

**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA**

In the Matter of the Application of SOUTHERN CALIFORNIA EDISON COMPANY (U 338-E) for a Permit to Construct Electrical Facilities with Voltages between 50 kV and 200 kV; Valley-Ivyglen 115 kV Subtransmission Line Project.

A.07-01-031, et al.  
(Filed January 16, 2007)

And Related Matter.

A.07-04-028

In the Matter of the Application of SOUTHERN CALIFORNIA EDISON COMPANY (U 338-E) for a Certificate of Public Convenience and Necessity for the Alberhill System Project.

A.09-09-022  
(Filed September 30, 2009)

**OPENING BRIEF OF FOREST RESIDENTS  
OPPOSING NEW TRANSMISSION LINES ("FRONTLINES")**

**PUBLIC VERSION**

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November 30, 2017

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## SUMMARY OF FINDINGS AND RECOMMENDATIONS

As will be set forth below, the evidentiary record establishes the following:

1. The record demonstrates that the projected peak demand which initially drove the Alberhill Project have not materialized and the Alberhill project is not needed to relieve projected electrical demand on the Valley South System
2. SCE's Peak Demand forecast does not allocate proper weight to local energy resources that are captured by the CEC forecast and the Commission's LTPP process and which are incorporated in the CAISO's load forecast.
3. CAISO's forecast methodology factors in significant local resources such as distributed generation, energy efficiency, storage, and demand response that were not considered prior to 2010.
4. The CAISO load forecast presented in the 2016-2017 Transmission Plan projects that the Valley South system peak demand will not exceed 950 MW over a 10-year planning horizon and shows that Alberhill is not needed beyond a 10-year planning horizon.
5. A Prior Commission decision establishes that the CEC forecast embodied in the CAISO load projection should be relied on to establish if a transmission project is needed to address load growth on a radially served subtransmission system.
6. The Alberhill Project is not "needed" to address projected electrical demand.
7. Ancillary issues pertaining to the Valley South system which SCE claims will be mitigated by the Alberhill Project (such as system "tie line" and voltage collapse/FIDVR concerns) similarly do not warrant Alberhill approval.
8. It is the actual ("raw") peak demand that is served by the Valley South transformers which dictates whether transformer overload will occur.
9. The "starting point" for SCE's forecast methodology is the "Recorded Peak Demand" which is a calculated value that is adjusted for "anything but temperature" that SCE deems necessary, and it strips out nearly all distributed generation resources and other energy resources.
10. The evidentiary record shows that SCE's forecasts are consistently and substantially over-predictive, and are therefore unreliable.

11. The over-predictive tendencies noted in SCE's forecast methodology are attributed to two factors: 1) SCE starts with skewed historic data that has been heavily "adjusted" to strip out distributed generation, demand response, and other resources that reduce peak demand; and 2) SCE then applies "load growth" increments that are biased high because they ignore essentially all energy resources that reduce peak demand (such as energy efficiency, distributed generation, etc.).
12. The Evidentiary record demonstrates that the real difference between the CAISO and SCE forecasts is that CAISO properly factors in energy resources that reduce peak demand, and SCE does not.
13. The Commission should look askance at SCE's peak demand forecast; the evidentiary record proves that SCE's forecast is unreliable because it is neither "directionally correct" nor "reasonably close", so the Commission should not rely on it to determine whether Alberhill is "needed".
14. SCE did not create system tie lines between Valley North and Valley South when these systems were "split" in 2004. SCE can remedy the lack of system "tie-lines" to Valley South by using vacant 115 kV bay positions to make connections between Valley North and Valley South Substations.
15. SCE's adopted Planning standards require the development of subtransmission system tie lines, so SCE should have already provided Valley South "tie lines".
16. Because the development of Valley South system "tie-lines" is required under SCE's adopted Planning standard, such tie lines will be implemented regardless of whether the Alberhill Project is approved, and are a fundamental element of the "No Project" Alternative.
17. The Alberhill Project is not the appropriate mechanism to address voltage collapse/ FIDVR concerns; Voltage collapse concerns on the Valley South system should be addressed through the deployment of reactive support in accordance with SCE's Planning Standards.
18. The installation of reactive support measures to forestall "voltage collapse" and FIDVR concerns is mandated by SCE's planning standards and will be implemented regardless of whether Alberhill is approved, thus it is an element of the "No Project" alternative
19. The Alberhill project configuration leaves the Ivyglen substation served by a single power source (Alberhill), and an event which removes the Alberhill substation from service will drop all the Ivyglen load.
20. Alberhill will be served by only two 500 kV lines, not four. This configuration leaves Alberhill to be served by a less robust transmission system than Valley South.

21. Alberhill is configured with three "in service" 560 MVA transformers plus a spare and could actually serve up to 1,680 MVA (560 MVA x 3) which is a much higher load than that served by the Valley South substation
22. Like Valley South, Alberhill will have a high induction motor load due to residential air conditioning. However, unlike Valley South, Alberhill will serve more than 1120 MVA of load, which renders it more susceptible to voltage collapse/FIDVR events.
23. The Alberhill Project has an unreliable configuration that risks Ivyglen load and leaves Alberhill customers more susceptible to FIDVR events than Valley South.
24. There are feasible alternatives to Alberhill that avoid adverse environmental impacts and address Valley South overload concerns if SCE's peak demand forecast were to occur.
25. Demand Shifting feasibly eliminates transformer overload concerns beyond a 10-year planning horizon
26. The "Demand Shift" strategy involves the construction of a short (< 10 mile) 115-kV line, and it eliminates significant adverse impacts generated by the Alberhill Project.
27. The "demand shift" strategy is an element of SCE's Planning standards and is pursued by SCE regardless of whether Alberhill is approved thus it is a component of the "No Project" Alternative.
28. Peak demand events occur fleetingly and are "not representative of system conditions but for a few seconds at a time"
29. SCE can easily and quickly deploy a third transformer to address fleeting circumstances without difficulty or adverse consequences, thus the addition of a third transformer is a feasible, reasonable, and cost-effective alternative to "hedge" against the highly unlikely event that SCE's inflated peak demand forecast actually comes to pass. Equally important, the addition of a third transformer at Valley South will eliminate all the significant adverse impacts created by the Alberhill Project.
30. The addition of a third transformer is a feasible, reasonable, and cost-effective alternative to "hedge" against the highly unlikely event that SCE's inflated peak demand forecast actually comes to pass.
31. Equally important, the addition of a third transformer at Valley South will eliminate all the significant adverse impacts created by the Alberhill Project.
32. Adding a third transformer to occasionally serve the Valley South system will not result in "short-circuit duty cycle" concerns that are identified in the FEIR.

33. The Alberhill "No Project" alternative is environmentally superior, it is entirely feasible and it addresses all transformer overload, system "tie-line", and voltage collapse/FIDVR concerns on the Valley South system.
34. The "No Project" Alternative to Alberhill includes the following elements: 1) Shifting demand among SCE's existing 115-kV systems; 2) Developing system "tie-lines" between Valley South and Valley North using available bay positions on existing 115-kV facilities; 3) Implementing Reactive Support projects to eliminate Valley South susceptibility to "voltage collapse" and FIDVR events.
35. Implementing the "No Project" Alternative, all of the significantly adverse Alberhill Project impacts created by the construction of a new 500 kV substation and new 500 kV lines are completely eliminated.
36. There are no overriding considerations to warrant Commission-approval of Alberhill, because the record demonstrates that feasible, environmentally superior alternatives render Alberhill unnecessary and devoid of benefits to outweigh its significant adverse environmental impacts
37. The only material evidence that SCE has provided in this proceeding to support its contention that Alberhill construction is "required" to relieve projected electrical demand is a recent forecast which projects a 1123 MVA "1 in 5 Heat Storm" Peak Demand by 2021
38. The low-cost alternatives to the Alberhill Project that are recommended by FRONTLINES qualify as alternatives to transmission facilities pursuant to §1002.3 because they avoid the construction of a new transmission substation and transmission lines that operate at voltages greater than 200-kV and they contemporaneously eliminate transformer overload concerns and accommodate projected electrical demand on the Valley South system.
39. The Alberhill Project does not warrant a CPCN because 1) It does not meet the threshold imposed by §1001; and 2) There are cost effective, feasible alternatives to Alberhill that meet the thresholds imposed by §1002.3 by providing an efficient, reliable, and affordable supply of electricity and relieving electrical demand on Valley South even if SCE's inflated forecast does occur.
40. Because the Alberhill Project does not warrant a CPCN, the expenditure of *any* further funds on the Alberhill Project is neither reasonable nor prudent.
41. The record demonstrates that the VEF load concerns which initially prompted the Commission's approval of the Valley Ivyglen project have not materialized.

42. The evidentiary record demonstrates that SCE has not provided material evidence to firmly establish that the Valley Ivyglen Project is "needed" to relieve loads on the VEF line in light of the Commission's recent approval of the "Valley South Subtransmission" ("VSS") Project
43. SCE has not conducted proper power flow modeling to show that the Valley Ivyglen Project will still be "needed" to address N-1 contingency events after the VSS Project is constructed and operational.
44. The VEF load concerns which initially prompted the Commission's approval of the Valley Ivyglen project have not materialized and VEF peak loads have dropped slightly since the Valley-Ivyglen Project was approved in 2010.
45. SCE projects that VEF loading will soon jump nearly 30% by 2024
46. The Valley South subtransmission is currently served by six source lines from Valley; with construction of the approved VSS Project, a seventh source line will be added
47. There is a "need" to provide a second source of power ("source line") to the Ivyglen substation, but an alternative that upgrades the existing VEF line will provide a second source line to Ivyglen and address VEF load projections with reduced impacts.
48. Valley Ivyglen can be feasibly constructed without helicopters, which would eliminate the significant and unavoidable noise and public safety impacts and reduce air quality impacts attributed to helicopter use.
49. Helicopter deployment to construct the Valley Ivyglen project provides no identified benefits and creates significant and unavoidable adverse impacts, thus there are no Overriding Considerations that merit Commission-approval of this activity.
50. the significant adverse impacts created the Valley Ivyglen project are avoidable through implementation of the feasible VEF upgrade alternative which significantly reduces project impacts, thus there are no Overriding Considerations that merit commission-approval of the Valley Ivyglen project.
51. The EIR was not completed in compliance with CEQA
52. The Alberhill project objectives are so narrowly constrained that they improperly limit the range of alternatives considered in violation of CEQA.
53. The FEIR fails to impose conditions to ensure consistency with the impact assessment assumptions and it fails to impose mitigation measures on project activities that are identified as warranting consideration of additional CEQA review.

54. To ensure that SCE implements the Valley-Ivyglen and Alberhill Projects (if approved) in a manner consistent with the FEIR’s impact analysis, the Commission must condition approval contingent on the restrictions set forth in the following Table and require SCE to maintain records pertinent to these conditions.

Construction Element	Limited item	Limit Imposed
Valley-Ivyglen Project	Staging Area locations	Locations in Table 2-9
Alberhill Project	Staging Area locations	Locations in Table 2-10
Alberhill substation	Retaining wall	Not authorized
Helicopter use profile - Alberhill 500 kV lines <sup>a</sup>	One 1,500 shp “Kamax” type helicopter One 9,000 shp “Sikorsky” type helicopter One 317 shp “Hughes 500” helicopter	80 days; 8 hours/day 5 days; 8 hours/day 2 days; 8 hours/day
Helicopter use profile - Valley-Ivyglen 115 kV lines	One 317 shp “Hughes 500” helicopter	21 days; 10 hours/day
Valley-Ivyglen 115 kV lines	Blasting locations	Blasting permitted only at the structures identified in Table 2-11

<sup>a</sup> Adopts the lower impact “conventional construction” alternative for the Alberhill Project.

55. The "No Project" alternative to Alberhill presented in the FEIR is Materially Deficient.

56. The FEIR substantially understates the significant air quality impacts that will occur if both Alberhill and Valley Ivyglen are approved due to overlapping construction schedules.

57. The FEIR fails to properly quantify air quality impacts resulting from helicopter deployment.

58. The FEIR Appendix K is rife with material factual errors and presents conclusions based on assumptions that are contradicted by the evidentiary record.

59. The FEIR fails to consider a "conventional" construction method alternative for the Valley Ivyglen project and materially misrepresents helicopter noise impacts

60. The FEIR fails to properly address Valley Fever concerns

61. The FEIR'S rejection of non-substation alternatives to the Alberhill Project lack technical basis and utterly contradict the evidentiary record.



Forest Residents Opposing New Transmission Lines ("FRONTLINES") hereby submits its opening brief to the California Public Utilities Commission ("Commission") in the Matter of the Application of Southern California Edison ("SCE") for a Certificate of Public Convenience and Necessity ("CPCN") for the Alberhill Project and in the Matter of the Application for a Permit to Construct the Valley-Ivyglen 115 kV Transmission Line Project ("Valley-Ivyglen").

## **1. INTRODUCTION**

SCE seeks a CPCN to construct the proposed Alberhill Project (a new 500-kV substation in western Riverside County) to address perceived transformer "operating limit" concerns on the existing Valley South 115-kV subtransmission system. With the Alberhill Project, SCE will "split" the Valley South 115-kV subtransmission system into two separate 115-kV systems linked through 115-kV system "tie lines" to allow load rolling and transfers that provide operational flexibility.

SCE has also filed a Petition for Modification ("Petition") of Decision D.10-08-009 which authorized the construction of the Valley-Ivyglen Subtransmission line (among other things). The Petition requests modifications to the approved Valley-Ivyglen route alignment and seeks approval of new construction methods, including the use of helicopters for "materials delivery" and "hardware installation" throughout the Valley-Ivyglen Project area and the use of explosive blasting techniques.

Pursuant to the Alberhill CPCN application and the Valley-Ivyglen Petition, the Commission prepared a Final Environmental Impact Report ("FEIR") in accordance with the California Environmental Quality Act ("CEQA"), and Commissioner Aceves issued an Assigned Commissioners Scoping Memo and Ruling ("Scoping Memo") which consolidated the Alberhill CPCN proceeding with the Valley-Ivyglen Proceeding. The Scoping Memo also set forth the issues to be determined in the consolidated proceeding as:

*What are the significant adverse environmental impacts of the proposed projects?*  
(Issue #1)

*Are there potentially feasible mitigation measures or project alternatives that will avoid or lessen the significant adverse environmental impacts?* (Issue #2)

*As between the proposed projects and the project alternatives, which is environmentally superior? (Issue #3)*

*Was the EIR completed in compliance with CEQA? (Issue #4)*

*Are the environmentally superior alternatives and/or mitigation measures infeasible? (Issue #5)*

*To the extent that the proposed projects and/or project alternatives result in significant and unavoidable adverse environmental impacts, are there overriding considerations that merit Commission-approval of the proposed project or project alternative? (Issue #6)*

*Is there a need to relieve loads on the existing Valley-Elsinore-Fogarty 115 kV Line and provide a second source of power to Ivyglen Substation? (Issue #6a)*

*Is there a need to relieve projected electrical demand that would exceed the operating limit of the Valley South system transformers and provide electricity in place of the Alberhill 115 kV System to relieve operational issues on one of the systems (i.e. system "tie-lines") (Issue 6b)?*

*Does the Alberhill project serve a present or future public convenience and necessity pursuant to Pub. Util. Code § 1001? (Issue #8)*

*What is the maximum prudent and reasonable cost of the Alberhill project? (Issue #9)*

Consistent with these scoping issues, and as set forth below, FRONTLINES asserts that the evidentiary record demonstrates that there is not a need to relieve projected electrical demand which exceeds the Valley South system transformers because the forecast upon which SCE relies to assert this need is not credible and it conflicts with other forecast information, and in any event, the Alberhill Project is not the environmentally superior alternative to address such concerns if they are ultimately deemed credible by the Commission. FRONTLINES also asserts that, though the evidentiary record does show a need to provide a second source of power to Ivyglen, it does not definitively establish that there is a need to relieve loads on the existing Valley-Elsinore-Fogarty ("VEF") line and in any event, the Valley-Ivyglen Project is not the environmentally superior alternative to address such concerns. FRONTLINES further contends that the FEIR does not comply with

CEQA. A summary of the issues and material facts which support FRONTLINES' position is provided here; supporting details and citations to the record are provided in subsequent sections.

**1.1 There is not a Need to Relieve Projected Electrical Demand or Transformer Overload Concerns on the Valley South System Because SCE's Peak Demand Forecasts are Overstated, and in any Event, Environmentally Superior Alternatives to the Alberhill Project Eliminate these Concerns at Significantly Lower Cost.**

SCE claims that the Alberhill Project is "needed" to relieve projected electrical demand in on Valley South that SCE predicts will exceed Valley South transformer capacity. SCE also alleges that the Alberhill Project provides ancillary benefits such as developing system "tie-lines" to Valley South and reducing "voltage collapse" concerns. However, SCE's claim that Alberhill is "needed" relies solely on a faulty and inflated "peak demand forecast" methodology that has consistently and persistently over-predicted peak demand levels and which (among other things) discounts and even ignores distributed generation, energy efficiency, grid storage, and demand response resources mandated by California law. Though these resources are not accounted for in SCE's forecast methodology, they are factored into load forecasts prepared by the California Energy Commission ("CEC") and utilized by the California Independent System Operator ("CAISO"). As a result, CAISO's projected load forecast is significantly lower than SCE's peak demand forecast and, more importantly, it does not support SCE's contention that the Valley South transformers will overload by 2021 or even within a 10-year planning horizon. Thus, there is no urgency with this project, despite SCE's claims to the contrary.

Notably, in the decision issued in Proceeding A.12-05-020 [D.16-12-064], the Commission established a reliance upon the CEC forecast imbedded in CAISO's load projection to assess whether a new high-voltage transmission substation was "needed" to serve a radially configured subtransmission system in which the projected load growth that initially drove the substation project never materialized. In that proceeding, the Commission considered SDGE's claim that projected load growth warranted approval of a new 230 kV substation to serve radial subtransmission load juxtaposed with CAISO's load projections which showed load growth was not a concern. The Commission concluded that, based on the CEC's

forecast reflected in the CAISO's load projections, "no project is necessary to accommodate the projected load growth over the ten-year forecast period". Consistent with D.16-12-064, it is reasonable and appropriate for the Commission to find that SCE's Peak Demand forecast does not warrant approval of the Alberhill Project because it is inconsistent with the CEC's forecast and CAISO's load projections for the Valley South system.

Notwithstanding the substantial bias that exists in SCE's forecasting methodology, and even assuming that SCE's peak demand forecast actually comes to pass, the evidentiary record demonstrates that SCE's "transformer overload" concerns can be fully mitigated by implementing "Environmentally Superior" non-substation alternatives such as demand shifting (part of the "No-Project" alternative) or by simply adding a third transformer at Valley South to accommodate the unlikely and fleeting instance in which the actual ("raw") Peak Demand exceed 1,100 MVA.

The record also shows that SCE's Valley South system "tie-line" concerns are properly addressed by the "No Project" alternative and that *SCE should have already developed such "tie-lines" in accordance with its own adopted planning documents.* Yet, for reasons that remain unclear, SCE has inexplicably refrained from establishing system "tie-lines" in the 13 years that have passed since Valley South was first created in 2004.

FRONTLINES also disputes SCE's claim that the Alberhill Project will reduce susceptibility to "voltage collapse" events arising from Fault Induced Delayed Voltage Recovery ("FIDVR") incidents. The evidentiary record demonstrates that "voltage collapse" concerns are properly addressed through the addition of reactive support devices. The record also shows that SCE's proposed configuration of the Alberhill substation will actually leave the Alberhill system *more* susceptible to system voltage collapse/FIDVR events than Valley South. The record also shows that Alberhill system is not configured to reliably serve Ivyglen.

Record evidence demonstrates that, if SCE's inflated forecast comes to pass, implementation of demand shifting as part of the "No Project" alternative (with or without the addition of a third transformer) will fully mitigate "transformer overload" concerns and system "tie-line" deficiencies on the Valley South system with minimal fiscal and environmental costs. The "No Project" alternative with the addition of a third transformer is certainly the most prudent fiscal and environmental choice, given the substantial

inconsistencies between SCE's peak demand forecast and CASIO's load projections, and the intrinsic bias noted in SCE's forecast methodology which has resulted in remarkable overpredictions for more than a decade.

To support the conclusion that the Alberhill Project is not "needed", FRONTLINES offers the following material facts which are discussed in detail (and with citations to the evidentiary record) in Sections 2-7 below:

- It is the *actual* ("raw") power flow "through" the Valley South transformers that determines whether their combined capacities are exceeded; if actual ("raw") peak demand served by the transformers remains below 1119 Megavolt-Ampere ("MVA") within a 10-year planning horizon, then there is no "need" for Alberhill. Between 2005 and 2016, the actual ("raw") peak demand served by the Valley South transformers never exceeded 915 MW.
- SCE's CPCN application for Alberhill forecast a "1-in-5 Heat Storm" Peak Demand of 1,145 MVA on Valley South by 2011; the 2011 actual ("raw") peak demand was 875 MW. CAISO approved the Alberhill project in 2009 assuming that Valley South load would exceed 1122 MW by 2014; the actual ("raw") peak demand in 2014 was only 915 MW. The record demonstrates that, the projected load growth that initially drove the Alberhill Project has not materialized.
- SCE now asserts that Alberhill is needed to address a 1,169 MVA "1-in-5 Heat Storm Peak Demand" that is projected to occur by 2021. Conversely, CAISO's 2026 load projection for the Valley South System (which is based on the CEC forecast) predicts that peak demand will not exceed 950 MW.
- The reason for the substantial difference between the SCE and CAISO forecasts is that CAISO's forecast includes demand response, energy efficiency, storage, and distributed generation resources omitted by SCE's forecast, thus SCE's forecast considerably higher. When demand response, energy efficiency, distributed generation and other resources are properly accounted for, SCE's forecast is similar to the CAISO forecast.
- Load duration curves show that, for the Valley South system in particular, peak demand events are fleeting and rare; in 2016, the actual ("raw") peak demand on Valley South was 899 MVA, but more than 99% of the time, the Valley South load remained well below 800 MW.
- SCE determines whether its forecast is "directionally correct or reasonably close" by a "comparison of how well have we forecasted in the past versus what our future projections are"; such a comparison shows that SCE has persistently and consistently overestimated the actual ("raw") peak demand by 15% (on average) since 2007.

