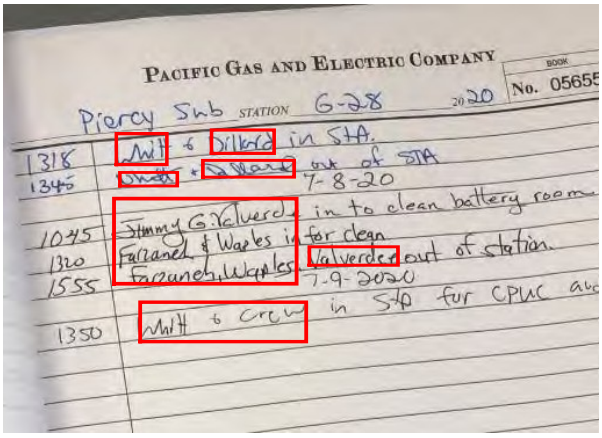
PG&E Response: The missing NFPA sign on Morgan Hill Substation Main Gate was installed during the October Station Inspection. No corrective notification was created to install the sign.

11. Piercy Substation

11.1. Transformer #3 has a light out in the control cabinet.

PG&E Response: The burnt-out control cabinet light bulb observed at Piercy Substation on Transformer Bank # 3 is not actionable. Bank # 3 is currently out of service under emergency capital replacement. The new transformer bank will have new control cabinet light bulbs.

11.2. There is a discrepancy in the log book entries. There is an entry for personnel entering the station but no associated entry for when that personnel left the substation.



PG&E Response: The open log item at 1350 hours on 7/09/2020 was initiated at the time of the CPUC field audit arrival when PG&E and CPUC members were in the station. The log item is open because the picture was taken before the audit team had left the station. The log entry was completed when the CPUC engineers and PG&E personnel left the station.

12. Los Gatos Substation

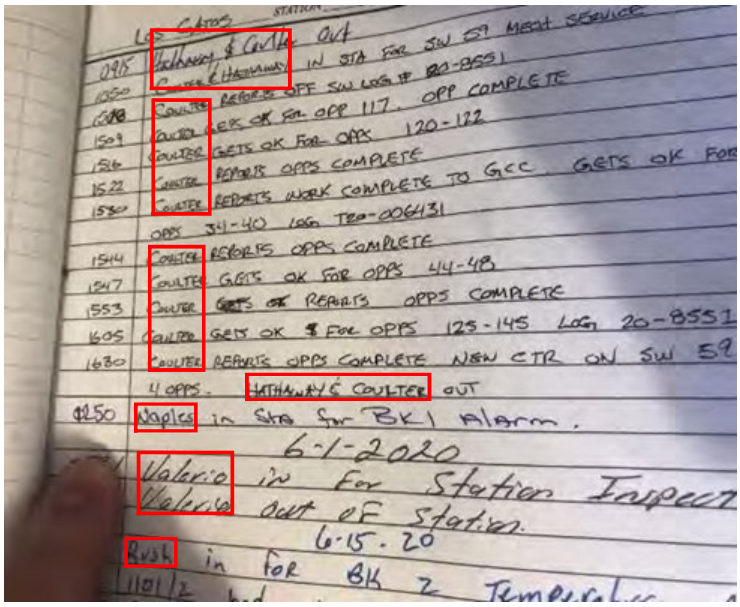
12.1. There is an abandoned IT cabinet.

PG&E Response: Notification 119552586 was created for PG&E's Telecommunication Group to evaluate further use of the communications cabinet observed at Los Gatos Substation. Based on their evaluation and recommendation, these cabinets still have active circuits that are "in-service" and should remain. This evaluation was completed on 8/03/2020 with no actions recommended at this time.

12.2. There is a crack in the station service transfer conduit.

PG&E Response: Notification 119552743 has been created to remove and repair the station service conduit broken between Los Gatos Transformers #1 and #2. This work is scheduled to be completed before the end of Q1 2021.

12.3. The log book is not sufficiently filled out with accurate details regarding the actions of personnel entering the substation.



PG&E Response: The logbook entry identified at 1250 hours "Waples in Sta for BK1 alarm" is an incomplete log entry. Log entries must be clear, concise and completed in non-erasable ink. This employee has been reminded of proper protocols for station

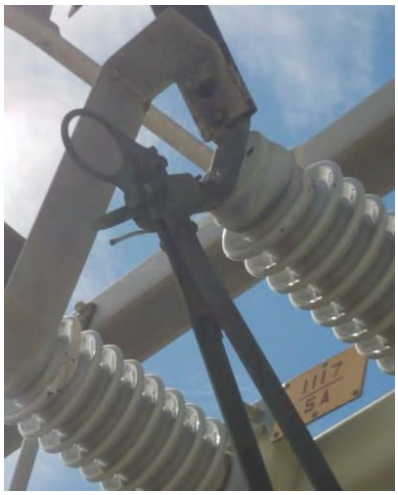
logbook requirements when entering an unattended substation.

