BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking on the Commission's own motion to improve distribution level interconnection rules and regulations for certain classes of electric generators and electric storage resources.

Rulemaking 11-09-011 (Filed September 22, 2011)

JOINT DISTRIBUTION GROUP STUDY TARIFF FILING OF PACIFIC GAS AND ELECTRIC COMPANY (U 39 E) AND SAN DIEGO GAS & ELECTRIC COMPANY (U 902 E)

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I. INTRODUCTION

Pacific Gas and Electric Company (PG&E) makes this filing on behalf of itself and San Diego Gas & Electric Company (SDG&E) pursuant to Rule 9.1 of the California Public Utilities Commission ("Commission" or "CPUC") Rules of Practice and Procedure and in compliance with Administrative Law Judge DeAngelis's December 12, 2012 email. Following up on the workshop, proposals and comments regarding a Rule 21 Distribution Group Study Process (DGSP) submitted last summer, PG&E and SDG&E provide draft tariff language for the Commission's consideration.

II. DRAFT TARIFF LANGUAGE IMPLEMENTING UPDATED DGSP PROPOSAL

The attached draft tariff language is based on the DGSP proposal filed by PG&E on July 10, 2012. This tariff will continue to be a work in progress and PG&E and SDG&E anticipate that revisions will continue to be made following the workshops and comments anticipated in the coming months. In addition there will likely be some adjustments needed given the interaction between Rule 21 and wholesale distribution tariff (WDT and WDAT for PG&E and SDG&E, respectively) projects that may be electrically interdependent. Of particular concern is the need to accommodate completion of the electric independence test for all projects entering both group processes at the same time that may be electrically interdependent. Given the potential for a

timeline squeeze, particularly in the first DGSP window of the year, PG&E and SDG&E have added language regarding the Distribution Group Study (DGS) Phase one study start date to the scoping meeting agenda items.¹ Throughout the attached document new language is indicated in redline format on PG&E's CPUC approved Rule 21 (Rule 21)².

III. CONCLUSION

PG&E and SDG&E look forward to Commission approval of their joint DGSP proposal.

Respectfully submitted,

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By: /s/ STACY W. WALTER

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Attorneys for PACIFIC GAS AND ELECTRIC COMPANY

On Behalf of the Joint Parties: Pacific Gas and Electric Company (U 39-E); San Diego Gas & Electric Company (U 902-E).

February 19, 2013

 $[\]frac{1}{2}$ This language is included in new subsection F.3.b.(ii)(v).

² PG&E's and SDG&E's Rule 21 tariffs are substantially the same and upon approval of this proposal by the CPUC, SDG&E would incorporate the redlined tariff language into its tariff.

ATTACHMENT

| PG&E | Com Fre | | and Electric Company o, California | Cancelling | Revised Revised | Cal. P.U.C. Cal. P.U.C. | | |
|-------------------|---------|-----|--|---|--------------------|----------------------------|----|-----------------|
| | | | ELECT GENERATING FA | CILITY INTER | | ONS | : | Sheet 1 |
| | | | TABLE | OF CONTEN | TS | | | (N) |
| A. | | | TABLE OF CONTEN | TS | | | 1 | I I |
| B. | | | APPLICABILITY | | | | 11 | |
| | 1. | | APPLICABILITY | | | | 11 | |
| | 2. | | DEFINITIONS | | | | 11 | İ |
| | 3. | | APPLICABLE CODES | S AND STAN | DARDS | | 12 | |
| C. | | | DEFINITIONS | | | | 12 | |
| D. | | | GENERAL, RULES, F OBLIGATIONS | RIGHTS AND | | | 28 | |
| | 1. | | AUTHORIZATION RE | EQUIRED TO | OPERATE | Ē | 28 | i |
| | 2. | | SEPARATE AGREEN OTHER SERVICES | IENTS REQU | JIRED FOF | २ | 29 | |
| | 3 | | SERVICES UNDER 1 | - | LIMITED T | 0 | 29 | |
| | 4. | | COMPLIANCE WITH TARIFFS | LAWS, RULE | ES, AND | | 29 | |
| | 5. | | DESIGN REVIEWS A | ND INSPECT | IONS | | 30 | i I |
| | 6. | | RIGHT TO ACCESS | | | | 30 | |
| | 7. | | CONFIDENTIALITY | | | | 30 | |
| | | a. | Scope | | | | 30 | i I |
| | | b. | Limitations on Scope | | | | 31 | |
| | | C. | Disclosure to Commis respective Staff | sion, FERC, o | or their | | 32 | |
| | | d. | Required Disclosure | | | | 33 | (N) |
| | | | | | | | | (Continued) |
| Advice Le | | | 0-E | Issued by | | Date Filed | [| DRAFT 2/19/2013 |
| Decision r 1C0 | 10. | 12- | ١ | rian K. Cherry /ice President ulatory Relations | | Effective Resolution No | D. | |



Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

31866-E* 30178-E

| | | | ELECTRIC GENERATING FACILIT | RULE NO. 21 TY INTERCONNEC | TIONS | Sheet 2 |
|----------------------|-----|----|--|---------------------------------------|---|----------------|
| | | | TABLE OF CONTE | ENTS (Cont'd.) | | (N) |
| D. | | | GENERAL, RULES, RIGH (Cont'd.) | ITS AND OBLIGA | TIONS | |
| | 8. | | PRUDENT OPERATION A | AND MAINTENAN | ICE 3 | 3 |
| | 9. | | CURTAILMENT AND DIS | CONNECTION | 3 | 34 I |
| | 10. | | LOCAL FURNISHING BO | NDS | 3 | 4 |
| | 11 | | COORDINATION WITH A | FFECTED SYSTE | EMS 3 | 5 I |
| | 12. | | TRANSFERABILITY OF I REQUEST | NTERCONNECTI | ON 3 | 5 |
| | 13. | | SPECIAL PROVISIONS A ENERGY METERED APP | | NET 3 | 5 |
| | 14. | | COMPLIANCE WITH EST | ABLISHED TIME | LINES 3 | 7 |
| | 15. | | MODIFICATION OF TIME | LINES | 3 | 57 I |
| E. | | | INTERCONNECTION RE PROCESS | QUEST SUBMISS | SION 3 | 8 |
| | 1. | | PRE-APPLICATION REP | ORT | 3 | 8 |
| | 2. | | INTERCONNECTION RE | QUEST PROCES | S 4 | 0 1 |
| | | a. | Applicant Initiates Contact Provider | t with Distribution | 4 | .0 I I |
| | | b. | Applicant Selects a Study | Process | 4 | 0 |
| | | c. | Applicant Completes an Ir | nterconnection Re | quest 4 | .2 1 |
| | | d. | Site Exclusivity | | 4 | 4 |
| | 3. | | INTERCONNECTION RE STUDY DEPOSIT | QUEST FEE AND |) 4 | 4 |
| | | a. | Detailed Study Deposit | | 4 | 4 (N) |
| | | | | | | (Continued) |
| Advice L Decision | | | 09-018 Brian H | ed by C. Cherry resident | Date Filed Effective Resolution No. | DRAFT 2/19/201 |

| P | Ps | E | |
|---|----|---|--|

31867-E* 30179-E

| | | | ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIO | DNS | Sheet 3 |
|-------------------------|--------|----|--|------------|-----------------|
| | | | TABLE OF CONTENTS (Cont'd.) | | (N) |
| E. | | | INTERCONNECTION REQUEST SUBMISSIC PROCESS (Cont'd.) | DN | |
| | 4. | | INTERCONNECTION COST RESPONSIBILIT | -Y 48 | 1 |
| | | a. | Costs of Interconnection and Parallel Operatio | n 48 | i I |
| | | b. | Methodology and Timing of Cost Identification | 48 | l |
| | | C. | Timing of Cost Identification | 49 | 1 |
| | | d. | Producer Costs During Parallel Operation | 49 | |
| | | e. | Cost Allocation | 49 | 1 |
| | | f. | Summary Tables | 50 | |
| | 5. | | INTERCONNECTION REQUEST VALIDATION AND ASSIGNMENT OF QUEUE POSITION | N 52 | |
| | | a. | Acknowledgement of Interconnection Request | 52 | |
| | | b. | Deficiencies in Interconnection Request | 52 | l |
| | | C. | Assignment of Queue Position | 54 | İ |
| | | d. | Publication of the Interconnection Queue | 55 | l |
| F. | | | REVIEW PROCESS FOR INTERCONNECTIO REQUESTS | DN 56 | |
| | 1. | | OVERVIEW OF THE INTERCONNECTION REVIEW PROCESS | 56 | |
| | | a. | Valid Interconnection Request | 56 | |
| | | b. | Fast Track Review | 57 | |
| | | C. | Detailed Studies | 58 | I |
| | | d. | Compliance with Timelines | 58 | (N) |
| | | | | | |
| huine I - " | 4au M- | | 10 F | Data Filad | (Continued) |
| ivice Lett ecision N | | | -09-018 Brian K. Cherry E | Date Filed | DRAFT 2/19/2013 |

Advice Letter Decision No. 12-09-018

Brian K. Cherry Vice President Regulatory Relations

Resolution No.



31868-E* 30180-E

| | | GENERA | ELECTRIC RULE NO. 21 ATING FACILITY INTERCON | NECTIONS | | Sheet 4 |
|---------------|----|---------------------------|--|----------------------------|----|-------------------|
| | | TABL | E OF CONTENTS (Cont'd.) |) | | (N) |
| F. | | REVIEW PR REQUESTS | OCESS FOR INTERCONN (Cont'd.) | IECTION | | |
| 2. | | FAST TRAC PROCESS | K INTERCONNECTION RE | EVIEW | 60 | |
| | a. | Initial Reviev | V | | 60 | |
| | b. | Optional Initi | al Review Results Meeting | | 62 | |
| | C. | Supplementa | al Review | | 63 | İ |
| | d. | Optional Sup | plemental Review Results | Meeting | 65 | |
| | e. | Execution of Agreement | the Generator Interconnect | tion | 66 | |
| 3. | | DETAILED S REVIEW PR | STUDY INTERCONNECTIC | N | 68 | |
| | a. | Detailed Stu | dy Track Selection Process | | 68 | ļ |
| | b. | Distribution (| Group Study Process | | 69 | |
| | C. | Transmission | n Cluster Study Process | | 70 | I |
| | d. | Independent | Study Process | | 71 | |
| | e. | Generator In | terconnection Agreement | | 80 | |
| | f. | Engineering | & Procurement (E&P) Agre | ement | 82 | ļ |
| 4. | | INTERCON | NECTION FINANCIAL SEC | URITY | 83 | |
| | a. | Types of Inte | erconnection Financial Secu | urity | 83 | |
| | b. | Initial Posting | g of Interconnection Financi | ial Security | 84 | ļ |
| | C. | Second Post Security | ting of Interconnection Final | ncial | 86 | |
| | d. | Third Posting | g of Interconnection Financi | ial Security | 87 | |
| | e. | Request or T | ect of Withdrawal of Intercor Fermination of the Generate ion Agreement on Interconr curity | or | 88 | (N) |
| | | | | | | (Continued) |
| Advice Letter | | 10-E | Issued by | Date Filed | | DRAFT 2/19/2013 |
| Decision No. | 12 | -09-018 | Brian K. Cherry Vice President | Effective Resolution No |). | |
| 4C0 | | | Regulatory Relations | | | |



Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Revised Revised

31869-E* 30181-E

| | | | | LECTRIC RULE NO. 21 G FACILITY INTERCONN | ECTIONS | \$ | Sheet 5 |
|----------------------|-----|----|--------------------------------------|--|----------------------------|-----|----------------|
| | | | TABLE OF | CONTENTS (Cont'd.) | | | (N) |
| F. | | | REVIEW PROCE PROCESS (Cont | ESS FOR INTERCONNE I'd.) | CTION | | |
| | 5. | | COMMISSIONIN OPERATION | G TESTING AND PARA | LLEL | 95 | |
| | | a. | Commissioning T | Testing | | 95 | i |
| | | b. | Parallel Operatio Operation | n or Momentary Parallel | | 95 | |
| | 6. | | WITHDRAWAL | | | 96 | |
| G. | | | ENGINEERING I | REVIEW DETAILS | | 97 | |
| | 1. | | INITIAL REVIEW | SCREENS | | 99 | ļ |
| | | a. | Screen A: Is the System? | PCC on a Networked Se | econdary | 99 | |
| | | b. | Screen B: Is Cert | tified Equipment used? | | 100 | |
| | | C. | Screen C: Is the acceptable limits | Starting Voltage Drop wi ? | ithin | 101 | |
| | | d. | Screen D: Is the conductor rating | transformer or secondar exceeded? | У | 102 | i |
| | | e. | Screen E: Does t cause unaccepta | the Single-Phase Generable imbalance? | ator | 102 | |
| | | f. | | Short Circuit Current o within acceptable limit | | 103 | |
| | | g. | Screen G: Is the Capability Excee | Short Circuit Interrupting ded? |) | 104 | |
| | | h. | Screen H: Is the with the Intercon | line configuration compa nection type? | tible | 105 | |
| | | i. | Screen I: Will pov PCC? | wer be exported across t | the | 106 | (N) |
| | | | | | | | (Continued) |
| Advice L Decision | | | 10-E -09-018 | Issued by Brian K. Charny | Date Filed Effective | C | 0RAFT 2/19/201 |
| Decision 5C0 | NO. | 12 | -09-010 | Brian K. Cherry Vice President Regulatory Relations | Effective Resolution No | | |

| PFs | F |
|-----|---|

31870-E* 30182-E

| | | GENERA | ELECTRIC RULE NO. 21 FING FACILITY INTERCONN | ECTIONS | Sheet 6 |
|-----------------------------------|----|---------------------------------------|---|---|------------------------|
| | | TABLE | OF CONTENTS (Cont'd.) | | (N) |
| G. | | ENGINEERING | REVIEW DETAILS (Cont'd | l.) | i |
| 1. | | INITIAL REVIEV | V SCREENS (Cont'd.) | | I |
| | j. | Screen J: Is the Facility 11 kVA o | Gross Rating of the Generator less? | ating 109 |) |
| | k. | Metering (NEM) | Generating Facility a Net E Generating Facility with city less than or equal to 50 | | |
| | I. | | mission Dependency and /namic/Stability Test | 110 | |
| | m | capacity on the Section peak loa | e aggregate Generating Fac Line Section less than 15% ad for all line sections bound nalizing devices? | of Line | |
| 2. | | SUPPLEMENTA | AL REVIEW SCREENS | 111 | 1 1 |
| | a. | Screen N: Pene | tration Test | 112 | 2 |
| | b. | Screen O: Powe | er Quality and Voltage Tests | s 113 | 3 |
| | c. | Screen P: Safety | y and Reliability Tests | 114 | 1 I |
| 3. | | DETAILED STU | DY SCREENS | 116 | 6 I |
| | a. | | Interconnection Request bendent of the Transmission | 116 n | 6 I I I |
| | b. | independent of c | Interconnection Request other earlier-queued and ye nection requests interconne System? | | 3 |
| | C. | Independent Stu Studies | dy Process Interconnection | ח 119 |) (N) |
| | | | | | (Continued) |
| Advice Letter No. Decision No. | | 4110-E 12-09-018 | lssued by Brian K. Cherry Vice President | Date Filed Effective Resolution No. | DRAFT 2/19/2013 |



31871-E* 30183-E

| | | GENERAT | ELECTRIC RULE NO. 21 ING FACILITY INTERCONN | ECTIONS | Sheet 7 |
|-------------------------------|----|---------------------------------|--|-------------------------|-------------------|
| | | TABLE | OF CONTENTS (Cont'd.) | | (N) I |
| Н. | | - | G FACILITY DESIGN AND REQUIREMENTS | 12 | 21 I |
| 1. | | | TERCONNECTION AND | | 22 |
| | а | Protective Fur | ctions Required | 12 | 22 |
| | b. | Momentary Pa | aralleling Generating Facilit | ties 12 | 23 |
| | C. | Suitable Equip | ment Required | 12 | 24 I |
| | d. | Visible Discon | nect Required | 12 | 24 |
| | e. | Drawings Req | uired | 12 | 26 |
| | f. | Generating Fa | cility Conditions Not Identi | fied 12 | 26 |
| 2. | | PREVENTION | I OF INTERFERENCE | 12 | 27 |
| | a. | Voltage Regul | ation | 12 | 27 |
| | b. | Voltage Trip S | etting | 12 | 28 I |
| | C. | Paralleling | | 13 | 31 ^I |
| | d. | Flicker | | 13 | 31 |
| | e. | Integration wit System Grour | h Distribution Provider's Di ding | istribution 13 | 32 |
| | f. | Frequency | | 13 | 33 l |
| | g. | Harmonics | | 13 | 34 I |
| | h. | Direct Current | Injection | 13 | 35 I |
| | i. | Power Factor | | 13 | 35 |
| 3. | | TECHNOLOG | Y SPECIFIC REQUIREME | ENTS 13 | 36 İ |
| | a. | Technology S | pecific Requirements | 13 | 36 I |
| | b. | Induction Gen | erators | 13 | 36 <mark> </mark> |
| | C. | Inverters | | 13 | 37 (N) |
| | | | | | |
| | | | | | (Continued) |
| Advice Letter Decision No. | | 10-E 2-09-018 | lssued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/2013 |
| 7C0 | 12 | | Vice President Regulatory Relations | Resolution No. | |



| | | | GENEF | ELECTRIC RULE NO. 21 RATING FACILITY INTERCONN | NECTIONS | She | et 8 |
|-------------------|----|----|----------------------------|---|-------------------------|-----|--------------|
| | | | TAB | LE OF CONTENTS (Cont'd. |) | | (N) |
| H. | | | GENERATING F | FACILITY DESIGN AND OPE | ERATING | | |
| | 4. | | SUPPLEMENTA REQUIREMENT | L GENERATING FACILITY | | 137 | i |
| | | a. | Fault Detection | | | 137 | į |
| | | b. | Transfer Trip | | | 137 | I |
| | | c. | Reclose Blocking | g | | 138 | I |
| I. | | | | NSTALLATIONS, RESERVA ITIES, AND REFUND OF SA | | 138 | |
| | 1. | | INTERCONNEC UPGRADES | TION FACILITIES AND DIS | TRIBUTION | 138 | |
| | 2. | | THIRD-PARTY I | NSTALLATIONS | | 138 | l |
| | 3. | | RESERVATION | OF UNUSED FACILITIES | | 139 | l |
| | 4. | | REFUND OF SA | LVAGE VALUE | | 139 | į |
| J. | | | METERING, MC | NITORING AND TELEMET | ERING | 139 | l |
| | 1. | | GENERAL REQ | UIREMENTS | | 139 | I |
| | 2. | | METERING BY PARTIES | NON-DISTRIBUTION PROV | IDER | 139 | |
| | 3. | | NET GENERAT | ION OUTPUT METERING | | 140 | |
| | 4. | | POINT OF COM | IMON COUPLING (PCC) ME | TERING | 141 | l |
| | 5. | | TELEMETERIN | G | | 142 | į |
| | 6. | | LOCATION | | | 142 | |
| | 7. | | COSTS OF MET | TERING | | 143 | l |
| | 8. | | MULTIPLE TAR | IFF METERING | | 143 | i (N) |
| | | | | | | (Cd | ontinued) |
| Advice Decisio | | | 4110-E 12-09-018 | Issued by Brian K. Cherry | Date Filed Effective | | FT 2/19/2013 |

Brian K. Cherry Vice President Regulatory Relations Resolution No.



31873-E* 30185-E

| | | | ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS | SI | neet 9 |
|----|----|----|--|-----|---------|
| | | | TABLE OF CONTENTS (Cont'd.) | | (N) |
| K. | | | DISPUTE RESOLUTION PROCESS | 144 | I I |
| | 1. | | SCOPE | 144 | Ì |
| | 2. | | PROCEDURES | 144 | |
| | 3. | | PERFORMANCE DURING DISPUTE | 146 | l |
| L. | | | CERTIFICATION AND TESTING CRITERIA | 146 | İ |
| | 1. | | INTRODUCTION | 146 | |
| | 2. | | CERTIFIED AND NON-CERTIFIED INTERCONNECTION EQUIPMENT | 148 | |
| | | a. | Certified Equipment | 148 | l |
| | | b. | Non-Certified Equipment | 149 | |
| | 3. | | TYPE TESTING | 150 | |
| | | a. | Type Tests and Criteria for Interconnection Equipment Certification | 150 | |
| | | b. | Anti-Islanding Test | 152 | ļ |
| | | C. | Non-Export Test | 152 | l |
| | | d. | In-rush Current Test | 153 | |
| | | e. | Surge Withstand Capability Test | 153 | ļ |
| | | f. | Synchronization Test | 154 | |
| | | g. | Paralleling Device Withstand Test | 155 | |
| | 4. | | PRODUCTION TESTING | 155 | (N) |
| | | | | | |

Advice Letter No: Decision No. 4110-E 12-09-018 Issued by **Brian K. Cherry** Vice President Regulatory Relations

(Continued)

Date Filed Effective

Resolution No.

