

ATTACHMENT B

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

Order Instituting Rulemaking to Continue
Implementation and Administration of California
Renewables Portfolio Standard Program.

Rulemaking 08-08-009
(Filed August 21, 2008)

**RESPONSE OF THE JOINT PARTIES TO JOINT PETITION OF PACIFIC GAS
AND ELECTRIC COMPANY, SAN DIEGO GAS & ELECTRIC COMPANY, AND
SOUTHERN CALIFORNIA EDISON COMPANY FOR MODIFICATION OF
D.10-12-048 AND RESOLUTION E-4414 TO PROTECT THE PHYSICAL
SECURITY AND CYBERSECURITY OF ELECTRIC DISTRIBUTION
AND TRANSMISSION FACILITIES**

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TABLE OF CONTENTS

	Page
I. INTRODUCTION AND SUMMARY OF ARGUMENT	1
II. APPLICABLE BACKGROUND AND IMPACT ON PETITIONERS’ REQUEST.....	2
A. The Commission has Previously, and on Multiple Occasions, Rejected the Joint IOUs’ Request to Restrict Access to the PV RAM Maps.....	2
B. The Commission has Rejected the Joint IOUs Request to Restrict Access to the ICA and LBNA Maps	4
C. Import of December 17 Ruling to Petition	7
III. THE JOINT IOUS HAVE FAILED TO MEET THE BURDEN NECESSARY TO WARRANT GRANTING THE PETITION	8
A. The Joint IOUs Must Demonstrate New or Changed Facts.....	8
B. The Declarations of the Joint IOUs do not Provide Adequate Evidence of a New and Increased Security Risk that Outweighs the Need to Share Information in Accordance with the Commission’s Orders.	9
IV. OVER-CLASSIFICATION OF INFORMATION AS CONFIDENTIAL RUNS COUNTER TO COMMISSION POLICY AND CREATES UNINTENDED DETRIMENTAL CONSEQUENCES.....	14
A. Granting the Petition Would Undermine the Commission’s Longstanding Policy of Promoting Transparency	14
B. Granting the Petition Will Impact the Effective Functioning of the DER Market.....	17
C. Granting the Petition May Have Detrimental Unintended Consequences.....	18
V. THE PETITION IS NOT CONSISTENT WITH FERC POLICY.....	20
VI. THE USE OF NON-DISCLOSURE AGREEMENTS TO ACCESS THE INFORMATION, AS PROPOSED BY THE JOINT IOUS, IS NOT PRACTICAL AND WOULD HINDER THE USE OF THE MAPS AND DRP DATA AND RAISE SIGNIFICANT LEGAL CONCERNS.....	23
VII. CONCLUSION.....	27

TABLE OF AUTHORITIES

	Page
Statutes	
Public Utilities Code Section 769(b)	4
Cases	
<i>New York Times vs. United States</i> , 403 U.S. 713 at 729 (1971).....	2
Decisions of the California Public Utilities Commission	
D.92058, 1980 Cal. PUC LEXIS 785	8
D.97-04-049	9
D.10-12-048	<i>passim</i>
D.17-09-026	<i>passim</i>
D.17-12-006	8
D.18-02-004	<i>passim</i>
Resolution E-4414	<i>passim</i>
Federal Regulations	
81 Fed. Reg. 93732	22
81 Fed. Reg. 93735	22
18 C.F.R. § 388.113(c)(2).....	21
18 CFR § 388.113(d)(1)(i).....	21
18 CFR Parts 375 and 388	12, 21, 22
Federal Energy Regulatory Commission Decisions	
102 FERC 61.....	22
102 FERC 29.....	22
102 FERC 30.....	22
102 FERC 190.....	22
157 F.E.R.C. 61.....	12, 21
157 F.E.R.C. 123.....	12, 21

Pursuant to Rule 16.4(f) of the Rules of Practice and Procedure of the California Public Utilities Commission (“Commission”), the Interstate Renewable Energy Council, Inc., the Solar Energy Industries Association, Clean Coalition, the California Community Choice Association, the California Solar & Storage Association and Vote Solar (collectively the “Joint Parties”) respond to the Petition for Modification of Decision 10-12-048 and Resolution E-4414 (“Petition”) filed in the above captioned proceeding by Pacific Gas and Electric Company (“PG&E”), Southern California Edison Company (“SCE”), and San Diego Gas & Electric Company (“SDG&E”) (collectively the “Joint IOUs”) on December 10, 2018.

I. INTRODUCTION AND SUMMARY OF ARGUMENT

In their Petition the Joint IOUs argue that, in order to protect the distribution and transmission facilities from potential physical and cyber security attacks, the PV RAM maps should no longer be publicly available. The issue posed by the Petition, however, is not whether there is *any* risk associated with having publicly accessible maps of the distribution system, but rather whether sharing of those maps by the utilities via a registration-required data access portal creates significant enough risk to outweigh the well documented benefits of providing this transparency in order to facilitate the siting of distributed energy resources (“DERs”) and to increase accountability over how the utilities plan for and manage the integration of DERs into the distribution system. More specifically, the issue for the Commission to determine is whether the Joint IOUs have demonstrated that there are new or changed facts which warrant reversal of the Commission’s prior determination that the benefits outweigh the risks and thus the PV RAM maps should be available to the public without a non-disclosure agreement (“NDA”).

As demonstrated below, the Joint IOUs have not presented new or changed facts that demonstrate that public access to the PV RAM maps will increase the risk to the physical

security of the IOUs' distribution systems. They also have not shown that, should there actually be any added risk, that this increased risk is not outweighed by the very important benefits to that very system that comes from providing public access to the maps. In addition, there is a significant question about whether making the information confidential would actually have a significant protective effect; indeed there is reason to believe the overbroad approach might water down the protections really need for truly sensitive information.¹

Finally, the Joint IOUs fail to reconcile their request to maintain the confidentiality of the PV RAM maps with applicable policy of the Federal Energy Regulatory Commission and have presented the Commission with a "solution" to the "problem" of public access to the maps -- *i.e.*, a NDA - that is simply not practical.

II. APPLICABLE BACKGROUND AND IMPACT ON PETITIONERS' REQUEST

A. The Commission has Previously, and on Multiple Occasions, Rejected the Joint IOUs' Request to Restrict Access to the PV RAM Maps

In Decision 10-12-048 the Commission directed the IOUs to provide public access to detailed maps of their respective service territories at the circuit and substation level (now known as the PV RAM maps), the purpose of which was to promote the interconnection of renewable projects at preferred locations and thereby avoid potential distribution and transmission upgrade costs and delays. The Commission did so over the objections of SCE that such information is Critical Energy Infrastructure Information ("CEII") pursuant to the Critical Infrastructure Act of 2002, 18 U.S.C. § 388.113, and must be protected.² Specifically, the Commission determined that as the Critical Infrastructure Information Act of 2002 addressed the release of information

¹ "[W]hen everything is classified, then nothing is classified." *New York Times vs. United States*, 403 U.S. 713 at 729 (1971) (conurrence of Justice Stewart explaining that if the Executive Branch was allowed to overclassify information "the system becomes one to be disregarded by the cynical or the careless, and to be manipulated by those intent on self-protection or self-promotion.").

² Comments of Southern California Edison Company on Proposed Decision Adopting the Renewable Auction Mechanism, R. 08-08-009 (Sept. 27, 2010), p. 20.

given to a government agency, it had no bearing on the Commission's decision about whether this information should be provided to potential distributed generation developers.³

In comments on the draft resolution implementing the Commission's directives from D. 10-12-048, SCE, this time in concert with SDG&E, raised the same objection to the public release of the PV RAM Maps claiming the maps were protected from public disclosure under the Critical Infrastructure Information Act of 2002.⁴ Moreover, SCE and SDG&E argued that, should the Commission require the release of the maps to the public, such should be done pursuant to a NDA.⁵ The Commission again rejected the argument that the Critical Infrastructure Information Act of 2002 was applicable to its determination that the PV RAM maps should be provided to the public. It also determined that the execution of a NDA in order to access the maps was not necessary. Rather a user registration process was sufficient.⁶

SCE made a further attempt to limit the public release of the PV RAM Maps through a Petition for Modification of D. 10-12-048 filed on December 16, 2011.⁷ Therein SCE argued that the PV RAM Maps constituted critical infrastructure information and therefore the decision "should be modified to prevent unrestricted public access to confidential transmission and distribution system information, the dissemination of which presents a serious risk to public safety and security."⁸ No action was taken by the Commission on SCE's Petition.

³ D. 10-12-048, p. 73.

⁴ Comments of Southern California Edison Company (U 338-E) on Draft Resolution E-4414 (August 2, 2011), pp. 3-4; San Diego Gas & Electric Company, Reply Comments on Draft Resolution E - 4414 (August 2, 2011), pp. 4-5.

⁵ *Id.*

⁶ Resolution E- 4414, pp. 21-22.

⁷ *See* Petition of Southern California Edison Company to Modify Decision 10-12-048, R. 08-08-009 (December 11, 2011)

⁸ *Id.*, p. 2

Thus, with the exception of a two month period between September 2018 and November 2018, when the IOUs, in direct contravention of Commission orders, withdrew access to the PV RAM maps, the maps have been available for public access, and the Joint Parties believe they should remain so.

B. The Commission has Rejected the Joint IOUs Request to Restrict Access to the ICA and LBNA Maps

In August 2014, the Commission opened Rulemaking 14-08-013 to establish policies, procedures, and rules for the development of the IOUs statutorily ordered Distribution Resources Plan (“DRP”), the purpose of which are to identify optimal locations for the deployment of distributed resources.⁹ Both Decision 17-09-026, which addressed Track 1 Demonstration Projects A (Integration Capacity Analysis (“ICA”)) and B (Locational Net Benefits Analysis (“LNBA”)), and Decision 18-02-004 which addressed Track 3 Policy Issues, Sub-Track 1 (Growth Scenarios), and Sub-Track 3 (Distribution Investment and Deferral Process) issued in the rulemaking require the IOUs to “create and publish network models of their entire primary distribution systems for ICA calculations, which will also host LNBA results.”¹⁰ In addition, Decision 18-02-004 requires the IOUs to file two new reports—a Grid Needs Assessment (“GNA”), which documents the forecasting assumptions, and a Distribution Deferral Opportunities Report (“DDOR”), which must document planned investments and candidate deferral opportunities. Moreover, the IOUs’ GNAs and DDORs are to characterize circuits according to certain data types and attributes,¹¹ with such data being made publicly available in

⁹ See PU Code Section 769(b).