- The substantial bias in SCE's forecast stems from a methodology which starts with skewed historical data that is "adjusted up" by factoring in elements to address "anything but temperature". Through application of these "adjustments", SCE calculates "Recorded Peak Demand" values that can be up to 25% higher than the *actual* ("raw") Peak Demand.
- Starting with this calculated "Recorded Peak Demand", SCE's forecast then factors in projected growth that ignores nearly all energy efficiency and distributed generation resources and omits demand response and grid storage resources. SCE's forecast assumes that incremental additions of distributed generation resources will drop after 2018, and additions of energy efficiency resources will similarly drop after 2021.
- The FEIR relies on SCE's "Recorded Peak Demand" values to draw the factually incorrect conclusion that Valley South "electrical demand" continually increased after 2008; actual ("raw") peak demand served by the Valley South transformers remained relatively "flat" and varied only between 812 and 915 MW between 2008 and 2016.
- During brief and fleeting peak load intervals on the Valley South system, SCE can (and already does) deploy a third transformer without complications or difficulty.
- Even if SCE's inflated peak demand forecast does occur, transformer overload concerns are eliminated *without* Alberhill by shifting demand between the Valley South, Valley North, and Vista 115 kV systems that serve the area. Shifting demand is a foundational element of SCE's "A-Bank Plan" directing SCE to "balance electric power between highly loaded substations and substations with additional reserve margins".
- SCE's "Subtransmission Planning Criteria and Guidelines" *require* SCE to provide "tie lines" to the Valley South System; such "tie-lines" can be developed without Alberhill by using vacant 115 kV bay positions to make connections between Valley North and Valley South Substations.
- SCE has failed to take steps to develop system "tie-lines" between Valley South and Valley North in the 13 years that have passed since these two systems were "split".
- Because the development of Valley South system "tie-lines" can be implemented and is mandated by SCE's planning documents, it will be pursued if Alberhill is not approved and is therefore an integral component of the "No Project" Alternative.
- Alberhill will serve a high induction motor (air conditioning) load and is served by two 500-kV lines with a design that accommodates demand levels exceeding 1120 MVA. Thus, it is more susceptible to "voltage collapse" events than the Valley South system.
- Voltage management is achieved by installing reactive support at distribution substations, and the deployment of reactive equipment will manage voltage collapse concerns and provide VARs and voltage support on the Valley South system.

- If the power factor drops below unity ("1") on the Valley South 500/115 kV "A-bank" system, a reactive power deficiency exists and VAR flows from the CAISO system to the Valley South System through Valley South transformers.
- The Alberhill Project will cost nearly \$600 million and it poses significant unavoidable environmental effects.
- The Alberhill project configuration is not reliable because it leaves the Ivyglen substation served by a single power source (Alberhill); an event that removes Alberhill from service drops Ivyglen load, and it will
- The "No Project" alternative feasibly eliminates SCE's Valley South transformer overload concerns, system "tie-line" deficiencies, and perceived voltage collapse issues through implementation of SCE's own Planning documents. Thus, it is superior on all grounds: cost, environmental impact, transformer capacity, system reliability and operational flexibility.

**1.2 SCE has not demonstrated that Valley Ivyglen is "Needed" to Address "N-1" Contingency Overloads Following Completion of the Valley South Subtransmission Project and "Environmentally Superior" Alternatives Negate a Potential "Need" for Valley-Ivyglen.**

SCE has not demonstrated that the Valley Ivyglen Project is "needed" to relieve loads on the Valley-Elsinore-Fogarty ("VEF") line after construction of the recently approved "Valley South Subtransmission Project" [D.16-12-001] particularly in "N-1" contingency circumstances. The evidentiary record demonstrates that projected VEF loads which initially prompted the Commission's approval of the project have not materialized, and that SCE's forecast methodology which forms the basis for SCE's claimed "need" is faulty and inflated.

FRONTLINES does not dispute that there is a "need" to provide a second source of power to the Ivyglen substation. In fact, the evidentiary record proves that SCE *should have* provided *this second source line more than a decade ago* in accordance with its own adopted planning documents. However, FRONTLINES does dispute SCE's contention that the Valley-Ivyglen Project is "needed" to provide this second source line because feasible alternatives that do not rely on the development of a new transmission corridor are available and will create less environmental impacts.

Finally, FRONTLINES points out that some of the "construction modifications" sought in the Petition (specifically, the use of helicopters to "deliver materials" and "install hardware") are not necessary to construct the Valley Ivyglen Project. In fact, the record is devoid of evidence showing that helicopter deployment is needed for such purposes, because all tower sites are accessible by ground equipment and SCE intends to install and erect all Valley Ivyglen towers using ground-based equipment. The record also proves that helicopter deployment is costlier, it results in significantly higher air pollutant emissions, and it creates significant and unavoidable noise impacts that are not outweighed by *any* discernable public benefit. Therefore, the Commission is precluded from adopting a "Statement of Overriding Considerations" pursuant to CEQA to approve the helicopter construction methods sought by SCE's Petition.

To support the conclusion that there are environmentally superior alternatives to the Valley Ivyglen Project and SCE's helicopter construction method request, FRONTLINES offers the following material facts which are discussed in detail (with citations to the evidentiary record) in Sections 9-13 below:

- SCE forecasts that loading on the Valley-Elsinore-Fogarty ("VEF") line will jump nearly 30% in the next few years even though "Recorded Peak Demand" on the VEF line has only increased by 15% since 2008 and has continually remained below 168 MVA. SCE's forecast methodology discounts and even ignores distributed generation, energy efficiency, demand response, and other factors.
- FRONTLINES' alternative to the Valley-Ivyglen project utilizes upgrades on the VEF line to provide a second Ivyglen source line and address SCE's VEF overload concerns.
- SCE *should have* provided a second subtransmission line to serve Ivyglen years ago in accordance with its own adopted planning documents.
- SCE's claims that the Valley-Ivyglen Project is "needed" to address "N-1" contingency events are not supported by the evidentiary record because the power flow results upon which this claim is based do not account for the addition of the new, high capacity source line provided by the Valley South Subtransmission ("VSS") Project.
- Upon completion of the VSS Project in 2019, Valley South will have sufficient source line capacity to carry load under an "N-1" contingency event without Valley Ivyglen.
- Helicopters are not necessary to deliver materials or install hardware on the Valley-Ivyglen Project since all construction sites are accessible by ground-based equipment.

- Helicopters have higher air pollutant emission rates than the ground-based equipment that they will supplant on the Valley Ivyglen Project, and they are more costly to operate.

### **1.3 The FEIR Does Not Comply with CEQA.**

FRONTLINES contends that the FEIR embodies a number of CEQA violations, and some of the deficiencies noted are so substantial that they will not withstand legal challenge. Among other things, the FEIR establishes an Alberhill "Project Purpose" and associated "Project Objectives" that are so narrowly constrained that they improperly restrict the range of reasonable alternatives that are considered to only those which provide SCE with a new 500-kV substation. This fact is manifested by the alternatives analysis presented in FEIR Section 5 which (other than the CEQA-mandated "no project" alternative) only considers 500 kV substation alternatives because non-substation alternatives are "screened out". The vague facts and ambiguous conclusions that are relied upon by the FEIR to reject all "non-substation" alternatives to the Alberhill Project are materially incorrect and utterly contradicted by the evidentiary record. The FEIR's analysis of alternatives for the Valley-Ivyglen Project is similarly stunted; it only evaluates route alternatives and fails to consider alternatives that do not require the development of new line corridors. It also fails to consider alternatives to the construction method modifications sought by SCE's Petition.

Additionally, the impact assessment set forth in the FEIR is contingent on specific limiting assumptions which, if not adhered to, will render the FEIR's impact determinations to be substantially understated. Yet, these limiting assumptions are not reflected in any of the mitigation measures or construction restrictions imposed by the FEIR, thus the limited impacts that are presumed by the FEIR based on these assumptions are in fact unbounded and will be far more significant than the FEIR asserts. The only way to correct this particular deficiency is for the Commission to impose conditions that ensure conformance with these limiting assumptions.

Furthermore, the FEIR's analysis of the Alberhill "No Project" alternatives is remarkably stunted in that it fails to consider the foreseeable actions that SCE would take pursuant to

its own Planning standards if the Alberhill Project is not approved. This is a substantial failing because the FEIR incorrectly concludes that the "No Project" Alternatives will not address the transformer overload, system tie, and voltage collapse concerns that give rise to the proposed Alberhill Project.

To demonstrate the many and varied ways in which the FEIR violates CEQA, FRONTLINES offers the following material facts which are discussed in detail (with citations to the evidentiary record) in Section 14.0 below:

- The Alberhill project purpose and objectives set forth in the FEIR *mandate* construction of "a new 500/115 kV substation" and thus constrain the range of alternatives deemed "feasible" to those which provide a new 500 kV substation.
- The FEIR fails to demonstrate that construction of a new 500 kV substation is the *only way* to remedy Valley South transformer overload and system "tie line" concerns.
- The FEIR rejects non-substation alternatives to the Alberhill Project based on factually incorrect assumption and vague concerns regarding "eventual" overloads that are utterly contradicted by the evidentiary record.
- The FEIR impact assessment is based on specific construction assumptions which, if not met, will render the FEIR conclusions substantially understated. Nonetheless, the FEIR does not require SCE's helicopter deployment to remain consistent with the FEIR's assumptions, nor does it impose any restrictions or limitations on the helicopter type, number, or deployment schedule that SCE implements.
- The FEIR does not impose any recordkeeping or monitoring requirements pertaining to the construction assumptions upon which the impact assessment is based, thus there is no mechanism to ensure that actual project impacts are consistent with FEIR impact determinations.
- The FEIR's "No Project" alternative fails to consider foreseeable actions that SCE will take pursuant to its adopted planning standards if Alberhill is not approved, and wrongly assumes that SCE would merely activate a spare transformer.
- The FEIR misrepresents SCE's "Recorded Peak Demand" values as "actual peaks experienced" and dismisses concerns that SCE's forecasting methodology omits distributed generation, energy efficiency and demand response by merely repeating the claim that peak demand will overload the transformers.
- The FEIR erroneously states that "no non-substation alternative was identified that would relieve projected electrical demand in the ENA"; the record proves that non-substation alternatives will "relieve projected electrical demand" *even under SCE's inflated peak demand forecast*.

- The FEIR considers 14 different alternatives to the Valley-Ivyglen route modifications proposed by SCE, but fails to consider any alternatives to the helicopter deployment modifications proposed by SCE.
- All Valley-Ivyglen construction sites are accessible via ground-based equipment and helicopters are not necessary for materials delivery or hardware installation and no mitigation measures or "Project Commitments" imposed by the FEIR rely on, or are enhanced by SCE's proposed helicopter use.
- Helicopter deployment on the Valley-Ivyglen Project creates significant and unavoidable noise impacts throughout and beyond the project area because helicopters will fly at low elevations over schools and residences between staging areas and tower sites.
- The FEIR discounts public safety and hazard concerns posed by helicopter deployment, by declaring that a "Helicopter Lift Plan" ensure safe helicopter operations. "Helicopter Lift Plans" do not prevent risks posed by rigging errors, mechanical failure, pilot error, wind gusts, etc. The Commission is aware of the public safety hazards posed by helicopter deployment for transmission line construction, and SCE's track record in deploying helicopters includes at least one fatal event.
- Helicopters have higher air pollutant emission rates than the ground-based equipment that they will supplant.
- The FEIR ignores particulate emissions dispersed by helicopter operations because it incorrectly assumes that helicopter landing/takeoff activities will occur on paved roads; all helicopter staging areas and tower sites are entirely unpaved. This assumption is inconsistent with prior Commission determinations and results in substantially underestimated PM<sub>10</sub> emission impacts already deemed significant and unavoidable.
- If Alberhill is approved, then it will be constructed concurrently with Valley-Ivyglen due to overlapping schedules. However, the FEIR fails to consider the cumulative air quality impacts of these overlapping schedules, and thus underestimates offsets and impacts.
- The FEIR's noise impact assessment includes substantial material deficiencies.
- The FEIR's "Valley-Ivyglen Project Construction Noise Scenarios" reports receptor noise impacts will be "less than significant" (>75 dBA) at 200 feet from tower construction sites. This is incorrect because the analysis *excludes helicopter noise*.
- The FEIR fails to consider reduced-impact alternatives to the Valley-Ivyglen Project that utilize existing corridors based on capacity implications on the Alberhill project.
- The FEIR *grossly* understates Valley Fever concerns, and materially misrepresent factual statements made by the reports that are cited in the FEIR

## **2.0 THE ALBERHILL PROJECT IS NOT NEEDED TO RELIEVE PROJECTED ELECTRICAL DEMAND ON THE VALLEY SOUTH SYSTEM [Scoping Issue #6b].**

According to SCE's 2017 "peak demand" forecast on the Valley South 115-kV subtransmission system, electrical demand is "projected" to cause Valley South transformer overloads by 2021 [Ex. SEC-1; 11 at 19]. It is based on this projected electrical demand that SCE claims the Alberhill Project is "needed". However, and as proven below, SCE's Peak Demand forecast does not allocate proper weight to local energy resources that are captured by the CEC forecast and the Commission's LTPP process and which are incorporated in the CAISO's load forecast. Therefore, the CAISO's peak forecast projection for the Valley South system is substantially lower than SCE's 2017 inflated peak demand forecast, and it shows that Alberhill is not needed beyond a 10-year planning horizon. On this basis alone, and consistent with prior Commission determinations, the Commission should find that Alberhill is not "needed" to address projected electrical demand. Additionally, and as set forth below, the record proves that ancillary issues pertaining to the Valley South system which SCE claims will be mitigated by the Alberhill Project (such as system "tie line" and voltage collapse/FIDVR concerns) are similarly shown to not warrant Alberhill approval.

### **2.1 The Alberhill Project is not "Needed" to Relieve Electrical Demand in Valley South Based on CAISO's Load Projection and Prior Commission Determination.**

According to the CAISO's most recent forecast, peak demand on the Valley South system is projected to remain below transformer capacity limits over the 10-year planning horizon, thus it does not show a "need" for the Alberhill Project. Correspondingly, and consistent with a prior decision, the Alberhill Project should not be approved.

#### *2.1.1 The CAISO 2016-2017 Transmission Plan Forecast for the Valley South System.*

Since at least 2007, SCE has claimed that rapid load growth projections in western Riverside County will result in transformer overloads on the Valley South system, and on this basis, SCE declared the Alberhill project viable. In the CAISO's 2008 transmission planning process, it was initially anticipated that Alberhill could be "needed" as early as

2012 based on the CAISO forecasting methodology then in effect<sup>1</sup>. In 2009, CAISO reconsidered its original load projection estimate and slipped the "need date" to 2014 [Ex. FRONT-1; 4 at 13] and on this, CAISO approved Alberhill in 2009. Since that time, SCE has continually touted CAISO's 2009 approval of the Alberhill Project<sup>2</sup> and claimed that it provides a basis for other agency approvals (most recently, in FERC Docket EL17-63-000<sup>3</sup>). However, much has changed in CAISO's transmission planning process since 2009<sup>4</sup>, and CAISO's current forecast methodology factors in significant local resources such as distributed generation, energy efficiency, storage, and demand response [Ex. FRONT-16; 37-39 & 108-114] that were not considered in prior to 2010. As a result, the current CAISO load forecast presented in the 2016-2017 Transmission Plan projects that Valley South system peak demand will not exceed 950 MW over a 10-year planning horizon [Ex. FRONT-1; 4 at Table 1], thus Alberhill is demonstrably "needed" in any foreseeable time frame. Nonetheless, SCE continues to maintain that Alberhill is "needed" to address perceived overload concerns which SCE now projects will occur in 2021 [Ex. SCE-1; 11 at 19] based on a new forecast prepared August, 2017 [Ex. FRONT-3].

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<sup>1</sup> 2008 CAISO Transmission Plan page 28.

<sup>2</sup> SCE-1; 11 at 11. NOTE: SCE testifies that CAISO approved Alberhill in 2010; this is factually incorrect. The CAISO Board of Governors approved the project in 2009, as shown in FRONTLINES Reply testimony and set forth in the attachment labeled Exhibit 18.

<sup>3</sup> In a Petition filed with the FERC April 7, 2017, SCE asserts (page 6) "Alberhill has been reviewed and approved through the CAISO's TPP as a reliability project to serve current and projected demand for electricity...". The FERC docket is accessed at [www.FERC.gov](http://www.FERC.gov) (no link can be provided because the FERC website links simply create pdf files).

<sup>4</sup> For instance, in May, 2010, the Commission and CAISO signed a "Memorandum of Understanding" ("MOU") which (among other things), bound CAISO to incorporating generation scenarios set forth in the Commission's Long-Term Planning Process ("LTPP"). This MOU was initiated as part of CAISO's 2010-2011 Transmission Planning Process ("TPP") and fully implemented in the CAISO's 2011-2012 Transmission Plan. The MOU is found here <http://docketpublic.energy.ca.gov/PublicDocuments/Migration-12-22-2015/IEPR/2014%20IEPR/14-IEP-1C/TN%2073280%2007-01-14%20CAISO-CPUC%20Memo%20of%20Understanding.pdf>. Similarly, in 2014, the Commission, the CEC, and the CAISO jointly committed to an "Alignment Process" which (among other things) ensures the development of key transmission planning assumptions and study approaches (including collaboration on forecast assumptions) to ensure that new, state-mandated energy and environmental policy goals are properly reflected in transmission planning decisions. [see "process alignment" commitment found here: <http://www.cpuc.ca.gov/General.aspx?id=6617>]

To shore up its argument that Alberhill is still "needed", SCE has done a rather remarkable "about face" and now repudiates the applicability of CAISO's load projection to the Valley South system by claiming that "CAISO's forecast does not include necessary local factors" [SCE-2; 7 at 5]. However, the record shows that it is SCE's forecast which fails to include necessary local factors such as local distributed generation, local energy efficiency, etc., so it SCE's forecast that is erroneous and inapplicable to the Valley South System. In fact, and as set forth below, when local generation and energy reduction resources are properly factored into SCE's forecast, it is rendered similar to CAISO's forecast.

As set forth in detail below, the Commission should rely on the CAISO's current forecast and reject SCE's claim that the Alberhill Project is "needed" for a number of reasons, including the fact that doing so will ensure consistency with prior Commission determinations (specifically, D.16-12-064).

#### *2.1.2 Consistency with Commission Decision D.16-12-064.*

In 2016, the Commission considered a 230-kV substation project in South Orange County that was proposed by San Diego Gas & Electric ("SDGE") in Proceeding A.12-05-020. The project (referred to as the "South Orange County Reliability Enhancement Project or "SOCREP") was proposed to address overload scenarios that SDGE claimed would occur on a 135-kV subtransmission system that is radially served by the Talega substation (which provides the sole connection to the CAISO grid). SOCREP was initially approved as a reliability project in the CAISO's 2010-2011 Transmission Plan Process based on high load growth projections. SDGE prepared an updated forecast in 2015 which continued to show that SOCREP was needed urgently to mitigate growth-related overloads, however the CAISO's 2015 load projection (which was based upon the CEC's forecast and assumptions used in the 2015-2016 Transmission Plan) showed no growth-related overload concerns. In December 2016, the Commission issued D.16-12-064 which rejected SDGE's forecast showing load growth concerns in favor of the CEC forecast imbedded in CAISO's 2015 load projection. Specifically, D.16-12-064 states (on page 7):

" There was significant debate over the course of the proceeding about whether the project is needed based on projected load growth for SOC. It is accepted practice to utilize load forecasts prepared by the California Energy Commission as

the basis of demand analysis. With the time that has elapsed since the genesis of this proceeding and its completion, the record is clear that SDG&E's projected load growth in SOC that may have initially driven this project in 2012 has not materialized. Therefore, we find that no project is necessary to accommodate the projected load growth over the ten year forecast period".

Consistent with this, D.16-12-064 adopted Finding of Fact #1 that "Demand forecasts do not demonstrate need for a project in South Orange County.

The factors relied upon by the Commission in D.16-12-064 to defer to the CEC's demand forecast rather than the utility's forecast in determining "need" for a new transmission substation are all present in the instant proceeding. As with SOCREP, Alberhill is intended to address projected electrical demand concerns on a radially-served subtransmission system operated at less than 200-kV. As with SOCREP, the CAISO approved Alberhill based on an assumed load growth *that has never materialized*. As with SOCREP, the CEC forecast imbedded in the CAISO's 2017 Transmission Plan shows that there is insufficient load growth to demonstrate that Alberhill is "needed". Therefore, and as with SOCREP, there is insufficient basis for the Commission to determine that Alberhill is "needed" to address projected electrical demand on the Valley South system. Given that SCE has provided no other justification for the Alberhill Project, and given that SCE will develop system "tie-lines" to Valley South without Alberhill through operation of its own planning standards (as discussed in more detail below), there is simply nothing in the evidentiary record that supports or justifies Commission approval of the Alberhill Project.

There are additional elements of the SOCRE Project and D.16-12-064 which should further inform the Commission's decision regarding whether Alberhill should be approved. For instance, SDGE's radially served 135-kV subtransmission facilities in South Orange County that were contemplated in D.16-12-064 are under the jurisdictional control of the CAISO, and as such, the Commission found that "CAISO has applied the NERC TPL standards to facilities that are under its operational control through its Planning Standards" (Finding of Fact #4). The Commission also found that "Loss of load due to a contingency during a maintenance outage at Talega is a violation of NERC [standard] TPL-001-4" (Finding of Fact #2) and thus concluded that "There is a need for the proposed project because SDG&E must meet NERC, WECC and CAISO standards that would not be met by the no project alternative" (Finding of Fact #13). It was based on these findings that the Commission

approved SOCREP, and they are noteworthy because no similar findings can be made to justify Commission-approval of Alberhill. For instance, SCE's radially served 115-kV facilities at issue in the instant proceeding are not under the jurisdictional control of CAISO [Ex. SCE-2; 4 at 12-21], therefore neither NERC nor WECC nor CAISO transmission planning standards apply. Correspondingly, there is nothing to support a Commission finding that Alberhill is "needed" to meet NERC, WECC, and CAISO standards.

Consistent with D.16-12-064, the Commission should find that Alberhill is not "needed".

## **2.2 SCE's Forecast Showing that Projected Electrical Demand May Overload Valley South Transformers is Too Unreliable to Serve as a Basis for Approving Alberhill Because it is Biased High and Inflated.**

For at least a decade, SCE has claimed that Alberhill is needed to address overload concerns that stem from SCE's "1 in 5" heat storm peak demand forecast. Specifically, SCE predicts overloads on the Valley South transformers which have a combined capacity of 1,119 megavolt-amperes ("MVA") (or 1119 megawatts ("MW") based on the unity power factor used in SCE forecasting. [TR 99 at 9; TR 143 at 23]). However, the evidentiary record shows that SCE's forecasts are consistently and substantially over-predictive, and are therefore unreliable. As discussed in detail below, the over-predictive tendencies noted in SCE's forecast methodology are attributed to two factors: 1) SCE starts with skewed historic data that has been heavily "adjusted" to strip out distributed generation, demand response, and other resources that reduce peak demand; and 2) SCE then applies "load growth" increments that are biased high because they ignore essentially all energy resources that reduce peak demand (such as energy efficiency, distributed generation, etc.). These factors conclusively demonstrate that SCE's forecasts are not reliable and they do not provide a reasonable basis for approving Alberhill.