DRAFT 2/19/2013

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| P | Ps | F |
|---|----|---|

31874-E* 30186-E

| | | ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS | | Sheet 10 |
|----|----|--|-----|----------|
| | | TABLE OF CONTENTS (Cont'd.) | | (N) 1 |
| | | CERTIFICATION AND TESTING CRITERIA (Cont'd.) | | |
| 5. | | COMMISSIONING TESTING | 156 | ļ |
| | a. | Commissioning Testing | 156 | |
| | b. | Review, Study, and Additional Commissioning Test Verification Costs | 157 | |
| | C. | Other Checks and Tests | 158 | |
| | d. | Certified Equipment | 158 | |
| | e. | Non-Certified Equipment | 159 | |
| | f. | Verification of Settings | 159 | |
| | g. | Trip Tests | 160 | ļ |
| | h. | In-service Tests | 160 | |
| 6. | | PERIODIC TESTING | 161 | |
| 7. | | TYPE TESTING PROCEDURES NOT DEFINED IN OTHER STANDARDS | 161 | |
| | a. | Non-Exporting Test Procedures | 161 | |
| | b. | In-rush Current Test Procedures | 169 | |
| | | APPENDIX ONE | 171 | (N) |

(Continued) DRAFT 2/19/2013

Advice Letter No: 4110-E Decision No. 12-09-018

3

Issued by **Brian K. Cherry** Vice President Regulatory Relations Date Filed _____ Effective _____ Resolution No. ____

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Pacific Gas and Electric Company San Francisco, California U 39

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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Revised Revised

31875-E* 30187-E

| | GENEF | ELECTRIC RULE NO. 21 RATING FACILITY INTERCONN | ECTIONS | Sheet 11 | |
|-----------------------------|---|--|---|--|--|
| B. AP | PLICABILITY | | | (N) | |
| 1. | APPLICABILITY | | | | |
| | requirements for thos Distribution Provider's which the California F jurisdiction. All Gene Distribution Provider's Independent System to CAISO Tariff excel and 2) Generating Fac exports sent to the gr Generating Facilities Commission jurisdict whether they intercoro Transmission System Distribution Provider | he Interconnection, operating is Generating Facilities to be s Distribution System and Tra Public Utilities Commission (C rating Facilities seeking Inter- s Transmission System shall Operator (CAISO) for Interco of for 1) Net Energy Metering to for 1) Net Energy Metering to for 1) Net Energy Metering and Non-Export Generating Fa and Fa and Fa and Fa and Fa and Fa and Fa and Fa and Fa and Fa | connected to ansmission System Commission) has connection with apply to the Califor onnection and be su Generating Faciliti he grid or sell any acilities). NEM Facilities subject to his Rule regardless s Distribution or s of this Rule, | nia I ubject I es I i s of I | |
| | System that are subje (FERC) jurisdiction so Distribution Tariff (WI | terconnections to Distribution ect to Federal Energy Regula nall apply under Distribution F DT) whether they interconnec n or Transmission System. | tory Commission Provider's Wholesa | 1 | |
| 2. | DEFINITIONS | | | | |
| | Capitalized terms used in this Rule, and not defined in Distribution Provider's other tariffs shall have the meaning ascribed to such term Section C of this Rule. The definitions set forth in Section C of this I shall only apply to this Rule, the Interconnection Request, study agreements and Generator Interconnection Agreements, and may n apply to Distribution Provider's other tariffs. | | | | |
| | | | | (Continued) | |
| Advice Lette Decision No | | Issued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/2013 | |
| 11C0 | | Vice President Regulatory Relations | Resolution No. | | |



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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Revised Revised

31876-E 30188-E

| | | | ECTRIC RULE NO. 21 FACILITY INTERCONNE | ECTIONS | Sheet 12 | | | |
|----|-------------------------------------|--|---|--|----------------|------|-----------------------|--|
| В. | APPLICA | BILITY (Cont'd.) | | | (N) |) | | |
| | 3. APPI | LICABLE CODES AND | STANDARDS | | | | | |
| | Stand 1547 Powe direct | dards Institute/Institute of 2003 Standards for Inter or Systems. In some sec Ily, in others, IEEE 1547 | ed with the requirements o Electrical and Electronic E connecting Distributed Re tions, IEEE 1547 language requirements were interpre ntain the spirit of both doc | Engineers (ANSI/IEE sources with Electric has been adopted eted and this Rule's | | | | |
| | paraj consi which | ohrased language or pre stent with IEEE 1547) is | Y that has been adopted di evious language that was o followed by a citation that For example, IEEE 1547-4 | letermined to be lists the clause from | n I | | | |
| | or an | | ween this Rule, any of the irds or codes, the requiren | | | | | |
| C. | DEFINIT | IONS | | | ļ | | | |
| | | nection Request, Study | are applicable only to the Agreements and Gener | | n l | | | |
| | Added F | acilities: See Special | Facilities. | | ļ | | | |
| | Affected Distributi Interconr | on or Transmission Sy | system other than Distrib stem that may be affecte | oution Provider's ed by the proposed | | | | |
| | Affected | System Operator: T | he entity that operates a | n Affected System | . ! | | | |
| | other cor one or m | poration, partnership o ore intermediaries, cor | poration, partnership or o r other entity that directly trols, is controlled by, o partnership or other entit | y or indirectly, throi r is under common | ugh II | | Formatted: Font: Bold | |
| | (MW) inte | | aggregate generation ca ation/area bus, bank or | | |) | | |
| | | | | | (Continued) |) | | |
| | e Letter No: ion No. | 4110-E 12-09-018 | Issued by Brian K. Cherry Vice President Regulatory Relations | Date Filed Effective Resolution No. | DRAFT 2/19/2 | 2013 | | |

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Pacific Gas and Electric Company San Francisco, California U 39 Cancelling Revised

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

о. 31877-Е о. 30189-Е

| | ELECTRIC RULE NO. 21 Sheet GENERATING FACILITY INTERCONNECTIONS | : 13 | |
|----|--|-------------|------------------------------|
| C. | DEFINITIONS (Cont'd.) | (N) | |
| | Anti-Islanding: A control scheme installed as part of the Generating or Interconnection Facility that senses and prevents the formation of an Unintended Island. | | Formatted: Font: Bold |
| | Applicant: The entity submitting an Interconnection Request pursuant to this Rule. | | Formatted: Font: Bold |
| | Application: See Interconnection Request. | | |
| | Available Capacity: Total Capacity less the sum of Allocated Capacity and Queued Capacity. | | Formatted: Font: Bold |
| | Base Case: Data including, but not limited to, base power flow, short circuit and <u>dynamic/stability</u> data bases, underlying load, generation, and transmission facility assumptions, contingency lists, including relevant special protection systems, and transmission diagrams used to perform the Interconnection Studies. The Base Case may include Critical Energy Infrastructure Information (as that term is defined by FERC). The Base Case shall include (a) transmission facilities as approved by Distribution Provider or CAISO, as applicable, (b) planned Distribution Upgrades that may have an impact on the Interconnection Request, (c) Distribution Upgrades and Network Upgrades associated with generating facilities in (iv) below, and (d) generating facilities that (i) are directly interconnected to the Distribution Systems and may have an impact on the Interconnection Request; (iii) have a pending request to interconnect to the Distribution System or an Affected System; or (iv) are not interconnected to the Distribution System or CAISO Controlled Grid, but are subject to a fully executed Generator Interconnection Agreement (or its equivalent predecessor agreement) or for which an unexecuted Generator Interconnection Agreement (or its equivalent predecessor agreement) has been requested to be filed with FERC. | | Formatted: Font: Bold |
| | Business Day: Monday through Friday, excluding Federal and State Holidays. | | Formatted: Font: Bold |
| | CAISO Controlled Grid: The system of transmission lines and associated facilities that have been placed under the CAISO's Operational Control. | | Formatted: Font: Bold |
| | CAISO Tariff: The California Independent System Operator FERC Electric Tariff. | (N) | (Formatted: Font: Bold |
| | | ntinued) | |
| | e Letter No: 4110-E Issued by Date Filed DRAF ion No. 12-09-018 Brian K. Cherry Effective Vice President Resolution No. Regulatory Relations | T 2/19/2013 | |

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Pacific Gas and Electric Company San Francisco, California U 39

Revised Revised Cancelling

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

31878-E* 30190-E

| | | TRIC RULE NO. 21 ACILITY INTERCONNEC | TIONS | Sheet 14 | |
|---|--|---|---|---------------------------------------|------------------------------|
| C. DEFINITIO | ONS (Cont'd.) | | | (N) | |
| Calendar State Holi | | ng Saturday, Sunday or | a Federal and | | Formatted: Font: Bold |
| of certain in order to | equipment with Comm be classified as Certif | ant to this Rule that ver ission-approved perforr ied Equipment. Certific ized Test Laboratories (| nance standards ation Tests are | el | Formatted: Font: Bold |
| | ion; Certified; Certific Il Certification Testing. | ate: The documented | results of a | | |
| Certified Certification | Equipment: Equipme on Tests. | nt that has passed all re | equired | | Formatted: Font: Bold |
| commenc the period | ed generating electricit | atus of a Generating Fa y, excluding electricity g aged in on-site test ope g Facility prior to Comm | generated during erations and | I | |
| | g Facility commences | The date on which a Ge Commercial Operation, | | | |
| Commiss | sion: The Public Utilitie | es Commission of the S | tate of California | · | Formatted: Font: Bold |
| Commiss or part of | sioning Test: <u>A test pe</u> a Generating Facility to | erformed during the con achieve one or more o | nmissioning of all of the following: | · · · · · · · · · · · · · · · · · · · | Formatted: Font: Bold |
| Verify spe | ecific aspects of its perf | ormance; | | | |
| Calibrate i | its instrumentation; | | | | |
| Establish | instrument or Protectiv | e Function set-points. | | | |
| Confidenti | ial Information: See Se | ction D.7. | | | |
| Commissi | ion directed Distributior | ion (CVR): The CVR p Provider to implement bution circuits and relat | as applicable to | (Continued) | |
| | 110-E | Issued by | Date Filed | DRAFT 2/19/2013 | |
| Decision No. 12 14C0 14C0 | | Brian K. Cherry Vice President egulatory Relations | Effective Resolution No. | | |



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Pacific Gas and Electric Company San Francisco, California U 39

Cancelling

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Revised Original

31879-E* 30191-E

| | ELECTRIC RULE NO. 21 Sheet 15 GENERATING FACILITY INTERCONNECTIONS | |
|----|--|---|
| | C. DEFINITIONS (Cont'd.) (Ņ | |
| | Construction Activities: Actions by Distribution Provider that result in irrevocable financial commitments for the purchase of major electrical equipment or land for Distribution Provider's Interconnection Facilities, Distribution Upgrades, or Network Upgrades assigned to the Interconnection Customer that occur after receipt of all appropriate governmental approvals needed for Distribution Provider's Interconnection Facilities, Distribution Upgrades, or Network Upgrades. | |
| | Control Area: As defined in the CAISO Tariff. | Formatted: Font: Bold |
| I | Customer: The entity that receives or is entitled to receive Distribution Service through Distribution Provider's Distribution System or is a retail Customer of Distribution Provider connected to the Transmission System. | |
| | Dedicated Transformer; Dedicated Distribution Transformer: A transformer that provides electricity service to a single Customer. The Customer may or may not have a Generating Facility. | |
| I | Delivery Network Upgrades: The transmission facilities at or beyond the point where Distribution Provider's Distribution System interconnects to the CAISO Controlled Grid, other than Reliability Network Upgrades, as defined in the CAISO Tariff. | Formatted: Font: Bold |
| | Detailed Study: An Independent Study, a Distribution Group Study or a | Formatted: Font: Bold |
| | Detailed Study Agreement: The agreement entered into by the Interconnection Customer and Distribution Provider which sets forth the Parties' agreement to perform Interconnection Studies under the Independent Study Process or the Distribution Group Study Process. | Formatted: Font: Bold |
| I | Device: A mechanism or piece of equipment designed to serve a purpose or perform a function. The term may be used interchangeably with the terms "equipment" and function without intentional difference in meaning. See also Function and Protective Function. | |
| | DGS Phase I Interconnection Study: Distribution Group Study (DGS) Phase I Interconnection Study performed by the Distribution Provider I under the Distribution Group Study Process per Section G.3.c.i. (N) | Formatted: Font: Not Bold Formatted: Font: Not Bold |
| | (Continued) | |
| De | dvice Letter No: 4110-E Issued by Date Filed DRAFT 2/19/2013 ecision No. 12-09-018 Brian K. Cherry Effective Vice President Resolution No. GC0 Regulatory Relations | <u>3</u> |

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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Revised Revised

31880-E 30192-E

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| | GE | ELECTRIC RULE NO. 21 NERATING FACILITY INTERCON | | Sheet 16 | | |
| C. | DEFINITIONS (Cont | d.) | | (N) | | |
| | Phase II Interconnect | onnection Study: Distribution G tion Study performed by the Dist o Study Process per Section G.3 | ribution provider unde | er I | | |
| | Dispute Resolution; | See Section K. | | | Formatted: Font: Bold | |
| | defined in Section F.3 that fail Screen R that | Study: An interconnection engir 3.b of a group comprised of Inter- t will be studied pursuant to Sect ionstrate they are electrically inter- | connection Requests tion F.3.b because the | | Formatted: Font: Bold | |
| | Distribution Group <u>forth</u> in Section F.3.b. | Study Process: The interconne | ection study process s | et I I | | |
| | Distribution Provide | er: Pacific Gas and Electric Com | npany | | Formatted: Font: Bold | |
| | System pursuant to the | The service of delivering energine approved tariffs of Distribution ed to the Interconnection of a G | n Provider other than | | Formatted: Font: Bold | |
| | that fail Screen R that | Group: A group comprised of Inf t will be studied pursuant to Sectionstrate they are electrically inter- | tion F.3.b because the | | | |
| | owned or provided by Facilities or the Trans | : All electrical wires, equipment Distribution Provider, other that mission System, by which Distri Service to its Customers. | n Interconnection | | | |
| | Distribution Provider's Interconnection to fac | es: The additions, modifications s Distribution System at or beyon illitate interconnection of the Gen n Service. Distribution Upgrades ities. | nd the Point of nerating Facility and | | | |
| | Electrical Independed determine eligibility for | ence Test: The tests set forth in or the Independent Study Proces | n Section G.3 used to ss. | (Continued) | Formatted: Font: Bold Formatted: Normal, Indent: Left: 0.2' Hanging: 0.01", Space After: 12 pt, Lin spacing: Exactly 12 pt, No widow/orphicontrol, Don't adjust space between Lat Asian text, Don't adjust space between text and numbers | ne an in and |
| | Letter No: 4110-E on No. 12-09-018 | Issued by Brian K. Cherry Vice President Requilatory Relations | Date Filed Effective Resolution No. | DRAFT 2/19/2013 |] | |

| | PGa | | Gas and Electric Compar ncisco, California | ny Cancelling | Revised Revised | Cal. P.U.C. SI Cal. P.U.C. SI | | 31881-Е 30193-Е | |
|---|-----|---|---|--|---|--|----------------------------|--|-------------------------|
| | | | GENERAT | ELECTRIC RULE NO | | IONS | Sheet 1 | 7 | |
| | C. | DEFINIT | IONS (Cont'd.) | | | | | (N) | |
| I | | Operatin is necess necessar others fro Generati | g Condition or other sary for emergency s ry to protect persons om damage or interf ng Facility, or the fai | istribution Provider's hazardous condition service restoration, and by Distribution Provide erence caused by Int lure of protective dev al system equipment | exists or nd such ir er's facilition erconnec vice to ope | whenever ac mmediate act es or propert tion Custome erate propert | tion is y of er's | | (Formatted: Font: Bold |
| | | Interconr Distributi is responsil Facility w | nection Customer for on System, the resu nsible only for the co ble for the costs of E | Status: A condition r a Generating Facilit It of which is that the sts of Reliability Netw Delivery Network Upg ve a Net Qualifying C | y intercon Interconr /ork Upgr rades, bu | nected to nection Custo ades and is r t the Genera | not ting | | Formatted: Font: Bold |
| | | Distributi items ne | on Provider to begin cessary for the estal | ent Agreement: An engineering and pro blishment of the Inter- of the Interconnection | curement connectio | t of long lead in in order to | | | |
| | | Export G | | ity: Any Generating EM Generating Facil | | | | | |
| I | | Fast Tra F.2. | ck Process:_ The in | terconnection study | process s | et forth in Se | ction | | |
| | | Field Tes equipme Interconr Functior specific f intended device to larger pie Generati facilities, | sting: Testing perform nection. Some combination reatures or capabilition to encompass a rar or a section of softwar ece of equipment to ing Facility: All Generation excluding Interconn | Commission: Refe or med in the field to d or Provider's requirem on of hardware and so es. Its use, as in Pro- oge of implementation re and specific pieces a collection of device nerators, electrical wi ection Facilities, own electric power, incluce | etermine ents for s oftware de tective Fu is from a s of hardw s and sof res, equip ed or pro | whether afe and relial esigned to pro- unction, is single-purpo- vare within a tware. oment, and o vided by Pro- | ole ovide se ther | - - - - - - - - - (N) | |
| | | Letter No: | 4110-E | Issued by | | Date Filed | (Conti | | |
| | | on No. | 12-09-018 | Brian K. Cherry Vice President Regulatory Relations | | Effective Resolution No. | | 2/19/2013 | |

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|---|--|---|--|--|--|---|--|------------------------|------------------|-------------------------------|---|
| | | | GENER | ELECTRI ATING FACIL | C RULE NO | | TIONS | Sheet 18 | | | |
| | C. | DEFINITIO | ONS (Cont'd.) | | | | | (N) |) | | |
| | | and the ag | ng Facility Capa ggregate net cap Generators. | city: The ne acity of the G | t capacity Senerating | of the Ge Facility w | nerating Facility here it includes | , | | Formatted: Font: Bol | d |
| 1 | | electrical e | r: A device convenergy, including appurtenances. | all of its prot | ective and | l control fu | unctions and | | | (Formatted: Font: Bol | d |
| | | Distributio Generating Interconne power pur | r Interconnection on Provider and F og Facility that givection. For the p rchase agreement of Generator Inter | Producer prov ves certain ric urpose of this its authorized | viding for th ghts and ob s Rule, Ne d by the Co | ne Interco bligations t Energy I ommissior | nnection of a to effect or end Metering or | | | | |
| I | | or approve relevant til exercise o decision w result at a reliability, limited to t | lity Practice: Ar ed by a significar me period, or an of reasonable jud vas made, could reasonable cost safety and expect the optimum prac- to be acceptable ion. | It portion of t y of the pract gment in ligh have been e consistent w dition. Good ctice, method | he electric ices, meth t of the fac xpected to vith good b Utility Prac I, or act to | utility indu ods and a ots known accompli- usiness p ctice is no the exclus | ustry during the acts which, in the at the time the sh the desired ractices, t intended to be sion of all others | e | | | |
| I | | regulatory or other go other gove respective or entitled authority o | ental Authority: or administrative overnmental sub ernmental author a facilities, or the to exercise any or power; provide ection Customer, | e agency, cou division, legis ity having jur respective se administrative ed, however, | urt, commis slature, rule isdiction overvices the e, executive that such t | ssion, dep emaking b ver the Pa y provide ve, police, erm does | partment, board board, tribunal, o arties, their , and exercising or taxing not include | or l | | | |
| | Gross Rating; Gross Nameplate Rating; Gross Capacity or Gross Nameplate Capacity: The total gross generating capacity of a Generator or Generating Facility as designated by the manufacturer(s) of the Generator(s). | | | | | | | | | | |
| | | Host Load consumed | d: The electrical d by the Custome | power, less er, to which th | the Generatie Generatie | ator auxili ting Facilit | ary load, ty is connected. | ا (N) (Continue) | , | | |
| | | e Letter No: ion No. | 4110-E 12-09-018 | Brian Vice | sued by K. Cherry President ory Relations | | Date Filed Effective Resolution No | DRAFT 2/19 | , | | |



Revised Revised Cancelling

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

31883-E 30195-E

| | | GEI | ELECTRIC RULE NO. 21 NERATING FACILITY INTERCONNE | ECTIONS | Sheet 19 | | |
|---|----|--|--|---|---------------|-----|------------------------------|
| | C. | DEFINITIONS (Cont'o | 1.) | | (N) | | |
| 1 | | Independent Study F Section F.3.d. | Process: _The interconnection stud | dy process set fort | h in l | | |
| | | into by the Interconne | Process Study Agreement: The ction Customer and Distribution P ement to perform Interconnection rocess. | rovider which sets | | | |
| | | Initial Review: See S | Section F.2.a. | | | | |
| | | In-rush Current:_ The | e current determined by the In-rus | h Current Test. | ļ | | |
| | | In-Service Date: The expects it will be read Facilities. | e estimated date upon which Appli y to begin use of Distribution Prov | cant reasonably ider's Interconnect | ion I | | |
| | | Facility in accordance | erconnected: The physical connected: with the requirements of this Rule ution Provider's Distribution or Tra | e so that Parallel | с I | | |
| | | Interconnection Agr | eement: See Generator Interconr | nection Agreement | . | | |
| | | Interconnection Cus | tomer: See Applicant. | | · | | Formatted: Font: Bold |
| | | equipment that are re- electric Distribution Se Interconnection Facilit Common Coupling as Interconnection Facilit | ilities: The electrical wires, switch quired in addition to the facilities re ervice to a Customer to allow Inter ties may be located on either side appropriate to their purpose and o ties may be integral to a Generatir ection Facilities may be owned by | equired to provide connection. of the Point of design. ng Facility or provid | led I | | |
| | | Provider for an Interco Process to determine Interconnection Faciliti identified in the Interco facilities, and the time | ilities Study: <u>A study conducted</u> onnection Customer under the Ind a list of facilities (including Distribu- ties, Distribution Upgrades, and No onnection System Impact Study), required to interconnect the Gene Distribution or Transmission Syst ction G.3.c. | ependent Study ution Provider's etwork Upgrades a the cost of those erating Facility with | | | (Formatted: Font: Bold |
| | | | | | (Continued) | | |
| Ľ | | ≥ Letter No: 4110-E on No. 12-09-018 | Issued by Brian K. Cherry Vice President Regulatory Relations | Date Filed Effective Resolution No | DRAFT 2/19/20 | 013 | |

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Revised Cal. P.U.C. Sheet No. Revised Cal. P.U.C. Sheet No.