¹⁰ See D. 18-02-004, p 40.

¹¹ With respect to the GNA, the information to be made available on the ICA map, included: (1) substation, circuit, and/or facility ID: identify the location and system granularity of grid need; (2) distribution service required: capacity, reactive power, voltage, reliability, resiliency, etc. (3) anticipated season or date by which distribution upgrade must be installed; (4) existing facility/equipment rating:

the online map as a pop-up layer atop the circuit models being developed for the ICA.

In comments leading up to Decisions 17-09-026 and D. 18-02-004, the IOUs did not express concern regarding the confidentiality of any of this type of information due to physical or cyber security concerns. Rather their concerns, to the extent they existed, focused solely on information which they deemed to be market sensitive.¹²

Despite the fact that the IOUs' confidentiality concerns had been focused on purported market sensitive information, the Commission afforded them an opportunity to propose, through a Tier 2 Advice Filing, distribution system planning data redaction criteria that would work to ensure the physical and cyber security of the electric system.¹³ In the interim, the Commission granted a request by the IOUs to delay the publication of the maps from their original online date of July 7, 2018¹⁴ to December 31, 2018, allowing time for the confidentiality issues to be resolved.¹⁵

MW, kVA, or other; and (5) forecasted percentage deficiency above the existing facility/equipment rating over five year. With respect to the DDOR, the information to be made available on the map with respect to each planned investment included: (1) project description: (2) substation; (3) circuit; (4) deficiency (MW/kVA, %); (5) project type: type of equipment to be installed: (6) project description: additional identifying information: (7) distribution service required: capacity, reactive power, voltage, reliability, resiliency, etc.; (8) in-service date; (9) deferrable by DERs, Y/N?; and (10) estimated LNBA range.

¹² See Joint Opening Comments of Pacific Gas and Electric Company, San Diego Gas and Electric Company and Southern California Edison Company on Proposed Decision on Track 3 Policy Issue, Sub-Track 1 (Growth Scenarios) and Sub-Track 3 (Distribution Investment and Deferral Process, R. 14-08-013 (January 8, 2018), p. 10 (requesting confidential treatment of only estimated costs of the conventional projects that are or will be the subject of active solicitations). See also Administrative Law Judge's Ruling Ordering Pacific Gas and Electric Company Southern California Edison Company, and San Diego Gas & Electric Company to file Separate Motions for Confidential. treatment and Redaction of Distribution System Planning Data Ordered by Decisions 17-09-026 and 18-02-004, R. 14-08-013 (June 8, 2018), p.3 (setting forth list of potentially market-sensitive information which the IOUs provided at December 16, 2016 workshop in this proceeding).

¹³ D. 18-02-004, Ordering Paragraph 2. G.

¹⁴ D. 17-09-026 at 60 (requiring publication of the maps within 9 months of the date of the Decision).

¹⁵ Alice Stebbins, Executive Director, letter to Laura Genao, Southern California Edison, August 31, 2018.

The Commission ultimately determined that the Tier 2 Advice Letters submitted by the IOUs were inconsistent and deficient both in their identification of allegedly protected classes of data, as well as in their identification of the data redaction criteria that they proposed to utilize.¹⁶ Accordingly, the Commission gave the IOUs a second chance to propose, by way of motion, data redaction criteria. Again, by way of ruling issued on July, 24, 2018 the Commission determined that the IOUs’ “failed to provide the necessary granularity and consistency that would allow [a ruling] that any of the identified data categories and subcategories should be redacted.”¹⁷ Given the IOUs failure to provide any criteria that would be utilized in a determination of whether data should be redacted, the Commission adopted criteria for identifying data that may be eligible to be classified as critical electrical infrastructure information for redaction purposes, and required each IOU to demonstrate that every data set it wished to redact fits within the criteria.¹⁸

On August 24, 2018, the Joint IOUs filed a motion in which they challenged the validity of the Commission adopted criteria. In main the Joint IOUs stated that the criteria adopted in the July 24, 2018 Ruling, which were pulled from the Joint IOUs’ proposal in R. 15-09-006, were not applicable. Namely that those criteria were for the purpose of identifying facilities that needed further assessment vis-à-vis their physical security and “are not easily adaptable as data redaction criteria in this proceeding.”¹⁹ In addition the Joint IOUs stated that until the issue was

¹⁶ Administrative Law Judge’s Ruling Ordering Pacific Gas and Electric Company Southern California Edison Company, and San Diego Gas & Electric Company to file Separate Motions for Confidential. treatment and Redaction of Distribution System Planning Data Ordered by Decisions 17-09-026 and 18-02-004, R. 14-08-013 (June 8, 2018) pp. 5-6.

¹⁷ Administrative Law Judge’s Ruling Addressing Pacific Gas and Electric Company Southern California Edison Company, and San Diego Gas & Electric Company Claims for Confidential Treatment and Redaction of Distribution System Planning Data Ordered by Decisions 17-09-026 and 18-02-004, R. 14-08-013 (July 24, 2018), p. 18.

¹⁸ *Id.*, p. 23.

¹⁹ Joint Motion of Pacific Gas and Electric Company and Southern California Edison Company for Public Workshop and Opportunity for Stakeholder Comments Prior to Implementation of Administrative

resolved the “Joint IOUs would publish and make available non-security-sensitive data and conclusions from their ICAs and LNBAAs, and make redacted and unredacted data available to stakeholders and Distributed Energy Resource (DER) developers who execute Non-Disclosure Agreements (NDAs) and who demonstrate both a legitimate, specified need and sufficient controls to protect the data from disclosure to third parties and the public.”²⁰

In a ruling issued, on December 17, 2018, the Commission determined that the IOUs have failed to carry their burden of proving, that the information that they wish to redact from their soon to be made public online maps and/or make subject to a non-disclosure agreement, meets the definition of Critical Electrical Infrastructure Information that should be protected from public disclosure on confidentiality (*i.e.* physical or cybersecurity) grounds.²¹ Accordingly the Commission ruled that by December 28, 2018, the Joint IOUs “shall make available online, through their respective Distribution Resources Plan (DRP) portals, the Integration Capacity Analysis and Locational Net Benefits Analysis maps and underlying data, as well as the Grid Needs Assessment and Distribution deferral Opportunities Report data required by D. 17-09-026, Ordering Paragraphs 5 and 6, and D.18-12-004, Ordering Paragraph 2.e.”²² Moreover the Commission ruled that stakeholders and interested parties may have access to the online maps without having to execute an NDA.²³

C. Import of December 17 Ruling to Petition

In seeking to modify the directives in Decision 10-12-048 and Resolution E-4144 that the

Law Judges July 24, 2018 Ruling Adopting Data Redaction Criteria, R. 14-08-003 (August 24, 2018), p.2.

²⁰ *Id.*, p.3.

²¹ Administrative Law Judge’s Ruling Resolving Confidentiality Claims Raised by Pacific Gas and Electric Company Southern California Edison Company, and San Diego Gas & Electric Company as to Distribution System Planning Data Ordered by Decisions 17-09-026 and 18-02-004, R. 14-08-013 (December 17, 2018) (“December 17 Ruling”), p. 2.

²² December 17 Ruling, p .2.

²³ *Id.*

PV RAM maps be made available to the public absent a requirement to execute a NDA, the Joint IOUs argue that “unrestricted access to this data conflicts with the physical and cyber security findings in the July 24, 2018, ALJ Ruling on Critical Energy Infrastructure Information (“CEII”) data redaction criteria in the Commission’s Distributed Resources Plan (DRP) rulemaking” and that the “findings and rulings on CEII in the DRP proceeding provide the ‘roadmap’ for bringing the PV RAM maps and data sets up to the same standards applicable to the DRP maps and data portals which will replace the PV RAM maps.”

As set forth above, the Commission has determined that the IOUs have not demonstrated that the information to be published as part of the DRP maps meet the definition of CEII that should be protected from public disclosure on confidentiality (*i.e.* physical or cybersecurity) grounds. Thus, the IOUs have been directed to make that information publicly available. Applying the findings and ruling on CEII in the DRP proceeding to the PV RAM maps and data sets, as requested by the Joint IOUs, results in the continued public access to those materials.

III. THE JOINT IOUS HAVE FAILED TO MEET THE BURDEN NECESSARY TO WARRANT GRANTING THE PETITION

A. The Joint IOUs Must Demonstrate New or Changed Facts

To justify modifying a Commission decision, a party must show a significant change in material facts that undermines the factual premise of the decision.²⁴ In this regard, the Commission has stated that “only a persuasive indication of significant new facts or a major change in material circumstances, which would create a strong expectation that we would make a different decision based on these facts or circumstances, would cause us to reopen [a] proceeding.”²⁵ Specifically, the Commission has established that it may only modify a decision

²⁴ D. 17-12-006, p. 10.

²⁵ *Id.*, pp. 10-11, *citing* D.92058, 1980 Cal. PUC LEXIS 785, *26.

if: (1) new facts are brought to the attention of the Commission, (2) conditions have undergone a material change, or (3) the Commission proceeded on a basic misconception of law or fact.²⁶ As demonstrated below, the Joint IOUs have failed to meet their burden to demonstrate new or changed facts that would warrant a grant of their Petition.

B. The Declarations of the Joint IOUs do not Provide Adequate Evidence of a New and Increased Security Risk that Outweighs the Need to Share Information in Accordance with the Commission's Orders.