### *2.2.1 SCE's Peak Demand Forecast is Persistently and Substantially Overpredictive.*

FRONTLINES has provided extensive testimony showing that SCE's forecast methodology is substantially overpredictive and therefore not reliable [Ex. FRONT-1 p. 7-10]. Given this background, prudence dictates that the Commission test the veracity of SCE's Peak Demand forecast before simply accepting it as accurate and then relying on it as the sole basis for

approving the nearly \$600 million Alberhill Project<sup>5</sup>. SCE agrees, because Witness McCabe testifies that "a comparison of how well we have forecasted in the past versus what our future projections are" will determine whether SCE's forecast is "directionally correct or reasonably close" [TR 201 at 3]. And, since it is the "1 in 5" heat storm forecast projections that SCE relies upon to justify Alberhill, it is reasonable to "test" the accuracy of SCE's prior "1 in 5" heat storm forecast projections by comparing it to the *actual* ("raw") peak power that flowed "through" the transformer each year. The *actual* ("raw") peak power provides the proper basis for "testing" SCE's "1 in 5 heat storm" forecast because it is the *actual* ("raw") power flow through the transformer which dictates whether the Valley South transformer capacity is exceeded [Ex. FRONT-1; 8 at 1]; if the actual ("raw") peak power flow through the Valley South transformers remains below 1119 MVA through the 10-year planning horizon, there is no "need" for Alberhill. Notably, the actual ("raw") peak demand on the Valley South system has continually remained well below the transformer limits<sup>6</sup>.

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<sup>5</sup> SCE states that the Alberhill Project direct costs amount to \$463.6 million [Exhibit SCE-1 Table IV-1]; this cost omits \$31 million in "corporate overhead" and \$80 million in "cost of financing" [TR 336 at 24 to 337 at 7]. These items bring the Alberhill cost up to \$574.6 million. The 15% contingency is not applied to "financing" costs and "corporate overhead" costs though these costs will increase if direct costs increase [TR 237 at 14-22 and TR 339 at 10-18] because "financing" and "corporate overhead" cost overruns are "dealt with in a separate proceeding" [TR 339 at 23]. However, a 15% contingency on the \$111 million in "overhead" and "financing" costs represents a legitimate \$16.7 million fiscal risk to ratepayers so it is part of the Alberhill "price tag". This brings the Alberhill Project cost to \$591 million, or nearly \$600 million.

<sup>6</sup> Between 2005 and 2016, the actual ("raw") peak demand served by the Valley South transformers never exceeded 915 MW [Ex. FRONT-4], and the actual ("raw") peak demand served by the Valley South transformers in 2017 was 981 MW. This latter value was derived by reconciling the power factor of 0.973 that occurred on August 30, 2017 [Exhibit SCE-6] with the 1,008 MVA peak Valley South System Load reported for August 30, 2017 [Exhibit SCE-3] to yields an actual power flow through the transformers of 981 MW [ $1,008 \times 0.973 = 980.78$ ]. Despite these historically low actual ("raw") peak demand levels, SCE forecasts that the Valley South Peak demand will reach 1,095 MVA (or 1,095 MW with SCE's unity power factor) by *next year* (2018) [Ex. FRONT-3].

FRONTLINES offers Table 1 below, which shows the actual ("raw") peak demand served by the Valley South transformers from 2007-2016 [from Ex. FRONT-3] compared to SCE's "1 in 5 heat storm" peak demand projections for the same years [from Ex. FRONT-4], and indicates the percentage difference between them. It is clear from Table 1 that SCE's forecast is often not "directionally correct" because it forecast growth in years when peak demand dropped and vice versa. Table 1 also reveals that SCE's forecast has not been "reasonably close"; to the contrary, it has always been "off" by at least 10%, and as recently as 2014, it was "off" by more than 20%.

Table 1. Comparison of Actual ("raw") Peak Demand vs. SCE Forecast Peak Demand.

Year	Actual ("raw") Peak Demand [Ex. FRONT-4] (MW)	SCE Forecast Peak Demand [Ex. FRONT-3] (MVA)	% Difference*
2007	888	1038	16.9%
2008	768	1062	38.3%
2009	812	1057	30.2%
2010	880	968	10.0%
2011	875	1014	15.9%
2012	873	1027	17.6%
2013	873	1020	16.8%
2014	915	1055	15.3%
2015	865	1045	20.8%
2016	899	1022	13.7%

\* SCE's forecast methodology assumes a unity power factor [TR 99 at 9], so for forecast purposes, MVA and MW are equivalent [TR 184 at 27] and "actual" data reported in MW is directly comparable to forecast data reported in MVA.

SCE's forecast has consistently overestimated actual ("raw") peak demand levels by 10% even though SCE's "1 in 5 heat storm" forecast for 2016 is actually *less* than it was for 2007, 2008, and 2009. This consistent forecast error of  $\geq 10\%$  is particularly relevant when considered through the lens of SCE's future peak demand forecasts (provided in Exhibit FRONT-3) *which are projected to continually increase between now and 2026*. For instance, SCE projects the "1 in 5 heat storm" peak demand in 2026 will be 1169 MVA; applying

SCE's 10% error factor to this forecast projection indicates that the actual peak demand will not exceed 1052 MVA, which is well below the 1119 MVA capacity of the transformers. For all these reasons, FRONTLINES urges the Commission to look askance at SCE's peak demand forecast. The evidentiary record proves that SCE's forecast is unreliable because it is neither "directionally correct" nor "reasonably close", so the Commission should not depend on it to determine whether Alberhill should be approved.

*2.2.2 SCE's Forecast is Biased High Because of Extensive "Adjustments" that SCE Applies to Historical Peak Data Which Skews the Very Foundational of the Forecast Itself.*

The first reason that SCE's forecasts are neither "directionally correct" nor "reasonably close" is because SCE's forecast methodology is built on "historic" peak demand data that is artificially inflated through the application of "adjustments" which SCE applies to correct for "anything but temperature" [TR 298 at 6]. SCE's "adjustments" inflate the historic peak demand data by adding back in energy resources such as demand response and "non-dependable" generation [TR 56 at 17]. And, because SCE considers more than 90% of distributed PV generation capacity on Valley South to be "non-dependable" [TR 70 at 14, TR 78 at 13], SCE's "adjustments" discount essentially all distributed PV generation. Through application of these adjustments, SCE inflates the historic peak value to factor in "any number of things that are required to represent an 'appropriately recorded number'" [TR 57 at 14].

Based on these adjustments, a calculated value that SCE refers to as the "Recorded Peak Demand" is derived. These "Recorded Peak Demand" values are the "starting point" for SCE's forecast [Ex. SCE-2;13 at 20]. However, the term "Recorded Peak Demand" is a misnomer because "Recorded Peak Demand" values are not really recorded values. To the contrary, "Recorded Peak Demand" values are actually calculated values derived by inflating "raw" historic peak demand data to "adjust" for "non-dependable" (distributed) generation, "abnormal weather", and anything but temperature. [TR 298 at 1-6; also, TR 296 at 27 to 297 at 28]. As witness McCabe explains "Recorded data is just a record of a value, so yes, it [the data] was recorded. It wasn't the raw data" [TR 296 at 12] and "Recorded Peak Demand is not an *actual* recorded value, it is a calculated number that is recorded as a record of data" [TR 296 at 23]. Simply put, SCE's entire forecast methodology

is founded on "Recorded Peak Demand" values that are artificially inflated to "strip out" distributed generation and demand response resources and to correct for whatever factors that SCE deems relevant. This is a primary reason why SCE's Peak Demand forecasts are consistently and persistently over-predictive.

As an example of how SCE "adjusts" actual ("raw") peak demand levels to derive inflated "Recorded Peak Demand" values, consider Valley South data from 2008. The actual ("raw") peak demand that was served by the Valley South transformers in 2008 was only 768 MW [Ex. FRONT-4, also TR 55 at 24], but after applying "adjustments" for demand response, distributed generation deemed "non-dependable", and "abnormal system conditions", SCE derived an inflated "Recorded Peak Demand" value of 787 MVA [Ex. FRONT-5 Q16(a)]. As another example, SCE asserts that the "Recorded Peak Demand" in 2016 was 934 MVA "prior to any adjustments" [Ex. SCE-2; 9 at 20], yet the actual ("raw") peak demand in 2016 was only 899 MVA (or 899 MW with unity power factor) [Ex. FRONT-4].

The "adjustments" that SCE applies to derive the calculated "Recorded Peak Demand" values can be *substantial*. For instance, according to SCE, the "Recorded Peak Demand" that occurred on August 28, 2017 was 1,015 MVA [Ex. SCE-02;10 at 10] at 5:30 PM [Ex. SCE-03 page 2]. However, according to the actual ("raw") data provided on page 2 of Exhibit SCE-3, a peak demand level of only 4100 amps (or 817 MVA<sup>7</sup>) occurred at 5:30 PM. SCE's "adjustment" inflated the actual ("raw") peak demand by 25% to 1,015 MVA. FRONTLINES tried diligently to identify and quantify the factors that SCE applied to derive such a massive "adjustment"<sup>8</sup>, but could only discern that the adjustments represented an "extrapolation" to account for "the anomaly of the weather" [TR 296 at 5-24]. Eventually, SCE's Witness McCabe did admit to ALJ Yacknin that the 1,015 MVA "Recorded Peak Demand" was not an actual ("raw") demand value [TR 297 at 4].

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<sup>7</sup> As Witness McCabe confirmed [TR 301 at 1] power in MVA is calculated by multiplying the amperage (4100 amps) observed at 5:30 by the square root of 3 and the voltage (115 kV) as follows:  $4100 \text{ amps} \times \sqrt{3} \times 115000 \text{ volts} = 816661955.8 \text{ Volt Amperes}$ . Dividing this by  $10^6$  provides MVA ("Mega Volt-Amperes") or 817 MVA.

<sup>8</sup> Beginning on Page 296 of the transcript FRONTLINES endeavored to establish the "adjustments" that SCE applied to go from the "raw" values depicted by the blue graph on page 2 of Exhibit SCE-3 to derive the "recorded" value depicted by the dashed red line shown on that same figure.

As another example, SCE asserts that the "Recorded Peak Demand" in 2012 was 928 MVA (FEIR Table 1-1), and [beginning at TR 263 at 8] Witness McCabe affirms that this 928 MVA value is an "adjusted" value, but not adjusted for temperature. FRONTLINES objected to this oral testimony based on evidence placed in the record that shows the actual ("raw") peak demand in 2012 was only 873 MW [TR 263 at 14].

ALJ Yacknin noted this "conflicting evidence" [TR 263 at 19] and asked Mr. McCabe what the 928 MVA value was adjusted for, since it was not weather adjusted [TR 265 at 7]. Mr. McCabe told ALJ Yacknin that adjustments include "abnormal system conditions, non-dependable generation, data capture errors, any of those things go into the adjustments before you do temperature adjustments" [TR 265 at 11]. ALJ Yacknin asked McCabe if he had identified those adjustments in his testimony, and he responded "yes" [TR 265 at 16]. However, on re-cross, FRONTLINES showed that McCabe had *not* disclosed the adjustments in his testimony; in fact, he was unable to identify any of the adjustments that were applied to derive the 928 MVA "Recorded Peak Demand Value"<sup>9</sup>. As a result, FRONTLINES asked SCE to provide the "adjustment" values that SCE applied to calculate 928 MVA value and to ensure that they "add up to 928 MVA" [TR 321 at 9-22]; ALJ Yacknin ruled that this information could be provided as "late-filed" Exhibit SCE-7.

Notably, Exhibit SCE-7 does not identify "adjustments" applied to derive the 928 MVA "Recorded Peak Demand" value and it does not even mention the 873 MW of actual "raw" peak load that the exhibit was intended to address. To muddy the waters still further, Exhibit SCE-7 portrays the 928 MVA value as "raw" and "unadjusted" even though this contradicts Witness McCabe's oral testimony in which he told ALJ Yacknin that the 928 MVA value was adjusted for "any of those things go into adjustments before you do temperature adjustments" [TR 265 at 13]. Clearly, the "adjustment process" that SCE relies upon to calculate the "Recorded Peak Demand" value is entirely fluid and so confounding that even SCE can't even keep it straight.

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<sup>9</sup> FRONTLINES asked McCabe to quantify the "non-dependable generation", "data capture", and "demand response" adjustments made to calculate the 928 MVA "Recorded Peak Demand" value [TR 318 at 21 - 319 at 4]; McCabe could not respond because the information was not in his previous testimony.

The "take away" from all of this is that the "Recorded Peak Demand" values which form the basis for SCE's entire forecast methodology are in fact artificially inflated values that SCE derives by applying "adjustments" to historic data. As the evidentiary record shows, these artificial adjustments pertain to "anything but temperature" and they allow SCE to strip out demand response and essentially all distributed generation resources. The evidentiary record demonstrates that the "adjustments" applied to derive the inflated "Recorded Peak Demand" values can be significant, and they are neither clearly defined nor uniformly applied.

These material facts derived from the evidentiary record demonstrate that SCE's forecast methodology is heavily biased and unreliable because it is based entirely on "Recorded Peak Demand" values that are themselves artificially inflated and substantially skewed. Therefore, SCE's forecast does not provide a reasonable or accurate basis for the Commission to approve the Alberhill Project.

FRONTLINES also points out that the material facts set forth above repudiate written testimony offered by Witness McCabe that distributed generation resources are "already represented" in the "Recorded Peak Demand" values [SCE-2 13 at 18]. As Witness McCabe stated while on the stand, SCE considers less than 10% of the distributed generation capacity to be "dependable generation" [TR 79 at 25], thus SCE includes only a small fraction of the distributed generation capacity in the calculated "Recorded Peak Demand" value. Therefore, and contrary to Witness McCabe's written testimony, distributed generation resources are not "already represented" in Recorded Peak Demand values. In fact, distributed generation resources are almost *entirely stripped out* of the Recorded Peak Demand values, and (by extension) they are essentially ignored by SCE's entire peak demand forecast methodology.

### *2.2.3 SCE's Forecast is Biased High Because It Incorporates Skewed Growth Factors and Ignores State-Mandated Energy Resources that will Grow Significantly Over the next 10 Years.*

The second reason that SCE's forecast methodology is neither "directionally correct" nor "reasonably close" is because it does not properly factor in important energy resources that are expected to increase significantly over the next 10 years, including energy efficiency,

storage, and distributed generation. For instance, SCE's forecast methodology explicitly omits all energy storage resources and demand response resources [TR 198 at 14-22]. Additionally, SCE's forecast methodology incorporates negligible increases in incremental "Energy Efficiency" resources and it also assumes that additions of "Energy Efficiency" resources will actually flatten and then *drop* precipitously after 2021 [Exhibit FRONT-9 page 2]. It also assumes that additions of distributed generation will *decrease* after next year [TR 75 at 19; Ex. FRONT-9]. Another reason for the intrinsically high bias in SCE's forecast is that it assumes *extreme* Electric Vehicle ("EV") charging levels that often exceed 30% of "Base Growth" [Exhibit FRONT-9 page 2]. These excessive EV charging assumptions are inconsistent with EV projections published by the CEC<sup>10</sup> and are neither reasonable nor appropriate.

These "assumptions" substantially skew SCE's peak demand forecast to such an extent that it is rendered non-reliable and, quite frankly, unbelievable. For instance, consider the manner in which SCE's forecast "captures" future additions of distributed generation resources. In its General Rate Case Application, SCE informed the Commission that it anticipates 2,262 MW of new residential solar PV generation capacity will be added to its system between 2017 and 2020 [Ex FRONT-10 p.4]. Since SCE's Valley System accounts for approximately 4% of SCE's system load [TR 101 at 27], it is reasonable to assume that at least 90 MW of this new distributed generation capacity will be added to Valley South to augment the existing 142 MW of distributed generation capacity [Ex FRONT-11; Q5(a)] and bring the total distributed generation capacity on the Valley South system to 232 MW by 2020. Despite this substantial distributed generation capacity profile projected for the Valley South system by 2020, SCE's forecast incorporates only 19.6 MVA of "peak" distributed generation by 2026 [TR 81 at 9].

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<sup>10</sup> SCE's EV market penetration assumption is nearly 4 times higher than the CEC's EV projection [See page 2 of SCE's comments on the 2017 IEPR found here: [http://docketpublic.energy.ca.gov/PublicDocuments/17-IEPR-03/TN220873\\_20170824T093123\\_Catherine\\_Hackney\\_Comments\\_SCE\\_Comments\\_on\\_Demand\\_Forecast.pdf](http://docketpublic.energy.ca.gov/PublicDocuments/17-IEPR-03/TN220873_20170824T093123_Catherine_Hackney_Comments_SCE_Comments_on_Demand_Forecast.pdf)]. FRONTLINES respectfully requests that the Commission take Official Notice of this CEC publication.

The evidentiary record demonstrates that SCE's forecast methodology ignores substantial additions of energy storage, demand response, distributed generation, and energy efficiency resources that will be implemented in the near future, and is therefore completely "out of step" with established state-wide energy mandates that are currently being implemented by the Commission and CEC<sup>11</sup>. On this basis alone, the Commission should deem SCE's forecast to be insufficient and unreliable for the purpose of determining whether Alberhill should be approved.

*2.2.4 The Real Difference Between the CAISO and SCE Forecasts is that CAISO Properly Factors in Energy Resources that Reduce Peak Demand, and SCE Does Not.*

SCE does not agree with FRONTLINES testimony that SCE's forecast overstates peak demand values [SCE-2; 7 at 1] and further contends that CAISO's forecast and SCE's forecast "cannot be meaningfully compared because they are not developed using the same parameters" [SCE-2; 7 at 2]. However, the evidentiary record reveals this argument to be insubstantial twaddle, because the only real difference between SCE's forecast and CAISO's forecast is that CAISO properly factors in key energy resources such as energy efficiency, demand response, and distributed generation, whereas SCE does not. These energy resources (which are omitted from SCE's forecast) actually serve to *reduce* peak demand and, as explained below, when they are properly factored in, they render CAISO's forecast and SCE's forecast similar.

For example, consider the 2018 forecast that SCE addresses in its Rebuttal testimony [SCE-2] beginning on page 8 at 23. SCE claims that various "corrections" must be applied to account for power factor (0.96), coincidence, (0.96) and the "1-in-10 heat storm" factor (1.038) to derive an "apples to apples" comparison between CAISO's and SCE's forecasts [Ex. SCE-2; 9 at 2-12]. When these "corrections" are applied, SCE's "apples to apples"

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<sup>11</sup> Senate Bill 350 ("SB 350") doubles energy efficiency goals and stimulates distributed generation by requiring 50 percent renewables by 2030. Additionally, Assembly Bills 1637, 2868, 2861 and 33 that were signed into law in 2016 encourage distributed storage and generation to such an extent that it repudiates the presumption built into SCE's forecast that distributed generation resources are negligible.

forecast for 2018 is 1123 MVA [Ex. SCE-2; 9 at 12], and CAISO's "apples to apples" forecast for 2018 is 1036 MVA [Ex. SCE-2; 9 at 4]. SCE points to this 87 MVA "difference" between these two "apples to apples" forecasts to claim that CAISO's forecast "does not accurately reflect the projected peak demand for the area" [Ex. SCE-2; 9 at 13]. However, what SCE fails to consider is that CAISO's 2018 forecast incorporates 986 MW of demand response resources<sup>12</sup>, 491 MW of energy efficiency resources<sup>13</sup>, and 714 MW of "PV Self Generation Peak Impact" resources<sup>14</sup> on SCE's entire system; these energy resources will reduce peak demand, yet they are not factored into SCE's forecast methodology<sup>15</sup>. When allocated to the Valley South system (which comprises 4% of SCE's entire system), these energy resources collectively provide 88 MW of peak demand reduction that is included in CAISO's forecast and omitted from SCE's forecast. In other words, when energy resources that reduce peak demand (such as demand response, energy efficiency, and PV distributed generation) are properly factored into SCE's forecast, it reduces SCE's forecast to such an extent that it is similar to CAISO's forecast<sup>16</sup>.

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<sup>12</sup> CAISO 2016-2017 Transmission Plan Table 2.6-6; *see Ex. FRONT-16*.

<sup>13</sup> CAISO 2016-2017 Transmission Plan Table 2.6-5; *see Ex. FRONT-16*.

<sup>14</sup> Value interpolated from Table 2.3-1 of the CAISO 2016-2017 Transmission Plan; *see Ex. FRONT-16*. Table 2.3-1 assumes 441 MW of peak PV impact by 2015, and 896 MW of peak impact by 2020, which corresponds to 91 MW of PV added each year, or 714 MW of peak impact by 2018.

<sup>15</sup> As set forth on page 2 of Exhibit FRONT-9, SCE's forecast omits demand response resources entirely and it omits energy efficiency resources until 2019. SCE's forecast also incorporates negligible additions of distributed generation, and it actually assumes that distributed generation resources will drop considerably after 2018.

<sup>16</sup> This fact is confirmed by SCE's own internal data. For instance, allocating 4% of the 986 MW of demand response to the Valley South system yields a local demand response assumption of 39 MW for 2018. This is consistent with the 38 MW of demand response resources that SCE procured for 2014, and the 34 MW that SCE procured for 2017 [Ex. FRONT-1; attachment labeled "Exhibit 10"].

A similar analysis of the 2026 forecast results reveals that there is little difference between SCE's 2026 forecast and CAISO's 2026 forecast when energy efficiency, demand response, and distributed PV generation are properly factored in to reduce SCE's peak demand forecast<sup>17</sup>.

The evidentiary record also repudiates SCE's testimony that the peak demand level that "occurred in 2016" on Valley South is 72 MVA higher than the CAISO's 2018 forecast [Ex. SCE-2; 9 at 19 to 10 at 9]. The actual ("raw") recorded peak demand that "occurred in 2016" was only 899 MW [Ex. FRONT-4]; since this value is already in units of megawatts, there is no need to apply an artificial "power factor" correction. Applying SCE's standard "temperature" adjustment increases the value to 948 MW<sup>18</sup>, and applying SCE's standard "1 in 10 heat storm" adjustment increases the value to 1,056 MW<sup>19</sup>. However, and as set forth above, CAISO's 2018 forecast includes the addition of energy resources that collectively reduce peak demand by 88 MW, and when this is factored in, the difference between the SCE 2016 peak demand event and the CAISO 2018 forecast is only 13 MW, not the 72 MVA that SCE's testimony states.