о. 31884-Е о. 30196-Е

| | ELECTRIC RULE NO. 21 Sheet 2 GENERATING FACILITY INTERCONNECTIONS | 20 | |
|-----|---|-----------------------|--|
| | C. DEFINITIONS (Cont'd.) | (N) | |
| 1 | Interconnection Financial Security: Any of the financial instruments listed in Section F.4.a. | Formatted: Font: Bold | |
| I | Interconnection Request: An Applicant's request to interconnect a new Generating Facility, or to increase the capacity of, or make a Material Modification to the operating characteristics of, an existing Generating Facility that is interconnected with Distribution Provider's Distribution or Transmission System. | Formatted: Font: Bold | |
| I | Interconnection Study: A study to establish the requirements for Interconnection of a Generating Facility with Distribution Provider's Distribution System or Transmission System, pursuant to this Rule. | Formatted: Font: Bold | |
| I | Interconnection System Impact Study: An engineering study conducted by Distribution Provider for an Interconnection Customer under the Independent Study Process that evaluates the impact of the proposed interconnection on the safety and reliability of Distribution Provider's Distribution and/or Transmission System and, if applicable, an Affected System. The scope of the study is defined in Section G.3.c.i. | Formatted: Font: Bold | |
| | Island; Islanding: A condition on Distribution Provider's Distribution System in which one or more Generating Facilities deliver power to Customers using a portion of Distribution Provider's Distribution System that is electrically isolated from the remainder of Distribution Provider's Distribution System. | | |
| | Large Generating Facility: A Generating Facility having a Generating Facility Capacity of more than 20 MW. | Formatted: Font: Bold | |
| | Line Section: That portion of Distribution Provider's Distribution or Transmission System connected to a Customer bounded by automatic sectionalizing devices or the end of the distribution line. | | |
| I | Local Furnishing Bond: Tax-exempt bonds utilized to finance facilities for the local furnishing of electric energy, as described in Internal Revenue Code, 26 U.S.C. § 142(f). | | |
| I | Local Furnishing Distribution Provider: Any Distribution Provider that owns facilities financed by Local Furnishing Bonds. | | |
| | Material Modification: Those modifications that have a material impact on cost or timing of any Interconnection Request with <u>the same or a later</u> queue priority date or a change in Point of Interconnection. A Material Modification does not include a change in ownership of a Generating Facility. | I (N) inued) | |
| | | 2/19/2013 | |
| 200 | Vice President Resolution No. | | |



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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Revised Original

31885-Е 30197-Е

| | | | LECTRIC RULE NO. 21 G FACILITY INTERCON | | Sheet 2 | :1 |
|-----------|--|---|--|---|---------|-----------------------------|
| C. | DEFINITIO | NS (Cont'd.) | | | | (N) |
| | energy in ki | ilowatt-hours (kWh) | of electrical power in k , and if necessary, rea ibution Provider, as rec | ctive power in kVAR | at | |
| | | | ipment, hardware, soft necessary for Meterin | | | |
| | Momentary Facility to th cycles) or le | he Distribution and | n: The Interconnection Transmission System 1 | n of a Generating for one second (60 | | |
| | | | ng Laboratory (NRTL) fication Testing require | | le. | |
| | electricity b | etween Producer a | Metering for the receip nd Distribution Provide ctions 2827, 2827.8, or | r pursuant to Califorr | nia | |
| | output in kV also be the energy proc auxiliary eq with no Hos Point of Con 218 Load, N | N or energy in kWh measurement of th duced by a Genera uppment necessary st Load and/or Sect mmon Coupling. F Metering that is loca | ring: Metering of the n , from a given Generat e difference between t tor and the electrical er to operate the Genera ion 218 Load, Metering or a Generator with Ho ated at the Generator b erving Host Load and/o | ing Facility. This ma he total electrical hergy consumed by the ator. For a Generator g that is located at the ost Load and/or Section but after the point of | he e | |
| I | | | Rating: The Gross R er of the auxiliary load. | ating minus the | | |
| I | Network U Upgrades. | pgrades: Delivery | Network Upgrades and | d Reliability Network | | |
| | secondaries for supplyin secondary i street netwo | s of the distribution ng electricity directly networks: grid netw | m: An AC distribution transformers are conn to consumers. There orks (also referred to a works. Synonyms: Sec etail. | ected to a common b are two types of as area networks or | | (N) |
| | | | | | (Cont | inued) |
| | | 110-E 2-09-018 | Issued by Brian K. Cherry Vice President Regulatory Relations | Date Filed Effective Resolution No | DRAFT | 2/19/2013 |

| | DCQ | Pacific Gas and Electric Company San Francisco, California | Cancelling | Revised Revised | Cal. P.U.C. Sheet Cal. P.U.C. Sheet | | | | |
|---|-------------|---|---|--|--|--------------------------|----|--------------------------------|---|
| | | U 39 ELECTI GENERATING FAC | RIC RULE NO | | IONS | Sheet 22 | | | |
| | С. [| DEFINITIONS (Cont'd.) | | | | (Ņ) | | | |
| l | i i | Ion-Emergency: Conditions or situ ncluding but not limited to meter rea eplacement, and maintenance. | ations that a ding, inspect | re not Em tion, testin | ergencies, g, routine repai | rs, 1 | | Formatted: Font: Bold |) |
| | C C F | Non-Export; Non-Exporting: When lesigned such that the Generator ou lesigned to prevent the transfer of el Facility to Distribution Provider's Dist lescribed in Appendix One. | tput is used lectrical ener | for Host L gy from th | oad only and is ie Generating | | | - Formatted: Font: Bold |) |
| I | \ | Jon-Islanding: Designed to detect sland with matched load and genera roltage and frequency trip is not cons slanding. | ition. Relian | ce solely o | on under/over | ded | | Formatted: Font: Bold |) |
| | с Р F | Parallel Operation: The simultaneo delivered or received by Distribution purpose of this Rule, Parallel Operat Facilities that are Interconnected with Transmission System for more than | Provider whi ion includes n Distribution | le Intercor only those Provider' | nected. For the Generating solution or sol | e l | | Formatted: Font: Bold |) |
| | ι 1 (| Paralleling Device: An electrical de inder the control of a synchronizatio connect an energized generator to a energized power systems to each oth | n relay or by n energized | a qualifie | d operator to | - | | Formatted: Font: Bold |) |
| | F | Party, Parties: Applicant or Distribu | tion Provider | ſ | | | | - (Formatted: Font: Bold |) |
| | F i i | Periodic Test: <u>A test performed on</u> Facility/Interconnection Facilities at p intervals to achieve one or more of th ts performance; 2) calibrate instrume instrument or Protective Function set | re-determine ne following: entation; and | ed time or 1) verify s | operational pecific aspects | of I | | (Formatted: Font: Bold |) |
| l | | Point of Common Coupling (PCC), he electrical conductors of Distribution of Producer. | The transfer on Provider a | er point for and the ele | electricity betw ectrical conduct | veenl ors _l | | Formatted: Font: Bold |) |
| | | Point of Interconnection: The poin connect with Distribution Provider's I nay or may not be coincident with th | Distribution o | r Transmi | ssion System. | This I (N) | | Formatted: Font: Bold |) |
| | | | | | | (Continued) | | | |
| | Decisior | Vi | Issued by an K. Cherry ce President latory Relations | | Date Filed Effective Resolution No. | DRAFT 2/19/20 | 13 | | |
| | 22C0 | Regu | | | | | | | |

| | PG® | Pacific Gas and Electric Company San Francisco, California U 39 | | Revised Revised | Cal. P.U.C. She Cal. P.U.C. She | | 1887-Е 0199-Е | |
|---|-----------------|--|---|---|--|--|------------------|------------------------------|
| | | ELECT GENERATING FAC | RIC RULE NO. CILITY INTERC | | ONS | Sheet 23 | | |
| | C. | DEFINITIONS (Cont'd.) | | | | (N | I) | |
| | | Pre-Construction Activities: The a than those required by an Engineerin Section F.3.f, undertaken prior to Co for the construction of Distribution Pr Distribution Upgrades, or Network U Customer, including, but not limited activities, environmental analysis, or obtain governmental approvals for D Facilities, Distribution Upgrades, or I | ng and Procur nstruction Act ovider's Interco pgrades assig to, preliminary other activitie istribution Pro | ement Agent | preement und order to prepa n Facilities, e Interconnec ring, permittin cally needed to | er I are I stion I g I o I | | Formatted: Font: Bold |
| | | Producer: The entity that executes with Distribution Provider. Producer Generating Facility, but is responsib the Generator Interconnection Agree | may or may n e for the rights | not own o | r operate the | | | Formatted: Font: Bold |
| l | | Production Test: A test performed production line to verify certain aspe | on each devic | ce coming ormance. | g off the | | | Formatted: Font: Bold |
| | | Protective Function(s): The equipulation of th | e or integrated | with othe | er functions) | | | |
| | | Prudent Electrical Practices: Those as changed from time to time, that a engineering and operations to desig lawfully and with safety, dependability | re commonly in and operate | used in p electric e | rudent electric equipment | | | |
| | | Queue Position: See Section E.5.0 |) . | | | | | |
| | | Queued Capacity: Aggregate queu substation/area bus, bank or circuit (| ed generation i.e., amount o | capacity of generat | (in MW) for a ion in the que | ue). | | Formatted: Font: Bold |
| I | | Reasonable Efforts: With respect to taken by a Party under this Rule, efforded Utility Practice and are otherw Party would use to protect its own in | orts that are til ise substantia | mely and | consistent wi | th I | | |
| | | Reliability Network Upgrades: The point where Distribution Provider's D CAISO Controlled Grid, necessary to Facility(ies) safely and reliably to the the CAISO Tariff. | istribution Sys | stem inter one or m | rconnects to the tot to the total termination of the termination of term | he I ng I | I) | |
| | Advice | Letter No: 4110-E | Issued by | | Date Filed | (Continue) DRAFT 2/1 | , | |
| | Decisio 23C0 | n No. 12-09-018 Br i Vi | i an K. Cherry ce President latory Relations | | Effective Resolution No. | | | |



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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Revised Revised

31888-Е 30200-Е

| | | GENE | ELECTRIC RULE NO. 21 RATING FACILITY INTERCONI | NECTIONS | Sheet 24 | |
|---|--|--|---|---|--|------------------------------|
| | C. DEFINITIC | DNS (Cont'd.) | | | (N) | |
| | California F Corporation Generating These con Generating | PUC section 2 n" and provide g Facility would ditions relate t | trical power that is supplied in 18. PUC section 218 defines s conditions under which a tr I not classify a Producer as a o "over-the-fence" sale of ele ut using Distribution Provider | an "Electric ansaction involving a n Electric Corporatic ctricity from a | | |
| | Facility's sl through Dis the high vo | hort circuit con stribution Prov oltage side of t | on Ratio (SCCR): The ratio tribution to the short circuit co ider's Distribution System for ne distribution transformer co ovider's Distribution System. | ontribution provided a three-phase fault | | |
| | the major e current tran to circuit br devices, pr | electric switchonsformer and preakers/fuses) reakers/fuses) roviding releva | ingle Line Drawing: A sche gear, Protective Function dev potential transformer configur , wires, Generators, transform nt details to communicate to ety of the system being consid | ices (including relays ations/wiring in addin ners, meters and oth a qualified engineer | s, I tion I ner I | |
| 1 | land: (a) O upon which 50% of the Facility; or upon which 50% of the Facility (2 federal, sta right to use acreage re exclusive r of Land Ma Manageme through the | whership of, a h the Generatin acreage reas (b) an option t h the Generatin e acreage reas 2) For public la ate or local age the property assonably nece right to use public anagement sha ent. The demo e Commercial | nentation reasonably demons leasehold interest in, or a rig ng Facility will be located con onably necessary to accomm o purchase or acquire a lease ng Facility will be located con onably necessary to accomm nd, including that controlled co ency, a final, non-appealable for the purpose of generating sesary to accommodate the C blic land under the management all be in a form specified by the onstration of Site Exclusivity, a Operation Date of the new G e existing Generating Facility | In to develop proper sisting of a minimum odate the Generatin ehold interest in prop sisting of a minimum or managed by any permit, license, or of electric power and i Generating Facility, w ent of the federal Bu ne Bureau of Land at a minimum, must enerating Facility or | rty I n of I perty I n of I ng I ther I in I vhich I ireau I | |
| | Facility Ca | pacity of no m | ty: A Generating Facility tha ore than 20 MW. efined in Distribution Provide | | (<u>N)</u> | Formatted: Font: Bold |
| ' | | | | | (Continued) | |
| | Advice Letter No: 4 Decision No. 1 24C0 | 4110-E 12-09-018 | Issued by Brian K. Cherry Vice President Regulatory Relations | Date Filed Effective Resolution No. | DRAFT 2/19/2013 | |

| | PG/3 | Pacific Gas and Electric Company San Francisco, California U 39 | Cancelling | Revised Revised | Cal. P.U.C. Shee Cal. P.U.C. Shee | | 889-E 1201-E | | |
|---|--------------------------|---|--|--------------------------------------|---|---------------------------------|-----------------|------------------------------|--|
| | | ELECTR GENERATING FAC | I C RULE NO. LITY INTERC | | IONS | Sheet 25 | | | |
| | C. | DEFINITIONS (Cont'd.) Spot Network: For purposes of this distribution system found within mode reliability of service to a single custom Starting Voltage Drop: The percent resulting from In-rush Current. The S expressed in volts on a particular bas base, yielding a 5% drop). Supplemental Review: See Section | rn commerci her. age voltage o tarting Voltag e voltage, (e. | al buildin drop at a ge Drop o | gs to provide h specified point can also be | i | 1) | | |
| | | System Integrity: The condition und Distribution and Transmission System perform its intended functions in accorules of Distribution Provider. | er which Dist | safe and | can reliably | | | | |
| | | Telemetering: The electrical or electreal-time basis to Distribution Provide | ronic transmi r. | ittal of Mo | etering data or | ia I | | | |
| I | | Total Capacity: Capacity (in MW) of s on normal or operating ratings. | ubstation/are | ea bus, b | ank_or_circuit_b | ased | | Formatted: Font: Bold | |
| I | | Transfer Trip: A Protective Function by means of an automated communic Provider. | that trips a C ations link co | Generatin Introlled | g Facility remo by Distribution | tely | | Formatted: Font: Bold | |
| | | Transient/ <u>Dynamic</u> Stability: The a disturbances. Transient/ <u>Dynamic</u> Sta power system stability and are time-b performance of the power system dur disturbances. | bility studies ased simulat | are perfo ions that | ormed to ensur assess the | tand e | | Formatted: Font: Bold | |
| | | Transmission Cluster Study Proces in Distribution Provider's Wholesale D | ss: The clust istribution Ta | ter study ariff. | process as de | fined I | | | |
| I | | Transmission System: Transmission that have been placed under the CAIS the CAISO Controlled Grid, as defined | SO's operatio | nal contr | Distribution Pro ol and are par | viderl t ofl | | Formatted: Font: Bold | |
| | | Type Test: A test performed on a sa verify specific aspects of its design, co | mple of a par onstruction a | ticular m nd perfor | odel of a devid mance. | e to I (N | 1) | | |
| | | | | | | (Continue | | | |
| | Advice Decisi 25C0 | on No. 12-09-018 Bria Vic | ssued by n K. Cherry e President atory Relations | | Date Filed Effective Resolution No. | DRAFT 2/19 | //2013 | | |



Cancelling

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Revised Revised

31890-E 30202-E

| | | ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNEC | TIONS | Sheet 26 |
|-------------------|------------|--|--|---------------------|
| C. | DE | FINITIONS (Cont'd.) | | (N) |
| | por | intended Island: The creation of an Island, usually for tion of Distribution Provider's Distribution System, with tribution Provider. | llowing a loss o nout the approva | fa I alof I I |
| | res ope | safe Operating Conditions: Conditions that, if left ur sult in harm to personnel, damage to equipment, loss o eration outside pre-established parameters required by erconnection Agreement. | f System Integri | |
| | Wh | olesale Distribution Tariff: PG&E's Wholesale Distribution | ibution Tariff (W | /DT) I |
| D. | GE | NERAL, RULES, RIGHTS AND OBLIGATIONS | | |
| | 1. | AUTHORIZATION REQUIRED TO OPERATE | | |
| | | A Producer must comply with this Rule, execute a Ge Interconnection Agreement with Distribution Provider Distribution Provider's express written permission be Operation of its Generating Facility with Distribution F Distribution or Transmission System. Distribution Pro- this Rule in a non-discriminatory manner and shall no withhold its permission for Parallel Operation of Prod Facility with Distribution Provider's Distribution or Tra | ; and receive fore Parallel Provider's ovider shall app ot unreasonably ucer's Generati | ng l |
| | 2. | SEPARATE AGREEMENTS REQUIRED FOR OTHE | R SERVICES | İ |
| | | A Producer requiring other electric services from Dist including, but not limited to, Distribution Service durir curtailment or interruption of Producer's Generating I into agreements with Distribution Provider for such se accordance with Distribution Provider's Commission- | ng periods of Facility, must en ervices in | iter I I |
| | 3. | SERVICES UNDER THIS TARIFF LIMITED TO INTE | RCONNECTIO | N I |
| | | Interconnection with Distribution Provider's Distribution System under this Rule does not provide a Producer Distribution Provider's Distribution or Transmission S transmission, distribution, or wheeling of electric pow those rights. | any rights to uti ystem for the | ilize I I |
| | | | | (Continued) |
| Advice Decisio | | er No: 4110-E Issued by 5. 12-09-018 Brian K. Cherry | Date Filed Effective | DRAFT 2/19/2013 |
| 26C0 | | Vice President Regulatory Relations | Resolution No. | |



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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Revised Revised

31891-E 30203-E

| | | GENERA | ELECTRIC RULE NO. 21 TING FACILITY INTERCONNE | CTIONS | Sheet 27 |
|-------------------|----|--|--|--|-----------------------------------|
| D. | GE | NERAL, RULES, RIGHT | S AND OBLIGATIONS (Cor | nťd.) | (N) |
| | 4. | COMPLIANCE WITH L | AWS, RULES, AND TARIFF | S | |
| | | approved tariffs of Distr tariffs, and regulations; regulation which applie | tain and comply with applical ibution Provider; applicable and any local, state or feder s to the design, siting, constr aspect of Producer's Genera es. | FERC-approved al law, statute or ruction, installatio | I |
| | 5. | DESIGN REVIEWS AN | D INSPECTIONS | | |
| | | Producer's Generating a Producer's Generating a commencement of Para Distribution or Transmis Producer to make modi requirements of this Ru for Parallel Operation sl Producer's design or as Interconnection Facilitie Provider shall not, by re | all have the right to review th and Interconnection Facilities and/or Interconnection Facili allel Operation with Distributi sion System. Distribution P fications as necessary to con le. Distribution Provider's re hall not be construed as com warranting the Generating F s' safety, durability or reliabi- ason of such review or lack ngth, adequacy, or capacity of | s and to inspect a ties prior to the on Provider's rovider may requ mply with the view and authoriz firming or endors Facilities' and/or lity. Distribution of review, be | ire a I zation I ing I I |
| | 6. | RIGHT TO ACCESS | | | |
| | | reasonably accessible t Distribution Provider to tariffs approved by the | g Facility and/or Interconnec o Distribution Provider perso perform its duties and exerc Commission, and under any nent between Distribution Pro | onnel as necessa ise its rights unde Generator | ry for I er its I I |
| | | | | | (Continued) |
| Advice Decisio | | er No: 4110-E b. 12-09-018 | Issued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/2013 |
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| Pacific Gas and Electric Company San Francisco, California U 39 | | Revised Revised | Cal. P.U.C. She Cal. P.U.C. She | | 31892-E 30204-E | |
|--|--|--|---|--------------------------------|--------------------|--|
| | CTRIC RULE NO. 2 ACILITY INTERCO | | ONS | Sheet 2 | 28 | |
| D. GENERAL, RULES, RIGHTS AND | O OBLIGATIONS | (Cont'd. |) | | (N) | |
| 7. CONFIDENTIALITY | | | | | | |
| a. Scope | | | | | | |
| Confidential Information shall proprietary or trade secret info business of Applicant, Custon (individually referred to in Sec including all information relatin development, business affairs use the information contained discounted tariffs to the Custo Customer or the information is Customer through other mear | prmation relating t ner, Producer, or tion D.7 as Party of to a Party's tec , and pricing. Dis in the Interconne mer unless author s provided to Dist | to the pro Distribut or collec chnology stribution ection Re prized to | esent or plan ion Provider tively as Part , research an Provider sha quest to prop do so by the | ies), d III not oose | | |
| Information is Confidential Informarked in writing as confident electronic materials), or, if the inspection, if the Party providi receiving the information that of this Rule all design, operati provided by Applicant shall be of whether it is clearly marked provided in section D.7.b. below | ial on the face of information is co ng the information is the information is ng specifications, deemed Confide or otherwise des | the docu nveyed on orally in confider and me ential Info | ument (includ orally or by nforms the Pa ntial. For pur tering data ormation rega | ing arty poses rdless | | |
| If requested by either Party, the basis for asserting that the infi- confidential treatment, and the to the appropriate Governmer responsible for the costs asso to its information. | ormation referred e requesting Party Ital Authority. Ea | to in this may dis ch Party | s Article warra sclose such w shall be | ants /riting | | |
| b. Limitations on Scope | | | | | i | |
| Confidential Information shall Interconnection Request that pursuant to Section E.5.d of th | may be provided | nation pe in a publ | ertaining to ea licly-posted q | ich ueue | (N) ◄ | Formatted: R-Edit Notations, Left spacing: single |
| | | | | (Cont | inued) | |
| Advice Letter No: 4110-E Decision No. 12-09-018 28C0 R | Issued by Brian K. Cherry Vice President egulatory Relations | | Date Filed Effective Resolution No. | DRAFT | 2/19/2013 | |

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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

31893-E 30205-E

| | GENE | ELECTRIC RULE NO. 21 RATING FACILITY INTERCONN | ECTIONS | Sheet 29 | |
|---|--|--|---|---|--|
| D. GENEF | RAL, RULES, RIG | HTS AND OBLIGATIONS (Co | ont'd.) | (Ņ) | |
| 7. CC | NFIDENTIALITY | (Cont'd.) | | | |
| b. | Limitations on S | cope (Cont'd.) | | | |
| | generally availab by the receiving Party on a non-c Party; (3) was su third party, who, inquiry, was und information confi receiving Party w disclosing Party; wrongful act or o accordance with | rmation shall not include inform le to the public other than as a Party; (2) was in the lawful pos onfidential basis before receiving pplied to the receiving Party w to the knowledge of the receiv er no obligation to the disclosif dential; (4) was independently <i>i</i> thout reference to Confidentia (5) is, or becomes, publicly kn mission of the receiving Party; Section D.7.d, Required Discle ental Authority or is otherwise ena. | a result of a disclo ssession of the rea vithout restriction b ving Party after dua ng Party to keep s developed by the al Information of th nown, through no s or (6) is required osure, to be disclo | ceiving I closing I cy a I e I uch I e I ne I ine I josed I | |
| | deemed confider | nated as Confidential Informa ntial if the Party that designate es the other Party that it no lo | d the information | as I | |
| C. | Disclosure to Co | mmission, FERC, or their resp | pective Staff | | |
| Notwithstanding anything in this Section D.7 to the contrary, and pursuant to 18 CFR section 1b.20 in the case of disclosure to FERC, if the Commission, FERC, or their respective staff, during the course of an investigation or otherwise, requests information from one of the Parties that is otherwise required to be maintained in confidence pursuant to this Rule, the Party shall provide the requested information to the Commission, FERC, or their respective staff, within the time provided for in the request for information. In providing the information to the Commission, FERC, or their respective staff, the Party shall, pursuant to PUC section 583 and General Order 66-C in the case of disclosure to the Commission, and consistent with 18 CFR section 388.112 in the case of disclosure to FERC, request that the information be treated as confidential and non-public by the Commission, FERC, and their respective staff and that the information be withheld from public disclosure. Requests from another state regulatory body with jurisdiction conducting a confidential investigation shall be treated in a similar manner, consistent with applicable state rules and regulations. | | | | | |
| Advice Letter No. | 4110-E | Issued by | Date Filed | (Continued) DRAFT 2/19/2013 | |
| Decision No. | 12-09-018 | Brian K. Cherry Vice President | Effective Resolution No. | | |
| 29C0 | | Regulatory Relations | | | |