The Joint IOUS have provided Declarations from two utility employees to support their argument that the publication of the PV RAM maps poses unreasonable security risks. These declarations provide insufficient evidence to support the Joint IOUs' request for modification of the Commission's long-standing decision requiring the publication of the PV RAM maps, as they do not demonstrate a change in law or facts that warrant a modification to that decision.

The declaration of Bernard Cowens alleges that the information shared on the PV RAM maps could be used by a "bad actor" to commit a physical or cyber-attack on utility facilities."²⁷ Mr. Cowen's concedes that it is not possible to quantify the risk associated with sharing the PV RAM maps. Cowen suggests that "evidence of suspicious and unknown actors accessing the maps indicates a level of risk that needs to be mitigated, to reduce the risk of even a 'low probability, high magnitude' cyber or physical attack."²⁸ Mr. Cowen, however, provides no more information on what sort of evidence there is to support this assertion that "bad actors" have utilized the maps in the past, nor does he demonstrate that this information could not have been reasonably ascertained via other means. The Joint Parties do not contest that a "bad actor"

²⁶ *Id.*, p. 11, *citing* D.97-04-049, 1997 Cal. PUC LEXIS 427, *17.

²⁷ Declaration of Bernard Cowens, Vice President and Chief Security Officer, Pacific Gas and Electric Company (appended to Petition) ("Cowens Declaration"), p.1.

²⁸ *Id.*

could conceivably use the information to facilitate an attack, but this fact is insufficient to support the Joint IOUs' request because it does not demonstrate that the information could not be as easily found via other means. Indeed, since the Joint Parties support requiring registration by parties seeking to access the PV RAM maps, it is conceivable that this actually enables the utilities to better track parties that might be seeking information about their system and provides them an opportunity to investigate those cases.²⁹

Cowen argues that it is “difficult if not infeasible to piece together from these [other] sources a digital connectivity map in one full map such as the ones proposed to be made public.”³⁰ The Joint Parties disagree with this assertion. As the Commission found, and directly illustrated in its December 17, 2018 Ruling in the DRP docket, “[d]istribution architecture can be identified through the use of online search tools.”³¹ Indeed, an entire map of California can be accessed via Google Earth and other readily available mapping services, it would not be that difficult for an entity to be able to trace the path of distribution lines to a substation and to see what paths other lines take from the substation and so on. In addition, we are aware of other private entities that are creating very similar maps using various different software tools. For example, Kevala Analytics has been using software based solutions to develop distribution

²⁹ For example, in the Declaration of William Sauntry he notes that “identifying potential indicators of an attack, such as onsite reconnaissance or surveillance” is important to preventing attacks. Requiring registration to access the RAM maps would facilitate in this effort. Declaration of William Sauntry, Risk and Compliance Manager within Corporate Security for Sempra Energy (appended to Petition) (“Sauntry Declaration”), p. 2.

³⁰ *Id.*, p. 2.

³¹ December 17 Ruling, pp . 13-14 (“Given the relative ease by which this information can be found in the public domain, IOUs have not provided any proof to substantiate their position that information on the soon-to-be-posted online maps must be redacted on CEII grounds. By extension, stakeholders and interested parties should not be required to execute an NDA in order to have access to information that is already publicly available.”)

system maps across the United States.³² Kevala has created a “comprehensive database of searchable local electrical distribution infrastructure and grid mapping software” that is accessible to their customers.³³ Kevala's work was funded by the Department of Energy's Sunshot program which expressly funded ingestion and commercial availability of utility distribution infrastructure data because it lowers the cost of Distributed Energy Resources.³⁴ Attachment A contains a sample image of the maps that Kevala has created which are available to parties who subscribe to their service. Another company, MAPSearch, has created a product called ENvision that provides customers with maps of substations and the transmission system to use in their development process.³⁵ A sample of their mapping data is also included in Attachment A. The California Energy Commission also publishes on its website maps of the locations of transmission lines, substations, generators, local reliability areas, and other key elements of California's electrical infrastructure.³⁶

Cowens suggests that federal regulators (FERC and the North American Electric Reliability Corporation (“NERC”)) expect the utilities to keep information about their system confidential. And yet, to our knowledge, the Joint IOUs have not sought CEII designations for

³² See, Eleanor Stribling, Kevala Analytics, SunShot and Beyond: What's Next for Kevala, available at: <https://kevalaanalytics.com/2016/09/16/sunshot-and-beyond-whats-next-for-kevala/> (“Grid Assessor helps developers reduce the risk and cost of building their projects – and optimize the forecasted value of the assets – with sophisticated analytics and detailed grid mapping down to the local level across the United States.”)

³³ <https://kevalaanalytics.com/>; see also Katherine Tweed, Kevala Builds a National Map of Solar's Locational Value, Greentech Media, Sept. 20, 2016, available at: <https://www.greentechmedia.com/articles/read/kevala-builds-national-map-of-locational-value-of-solar#gs.TisL8hoY> (“The software can help developers make faster, more informed decisions about whether to pursue a project, or help them develop an understanding of where interconnection costs are high. The pricing data is incorporated with property lines and other site characteristics, such as zoning policy or wetland location.”).

³⁴ See <https://www.energy.gov/eere/solar/technology-market-2-incubator-11-solarmat-4-t2m2>

³⁵ See <https://www.mapsearch.com/envision/envision-solar.html>

³⁶ See https://cecgis-caenergy.opendata.arcgis.com/datasets?group_ids=3960d4ed4f4d4f6ebbee2a7cea5ad008

this information. As discussed below, the Federal Energy Regulatory Commission has adopted specific procedures for the designation of CEII, it does not permit the utilities to simply declare information to be critical and thus make it confidential. The utilities are required to make a specific and persuasive showing that the information does in fact meet the definition of CEII.³⁷ This Commission's own Physical Security OIR (R. 15-06-009) is also grappling with this question and to date there has been no decision in that docket that would require that all locational information be made confidential.³⁸

The Declaration of William Sauntry discusses various efforts to track when potential "bad actors" are seeking information to commit attacks. The efforts cited by Sauntry are laudable and important, but it is difficult to see how those are relevant here. No one is contesting that the information could conceivably be used, rather the Joint Parties believe that this information is available via many other means, it has not been shown that continued publishing the maps increases this risk, and finally it does not demonstrate that if there is any added risk that it is outweighed but the substantial benefits identified in Section IV below.

Sauntry provides information on the number of incidents that have been reported to the Department of Energy and also provides some examples of incidents that highlight that malicious intent exists.³⁹ The examples provided do not support the de-publishing of the PV

³⁷ 18 CFR Parts 375 and 388, Regulations Implementing FAST Act Section 61003 -- Critical Electric Infrastructure Security and Amending Critical Energy Infrastructure Information, 157 F.E.R.C. ¶ 61,123 (November 17, 2016), [2016 FERC LEXIS 2015 * 88-89](#).

³⁸ In the Petition the Joint IOUs reference the Proposed Decision issued in R.15-06-009 and state that, if adopted, it would require that information "regarding the utilities' physical-security-sensitive electric distribution facilities be kept confidential until the utilities' physical security plans are finalized and the Commission adopts new confidentiality criteria." The Joint Parties disagree that this is a correct characterization of the Proposed Decision. The Proposed Decision makes no mention of the PV RAM maps or DRP data access portal and does not appear to intend that the previous decisions of this Commission in those dockets be overruled.

³⁹ Sauntry Declaration, pp. 5-8.

RAM maps. For example, while the attack on the Metcalf transmission substation was a serious and costly incident, there has been no evidence presented here that the PV RAM maps were a factor in facilitating the attack. Rather, the Metcalf substation, to this day, can be seen very easily by driving past it or by zooming in on it using Google Maps.⁴⁰ What the Metcalf substation attack demonstrates is that greater on-site physical security and monitoring may need to be in place at these critical facilities. The same is true of all of the other attacks cited by Sauntry, the locations of substations, high voltage power lines, etc. all are readily accessible via public sources today.

In the book “Terrorism and the Electric Power Delivery System,” the authors discuss the physical security considerations for electric power systems.⁴¹ They note that:

High-value choke points, those facilities which, if destroyed, will significantly degrade power systems capabilities, are easily located either on the ground or from system maps. Detailed maps of the U.S. power system were once readily available in the public domain and on the Internet. *Despite attempts to control access to such maps, they can still be easily obtained.* Commercially available satellite data, as well as direct observation on the ground, can also be used to readily update and confirm system map information for potential attackers.⁴²

Thus, rather than focusing on trying to remove all information from the public domain about the locations of critical facilities, the book goes on to discuss various other methods to actually increase the security those facilities, such as improved security engineering techniques, the use of hardened construction, improved surveillance equipment and improved planning on how to repair and restore facilities in case of an attack.⁴³ This expert report supports the Joint Parties

⁴⁰ See <https://goo.gl/maps/ngc9AnS4jZ62>

⁴¹ National Research Council, *Terrorism and the Electric Power Delivery System*, 2012, Washington, DC: The National Academies Press. available for free at: <https://doi.org/10.17226/12050> (prepared by the Committee on Enhancing the Robustness and Resilience of Future Electrical Transmission and Distribution in the United States to Terrorist Attack).

⁴² *Id.*, p. 33 (emphasis added).

⁴³ *Id.*, pp. 34-36.

position that publishing the PV RAM maps is not likely to appreciably hinder the ability of “bad actors” to access the information and suggests there are better ways, including many being considered in the Physical Security OIR, to protect the physical security of the grid.

The Declarations provided by the Joint IOUs do not provided sufficient evidence that demonstrates that registration-required access to the maps will increase the risks significantly, or that if such a showing was made, that these risks would outweigh the benefits associated with publishing the maps in order to facilitate the ability of DERs to be deployed in a manner that creates a more resilient, low-cost and sustainable grid.