12.4. A lamp post by the control room has a cracked foundation.

PG&E Response: Notification 119581473 was created for Substation Civil Engineering to evaluate the cracked foundation observed at Los Gatos Substation lamp post near the station control room. The assessments completed on 8/26/2020 recommended repair. This work is currently under bid with an approved civil contractor to be completed before the end of Q1 2021.

13. Hicks Substation

13.1. There are chips in insulators for 1117/3A and 1117/5.



PG&E Response: Both insulators have been replaced.

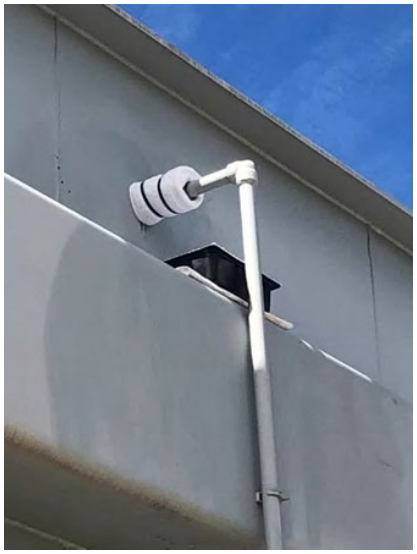
- Hicks Substation standoff insulator for SW 1117/3 ‘A’ was completed on 9/14/2020 under Notification 119551441.

- Hicks Substation standoff insulator for SW 1117/5 ‘A’ was completed on 9/14/2020 under Notification 119551447.

13.2. There is an abandoned communications cabinet by Transformer #2.

PG&E Response: Notification 119551651 was created for PG&E’s Telecommunication Group to evaluate further use of the communications cabinet observed at Hicks Substation. Based on their evaluation and recommendation, these cabinets still have active circuits that are “in-service” and should remain. This evaluation was completed on 8/03/2020 with no actions recommended at this time.

13.3. Transformer #2 has a leak at a top oil fill piping inlet connection.



PG&E Response: As responded in CPUC Data Request #2 (CPUC Reference Number: SA2020-870), in response to Question 1.k.ii, The oil absorbent drip pan observed on Transformer Bank #2 at Hicks Substation resulted from a top oil fill piping inlet connection into the main tank. This work is subject to obtaining a clearance to perform the oil leak repairs under Notification 119581431. The work is currently scheduled to begin on 11/30/2020 with an expected completion of 12/02/2020. In the interim, the oil absorbent pads observed will remain in place to mitigate any potential oil residue or accumulations from hitting the ground. This mitigation will continue to be managed during the station inspections until permanent repairs are completed.

13.4. There is a chipped insulator by CB2101.

PG&E Response: Notification 119551493 was created to replace SW 2101/5 'A' standoff insulator. This work requires an electrical clearance and is currently scheduled to be completed on 11/14/2020.

13.5. There is a disc missing from a green insulator string.

PG&E Response: As responded in CPUC Data Request #2 (CPUC Reference Number: SA2020-870), in response to Question 1.k.iii., after an evaluation was performed of the string insulators identified on the 230kV Bus during the station audit at Hicks Substation, PG&E agrees that one bell insulator is missing on one of the three strings. There is adequate insulation creepage to prevent flashover with only one of the 24 string bell insulators missing. This work will be bundled as part of the ongoing 230kV Bus capital upgrade project to be completed by 1/21/2021. The Capital Order this work is being performed under is 74004825.

14. <u>Saratoga Substation</u>

14.1. There is a crack in the concrete foundation by bus 1114/5B.

PG&E Response: Notification 119571994 was created for Substation Civil Engineering

to evaluate the cracked foundation observed at Saratoga Substation near the bus foundation for CB 1114. The assessments completed on 8/26/2020 recommended repair. This work is currently under bid with an approved civil contractor to be completed before the end of Q1 2021.

14.2. Transformer #2 has two non-functioning flow indicators at its oil pumps.

PG&E Response: The main tank oil circulating pumps on Saratoga Transformer #2 are operational as validated during the field audit with CPUC representatives on site. Notification 119571884 was created to repair or replace both oil flow indicators that are reflecting incorrectly. Both flow indicators were replaced. This work was completed on 8/12/2020.