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|---|------|---|--|--|---|---|--|---|--------------------|
| ELECTRIC RULE NO. 21 Sheet 30 GENERATING FACILITY INTERCONNECTIONS | | | | | | | | | |
| D. | GEN | IERA | L, RULES, RIG | GHTS AND O | BLIGATION | IS (Cont'd | .) | | (N) |
| | 7. (| CONI | FIDENTIALITY | (Cont'd.) | | | | | |
| | (| 1. R | equired Disclo | sure | | | | | |
| | | cli P ex on did di di cc ob sec C C ob rec C on th a g sec sec sec sec sec sec sec sec c c c c | ubject to the exaims is Confide arty to any person cept to the ext der of the Corr sclosing Party spute between spute; (iii) othe onsent not to be obligations unde ervice provider onfidential Info AISO, or to a s planning grou elevant tariffs. I onfidential Info Governmenta ie information of grees to assert exing to protect y confidentiality easures. | ential Informa son not emplo ent disclosure mission or Fl to be required or among the rwise permitte e unreasonab r this Rule; or or a Control A rmation to a F ub-regional, r p under the a Prior to any d rmation unde I Authority ma lescribed in tt confidentiality ct the Confidentiality | tion shall no byed or reta e is (i) requi ERC; (ii) rea d to be disc(e Parties, or ed by conse by withheld; (v) as a tra Area operat Regional or r pplicable co isclosures o this subpara y and coope ential Inform | ot bé discluined by the red by law asonably of losed in cor- the defer ent of the of (iv) neces insmission or, includii ansmission ational re onfidential of the othe ragraph, of quest or d graph, the erate with lation from | osed by the of e other Party, y or pursuant f deemed by the ponnection with hase of litigation other Party, su ssary to fulfill in or distribution ng disclosing fan liability organization liability organization str Party's pr if any third p emand for any disclosing Pa the other Part public disclosion | ther o an a n or uch ts n or zation in the party / of //ty y in sure | |
| | 8. I | PRUE | DENT OPERAT | FION AND MA | AINTENAN | CE REQU | IRED | | i |
| | | Interd | oducer shall op connection Fac shall maintain c | ilities in accor | rdance with | Prudent E | | tices | i I (N) |
| | | | | | | | | (Cor | ntinued) |
| Advice Decisio | | No: | 4110-E 12-09-018 | | ssued by n K. Cherry | | Date Filed Effective | DRAF | T 2/19/2013 |
| 30C0 | | | | Vice | e President atory Relations | | Resolution No. | | |



Revised Original Cancelling

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

31898-E 30210-E

| | | | LECTRIC RULE NO. 21 G FACILITY INTERCON | | Sheet 3 | 31 |
|-------------------|--|---|---|--|--|----------------------------------|
| D. | GENERAL, RU | ILES, RIGHTS | AND OBLIGATIONS (| Cont'd.) | | (N) |
| | 9. CURTAILM | IENT AND DIS | CONNECTION | | | |
| | disconnec Provider's notice, in t Conditions disconnec Facility fro upon the p maintenan Distribution determinad with this R Agreemen | tion of a Produc Distribution or he event of an I Distribution P tor require the m Distribution F rovision of reas ce, repairs or m or Transmission ion that a Produc ule; or 3) upon t. Upon Produc vritten explanat | limit the operation or d er's Generating Facility Transmission System a Emergency, or to corre rovider may also limit t disconnection of a Proo provider's Distribution of onable written notice: odifications to Distribution on System; 2) upon Dis ucer's Generating Facilitermination of the Gene er's written request, Di ion of the reason for su | y from Distribution at any time, with or ct Unsafe Operatin he operation or ducer's Generating r Transmission Sys 1) to allow for routin tion Provider's stribution Provider's stribution Provider's stribution Provider | without g stem ne s ance ion | |
| | 10. LOCAL FU | JRNISHING BC | NDS | | | |
| | tax-exemp deductibilit Local Furr Treasury F Customer proposed Interconne measures | t status of intered y of interest exp ishing Distributi Regulations and will be required nterconnection ction Study sha that address the | tion of a Generating Fa est on the Local Furnis bense on the Local Fur on Provider under the /or applicable IRS rulin to pay the costs prope of such Generating Fa II specify and estimate e financial impacts, if a om an Interconnection. | hing Bonds or the nishing Bonds to th Internal Revenue C gs, the Interconnec rly attributable to th cility. The the cost of all reme ny, on Local Furnis | ne Code, ction ne edial | (N) |
| | | | | | | |
| | | | | | | |
| | | | | | | tinued) |
| Advice Decisio | Letter No: 4110-E on No. 12-09- | | lssued by Brian K. Cherry | Date Filed Effective | DRAFT | 2/19/2013 |
| 34C0 | | | Vice President Regulatory Relations | Resolution No. | | |



Revised Original Cancelling

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

31898-E 30210-E

| | GENEI | ELECTRIC RULE NO. 21 RATING FACILITY INTERCONN | ECTIONS | Sheet 32 | | | |
|------------------------------|---|--|--|--|--|--|--|
| D. GEI | NERAL, RULES, RIG | HTS AND OBLIGATIONS (Co | ont'd.) | (N) | | | |
| 11. | COORDINATION W | ITH AFFECTED SYSTEMS | | | | | |
| | potentially affected b Interconnection Req conduct of any studi Interconnection Req Operators and, if po applicable Interconn Rule. Distribution P all meetings held wit cooperate with Distri studies and the dete transmission provide with Distribution Pro in all matters related modifications to Affe agreement with the agreement shall spe Applicant to the own | will notify the Affected System by an Applicant's Interconnecti- uests. Distribution Provider w es required to determine the ir uest on Affected Systems with ssible, include those results (if ection Study within the time fra- rovider will include such Affect th Applicant as required by this ibution Provider in all matters r immation of modifications to A er which may be an Affected Si- vider with whom interconnection to the conduct of studies and cted Systems. Applicant shall owner of the Affected System, wify the terms governing paym er of the Affected System. | on Request or gro ill coordinate the npact of the Affected System available) in its ame specified in th ed System Opera Rule. Applicant related to the cond ffected Systems. ystem shall coope on has been reque the determination enter into an as applicable. Th ients to be made l | pup of I I I I I I I I I I I I I I I I I I I | | | |
| 12. | TRANSFERABILITY | OF INTERCONNECTION RE | QUEST | | | | |
| | only if such entity ac | ansfer its Interconnection Requ equires the proposed Generatir Request and the Point of Interc | ng Facility identifie | ed in I | | | |
| 13. | SPECIAL PROVISIC APPLICANTS | ONS APPLICABLE TO NET EN | NERGY METERE | | | | |
| | Notwithstanding any | other provision in this Rule: | | | | | |
| | a. <u>1.</u> For Generating Facilities qualifying for service under PUC <u>S</u> ections 2827, 2827.8 and 2827.10 Distribution Provider may proceed from Initial to Supplemental Review to Independent Study Process <u>or Distribution Group Study Process</u> to further study without waiting for Applicant concurrence, since Applicant is not responsible for payment of study costs. (N) | | | | | | |
| | | | | (Continued) | | | |
| Advice Lette Decision No. | | Issued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/2013 | | | |
| 34C0 | | Vice President Regulatory Relations | Resolution No. | | | | |



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Pacific Gas and Electric Company PFSE San Francisco, California U 39

Cancelling

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Revised Original

31899-E 30211-E

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| | | GE | ELECTRIC RULE NO. 21 NERATING FACILITY INTERCONNE | CTIONS | Sheet 33 | ; | | |
|---|-----------------------------------|--|---|---|---|------------------------|---|-----------------------------|
| | D. GENEF | RAL, RULES, I | RIGHTS AND OBLIGATIONS (Cor | nťd.) | | (N) | | |
| | | PECIAL PRO PPLICANTS (| VISIONS APPLICABLE TO NET E Cont'd.) | NERGY METER | ED | | | |
| | b. | 2827 and 282 shall normally following Dist Metering Inte and required Generator Int final electric in having jurisdi cannot be me Commission of | ng Facilities qualifying for service u 7.8 Distribution Provider approval be processed not later than thirty ribution Provider's receipt of 1) a con- rconnection Request including all s payments; 2) a completed signed N erconnection Agreement; and 3) ev- nspection clearance from the Gove ction over the Generating Facility. t, Distribution Provider shall notify of the reason for the inability to pro- page. | for Interconnectic (30) Business D ompleted Net En- supporting docum Net Energy Meter vidence of Applic ernmental Authori If the 30-day per Applicant and the cess the | on ays ergy ents ing ant's ty od | | | |
| I | | Applicants with non-inverter to Equipment sh Interconnection for Distribution without waiting Generating Fa Request at le Commercial (these Generation and could inc a System Imp Study (sixty (if upgrades to to The advance accommodate consistent with required to co | on Request and the expected comp th PUC <u>sSection 2827</u> Generating based Generators and/or Generato bould plan to submit a completed N on Request including all supporting n Provider to start the review proce g for the final inspection clearance acilities are advised to submit their ast six (6) months in advance of the Operation Date. Depending on the string Facilities, additional time for re- lude Supplemental Review (twenty 60) to ninety (90) Calendar Days do he electric system are identified) as submission of the Interconnection e Distribution Provider's review and the timelines established in this for mators and/or Generators with non-C | Facilities that incl rs with non-Certif let Energy Meteri documents suffi- ess in Section F.2 . Applicants with Interconnection eir planned size and location eview may be req (20) Business D rs), and a Facilitie epending on whe s set out in Section Request will bett d studies in a mar Rule that may be nection of non-in | ude ied ng cient .a such of uired ays), es ther on F. er inner verter | | | |
| | <u>C.</u> | Equipment ne and 2827.8 sl | enerator Output Metering is require ecessary to obtain service under Pl nall be installed and operational with mplete Interconnection. | UC sSections 282 | 27 Ə | (N) | € | Forn Num Aligr at: |
| | | | | | (Contin | ued) | | |
| | Advice Letter No: Decision No. | : 4110-E 12-09-018 | Issued by Brian K. Cherry | Date Filed Effective | DRAFT 2 | /19/2013 | | |
| | 35C0 | | Vice President Regulatory Relations | Resolution No. | | | | |

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Pacific Gas and Electric Company San Francisco, California U 39

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Cancelling Revised

d Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

31901-Е 30213-Е

| GENERAT | ELECTRIC RULE NO. 21 ING FACILITY INTERCONNECT | | eet 34 | |
|---|---|--|---|--|
| D. GENERAL, RULES, RIGHT | S AND OBLIGATIONS (Cont'd | .) | (N) | |
| SPECIAL PROVISIONS AF APPLICANTS (Cont'd.) | PPLICABLE TO NET ENERGY | METERED | | |
| Energy Metering or more than one year notification that the I Generator Interconn that has not been ap completion of all app withdrawal by Distrik may not deem the In Applicant provides n | a Fast Track Interconnection Re Non-Export Generating Facility from the date of Distribution Printerconnection Request is valid ection Agreement, or 2) has a 0 oproved for Parallel Operation volicable review and/or studies, is oution Provider; however, Distributerconnection Request to be we easonable evidence that the Intere or ii) if the delay is at no fault | that 1) goes for ovider's written d without a signed Generating Facility vithin one year of s subject to bution Provider ithdrawn if the i) erconnection | / • • • • • • • | Formatted: Numbered + Level: 1 + Numbering Style: a, b, c, + Start at: 1 Alignment: Left + Aligned at: 0.63" + Ir at: 0.88" |
| 14. COMPLIANCE WITH E | STABLISHED TIMELINES | | | |
| timelines provided for u is not able to meet a pa Provider shall notify App estimated completion d additional time is neede Reasonable Efforts of D | all use Reasonable Efforts in m nder this Rule. In the event Dis rticular timeline set forth in this plicant as soon as practicable a ate with an explanation of the re ed. Any Applicant dissatisfied w Distribution Provider may use th ection F.1.d and/or the Dispute | stribution Provider Rule, Distribution Ind provide an easons why rith the e informal | | |
| 15. MODIFICATION OF TIM | /IELINES | | I I | |
| any of the timelines in the | d Applicant, for good cause, ma his Rule The modified timeline between Distribution Provider a | shall be mutually | | |
| 2 | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | (Continued) | |
| Advice Letter No: 4110-E Decision No. 12-09-018 37C0 | lssued by Brian K. Cherry Vice President Regulatory Relations | Date Filed Di Effective Resolution No | RAFT 2/19/2013 | |



Pacific Gas and Electric Company San Francisco, California U 39

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ELECTRIC RULE NO. 21

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Revised Revised

31902-E* 30214-E

Sheet 35

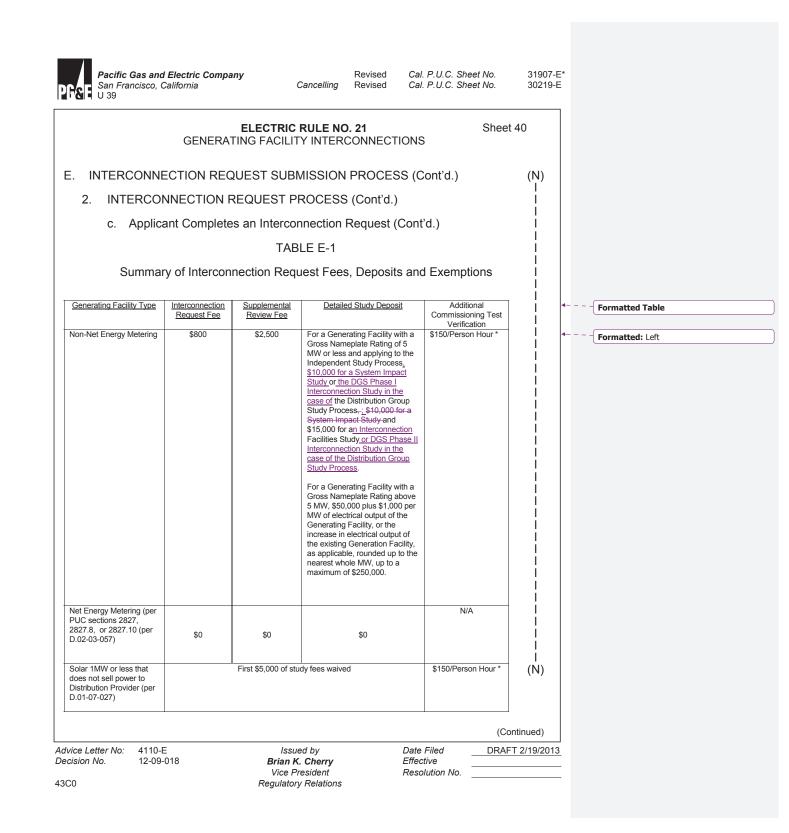
| | GENE | ERATING FACILITY INTERCONNI | ECTIONS | | | | |
|---------------------------------|--|---|--|-------------------------------------|--|--|--|
| E. INTER | RCONNECTION F | REQUEST SUBMISSION PROC | ESS | (N) | | | |
| 1. O | PTIONAL PRE-A | PPLICATION REPORT | | | | | |
| re p D s la (e | efundable process re-application data bays of receipt. Th roposed Point of I ource. The propo atitude and longitu e.g. pole number), | ompleted Pre-Application Reporting fee of \$300, Distribution Pro- a described in this section within the Pre-Application Report Requiranterconnection, generation tech sed Point of Interconnection shade, site map, street address, utimeter number, account number ent to clearly identify the location | vider shall provide ten (10) Business est shall include a nology and fuel all be defined by lity equipment nun r or some combina | e I S I I I I hber I | | | |
| | he Pre-Application vailable: | n Report will include the followin | g information if | | | | |
| a | . Total Capacity (to serve propose | MW) of substation/area bus or b ed site. | bank and circuit like | ely I I | | | |
| b | | Allocated Capacity (MW) of substation/area bus or bank and circuit likely to serve proposed site. | | | | | |
| C. | Queued Capacit likely to serve p | ty (MW) of substation/area bus or roposed site. | or bank and circuit | | | | |
| d | . Available Capac most likely to se | tity (MW) of substation/area bus rve proposed site. | or bank and circu | it i | | | |
| e. | . Substation nomi voltage if application | inal distribution voltage or transmable. | mission nominal | | | | |
| f. | Nominal distribu | tion circuit voltage at the propos | sed site. | | | | |
| g | . Approximate cire substation. | cuit distance between the propo | sed site and the | | | | |
| h. | . Relevant Line S when available. | ection(s) peak load estimate, ar | nd minimum load d | ata, I I | | | |
| i. | | ective devices and number of vo n the proposed site and the sub | | | | | |
| j. | Whether or not t | three-phase power is available a | at the site. | (N) | | | |
| | | | | (Continued) | | | |
| Advice Letter N Decision No. | <i>lo:</i> 4110-E 12-09-018 | Issued by Brian K. Cherry Vice President | Date Filed Effective Resolution No. | DRAFT 2/19/2013 | | | |
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| | ELEC GENERATING F | ACILITY INTERC | | IONS | Sheet 36 | |
| E. 11 | NTERCONNECTION REQUEST PRE-APPLICATION REPORT k. Limiting conductor rating f distribution substation. I. Based on proposed Point constraints such as, but n that location, short circuit or stability issues on the c networks. The Pre-Application Report net Application Report request do conduct a study or other analy that data is not available If D some of a Pre-Application Report Distribution Provider will provi that includes the information t | (Cont'd.) from proposed F of Interconnection of limited to, ele interrupting capacity of eed only include eed only include ees not obligate ysis of the proposition Provi port due to lack de Applicant with | Point of In on, existi ctrical de acity issu constraint pistributionsed proje der cann- of availal th a Pre-4 | terconnection ng or known pendencies at es, power qual s, or secondar ting dataA Pr on Provider to ect in the even ot complete all ole data, | ity y re- t or | |
| 1 | In requesting a Pre-Applicatio the existence of "Available Ca interconnection up to this leve there are many variables stud process, 2) the distribution sy and 3) data provided in the Pr outdated and not useful at the Interconnection RequestNot Section, Distribution Provider Application Report data that no the time of reporting. | n Report, Applic pacity" in no wa l may be complied as part of th stem is dynamic re-Application R time of submis twithstanding ar shall, in good fa | cant unde ay implies eted with ie interco c and sub eport ma sion of th sion of the paith, provi | that an out impacts sin nnection review ject to change y become e complete provisions of th de Pre- | ICE V | Formatted: Tab stops: 5.52", Left |
| Advice L Decision 39C0 | No. 12-09-018 | Issued by Brian K. Cherry Vice President egulatory Relations | | Date Filed Effective Resolution No | (Continued) DRAFT 2/19/20 | |

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|--|--------|--------|--------|---|---|---|---|--|--|---|-----------------------------------|
| | | | | | GENERATI | | C RULE NO ITY INTER | | IONS | Sheet | 37 |
| | E. | IN' | TER | CONNEC | TION REQU | EST SUE | BMISSION | PROCES | S (Cont'd.) | | (N) |
| | | 2. | INT | ERCON | NECTION RE | EQUEST | PROCESS | 6 | | | |
| | | | a. | Applican | t Initiates Co | ontact with | n Distributi | on Provide | er | | |
| | | | | documer technical Supplem Metering agreed u Applican from App represen allocate | its (such as s information, ental Review requirement pon, all such t within three plicant. Distri | sample a listing of / fee infor (s) to a po informat (3) Busin bution Pr single po es among | greements Certified E mation, ap otential App ion shall no ness Days ovider will pint of conta g its staff to | , Interconn equipment plicable ta plicant. Up ormally be following establish act for App best coon | ariff schedule: nless otherwis sent to an the initial requ an individual plicant, but m rdinate the | s and se uest | |
| | | | b. | Applican | it Selects a S | Study Pro | cess | | | | |
| | | | | An Applie processe | cant may sel es in accorda | ect one o nce with | f two intero the followir | connectior | n evaluation sy requiremen | its: | |
| | | | | i) Fas | t Track Eligib | oility | | | | | |
| | | | | eligil Nam Gen than | ble for Fast T eplate Ratin erating Facili | rack eva g of the p ties with a 12 kV c | luation reg proposed G a Gross Na pr higher vo | ardless of enerating ameplate ltage inte | FacilityExp Rating no larg rconnection p | orting ger | |
| | | | | of D cost neve Faci eligil requ pre- | istribution Pro such that the er exceed the lity's net exp bilityHowev ired to comp | ovider-ap e Exportin Fast Tra ort will be ver, these lete Supp lemental | proved pro ng General ack eligibilit e considere Interconno plemental F | otective de ing Facilit y limits, th d for purp ection Rec Review an | es to the insta evices at Appl ne Generating oses of Fast quests will be d <u>Applicants</u> ne Interconne | icant's t will J Track should | - - - - - - (N) |
| | Advice | e Lett | er No: | 4110-E | | Is | sued by | | Date Filed | | ntinued) T 2/19/2013 |
| | Decisi | | | 12-09-01 | 8 | Brian | K. Cherry President | | Effective Resolution No. | | |
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| | | | LECTRIC RULE NO | | IONS | Sheet | 38 |
| E. INTER | co | NNECTION REQUE | ST SUBMISSION | I PROCES | SS (Cont'd.) | | (N) |
| 2. IN | FER | CONNECTION REC | QUEST PROCESS | 6 (Cont'd.) |) | | l ! |
| b. | Ap | plicant Selects a Stu | udy Process (Cont | .'d.) | | | ļ |
| | ii) | Detailed Study Elig | gibility | | | | |
| | | Interconnection Re evaluation must ap choose to apply dii require (i) an Indep Study Process, or specific study proc Electrical Independ Distribution System | pply for Detailed S rectly for Detailed pendent Study Pro (iii) a Transmissio ess used will depe dence Tests for the | tudyAn / Studiesl ocess, (ii) a n Cluster s end on the | Applicant may Detailed Study a Distribution (Study Process e results of the | also / shall Group 6The | |
| | iii) | Request for Delive | erability Assessme | nt | | | i i |
| | | Unless specified of Generating Facilitie Process, Independ Process will be ass Deliverability Statu seeking a deliveral Applicants studied may seek a deliver applicable provisio | es eligible to be st lent Study Process sumed to have sel is. Nothing herein bility assessment i under the Transm rability assessmen | udied und s or Distrib ected Ene will prohil in accorda hission Clu | er the Fast Tra oution Group S ergy-Only bit an Applicar ance with the V uster Study Pro | Study nt from VDT. Dcess | |
| C. | Ap | plicant Completes a | n Interconnection | Request | | | i |
| | Ree Inte Stu per pro | Applicants shall sub quest. When applic erconnection Reques dy in the Interconne instructions in the I ceed to Detailed Stu dy deposit as specif | able per Table E.1 st fee, and for App ction Request, a s nterconnection Re udy after Fast Trac | l, a nonref blicants tha study depo equest. Ap ck will prov | fundable \$800 at elect Detaile osit shall be re oplicants who | quired | |
| | Poi exp be | blicant shall submit a nt of Interconnection pansion of capacity of treated the same as nerating Facility pure | An Interconnec an existing oper an Interconnectic | tion Requ ating Gen on Reques | est for the erating Facility | / shall | - - - - (N) |
| Advice Letter No | · A | 110-E | Issued by | | Date Filed | , | ntinued) T 2/19/2013 |
| Decision No. | | 2-09-018 | Brian K. Cherry Vice President Regulatory Relations | | Effective Resolution No. | | |

| Pacific Gas and Electric Company San Francisco, California U 39 | Revi Cancelling Origi | | | |
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| | RIC RULE NO. 21 CILITY INTERCONN | NECTIONS | Sheet 39 | |
| E. INTERCONNECTION REQUEST S 2. INTERCONNECTION REQUEST c. Applicant Completes an Intervention Requession of the Distribution Requession of the Distribution Group Study, or (b) a during a Distribution passes Screen Q. There will normally be two (c) windows annually. The first window will usually open on second Distribution Group Study open on September 1 and contrast the date shall be the the date shall be the the date shall be the the date shall be the the date shall be the the date shall be the the date shall be the the date shall be the the date shall be the the date shall be the the date shall be the the date shall be the the date shall be the the date shall be the da | SUBMISSION PRC T PROCESS (Con erconnection Requ lests for the Indep oted throughout the p Study windows of uses to be studied udy Process shall rocess Interconne I failed Screen R for ontinue to the next in Interconnection Group Study Appli 2) Distribution Group March 1 and close tudy Application w lose on Septembe tion is not a Busine next Business Day | DCESS (Cont'd.) nt'd.) uest (Cont'd.) uest (Cont'd.) uendent Study e year, except during described below. <u>A under the</u> either be (a) an iction Request that or which the available Distribution Request submitted ication window that up Study Application b Study Application con March 31. The window will usually r 30. In the event ess Day, then the y thereafter. | on | Formatted: Space Before: 0 pt, After: 12 pt, Numbered + Level: 1 + Numbering Style: i, ii, iii, + Start at: 1 + Alignment: Left + Aligned at: 1.15" + Indent at: 1.4", No widow/orphan control, Don't adjust space between Latin and Asian text, Don't adjust space between Asian text and numbers |
| Advice Letter No: 4110-E | e Distribution Gro or closing dates p te and the dates ic | up Study Application posted on the dentified in the | (Continued) | |
| Decision No. 12-09-018 Bi | i an K. Cherry ice President Jlatory Relations | Effective Resolution No. | DIAL 1 2/19/2013 | |



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| | EL GENERATINO | ECTRIC RULE NO |). 21 CONNECT | IONS | Sheet 40 |
| *Plus | additional costs for travel, lodging | and meals. | | | |
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Revised Cal. P.U.C. Sheet No. Revised Cal. P.U.C. Sheet No.