IV. OVER-CLASSIFICATION OF INFORMATION AS CONFIDENTIAL RUNS COUNTER TO COMMISSION POLICY AND CREATES UNINTENDED DETRIMENTAL CONSEQUENCES

A. Granting the Petition Would Undermine the Commission’s Longstanding Policy of Promoting Transparency

The Commission ordered the creation of the PV RAM maps to provide stakeholders with greater access to information in order to further the goals of the Renewable Auction Mechanism (“RAM”). A major purpose of the RAM was to promote competition and decrease the costs of achieving RPS objectives by decentralizing decision-making about DERs.⁴⁴ In the RAM decision, the Commission concluded that it could promote competition by allowing multiple actors, in addition to the IOUs, to make decisions about how best to site resources on the distribution grid. For example, the Commission stated that developers, and not exclusively the IOUs, should be responsible for deciding which locations represented preferred interconnection points.⁴⁵ These decisions, the Commission determined, “involve[] judgment better left to

⁴⁴ R.08-08-009, Renewable Portfolio Standard Program, D.10-12-048, Decision Adopting the Renewable Auction Mechanism, December 16, 2010, at pp. 2, 81 (findings of fact 3, 4, and 5).

⁴⁵ D.10-12-048, pp. 71-72.

stakeholders.”⁴⁶

To animate this new decentralized competitive market, the RAM decision called for IOUs to provide stakeholders with greater access to information about the distribution grid. The Commission stated that such information—particularly data about available capacity to facilitate interconnection⁴⁷—“is vital to an effectively functioning competitive market.”⁴⁸ To provide this information, the Commission ordered the IOUs to publish grid data in map format.⁴⁹ The PV RAM maps were required to contain data that was “sufficiently detailed to be useful” to stakeholders.⁵⁰ With greater access to detailed information, DER developers could make more effective and efficient decisions. As described above, the Commission already twice expressly rejected arguments by the utilities seeking to make the RAM maps confidential and instead ruled in favor of broad public access.

The more recent decisions in the Distribution Resources Plan (“DRP”) proceeding have continued the Commission’s commitment to transparency as a means of increasing competition, achieving the Commission’s goals and ensuring efficient implementation of California’s numerous clean energy policies. For example, in its decision regarding the ICA, the Commission concluded, as it had regarding the PV RAM maps, that publishing ICA results in map format could inform selection of interconnection points and lead to a “streamlined” and “transparent” interconnection process.⁵¹ Release of ICA data is intended to “assist customers and third parties

⁴⁶ *Id.*

⁴⁷ *Id.*, pp. 68, 71.

⁴⁸ *Id.*, p. 85 (finding of fact 42).

⁴⁹ *Id.*, pp. 70-72.

⁵⁰ *Id.*, pp. 70-72, 85 (finding of fact 43).

⁵¹ R.14-08-013, Distribution Resources Plans, D.17-09-026, Decision on Track 1 Demonstration Projects A (Integration Capacity Analysis) and B (Locational Net Benefit Analysis), September 28, 2017, p. 27.

design DER systems by providing accurate information about the amount of DER capacity that can be interconnected at specific locations” without triggering the need for significant upgrades to distribution infrastructure.⁵² Once again, the Commission concluded that greater access to information could facilitate a healthier and more efficient interconnection process and greater penetration by DERs.

The Commission’s orders in the DRP proceeding have also emphasized the importance of transparency as a means of ensuring accountability. For example, the Commission stated that the public release of Grid Needs Assessment data is intended “to provide transparency into the assumptions and results of the distribution planning process” that generates the IOUs’ deferral solicitations, grid modernization investments, and hosting capacity upgrades.⁵³ Increased transparency into the planning process is intended to allow stakeholders to hold the IOUs accountable as they identify cost-effective investments and deferral opportunities.⁵⁴ This accountability benefits the public as a whole by keeping costs low.

Setting up a system, as the IOUs have requested, that requires PV RAM data to be accessed subject to an NDA undermines the Commission’s goals. Erecting barriers to information about the distribution grid would increase costs for developers and customers and decrease the efficiency of the interconnection process. Additionally, decreasing transparency would prevent stakeholders and the public from holding the IOUs accountable. With limited access to—and limited ability to communicate about—grid needs assessment data, stakeholders would no longer be able to hold the IOUs accountable by determining whether their candidate

⁵² D.17-09-026, p. 27.

⁵³ R.14-08-013, Distribution Resources Plans, D.18-02-004, Decision on Track 3 Policy Issues, Sub-Track 1 (Growth Scenarios) and Track 3 (Distribution Investment and Deferral Process), February 8, 2018, p. 33.

⁵⁴ D.18-02-004, p. 33.

deferral projects maximize ratepayer benefits. In short, to achieve the Commission's goals in the PV RAM and DRP decisions, the Commission should continue to promote greater, not less, transparency.

B. Granting the Petition Will Impact the Effective Functioning of the DER Market

Public access to the PV RAM maps as ordered in D. 10-12-048 has had its intended effect -- to provide stakeholders with greater access to information in order to promote competition and decrease the costs of achieving RPS objectives by decentralizing decision-making about DERs. Developers' reliance on the maps to effectively participate in the DER market became abundantly evident when the Joint IOUs, without Commission authorization, removed public access to the maps in September 2018. At such time, several developers filed motions with the Commission seeking continued access to the maps citing the role that the maps played in providing information integral to the development of DERs.⁵⁵ The everyday use of the maps by developers in order to develop and propose facilities in locations where benefits to the system can be optimized is also evidenced in the declarations by developers appended to this Response as Attachment B.⁵⁶

Moreover, the use of a NDA as a means to achieve access is simply not practical. As discussed in the developers' declaration, the NDA proposed by the Joint IOUs creates onerous requirements and potentially open ended liability. Such an NDA will effectively hamper the use of the information contained on the PV RAM maps to the detriment of the development of the DER market.

⁵⁵ See, e.g., Motion of Terra Gen Seeking Access to Critical Energy Infrastructure Information, R. 14-08-013 (Sept. 17, 2018)

⁵⁶ Attachment B includes declarations from Freeman Hall of Solar Electric Solutions, LLC, Rachel Bird of Borrego Solar Systems, Inc.; Annie Cwiklinski of Tesla, Inc., and Jeff Lounsberry of CalCom Energy.

C. Granting the Petition May Have Detrimental Unintended Consequences

The Brennan Center for Justice has documented the manner in which overclassification of government records can actually impair the ability of the government to protect from risks.⁵⁷ This work is directly analogous and informative to the question of the designation of confidential information posed here. The Center identifies three key risks: “Overclassification causes three principal harms. First, it creates threats to national security by preventing government officials from sharing information with each other and by fostering leaks. Second, it keeps voters and (at times) Congress uninformed about government conduct, thus impairing democratic decision making and increasing the likelihood of unwise or even illegal government action. Finally, classification is expensive—and overclassification wastes taxpayer money.”⁵⁸ These principles can be applied in this context as well.

First, by creating overbroad categories of information to be subject to a NDA the ability of the Commission, stakeholders, utilities, researchers and others to share, use and discuss information is impaired. This prevents entities from having open and constructive dialog about how to build a more resilient grid and also impairs discussions about appropriate accountability and regulation of monopoly utilities. The ability to share information and converse about it is what leads to innovative solutions and collaboration. Over protecting distribution system data will prevent third parties from being able to practically share information that helps to identify vulnerabilities, design distribution network solutions and to identify areas of potential cost savings. This directly undermines the transparency goals of the Commission as outlined above.

⁵⁷ Elizabeth Goitein and David M. Shapiro, *Reducing Overclassification Through Accountability*, Brennan Center for Justice at New York University School of Law, 2011, available at: <http://www.brennancenter.org/publication/reducing-overclassification-through-accountability> (Hereinafter “Reducing Overclassification”)

⁵⁸ *Reducing Overclassification*, p. 7.

The approach recommended by the Joint IOUs – that burdening the sharing of vast amounts of non-sensitive data on the basis that it helps them better protect the actually sensitive information – may backfire as well. As the Brennan Center outlines, since a substantial number of people will need access to the information, a NDA that covers all locational information without distinguishing between what is truly sensitive and what is not, may increase the likelihood that there will be more intentional and unintentional leaks of the truly sensitive and otherwise non-discoverable data.⁵⁹ For example, since users of the information may know that they can identify the location of a facility and how it connects to others on Google Maps, through a site visit, or through the use of other third party mapping services, they will believe that they can discuss that information with others since it is already publicly available information could not be protected by the NDA. However, through this process there is a substantial likelihood that more sensitive information could be shared on accident. It also seems that parties might be less likely to keep information confidential if they believe the information has been over designated⁶⁰ or to feel less inclined to manage the information appropriately if it significantly hamstrings their ability to operate. In this case there are many individuals that could want or need access to the maps, including many people at the Commission and other state agencies, numerous employees at DER developers, and customers.⁶¹

The second risk is also analogous here. The intent of the Commission in the DRP

⁵⁹ “Overclassification erodes government employees’ respect for the classification system and increases the number of people who require access to classified information in order to do their jobs—two developments that greatly increase the risk of leaks.” *Id.*, p. 7.

⁶⁰ “Unnecessary secrecy also threatens national security by undermining respect for the classification system and thereby promoting leaking by government officials. Although leaks of improperly classified information generally pose little threat to national security, lack of respect for the classification system increases the risk of innocuous and dangerous leaks alike.” *Id.*, p. 8.

⁶¹ *Id.*, p. 9.

proceeding⁶² is to make information about the distribution system more readily available to better facilitate decision making and accountability by the Commission and the public. In order to understand whether utilities are managing their distribution system in an efficient manner that benefits ratepayers and also achieves the policy goals established by the state of California, there has been a recognized need to enhance transparency about distribution system planning to facilitate greater accountability.

Finally, as to the third risk, the Joint Parties strongly believe that over designation of information in this context is likely to increase the costs of DER deployment and impair the ability to use DERs to lower overall system costs and increase reliability and resiliency. It also results in less public scrutiny and accountability of utility decision making. The legal and administrative costs alone for the Commission, utilities and the many parties that will need access to the DRP data portal would be substantial.