The evidentiary record also repudiates SCE's testimony [Ex SCE-2 beginning on page 10 at 10] that, on August 28, 2017 "the recorded and unadjusted peak demand value of the Valley "D" System was 1,015 MVA" and that "This value alone is nearly the value of the

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<sup>17</sup> CAISO's 2026 forecast is 950 MW, which converts to 1031 MVA using SCE's "power factor" and "coincidence" adjustments. SCE's 2026 forecast is 1169 MVA, which converts to 1213 MVA using SCE's "1 in 10 heat storm" factor. This results in an initial "apples to apples" difference of 182 MVA. However, CAISO's 2026 forecast includes the following on SCE's system: 1658 MW of energy efficiency [Table 2.6-5], 986 MW of demand response [Table 2.6-6] and 1739 MW of PV Self Generation Peak Impacts [Table 2.3-1]. Allocating 4% of these SCE system resources to Valley South yields 175 MW in peak demand reduction that is omitted from SCE's forecast. When these energy resources are properly factored into to reduce SCE's peak demand forecast, there is only a few megawatts of difference between SCE's forecast and CAISO's forecast.

<sup>18</sup> SCE testifies that the temperature was 2.9°F cooler than the average peak temperature on the peak day in 2016 [Ex. SCE-2; 10 at 4], so the "normal weather" adjustment calculation is  $899 \text{ MW} \times 2.9 \text{ }^\circ\text{F} \times 1.9\% = 49$ ;  $49 + 899 = 948$ .

<sup>19</sup>  $948 \text{ MW} \times 6 \text{ }^\circ\text{F} \times 1.9\% = 108$ ;  $108 + 948 = 1056$

CAISO forecast projected to occur the next year in 2018" and that 1,124 MVA is a value "which occurred in 2017". In fact, there is almost nothing true in any of this testimony. For one thing, the actual "raw" peak demand that occurred on August 28, 2017 was only 894 MVA (SCE did not provide the value in MW) [Ex. FRONT-7 Q9(h)]. Thus, the "recorded and unadjusted peak demand value of the Valley "D" System" was never anywhere near 1,015 MVA, and a 1,124 MVA value certainly never "occurred in 2017". To the contrary, the record shows that the 1,015 MVA value was entirely contrived as an extrapolation [TR 293 at 1] to indicated a possible outcome for "what would have" occurred had there not been a "weather anomaly" [TR 232 at 4].

Taken together, the facts presented in the evidentiary record prove that the only real difference between SCE's forecast and CAISO's forecast is that SCE's forecast fails to properly account for important energy resources (such as demand response, energy efficiency, and distributed generation) which reduce peak demand and are expected to grow significantly over the next decade in response to legislative mandates. Conversely, the record shows that CAISO's forecast properly accounts for these resources, and should therefore be relied upon by the Commission to determine whether the Alberhill Project should be approved.

### **3.0 THE ALBERHILL PROJECT IS NOT NEEDED TO MITIGATE MAINTENANCE OR EMERGENCY EVENTS OR TO RELIEVE OPERATIONAL ISSUES SUCH AS VOLTAGE CONCERNS OR LOAD ROLLING. [Scoping Item #6b]**

According to SCE, the Alberhill project will provide ancillary system benefits to relieve "operational issues" during maintenance and emergency events. For instance, SCE asserts that the Alberhill Project creates "tie-lines" that will allow "electrical demand to be transferred as needed to avoid overload conditions, or involuntary load shedding under peak conditions due to unplanned outages of 115 kV lines" [Ex. SCE-1; 10 at 15]. SCE also claims that the Alberhill Project provides voltage benefits because "splitting the electrical demand in the area into two systems reduces the susceptibility to system voltage collapse during fault conditions at times of extreme heat and large amounts of air conditioning load" [SCE-1; 14 at 9]. However, and as set forth below, close inspection reveals that Alberhill is not "needed" to address either of these issues, and in the case of the "voltage" benefits that

SCE claims, the evidentiary record shows that the proposed Alberhill system will be more susceptible to "voltage collapse" than the existing Valley South system. Therefore, Alberhill is not "needed" to provide any of the ancillary benefits that SCE claims, and these claimed benefits do not justify Commission-approval of the Alberhill Project.

### **3.1 The Alberhill Project is not "Needed" to Develop System "Tie-Lines".**

SCE states that the Alberhill project will provide system "Tie-Lines" to Valley South that would allow load to be "transferred as needed under abnormal conditions and during unplanned outages to restore electrical service" and "for routine maintenance and inspection or for other activities" [Ex. SCE-1; 15 at 4]. According to SCE, such load transfers are not currently possible on the Valley South system because "no 115-kV system tie-lines exist between the Valley South System and any other system." [Ex. SCE-1; 10 at 8]. What SCE *does not* divulge is that it should have provided Valley South "tie lines" more than a decade ago in accordance with its own Planning standards. Specifically, SCE's "Subtransmission Planning Criteria and Guidelines" mandate procedures that

[REDACTED] [Ex. TURN-4C; Section 2.3.2.4A].

SCE also fails to divulge that the Valley South system was specifically configured without tie lines; as Witness McCabe confirmed, "tie lines" between Valley North and Valley South "did not get created upon the split of the two systems" [TR 143 at 12] *even though* SCE has particular experience in "splitting" 115 kV systems and developing system "ties-lines" between the "split" systems [TR 142 at 4; 143 at 14]. SCE also fails to divulge that it has never taken any steps to develop system "tie-lines" between Valley South and Valley North substations in the 13 years that have passed since these two systems were split<sup>20</sup> even

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<sup>20</sup> FRONTLINES repeatedly asked Witness McCabe why SCE did not create system "tie lines" when the Valley North & South Systems were split [from TR 116 at 6 & from TR 141 at 16]. He never provided a substantive answer, and merely repeated that "there are currently no ties that are in existence" [from TR p.117 at 4] and stated that SCE determined "the Valley North system would retain the only system ties... the Valley South System would not" [TR p.141 at 24] and that SCE did not acquiesce that it "would live forever without those tie-lines. It was that the system needed to be split and needed to be split now because of the fourth transformer was placed in service" [TR142 at 28].

though such system "tie-lines" could have been developed at any time according to the evidentiary record as shown below.

SCE can easily remedy this lack of system "tie-lines" to Valley South because SCE's 115-kV systems are interconnected and reconfigurable [Ex. FRONT-1;10 at 20 and the attachment labeled "Exhibit 11"]. Specifically, the evidentiary record shows that Valley South system "tie-lines" can be developed using vacant 115 kV bay positions to make connections between Valley North and Valley South Substations [TR 117 at 12-16; Ex. FRONT-20C] and that the Alberhill Project *is not necessary* to develop such system ties [Ex. FRONT-1; 25 at 9].

The development of Valley South system "tie-lines" will involve connections between existing 115-kV facilities, and in accordance with SCE's adopted Planning standard, they will be implemented regardless of whether the Alberhill Project is approved. FRONTLINES notes that, as a reasonably foreseeable action that SCE will pursue in accordance with its own adopted Planning Standard, the development of Valley South system "tie-lines" is a fundamental element of the "No Project" Alternative.

### **3.2 The Alberhill Project is not the Appropriate Mechanism to Address Voltage Collapse/FIDVR Concerns, and Alberhill Itself has an Unreliable Configuration that Risks Ivyglen Load and Leaves SCE Customers More Susceptible to FIDVR Events than Valley South.**

The evidentiary record demonstrates that reducing voltage collapse/FIDVR concerns by splitting an existing 115 kV subtransmission system in two is not the recommended strategy. It also demonstrates that the Alberhill Project configuration risks Ivyglen load and is more susceptible to voltage collapse problems than the existing Valley South system.

#### *3.2.1 Voltage Collapse Concerns on the Valley South System Should be Addressed Through the Deployment of Reactive Support in Accordance with SCE's Planning Standards.*

The evidentiary record clearly establishes that voltage and reactive power ("VAR") management is achieved by installing capacitors as reactive support at distribution substations [TR 96 at 15] and that reactive equipment will manage voltage collapse concerns on the Valley South system [Ex. FRONT-22 response to Q11(d)] and provide VARs

and voltage support [TR 95 at 26; TR 190 at 6]. In fact, SCE's own Planning standards set forth objectives that compel SCE to avoid reactive power deficiencies on 115-kV "A-Bank" systems which impact the CAISO grid [Ex. FRONT-14 at 42] by installing reactive equipment if deficiencies are noted. It also requires SCE to fully supply peak reactive power needs by maintaining unity power factor (or zero VAR flow) on each distribution circuit and supply reactive support if distribution VAR deficiencies are noted. [Ex. FRONT-14 at 44]. Specifically, SCE's Subtransmission Planning Guidelines state that the objective is

[REDACTED]

[Ex TURN-4C; 2.5.1] Otherwise, when VAR deficiencies occur, reactive power ("VAR") flows from the CAISO system to the Valley South System through the Valley South transformers and the power factor drops below unity ("1") on the Valley South 500/115 kV "A-bank" system, [TR 94 at 1]. Notably, nothing in SCE's Planning standards appear to recommend that systems be split to reduce voltage or VAR concerns.

Moreover, the evidentiary record indicates that there really are no voltage or VAR concerns on the Valley South system, because if there were, SCE would have proposed reactive support projects to mitigate them in accordance with its Planning standard, and these projects would have been included in SCE's 2018 General Rate Case ("GRC") Application. As the record shows, SCE's GRC Application did not identify any reactive support projects on the Valley South system [Ex. FRONT-15]. Thus, there is no real evidence to support SCE's contention that the Valley South system is particularly "susceptible" to voltage collapse/FIDVR events anyway.

Finally, it is noted that the implementation of reactive support measures to eliminate "voltage collapse" and FIDVR concerns is a primary element of the "No Project" Alternative because it is mandated by SCE's planning standards. Thus, it is reasonably foreseeable activity that SCE will implement if the Alberhill Project is not approved.

### *3.2.2 The Alberhill Project Configuration Risks Ivyglen Load and is More Susceptible to Voltage Collapse and FIDVR Events than the Valley South System.*

The evidentiary record demonstrates that the Alberhill project configuration is not reliable because it leaves the Ivyglen substation served by a single power source (Alberhill). Thus,

an event which removes the Alberhill substation from service will drop all the Ivyglen load, and it will largely remain dropped until Alberhill itself is back online [Ex. FRONT-1; 14 at 2]. As FRONTLINES testimony points out, if the Alberhill 115 kV west bus experiences a fault while the 115-kV east bus is down for maintenance, all service on the 115-kV Alberhill system will be lost and, by extension, the load served by Ivyglen will also be lost. A limited amount of Alberhill load can be serviced via "tie-lines" to the Valley South system, however Alberhill is not configured with "tie-lines" that serve Ivyglen, so under this scenario, "tie-lines" will not relieve Ivyglen load. Depending on the circumstances, some Ivyglen distribution load could perhaps be picked up Fogarty, however much of the Ivyglen distribution load will be dropped and will remain dropped until Alberhill is brought back on line.

According to SCE, FIDVR or voltage collapse occurs most frequently on large induction motor loads (air conditioning systems) [Ex.SCE-2; 22 at 14] and increasing demand on systems with high induction motor loads increases susceptibility to FIDVR events [Ex.SCE-2; 22 at 17]. SCE also states that FIDVR susceptibility on the Valley South system was reduced in 2004 when the transmission system was "stiffened" through the addition of a third 500-kV line at Valley South [TR124 at 4-11], and it is now even less susceptible to FIDVR events because it is served by four 500-kV lines [TR 126 at 26]. Reconciling these facts with the Alberhill design parameters indicates that the Alberhill system will actually be far more susceptible to FIDVR and voltage collapse than the Valley South system, to wit:

1. Alberhill will be served by only two 500 kV lines, not four. This configuration leaves Alberhill to be supported by a less robust transmission system than Valley South, which renders Alberhill more susceptible to voltage collapse/FIDVR events.
2. Alberhill is configured to serve loads exceeding 1120 MVA load because it is configured with three "in service" 560 MVA transformers plus a spare [TR 130 at 1-8]. In fact, with this configuration, Alberhill could actually serve up to 1,680 MVA (560 MVA x 3)<sup>21</sup>. This means that Alberhill will ultimately serve a much higher load than Valley South, which renders Alberhill more susceptible to voltage collapse/FIDVR events.

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<sup>21</sup> Notably, SCE's written testimony states that Alberhill is not proposed to have 1,120 MVA of load serving capacity [SCE-2; 18 at 4]. However, this testimony is contradicted by SCE's oral testimony that Alberhill will be able to serve *more than* 1,120 MVA of demand [TR 130 at 22] and that it is actually configured to accommodate four 380 MVA transformers, of which only one is a "Spare" [TR 130 at 1-8]. Thus, SCE's written testimony is factually incorrect.

3. Like Valley South, Alberhill will have a high induction motor load due to residential air conditioning [Ex. FRONT-1; 23 at 18]. However, unlike Valley South, Alberhill will serve more than 1120 MVA of load, which renders it more susceptible to voltage collapse/FIDVR events.

Taken together, these material facts demonstrate that SCE has designed Alberhill in a manner that appears to pose a substantial FIDVR/voltage collapse risk to SCE customers that are connected to the Alberhill system.

#### **4.0 THERE ARE FEASIBLE ALTERNATIVES TO ALBERHILL THAT AVOID ADVERSE ENVIRONMENTAL IMPACTS AND ADDRESS VALLEY SOUTH OVERLOAD CONCERNS EVEN IF SCE'S INFLATED PEAK DEMAND FORECAST WERE TO OCCUR [Scoping Item #2]**

Notwithstanding the substantial bias found in SCE's forecasting methodology, and even assuming that SCE's peak demand forecast actually comes to pass, the evidentiary record demonstrates that SCE's "transformer overload" concerns can be fully mitigated without Alberhill by shifting demand among SCE's existing 115-kV systems; this eliminates all overload concerns beyond the 10-year planning horizon. The evidentiary record also shows that, rather than shifting demand, SCE can easily mitigate those few and fleeting instances in which actual ("raw") Peak Demand approaches 1,119 MVA by operating a third transformer at Valley South. Material facts from the evidentiary record are presented below which demonstrate that "demand shifting" and the operation of a third transformer are feasible alternatives, and both are environmentally preferred to the Alberhill Project. As such, they provide compelling reasons why the Commission should not approve the Alberhill Project.

#### **4.1 Demand Shifting Eliminates Transformer Overload Concerns Beyond a 10-Year Planning Horizon**

As FRONTLINES testimony shows, the 115-kV subtransmission systems that serve SCE customers in western Riverside County and the surroundings areas are interconnected and reconfigurable [Ex. FRONT-1; 10 at 20]. In particular, the Valley North, Valley South, and

Vista systems are not merely contiguous, they are geographically enmeshed, meaning that subtransmission lines which serve 115 kV substations on the Valley North system actually extend beyond lines that serve 115 kV substations on the Valley South system [Ex. FRONT-1; 10 at 22 to 11 at 3]. And, as the evidentiary record demonstrates, these existing systems have sufficient capacity to fully accommodate all projected load that SCE forecasts [Ex. FRONT-1; 10 at 16].

Specifically, SCE's forecast asserts that the combined 2025 peak demand on all the 115 kV substations that comprise the Valley South, Valley North, and Vista systems is 2535 MVA [Ex. FRONT-21]. This is rather less than the 2800 MVA capacity of the combined transformers operated at Valley North, Valley South, and Vista.<sup>22</sup> Thus, in the unlikely event that SCE's inflated peak demand forecast does actually come to fruition, shifting demand between these 115-kV systems will eliminate all perceived transformer overloads. The record clearly establishes that "Demand Shifting" between existing 115 kV systems feasibly accommodates even the inflated peak demand projections identified in SCE's forecast [Ex. FRONT-1; 14 at 17].

SCE affirms that it can transfer the Sun City and Newcomb substations to Valley North and that doing so will simply require the construction of less than 10 miles of new 115-kV transmission line [PEA page 1-11]. Notably, when SCE prepared the PEA, it mistakenly assumed that this configuration would only provide short term relief because of projected load growth, however, the evidentiary record reveals this assumption to be false. As shown in Exhibit FRONT-21, there is sufficient transformer capacity on the 115 kV systems to accommodate *all* of SCE's projected peak demand levels on *all* of these 115 kV systems beyond 2025. Therefore, the evidentiary record firmly establishes that demand shifting will address all of SCE's perceived transformer overload concerns.

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<sup>22</sup> The combined transformer capacity of these systems is 2,800 MVA; Valley South and Valley North each have two 580 MVA transformers [Ex. FRONT-20C], and Vista has two 280 MVA transformers [Page A-7 of CPUC EIR for the El Casco Project (A.07-02-022) found here: <ftp://ftp.cpuc.ca.gov/Environment/info/aspen/elcasco/DEIR/A-Introduction.pdf>. ]

The "Demand Shift" strategy involves the construction of a short (< 10 mile) 115-kV line, and it eliminates significant adverse impacts generated by the Alberhill Project because it avoids the construction of a new, 34-acre 500-kV substation and the construction of new 500 kV lines. It also significantly reduces construction of 115-kV facilities.

Notably, the "demand shift" strategy is an essential element of SCE's Planning standards. For instance, SCE has an adopted "A-Bank Plan" which pertains to transmission substations (like Valley South) that are connected to the CAISO grid and serve SCE's subtransmission systems. The objective of SCE's A-Bank Plan is to provide adequate capacity at each substation to serve forecast peak loads [Ex FRONT-14; 42 at 1]. When SCE forecasts that an "A-bank" transformer may become overloaded, SCE evaluates whether existing infrastructure can be utilized to "balance electric power between highly loaded substations and substations with additional reserve margins"[Ex FRONT-14; 42 at 7]. This "load balancing" is also referred to as "demand shifting" and, as indicated above, it is a viable alternative to the Alberhill Project. It is also a primary element of the "No Project" Alternative [Ex. FRONT-1;11 at 11 and 14 at 11-18] because the implementation of demand shifting as mandated by SCE's planning standards is a "reasonably foreseeable" activity that SCE will pursue if the Alberhill Project is not approved.

#### **4.2 The Addition of a Third Transformer at Valley South Eliminates All Perceived Transformer Overload Concerns**

As FRONTLINES' testimony indicates, peak demand events occur fleetingly [Ex. FRONT-1; 8 at 4], and even SCE admits that "peak load" data are "not representative of system conditions but for a few seconds at a time"<sup>23</sup>. The rare and fleeting nature of peak demand on the Valley South system is confirmed by the 2016 "load duration curve", which shows that, more than 99% of the time, Valley South stays well below 800 MW<sup>24</sup>.

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<sup>23</sup> See SCE response to a FRONTLINES discovery request provided in an attachment to Exhibit FRONT-1 that is labeled "Exhibit 8".

<sup>24</sup> See Valley South Load Duration Curve provided in an attachment to Exhibit FRONT-1 that is labeled "Exhibit 9".

During brief and fleeting peak load intervals on the Valley South system, SCE can deploy a third transformer without complications or difficulty. In fact, SCE already deploys a third transformer on the Valley South System even when the Valley South system load is below 90% of the transformer capacity [Ex. SCE 3 page 1]. The fact that the third transformer deployed by SCE in such circumstances is the designated "spare" is immaterial; it does not matter what SCE "calls" the third transformer, it only matters whether the third transformer can occasionally be deployed in a timely manner without adverse system impacts. Exhibit SCE-3 shows that SCE can easily and quickly deploy a third transformer to address fleeting circumstances without difficulty or adverse consequences, thus the addition of a third transformer is a feasible, reasonable, and cost-effective alternative to "hedge" against the highly unlikely event that SCE's inflated peak demand forecast actually comes to pass. Equally important, the addition of a third transformer at Valley South will eliminate all the significant adverse impacts created by the Alberhill Project.

SCE testifies that adding a third transformer to occasionally serve the Valley South system will not result in the "short-circuit duty cycle" concerns that are identified in the FEIR [Appendix D page 38]. Specifically, SCE affirms that the operation of a third transformer on the Valley South System will not cause short-circuit duty concerns because it "is not projected to exceed the limitations of the circuit breakers"[Ex. SCE-1; 12 at 6] and that "The short-circuit duty values of the Valley South System with the hypothetical addition of a third load-serving transformer, and consideration of the generation projects that are currently in the interconnection queue, would be expected to be remain below 50 kA" [Ex. SCE-2; 22 at 24].

FRONTLINES recommended this "Third Transformer" Alternative to the Alberhill Project in comments that were submitted on the Draft EIR and demonstrated its feasibility and benefits and explained that it was a reasonably priced (<\$ 50 million) option, particularly given the noted unreliability in SCE's Peak Demand forecast. [FRONTLINES DEIR comments page 23-25].

Taken together, these facts placed in the evidentiary record demonstrate that the addition of a third transformer is feasible; it eliminates all environmental impacts created by Alberhill, it can be accomplished in a reasonable time; it will not create adverse system impacts, it is more than sufficient to address momentary peak load circumstances in the

unlikely event that the actual ("raw") peak demand on the Valley South system approaches the 1119 MVA transformer capacity, and it provides a hedge against the (extremely unlikely) possibility that SCE's Peak Demand forecast will come to pass. And, the addition of a third transformer is an extremely low-cost alternative, particularly when compared to the nearly \$600 million Alberhill Project.

**5.0 THE ALBERHILL "NO PROJECT" ALTERNATIVE IS ENVIRONMENTALLY SUPERIOR, IT IS ENTIRELY FEASIBLE AND IT ADDRESSES ALL TRANSFORMER OVERLOAD, SYSTEM "TIE-LINE", AND VOLTAGE COLLAPSE/FIDVR CONCERNS ON THE VALLEY SOUTH SYSTEM. [Scoping Items #3 and #5]**

Consistent with CEQA, the "No Project" Alternative to Alberhill addresses "what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services" [CEQA Guidelines Section 15126.6(e)(2)]. There is no question that SCE would continue to implement its current Planning standard regardless of whether Alberhill is approved, therefore actions mandated therein are part and parcel of the "No Project" Alternative. As such, and as described in previous sections, the evidentiary record establishes that the "No Project" Alternative includes the following elements:

1. Shifting demand among SCE's existing 115-kV systems to eliminate potential transformer overloads on the Valley South System should SCE's inflated forecast come to pass. As set forth in Section 4.1 above, this element of the "No Project" Alternative is feasible, is based on existing 115 kV facility capacities, and fully addresses all overload concerns beyond the 10-year planning horizon.
2. Developing system "tie-lines" between Valley South and Valley North using available bay positions on existing 115-kV facilities. As set forth in Section 3.1 above, this element of the "No Project" Alternative is feasible, relies on existing 115-kV substation facilities, and fully addresses all system "tie-line" deficiencies on the Valley South system.
3. Implementing Reactive Support projects by adding reactive devices at existing transmission and subtransmission substations to reduce Valley South susceptibility to "voltage collapse" and FIDVR events and to forestall VAR deficiencies as needed. As set forth in Section 3.2 above, this element of the "No Project" Alternative is feasible, involves existing transmission and subtransmission substations, and fully addresses all "voltage collapse", FIDVR, and VAR concerns on the Valley South system.