<u>31908</u>-Е <u>30220</u>-Е

| | | | | | GENER | ELECTRIC RULE NO. 21 ATING FACILITY INTERCONN | ECTIONS | Sheet 41 |
|---|-------|-----------------|--|--|---|---|---|------------------------------------|
| | E. | IN | TER | CO | NNECTION RE | EQUEST SUBMISSION PRC | OCESS (Cont'd.) | (N) |
| | | 2. | | | | | | |
| | | | d. | Sit | e Exclusivity | | | |
| | | | | Inte | erconnection R | Site Exclusivity must be sub equest. This requirement do EM or Non-Export Generating | es not apply to | |
| | | 3. | INT | ER | CONNECTION | REQUEST FEE AND STUE | DY DEPOSIT | |
| | | | Re Co Fa De Me any Stu | que mm ciliti cisi eteri y cc udy e Dis | ests pursuant to hission Decision es that do not s on 01-07-027. ng under <u>PUC</u> osts associated fees for solar G | Request fee shall be waived PUC Sections 2827, 2827.8 n 02-03-057 and for solar-power sell power to Distribution Pro Generating Facilities eligible Sections 2827, 2827.8, or 28 with Interconnection Studies Generating Facilities up to 1 N m that do not sell power to th 55,000. | B, or 2827.10, per wered Generating vider per Commiss for Net Energy 327.10 are exempt a Interconnection dW interconnection | sion I from I g to I |
| | | | a. | De | etailed Study De | eposit | | |
| | | | | i) | Detailed Stud | dy Deposit | | |
| | | | | | To proceed w d <u>D</u> etailed sSt | vith Detailed Study, Applicant cudy deposit. | : must submit a | |
| | | | | | MW or less, A \$10,000 for th <u>Phase I Interc</u> Facilities Stuc <u>case of the D</u> additional \$15 | ting Facility with a Gross Nai Applicant must submit a Deta ne Interconnection System In <u>connection Study</u> , and where dy <u>or DGS Phase II Interconr</u> <u>istribution Group Study Proc</u> 5,000 deposit must be submi <u>.viii or</u> F.3.d.viii. | illed Study deposit npact Study or the an Interconnection nection Study in the ess is required, an | of I <u>DGS</u> I n I e I |
| I | | | | | MW, Applicar \$50,000 plus Generating Fa existing Gene | ting Facility with a Gross Nar nt must submit a Detailed Stu \$1,000 per MW of electrical acility, or the increase in elec erating Facility, as applicable e MW, up to a maximum of \$ | Idy deposit equal to output of the ctrical output of the , rounded up to the | |
| | Adui- | 01-4 | orNe | | 110 E | logued by | Data Filad | (Continued) |
| | | e Lett ion N | er No: o. | | 110-Е 2-09-018 | Issued by Brian K. Cherry Vice President | Date Filed Effective Resolution No. | DRAFT 2/19/2013 |
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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Revised Revised

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| E. INTERCONNECTION REQUEST SUBMISSION PROCESS (Cont'd.) (N) 3. INTERCONNECTION REQUEST FEE AND STUDY DEPOSIT (Cont'd.) a. Detailed Study Deposit (Cont'd.) ii) Use of Detailed Study Deposit (Cont'd.) iii) Use of Detailed Study Deposit (Cont'd.) iii) Use of Detailed Study deposit shall be applied to pay for prudent costs incurred by Distribution Provider, the CAISO, or third parties at the direction of Distribution Provider of CAISO, as applicable, to perform and administer the Interconnection Studies. Deposit amounts that exceed the prudent costs incurred by Distribution Provider shall be refunded to Applicant within sixt (60) Calendar Days following the issuance of the final study applicable to the Interconnection Requests within the group. The Interconnection study costs for a Distribution Study Group shall be allocated equally among the Interconnection Requests within the group. The Detailed Study deposits shall be refundable as follows: (1) Should an Interconnection Request be withdrawn by Applicant or be deemed withdrawn by Distribution Provider by written notice under Section F.6 on or before thirty (30) Calendar Days following the scoping meeting. Distribution Provider, CAISO, and third parties have incurred on Applicant's ebelaif, 1 including interest from the date of proceip Dy Distribution Provider, CAISO, and third parties have incurred on Applicant's ebelaif, 1 including interest from the date of parent to Applicant the applicable interest shall be one-twelfth of the Federal Reserve three-month Commercial Paper Rate – Non-Financial, from the Federal Reserve Statistical Release H.15 (expressed as an annual rate). Matvice Letter No: 1100-118 | | | | | | | LECTRIC RULE NO. 21 G FACILITY INTERCONNE | CTIONS | Sheet 42 |
|---|---|----|----|-----|--------|---|--|--|--|
| a. Detailed Study Deposit (Cont'd.) i) Use of Detailed Study Deposit The Detailed Study deposit shall be applied to pay for prudent costs incurred by Distribution Provider or CAISO, as applicable, to perform and administer the Interconnection Studies. Deposit amounts that exceed the prudent costs incurred by Distribution Provider shall be refunded to Applicant within sixty (60) Calendar Days following the issuance of the final study applicable to the Interconnection Request. The interconnection study costs for a Distribution Study Group shall be allocated equally among the Interconnection Requests within the group. The Detailed Study deposits shall be refundable as follows: (1) Should an Interconnection Request be withdrawn by Applicant or be deemed withdrawn by Distribution Provider by written notice under Section F.6 on or before thirty (30) Calendar Days following the scoping meeting, Distribution Provider shall refund to Applicant any portion of Applicant's dDetailed sStudy deposit that exceeds the costs Distribution Provider CAISO, and third parties have incurred on Applicant's dDetailed sStudy deposit frat exceeds the Costs Distribution Provider CAISO, and third parties have incurred on Applicant's behalf, including interest from the date of receipt by Distribution Provider to the date of payment to Applicant. The applicable interest shall be one-twelfth of the Federal Reserve three- month Commercial Paper Rate – Non-Financial, from the Federal Reserve Statistical Release H.15 (expressed as an annual rate). (N) | | E. | IN | TER | 00 | NECTION REQUE | ST SUBMISSION PROCE | ESS (Cont'd.) | (N) |
| ii) Use of Detailed Study Deposit The Detailed Study deposit shall be applied to pay for prudent costs incurred by Distribution Provider or CAISO, as applicable, to perform and administer the Interconnection Studies. Deposit amounts that exceed the prudent costs incurred by Distribution Provider shall be refunded to Applicant within sixty (60) Calendar Days following the issuance of the final study applicable to the Interconnection Request. The interconnection study costs for a Distribution Study Group shall be allocated equality among the Interconnection Requests within the group. The Detailed Study deposits shall be refundable as follows: (1) Should an Interconnection Request be withdrawn by Applicant or be deemed withdrawn by Distribution Provider by written notice under Section F.6 on or before thirty (30) Calendar Days following the scoping meeting. Distribution Provider shall refund to Applicant any portion of Applicant's 4Detailed is Study deposit that exceeds the costs Distribution Provider for the date of payment to Applicant's 4Detailed is Study deposit that exceeds the costs Distribution Provider, CAISO, and third parties have incurred on Applicant's 4Detailed interest shall be one-twelfth of the Federal Reserve threemonth Commercial Paper Rate – Non-Financial, from the Federal Reserve Statistical Release H.15 (expressed as an annual rate). Advice Letter No: 4110-E Issued by Date Filed DRAFT 2/19/201 Were President Pate Filed Effective DRAFT 2/19/201 | | | 3. | INT | ER | CONNECTION REG | UEST FEE AND STUDY | DEPOSIT (Cont | d.) I |
| Advice Letter No: 4110-E Issued by Issued by Date Filed Advice Letter No: 4110-E Issued by Issued by Date Filed Effective Mathematical Issued by Issued by Date Filed Effective Effective Mathematical Issued by Issued by Date Filed Effective Effective Mathematical Issued by Page Filed Issued by Date Filed Effective | | | | a. | Det | ailed Study Deposit | (Cont'd.) | | |
| Advice Letter No: 4110-E Issued by Issued by Date Filed Date Filed Advice Letter No: 4110-E Issued by Vise President Date Filed Date Filed Mark Advice Letter No: 4110-E Issued by Date Statistical Release H.15 (expressed as an Iannual rate). | | | | | ii) | Use of Detailed Str | udy Deposit | | |
| Advice Letter No: 4110-E Advice Letter No: 4110-E Advice Letter No: 4110-E Decision No. 110-E Image: State St | | | | | | costs incurred by Ď at the direction of D perform and admin amounts that excee Provider shall be re Days following the | Distribution Provider, the C Distribution Provider or CA ister the Interconnection S and the prudent costs incur of the prudent costs incur funded to Applicant within issuance of the final study | AlSÓ, or third pa ISO, as applicab Studies. Deposit red by Distributic n sixty (60) Caler | arties I Ile, to I Ion I Indar I |
| (1) Should an Interconnection Request be withdrawn by Applicant or be deemed withdrawn by Distribution Provider by written notice under Section F.6 on or before thirty (30) Calendar Days following the scoping meeting, Distribution Provider shall refund to Applicant any portion of Applicant's d_Detailed \$Study deposit that exceeds the costs Distribution Provider, CAISO, and third parties have incurred on Applicant's behalf, including interest from the date of receipt by Distribution Provider to the date of payment to Applicant. The applicable interest shall be one-twelfth of the Federal Reserve three- month Commercial Paper Rate – Non-Financial, from the Federal Reserve Statistical Release H.15 (expressed as an annual rate). (N) Advice Letter No: 4110-E Issued by Brian K. Cherry Date Filed DRAFT 2/19/2013 Vice President Brian K. Cherry Effective Resolution No. DRAFT 2/19/2013 | | | | | | shall be allocated e | | | |
| Advice Letter No: 4110-E Issued by Issued by Date Filed Image: Continued Advice Letter No: 12-09-018 Issued by Date Filed Image: Continued | I | | | | | The Detailed Study | deposits shall be refunda | able as follows: | |
| (N) Advice Letter No: 4110-E Decision No. 12-09-018 Brian K. Cherry Vice President Decision No. (N) | | | | | | or be deemed y notice under Se Days following shall refund to sStudy deposit CAISO, and thi including intere Provider to the interest shall be month Comme | withdrawn by Distribution ection F.6 on or before thi the scoping meeting, Dist Applicant any portion of A that exceeds the costs D ird parties have incurred or est from the date of receip date of payment to Applic e one-twelfth of the Feder rcial Paper Rate – Non-Fi | Provider by writte rty (30) Calendar ribution Provider pplicant's dDetai istribution Provid on Applicant's bel t by Distribution cant. The applica al Reserve three nancial, from the | en ed er, nalf, able - |
| (Continued) Advice Letter No: 4110-E Issued by Date Filed DRAFT 2/19/2013 Decision No. 12-09-018 Brian K. Cherry Effective | 1 | | | | | | ve Statistical Release H.1 | 5 (expressed as a | an l |
| Decision No. 12-09-018 Brian K. Cherry Effective Vice President Resolution No. | | | | | | | | | |
| Vice President Resolution No. | | | | | | | | | DRAFT 2/19/2013 |
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| | GENERA | ELECTRIC RULE NO | | IONS | Sheet 4 | 13 |
| E. INTER | CONNECTION REC | QUEST SUBMISSION | I PROCES | SS (Cont'd.) | | (N) I |
| 3. INT | ERCONNECTION F | REQUEST FEE AND | STUDY D | EPOSIT (Cor | ıt'd.) | 1 |
| a. | Detailed Study Dep | oosit (Cont'd.) | | | | Ì |
| | ii) Use of Detailed | d Study Deposit (Con | <u>ťd.)</u> | | | i |
| | Detailed St deemed wi under Sect the scoping Days follow System Imp Distribution between (i) greater of t parties hav original dD \$100,000, i Distribution The applica Reserve th Financial, f (expressed (3) Should an Applicant o by written r thirty (30) C Interconned | Interconnection Required Process be without thdrawn by Distribution that the process be without thdrawn by Distribution or the provider shall refund the results meeting the results meeting act Study or DGS P and Provider shall refund the costs Distribution are incurred on Applicant's dDetailed he costs Distribution are tailed he | Irawn by A on Provide ty 930) Ca lefore thirt ng for the d to Applic d s <u>S</u> tudy d Provider, (nt's behal it up to a n n the date of paymen one-twelfth al Paper F erve Statis | Applicant or be r by written no alendar Days y (30) Calenda Interconnection <u>sconnection S</u> ant the differe leposit and (ii) CAISO, and th f or one-half of naximum of of receipt by nt to Applicant n of the Feder Rate – Non- tical Release hdrawn by ribution Provid time more tha meeting for th <u>OGS Phase</u> | e otice after ar on <u>Study</u> , ince) the hird of the t. ral H.15 der an le all be | inued) |
| Advice Letter No: | 4110-E | loued hu | | Date Filed | | tinued) 2/19/2013 |
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| | E. INTERCONNECTION REQUEST SI | UBMISSION | N PROCE | SS (Cont'd.) |
| | 3. INTERCONNECTION REQUES | T FEE AND | STUDY D | DEPOSIT (Cont'd.) |
| | a. Detailed Study Deposit (Con | ťd.) | | |
| | ii) Use of Detailed Study D | eposit (Con | <u>ťd.)</u> | |
| | (4) Upon execution of a an Applicant and Dis shall refund to Applic sStudy deposit that e CAISO, and third pa including interest fro Provider to the date interest shall be one month Commercial F Federal Reserve Sta annual rate). | stribution Pro cant any pole exceeds the rties have ir m the date of payment -twelfth of the Paper Rate | ovider, Dis rtion of Ap costs Dis nourred or of receipt to Applica ne Federa – Non-Fin | stribution Provider oplicant's dDetailed stribution Provider, of Applicant's behalf, by Distribution ant. The applicable I Reserve three- ancial, from the |
| | iii) Impact of Withdrawal | | | |
| | Notwithstanding the fore deemed to have withdra obligated to pay to Distri dDetailed sStudy depos irrevocably have been c that Interconnection Rec Provider will reimburse t | iwn its Intere ibution Prov it that have ommitted to quest prior t | ider all co been pruc be incurr o withdray | n Request shall be ests in excess of the dently incurred or ed with respect to val. Distribution |

Advice Letter No: 4110-E Decision No. 12-09-018

Procedure § 1500.

Issued by Brian K. Cherry Vice President Regulatory Relations

incurred or irrevocably committed to be incurred for the interconnection studies shall be applied as directed by the Commission. Where an Applicant with remaining proceeds from a Detailed Study deposit cannot be located, such remaining proceeds shall escheat to the State pursuant to the Unclaimed Property Law commencing with the California Code of Civil

for all work performed on behalf of the withdrawn Interconnection Request at Distribution Provider's direction. Applicant must pay all monies due before it is allowed to obtain any Interconnection Study data or results. Any proceeds of the Detailed Study deposit not otherwise reimbursed to Applicant or applied to costs

> Date Filed Effective Resolution No.

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Sheet 44

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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

31912-Е 30224-Е

| | | | | | GENE | | | JLE NO. 21 INTERCON | | ONS | | Shee | t 45 |
|---|-----------------|----|---|---|---|--|---|--|---|--|---|------|--|
| | E. | IN | TER | COI | NNECTION R | EQUES ⁻ | | SSION PR | OCES | S (Cont | 'd.) | | (N) |
| | | 3. | INT | ER | CONNECTIO | N REQU | EST FEE | AND STU | JDY DE | POSIT | (Cont'c | d.) | I I |
| | | | a. | Det | tailed Study D | eposit (0 | Cont'd.) | | | | | | |
| | | | | iv) | Special Circ | umstanc | es | | | | | | ļ |
| | | | | | Applicant ma reduced cost such as Inter Generating F warrant. | ts for rev rconnect | iewing at ion Reque | pical Inte | rconne itted fo | ction Ře r multipl | equests e | , | |
| | | 4. | INT | ER | CONNECTIO | N COST | RESPON | ISIBILITY | | | | | 1 |
| I | | | res rec inte Sy Sy Sy Sy Tra Me | spon quire erco sten opor ansn eterir | blicant, or a Pr sible for all fe d to complete nnects to Dist is responsible t the safe and nission System g under Califit t from any cost des. | es and/o the inter ribution l le for all reliable m. Gene ornia PU | r costs, ir rconnection Provider's costs ass operation prating Factor IC sSection | cluding Con process Distribution ociated with of the Discillates eligons 2827, | ommiss s. A Pr on or T ith Para stributic ible for 2827.8 | sioning oducer ransmis allel Ope on and Net En or 2822 | Testing that ssion eration t ergy | to | |
| | | | a. | Co | sts of Intercon | nection | and Paral | lel Operat | tion | | | | |
| | | | | the Fac Net side Pro on I mod | e Interconnect need for Inter illities, Upgrade work Upgrade of the PCC r ducer or Distr Distribution Pr difications sha tribution Provi | connecti les, Deliv es. Intere may be c ibution F rovider's all be own | on Facilit very Netw connectio wned, op Provider. side of th | ies, Specia ork Upgra n Facilities erated and Interconne e PCC an | al Facil ides, ar s install d maint ection F d Distri | ities or And/or Re led on F tained b Facilities bution S | Added eliability Produce y installe System | er's | |
| | | | | | | | | | | | | | ontinued) |
| | Advice Decis | | | er No: 4110-E b. 12-09-018 | | | lssued by Brian K. Cherry | | | Date Filed Effective | | DRAF | T 2/19/2013 |
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|---------------------------|----------------------|---|---|---|--|---|---|
| | | GENER | ELECTRIC RULE NO | | TIONS | Sheet | 46 |
| E. | INTER | CONNECTION RE | EQUEST SUBMISSION | PROCES | SS (Cont'd.) | | (N) |
| | 4. INT | ERCONNECTION | I COST RESPONSIBIL | TY (Cont | 'd.) | | |
| | b. | Methodology and | Timing of Cost Identific | ation | | | |
| | | Interconnection re System and/or Tra earlier-queued int interdependence Earlier-queued int | ed by a Producer are ba equirements, Producer's ansmission System follo erconnection requests, with any earlier-queued erconnection requests i by applicable tariff. | impact o wing allo and Prod interconr | n the Distribut cation of capa ucer's electric nection reques | ion city to al | |
| | C. | Timing of Cost Ide | entification | | | | |
| | | Distribution Group study process, or Interconnection A identification of cc accommodating in interconnection re and/or substation, queued interconne interdependent wi queued interconne | Fast Track, Independer o Study Process, costs r after the study process greement is executed. osts is to facilitate Applic noomplete interconnecti- quests to the same Line incomplete interconnec- ection requests with whi th respect to short circu- ection requests for Inter System, and delay or ca m Upgrades. | nay be id is comple The purp cant's Inte on studies Section stud ich Applic it duty, w connectic | entified during ete and a Gene ose of later rrconnection w s for earlier-qu , distribution ci ies for earlier- ant is electrica ithdrawal of ea on to the Distril | erator hile leued ircuit, ally arlier- | |
| | d. | Producer Costs D | ouring Parallel Operation | ı | | | |
| | | Facilities, for the of Agreement, that no operating standard including any upd responsibility for of characteristics at | required to provide and duration of the Generato neet Distribution Provide ds for Parallel Operation ates to those standards costs associated with ch the Point of Interconnec der's upgrades to the Tr to time. | or Intercor er's techn n as set o . This inc anges to ction nece | nnection ical design an ut in Section H cludes Produce the operating essitated by | d H, er | |
| | | | | | | (Con | tinued) |
| Advice Decisio 49C0 | Letter No: on No. | 4110-E 12-09-018 | Issued by Brian K. Cherry Vice President Regulatory Relations | | Date Filed Effective Resolution No. | DRAFT | 2/19/2013 |