V. THE PETITION IS NOT CONSISTENT WITH FERC POLICY

While making reference to the Federal Energy Regulatory Commission's ("FERC") regulations regarding the confidentiality of CEII as support for the requested redaction of the PV RAM maps, the Joint IOUs stop short of stating that the maps constitute CEII. This is not surprising as only the FERC can make that determination and applicable precedent indicates that should the FERC engage in such an analysis, then, based on the information provided by the IOUs to date, including the declarations appended to the Petition, the PV RAM maps would not constitute CEII.

The FERC has been very clear in its decisions that the federal CEII rules do not, and are not, intended to address information that the possessing entity has unilaterally determined to be

⁶² See Section IV. A.

CEII and never submitted to the FERC.⁶³ In other words, for information to be considered to be CEII, it must receive such designation from the FERC.⁶⁴ To this end, the FERC has emphasized that 18 CFR § 388.113(d)(1)(i) requires that submitters provide justifications for CEII treatment and has explained that “[t]he way to properly justify CEII treatment is by describing the information for which CEII treatment is requested and explaining the legal justification for such treatment.”⁶⁵ As far as the Joint Parties are aware, the Joint IOUs have never requested nor received a designation of CEII from the FERC.

Moreover, FERC precedent indicates that such a designation would not be forthcoming. CEII is defined as “specific engineering, vulnerability, or detailed design information about proposed or existing critical infrastructure that:

- (i) Relates details about the production, generation, transportation, transmission, or distribution of energy;
- (ii) Could be useful to a person in planning an attack on critical infrastructure;
- (iii) Is exempt from mandatory disclosure under the Freedom of Information Act; and
- (iv) *Does not simply give the general location of the critical infrastructure.*”⁶⁶

When first issuing its rules establishing a procedure for designating CEII, the FERC specifically considered commenters' arguments and suggestions with respect to protecting

⁶³ 18 CFR Parts 375 and 388, Regulations Implementing FAST Act Section 61003 -- Critical Electric Infrastructure Security and Amending Critical Energy Infrastructure Information, 157 F.E.R.C. ¶ 61,123 (November 17, 2016).

⁶⁴ The Commission has echoed this sentiment stating that “D.10-12-048 concluded that the CII Act does not allow a utility to self-identify information as CEII; the CEII designation is only relevant when a federal agency is involved with sharing information for the purpose of security planning.” See Assigned Commissioner’s and Assigned Administrative Law Judge’s Ruling, A. 15-09-013 (May 23, 2018) (rejecting SDG&E argument that the general location of the project and alternatives in GIS format were CEII).

⁶⁵ FERC Guidelines for Filing Critical energy Infrastructure Information, <https://www.ferc.gov/resources/guides/filing-guide/file-ceii/ceii-guidelines/guidelines.pdf>

⁶⁶ 18 C.F.R. Section 388.113(c)(2) (emphasis added).

information that may otherwise be available to the public, including location information. In this regard the FERC stated:

[T]he [FERC] believes that there are publicly available sources that would enable a terrorist to locate most energy infrastructure. Without further guidance from the Congress or the Administration, the *Commission is reluctant to withhold from public access location information that is otherwise available.*⁶⁷

The FERC further determined that any individual seeking to designate location information as CEII would have to justify the request and explain why the information is not already publicly known.⁶⁸ Finally, when assessing whether specific location information is CEII, the FERC has taken into consideration the public's need to have ready access to the information in order to effectively participate in FERC proceedings.⁶⁹

In this instance, the Joint IOUs have not provided any basis for retracting any specific locational data from the PV RAM maps, but argue that the PV RAM maps, as a whole, provide more than location information because they lay out the electrical connectivity configuration of the electric distribution system that cannot be pieced together from already available sources.⁷⁰ While the Joint Parties do not dispute that it may be more difficult to create a map of an IOU's distribution system from other available sources, the Joint IOUs' statement does not rise to the level of justification necessary for treating already public information, confidential. As discussed in Section III. B., there are other sources that have already created similar maps. Indeed, PG&E appears to concede that it is not public access to locational information that

⁶⁷ 18 CFR Parts 375 and 388, Critical Energy Infrastructure Information, 102 FERC ¶ 61, 190, ¶ 29 (February 21, 2003) (emphasis added).

⁶⁸ Regulations Implementing FAST Act Section 61003—Critical Electric Infrastructure Security and Amending Critical Energy Infrastructure Information, 81 Fed. Reg. 93732, 93735 (Dec. 21, 2016).

⁶⁹ 18 CFR Parts 375 and 388, Critical Energy Infrastructure Information, 102 FERC ¶ 61, 190, ¶ 30 (February 21, 2003).

⁷⁰ Petition, p. 11.

creates a heightened risk, but rather access to certain detailed information about a limited number of its assets. As stated in the declaration of Bernard Cowens, “while there may be some ‘basic’ information available regarding electric distribution and transmission assets, there is not technical information which identifies our most critical assets for their function and value in maintaining the reliability of the grid.”⁷¹ PG&E has not made a showing of “specific engineering, vulnerability, or detailed design information” with respect to those “critical assets” that would warrant a designation of CEII.

Finally, in weighing the public interest, as discussed above, there has been a clearly demonstrated need for public access to the PV RAM maps. Those maps are utilized by DER developers on a daily basis in order to advance the interconnection of distributed generation projects and thereby help achieve the Commission’s renewable energy and climate goals. In contrast, the Joint IOUs have not shown that having the PV RAM map in the public domain over the past five years has resulted in public harm.

VI. THE USE OF NON-DISCLOSURE AGREEMENTS TO ACCESS THE INFORMATION, AS PROPOSED BY THE JOINT IOUS, IS NOT PRACTICAL AND WOULD HINDER THE USE OF THE MAPS AND DRP DATA AND RAISE SIGNIFICANT LEGAL CONCERNS

When the Commission first ordered the utilities to publish the PV RAM maps, it explicitly rejected the utilities’ proposal that users of the maps be required to sign a NDA.⁷² The Joint IOUs have not provided new or changed facts that warrants the Commission altering that conclusion. Indeed, because there is now a greater need and potential uses for the information to facilitate the goals of the Commission in the DRP and other proceedings, it has become even more imperative that access to the information not be impractically hindered by an NDA.

⁷¹ Cowens Declaration, p.2.

⁷² Resolution E-4414, August 18, 2011, pp. 21-22.

At first blush it may seem reasonable to just assume that parties can sign an NDA like they do for various other types of utility data and for other commercial purposes. However, upon consideration of both the large number of people that will need to access the information, the vast amount of information the utilities seek to protect, and the amount of it that is otherwise publicly available, the practicality of an NDA of this scope becomes highly questionable.

In this docket (as well as in the DRP docket), the Joint IOUs are proposing that all distribution system locational data, and thereby all underlying information related to those locations, be subject to an NDA. However, as outlined in Section III. B., a vast amount of that information is available to the public via various sources. Since a NDA cannot protect the ability of a party to share and discuss information it has access to via other legal sources, this creates the risk of substantial confusion over potential liability under the NDA. For example, parties considering signing the NDA will be concerned that they could be subject to liability if they discuss information that they know to be available from other sources. The utilities could use the threat of a legal challenge to impair the ability of consumers to discuss information that they have access to via other means. In addition, as discussed in Section IV. C, if a NDA covers a significant amount of information that parties know or believe to be publicly available, it waters down the likelihood that parties will adequately protect the information that is indeed not publicly available and/or truly security sensitive.

In order for DER providers to be able to develop projects for customers they need to be able to communicate with their customers about the information underlying their proposals. They also may need to share information with contractors, other service providers and collaborators, and with the Commission or local governments in order to appropriately design systems and get the necessary approvals. Designating all information in the PV RAM maps as

confidential and subject to an NDA is likely to vastly impair the ability of parties to utilize the information in ways that achieve the Commission's goals. Protecting just specific pieces of information about specific locations that have been deemed to be CEII is a much more practical approach that would enable parties to only have to sign a NDA when they need access to information that is both less likely to be publicly available and is more narrowly defined such that a smaller number of parties will ultimately need access to it. The Joint IOUs have made no such showing about what information is truly confidential here or in the DRP docket and thus the Commission should deny the Petition.

The Model NDA included as Attachment B to the Petition for Modification raises numerous questions, including:

- Section 1.A: This introduction to the scope of the NDA indicates that it provides access to “confidential information” but it is not specific with respect to what information is actually being designated as confidential.
- Section 1.B: This section says that the NDA does not apply to employees of the Commission, but it is not clear if this means that parties signing the NDA are thus able to freely communicate with the Commission about the information. It also is not clear to how the Commission will be able to discuss distribution system locations and underlying data in Rulings, Decisions, Staff Reports and other materials that relate to data coming out of the DRP and other dockets.
- Section 3: This section provides that Confidential Information shall not be disclosed to any person except a specific list of employees and administrative personnel. Not included on this

list are contractors, DER customers, Commission staff, other public agency staff such as City and Counties who may be reviewing projects for permitting purposes, etc.⁷³

- Section 3: This section identifies particular “Security Measures” that the Recipient shall take when handling the unspecified Confidential Information. The “level and degree” of the Security Measures is to be determined by the utility and includes, but is not limited to, numerous practices that are not commonly in place for smaller developers and customers⁷⁴ that may want or need access to the PV RAM maps. This concern is compounded by the fact that it will be difficult to separate out what information can be shared freely and what information is “confidential.” Since much of the information the Joint IOUs propose to shield from public view will be needed for the basic day-to-day operations of DER providers, the practicality of encrypting every communication is particularly troubling. The Joint Parties are also concerned that these measures may create competitive advantages for larger companies and disadvantage the many small DER business and individual customers also needing access to this information. Again, requiring appropriate security measures for truly sensitive information is appropriate, but requiring these measures for all distribution data is overly burdensome and impractical.
- Section 6: This section provides that the Recipient shall either return or destroy Confidential Information after a defined period of time or at any time at the request of the utility. It is not clear how information can be destroyed or returned if it has been used to make business

⁷³ See the Declaration of Freeman Hall in Attachment B for further discussion of the need to community with permitting authorities.