Through the implementation of these elements of the "No Project" alternative, all of the concerns that SCE cites as justification for the Alberhill Project [Ex. SCE-1; 9 at 19] are eliminated.

FRONTLINES also notes that, by implementing the "No Project" Alternative, all of the significantly adverse Alberhill Project impacts created by the construction of a new 500 kV substation and new 500 kV lines are completely eliminated. The "No Project" Alternative also involves substantially less 115-kV infrastructure than the Alberhill Project due to the adjacency of Valley North and Valley South and because "demand shifting" requires less than 10 miles of new 115-kV line (as proven above in Section 4.1). Therefore, and in addition to being entirely feasible, the "No Project" Alternative is "Environmentally Superior" to the Alberhill Project. These factors provide compelling reasons why the Commission should not approve the Alberhill Project.

**6.0 THERE ARE NO OVERRIDING CONSIDERATIONS TO WARRANT COMMISSION-APPROVAL OF ALBERHILL, AND THE RECORD DEMONSTRATES THAT FEASIBLE, ENVIRONMENTALLY SUPERIOR ALTERNATIVES RENDER ALBERHILL UNNECESSARY AND DEVOID OF BENEFITS TO OUTWEIGH ITS SIGNIFICANT ADVERSE ENVIRONMENTAL IMPACTS [Scoping Item #6].**

CEQA Guidelines Section 15091 precludes a Commission from approving a project that is wholly under its jurisdiction and which creates a significant and unavoidable environmental effect without first finding that either 1) Changes or alterations have been incorporated into the project that avoid or substantially lessen the significant environmental effect; or 2) The alternatives identified in the EIR are infeasible. In addition, CEQA Guideline section 15093 precludes a Lead Agency from approving a project which creates significant and unavoidable environmental effects without first making a determination that these effects are outweighed by the benefits provided by the Project. Under such circumstances, the Commission is obliged to prepare a "Statement of Overriding Considerations" supported by substantial evidence that identifies the reasons for approving the project despite its environmental impacts.

These separate and distinct CEQA provisions work together to achieve the two-fold CEQA purpose of ensuring that significant environmental effects of a project are reduced to the

greatest extent feasible, and that residual significant effects created by the project are demonstrably outweighed by benefits provided by the project. These CEQA provisions work in tandem: Section 15091 first "sieves" the project alternatives and mitigation measures to ensure that the final project that is considered under Section 15093 has the least environmental impacts, then Section 15093 ensures that the impacts created by the final project are outweighed by the benefits that it provides.

In the case of the Alberhill Project and its alternatives, the material facts set forth in prior sections shows that the "No Project" alternative provides all the same benefits of the Alberhill Project (namely, it addresses transformer overload concerns, provides system ties to Valley South, and mitigates "voltage collapse"/FIDVR concerns) at a substantially lower environmental "cost". Material facts set forth above also demonstrate that simply adding a third transformer to Valley South avoids all significant environmental impacts and it eliminates all transformer overload concerns by accommodating the fleeting and rare peak demand events projected by SCE's inflated forecast methodology. And, since both the "No Project" Alternative and the "Third Transformer" Alternative can be feasibly implemented and avoid the significant adverse impacts created by the Alberhill Project, they are both "environmentally superior" to the Alberhill Project.

Implementation of the "No Project" Alternative with or without the "Third Transformer" Alternative feasibly eliminates all the concerns that the Alberhill Project ostensibly addresses, and thus eliminates any perceived "need" for the Alberhill project itself. Therefore, through operation of CEQA Guidelines Section 15091, the Commission is precluded from advancing the Alberhill Project for consideration under CEQA Guidelines Section 15093. In other words, the Alberhill Project is "sieved out" by CEQA Guidelines Section 15091 because feasible, environmentally superior alternatives can be implemented which provide all the same benefits of the Alberhill Project without the significant adverse environmental impacts. Therefore, no "Statement of Overriding Consideration" can be adopted for the Alberhill Project.

Moreover, the implementation of the "No Project" Alternative with or without the "Third Transformer" Alternative will achieve all the same benefits ascribed to the Alberhill Project, but at significantly reduced environmental cost. This fact precludes the Commission from determining that the significant environmental impacts of Alberhill are

outweighed by any benefit it provides because the benefits provided by Alberhill at significant environmental cost can also be secured at minimal environmental cost by implementing the "No Project" Alternative with or without the "Third Transformer" Alternative. For all of these reasons, CEQA precludes the Commission from adopting a "Statement of Overriding Considerations" to approve the Alberhill Project.

**7.0 THE ALBERHILL PROJECT DOES NOT MEET THE THRESHOLD REQUIREMENTS IMPOSED BY PUBLIC UTILITIES CODE § 1001, THEREFORE IT DOES NOT WARRANT A CPCN. [Scoping Item #8]**

Public Utilities Code Section 1001 ("§1001") conditions a utility's authority to construct new transmission facilities on it having first obtained from the Commission a certificate that the present or future public convenience and necessity "require" or "will require" such construction. To determine the extent to which a project provides a future convenience and necessity, the Commission applies a 10-year planning horizon.

In the instant proceeding, SCE contends that Alberhill Project construction is "required" to relieve projected electrical demand on the Valley South system because SCE's Peak Demand forecast indicates that the Valley South transformers may overload by 2021 [Ex. SCE-1; 11 at 20]. SCE also identifies two ancillary issues that the Alberhill project could address (system "tie-lines" to Valley South and "voltage collapse" susceptibility), however SCE does not propose the Alberhill Project to address these issues. To the contrary, the evidentiary record shows that Alberhill is not "required" to address these issues because SCE will pursue different projects to resolve them otherwise.<sup>25</sup> Therefore, and for the purposes of assessing whether a CPCN is warranted for the Alberhill Project, the relevant issue is whether public convenience and necessity "requires" the construction of Alberhill to relieve projected electrical demand that could exceed transformer capacity on the Valley South system now or within the established 10-year planning horizon.

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<sup>25</sup> SCE affirms that it does not propose the Alberhill Project as a means of addressing voltage collapse events [Ex. FRONT-1; 24 at 10 also Ex. FRONT-22; response to Q11(o)] and SCE's Planning standards instruct SCE to address voltage concerns through the installation of reactive support. SCE also affirms that project that SCE would pursue to create system ties "might have a scope that's different [from Alberhill] by creating new 115 kV system ties to somewhere".

Additionally, in accordance with Public Utilities Code Section 1002.3 ("§1002.3"), when considering an application for a certificate for an electric transmission facility pursuant to §1001, the Commission must consider cost-effective alternatives to transmission facilities that meet the need for an efficient, reliable, and affordable supply of electricity. The low-cost alternatives to the Alberhill Project that are recommended by FRONTLINES qualify as alternatives to transmission facilities pursuant to §1002.3 because they avoid the construction of a new transmission substation and transmission lines operating at voltages greater than 200-kV and they contemporaneously eliminate transformer overload concerns and accommodate projected electrical demand on the Valley South system. Both §1001 and §1002.3 are relevant to the Commission's decision regarding whether to issue a CPCN for the Alberhill Project, so both are addressed below.

#### **7.1 The Evidentiary Record Does Not Support a Commission Finding that the Alberhill Project is "Required" to relieve projected electrical demand on the Valley South System.**

The only material evidence that SCE has provided in this proceeding to support its contention that Alberhill construction is "required" to relieve projected electrical demand is a recent forecast which projects a 1123 MVA "1 in 5 Heat Storm" Peak Demand by 2021 [Ex. FRONT-3]. Prior forecasts provided by SCE have all been either superseded or shown to be incorrect<sup>26</sup>. Because there is no evidence in the record other than SCE's forecast to support SCE's claim that Alberhill construction is "required" to relieve projected electrical demand by 2021, the Commission must establish the veracity of SCE's forecast, and find that it is representative, reasonable and accurate before a CPCN can be issued for the Alberhill Project. This necessarily involves an assessment of both the forecast methodology and the forecast assumptions to confirm that they accurately depict existing electrical system loads and properly capture the future energy "landscape" of the Valley South system. The latter is particularly important, given recent state mandates regarding

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<sup>26</sup> For example, the forecast included in SCE's PEA stated that transformer overloads would occur by 2011.

energy efficiency, storage, etc. that will be implemented within the 10-year planning horizon. Additionally, the Commission must weigh the efficacy of SCE's current forecast against record evidence indicating that SCE's previous forecasts are overpredictive, biased, and unreliable. Finally, the Commission must find such evidence materially deficient before issuing a CPCN based on SCE's forecast. FRONTLINES contends that there are no material deficiencies in any of the record evidence showing that SCE's forecasts are overpredictive, biased, and unreliable, to wit:

1. The evidentiary record proves that SCE's forecast is consistently and persistently overpredictive. [Section 2 above; also Ex. FRONT-1; 7 at 5 to 10 at 12]
2. The evidentiary record proves that the historic "Recorded Peak Demand" values that provide the "starting point" for SCE's forecast are substantially "adjusted" to strip out distributed generation and correct for "weather anomalies" and any factor "other than temperature". As a result, the "Recorded Peak Demand" values upon which SCE's entire forecast is founded are artificially inflated and do not represent actual ("raw") historic peak demand events.
3. The evidentiary record proves that the incremental factors that SCE applies to forecast future Peak Demand omit key energy resources such demand response and storage, they discount virtually all distributed generation and energy efficiency, and they assume that future incremental additions of distributed generation and energy efficiency resources drop significantly within a few years. [Ex. FRONT-1; 5 at 3 to 7 at 4].
4. The evidentiary record shows that the CAISO's 2017 load projection for the Valley South system (which is derived from the CEC's demand forecast and the Commission's LTPP portfolio) indicates that projected electrical demand will not exceed transformer limits within the 10-year planning horizon. Thus, CAISO's 2017 forecast contradicts SCE's forecast [Ex. FRONT-1; 3 at 11 to 5 at 3].
5. The evidentiary record shows that CAISO's 2017 forecast does not project overloads on the Valley South transformers because it incorporates incremental additions of energy resources that are explicitly omitted from SCE's forecast, including energy efficiency, demand response, and distributed generation resources. These energy resources reduce peak demand, and when they are properly factored into SCE's forecast, it is revealed to be similar to the CAISO forecast.

The evidentiary record clearly proves SCE's forecast to be overpredictive and heavily biased because it ignores important energy resources that reduce peak demand. Therefore, it does not provide a credible or reliable basis for the Commission to conclude that Alberhill construction is "required" to relieve projected electrical demand on Valley South. And, because SCE has produced no other evidence supporting its contention that Alberhill is "required" for this purpose, there is insufficient basis to conclude that the Alberhill Project serves a public convenience and necessity and warrants a CPCN. Therefore, the evidentiary record demonstrates that the Alberhill Project does not meet the threshold requirement imposed by §1001.

## **7.2 The Evidentiary Record Shows that Cost Effective "Non-Transmission" Alternatives to the Alberhill Project will Accommodate Projected Electrical Demand and Eliminate Transformer Overload Concerns on Valley South and Thereby Meet the Need for Efficient, Reliable, and Affordable Electricity.**

In the event that the Commission concludes that SCE's forecast *is* credible, and that the Alberhill Project *does* meet the threshold requirement imposed by §1001 and that it *does* warrant a CPCN, FRONTLINES contends that a CPCN still cannot be issued for Alberhill unless and until the Commission considers two FRONTLINES alternatives that avoid all the Alberhill transmission facilities and accommodate SCE's projected electrical demand on Valley South. Consistent with §1002.3, a CPCN cannot be issued for the Alberhill Project unless the Commission determines that, based on the evidentiary record, each FRONTLINES alternative is either not cost-effective compared to the Alberhill project, or it fails to relieve SCE's forecast electrical demand on the Valley South system. Anything less than that would be contrary to §1002.3. As set forth below, the evidentiary record does not support any such findings.

### *7.2.1 FRONTLINES Demand Shift Alternative Meets §1002.3 Thresholds.*

FRONTLINES "Demand Shift" Alternative is a "non-transmission" alternative that relies on 115-kV subtransmission infrastructure and eliminates all the proposed Alberhill 500 kV transmission facilities by transferring demand within SCE's existing 115-kV systems in the project area:

1. SCE's inflated Peak Demand forecast on these 115-kV systems through the 10-year planning horizon does not exceed combined system transformer capacities. Therefore, FRONTLINES Demand Shift Alternative can accommodate SCE's projected electrical demand beyond 2026 and eliminate SCE's transformer overload concerns.
2. FRONTLINES' Demand Shift Alternative is feasible; SCE admits that it can shift Valley South Load to Valley North by constructing a short (< 10 mile) 115-kV transmission line.
3. FRONTLINES' Demand Shift Alternative is cost effective compared to the nearly \$600 million Alberhill Project. The estimated cost prepared by CAISO for this alternative is less than \$30 million [Ex. FRONT-1 page 4 of attachment labeled "Exhibit 1"].

Given these material facts, it is clear that FRONTLINES' Demand Shift Alternative meets §1002.3 thresholds and thus forestalls Commission approval of a CPCN for the Alberhill Project.

#### *7.2.2 FRONTLINES Third Transformer Alternative Meets §1002.3 Thresholds.*

FRONTLINES "Third Transformer" Alternative is a non-transmission alternative that eliminates all the proposed Alberhill 500 kV transmission facilities by adding a third transformer at the Valley South Substation to accommodate the rare and fleeting instances in which the actual ("raw") Peak Demand exceeds 1100 MVA. As discussed above:

1. The deployment of a third transformer to address fleeting and rare peak demand events will accommodate all transformer overload concerns even if SCE's inflated Peak Demand forecast comes to pass. Therefore, FRONTLINES Third Transformer Alternative will eliminate SCE's transformer overload concerns and accommodate SCE's projected electrical demand beyond 2026.
2. FRONTLINES' Third Transformer Alternative is feasible; SCE already deploys a third transformer at the Valley South substation on rare occasions and without difficulty or system impact concerns.
3. FRONTLINES' Third Transformer Alternative is cost effective compared to the nearly \$600 million Alberhill Project. The estimated cost prepared by CAISO for this alternative is less than \$50 million [Ex. FRONT-1 page 4 of attachment labeled "Exhibit 1"].

Given these material facts, it is clear that FRONTLINES' Third Transformer Alternative meets §1002.3 thresholds and thus forestalls Commission approval of a CPCN for the Alberhill Project.

Taken together, these material facts demonstrate that the Alberhill Project does not warrant a CPCN because 1) It does not meet the threshold imposed by §1001; and 2) There are cost effective, feasible alternatives to Alberhill that comport with §1002.3 by providing an efficient, reliable, and affordable supply of electricity and relieving electrical demand on Valley South even if SCE's inflated forecast does occur.

#### **8.0 THE MAXIMUM PRUDENT AND REASONABLE COST OF THE ALBERHILL PROJECT [Scoping Item #9].**

Public Utilities Code Section 1005.5 ("§1005.5") establishes that the Commission must specify the maximum prudent and reasonable cost in any CPCN that is issued for transmission facilities that exceed \$50,000,000. Consistent with this requirement, the Scoping Memo solicits input regarding the "maximum prudent and reasonable" cost for the Alberhill Project.

As set forth in Section 7 above, the Alberhill Project does not warrant a CPCN, therefore, the expenditure of *any* further funds on the Alberhill Project is neither reasonable nor prudent. Correspondingly, FRONTLINES contends that the "maximum prudent and reasonable" cost for the Alberhill Project is \$0.

#### **9.0 SCE HAS NOT FIRMLY ESTABLISHED THAT THE VALLEY IVYGLEN PROJECT IS NEEDED TO RELIEVE LOADS ON THE EXISTING VALLEY-ELSNORE-FOGARTY 115 KV SUB-TRANSMISSION LINE (Scoping Issue #6a).**

According to SCE's testimony, the Valley-Ivyglen Project is needed to eliminate projected overload concerns on the Valley-Elsinore-Fogarty ("VEF") line during "normal" (base case or non-contingency) operations and address N-1 contingency conditions on the Valley South system [Ex. SCE-1; 5 at 13-23]. SCE also states that Valley-Ivyglen is "needed" to provide a direct connection (a "source line") between the Valley South and Ivyglen substations [Ex. SCE-1; 5 at 6]. This Section 9 addresses SCE's contention that Valley-Ivyglen is "needed" to address normal VEF overload concerns and N-1 contingency events

on the Valley South system; Section 10 below addresses SCE's contention that Valley-Ivyglen is "needed" to provide a source line to the Ivyglen substation.

The evidentiary record demonstrates that SCE has not provided material evidence to firmly establish that the Valley Ivyglen Project is "needed" to relieve loads on the VEF line, particularly in light of the Commission's recent approval of the "Valley South Subtransmission" ("VSS") Project [D.16-12-001]. In fact, and as set forth in the subsections below, the evidentiary record demonstrates that SCE has not conducted proper power flow modeling to show that the Valley Ivyglen Project will still be "needed" to address N-1 contingency events after the VSS Project is constructed and operational. The record also demonstrates that the VEF overloads which initially prompted the Commission's approval of the project have not materialized, and that SCE's forecast methodology which forms the basis for SCE's claimed Valley-Ivyglen Project "need" is faulty and inflated.

### **9.1 The Forecast Load on the VEG Line that was Considered in D.10-08-009 and Relied Upon by the Commission to Approve the Valley-Ivyglen Project has Never Materialized.**

In D.10-08-009, the Commission approved the Valley-Ivyglen Project based in part on SCE's testimony that, under normal (non-contingency) conditions, the existing Valley-Elsinore-Ivyglen subtransmission line would exceed its 184 MVA capacity by 2009 [D.10-08-009 at 14]. This forecast did not materialize, and in fact the "Recorded Peak Demand" values on the VEF line have continually remained below 168 MVA. [FEIR Table 1-2]. The record demonstrates that VEG peak loads have actually dropped since the Valley-Ivyglen Project was approved in 2010, thus the VEF overload concerns that initially prompted the Commission to approve the Valley Ivyglen Project are, in retrospect, shown to be non-existent.

### **9.2 SCE's Current Forecast Load on the VEG Line is Unrealistic and Overpredictive.**

According to the data set forth in Table 1-2 of the FEIR, the "Recorded Peak Demand" levels on the VEF line have remained at or below 163 MVA for several years, and VEF loads have increased by only 15% since 2008 (the earliest date provided by the FEIR). Nonetheless, and despite the demonstrably "low" load and historically "slow" load growth on the VEF

line, SCE claims that VEF loading will soon jump *nearly 30%* to 209 MVA by 2024 [FEIR Table 1-2].

Perhaps it is not surprising that SCE now projects a 30% spike in the VEF load levels; after all, SCE establishes VEF load projections based on the same forecast methodology that shows overloads on the Valley South transformers by 2021. FRONTLINES' concerns with SCE's inflated and unreliable forecast methodology are set forth in detail above (Section 2.2) and will not be repeated here. Suffice it to say however that the evidentiary record clearly shows that the VEF load forecast upon which SCE relies to support its claim that Valley-Ivyglen is "needed" is heavily biased because it ignores essentially all distributed generation and energy efficiency resources, and it omits demand response resources as well. The evidentiary record also establishes that SCE's forecast is not credible because it consistently and persistently overpredicts peak demand. Thus, in the determination of whether to adopt a "Statement of Overriding Considerations" for the Valley-Ivyglen Project, the Commission should accord little weight to SCE's claim that Valley Ivyglen is "needed" to avoid VEF overloads; this "benefit" of the Valley-Ivyglen Project is not firmly established in the record, and it certainly does not outweigh the significant adverse environmental impacts created by the Valley Ivyglen Project.

### **9.3 SCE has Not Conducted the Proper Power Flow Analysis to Show that the Valley Ivyglen Project is Needed to Address N-1 Contingency Concerns After the Valley South Subtransmission Project is Constructed.**

In D.10-08-009, the Commission approved the Valley-Ivyglen Project based in part on SCE's testimony that the current system configuration contributes to unfavorable service reliability and that under abnormal ("N-1" contingency) conditions, the VEF line exceeds its operating capacity [D.10-08-009 at 14]. Today, SCE continues to claim that the VEF line is at risk of exceeding its maximum (emergency) operating limits under "N-1" contingency conditions [Ex. SCE-1; 5 at 13] as shown in Table 1-2 of the FEIR, which reports VEF loads will exceed 315 MVA by 2024 under an "N-1" contingency events.

However, what SCE and the FEIR *fail to divulge* is that the power flow studies they rely on do not incorporate the Valley South Subtransmission ("VSS") Project that was approved by the Commission in 2016 [D.16-12-001] and which adds a new source line to the Valley

South system. This fact was revealed during the evidentiary hearings when SCE was questioned extensively regarding Valley South source line capacities and power flow parameters to "get to" whether the Valley-Ivyglen Project will still be needed to address "N-1" conditions after the VSS Project is constructed [TR 131 - TR 136]. Ultimately, SCE affirmed that a power flow study is needed to determine the sufficiency of the Valley South lines [TR132 at 21], and that SCE had only performed power flows that include both the Valley-Ivyglen line and the VSS line [TR135 at 21]. Thus, the record does not include any power flow studies that show Valley Ivyglen will still be needed to address N-1 contingency events after the Valley South Subtransmission Project is constructed.

This distinction is important, because the addition of a new source line from Valley South that is provided by the VSS Project alters the system power flow profile under "N-1" contingency conditions. Specifically, and as set forth in the evidentiary record:

- The Valley South subtransmission is currently served by six source lines from the Valley South Substation: Valley-Auld, Valley-Triton, Valley-Sun City, Valley-Elsinore-Fogarty, Valley-Newcomb, and Valley-Skylark [Ex. FRONT-25].
- The combined source line capacity provided by the existing six source lines on the Valley South system under normal conditions is 1,234 MVA. [Ex. FRONT-25].
- With construction of the approved VSS Project, a seventh source line will be added to the Valley South system. The VSS line is a 954 kcmil stranded aluminum conductor [VSS Project FEIR at B-11] with a 217 MVA normal capacity [Ex. FRONT-25].
- With the addition of the VSS Project, the combined source line capacity provided by the seven source lines on the Valley South system under normal conditions is 1,451 MVA [Ex. FRONT-25].
- With the addition of the VSS Project and the total source line capacity of 1,415 MVA on Valley South, an N-1 contingency event that removes one 217 MVA source line will still provide Valley South with 1,234 MVA of source line capacity ( $1,451 - 217 = 1,234$ ). This is more than enough to accommodate SCE's "1 in 5 heat storm" forecast projection on the Valley South system that is provided in Exhibit FRONT-3.