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| E. | | | | | | | | SSION NSIBIL | | | - | ťd.) | | (N) | | | |
| | e | . Cos | st Alloo | cation | | | | | | | | | | | | | |
| | - | Exc by a Inde | ept wh an Inte epende erconne | nere ex erconne ent Stu ection | ection udy Pi Regu | Requerocess est. or | est un are th in the | ommis der the le resp | Fast onsibi | Track lity of Distrib | pPro the tri ution | cess o ggerin Group | the g | | | - Formatted: Not Highlight | |
| | | Stu | dv Pro | cess. | the re | sponsi | bility of | of the t | riaaeri | na Inte | ercon | nectior | ו | | | | 5 |
| | | ide | ntified | throug | h a D | istribut | ion G | tion Up roup St | udy sl | nall be | assi | gned to | aues all | | -< ; [| Formatted: Not Highlight Formatted: Not Highlight | \dashv |
| | | Inte | erconn | ection | Requ | ests in | a Dis | tributio s contr | n Stuc | ly Gro | up pr | o rata | based | | | Formatted: Not Highlight | \exists |
| | f. | Tat aris NE and for and | ble E.2 se in th M App I fees NEM A NEM A I non-f | ie cour licants that ma Applica NEM G on or T | narize rse of ay ari ants u Senera ransr | the int ble E.3 se in th nder va ators o nission | ercon sumn ne cou arious n the Syste | | the int nces o PCC in | ess for respor ercon of inter itercor | NEN Nsibilit Nectic rconn Nnecti | 1 and r y for c on proc ecting | on- osts ess NEM | | | | |
| | | | Table | e E.2 S | umma | ary of P | roduce | er Cost | Respo | nsibility | L | | | | | | |
| | nerating acility | | nnection est Fee | Supple Review | | Detailed Study (| | Intercon Facilitie | | Distrit Upgr | | Transmi Network | | 1 | ***** | Formatted Table | |
| | Facility Request Fee Review Fee Study Cost Facilities Cost Upgrad Type Type Study Facilities Cost Cost Study Process, Distribution Cost Group Study Process, or Transmission Cluster Study Process, Image: Study | | | | | | | | | | | | <u>E Cost</u> Tariff 12.3.2 ndix Y) | | | Formatted: Left | |
| | YES NO YES NO YES NO YES NO YES NO YES NO YES NO | | | | | | | | | | | | 1 | | | | |
| Nor | Non-NEM X </th <th>İ</th> <th></th> <th></th> <th></th> | | | | | | | | | | | | İ | | | | |
| N | NEM | | х | | х | | Х | х | | | х | | х | | | | |
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| Advice Decisio 50C0 | Letter I on No. | | 10-E 2-09-018 | | | V | Issued ian K. C ice Pres ilatory F | Cherry | | E | ate File ffective esolutio | | | T 2/19/2013 | - | | |

| | cific Gas an n Francisco, 39 | | | any | | Cancelli | | evised evised | | U.C. She U.C. She | | 31915-E 30227-E | |
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| | | GI | ENERA | | | RULE TY INT | | 1 NNECT | IONS | | She | eet 48 | |
| E. INTI | ERCONN | ECTIO | N REG | QUEST | r sub | MISSI | on Pf | ROCES | S (Coi | nťd.) | | (N) I | |
| | NTERCO | | | | | PONSIE | BILITY | (Cont) | d.) | | | | |
| | .3 Summar | - | | | | sibility f | or Mu | tiple Ta | riff Inte | rconnec | tions | | Formatted Table |
| Existing Generating Facility | <u>New</u> Generating Facility | | nnection est Fee | | emental w Fee | <u>Deta</u> Study | | Intercon Facilitie | | <u>Distrib</u> Upgra Co | ades | | |
| <u>r domty</u> | <u>r acinty</u> | YES | NO | YES | NO | YES | NO | YES | NO | YES | NO | i | |
| NEM NEM | Non-NEM NEM | Х | x | Х | х | Х | х | X X | | Xª | х | | |
| Non-NEM | | | X ^b | | X ^b | | X ^b | X | | | X ^{a,b} | i i | |
| | NEM | Х | | Х | | Х | | Х | | Xª | | - 1 | ← Formatted: Space After: 0 pt |
| eligible b) Chang | ator(s) modified e Generators fo e of operation EM Interconne | or the cost | ts that can | not be cle | early assi ator at an | igned to ei | ther type | of tariff. | a simultar | | | (N) | Formatted: Normal, Indent: Left: 0.85", Space After: 12 pt, Line spacing: Exactly 12 pt, No widow/orphan control, Don't adjust space between Latin and Asian text, Don't adjust space between Asian text and numbers |
| Advice Letter Decision No. 51C0 | No: 4110- 12-09 | | | F | Brian I Vice F | ued by K. Cherr President ry Relatio | | | Date Fi Effectiv Resolut | е | | (Continued) | |



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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Revised Original

31916-E 30228-E

| | GENER | ELECTRIC RULE NO. 21 ATING FACILITY INTERCONNE | CTIONS | Sheet 49 | | | |
|--------------------------------------|---|--|--|------------------------|--|--|--|
| E. INTERCO | ONNECTION REG | QUEST SUBMISSION PROCE | ESS (Cont'd.) | (N) | | | |
| | CONNECTION F | REQUEST VALIDATION AND | ASSIGNMENT O | F | | | |
| or Tra Interc consid Interc | insmission Syster onnection Reque dered complete a onnection Reque | connection to Distribution Prov m must submit a complete and st. An Interconnection Reque nd valid when all items require st have been received by Distr bistribution Provider. | l valid st will be ed for an | | | | |
| a. Ac | a. Acknowledgement of Interconnection Request | | | | | | |
| Inf the | erconnection Cus | er shall provide a first written no stomer within ten (10) Busines Request, which notice shall si quest is deemed complete and | s Days of receipt of the state whether the | of I I | | | |
| b. De | eficiencies in Inter | rconnection Request | | | | | |
| i) | First Notificatio | n of Deficiency | | | | | |
| | Distribution Pro reasons for suc | ection Request fails to meet th ovider shall state in its first writ ch failure and that the Intercon itute a valid request. | tten notification the | e | | | |
| | requested infor request within | provide Distribution Provider t rmation needed to constitute a ten (10) Business Days from t tion that the Interconnection R | complete and val | | | | |
| ii) | Second Notific | ation of Deficiency | | | | | |
| | to Applicant wi additional requ | ovider shall provide a second within ten (10) Business Days of lested information, stating when n Request is valid or the reaso | f receipt of the ther the | (N) | | | |
| | | | | (Continued) | | | |
| Advice Letter No: | 4110-E 12-09-018 | Issued by | Date Filed | DRAFT 2/19/201 | | | |
| Decision No. 52C0 | 12-09-010 | Brian K. Cherry Vice President Regulatory Relations | Effective Resolution No. | | | | |

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| | | GENERAT | ELECTRIC RULE NO ING FACILITY INTER | | IONS | Sheet 50 |
| E. IN | FERCO | ONNECTION REQ | UEST SUBMISSION | I PROCES | SS (Cont'd.) | (N) |
| 5. | | RCONNECTION R JE POSITION (Coi | EQUEST VALIDATI nt'd.) | ON AND A | ASSIGNMENT | OF I |
| | b. De | eficiencies in Interc | onnection Request (| Cont'd.) | | |
| | ii) | Second Notifica | tion of Deficiency | | | |
| | | requested inform request within fi | provide Distribution F mation needed to co ve (5) Business Day notification that the I | nstitute a or rs from the | complete and v date of the | I |
| | iii |) Extension Requ | est | | | |
| | | Upon request, twenty (20) Bus Interconnectior | Applicant can receiv siness Days to resol Request. | e one exte ve deficier | ension of up to ncies in the | |
| | iv |) Failure to Resol | ve Deficiencies | | | |
| | | Request within t Provider will dee | s not resolve deficier he time frames set c em the Interconnection ubmit a new Intercor | out above, on Reques | Distribution at withdrawn. | on I I I |
| | | Section may see Section K by so Business Days of | nvalid Interconnection by relief under the dist notifying Distribution of receipt of the first nection Request is i | spute reso Provider or second | lution provisior within two (2) written notifica | tion I |
| | | | | | | (N) |
| | | | | | | (Continued) |
| Advice Lette | | 4110-E 12-09-018 | Issued by Brian K. Cherry | | Date Filed | DRAFT 2/19/2013 |
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| | | | | GE | I ENERATIN |
| | E. | IN | TEF | CONNECTION | |
| | | 5. | | TERCONNECT | |
| | | | C. | Assignment of | Queue I |
| I | | | | Distribution Pr Energy Meteri Interconnectio Distribution Pr were deficience will be based of Interconnectio Provider not m <u>E.5.b.iE.5.b.i</u>) Applicant rega position shall b Provider was of however, that any additional following such that Distribution | ng Applic n Reques ovider re sies in the on the da n Reques or secon roding the oe set on obligated Applican informati written r |

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| | | ECTRIC RULE NO FACILITY INTER | | IONS | Sheet | 51 | |
| E. INTER | CONNECTION REQUES | T SUBMISSION | PROCES | S (Cont'd.) | | (N) | |
| QU | ERCONNECTION REQUE EUE POSITION (Cont'd.) Assignment of Queue Po | | N AND A | SSIGNMENT | OF | | |
| Distribution Provider shall assign a queue position to all non-Net Energy Metering Applicants. If there were no deficiencies in the Interconnection Request, the queue position will be based on the date Distribution Provider received the Interconnection Request. If there were deficiencies in the Interconnection Request, the queue position will be based on the date Distribution Provider determines an Interconnection Request to be complete and valid. Should Distribution Provider not meet any deadline for providing the first (Section <u>E.5.b.iE.5.b.i</u>) or second written notification (Section E.5.b.ii) to Applicant regarding the Interconnection Request, Applicant's queue position shall be set on the final day of the period in which Distribution Provider was obligated to provide such written notification, provided, however, that Applicant meets deadlines as set out above to submit any additional information required for a valid Interconnection Request following such written notification under Section E.5.b.ii, and that Distribution Provider determines that the Interconnection Request is valid. | | | | | | | |
| | Distribution Provider shal Energy Metering Intercor a Point of Interconnectior System. For Interconnec Distribution Group Study Interconnection Requests established on the last da that Distribution Study Gr studied under the Transn position will be the applic | nection Request on Distribution I tion Requests the Process, the effect in a Distribution ay of the Distribut oup. For Interco nission Cluster Si | s governe Provider's at are stud ctive que Study Gr ion Group nnection I udy Proce | d by this Rule Distribution died under the ue position for oup will be o Study window Requests that ess, the queue | <u>all</u> v for are | (N) | |
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| | | C | | CTRIC RULE NO | | IONS | Sheet 52 |
| E. | 5. INTE OF C d. P | ONNEC RCONN QUEUE I ublicatic Distribu website Reques on Distr assigne Provide intercor System followin governe (i1) Inter (i1) (ii2) (ii3) | TION REQUE IECTION REC POSITION (Co on of the Intercon- tion Provider s the interconn- ts governed b ibution Provide d a queue pose r from publishin the connection reque g information f ed by this Rule rconnection Reconnection Reconnection Reconnection The assigned the queue pose the date the In Distribution Pl the date the In to be complet the review pro- | ST SUBMISSIC QUEST VALIDATION connection Queue shall publish and ection queue for y this Rule with er's Distribution sition. Nothing h ing this queue co- sist to Distribution of each Intercon- equest and Que number, if any; sition; nterconnection F rovider; nterconnection F e and valid; pocess to which A | DN PROC FION ANE a Point of System there prohi- ombined von Provide on queue nnection F rgy Divisi- ue Positic Request works and the second Request works and the second Applicant of the second State of the s | ESS (Cont'd.) D ASSIGNMENT onnection Interconnection hat have been bits Distribution with other er's Distribution may include the Request on approval: on Data vas received by vas determined | n |
| | | (vi<u>6</u>) | (Fast Track, In Cluster Study Process, or <u>M</u> the original re the currently r) the agreed | ndependent Stu <u>ProcessDistribu</u> <u>/DT Cluster Stur</u> quested In-Server requested In-Server -upon Commercer ercial Operation | dy Proces ution Grou dy Proces vice Date; rvice Date cial Opera | ss, Transmission ip Study <u>s</u>); e; | A I I I I I (N) |
| Advice Le Decision I 55C0 | | 110-E 2-09-018 | F | Issued by Brian K. Cherry Vice President Regulatory Relations | | Date Filed Effective Resolution No. | DRAFT 2/19/2013 |

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Revised Cal. P.U.C. Sheet No. Revised Cal. P.U.C. Sheet No.

* No. 31920-E* * No. 30232-E

| | ELECTRIC RULE NO. 21 Sheet 53 GENERATING FACILITY INTERCONNECTIONS | |
|------|---|--|
| E. | E. INTERCONNECTION REQUEST SUBMISSION PROCESS (Cont'd.) (N) | |
| | 5. INTERCONNECTION REQUEST VALIDATION AND ASSIGNMENT OF QUEUE POSITION (Cont'd.) | |
| | d. Publication of the Interconnection Queue (Cont'd.) | |
| | ii) Applicant Generating Facility/Storage System and Point of Interconnection Data | |
| | $(\underline{i1} \times)$ the maximum summer and winter MW electrical output; | |
| | $(\times \underline{2})$ the type of generating or storage facility to be constructed; | |
| | (xi <u>3</u>) the fuel source; | |
| | (xii4) the proposed Point of Interconnection location by county; | |
| | | Formatted: Tab stops: 1.62", Left + Not at26" |
| F. | F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS | |
| | 1. OVERVIEW OF THE INTERCONNECTION REVIEW PROCESS | |
| | a. Valid Interconnection Request | |
| | After an Interconnection Request is deemed complete and valid, I Distribution Provider will perform Fast Track evaluation unless an I Applicant applies for Detailed Study or is not eligible for Fast Track I evaluation. The eligibility requirements for Fast Track evaluation are I set forth in Section E.2.b. See Section D.13 for special provisions I related to the timeframe and costs applicable to NEM Applicants. (N) | |
| | dvice Letter No: 4110-E Issued by Date Filed DRAFT 2/19/2013 ecision No. 12-09-018 Brian K. Cherry Effective | |
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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Revised Revised

31921-E* 30233-E

| | | | GEN | ELECTRIC RULE NO. 21 IERATING FACILITY INTERCONNE | CTIONS | Sheet 54 |
|--|--------|-------------|--|---|--|-----------------|
| | F. | REVIE | EW PROCESS I | FOR INTERCONNECTION REQU | IESTS (Cont'd.) | (N) |
| | | | /ERVIEW OF T ont'd.) | HE INTERCONNECTION REVIEW | W PROCESS | |
| | | b. | Fast Track Rev | view | | |
| | | | those Generati Regardless of designed to me | Iluation allows for rapid review of t ing Facilities that do not require Do study process, all Generating Fac eet the applicable requirements of erating Facility Design and Operati | etailed Study. ilities shall be Section H which | 1 |
| | | | Supplemental determined ba M in Section G | iew consists of an Initial Review a Review. The need for Supplemen sed on the results of Initial Review a.1. Applicants that successfully p ough M will be allowed to interconr Review. | ntal Review will b V Screens A thro ass Initial Review | e l ugh l |
| | | | Applicant and Review fee or Review shall c Section G.2. | al Review is required, Distribution Applicant must pay a nonrefundab withdraw its Interconnection Requ onsist of the application of Screen Applicants that pass Screens N thr rconnect without additional review | ole Supplementa lestSupplemen is N through P in rough P will be | l´ l ital l |
| | | | cannot be inter System by me | al Review reveals that a proposed rconnected to Distribution Provide ans of Fast Track evaluation, Distr t that Detailed Study will be requir | r's Distribution ribution Provider | Í |
| | | | and/or study a interconnected | Fast Track evaluation means onl re required before the Generating with Distribution Provider's Distribu- that the Generating Facility cann | Facility can be bution System I | l It I |
| | | | | | | |
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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Revised Revised

31922-E* 30234-E

| | | (| | CILITY INTERCON | | SI | neet 55 |
|----------------------------------|---|---|---|--|--|---|-----------------|
| F. REVIE | EW P | ROCES | SS FOR INTERC | CONNECTION RE | QUESTS (C | ont'd.) | (N) |
| | /ERV onťď | | F THE INTERCO | DNNECTION REV | IEW PROCE | SS | |
| С. | Det | ailed S | tudies | | | | |
| | app eva sha Prod Clus dep Inte inte inte inte and Inde | ly direc luation, Il consist cess; (il ster Stu end on rconnee rdepend acts on ceed to quests t rconnee thereb ependel | tly for Detailed S or do not pass F st of one of three) Distribution Gr dy Process. The the results of Sc ction Requests th dent with earlier- the Transmissio that are not elect ction requests wi y pass Screen G | red for Interconne study, are not eligi fast Track evaluat study processes oup Study Processe specific study pro- recens Q and R in hat are found to b queued interconn n System, and the n Cluster Study P rically interdepend th impacts on the t, will be studied us s or the Distribution <u>Screen R</u> . | ble for Fast T tion Detailed : (i) Independ s; or (iii) Trar ocess that is Section G.3. e electrically ection reques ereby fail scre rocess Inter Jent with earl Transmission nder either th | rack d Study ent Study ismission applied wi sts with een Q, will connectior ier-queued n System, ne | |
| d. | Cor | mplianc | e with Timelines | | | | |
| | time Pro Pro disp info | elines so vider ar vider sh outes ov rmation | et out in this Rule nd Applicant purs nall designate an ver missed timeli | se Reasonable E e, or mutually moo suant to Section D ombudsman with nes. The identity, nan shall be availa | dified by Distr 0.15. Each D authority to role, and co | ibution istribution resolve ntact | |
| | of D | Distribut | | s dissatisfied with neet the timelines edures: | | | |
| | (i) | Contac | t the ombudsma | an designated by I | Distribution P | rovider; | |
| | (ii) | | | der ombudsman i Business Days, A | | | |
| | | | ontact the Consu ommission. | mer Affairs Branc | h (CAB) at th | e | i (N) |
| | | | | | | | (Continued) |
| Advice Letter No Decision No. | | 10-E 2-09-018 | | Issued by Brian K. Cherry | Date File Effective | • | 0RAFT 2/19/2013 |
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| | | | | GENERA | ELECTRI TING FACIL | C RULE NO | | IONS | Sheet | 56 |
| F. | R | EVIE | EW F | ROCESS FOR | INTERCON | INECTION | REQUES | STS (Cont'd.) | | (Ņ) |
| | 1. | O١ | /ER | IEW OF THE IN | ITERCONN | | REVIEW | PROCESS (C | onťd.) | I I |
| | | d. | Со | mpliance with Ti | melines (Co | onťd.) | | | | ļ |
| | | | b) | Upon mutual ar request for mer Coordinator in Division. The r adr program@ subject line. Th timeline dispute Distribution Pro available, the n Applicant and I of receiving the | diation to the the Commis- equest may cpuc.ca.go ne request e. A copy co ovider ombu- nediator asso Distribution | le Alternati ssion's Adr be made \underline{v} , and sha shall conta of the reque udsman. F signed sha | ve Disput ministrativ by electro Il state "R in the rele est shall b provided th Il schedul | e Resolution (re Law (ALJ) onic mail to ule 21" in the evant facts of e sent to the nat resources e a mediation | ADR) the are with | |
| | | | Co | any time, Applica mmission pursua Commission's R | int to Califo | rnia PUC 🖲 | Section 1 | 702 and Artic | le 4 of | |
| | 2. | FA | ST - | FRACK INTERC | ONNECTIC | N REVIEW | V PROCE | SS | | ļ |
| | | a. | Init | ial Review | | | | | | ļ |
| | | | Dis Sec Fac or (ext | on receipt of a co tribution Provide ction G.1. The In cility qualifies for ii) the Generating raordinary circun plicant in writing siness Days follo | r shall perfo itial Reviev Fast Track g Facility re nstances, D of the resul | orm Initial F v determine Interconne equires a S vistribution ts of Initial | Review us es if (i) the ection thro upplemen Provider s Review w | ing the proces e Generating bugh Initial Re ital Review. <u>/</u> shall notify vithin fifteen (1 | view, Absent 5) | |
| | | | | | | | | | (Co | (N) |
| | ce Let | | | 110-E | | sued by | | Date Filed | | T 2/19/2013 |
| Deci 59C | sion N D | 10. | 1 | 2-09-018 | Vice | <i>K. Cherry</i> President ory Relations | | Effective Resolution No. | | |



Cancelling

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Revised Original

31924-E 30236-E

| 1 | | | | | ı | | | |
|---|----------------------|---|---|---|--|--|--|--|
| | | GEN | ELECTRIC RULE NO. 21 ERATING FACILITY INTERCONNE | ECTIONS | Sheet 57 | | | |
| | F. REVIE | W PROCESS F | FOR INTERCONNECTION REQ | UESTS (Cont'd.) | (Ņ) | | | |
| | 2. FA | ST TRACK INT | ERCONNECTION REVIEW PRO | OCESS <u>(Cont'd.)</u> | | | | |
| | a. | Initial Review | Cont'd.) | | | | | |
| | | require Interco Distribution Pro Interconnectior providing notic Requests that Facilities or Dis of providing no shall provide A | ction Requests that pass Initial F nnection Facilities or Distribution ovider shall provide Applicant with Agreement within fifteen (15) B e of Initial Review resultsFor I pass Initial Review but do requin stribution Upgrades, within fifteen tice of Initial Review results, Dis- pplicant with a non-binding cost of Facilities or Distribution Upgrade | Upgrades, th a Generator Business Days of nterconnection e Interconnection n (15) Business Da tribution Provider estimate of the | I I I I I I I I I | | | |
| | | Section F.2.e f | nection Requests that pass Initia or cost responsibility and time fra Interconnection Agreement. | | ig l I | | | |
| - | | Provider shall p supporting the the option to ei proceed direct Applicants cov Supplemental meeting. Appli Business Days an Initial Revie Review, or (iii) may request on to respond. If ten (10) Busines | ction Requests that fail Initial Re provide the technical reason, dat Initial Review results in writing a ther attend an Initial Review results y to Supplemental ReviewNet ered under Section D.13.1 shall Review without an Initial Review cant shall notify Distribution Prov following such notification whet w results meeting, (ii) proceed to withdraw the Interconnection Re- ne extension of no more than ter Applicant fails to notify Distribution ess Days of such notification, or he was requested, the Interconnec- hdrawn. | ta and analysis and provide Applica ults meeting or Energy Metering proceed directly to results vider within ten (10 her to (i) proceed to o Supplemental equest. Applicant n (10) Business Da on Provider within at the end of the | ys | | | |
| No changes may be made to the planned Point of Interconnection or Generating Facility size included in the Interconnection Request during the Initial Review Process, unless such changes are agreed to by Distribution Provider. Where agreement has not been reached, Applicants choosing to change the Point of Interconnection or Generating Facility size must reapply and submit a new Interconnection Request. | | | | | | | | |
| | Advice Letter No: | (Continued) DRAFT 2/19/2013 | | | | | | |
| | Decision No. 60C0 | 12-09-018 | Brian K. Cherry Vice President Regulatory Relations | Effective Resolution No. | | | | |

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|---|---------------------------|----------------------|---|---|--|---|---------------------------------|---|---|
| | | | GENERATI | ELECTRIC RULE NO | | IONS | Sheet 58 | | |
| | F. | REVIE | W PROCESS FOR IN | ITERCONNECTION | REQUE | STS (Cont'd.) | (| N) | |
| | | 2. FAS | ST TRACK INTERCO | NNECTION REVIE | N PROCE | SS <u>(Cont'd.)</u> | | | Formatted: Indent: Left: 0.3" |
| 1 | | a. | Initial Review (Cont'o | 1.) | | | | | |
| | | | Applicants that elect a nonrefundable Sup with their response. Interconnection Requ <u>Sections 2827, 282</u> 03-057 and for solar- power to Distribution 027. | plemental Review fe The Supplemental F lests requesting Inte 7.8, or 2827.10, per powered Generating | e set fortl Review fee erconnecti Commissi Facilities | n in Section E.2 shall be waive on pursuant to l on Decision D. that do not sel | l.c d for PUC 02- I | | (Formatted: Indent: Left: 0.88" |
| | | b. | Optional Initial Revie | w Results Meeting | | | | | |
| | | | Within five (5) Busine Review results meeti and offer to convene the Initial Review scr what modifications, if connected safely and | ng, Distribution Prov a meeting at a mutu een analysis and rel any, may permit the | rider shall Ially accep ated resul e Generati | contact Applica otable time to re ts to determine ng Facility to be | eview | | |
| | | | If modifications that of identified, and Applic modifications, Distrib Generator Interconne Days of the Initial Re Facilities or Distributi Facilities or Distributi shall provide Applica Interconnection Facil Business Days of the Interconnection Requ F.2.e for cost respon Generator Interconne | ant and Distribution ution Provider shall action Agreement wi view results meeting on Upgrades are red on Upgrades are red nt with a non-binding ities or Distribution U Initial Review resul lests that pass Initia sibility and time fram | Provider a provide A thin fifteer j if no Inte quired. If quired, Dis cost esti Jpgrades ts meeting I Review, | agree to such oplicant with a o (15) Business rconnection Interconnection stribution Provid mate of any within fifteen (19 g. For all refer to Section | ler 5) | | |
| | Advice Decisic 61C0 | Letter No: on No. | 4110-E 12-09-018 | Issued by Brian K. Cherry Vice President Regulatory Relations | | Date Filed Effective Resolution No | (Continu DRAFT 2/1 | , | |