⁷⁴ See Declarations of Freeman Hall and Jeff Lounsberry in Attachment B for further discussion of the difficulties associated with the NDA’s “Security Measures”.

decisions regarding interconnection applications, bids and submittals to the Commission and/or other public agencies.⁷⁵

VII. CONCLUSION

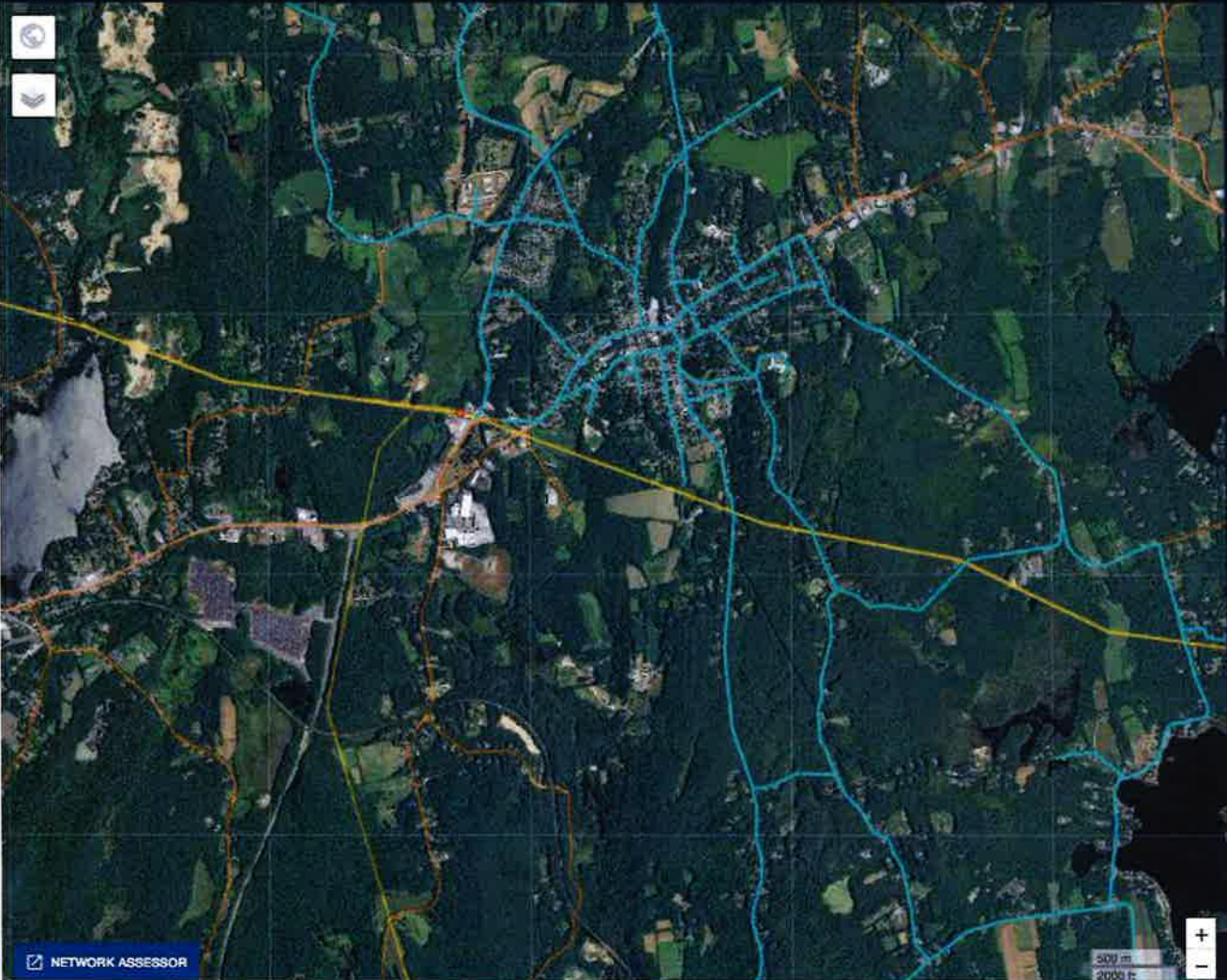
The Commission may modify a decision if: (1) new facts are brought to the attention of the Commission, (2) conditions have undergone a material change, or (3) the Commission proceeded on a basic misconception of law or fact. As has been demonstrated herein, the Joint IOUs have failed to meet their burden to demonstrate new or changed facts that would warrant granting their request to remove public access to the PV RAM maps, subjecting such access to burdensome and impractical requirements.

The Commission has clearly concluded that greater access to information, such as that contained on the PV RAM maps, will facilitate a healthier and more efficient interconnection process and greater penetration by DERs. The Joint IOUs attempt to create a roadblock to such access, in the absence of a clear showing that such access creates a significant enough risk to outweigh the well documented benefits of providing this transparency in order to facilitate the siting of DERs, should be discounted in its entirety by the Commission.

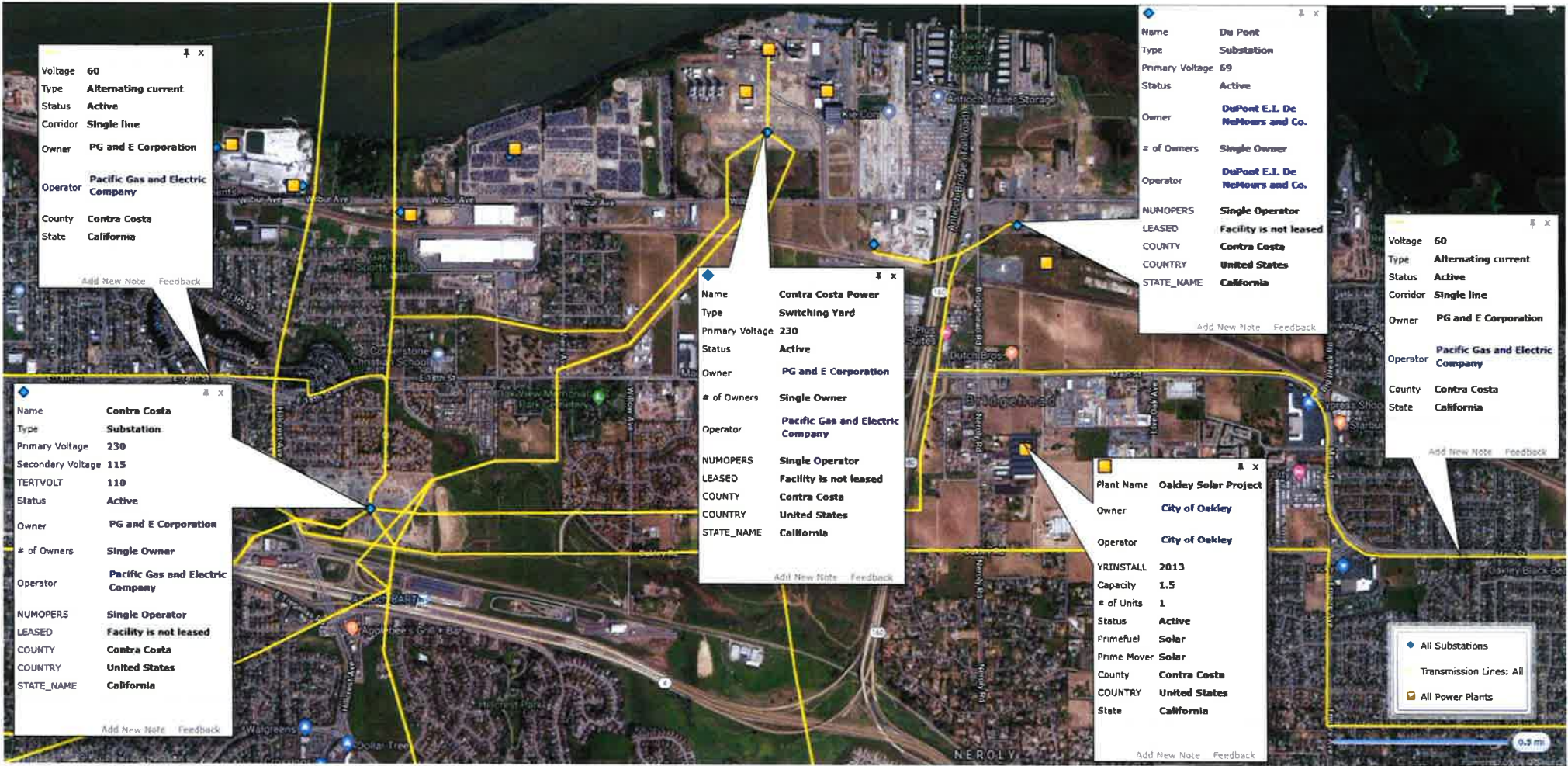
The Joint IOUs request that the Commission modify D.10-12-048 and Resolution E-4411 must be denied.

⁷⁵ See also the declarations of Freeman Hall and Annie Cwiklinski included in Attachment B.