These material facts show that, at least "on paper", the addition of the VSS Project to the Valley South system provides sufficient source line capacity to serve Valley South even under N-1 conditions *without Valley-Ivyglen*. However, FRONTLINES agrees with SCE that "Calculating the capacity of the lines to serve the load in the electrical system cannot be

done just by directly adding up the capacities of the line. You must perform a power flow. And in the power flow are the characteristics of those lines, and the load flows will be produced and compared to their capacities to determine if that would be sufficient. You can't do it just by adding up the numbers" [TR 132 at 17]. Thus, FRONTLINES concurs that a power flow is necessary to establish whether the Valley Ivyglen Project will still be needed to address N-1 contingency events on Valley South after VSS Project construction. The problem is, SCE has not performed such a power flow analysis, so there is no record evidence proving Valley Ivyglen is needed to address N-1 contingency events. The bottom line is that SCE has not shown that the Valley Ivyglen Project is needed to address N-1 contingency scenarios, and the preponderance of the record evidence shows that the Valley Ivyglen project is *not* needed for such purpose. Thus, in the determination of whether to adopt a "Statement of Overriding Considerations" for the Valley-Ivyglen Project, the Commission should accord *no weight* to SCE's claim that Valley Ivyglen is "needed" to address N-1 contingency events; this "benefit" of the Valley-Ivyglen Project is not established anywhere in the record, and it certainly does not outweigh the significant adverse environmental impacts created by the Valley Ivyglen Project.

#### **10.0 THE VALLEY IVYGLEN PROJECT IS NOT NEEDED TO PROVIDE A SECOND SOURCE OF POWER TO THE IVYGLEN SUBSTATION (Scoping Issue #6a).**

FRONTLINES does not dispute that there is a "need" to provide a second source of power ("source line") to the Ivyglen substation. To the contrary, FRONTLINES contends that SCE *should have* provided this second source line years ago when subtransmission service to Ivyglen was first established at more than 28 MW of load. FRONTLINES makes this assertion based on SCE's own adopted Planning standards, which direct SCE planners to

[Ex. TURN-4C at 2.3.8.1A]. Notably, SCE makes no mention of the fact that its own planning standards indicate that Ivyglen warranted a second source line years ago. Nor does SCE explain why it has not yet taken the simple steps (described below) that are necessary to rectify this situation, or why it has unnecessarily exposed customers served by Ivyglen to the load loss risks posed by this situation.

In any event, and as previously stated, FRONTLINES does not dispute that there is a "need" to provide a second source line to Ivyglen substation. What FRONTLINES *does* dispute is SCE's contention that the Valley-Ivyglen Project is "needed" to provide this second source line. As set forth in FRONTLINES comments on the Draft EIR, a new source line from Valley to Ivyglen can be easily provided by replacing the existing 115 kV single circuit line between Ivyglen and the Valley tap point with 115 kV double circuit facilities<sup>27</sup>; one circuit carries the new Valley-Ivyglen line, and the second circuit carries the existing 115 kV line between Elsinore and Fogarty and between Fogarty and Ivyglen. The resulting lines provide a direct connection between Valley and Ivyglen and they reliably serve Ivyglen even if a contingency removes the Fogarty-Ivyglen line from service.

Implementing this revision provides Ivyglen with a new source line from Valley, and it eliminates all the significant adverse impacts associated with the development of new right of ways for the Valley Ivyglen Project because construction activities are limited to SCE's existing subtransmission corridors. Additionally, this alternative is feasible because it involves replacing single circuit 115 kV facilities with double circuit 115 kV facilities in a manner that is identical to what SCE anticipates as part of Valley-Ivyglen construction [FEIR Table 2-1 footnote "f"].

The FEIR confirmed that this alternative would reduce right-of-way expansion needs, however it was rejected for three reasons: 1) It limits the capacity of the Alberhill Project; 2) The CPUC has already approved the Valley Ivyglen Project and is simply processing Petition for Modification, so the routing variations addressed in the FEIR are deemed "adequate"; and 3) the "rebuild" locations are within congested areas and would result in "difficult construction" [FEIR Appendix L – Response 99-39]. It is difficult to say which of these "reasons" is the most absurd; in any event, all of them are baseless and incorrect<sup>28</sup>, to wit:

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<sup>27</sup> This alternative is described on pages 25-26 and depicted graphically on page 27. It includes a reconductoring option as well to address potential VEF overloads ad discussed in more detail in Section 11.

<sup>28</sup> The material flaws noted here are among many, many significant deficiencies that FRONTLINES notes in the FEIR; these deficiencies are presented in Section 14.

1. Rejecting a feasible, low-cost, and low-impact alternative to the Valley-Ivyglen Project simply because it could perhaps reduce Alberhill system capacity is *absurd on its face* and utterly lacking in foundation (particularly if the Alberhill Project is not approved). Nothing in the Scoping Memo or in SCE's Petition or in any other documentation provided in the evidentiary record dictates that Valley Ivyglen project alternatives must be rejected if they are inconsistent with the Alberhill system design. This FEIR conclusion is materially deficient.
2. Rejecting a feasible, low-cost, and low-impact alternative to the Valley-Ivyglen Project because the Commission previously approved the Valley Ivyglen project is *absurd on its face* and it explicitly contradicts the ALJ Ruling issued April 28, 2016, the ALJ PHC Ruling issued April 26, 2017, and the Scoping Memo. Specifically, these ALJ rulings and the Scoping Memo all instructed parties to identify feasible alternatives to the Valley Ivyglen Project that avoid or lessen significant adverse environmental impacts [Scoping Item #2] and submit these alternatives as comments on the Draft EIR. FRONTLINES followed these instructions, submitted detailed comments recommending feasible, low-impact impact alternatives to the Valley Ivyglen Project, and they were rejected out of hand because the Valley Ivyglen Project was "previously approved". This FEIR conclusion is materially deficient.
3. The FRONTLINES alternative at issue involves rebuilding with double circuit 115 kV infrastructure in a manner that is similar to what is already anticipated in Segments 5, 6, and 7 of the Valley Ivyglen Project [FEIR Table 2-1 footnote "f"]. Yet, the FEIR rejects FRONTLINES alternative because "rebuild" locations are in "congested areas" and result in "difficult construction". This statement is *absurd on its face* because FRONTLINES' "rebuild locations" are within the same areas of Lake Elsinore as the Ivyglen Project and the Alberhill Project, so if the Ivyglen Project and the Alberhill Project can be constructed, then so can this FRONTLINES alternative. This FEIR conclusion is materially deficient.

Taken together, these material facts in the evidentiary record demonstrate that the Valley Ivyglen Project is not needed to provide a second source line to the Ivyglen substation because a low-impact, feasible alternative is available. Thus, in the determination of whether to adopt a "Statement of Overriding Considerations" for the Valley-Ivyglen Project, the Commission should accord little weight to SCE's claim that Valley Ivyglen is "needed" to provide a second source line to Ivyglen; this "benefit" of the Valley-Ivyglen Project is refuted by record evidence showing that lower impact alternatives provide the same benefit, thus it does not outweigh any of the significant adverse environmental impacts created by the Valley Ivyglen Project.

**11.0 THERE ARE FEASIBLE ALTERNATIVES TO SCE'S PROPOSED VALLEY-IVYGLEN PROJECT MODIFICATIONS THAT AVOID ADVERSE ENVIRONMENTAL IMPACTS AND ADDRESS VEF OVERLOAD CONCERNS IF SCE'S INFLATED LOAD FORECAST WERE TO OCCUR [Scoping Item #2]**

The SCE Petition seeks to modify the previously-approved Valley-Ivyglen Project by changing some of the routing alignments and by adding new construction including the use of helicopters techniques [FEIR page 1-2]. The FEIR impact analysis asserts that construction of the Valley Ivyglen Project will pose significant adverse air quality and noise impacts [FEIR Table 5-1]. The FEIR also asserts that helicopter deployment on the Valley Ivyglen Project will result in significant and unavoidable noise impacts [FEIR page 4.11-29] and contribute substantial air pollutant emissions [FEIR Appendix B]. Thus, construction method alternatives that avoid or avoid the significant adverse impacts that will be created by SCE's helicopter use on the Valley Ivyglen Project are appropriate for consideration under Scoping Item #2, as are project alternatives that reduce or avoid "project-wide" significant environmental effects of the entire Valley Ivyglen Project.

As discussed below, the evidentiary record demonstrates that there are feasible alternatives that will eliminate the adverse significant impacts posed by SCE's requested helicopter use and will significantly avoid or reduce adverse significant impacts posed by the entire Valley-Ivyglen Project.

**11.1 Alternate Construction Method that Eliminates Significant Adverse Impacts of Helicopter Deployment on the Valley Ivyglen Project.**

As set forth in the FEIR, SCE seeks to deploy helicopters on the Valley Ivyglen Project for "materials delivery", "hardware installation", and "wire stringing" purposes [FEIR page 2-64]. According to the FEIR Air Quality Analysis provided in Appendix B, helicopters will be deployed only during the "conductor install" phase; they will not be used to install or erect tower structures since ground-based equipment will be deployed for such purpose.

Additionally, the FEIR states that a boom-truck (not a helicopter) will be used to string the sock line for all 115 kV conductor installations on both Alberhill and Valley-Ivyglen [FEIR 2-80 at 36]. Correspondingly, all construction sites on the Valley Ivyglen Project are easily accessible by ground based equipment, and no helicopters are required for site access. It is

also noted that none of the mitigation measures imposed by the Mitigation, Monitoring, Compliance, and Reporting Plan ("MMCRP") [FEIR Section 9] rely on the use of helicopters to mitigate project impacts, thus biological and cultural resource protection measures are not contingent on helicopter deployment.

Taken together, these material facts demonstrate that Valley Ivyglen construction does not *require* the use of helicopters, and SCE's construction program for Valley Ivyglen can feasibly proceed without the use of helicopters. Of course, the Commission already knows that it is feasible to construct the Valley-Ivyglen Project without the use of helicopters, because helicopters were not authorized when the Valley Ivyglen project was approved by the Commission in 2010 [D.10-08-009], and SCE's requested route changes do not depend on helicopter deployment (since the FEIR establishes that all Valley-Ivyglen towers will be installed via ground equipment [FEIR Appendix B]).

The evidentiary record clearly establishes that constructing the Valley Ivyglen project without helicopters is a feasible alternative. It also establishes that constructing Valley Ivyglen without helicopters will not cause any substantive schedule delays, since Appendix B of the FEIR assumes helicopters are deployed for only 20 days. It also establishes that constructing Valley Ivyglen without helicopters will reduce project costs [Appendix L-comment 99-49]. So, the only remaining issue to resolve is whether significant adverse environmental impacts can be avoided or reduced by constructing Valley Ivyglen without the use of helicopters. The evidentiary record certainly shows this to be the case; for instance:

- If helicopters are deployed to construct Valley Ivyglen, all receptors within 492 feet (150 meters) of a helicopter flight path will experience *excessive* noise levels greater than 80 dBA [FEIR page 4.11-29 at 23]. However, if the Valley-Ivyglen Project is constructed without helicopters, only those receptors that are less than 200 feet from a construction location will experience significant adverse noise levels exceeding 75 dBA [FEIR Table 4.11-16]. The FEIR clearly establishes that helicopter deployment on the Valley Ivyglen Project will nearly triple the area of significant (>75 dBA) noise impact around construction sites.

- The FEIR indicates that schools and residential neighborhoods are located between the helicopter staging areas and the Valley Ivyglen construction sites [FEIR Figure 2.2 and Table 4.11-19]. If the Valley-Ivyglen Project is constructed with helicopters, all of the residences, schools and businesses that are located within 150 meters (492 feet) of a helicopter flight path will experience excessive noise levels greater than 80 dBA [FEIR page 4.11-29 at 23]. The implementation of "Commitment H" (described on FEIR page 2-66) does nothing to reduce these impacts because helicopters cannot "route around" homes, schools and businesses adjacent to staging areas and construction sites. None of these noise impacts would result if helicopters are not used to construct the Valley Ivyglen Project.
- The evidentiary record demonstrates that helicopters have higher air pollutant emission rates than the ground-based equipment that will supplant them. [FEIR Appendix B – see the hourly emission rates set forth in the "Conductor install" worksheet]. Therefore, every hour that a helicopter is not operated results in a reduction in air pollutant levels.
- Because helicopters will fly over homes, schools, and businesses, they pose a very real safety risk to people and property. The FEIR imposes MM TT-4 requiring a Helicopter Lift Plan to reduce these risks, but this will not prevent injury or property damage from rigging error, mechanical failure, pilot error, etc. The Commission is aware of the public safety hazards posed by helicopter deployment over residential areas for transmission line construction [CPUC Stop Work Order for Helicopter Operations issued Sept. 27, 2011 in Proceeding A.06-08-010]. The Commission is also aware that SCE's track record in deploying helicopters to construct CPUC-approved projects includes at least one fatal event in a Very High Fire Hazard Area which could have resulted in a deadly conflagration [FRONTLINES DEIR comments page 36]. Though the FEIR dismisses these life-safety risks, the evidentiary record proves that helicopter deployment on the Valley Ivyglen project does pose such risks; these risks are completely eliminated if helicopters are not used to construct the Valley Ivyglen Project.

There is no question that significant adverse environmental impacts will be avoided if the Valley Ivyglen project is constructed without the use of helicopters, and it is also certain that constructing Valley Ivyglen without helicopters is entirely feasible. The evidentiary record demonstrates that all construction sites are ground accessible, sock-line installation will not use a helicopter, and mitigation measures do not depend on helicopter deployment, so there is no demonstrated need to use helicopters to construct Valley Ivyglen. Insofar as FRONTLINES can determine, the only reason that SCE has petitioned the Commission to use helicopters is that they provide some sort of convenience. As such, the salient issue is whether the "convenience" provided to SCE in deploying helicopters outweighs the significant noise, safety, and air pollution impacts that such helicopter use

creates. Of course, the CEQA-compliant answer is "no", since CEQA Guidelines Section 15091 precludes the Commission from approving a project which creates significant environmental effects if feasible changes can be incorporated in the project which avoid or lessen the significant environmental effect. In this case, the record proves that an important change which the Commission can incorporate into the Valley-Ivyglen project to avoid significant noise and safety impacts and lessens air quality impacts is to preclude helicopter deployment. The record demonstrates that this change can be feasibly implemented, and that there are no barriers to such implementation. As such, CEQA Guidelines Section 15091 obligates the Commission to consider and adopt this change before approving the Valley Ivyglen Project.

The FEIR clearly recognizes that the use of helicopters for project construction is merely an option that is available as a project alternative and not essential to project completion. This material fact is evidenced by the FEIR's analysis of the Alberhill Project in which the use of helicopters for construction is considered an alternative to "conventional" construction methods. For instance, FEIR Table 4.3-8 presents air pollutant emissions that will generated if "conventional" construction methods are employed, and Table 4.3-9 presents air pollutant emissions that will generated if "helicopter" construction methods are employed. Yet, and for reasons that are not clear, the FEIR only considered a "non-helicopter" alternative for the Alberhill Project; it failed to develop a "non-helicopter" alternative for Valley Ivyglen even though the record proves that such an alternative was warranted due to the unavoidable significant adverse impacts created by Valley-Ivyglen helicopter deployment and the fact that SCE's requested helicopter use is demonstrably not necessary to feasibly construct the Valley-Ivyglen project. This failure constitutes one of many material deficiencies noted in the FEIR, as set forth in Section 14 below. In any event, record evidence proves that the helicopter construction methods that SCE seeks to implement on the Valley Ivyglen Project are not necessary and that the project can be easily constructed without them. Record evidence also proves that SCE's requested helicopter construction methods will result in significant adverse impacts that can be avoided completely by simply denying SCE's request. Therefore, and through operation of CEQA Guidelines Section 15091, the Commission is precluded from approving the helicopter construction method element of SCE's Petition.

## **11.2 Upgrading existing 115 kV Facilities Eliminates VEF Overload Concerns While Avoiding the Significant Adverse Impacts of Valley Ivyglen Project Construction.**

In the event that SCE's Peak Demand forecast occurs, potential VEF overloads can be eliminated without constructing an entirely new transmission line in an entirely new right of way by upgrading the existing VEF line, as FRONTLINES recommended in comments on the Draft EIR. Specifically, FRONTLINES recommended two variations on this alternative:

Alternative 1 ("ALT 1") upgrades the VEF line with higher capacity conductor and includes the configuration described above in Section 10 to provide a second Ivyglen power source [FRONTLINES comments on the DEIR page 25-27].

Alternative 2 ("ALT 2") rebuilds the VEF line in a double circuit configuration, with one circuit connecting to Ivyglen to provide a second Ivyglen power source ("ALT 2"). ALT2 is electrically similar to the proposed Valley-Ivyglen Project [FRONTLINES comments on the DEIR page 26-27].

Both ALT1 and ALT2 directly connect the Valley and Ivyglen substations and utilize existing transmission corridors, thus both and comply with the Garamendi Principal [FRONTLINES comments on the DEIR page 26]. ALT1 avoids or substantially reduces many of the significant adverse impacts created by the Valley Ivyglen Project because it merely involves conductor replacement without structure removal between the Valley substation and the Valley tap located in the City of Lake Elsinore. ALT2 requires structure replacement, and while it reduces significant adverse impacts created by the Valley Ivyglen because it avoids new right of way development, it does not eliminate these impacts to the extent that is achieved by ALT1. Therefore, ALT1 is the primary alternative that is recommended for Commission consideration.

The following material facts demonstrate that implementing ALT1 will accommodate SCE's projected peak loading on the VEF line through the 10-year planning horizon and achieve the Valley Ivyglen project objectives set forth in the FEIR:

- The existing "VEF" line is a 653 kcmil "aluminum conductor-steel reinforced" ("ACSR") conductor rated at 183 MVA "Normal"/247 MVA "emergency" [Ex. FRONT-25].

- On the Valley South system, SCE typically upgrades 115-kV ACSR conductor without structure replacement by reconductoring with 954 kcmil "stranded aluminum conductor" ("SAC")<sup>29</sup>. In fact, SAC conductor is already installed on several Valley South lines [Ex. FRONT-25] and is proposed for both Valley-Ivyglen [FEIR, 2-19 at 1] and Alberhill [FEIR 2-42 at 20].
- On Valley South, the 115-kV SAC conductor has a normal" rating of 1090 amps [FEIR 2-42 at 23] which provides a 217 MVA "normal" transmission capacity [Ex. FRONT 25].
- By replacing the existing VEF ACSR conductor with 115-kV SAC conductor, ALT1 increases VEF transmission capacity to 217 MVA and accommodates SCE's 209 MVA peak load projected for 2024 [FEIR Table 1-2]. Thus, it meets Project Objective #1 established by the FEIR for the Valley Ivyglen Project.
- By providing a new source line connection between Valley and Ivyglen, ALT1 meets Project Objective #2 established by the FEIR for the Valley Ivyglen Project.
- By increasing VEF transmission capacity, ALT1 increases load transfer capability between 115-kV substations and therefore meets Project Objective #3 established by the FEIR for the Valley Ivyglen Project.

The FEIR confirms that this alternative reduces right-of-way expansion needs and it does not find it infeasible. Nonetheless, the FEIR did not advance ALT 1 for the baseless and unfounded reasons set forth above in Section 10. There is nothing in the evidentiary record which demonstrates this alternative is infeasible or incapable of relieving VEF peak load over the 10-year planning horizon even if SCE's inflated forecast comes to pass, and it demonstrably reduces and even avoids the significant environmental impacts created by the Valley Ivyglen project. The FEIR's failure to give due consideration to ALT1 and the baseless reasons that the FEIR sets forth for not advancing ALT1 are just some of the many material deficiencies noted in the FEIR, as set forth in Section 14 below.

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<sup>29</sup> The "Valley South Subtransmission Project" that the Commission approved in D.16-12-001 involves the replacement of 3.5 miles of 653 kcmil ACSR conductor with 954 kcmil SAC conductor; only 4 structures had to be replaced and 81 structures did not require replacement [page B-3 of FEIR issued June, 2016 in A.14-12-013].

## **12.0 THERE ARE NO OVERRIDING CONSIDERATIONS THAT MERIT COMMISSION-APPROVAL OF SCE'S PROPOSED PROJECT ALTERNATIVE TO USE HELICOPTER CONSTRUCTION METHODS ON THE VALLEY IVYGLLEN PROJECT.**

The Scoping Memo directs parties to consider whether project or project alternatives that result in significant and unavoidable adverse environmental impacts nevertheless warrant Commission-approval due to overriding considerations [scoping item #6]. This scoping item stems from CEQA provisions which obligate the Commission to determine whether benefits (economic, legal, social, technological, and other factors) provided by a project or project alternative outweigh the significant and unavoidable adverse environmental effects that it creates [CEQA Guideline section 15093]. The reasons supporting this determination must be based on substantial evidence in the record, and provided in writing as a "Statement of Overriding Considerations". In the instant proceeding, SCE seeks approval of a project alternative that implements helicopter construction methods rather than conventional methods. The evidentiary record is clear that this alternative will create significant and unavoidable adverse environmental impacts (as set forth above in Section 11.). Thus, and in accordance with CEQA Guideline section 15093, the Commission must first identify a "benefit" that will be derived by implementing this helicopter alternative, and then identify reasons (founded in the evidentiary record) why this benefit outweighs significant environmental impacts created by the alternative.

The record does not provide any evidence that SCE's proposed helicopter construction alternative will result in an economic, legal, social, or technological benefit. To the contrary, it demonstrates that helicopter construction methods are more costly [FEIR Appendix L comment 99-49], and are not needed for resource protection in the MMRCF [FEIR Section 9]. It also demonstrates that tower assembly, foundation, and erection activities will be conducted via ground-based equipment [FEIR Appendix B: VIG\_AQ Emissions\_With PC-J spreadsheet], thus helicopters are not needed for any technological benefit (such as sit access). Clearly, and as set forth above (Section 11), the evidentiary record demonstrates that this alternative does not result in any identifiable "benefit" and it is certainly not driven by any project "need". Correspondingly, CEQA Guidelines Section 15093 precludes the Commission from developing of a Statement of Overriding Considerations that approve SCE's helicopter construction method request because the

record is entirely devoid of evidence (let alone substantial evidence) that this alternative provides any identifiable benefit.