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| | | | GENE | ELECTR RATING FAC | IC RULE NO | | IONS | Sheet 5 | 9 |
| | F. | REVIE | EW PROCESS FO | OR INTERCO | NNECTION | I REQUES | STS (Cont'd.) | | (N) |
| | | 2. FA | ST TRACK INTE | RCONNECT | ON REVIE | W PROCE | SS (Cont'd.) | | i |
| 1 | | b. | Optional Initial F | Review Resul | ts Meeting <u>(</u> | Cont'd.) | | | |
| 1 | | | If Applicant and modifications that shall notify Distri- Initial Review re Supplemental R Applicant may ro Days to respond five (5) Business end of the exten Request shall be | at enable App ibution Provic sults meeting eview or with equest one ex I. If Applicant s Days of the sion, if one w | licant to pas ler within fiv whether it w draw its Inte tension of r t fails to noti Initial Revie as requeste | ss Initial R e (5) Busir vould like crconnection o more th fy Distribu w results r | eview, Applic ness Days of to proceed wi on Request. an five (5) Bu tion Provider meeting, or at | ant the th siness within | |
| | | C. | Supplemental F | Review | | | | | |
| | | | If Applicant requ nonrefundable S Provider shall of Business Days, authorization an if (i) the Generati (ii) the Generati | Supplemental omplete Supp absent extrac d receipt of th ting Facility qu | Review fee, lemental Re ordinary circ ne fee. Suppualifies for F | , if required eview withi umstances plemental ast Track | d, Distribution n twenty (20) s, following Review deter | mines | |
| 1 | | | For Interconnect not require Inter Distribution Prov Interconnection providing notice Requests that p Interconnection Business Days of Distribution Prov estimate of any For all Interconr to Section F.2.e the Generator In | connection Fa vider shall pro Agreement w of Suppleme ass Suppleme Facilities or E of providing n vider shall pro Interconnection for cost response | acilities or D vide Applica ithin fifteen ntal Review ental Review Distribution L otice of Sup vide Applica on Facilities ests that pas | istribution ant with a ((15) Busin results. I v and do rc Jpgrades, plemental ant with a i or Distribu s Supplen d time fran | Upgrades, Generator ess Days of For Interconne equire within fifteen Review resul non-binding c ution Upgrade nental Review | ection (15) ts, ost s. v, refer | - - - - - - (N) |
| | | | | | | | | (Conti | inued) |
| Advice Letter No: 4110-E Issued by Decision No. 12-09-018 Brian K. Cherry | | | | | | Date Filed Effective | DRAFT | 2/19/2013 | |
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| | | | GENE | ELECTI ERATING FAC | RIC RULE NO | | IONS | Shee | ≥t 60 |
| F. | RI | EVIE | W PROCESS F | | ONNECTION | REQUES | STS (Cont'd.) | | (N) |
| | 2. | FA | ST TRACK INTE | RCONNECT | ION REVIE | N PROCE | SS (Cont'd.) | | ļ |
| | | C. | Supplemental F | Review (Cont | 'd.) | | | | |
| | | | For Interconnect Distribution Pro- analysis suppor including, if Dist Detailed Study for option to attend directly to Detail within fifteen (19 to (i) proceed to to Detailed Study Applicant may r Business Days Provider within the end of the e Request shall b | vider shall pro- ting the Supp rribution Prov- track Applican a Supplemen led Study. A 5) Business I o a Supplemen ly, or (iii) with equest one e to respond. I fifteen (15) B xtension, if o | ovide the tec plemental Re ider can mal nt qualifies fontal Review pplicant shal Days followin ntal Review draw the Int xtension of r f Applicant f usiness Day ne was requ | hnical rea view result the detector, and pro- results me I notify Dis g such no- results me erconnection o more that is to notify s of such r | son, data and ts in writing, ermination, wh wide Applican eting or procestribution Prov tification whet eting, (ii) proc on Request. an fifteen (15 fy Distribution notification, or | hich ht the eed vider ther ceed | |
| | | | Applicants that applicable study Detailed Study 1 interconnecting Distribution Pro Generating Fac <u>sS</u> ections 2827 associated with | / deposit set fees for solar to the Distrib vider will be v ilities eligible , 2827.8, or 2 | forth in Secti Generating ution Systen vaived up to for Net Ener 827.10 are 6 | on E.3.a v Facilities un that do n the amount gy Meterir | vith their resp up to 1 MW ot sell power nt of \$5,000. ng under PUC | onse. to | |
| | | d. | Optional Supple | emental Revi | ew Results I | leeting | | | |
| | | | Within five (5) E Supplemental F contact Applica acceptable time and related resi permit the Gene without Detailed | Review result nt and offer to to review the ults to determ erating Facilit | s meeting, D o convene a e Supplemen nine what mo | istribution meeting a ntal Reviev odifications | Provider shall t a mutually w screen anal s, if any, may | lysis | (N) |
| | ce Lett | | - 4110-E 12-09-018 | | Issued by | | Date Filed Effective | | ontinued) FT 2/19/2013 |
| 63C0 | | | | Vi | ce President latory Relations | | Resolution No. | | |

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| | | | | | ECTRIC RULE NO FACILITY INTER | | IONS | Sheet 6 | 1 |
| | F. | R | EVIE | W PROCESS FOR INTE | RCONNECTION | REQUES | STS (Cont'd.) | | (N) |
| | | 2. | FA | ST TRACK INTERCONN | ECTION REVIE | N PROCE | SS (Cont'd.) | | |
| 1 | | | d. | Optional Supplemental F | Review Results N | /leeting (C | cont'd.) | | |
| 1 | | | | If modifications that obvia and Applicant and Distrib Distribution Provider sha Interconnection Agreema Supplemental Review re or Distribution Upgrades Distribution Upgrades an Applicant with a non-bind Facilities or Distribution U the Supplemental Review Requests that pass Supp cost responsibility and tin Interconnection Agreema | bution Provider a Il provide Applica ent within fifteen sults meeting if r are required. If e required, Distri ding cost estimat Jpgrades within v results meeting blemental Review ne frames for co | gree to su ant with a (15) Busir to Intercon Interconne bution Pro e of any lu fifteen (15 g. For all v, refer to | ich modification Generator hess Days of th nection Facilities by der shall pro- hterconnection) Business Day Interconnection Section F.2.e f | ns, e ies s or vide /s of | |
| 1 | | | | If Applicant and Distribut to modifications, Applicat twenty (20) Business Da Meeting whether it would withdraw its Interconnect extension of no more that Applicant fails to notify D Business Days of the Su end of the extension, if of Request shall be deeme proceed to Detailed Stud set forth in Section E.3.a | nt shall notify Dis ys of the Supple d like to proceed tion Request. A an twenty (20) Bu pistribution Provid upplemental Revi one was requested d withdrawn. Ap dy shall provide t | stribution l mental Re with Deta pplicant m usiness Da der within iew results ed, the Into pplicants the | Provider within eview Results iled Study or lay request one ays to respond. twenty (20) s meeting, or al erconnection hat elect to | e If t the | |
| 1 | e. Execution of the Generator Interconnection Agreement Following the receipt of a cost estimate for any Distribution Upgrades and/or Interconnection Facilities that have been identified (Applicants that did not require a cost estimate may proceed directly to the paragraph below), Applicant shall notify Distribution Provider within fifteen (15) Business Days whether Applicant: (i) requests a Generator Interconnection Agreement, or (ii) withdraws its Interconnection Request Applicant may request one extension of no more than fifteen (15) Business Days to respond. If Applicant fails to notify Distribution Provider within fifteen (15) Business Days, or at the end of the extension, if one was requested, the Interconnection Request shall be deemed withdrawn. | | | | | | | | |
| | Advice Decisi | | | : 4110-E 12-09-018 | lssued by Brian K. Cherry | | Date Filed Effective | DRAFT 2 | 2/19/2013 |
| | 64C0 | | | | Vice President Regulatory Relations | | Resolution No. | | |



Pacific Gas and Electric Company San Francisco, California U 39

Revised Revised Cancelling

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

31929-E 30241-E

| | | LECTRIC RULE NO. 21 G FACILITY INTERCON | NECTIONS | Sheet 62 |
|---|--|--|---|---|
| F. REVIE | EW PROCESS FOR I | NTERCONNECTION R | REQUESTS (Cont'd.) | (N) |
| 2. FA | ST TRACK INTERCO | NNECTION REVIEW | PROCESS (Cont'd.) | |
| e. | Execution of the Ger | nerator Interconnection | Agreement <u>(Cont'd.</u> | |
| | Agreement, Distribut Generator Interconne | proceed to a Generato ion Provider shall provi ection Agreement for A siness Days of Applica | ide Applicant with a pplicant's signature | |
| | Applicant has ninety Generator Interconner written comments, or Generator Interconner thirty (30) Calendar I Provider shall begin Distribution Provider Interconnection Agre cost estimate for any Facilities that have b Distribution Provider cost estimate, or any draft Generator Inter ninety (90) Calendar Applicant with the Ge Applicant determines request termination of Resolution procedure | aft Generator Interconn (90) Calendar Days to ection Agreement App notification of no com- ection Agreement and DaysAt the request of negotiations with Applic provides Applicant with ement, which contains Distribution Upgrades een identified by Distril and Applicant shall ne- disputed provisions of connection Agreement Days after Distribution enerator Interconnection that negotiations and es pursuant to Section therconnection Agreement ety (90) Calendar Days emed withdrawn. | sign and return the olicant shall provide ments, to the draft appendices within f Applicant, Distributi cant at any time after h the draft Generator in its appendices the and/or Interconnection bution Provider. gotiate concerning the the appendices to a , for not more than Provider provides on Agreement. If at an impasse, it may initiate Dispute K. If Applicant fails to tent or initiate Dispute | r e ion ne / / / |
| | has executed the Ge Distribution Provider construction and ins Upgrades and/or Int identified in the Gen Distribution Provider meet schedules in a Generator Interconn appropriate. Produc Parallel Operation to | Producer where those enerator Interconnection will commence design tallation of Distribution erconnection Facilities erator Interconnection and Producer will use ccordance with the req ection Agreement and er is responsible for all o support the safe and em and Transmission S | n Agreement, n, procurement, Provider's Distributio that have been Agreement. good faith efforts to juirements of the estimated costs as I costs associated wi reliable operation of | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 |
| Advice Letter No: Decision No. 65C0 | 4110-E 12-09-018 | Issued by Brian K. Cherry Vice President Regulatory Relations | Date Filed Effective Resolution No. | DRAFT 2/19/2013 |



Revised Original Cancelling

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

31930-Е 30242-Е

| | GENERA | ELECTRIC RULE NO. 21 TING FACILITY INTERCONN | IECTIONS | Sheet 63 |
|-----------------------------------|---|--|---|-----------------|
| F. REV | IEW PROCESS FO | R INTERCONNECTION RE | EQUESTS (Cont'd.) | (N) |
| 2. F | AST TRACK INTER | RCONNECTION REVIEW P | ROCESS (Cont'd.) | |
| e | e. Execution of the | Generator Interconnection | Agreement (Cont'd.) | |
| | concerning a sch | der and Producer shall neg edule for the construction o pnnection Facilities and Dist | f Distribution | |
| 3. E | ETAILED STUDY I | NTERCONNECTION REVI | EW PROCESS | |
| а | . Detailed Study T | rack Selection Process | | |
| | enter the Transm application of Sci Fast Track evalua Distribution Provi the Detailed Study provide that infor as set out in sect Detailed Study tra determined by the Applicants that re extraordinary circ following validation the appropriate s Distribution Provi | oply directly for Detailed Stu ission Cluster Study Process eens Q and R. For Applicar ation but failed the Supplem der shall determine, to the e ly track for which Applicant is mation with the Supplement ion F.2.c. For all other Appl ack for which Applicant is el e application of Screens Q a equire application of Screens umstances, within twenty (2 on of an Interconnection Re- tudy deposit set forth in Sec der will apply Screen Q, and ovide Applicant with the screen | ss without the hts that applied for lental Review, extent practicable, is eligible and tal Review Results licants, the specific igible will be and R. For s Q and R, absent 20) Business Days quest and receipt of ction E.3.a, d if applicable, | |
| | data and analysis Interconnection F Section F.3.c below to the Transmissi notify Distribution following such no the Transmission Interconnection F of no more than to Applicant fails to Business Days of | Screen Q, Distribution Provid supporting Screen Q result equest will be processed in <u>ow</u> and provide Applicant the on Cluster Study Process. Provider within twenty (20) tification whether it would lik Cluster Study Process or (i equest. Applicant may requ wenty (20) Business Days to notify Distribution Provider v receiving the Screen Q res one was requested, the Inter withdrawn. | ts in writing. The accordance with e option to proceed Applicant shall Business Days (e to (i) proceed to i) withdraw the lest one extension o respond. If within twenty (20) cults, or at the end of | |
| Advice Letter No. Decision No. | : 4110-E 12-09-018 | Issued by Brian K. Cherry | Date Filed | DRAFT 2/19/2013 |
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| | | LECTRIC RULE NO | | TIONS | Sheet 64 | |
| 3. DE ⁻ a. | To be eligible for i Applicant must su Interconnection R close of the releva includes notificatio | RCONNECTION R Selection Process roceed to the Distr hection Request wil on F.3.b below. roceed to the Tran ion Request will be ow. | EVIEW P (Cont'd.) ibution Gi Il be process smission process rocess coces cocess cocess coces coces cocess cocess coces cocess cocess co | ROCESS roup Study essed in Cluster Study ed in accordance up udy Group, o complete their iness days after window. This vant to proceed | 1 1 1 1 1 1 1 1 1 1 1 1 1 | |
| | for the group within window, using the have entered the WDT. If the group fails S projects withdrawn may elect to proce Process, pursuant In order to be elig Interconnection S the Applicant mus | ible to participate in tudy, Scoping Mee it execute the Deta | ness Day prmation a ss under I ibution Pr I notify Ap mission C n the DGS ting must iled Study | s of the close of about projects th Rule 21 and the ovider will deem oplicants. Applic cluster Study <u>S Phase I</u> be complete ar | the I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I | Formatted: Font color: Black |
| Advice Letter No: Decision No. 67C0 | <u>to the start date o</u> 4110-E 12-09-018 | f the DGS Phase I Issued by Brian K. Cherry Vice President Regulatory Relations | Interconr | Date Filed Effective Resolution No | (Continued) DRAFT 2/19/2013 | Formatted: Not Highlight |

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| ELEC GENERATING F | CTRIC RULE NO ACILITY INTER | | IONS | Sheet 65 | |
| F. REVIEW PROCESS FOR INTER | CONNECTION | | STS (Cont'd.) | (N) | |
| 3. DETAILED STUDY INTERCO | NNECTION R | EVIEW PF | ROCESS (Cont | .'d.) | |
| d <u>b</u> . Independent Distribution | Group Study P | rocess (C | ont'd.) | | |
| Study Process <u>ii) Scop</u> i | ing Meeting | | | | |
| Within five (5) Busines notifiesperforms the E notifiescontact the Ap Interconnection Requ R and is thus eligible Process, Distribution establish a date agree for a scoping meeting | Electrical Independent plicant <u>to notif</u> est has passed for the Indepen Provider shall c eable to Applica | enence Te y them tha Screens dent-Distr contact Ap | est, it will at the Q and <u>failed So</u> ibution Group So plicant to and | Study I | |
| The Distribution Provi applicable, shall deter is at or near the bound potentially impact suc potential impact is ma Affected System Oper them of the time and p soon as practicable. | mine whether dary of an Affe h Affected Sys de, the Distribu rator(s) to the S | the Interco cted Syste tem(s). If ution Prov Scoping M | onnection Requ em(s) so as to a determinatio ider shall invite eeting by infor | n of I the I ming I | |
| b. Distribution Group scoping meeting shal Operation Dates and exchange information reasonably be expect options; (iii) to analyz feasible Points of Inte resources and availat the expected start dat <u>StudyDGS Phase I In</u> | I be: (i) to discu alternative inte i, including any ed to impact A e such informa rconnection ar ole information te of the next a | uss reason rconnection transmiss pplicant's tion; and of and elimination and (v) to pplicable | able Commerce on options; (ii) t sion data that w interconnection (iv) to determin the alternatives of advise Applic | cial to vould n e given (N) ant of | |
| F. REVIEW PROCESS FOR INTERCON | CONNECTION | | | d.) | |
| | | | | (Continued) | |
| Advice Letter No: 4110-E Decision No. 12-09-018 | lssued by Brian K. Cherry | | Date Filed Effective | DRAFT 2/19/207 | 13 |
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Cancelling Revised

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

31933-Е 30245-Е

| | GENERA | ELECTRIC RULE NO. 21 ATING FACILITY INTERCONNECT | TIONS | Sheet 65 |
|----------------------------------|------------------------|--|---|-----------------|
| a. | Detailed Study Trac | k Selection Process (Cont'd.) | | |
| | provide the data and | Screen Q, but fails Screen R, D d analysis supporting the Screer e option to proceed to the Distri | n R results in w | riting and |
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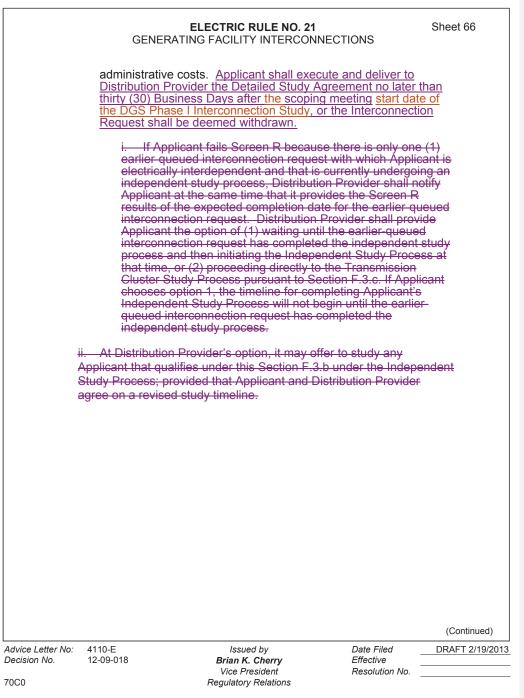
sed Cal. P.U.C. Sheet No. Sed Cal. P.U.C. Sheet No.

о. 31934-Е* о. 30246-Е

| | GENE | ELECTRIC RULE NO. 21 RATING FACILITY INTERCON | | Sheet 66 | | |
|---|---|---|---|---|--------|---|
| F. REVIEW | N PROCESS FO | R INTERCONNECTION RE | QUESTS (Cont'd.) | (| Ņ) | |
| 3. DET | AILED STUDY I | NTERCONNECTION REVIE | W PROCESS (Cor | ťd.) | | |
| db. | Independent-Dis | stribution Group Study Proce | e <u>ss</u> (Cont'd.) | | | |
| | ii) Scoping Mee | eting (Cont'd.) | | | i | |
| | F. REVIEV (Cont'd.) | V PROCESS FOR INTERCO | ONNECTION REQU | ESTS | | |
| 21_3 | DETAILED ((Cont'd.) | STUDY INTERCONNECTIO | N REVIEW PROCE | .88 | | |
| | reasonably r available teo facility loadir | Provider will bring to the sco necessary to accomplish its chnical data, including, but no ngs, (ii) general instability iss s, (iv) general voltage issues ues. | ourpose, such alrea ot limited to: (i) gene ues, (iii) general sh | eral | | ← Formatted: Indent: Left: 1.23" |
| | technical dat Generating F studies previ applicable, a and other res | I bring to the scoping meetin a in Attachment A of the Rul Facility Interconnection Requ ously performed. Distribution nd Applicant will also bring t sources as may be reasonat of the meeting in the time all | e 21 Exporting lest form, any syste n Provider, the CAI o the meeting perso bly required to accol | SO, if nnel nplish | | |
| | Interconnect | neeting, Applicant shall design ion. The duration of the mean accomplish its purpose. | nate its Point of eting shall be only w | <u>l</u> hat is | | |
| | Distribution F Detailed Stu- outline of the Impact Study contain a no such studies | n (15) Business Days after the Provider shall provide Applica dy Process Study Agreement e scope of the <u>DGS Phase I</u> y and <u>DGS Phase II</u> Intercon n-binding good faith estimate , and shall specify that Appli f the Interconnection Studies | ant with an Indepen it, which shall conta Interconnection Sys nection Facilities St of the cost to perfo cant is responsible | in an (l t em udy, prm for the | ed) | |
| Advice Letter No: Decision No. 70C0 | 4110-E 12-09-018 | Issued by Brian K. Cherry Vice President Regulatory Relations | Date Filed Effective Resolution No. | DRAFT 2/1 | 9/2013 | |