ATTACHMENT A



SUBSTATIONS						FEEDERS						TRANSMISSION					
Feeder Filters																	
Details	Name	Voltage (kV)	Maximum Hosting Capacity (MW)	Distributed Generation Installed (MW)	Distributed Generation in Queue (MW)												
	01-5521	13	3	6.02	10.23	Peak Load: 9.52 Queue As Of Date: 2018-01-31											
	01-5523	13	3	0.1	10.96												
	01-55w1	13	3	8.67	3.36												
	01-5913																
	01-6013																
	01-6014																
	01-601w1	13	3	3.58	63.74												
	01-601w2	13	3	0	0.06												
	01-601w3	13	3	0.17	8.39												
	01-601w4	13	3	3.32	1.51												
	01-602w2	13	3	5.95	15.64												
	01-602w3	13	3	0.96	0												
	01-609w1	13	3	0.1	32.37												
	01-609w2	13	3	0.01	6.92												
	01-610w3	13	3	1.08	21.99												
	05-108w51	13	3	0.04	0												
	05-108w60	13	3	0.12	0.01												
	05-310w3	13	3	0.51	0												
	05-310w5	13	3	0.34	0												
	05-310w6	13	3	0.75	0.65												
	05-312w1	13	3	0.74	1.61												



Voltage	60
Type	Alternating current
Status	Active
Corridor	Single line
Owner	PG and E Corporation
Operator	Pacific Gas and Electric Company
County	Contra Costa
State	California

Add New Note Feedback

Name	De Pont
Type	Substation
Primary Voltage	69
Status	Active
Owner	DuPont E.I. De Nemours and Co.
# of Owners	Single Owner
Operator	DuPont E.I. De Nemours and Co.
NUMOPERS	Single Operator
LEASED	Facility is not leased
COUNTY	Contra Costa
COUNTRY	United States
STATE_NAME	California

Add New Note Feedback

Name	Contra Costa Power Switching Yard
Type	Substation
Primary Voltage	230
Status	Active
Owner	PG and E Corporation
# of Owners	Single Owner
Operator	Pacific Gas and Electric Company
NUMOPERS	Single Operator
LEASED	Facility is not leased
COUNTY	Contra Costa
COUNTRY	United States
STATE_NAME	California

Add New Note Feedback

Voltage	60
Type	Alternating current
Status	Active
Corridor	Single line
Owner	PG and E Corporation
Operator	Pacific Gas and Electric Company
County	Contra Costa
State	California

Add New Note Feedback

Name	Contra Costa
Type	Substation
Primary Voltage	230
Secondary Voltage	115
TERTVOLT	110
Status	Active
Owner	PG and E Corporation
# of Owners	Single Owner
Operator	Pacific Gas and Electric Company
NUMOPERS	Single Operator
LEASED	Facility is not leased
COUNTY	Contra Costa
COUNTRY	United States
STATE_NAME	California

Add New Note Feedback

Plant Name	Oakley Solar Project
Owner	City of Oakley
Operator	City of Oakley
YRINSTALL	2013
Capacity	1.5
# of Units	1
Status	Active
Primefuel	Solar
Prime Mover	Solar
County	Contra Costa
COUNTRY	United States
State	California

Add New Note Feedback

- ◆ All Substations
- Transmission Lines: All
- All Power Plants

0.2 mi

ATTACHMENT B

DECLARATION OF ANNIE CWIKLINSKI OF TESLA, INC.

Introduction

My name is Annie Cwiklinski. I am employed by Tesla, Inc. as the Commercial Utility Relations Lead for deployment of behind-the-meter commercial solar and storage projects.

This declaration is being made in support of a streamlined process for solar developers like Tesla to gain access to utility distribution systems mapping data that allows developers to quickly and easily identify locations to interconnect PV arrays without upgrades via the Integration Capacity Analysis.

Summary

This issue has been raised in Rulemaking 08-08-009, *Order Instituting Rulemaking to Continue Implementation and Administration of California Renewables Portfolio Standard Program* (August 21, 2008). The Joint IOUs generally oppose granting third-party access to certain mapping information. Specifically, the Joint IOUs have argued that the dissemination of this data to the public presents a risk to public safety.

Accordingly, the Joint IOUs have proposed that in order to protect the electric distribution and transmission facilities from potential physical security and cybersecurity attacks, D.10-12-048 and Resolution E-4414 should be modified to authorize the Joint IOUs to require that access to their Photo Voltaic Renewable Auction Mechanism Maps (“PV RAM Maps”) be limited to entities and individuals that: (1) demonstrate a “need to know” the data contained on the maps (2) prove they can adequately protect the data using proposed standards approved by the Commission, and (3) execute and abide by an appropriate Non-Disclosure Agreement (“NDA”).

While competence and care should be taken with utility distribution system information, the requirements that the Joint IOUs propose are onerous, excessive, and have been explicitly dismissed by the Commission previously. Indeed, the Joint IOUs’ proposed NDA requirements are in direct conflict with the Commission’s decision in Rulemaking 08-08-009, which requires making these maps publicly available, and the Joint IOUs do not make a compelling argument for modification of that decision.

General objections to the Joint IOUs’ proposed NDA

The proposed NDA requirements would be overly onerous and burdensome to Tesla’s and other developers’ business operations.

First, the requirements of the proposed NDA limit developers’ ability to share pertinent project related information/assumptions along with the concrete data points with third parties providing support for their projects and to having open and constructive conversations with their clients.. This sort of limitation is not feasible for effective project planning and the necessary collaboration with the various stakeholders it involves.

Second, it would be burdensome if the execution of a NDA is required for each separate information request, which is not completely clear in the documentation. Nor is it clear what data points would be considered confidential and require a NDA, and which data points would not be protected under a NDA .

Third, the subject matter of the NDA is overbroad, apparently covering the “physical location, attributes and configuration of the Joint IOUs’ electric distribution substations, circuits and feeders, as well as those of related transmission facilities” as referenced in the Joint IOUs’ PFM (p. 10). There are numerous third parties that have gathered data and built their own maps that are publicly available or clientele-based availability as a paid service. Those data points should not require an NDA to be made available to stakeholders.

Forth, all previous versions of the PV RAM maps accessed by Tesla have required a password-protected log in and agreement to terms and conditions for service when utilizing them. The Joint IOUs have not explained why this is not sufficient enough of a control instead of a highly-restrictive NDA. For SDG&E in particular, the utility has a process involving submittal of a form requesting access and therefor controlling who has access to the maps. The utilities have not demonstrated why this practice is insufficient to ensure security.

Specific issues with Joint IOUs’– Recommended Model NDA

Below are some identified concerns with specific provisions of the NDA regarding security measures that the recipient of the confidential information would be required to undertake.

3.a. written policies regarding information security, disaster recovery, third-party assurance auditing, and penetration testing;

This requirement would create an undue cost and resource burden. Specifically, compliance with the provision would necessitate the ongoing engagement of several of Tesla’s internal teams, including software development, security and legal to ensure that policies are implemented and kept up to date.

3.b. password protected workstations at Recipient’s premises, any premises where work or services are being performed, and any premises of any person who has access to such Confidential Information;

While Tesla can comply with the requirement, it may prove difficult for many others to do so, especially smaller third parties companies and customers that may also need access to this information.

3. c. encryption of the Confidential Information at rest and in motion;

This is requirement is excessive and imposes an unnecessary burden on the company’s IT resources. At present Tesla does not encrypt all project designs. This requirement would

necessitate the encryption of all designs which include "Confidential Information". Based on the Joint IOUs' description of such information that would mean every project design would need to be encrypted. Compliance with such a requirement would result in hundreds of hours of additional work hours per year.

3.d. measures to safeguard against the unauthorized access, destruction, use, alteration or disclosure of any such Confidential Information including, but not limited to, restriction of physical access to such data and information, implementation of logical access controls, sanitization or destruction of media, including hard drives, and establishment of an information security program that at all times is in compliance with any security requirements as agreed to between Recipient and Disclosing Party.

More specificity is needed to understand what is sought here. As currently described, however, it appears to require that the recipient of the information have in place comprehensive systems to safeguard against *any* means of potential access to the information by an outside third party. Such a requirement would necessitate substantial input from Tesla's information security and software teams, requiring hundreds of hours of man power a year to protect information which, in large part is already in the public domain, as I discussed above.

In addition to the provisions of the NDA regarding required security measures, I also have concerns regarding the following provisions:

4. Liability for Unauthorized Disclosure by Recipient.

This provision generally creates liability for unauthorized disclosure or use. But fails to state what that liability is for. For example, it could ostensibly include an attack on a substation or incurring costs for determining who received unauthorized access to data and then seeking prosecution of that. Should the NDA stand, liability cannot be assumed and left open ended. It must be concrete and narrow.

6. Return or Destruction of Confidential Information.

This provision requires return or destruction of confidential information. This could prove to be impractical for developers who would struggle to scrub digital data for every contemplated project of all information about the location of a substation.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct


/s/ Annie Cwiklinski
Tesla, Inc.

DECLARATION OF RACHEL BIRD ON BEHALF OF BORREGO SOLAR SYSTEMS, INC.

My name is Rachel Bird. I am employed by Borrego Solar Systems, Inc. ("Borrego Solar") as Director of Policy and Business Development, West.

Borrego Solar develops, engineers, constructs, and maintains commercial-scale solar and energy storage systems. Borrego Solar has deployed over 500 MW of solar, roughly a third of which is sited in California.

The Borrego Solar development team utilizes the PV RAM maps frequently to assess available hosting capacity. For commercial customers considering onsite solar and storage, the PV RAM maps provide important information at the early stages of project development related to the likelihood and scale of utility upgrades. The alternative -- filing a pre-application with the utility -- adds time and expense to an initial project screen.

In the wholesale distributed generation market, the PV RAM maps are critical to site identification. The hosting capacity information ensures that development is targeted to optimal grid locations. Identifying sites without the PV RAM maps would require submitting dozens of pre-applications across multiple locations to acquire information on various substations and circuits. This adds time and expense, as well as uncertainty.

Requiring a non-disclosure agreement ("NDA") to access the PV RAM maps would hamstring the development process. In order to utilize the information on the PV RAM maps, the NDA proposed by the Joint IOUs would require multiple people within Borrego Solar to sign the agreement. In addition, Borrego Solar's customers would likewise need to sign the NDA in order for Borrego Solar to be able to communicate the information contained within PV RAM maps applicable to the customer's project. For commercial solar and storage projects, there is often no single customer. Procurement decisions are often made by multiple internal stakeholders (each of whom would need to sign the NDA) as well as specialized consultants (each of whom would also need to sign the NDA). Some of these stakeholders may not be authorized to sign NDAs on behalf of their organizations.

This bureaucracy would significantly slow down efforts to develop commercial-scale solar and storage projects in California and would impair developers' ability to target projects to where they are most valuable.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.



Rachel Bird

Dated: January 9, 2019

Declaration on Access to PV RAM Maps by CalCom Energy

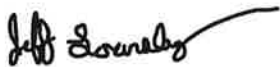
CalCom Energy is a solar integrator that works closely with agricultural customers throughout the State of California working on customer education, site evaluation, utility cost savings analysis, system design, construction and long term maintenance of Net Energy Metering solar arrays.