**13.0 THERE ARE NO OVERRIDING CONSIDERATIONS THAT MERIT COMMISSION-APPROVAL OF THE VALLEY IVYGLEN PROJECT BECAUSE THE SIGNIFICANT ADVERSE IMPACTS CREATED THIS PROJECT ARE AVOIDABLE THROUGH IMPLEMENTATION OF A FEASIBLE PROJECT ALTERNATIVE [Scoping Item #6].**

The evidentiary record demonstrates that the Valley-Ivyglen Project provides the following benefits<sup>30</sup>;

1. Serves projected electrical demand on the west side of the Valley South system by eliminating projected overload concerns on the VEF line (which SCE expects will reach 209 MVA by 2024 [FEIR Table 1-2]).
2. It provides a direct connection between Ivyglen and Valley and allows service to Ivyglen via two lines.
3. It increases transmission capacity on the west side of the Valley South system, and thus increases operational flexibility.

However, these benefits come at a cost, since Valley Ivyglen construction will create significant and unavoidable environmental impacts [FEIR Table 5-1].

The evidentiary record also demonstrates that FRONTLINES' recommended alternative to the Valley-Ivyglen Project (ALT1 described above in Section 11) feasibly provides these same benefits because it eliminates SCE's projected VEF overload concerns through a 10-year planning horizon, it provides a new direct connection between Valley and Ivyglen, and it increases transmission capacity on the west side of the Valley South system. The evidentiary record also demonstrates that ALT 1 achieves these benefits at a substantially

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<sup>30</sup> As set forth above, the evidentiary record does not demonstrate that the Valley Ivyglen Project will address N-1 contingency events because SCE has never performed power flow studies that show N-1 contingency overloads on the VEF line once the Valley South Subtransmission ("VSS") Project is operational. In fact, the evidentiary record indicates that N-1 overloads will not occur on the VEF line because Valley South will be served by seven source lines upon completion of the VSS Project. Therefore, the evidentiary record does show that the Valley Ivyglen Project provides any N-1 contingency mitigation benefits.

lower environmental cost than the Valley-Ivyglen Project because ALT1 does not require new transmission corridors and it utilizes existing tower structures between Valley substation and the Valley tap in downtown Lake Elsinore. As discussed in Sections 10 and 11, ALT1 is discussed in the FEIR, but was not considered for reasons shown to be baseless and insupportable.

The evidentiary record demonstrates that both the Valley Ivyglen Project and ALT1 achieve the benefits cited above, and there is substantial evidence to support a "Statement of Overriding Considerations" that finds these benefits outweigh the impacts created by the Valley Ivyglen Project. There is also substantial evidence to support a "Statement of Overriding Considerations" that finds these benefits outweigh the impacts created ALT1. So, the issue that must be resolved is which project should be advanced for approval. The CEQA statute provides the guidance necessary to resolve this issue. Specifically, §21002. establishes that (with emphasis added) "*public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects*". This is CEQA's substantive purpose and mandate, and to further such purpose, §21002 also establishes that the procedures set forth in the CEQA regulations are "intended to assist public agencies in systematically identifying both the significant effects of proposed projects and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects".

Consistent with these established procedures, the Commission's CEQA review has identified the significant effects of the proposed Ivyglen Project, and it has also addressed a feasible alternative (ALT1) that substantially lessens these significant effects of the Valley Ivyglen Project. Therefore, and consistent with CEQA's mandate, the Commission cannot reject ALT 1 in favor of the proposed Valley Ivyglen Project unless the record provides substantial evidence that ALT 1 is infeasible due to economic, social, or other conditions. The evidentiary record does not identify such conditions, so there are no "Overriding Considerations" to warrant Commission-approval of the Valley-Ivyglen Project.

#### **14.0 THE EIR WAS NOT COMPLETED IN COMPLIANCE WITH CEQA [Scoping Item #4].**

FRONTLINES notes numerous and substantial material deficiencies in the FEIR that render it non-compliant with key CEQA provisions. These deficiencies are set forth herein.

#### **14.1 The Alberhill Project Objectives are So Narrowly Constrained that they Improperly Limit the Range of Alternatives in Violation of CEQA.**

As set forth below, CEQA requires that the project objectives established by an EIR be sufficiently broad to permit the consideration of a reasonable range of project alternatives. For decades, the Courts have continually reinforced this requirement and have rejected EIRs which establish project objectives that are so narrowly defined that they improperly constrain the range of alternatives considered. FRONTLINES maintains that the Alberhill project objectives established by the FEIR suffer from this deficiency.

The premise upon which the Alberhill Project is founded is SCE's contention that projected electrical demand will exceed transformer capacity at the Valley South substations; this premise is reflected in SCE's PEA, which states that the purpose of the Alberhill project is "to serve current and projected demand for electricity, and maintain electric system reliability" [SCE PEA page xi]. This overarching purpose is also premised by SCE's forecast projections provided in FEIR Table 1-1. Therefore, a set of project objectives that broadly reflects these transformer overload concerns would be appropriate and compliant with CEQA because it would invite the consideration of a reasonable range of alternatives (including non-substation alternatives) to address the transformer overload concerns. However, this is not what is reflected in the Alberhill project objectives adopted by the FEIR, which are:

1. Relieve projected electrical demand that may exceed the operating limit of the two load-serving Valley South 115-kV System 500/115-kV transformers;
2. Construct a new 500/115-kV substation within the Electrical Needs Area ("ENA") that provides safe and reliable electrical service pursuant to NERC and WECC standards; and
3. Maintain system ties between a new 115-kV System and the Valley South 115-kV System that enable either of these systems to provide electricity in place of the other during maintenance, during emergency events, or to relieve other operational issues on one of the systems.

FRONTLINES does not dispute that the first objective is sufficiently broad to encompass the system overload and attendant reliability concerns engendered by SCE's forecast, thus it establishes an appropriate basis for evaluating a reasonable range of alternatives (including non-substation alternatives). However, the second and third objectives amputate the broad and encompassing scope engendered in the first objective to such an extent that they constrain all project alternatives deemed "feasible" to only those which provide SCE with a new 500 kV substation and (by extension) a new 115 kV "system". Project Objectives 2 and 3 mandate the consideration of a new 500 kV substation *even though the DEIR does not provide a shred of evidence* demonstrating that constructing new 500 kV substation is the only way possible to mitigate SCE's system overload and reliability concerns. As written, the Alberhill Project Objectives explicitly render non-substation alternatives infeasible *even if* they mitigate electrical demand concerns and have lower associated impacts than the proposed project.

FRONTLINES would not challenge Objectives 2 and 3 if the FEIR had proven (based on substantial evidence) that constructing a new 500 kV substation and a new 115 kV system is the *only* way to address the reliability concerns associated with the transformer overloads at Valley South, but the FEIR failed to do so. In fact, the evidentiary record shows that non-substation alternatives would address all of these reliability concerns.<sup>31, 32</sup> Therefore, Objectives 2 and 3 are deficient because they preclude a reasonable range of alternatives (including non-substation alternatives) in a manner that clearly violates of CEQA.

FRONTLINES understands that SCE wants a new 500 kV substation and associated 115 kV system; SCE's entire purpose and goal for the Alberhill Project is to construct a new 500 kV substation with a new 115 kV system, and toward that end, SCE has cited reliability

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<sup>31</sup> Page 4 of CAISO's decision on the Alberhill project issued December 9, 2009 (Provided in Ex. FRONT-1 in attachment labeled "Exhibit 18) states that simply adding another transformer will eliminate the overload potential on the existing transformers.

<sup>32</sup> FEIR Appendix D at page 35 states that adding a third transformer at Valley North would address all the reliability concerns that are identified in the FEIR.

concerns stemming from transformer overloads at the Valley South substation. However, constructing a new 500 kV substation is not, and cannot be, the Commission's objective in either a legal or technical sense because the Commission is tasked by the Public Utilities Code with the heavy purpose of approving only projects that provide a public necessity, and the Commission is tasked by CEQA to ensure that such needed projects minimize significant environmental impacts to the greatest extent feasible. Therefore, the Commission's objectives must be based solely on the reliability concerns which give rise to SCE's justification of the Alberhill project; namely, potential overloads on the Valley South transformers. This is the only way to ensure that the Commission approves a project that properly addresses the need objectives established by the Public Utilities Code and properly considers feasible alternatives to minimize impacts as required by CEQA. The FEIR fails in this regard because it takes SCE's wish for a new substation and embeds it firmly within the project objectives. Stated more plainly, the FEIR essentially "rubber stamps" SCE's wish for a new substation by simply adopting it (in its entirety) as a Project Objective.

Objective 3 identifies a need to create and maintain "ties" between a "new 115-kV System" and the Valley South 115-kV System. This narrow objective improperly limits project alternatives to only those that provide system ties connecting connect Valley South to a "new" 115-kV system, and it precludes alternatives that provide system ties that connecting Valley South to an existing 115-kV system. As discussed in detail in Section 3 above, SCE can easily create system ties between the Valley South and Valley North systems, and SCE should have done so years ago when these systems were first split in accordance with its own adopted Planning standard. However, this feasible alternative is not even considered in the FEIR because of the narrow focus of Objective 2. Moreover, Objective 3 can only be achieved if the new substation demanded by Objective 2 is constructed, thus Objective 3 is merely an extension of Objective 2; together they comprise "two faces of the same coin". Because Objective 3 is inexorably linked to Objective 2, it suffers from the same CEQA deficiencies as Objective 2.

Project Objectives 2 and 3 are materially deficient because they embody SCE's intent to construct a new 500 kV substation to such an extent that they narrow the range of "feasible" alternatives to only those which supply a new 500 kV substation, thereby

eliminating non-substation alternatives which address the electrical concerns that constitute the underlying project purpose. The unreasonable constraints imposed by these objectives render the DEIR's alternatives analysis meaningless and are utterly contrary to an extensive body of case law that 1) requires Project Objectives to accurately reflect the actual underlying purpose of the project and 2) limits the extent to which SCE's desire for a new substation can dictate what constitutes a "feasible" Project Alternative. (See *North Coast Rivers Alliance v. Kawamura* (2016) 243 Cal.App.4th 647, *Preservation Action Council v. City of San Jose* (2006) 141 Cal App 4th 1336, 1351-2; *Uphold Our Heritage v. Town of Woodside* (2007) 147 Cal. App. 4th 587, 595 fn. 4; and *Save Round Valley Alliance v. County of Inyo* (2007) 157 Cal. App. 4th 1437, 1460.)

All of these concerns were pointed out by FRONTLINES in comments on the Draft EIR, and it was explicitly recommended that the project objectives be modified to properly reflect SCE's reliability concerns stemming from potential overloads of the Valley South transformers and ensure that a reasonable range of Project alternatives (including non-substation alternatives) would be considered. All of but one of these comments were dismissed<sup>33</sup> based on information presented in Appendix K and the declarative statement that "no non-substation alternative was identified that would relieve projected electrical demand in the ENA". The evidentiary record shows this statement to be **patently false**; as set forth clearly above in Sections 4, shifting demand will accommodate all of SCE's projected peak demand and eliminate overload concerns, and adding a third transformer will similarly eliminate overload concerns. These facts prove that the FEIR manufactured false conclusions to rejected non-substation alternatives simply because they did not provide a new 500 kV substation in clear violation of CEQA.

Notably, the one comment on the Draft EIR that FRONTLINES made that was addressed was:

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<sup>33</sup> FEIR Appendix L response to comments 99-22 through 99-27 which merely point to Appendix K and/or to response 99-21.

"The deficiencies that FRONTLINES notes in Objectives 2 and 3 is rendered obvious and undeniable by the DEIR's treatment of Alternative E (which adds a third transformer at Valley South). Specifically, the DEIR finds that Alternative E "would relieve projected electrical demand" [App D page 35] and is "feasible from a technical, legal, and economic perspective" [App D page 36]. It also has fewer associated impacts compared to the proposed project [App D page 37 and Table 6]. Nonetheless, this alternative was rejected simply because it "would not include a new 500/115-kV substation within the Electrical Needs Area or maintain system ties" that are demanded by Objectives 2 and 3 [DEIR Appendix D page 35]. The fact that the DEIR eliminates Alternative e solely because it fails to provide a new substation and (by extension) new "system ties" even though it achieves the project reliability objectives proves FRONTLINES point and specifically spotlights the substantial deficiencies that occur in Objectives 2 and 3."

In response to this comment, the FEIR merely changed the Alternative E conclusion to reflect that adding a third transformer would *not* relieve projected electrical demand (which, as indicate above, is shown by the evidentiary record to be a patently false statement).

It is clear from the contrived and unsupported "analysis" presented in Appendix D pursuant to Alternative E and other alternatives that the FEIR improperly relied on the overly narrow project objectives to eliminate low-impact and non-impact alternatives from consideration in flagrant violation of CEQA

#### **14.2 The FEIR fails to impose conditions to ensure consistency with the impact assessment assumptions or impose mitigation measures on project activities that are identified as warranting consideration of additional CEQA review.**

The FEIR's environmental impact assessment is largely based on specific construction and operation assumptions. For instance, the air quality impact assessment is based on specific equipment and schedule assumptions that are set forth in Appendix B. In several instances, the FEIR states that additional environmental review pursuant to CEQA would be warranted if project activities deviate from assumptions made by the FEIR:

- The air quality and noise impacts of SCE's helicopter use on the Valley-Ivyglen and Alberhill Projects that was analyzed in the FEIR assume a very specific and very limited helicopter operating profile. The FEIR establishes that actual helicopter operations or facilities or airports which differ from what is set forth in the FEIR will warrant consideration of additional CEQA review [FEIR page 2-65 at 26].

- The impact of SCE's blasting operations that was analyzed in the FEIR for the Valley-Ivyglen Project assumes very limit areas will be affected. The FEIR establishes that actual blasting operations which differ from what is set forth in the FEIR will warrant consideration of additional CEQA review [FEIR page 2-69 at 6].
- The staging areas identified in Section 2.4.3 of the FEIR were evaluated for environmental impacts; the placement of staging areas at other locations warrants consideration of additional CEQA review [FEIR page 2-56 at 41.]
- Construction of the Alberhill Substation without a retaining wall as described in Section 2.4.6.2 of the FEIR was evaluated for environmental impacts; the placement of a retaining wall warrants consideration of additional CEQA review. [FEIR page 2-85 at 17]

Remarkably, the FEIR does not impose any restrictions or conditions that require SCE to operate in a manner consistent with the assumptions underlying the FEIR impact analysis. For example, the FEIR does not impose any project controls to ensure blasting is confined to just those sites that were analyzed in the FEIR. In fact, the only condition placed on SCE's blasting operations by the FEIR is 1) Prepare a "blast plan" using "best management practices" [MM WQ-1]; 2) Conduct, "pre-blast notification and coordination" [Commitment H] and 3) Implement "blasting vibration control measures" [MM VIG NV-2]. There is nothing in the FEIR which limits the scope and extent of SCE's blasting operations, and as long as SCE implements the control measures, plans, and pre-blast notice identified above, it would be deemed compliant with the MMP even if it conducted daily blasting operations at every tower site along the Valley-Ivyglen route.

Similarly, the FEIR does not restrict SCE's helicopter use on the Valley Ivyglen Project to the deployment of a single light duty helicopter for a maximum of 20 days for 10 hours per day to ensure consistency with the FEIR air quality impact assessment. The FEIR does not impose any restrictions or limitations on the helicopter type, number, or deployment schedule that SCE implements for either Valley Ivyglen or Alberhill. To the contrary, the FEIR clearly indicates that SCE is free to select different helicopter operations and facilities and airports depending on "contractor preference" [FEIR 2-65 at 27; 4.11-43 at 6].

Worse yet, neither the FEIR nor the MMCRP impose any recordkeeping or reporting requirements pursuant to the elements identified above that require "additional evaluation

pursuant to CEQA" when SCE's construction program deviates from FEIR assumptions. Thus, there is no "mechanism" to ensure that the necessary CEQA analysis is initiated when circumstances which trigger the need for additional CEQA review arise. This makes it impossible for the Commission to assess whether the *actual* air quality or noise impacts that are generated are in any way consistent with FEIR assumptions.

The lack of appropriate mitigation measures and recordkeeping requirements to ensure that SCE implements the Valley-Ivyglen and Alberhill Projects in a manner consistent with the FEIR's impact analysis is a fatal deficiency of the FEIR, because it negates the entire CEQA review process and renders the FEIR non-compliant with CEQA. This deficiency can only be cured by conditioning the Valley-Ivyglen and Alberhill Projects as set forth in the following Table and requiring that records pertinent to these conditions are maintained and reviewed by Commission staff. These conditions should be included in any decision that approves either the Alberhill or the Valley-Ivyglen Project.

Construction Element	Limited item	Limit Imposed
Valley-Ivyglen Project	Staging Area locations	Locations in Table 2-9
Alberhill Project	Staging Area locations	Locations in Table 2-10
Alberhill substation	Retaining wall	Not authorized
Helicopter use profile - Alberhill 500 kV lines <sup>a</sup>	One 1,500 shp "Kamax" type helicopter One 9,000 shp "Sikorsky" type helicopter One 317 shp "Hughes 500" helicopter	80 days; 8 hours/day 5 days; 8 hours/day 2 days; 8 hours/day
Helicopter use profile - Valley-Ivyglen 115 kV lines	One 317 shp "Hughes 500" helicopter	21 days; 10 hours/day
Valley-Ivyglen 115 kV lines	Blasting locations	Blasting permitted only at the structures identified in Table 2-11

<sup>a</sup> Adopts the lower impact "conventional construction" alternative for the Alberhill Project.

These and other material errors were pointed out by FRONTLINES in comments on the Draft EIR, and they were all ignored.

### **14.3 The "No Project" Alternative to the Alberhill Project that is Presented in the FEIR is Materially Deficient.**

The FEIR's analysis of the Alberhill "No Project" Alternative assumes that the only action SCE will take is to activate a spare "C-Section" transformer at the Valley substation if the Alberhill Project is not approved [FEIR Page 3-13]. This trite analysis is remarkably

stunted and it violates CEQA's directive that the "No Project" Alternative discuss "what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure" [CEQA Guidelines 15126.6(e)(2)]. There is no question that, in the event the Alberhill Project is not approved, the actions that SCE would pursue in the foreseeable future will include activities that it must undertake *pursuant to its own planning criteria*. As discussed in detail above, these activities include:

1. The installation of reactive equipment to address voltage collapse and VFDR concerns in accordance with SCE's Planning standards (discussed above in Section 3.2);
2. The development of system tie lines for Valley South concerns in accordance with SCE's Planning standards (discussed above in Section 3.1);
3. The implementation of Demand shifting to "balance electric power between highly loaded substations and substations with additional reserve margins" in accordance with SCE's Planning Standards (discussed above in Section 4.);

A corollary deficiency of the FEIR is that it ignores material evidence demonstrating that Valley South System tie lines can be established without Alberhill by using vacant 115 kV bay positions to connect Valley North substations with Valley South Substations. In fact, and as the evidentiary record demonstrates, SCE should have developed such tie lines in accordance with its planning standards in 2004 when the Valley South and Valley North systems were "split" (as discussed in Section 3.1)

#### **14.4 The FEIR Substantially Understates the Significant Air Quality Impacts that will Occur if both Alberhill and Valley Ivyglen are Approved Due To Overlapping Construction Schedules.**

The FEIR establishes that the Alberhill Project is dependent on construction of the Valley-Ivyglen Project [FEIR Figure 2-3] and if the Alberhill Project is approved, then the Valley-Ivyglen Project will also be constructed [FEIR Page 3-9 FN2]. The FEIR also clarifies that, if Alberhill is approved, then construction on both Alberhill and Valley Ivyglen will occur contemporaneously due to their overlapping construction schedules [Table 2-3]. However,

the FEIR bifurcates the air quality analysis of the Alberhill Project from the air quality analysis of the Valley Ivyglen project [FEIR Tables 4.3-4 and 4.3-9] and considers them isolated from each other. This assumption is factually inaccurate, because emissions from both projects will occur contemporaneously and thus be additive during overlapping schedule intervals if the Alberhill Project is approved. As a result, the pollutant emissions reported for the Valley-Ivyglen project in Table 4.2-4 and declared to be "less than SCAQMD's thresholds of significance" will actually exceed the SCAQMD's thresholds if Alberhill is approved.

Because the FEIR fails to consider the additive emissions resulting from simultaneous construction activities on the Alberhill and Valley-Ivyglen Projects, it understates the actual VOC, CO, and PM<sub>2.5</sub> emissions that will occur, and thus understates the amount of "offsets" required (for pollutants that can be offset).

#### **14.5 The FEIR fails to Properly Quantify Air Quality Impacts Resulting From Helicopter deployment.**

The FEIR authorizes unlimited helicopter overflights, takeoffs and landings everywhere along the length of the Valley-Ivyglen Project within Segments VIG1, VIG4, VIG5, VIG6 and VIG7<sup>34</sup> and along the length of the Alberhill 500 kV alignment without restriction or limit. The FEIR discounts and even minimizes concerns regarding dust dispersion that will occur in sensitive residential areas as a result of SCE's helicopter hovering and landing along the Valley-Ivyglen route. The FEIR asserts (wrongly) that SCE's takeoff and landing events on the Valley-Ivyglen Project will occur on paved surfaces [page 39 of Appendix L, [App L 99-62]. This utterly contradicts the project description provided in Section 2, which states that helicopter "landing" and other operations to deliver materials will occur throughout the Valley-Ivyglen route [FEIR 2-64 at 34] and along the Alberhill 500 kV corridor which encompass miles of unpaved disturbed soils adjacent to residential areas

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<sup>34</sup> Page 2-64 at 40 states: Light-duty helicopters may be used along 115-kV Segments VIG1 and VIG4 to VIG7 for materials delivery, hardware installation, and wire stringing". These helicopter operations "include takeoff and landing" and are authorized in areas "near construction sites within the 115-kV Valley-Ivyglen General Disturbance Area".

[FEIR Figures 2.2 and 2.5]. The native soils disturbed by helicopter operations will generate significant particulate emissions (including PM<sub>10</sub> emissions) that are dispersed during takeoff, landing, and hovering. This factual error embodied in this assumption and the failure of the FEIR to properly consider dispersed PM<sub>10</sub> emissions resulting from helicopter operations is inconsistent with other environmental studies prepared and certified by the Commission<sup>35</sup> and a gross violation of CEQA. By ignoring particulate dispersion by helicopter operations, the FEIR substantially underestimates PM<sub>10</sub> emissions created by the Valley-Ivyglen and Alberhill Projects. Specifically, by ignoring particulate dispersion by helicopters, the FEIR understates "significant and unavoidable" PM<sub>10</sub> emissions on the Valley Ivyglen Project by at least 132 pounds per day<sup>36</sup> and it similarly understates "significant and unavoidable" PM<sub>10</sub> emissions on the Alberhill Project by at least 106 pounds per day<sup>37</sup>.