The PV RAM maps play a critical role in ensuring that solar integrators like CalCom Energy provide our customers with the most accurate and complete options for their solar PV project. CalCom utilizes the PV RAM maps to identify all of the customer options for Point of Interconnection, including the localized site and feeder level data that can make a significant difference in project outcomes. CalCom utilizes the PV RAM map to locate the customer array accurately in relation to local utility distribution service. In summary, these maps are a critical tool to the successful development of NEM projects for customers in California.

We understand and agree with the desire for data security from the utility perspective. However, Section 3 of the utility proposed NDA agreement would require the security measures of a military contractor rather than a solar integrator. We are willing to partner with the IOU's and the Commission to identify a reasonable and achievable set of rules on map data security . . . but Section 3 would not be achievable as drafted. We ask that the Commission consider the realistic capabilities of a small business to achieve certain levels of data security from both a technological and financial standpoint.

Thank You,

Jeff Lounsberry



I am the Interconnection and Utility Relations Manager with CalCom Energy handling Commission proceedings, managing the interconnection process for all projects and directing utility communications.

Declaration of Freeman S. Hall, President, Solar Electric Solutions, LLC

My name is Freeman S. Hall. I founded Solar Electric Solutions, LLC (“SES”) in 2008, and serve as its President. SES has developed over 100 MW of solar energy projects, sized from 2 to 20 MW, most of which are located in the service territory of Southern California Edison. My company has relied upon access to the utilities’ PV-RAM maps to determine optimal sites for new solar projects, and has already begun to take advantage of the added functionality of the Integration Capacity Analysis (“ICA”) layer to their maps, made available at the end of 2018.

My focus in this declaration is on the burden of the Non-Disclosure Agreement (“NDA”) for access to utility maps, which was proposed by the utilities in their Petition for Modification (“PFM”) of D.10-12-048. Hopefully, it goes without saying that access to the utilities’ maps is critical for solar developers; we would not be able to intelligently select project sites without that access. Further, while I fully support the arguments for making utility maps accessible without an NDA, I am not making those arguments here because those arguments have been made, quite persuasively, in the comments on the PFM to which this declaration is attached. I understand that the utilities are proposing that SES and other developers would be able to access utility maps and underlying data by signing an NDA, and the purpose of this declaration is to highlight the likely impact of the utilities’ proposed NDA on smaller developers such as SES.

The utilities’ proposed NDA would be very burdensome for SES, adding new processes that we would not otherwise pursue, adding unknowable and unlimited liability, and creating an obligation to return data that we could not feasibly scrub from our records. Below, I step through each of these major hurdles to continuation of our business.

Data Security Requirements

All five requirements of data recipients pursuant to the NDA are concerning, particularly in light of the way in which projects are typically developed. Like most small developers, SES contracts with other companies, particularly for engineering, construction, and maintenance services, adding a far greater level of complexity of these NDA terms than a one-stop-shop might experience. As well, the NDA states that these requirements will be established “at a level and degree deemed appropriate by the Disclosing Party”, leaving open the possibility that one or more of the requirements can be made completely unworkable by a utility. Stepping through the five requirements, I foresee the following issues:

- a. *written policies regarding information security, disaster recovery, third-party assurance auditing, and penetration testing*

SES has never had more than a few employees in-house, making written policies for information security and disaster recovery a quixotic pursuit, and therefore auditing and penetration testing have not been considered. We have taken typical measures by small

businesses to assure that data cannot be accessed, primarily because we want to keep our financial, contractual, and design information confidential. To be frank, it had not even occurred to me that the location of a substation could be considered confidential; that's available on Google Maps and no one is going to break into SES records to find that information.

I expect that we could develop and adhere to written policies that would satisfy the utilities, but I expect that it would take weeks of effort initially and probably \$10,000 of IT support in the first year. The actual time and cost would depend on what the utilities require, but it is hard to imagine how this effort will improve security, and it is hard to imagine how we can recover this cost. Perhaps most importantly, we would need to assure that any of our contracting partners have adopted the same procedures, limiting the pool of potential partners with whom we can work.

- b. *password protected workstations at Recipient's premises, any premises where work or services are being performed, and any premises of any person who has access to such Confidential Information*

At our own location, this requirement seems straightforward. Our laptops and phones require passwords, and that is all that seems to be required. However, we would presumably be liable for sharing files with utility locational data with our partners if an employee at a partner company does not use a password on a cell phone.

- c. *encryption of the Confidential Information at rest and in motion*

This is likely to be the most difficult requirement, though the cost and difficulty is not entirely clear to me. We have every reason to protect our data (as noted – especially our financial, contractual, and design data), but we do not encrypt our data. There are programs to encrypt data, and contractors to help establish how to create, store, and share encrypted data, and I am sure we could conform with this requirement. However, project design files are quite large, and my understanding is that encrypting and unencrypting this data takes time and computing resources; we would encounter this cost each time we share a revised design with a contractor. And, we would need to coordinate encrypted data sharing with each of our contractors.

In addition, it is unclear whether local authorities having jurisdiction (“AHJs”) would have the ability to unencrypt data files, but this requirement would necessitate that we send our drawings to the AHJ in encrypted format. Likewise, we have always shared our files with the utility in unencrypted format, and it is not clear whether the utilities themselves are prepared to receive files, or whether everyone would need to conform to the utilities' encryption technology.

I expect that I would spend a week or more learning how to encrypt data and coordinating with our contractors, who would also spend time in the learning process, and I expect that glitches in sharing of encrypting data would lead to frustrating slowdowns that would waste more time. At least for my business, I would expect that

aside from the value of our time, the IT cost would probably be a few thousand dollars initially, and a few thousand dollars per year, and that our contractors would bear the same expense.

- d. *measures to safeguard against the unauthorized access, destruction, use, alteration or disclosure of any such Confidential Information including, but not limited to, restriction of physical access to such data and information, implementation of logical access controls, sanitization or destruction of media, including hard drives, and establishment of an information security program that at all times is in compliance with any security requirements as agreed to between Recipient and Disclosing Party*

This requirement seems the most open to an unreasonable utility standard, but also could feasibly be straightforward. We have not established procedures to wipe a device clean remotely, though such programs exist, and it is not clear what that would entail, especially how quickly and under what circumstances data would have to be destroyed. Again, assuring that all of our contractors have established the same standards adds another layer of effort.

- e. *measures to respond to an unauthorized, or suspected unauthorized, disclosure of Confidential Information.*

It is not clear what this requirement would entail. In accordance with the NDA, it seems that we would need to inform the utility of any breach; it is not clear what more could be expected in the event that a device is stolen or hacked. As an example, we would need to contact the utility if a contractor lost a cellphone with emails that include project design files that include circuit and substation data.

Even more fundamentally, Section 3 of the NDA states that, “Confidential Information shall not be disclosed in any manner to any person except a Recipient’s employees and administrative personnel”, which is completely impossible. My responses above assume that we could share data with other businesses that have signed the NDA, but the provision just quoted would prohibit such sharing. We do not have the ability to develop projects completely in-house, and this provision would make our business model impossible.

Note that interconnection information, including utility locational data gets shared with AHJs for project permitting, and it is unlikely that any AHJs will agree to the terms listed above. However, the NDA would require that we only share files with confidential information with those who likewise agree with the data protection requirements.

Liability

Section 4 of the NDA stipulates that, “Recipient shall be liable for any unauthorized disclosure”, without further discussion. As a practical matter, I cannot insure for this unknowable and unlimited liability; it would simply be a business decision to accept the risk. The greatest risk seems to be that a bad actor might cause property damage to a utility substation, which in turn

takes down service to a substantial number of customers, and it can be shown that the critical information enabling the act was taken from my business. The cost of such an event could be in the tens of millions, and well past my company's ability to pay. It is hard to imagine that someone would look to my project design for substation location, and it would be easy to show that the information was otherwise available, but it is still a concern that the liability exists and I would need to pay counsel to defend me.

Once again, the necessary sharing of data amongst contracting companies makes this risk even harder to ascertain. The unauthorized disclosure requirement would apply to data that I share with another company, or an AHJ, which in turn loses control of the data.

Obligation to Return Data

Section 6 of the NDA requires that my company would have to return or destroy all confidential information provided by the utility at the utility's request. This requirement seems impossible; locational data regarding circuits and substations are an integral part of every project design. In the ten years of my company's existence there are literally thousands of emails with attached documents that have this locational information. Those files and emails are saved on our laptops, on laptops of our partner companies, on hard drives at AHJs, and backed-up on local servers and the cloud by all of us. It does not seem possible to actually retrieve all of that locational information upon utility request.

Presumably, none of the locational data provided in the past would have to be returned. However, we would get some of the same data anew from a utility when developing a new project (this time with the ICA information layer), and we would be obligated to keep track of our files with this newly-provided data so that we would be able to return it if requested. And, for all of the reasons that it would be impractical to return the data we already have, it seems that it would be very costly and almost impossible to develop a system to track where all of the locational data is and be prepared to scrub our files of that information if asked. As noted, a further complication is that retrieving such information from AHJs seems unlikely. Most importantly, we would go through the expense of cordoning off the "new" data for return, when the "old" data that we need not return has most of the same locational information.

I expect that the effort to track all "new" files with locational data would be very costly. My approach would be to work with an IT consultant that has worked with military contractors that face similar requirements. Even for my small business, I expect that this expense could run into the tens of thousands of dollars per year.

Conclusion

If required, the NDA would add weeks of effort and tens of thousands of dollars of expense to my small business, along with unknowable liability, and a nearly impossible obligation to return data if requested. In good faith, I would probably sign the NDA and accept the cost, though unreasonable requirements could be enough to shut down my business entirely. I do not think

that the NDA will do anything with respect to grid security, and I am hopeful that the Commission will allow my business to have access to utility maps without an NDA.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.



Freeman S. Hall
President, Solar Electric Solutions, LLC

Dated: January 9, 2019

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