The FEIR asserts that fugitive dust emissions from SCE's proposed helicopter activities will be reduced to less than significant by the "implementation of dust control measures" (such as watering) at these helicopter activity sites via "Commitment J" [page 29 of Appendix L]. The implementation of "Commitment J" to eliminate helicopter-generated fugitive dust concerns is *absurd on its face*, given that it requires SCE to station heavy-duty trucks to apply water or soil stabilizer at tower sites throughout the Valley-Ivyglen route. The fact

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<sup>35</sup> For instance, consider page 3, Footnote 11 of Appendix B of Final Initial Study/Mitigated Negative Declaration prepared for the SDGE 69 kV reconductoring project (A.16-04-022) which adopts PM<sub>10</sub> helicopter emission factors of 0.5 kg [or 1.1 pounds] for each take-off and 1 kg [2.2 pounds] for each landing. Thus, one take-off/landing cycle generates 3.3 pounds of PM<sub>10</sub> emissions, and one helicopter "trip" (involving two separate take-off/landing cycles – one at each end of the "trip") generates 6.6 pounds of PM<sub>10</sub> emissions.

<sup>36</sup> Each helicopter "trip" generates 6.6 pounds of PM<sub>10</sub> emissions, so 2 "trips" per hour generates 13.2 pounds of PM<sub>10</sub>; at 10 hours/day, helicopters generate daily PM<sub>10</sub> emissions of 132 pounds (10 x 13.2 = 132).

<sup>37</sup> Each K-MAX "trip" generates 6.6 pounds of PM<sub>10</sub> emissions, so 2 "trips" per hour generates 13.2 pounds of PM<sub>10</sub>; at 8 hours/day, the K-MAX generates daily PM<sub>10</sub> emissions of 106 pounds (8 x 13.2 = 105.6).

that the FEIR presumes that SCE is able to station water trucks at all the tower sites where it intends to hover and land helicopters is “proof positive” that all tower sites are accessible by ground and therefore using helicopters to deliver materials poses undue environmental burdens. Ultimately, the FEIR concludes that “Commitment J” and MMAQ-3 will fully mitigate fugitive dust concerns generated by the Valley-Ivyglen Project (including those generated by SCE’s proposed helicopter use) [FEIR 4.3-14 at 12]. However, this specious and perfunctory assessment ignores the fact that 1) “Commitment J” does nothing to reduce the dispersion of fugitive dust throughout residential areas that is generated by helicopters hovering and landing along the Valley-Ivyglen route and 2) The “Dust Control Plan” called for by MMAQ-3 does not constitute “mitigation” under CEQA <sup>38</sup>.

By understating the extent of significant and unavoidable PM<sub>10</sub> emissions, the FEIR explicitly violates CEQA and it prevents the Commission from properly weighing the full extent of the project's "significant and unavoidable" adverse impacts in any "Statement of Overriding Considerations" that is adopted.

These and other material errors were pointed out by FRONTLINES in comments on the Draft EIR, and they were all ignored.

#### **14.6 The FEIR Appendix K is Rife with Material Factual Errors and Presents Conclusions Based on Assumptions Contradicted by the Evidentiary Record**

The FEIR provides a supplemental appendix ("Appendix "K") that ostensibly addresses SCE's forecast methodology and sets forth reasons why non-substation alternatives were rejected (among other things). FRONTLINES notes that that there are numerous material factual errors presented in Appendix K and that a number of statements contained in

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<sup>38</sup> MMAQ-3 merely requires the development of a “Dust Control Plan”. The development of a dust control plan is not, in and of itself, “mitigation”, particularly if no control standards are mandated for the “plan” to achieve. A mitigation measure which merely requires the development of a control “plan” without imposing emission reduction targets or specifying mitigation measures is not actually “mitigation” as that term is contemplated in CEQA. Furthermore, relying on the development of a “Dust Control Plan” (after the EIR is certified) to identify emission reduction measures and impose them as mitigation is tantamount to deferring the development of mitigation measures in a manner that blatantly violates CEQA.

Appendix K contradict the evidentiary record. For brevity, these errors are presented below in bullet format:

- Appendix K **factually misrepresents** SCE's forecast methodology as being based on "actual peaks experienced" [FEIR App K p.5]. As the evidentiary record demonstrates, SCE's forecast is based on "Recorded Peak Demand" values which are not "actual peaks experienced", rather they are calculated values that have been substantially adjusted to correct for "anything but temperature" [TR 298 at 1-6].
- Appendix K improperly relies on SCE's "Recorded Peak Demand" values reported to draw the **factually incorrect** conclusion that Valley South "electrical demand" has increased "relatively consistently" since 2008 [Appendix K p. 4]. According to the *actual* peak demand levels served by the Valley South Transformers (provided in Ex. FRONT-4), historic peak demand levels between 2009 and 2016 have remained relatively "flat" and varied only between 812 and 915 MW [Ex. FRONT-4].
- The FEIR states that SCE's forecast was "independently corroborated" [App L 99-12] and it references Appendix K. However, Appendix K indicates that that the "independent consultant" did not actually "corroborate" the forecast or test its veracity or analyze it in any way. To the contrary, Appendix K indicates that the "independent consultant" merely input SCE's forecast into an industry model to confirm that it creates the overloads that SCE claims. Specifically, Appendix K states "The CPUC's independent engineering consultant further analyzed the data by inputting it into industry standard software Positive Sequence Load Flow (PSLF) to model the power flows under normal and abnormal conditions. These values were documented and compared to the maximum operating limits of existing equipment to determine if the flows would exceed the equipment's rating. [App K p.6]. In other words, the consultant merely input the forecast into a model to confirm that it results in overloads; the consultant did not "corroborate" or even evaluate the forecast itself.
- Appendix K states that "The WECC and NERC planning criteria require the provision of continuous service during an outage of any one line or transformer. Adding additional capacity at the Valley Substation does not mitigate against outages in the Valley South 115-kV system and therefore fails to meet this requirement..." This statement is *absurd on its face*. First, the evidentiary record proves that the Valley South 115-kV system is not under the CAISO's jurisdiction, so WECC and NERC criteria do not even apply to the Valley South 115-kV system [SCE-4; 4 at 12-17]. Thus, there is no NERC or WECC "requirement" to "mitigate against outages in the Valley South 115-kV system". Second, the Alberhill Project is not driven by concerns related to transformer "outages" in the Valley South 115-kV system, and SCE maintains a spare transformer at Valley to mitigate such outage events anyway. Third, the Alberhill Project is solely driven by peak demand growth on the Valley South system that could cause transformer

overloads [FEIR Table 1-1]. Thus, any alternative that relieves transformer capacity at Valley (such as demand shifting or adding a third transformer) will directly mitigate these transformer overload concerns and therefore explicitly achieves the Alberhill Project purpose.

- The first paragraph of Section 3.1 of Appendix K is ostensibly intended to address "non-substation" alternatives to address the load forecast relevant to the Alberhill project and in particular, Valley substation expansion alternatives. However, what it describes are N-1 events on the Valley South subtransmission system and the consequences of such events if the Valley Ivyglen line is removed from service. None of this is relevant to Valley substation expansion alternatives, nor is it even relevant to the Alberhill project purpose. This paragraph is so convoluted, erroneous, and factually irrelevant to Valley substation expansion alternatives that it casts a dubious light on the entire Appendix K
- The second first paragraph of Section 3.1 of Appendix K claims that there is no room at the Valley substation to add a third transformer and that existing 115-kV line corridors are highly restricted where they exit the Valley Substation". These statements contradict the evidentiary record, which shows that there are multiple vacant bay positions at the Valley South substation [Ex. FRONT-20C] and there is abundant vacant land around the Valley substation [FEIR Figure 2.2]. Also, the extent to which the "existing 115-kV line corridors" are restricted is not relevant because none of the Valley substation expansion alternatives alter the "existing 115-kV line corridors".
- The third first paragraph of Section 3.1 of Appendix K claims that adding a third transformer will "exceed the interrupting rating of the circuit breakers" and require line replacements. This is contradicted by the evidentiary record; SCE affirms that operating a third transformer at Valley South does not exceed short-circuit duty of the circuit breakers [Ex. SCE-1; 12 at 4].

There are other material factual errors embodied in Appendix K, but in the interest of brevity, these errors will remain unaddressed. Suffice it to say that Appendix K is rife with erroneous statements and irrelevant facts.

#### **14.7 The FEIR fails to consider a "Conventional" Construction Method Alternative for the Valley Ivyglen Project and Materially Misrepresents Helicopter Noise Impacts**

The FEIR correctly states that SCE's Petition seeks to modify the Valley Ivyglen route alignment and implement new construction methods (including the use of helicopters) [FEIR 1-1 at 1]. Correspondingly, the FEIR analyzed 14 different route alternatives for the

Valley-Ivyglen Project [FEIR Appendix D]. Yet, it failed to consider *one single alternative to SCE's proposed construction modifications!* The FEIR recognizes that the use of helicopters on either the Valley Ivyglen project or the Alberhill Project will result in significant and unavoidable noise impacts [Section 4.11] and contribute to significant and unavoidable air quality impacts [Section 4.3]. Correspondingly, the FEIR considers a "Conventional Construction" alternative for the Alberhill Project. However, and for reasons that are not clear, the FEIR fails to develop a "Conventional Construction" alternative for the Valley Ivyglen Project even though such an analysis is clearly warranted, given that helicopter construction methods generate significant and unavoidable noise impacts and generate significantly higher air pollutant emissions than conventional construction methods. This fact is established by simply comparing the "conventional construction method" air pollutant emissions reported in table 4.3-8 to the "helicopter construction method" emissions reported in Table 4.3-9. The failure of the FEIR to consider a Valley Ivyglen Project alternative that does not deploy helicopters constitutes a material deficiency that violates CEQA

It is also noted that the scant helicopter noise impact analysis that is included in the FEIR contains significant omissions and material misstatements of fact. For instance, the FEIR indicates that Ivyglen receptor noise impacts will be "less than significant" (>75 dBA) at 200 feet from tower construction sites. [Table 4.11-16]. *This conclusion is **incorrect** because Table 4.11-16 results excludes helicopter noise impacts.* The DEIR also fails to consider the significant noise impacts that SCE's helicopter use will have on the Ortega High School; In fact, the DEIR authorizes **three** helicopter staging areas within 700 feet of the Ortega High School (Staging Areas VIG 6, 13, and 14); one of these staging areas is actually *next door* to the campus. Yet, the Noise Impact section of the DEIR (Section 4.11) does not identify Ortega High School and it completely ignores receptors (like Ortega High) that are adjacent to staging area VIG 14 [See FEIR Table 4.11-15].

The FEIR also materially misrepresents helicopter noise envelopes. For instance, the FEIR states (wrongly) that light duty helicopters produce a maximum noise emission level of 80.7 dBA measured directly under the flight path and 82.3 dBA measured at 150 meters (45.7 feet) from the flight [page 4.11-29 and elsewhere]. This statement is incorrect because 150 meters is not 45,7 feet, it is 492 feet. The FEIR also fails to clarify that this 150

meter "noise envelope" means that any receptor within 700 feet of an operating helicopter will experience noise levels exceeding 82.3 dBA because a receptor that is located 492 lateral feet from a 500 foot flight path is actually 700 feet from the aircraft itself (the square root of  $(492^2 + 500^2 = 701)$ ). Therefore, any receptor located within 700 feet of a helicopter that is flying, hovering, landing, or taking off will experience noise levels exceeding 80 dBA. Despite the extensive and unbounded helicopter use that is granted by the FEIR due to the lack of conditions limiting helicopter deployment, the FEIR nonetheless concludes that helicopter noise impacts will be limited to the vicinity of the staging areas because that is where frequently landings and takeoffs are expected to occur [FEIR page 4.11-29] This conclusion is not supported by the record, because helicopter flight elevations will not exceed 500 feet given the proximity of helicopter staging areas to construction sites [FRONTLINES DEIR comments page 40]. As a result, all receptors located within 700 feet on either side of a construction site where a helicopter is deployed and all residential neighborhoods lying between the staging areas and construction sites and all receptors located within 500 feet of a helicopter flight path will experience noise levels that exceed 80 dBA. Based on these facts, it is clear that the FEIR materially understates actual noise impacts created by helicopter operations.

These and other material errors were pointed out by FRONTLINES in comments on the Draft EIR, and they were all ignored.

#### **14.8 The FEIR Fails to Properly Address Valley Fever concerns**

As FRONTLINES pointed out in comments on the DEIR, Valley Fever exposure results from soil disturbance activities (such a construction and helicopter operations) in areas where Valley Fever Spores are found.

The FEIR acknowledges that an air quality concern which attends fugitive dust emissions is the spread of Valley Fever [4.3-6 at 30], though it states that "there is a low probability of the Valley Fever spores in the VIG and ASP project areas" and cites a "Riverside County Health System" publication [FEIR p. 4.3-6]. However, a review of this publication clarifies that it does not affirm or even suggest that "there is a low probability of Valley Fever Spores" in the area of the VIG and ASP projects. To the contrary, it states quite clearly that, in 2015, a total of 11 new cases were collectively reported in Menifee (the location of the

Valley substation), and in Perris and Lake Elsinore (where heavy VIG and ASP construction activities are planned)<sup>39</sup>. Moreover, a Valley Fever “hot spot” map published in a 2010 epidemiological study by the Riverside County Health Department identifies Lake Elsinore and the area around the Valley substation (where SCE proposes to hover and land helicopters near homes) as areas that have clearly identified Valley Fever concerns.<sup>40</sup> A further study of Valley Fever in 15 counties in California reports that Riverside County ranked 8<sup>th</sup> in the number of overall cases, with an average of 67 cases reported per year.<sup>41</sup> In 2015, substantially more Valley Fever cases were reported in Riverside County (107), which is consistent with a state-wide trend noted by public health officials across California based on reports of large increases in the number of Valley Fever cases with illness onset in 2016.<sup>42</sup>

Ultimately, the FEIR dismisses all “Valley Fever” concerns because “Commitment J” and MMAQ-3 are expected to fully mitigate any fugitive dust concerns generated by the Valley-Ivyglen Project (including those generated by SCE’s proposed helicopter use) [FEIR 4.3-14

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<sup>39</sup> Riverside County “Coccidioidomycosis Yearly Summary Report 2015”:  
[http://www.rivcohealthdata.org/Portals/0/Cocci\\_Report\\_for\\_Publish\\_FINAL.pdf?ver=2016-04-12-140838-780](http://www.rivcohealthdata.org/Portals/0/Cocci_Report_for_Publish_FINAL.pdf?ver=2016-04-12-140838-780)

<sup>40</sup> “Impact of Valley Fever in Riverside County, 2006-2010” (Page 4 of Exhibit 8). FRONTLINES requests that the Commission take Official Notice of this Riverside County Department of Public Health publication:  
[http://www.rivcohealthdata.org/Portals/0/Documents/PUBLICATIONS/MONTHLY\\_BULLETIN/2012/2012-08%20 %20Impact%20of%20Valley%20Fever%20in%20Riverside%20County.%202006-2010.pdf](http://www.rivcohealthdata.org/Portals/0/Documents/PUBLICATIONS/MONTHLY_BULLETIN/2012/2012-08%20%20Impact%20of%20Valley%20Fever%20in%20Riverside%20County.%202006-2010.pdf)

<sup>41</sup> “The Epidemiology of Coccidioidomycosis – 15 California Counties, 2007-2011”. FRONTLINES requests that the Commission take Official Notice of this epidemiological study published in in 2014:  
[http://vfce.arizona.edu/sites/vfce/files/the\\_epidemiology\\_of\\_coccidioidomycosis\\_collaborative\\_county\\_report.pdf](http://vfce.arizona.edu/sites/vfce/files/the_epidemiology_of_coccidioidomycosis_collaborative_county_report.pdf)

<sup>42</sup> “Epidemiologic Summary of Coccidioidomycosis In California, 2016”. FRONTLINES requests that the Commission take Official Notice of this Report by the California Department of Public Health:  
<https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/CocciEpiSummary2016.pdf>

at 12]. However, and as indicated previously, this specious and perfunctory assessment ignores the fact that “Commitment J” does nothing to reduce the dispersion of fugitive dust throughout residential areas that is generated by helicopters hovering and landing along the Valley-Ivyglen route and the “Dust Control Plan” called for by MMAQ-3 does not constitute “mitigation” under CEQA.

The fact is, the FEIR completely ignores the fugitive PM10 and dust impacts and attendant Valley Fever risks that will be created by SCE’s proposed helicopter use along the Valley-Ivyglen route. Furthermore, *not one single mitigation measure identified in the FEIR* will reduce these risks. And, given that there is no actual “need” for SCE to use helicopters to construct the Valley Ivyglen Project, these factors amplify the undeniable fact that there are no overriding considerations to outweigh these impacts and justify approval of helicopter deployment on the Valley-Ivyglen Project.

#### **14.9 The FEIR'S Rejection of Non-Substation Alternatives to the Alberhill Project Lack Technical Basis And Utterly Contradict the Evidentiary Record.**

A number of the analyses presented in the FEIR to reject FRONTLINES' recommended alternatives are unfounded, technically inaccurate, contradict the evidentiary record, and (in some cases) makes absolutely no sense. For instance, consider the following "analyses" relied upon in the FEIR to reject the Alberhill Project alternative that adds a third transformer to the Valley South substation:

1. The Draft EIR states that this alternative "would relieve projected electrical demand". However, in the Final EIR, this line is revised to reflect that adding a third Valley South transformer "would not relieve projected electrical demand". This substantial revision is not supported by the FEIR through evidence or fact, and it contradicts SCE's statements that operating a third transformer adds "sufficient capacity to avoid forced load reductions" [Ex. SCE-1; 12 at 3]<sup>43</sup>. Therefore, the FEIR conclusion that adding a third transformer to Valley South "would not relieve projected electrical demand" is **factually incorrect**.

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<sup>43</sup> SCE offers this testimony in the context of using the existing Valley "spare" transformer as the third transformer serving load at Valley South rather than installing a new transformer. This testimony conclusively shows that operating a third transformer to serve load at Valley South does in fact reduce add capacity needed to "relieve projected electrical demand".

2. The FEIR states that adding a third transformer at Valley South would require the construction of 26 miles of new 115 kV transmission line to "make output from the additional Valley South transformer useable" [App. D; 36]. According to this statement, the existing 115 kV Valley South subtransmission lines are too undersized to "handle" SCE's projected peak demand even if a third transformer is added to Valley South to serve this projected peak demand. This statement is *absurd on its face* and completely unsupported in the evidentiary record (which does not contain a *shred* of evidence to even suggest that existing Valley South 115 kV lines are incapable of accommodating the projected Peak Demand on Valley South). To the contrary, SCE testifies that it does not project *any* load loss concerns on the Valley South system due to a lack of 115 kV line capacity under *any* peak demand scenario *even under* contingency ("N-1") conditions [TR136 at 17-36]. The FEIR fails to provide any power flow studies or line capacity data to support this absurd and unfounded assertion; it merely cites an "SCE claim" that 26 miles of new 115 kV line is needed "within a few years" because the Valley South 115-kV lines "are approaching capacity" [App D; 34]. This ridiculous conclusion is not supported through evidence or fact, and is contradicted by FRONTLINES evidence that the capacities on the existing Valley South 115-kV lines (provided in Ex. FRONT-25), coupled with the new 217 MVA source line from Valley South approved for Valley South Subtransmission Project [TR 132 at 2], are more than adequate to supply all the Valley South distribution substation load projections (provided in Ex. FRONT-21). This FEIR conclusion is also contradicted by SCE's written testimony regarding the effects of operating a third transformer to serve Valley South load, which does not state (or even suggest) that there are 115 kV line capacity concerns on Valley South [Ex. SCE-1; 12 at 3].

The FEIR rejects the "demand shift" Alternative (Alternative "F") based on a similar specious analysis. Specifically, the FEIR states that that this alternative requires the construction of 15 miles of new transmission line and that it would " keep demand below the operating limits of both the Valley North and South 115-kV systems beyond 2016." However, it concludes that some time before 2023, Alberhill Project construction would be required anyway. On this basis, the FEIR concludes that the demand shift alternative creates *more* adverse environmental impacts than Alberhill. This conclusion is utterly contradicted by the evidentiary record, which proves:

- The Valley North, Valley South, and Vista systems have sufficient capacity to fully accommodate all projected load that SCE forecasts [Ex. FRONT-1; 10 at 16].

- SCE's Peak Demand forecast asserts that the combined 2025 peak demand on all the 115 kV substations that comprise the Valley South, Valley North, and Vista systems is 2535 MVA [Ex. FRONT-21] which is less than the 2800 MVA capacity of the combined transformers operated at Valley North, Valley South, and Vista.<sup>44</sup>
- In the unlikely event that SCE's inflated peak demand forecast does actually come to fruition, shifting demand between these 115-kV systems will eliminate all perceived transformer overloads. The record clearly establishes that "Demand Shifting" between existing 115 kV systems feasibly accommodates even the inflated peak demand projections identified in SCE's forecast [Ex. FRONT-1; 14 at 17].
- SCE can transfer the Sun City and Newcomb substations to Valley North and that doing so will simply require the construction of less than 10 miles of new 115-kV transmission line [PEA page 1-11].
- Therefore, the evidentiary record firmly establishes that demand shifting will address all of SCE's perceived transformer overload concerns.
- The "Demand Shift" strategy involves the construction of a short (< 10 mile) 115-kV line, and it does not require construction of the Alberhill Project, thus it eliminates all significant adverse impacts generated by the Alberhill Project.

It is clear from this factual analysis that all of the arguments relied upon by the FEIR as the basis for rejecting non-substation alternatives to the Alberhill Project are unsupported by the evidentiary record and utterly unreliable.

## **15.0 CONCLUSION**

Based on the evidentiary record, and for the reasons set forth above, FRONTLINES should not grant a CPCN for the Alberhill Project and it should approve FRONTLINES recommended alternative to the Valley-Ivyglen Project and reject SCE's request to use

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<sup>44</sup> The combined transformer capacity of these systems is 2,800 MVA; Valley South and Valley North each have two 580 MVA transformers [Ex. FRONT-20C], and Vista has two 280 MVA transformers [Page A-7 of CPUC EIR for the El Casco Project (A.07-02-022) found here: <ftp://ftp.cpuc.ca.gov/Environment/info/aspen/elcasco/DEIR/A-Introduction.pdf>. ]

Helicopter construction methods. Additionally, changes should be incorporated in the FEIR to eliminate the CEQA violations and technical deficiencies identified in Section 14 above.

Respectfully Submitted;

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November 30, 2017