Revised Cal. P.U.C. Sheet No. Revised Cal. P.U.C. Sheet No. 31934-E* 30246-E



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|--------------------------------------|---|---|--|---|---|------------------------|--|
| | | CTRIC RULE NO FACILITY INTERC | | IONS | Sheet 67 | 7 | |
| 3. DETA | PROCESS FOR INTER | ONNECTION RE | | ROCESS (Cor | | (N) | |
| | Grouping of Intercon Study The results of Scree Requests to be grou Study. An Interconn grouped with other p interdependent throu the date a DGS Pha Distribution Provider Group Study a list of Distribution Group S | n R will determin ped together for ection Request t rojects that are o gh the applicatio se I Interconnect will send to eac the Interconnect | ne the Inte each Dist that failed determine on of Scre tion Study h Applicar | rconnection ribution Grou Screen R wil d to be electr en R. No late begins, t in a Distribu | p be ically er than | | Formatted: Left, Indent: Left: 0.85", Hanging: 0.38", Numbered + Level: 1 + Numbering Style: i, ii, iii, + Start at: 1 + Alignment: Left + Aligned at: 1.15" + Indent at: 1.4" Formatted: Left |
| | At the Distribution F received during a pa window may be stud or in a Distribution C one or more of the a For each Interconne Distribution Group S Provider may develo | articular Distribut died individually Group Study for t analyses forming action Study rece Study Application | tion Group (Independ the purpos the Inter eived with window, | 5 Study Applie dent Study Prose of conduct connection St in the same the Distribution | <u>cation</u> ocess) ng udies. on | | |
| | | | | | | (N) | |
| | 4110-E 12-09-018 | lssued by Brian K. Cherry Vice President | | Date Filed Effective Resolution No. | (Contir DRAFT 2 | , | |
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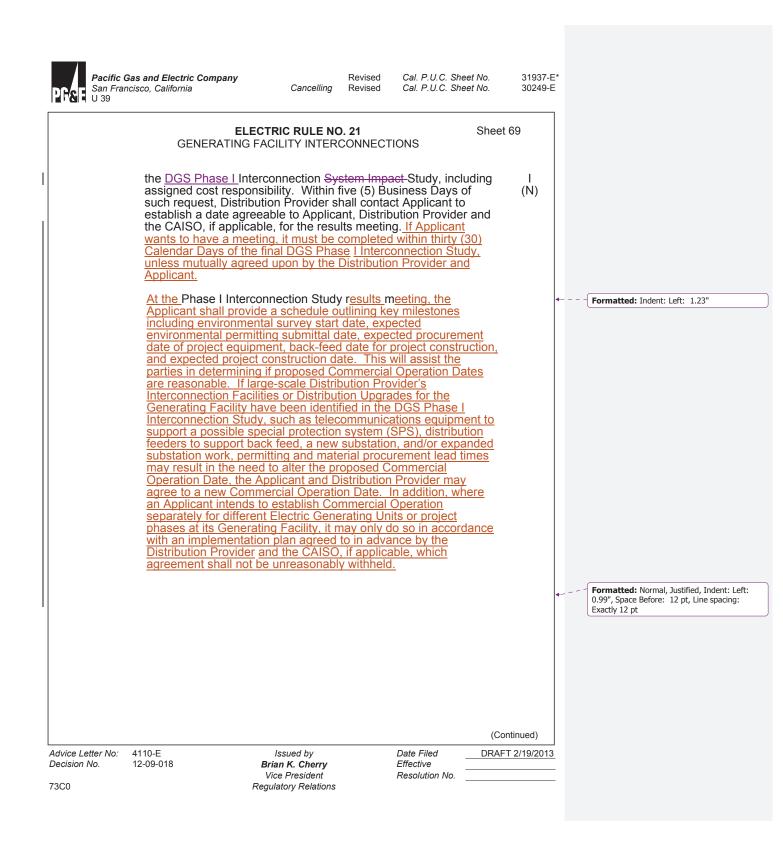
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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Revised Revised

31936-E 30248-E

| | ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS | Sheet 68 | |
|-----------------------------------|---|---|--|
| F. REVIE | W PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) | (N) | |
| | TAILED STUDY INTERCONNECTION REVIEW PROCESS nt'd.) | | Formatted: Indent: Left: 0.3", Hanging: 0.3", No bullets or numbering, Tab stops: 0.41", Left + Not at 0.25" |
| <u>b.</u> | Distribution Group Study Process (Cont'd.) | | |
| | iv) Timing of the the DGS Phase I Interconnection Study. | I | |
| | Absent extraordinary circumstances, Distribution Provider shall complete and issue a final DGS Phase I Interconnec Study report within sixty (60) Business Days from the star the study. If the DGS Phase I Interconnection Study indicates a need for Network Upgrades, Distribution Provi will share applicable study results with the CAISO for revia and comment and will incorporate comments into the final DGS Phase I Interconnection Study report. | tion I t of I der I ew I | ← Formatted: Indent: Left: 1.35" |
| | System Impact At any time Distribution Provider determine that it will not meet the required time frame for completing <u>DGS Phase I</u> Interconnection System Impact Study, Distribution Provider shall notify <u>all</u> | es I the I I I | |
| | Applicants in the Distribution Study Group as to the status the <u>DGS Phase I</u> -Interconnection System Impact-Study a provide an estimated completion date with an explanation the reasons why additional time is required. | nd l | |
| | Upon request, Distribution Provider shall provide any Applicant in the Distribution Study Group all relevant supporting documentation, workpapers and pre- Interconnection Request and post-Interconnection Reques power flow, short circuit and dynamic/stability databases, currently planned Distribution Upgrades relevant to the Interconnection Request for the DGS Phase I Interconnec Study. Applicant may be required to sign a non-disclosure agreement with terms consistent with Section D.7 regardin Confidentiality. | <u>and I</u> <u>I</u> <u>tion I</u> <u>2</u> I | ← Formatted: Indent: Left: 1.35" |
| | If applicable, Distribution Provider will share the applicable study results with the CAISO for review and comment, an will incorporate CAISO comments, if any, into the study report prior to issuing a final DGS Phase I Interconnection Study report to Applicants in the Distribution Study Group. (Cont'd.)Applicant shall execute and deliver to Distribution | ₫ ∔ | |
| Advice Letter No: Decision No. | Provider the Independent Study Process Study Agreement later than thirty (30) Business Days after the seeping meet 4110-Er the Interconnection Relevents shall be deemed withdrawn 12-09-018 Effective Vice President Resolution No. | na Ó | |
| 72C0 | Regulatory Relations | | |

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| | ELECT GENERATING FA | TRIC RULE NO | | - | Sheet 69 | | |
| | On the basis of the mere Interconnection. The d sufficient to accomplish | eting, Applica uration of the its purpose. | nt shall de meeting (| signate its Point shall be only wha | of (N) tis I I | | |
| F | REVIEW PROCESS FOR INTERC | ONNECTION | | STS (Cont'd.) | | | |
| 3 | . DETAILED STUDY INTERCON | NECTION R | EVIEW PP | ROCESS (Cont'd | .) I | | |
| | d. Independent Study Proces | s (Cont'd.) | | | | | |
| | ii) ii) - | | | | | • | Formatted: Indent: Left: 0.92", Hanging: 0.31" |
| | ii) Timing of the Interconn | ection Syster | n Impact (| Study Results. | | | |
| | | raordinary cir | | es, Distribution | | <u> </u> | Formatted: Font color: Text 1 |
| | Interconne within(60) Independe If the Syste Network U applicable and comm | ction Sy'stem Business Day nt Study Proc am ImpactStu pgrades, Dist study results ent and will ir | Impact Si /s after the cess Study idy indicat idy indicat idy indicat idy indicat idy indicat idy | | | | Formatted: Indent: Left: 2.13" |
| F | REVIEW PROCESS FOR INTERC | ONNECTION | REQUE | STS (Cont'd.) | | | |
| 3 | . DETAILED STUDY INTERCON | NECTION R | EVIEW PP | ROCESS (Cont'd | .) <u>i</u> | | |
| | d. Independent Study Proces | s (Cont'd.) | | | † T | | |
| ii) T INTE | iming of the Interconnection <u>F. RI</u> RCONNECTION REQUESTS (Co | <u>EVIEW PROC</u> nťd. <u>)</u> | CESS FOR | <u>R</u> | İ | | |
| 3 | DETAILED STUDY INTERCON | NECTION R | EVIEW PF | ROCESS (Cont'd | <u>.)</u> | | |
| | b. Distribution Group Study Pr | ocess (Cont' | <u>d.)</u> | | <u> </u> <u> </u> | | |
| | ⁱⁱⁱ ⊻) <u>DGS Phase I</u> Interconr Meeting. | ection Syste | m Impact- | Study Results | + + + | | |
| | If requested by <u>an</u> Appl results meeting shall be CAISO, if applicable, a | held among | Distributio | on Provider, the | + (Continued) | | |
| Advice L Decision | No. 12-09-018 B | Issued by ri an K. Cherry | | Effective | DRAFT 2/19/2013 | | |
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|-----------------------------------|--|--|---|--|------------------------------------|----------------|---------|--|
| | ELECT GENERATING FA | FRIC RULE NO. 2 CILITY INTERCO | | ONS | Sheet 70 | | | |
| F. REVIE | W PROCESS FOR INTERC | ONNECTION R | EQUES | TS (Cont'd.) | (N 1 | I) | | |
|)3. DET | FAILED STUDY INTERCON | INECTION REVI | IEW PR | OCESS (Cont | 'd.) l | | | |
| db. | Independent Distribution G | roup Study Proc | cess (Co | onťd.) | | | | |
| | → i v) <u>DGS Phase I</u> Interconr Meeting (Cont'd.) | nection System I | mpact- S | tudy Results | | - | | Formatted: Numbered + Level: 1 + Numbering Style: i, ii, iii, + Start at: 4 + Alignment: Left + Aligned at: 0.9" + Indent at: 1.15" |
| | Where the parties can Operation Date, the Cor reasonable by the Dist Phase II Interconnection Operation Date is need completion, assuming Provider of necessary I Provider's Interconnect relief sought by the Ap Applicant must notify th Business Days following dispute procedures und | ommercial Opera ribution Provider on Study where t led to accommo Reasonable Effo Distribution Upgr tion Facilities, pe plicant under Se ne Distribution Pro- og the Results Mo | ation Dat will be of he revised date the orts by the rades ar ending the ctions F rovider version of the rovider v | te determined used for the D ed Commercia anticipated be Distribution ind/or Distribution of Distribution of A.d. or K. Th within five (5) it is initiating | al I I on I any I | | | |
| | Distribution Provider ar meeting to discuss the Study, including assign | results of the DO | GS Phas | <u>ld a results</u> se l Interconne | ection] | * ~ | 5 - 2 | Formatted: Font: 12 pt, Not Highlight Formatted: Font: 12 pt, Not Highlight |
| | | | | | | | \sim | Formatted: Indent: Left: 1.23" |
| | Within five (5) Business Interconnection Study | s Days following | the DG | <u>S Phase I D</u> licant shall su | 1 | | 7 | Formatted: Font: 12 pt, Not Highlight |
| | to the Distribution Prov | ider all requeste | d inform | ation. | 1 | ~ | . i 🕹 🎽 | Formatted: Font: 12 pt Formatted: Font: 12 pt |
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| | vi) Initial Posting of Interco | nnection Financ | ial Secu | <u>ırity.</u> | | | | |
| | Each Applicant in a Dis posting of Interconnect the requirements of Se after being provided wi Study report, or its Inte withdrawn. The initial p | ion Financial Se ction F.4.b, withi th the final DGS rconnection Rec | curity in in sixty (Phase I uest sh | accordance v 60) Calendar Dinterconnec all be deemed | <u>/ith</u> I Days I :tion I | · | | |
| Advice Letter No: Decision No. | 4110-E 12-09-018 B | lssued by rian K. Cherry | | Date Filed Effective | DRAFT 2/19/ | /2013 | | |
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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Revised Revised

31938-E 30250-E

| | GENERAT | ELECTRIC RULE NO. 21 ING FACILITY INTERCONNE | CTIONS | Sheet 70 |
|-----------------------------------|--|--|--|--|
| | Upgrades, Distr Interconnection DInterconnection | based on the cost responsil ribution Upgrades, and Distr Facilities set forth in the fin on Study report.iv) Initial F Financial Security. | <u>ibution Provider's</u> al DGS Phase I | <u>5</u> |
| | Security in acco within sixty (60) Interconnection Interconnection posting of Interc cost responsibil and Distribution | make its initial posting of Int ordance with the requiremen - Calendar Days after being -System Impact Study repor - Request shall be deemed v connection Financial Securit lity for Network Upgrades, D - Provider's Interconnection - nnection System Impact Stu | nts of Section F.4 provided with the rt, or its withdrawn. The i sy will be based o vistribution Upgra Facilities set fort | .b, ∋ final nitial n the des, |
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| | | | | (Continued) |
| Advice Letter No: Decision No. | 4110-E 12-09-018 | Issued by Brian K. Cherry Vice President | Date Filed Effective Resolution No. | DRAFT 2/19/2013 |
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Pacific Gas and Electric Company San Francisco, California U 39

Revised Revised Cancelling

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. 31939-E 30251-E

| | | | | ELECTRIC RULE NO. 21 NG FACILITY INTERCONNEC | TIONS | Sheet 71 |
|---|-----------------------------|--|--|--|--|--|
| | F. RE | VIEW PR | OCESS FOR IN | TERCONNECTION REQUE | STS (Cont'd.) | (N) |
| | 13. | DETAILE | D STUDY INTE | RCONNECTION REVIEW P | ROCESS (Con | ťd.) |
| | | d <u>b</u> . Inde | pendent <u>Distribu</u> | tion Group Study Process (C | Cont'd.) | |
| | | v <u>i</u>) M | lodifications | | | |
| ļ | | Α ic tt a I I α α α α α | Applicant, Distributed dentify changes to the costs and ber and the ability of the nterconnection R acceptable to Dis Applicant, such a Distribution Proviound/or configuration | g the course of the Interconr ution Provider, or the CAISC to the planned Interconnection hefits (including reliability) of the proposed change to accor- Request. To the extent the ic tribution Provider, the CAISC cceptance not to be unreased der shall modify the Point of ion in accordance with such connection Request's eligibilition totals. | as applicable, on that may imp the Interconnector ommodate the dentified change D, as applicable onably withheld, Interconnection changes withoutor | may I prove I ction, I es are I e, and I i i I it I |
| | | n p H fa r v V I I n r v V I I n r v V I I C C | neeting, Applicar nodifications to the mpact Study rep- ollowing the <u>DGS</u> esults meeting, vriting, modificati nterconnection R Applicant's reque vithin two (2) Bus f no <u>DGS Phase</u> neeting is held, A equested modific | <u>e I</u> Interconnection System I the should be prepared to disc he Interconnection Request. final <u>DGS Phase I</u> Interconr ort, but no later than five (5 <u>S Phase I</u> Interconnection Sy Applicant shall submit to Dis ons to any information provide st for modification to the CA siness Days of receipt. <u>I</u> Interconnection System Im- Applicant shall submit to Dist cations with <u>in_twenty fivethir</u> the receipt of the final <u>Phas</u> tudy report. | cuss any desire After the nection System b Business Day stem Impact Si tribution Provid ded in the er will forward ISO, if applicab apact Study resu ribution Provide ty (2530) Busin | d I I s I udy I er, in I I le, I I ults I er any (N) ess |
| | Adviso Lotta | | | lowed by | Doto Filod | (Continued) |
| | Advice Lette Decision No | | D-E 19-018 | lssued by Brian K. Cherry Vice President | Date Filed Effective Resolution No. | DRAFT 2/19/2013 |
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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

31940-E*

| | | | GEN | ELECTRIC RULE NO. 21 ERATING FACILITY INTERCONNECT | TIONS | Sheet 72 |
|---|-------------|--------------|---|---|---|--|
| | F. RI | EVIEV | V PROCESS F | OR INTERCONNECTION REQUES | STS (Cont'd.) | (N) |
| | <u>2</u> 3. | DET | AILED STUDY | INTERCONNECTION REVIEW PR | ROCESS (Cor | iťd.) |
| | | d <u>b</u> . | Independent <u>C</u> | Distribution Group Study Process (C | ont'd.) | |
| | | ١ | vi) Modificatior | ns (Cont'd.) | | |
| 1 | | | specifically proposed C parameters the Genera characteris configuration applicable, Interconner Distribution modificatio Business L Any chang specified b | ns permitted under this Section F.3. : (a) a decrease in the electrical out Generating Facility; (b) modifying the s associated with the Generating Fa ting Facility step-up transformer im tics; and (c) modifying the interconr on. Distribution Provider, in coordin will evaluate whether the proposed ction Request constitutes a Material nervoider will inform Applicant in wr ns would constitute a Material Modi Days of receipt of the proposed reque to the Point of Interconnection, ex y Distribution Provider in an Interco allowed under this Section F.3.db.v, podification. | tput (MW) of the technical pedance pedance nection modification the Modification the fication within fication within thest for modific coept for that nnection Study | ne I gy or I SO, if I o the I the I 10 I vation. I |
| | | | Modificatio modificatio such modif ten (10) Bu | osed modification is determined to b n, Applicant may either withdraw the n or proceed with a new Interconne ication. Applicant shall make such isiness Days after being provided th n determination results. | e proposed ction Request determination | for I within I |
| | | | Modificatio System Im modificatio Upgrades. Interconne an estimate associated | nodifications determined not to be N ns may still necessitate the need to pact-DGS Phase I Interconnection S ns to the Interconnection Facilities a Such re-evaluation will occur durin ction StudyDistribution Provider will of time to complete the re evaluati incremental cost required to compl Applicant may either accept the | re-evaluate th Study to deterr and Distributio <u>g the DGS Ph</u> provide Applic ion and the | nine I n I <u>ase II</u> I |
| • | Advice Lett | er No: | 4110-E | Issued by | Date Filed | (Continued) DRAFT 2/19/2013 |
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|----------------------|--|--|--|---|---|---------------------|--|
| | | TRIC RULE NO. 21 CILITY INTERCON | NECTIO | | eet 73 | | |
| F. REVIEW | PROCESS FOR INTERC | CONNECTION RE | QUEST | S (Cont'd.) | (N) | | |
| 33. DET. | AILED STUDY INTERCOM | NECTION REVIE | W PRO | CESS (Cont'd.) | | | |
| <u>db</u> | Independent Distribution G | Broup Study Proces | ss (Con | ťd.) | | | |
| + | Hodifications (Cont'd.) | | | | | | |
| Ê | additional time and cost to proposed modification r Interconnection Reques make such determination being provided the Mate | equest, or proceed at for such modification on within ten (10) E | d with a ation. Ap Businese | new plicant shall | | | ormatted: Indent: Left: 0.9", Hanging: .27" |
| v <u>i</u> i) | Scope and Purpose of the Interconnection Study a | ne Interconnection nd Study Deposit. | Facilitie | s <mark>DGS Phase II</mark> | | | |
| | Within either (i) five (5) E Interconnection Study re Businessthirty (30) Cale Phase I Interconnection Phase I Interconnection held, whichever is earlie Provider the data require Generating Facilities 5 M Facilities StudyDGS Pha out in Section E.3.a, un accordance with Section to a Generator Interconr writing to be responsible deemed necessary by D responsible for all costs support the safe and rel Transmission System at F.3.e for cost responsible Generator Interconnectio | esults meeting, or (<u>ndar</u> Days of the re System Impact St System Impact St System Impact St of the Stribution F Wor less, Applica <u>ase II Interconnections</u> ase II Interconnections (For all actual cost vistribution Provide associated with Pa able operation of t is set forth in Section lity and time frame | (ii) withir eccipt of udy repo udy rest submit to Provider ant shall on Study at study will Study will Study at sof all r r. Applic arallel O the Distr on E.4. F sof co | twenty five (25) f the final <u>DGS</u> of the final <u>DGS</u> of the final <u>DGS</u> ills meeting is 0 Distribution . At that time, fo also submit the <u>γ</u> deposit, as set I be waived in and move directly and move direct | | B Cr A Lte | ormatted: Left, Indent: Left: 1.12", Space efore: 0 pt, After: 12 pt, No widow/orphan ontrol, Don't adjust space between Latin and sian text, Don't adjust space between Asian ext and numbers, Tab stops: 1.42", Left |
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| viii) | DGS Phase II Interconne | | | | | - F | ormatted: Font: 12 pt |
|) | - | nterconnection Fac | | - | | | |
| mu Dis Stu | Facilities Study may be v tually agree to such waive tribution Provider provides dy report to Applicant (if th ived), Distribution Provider | r. Within thirty (30 the final Interconn e Interconnection |) Calence tection & Facilitie | l ar Days after System Impact s Study is ator | ŧ I I (N) (Continued) | | |
| Advice Letter No: | 4110-E | Issued by | Da | | AFT 2/19/2013 | | |
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| | GENE | ELECTRIC RULE NO. 21 RATING FACILITY INTERCON | | Sheet 73 | | |
|----|---|--|---|------------------------|------|---------------------------------------|
| Se | ection F.3.e for co | reement, together with draft a pst responsibility and time fra mection Agreement. If Applica | mes for completir | ig the | | |
| | | | | | 1 | Formatted: Font: 12 pt |
| | practicable in The Distributi commence th | Provider shall utilize existing s conducting the DGS Phase ion Provider shall use Reason the DGS Phase II Interconnec | Il Interconnection nable Efforts to tion Study within s | <u>Study.</u> sixty | | Formatted: Indent: Left: 1.15" |
| | | r Days within sixty (60) Caler | | of the | | Formatted: Font: 12 pt |
| | report.report. | he final DGS Phase I Intercor | nnection Study | | - ,(| Formatted: Font: 12 pt |
| | | | | | | Formatted: Font: 12 pt |
| | | Provider shall use Reasonable | | | 1 | Formatted: Font: 12 pt |
| | | Applicants the DGS Phase II 1 sixty (60) Business Days aft | | | | Formatted: Left, Indent: Left: 1.15" |
| | each DGS Pl | hase II Interconnection Study | The Distribution | | | Formatted: Font: 12 pt, Not Highlight |
| | Provider will i | <u>issue a final DGS Phase II In</u> | terconnection Stu | dy | | Formatted: Font: 12 pt |
| | report to App | licant. | | | 1 | Formatted: Font: 12 pt |
| | the DGS Pha | date. If the Distribution Provid ase II Interconnection Study, on of the reasons why additic | such notice shall | provide | | |
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| | Pacific Gas and Electric Company San Francisco, California U 39 | Cancelling | Original | Cal. P.U.C. Sheet No Cal. P.U.C. Sheet No | | - | |
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| | | CTRIC RULE NO. ACILITY INTERCO | | | neet 74 | | |
| F. R | EVIEW PROCESS FOR INTER | CONNECTION F | REQUES | STS (Cont'd.) | (N) | | |
| <u>1</u> 3. | DETAILED STUDY INTERCO | NNECTION RE | VIEW PF | ROCESS (Cont'd.) | | | |
| | db. IndependentDistribution | Group Study Prod | cess (Co | ont'd.) | I I | | |
| | viii) vii) Waiver of the | Interconnection | Facilities | s Study. (Cont'd.) | | | |
| | viii) Facilities Study and m Agreement, Applicant actual costs of all requ Distribution Provider. associated with Parallu operation of the Distrik in Section E.4. Refer t time frames for comple | must agree in wr ired facilities dee Applicant is resp of Operation to si oution and Transi o Section F.3.e fo | iting to t emed ne onsible f upport th mission to or cost re | be responsible for cessary by for all costs be safe and reliable System as set fort esponsibility and | all I I e I | * | Formatted: Left, Numbered + Level: 1 + Numbering Style: i, ii, iii, + Start at: 8 + Alignment: Left + Aligned at: 0.9" + Indent at: 1.15" |
| | Agreement. <u>viii)</u> DGS P | hase II Interconn | ection S | tudy Procedures | | | Formatted: Font: 12 pt |
| | (Cont'd) | | | | | | Formatted: Font: 12 pt |
| | Upon request of the A Applicant all supportin pre-Interconnection Re power, short circuit an Interconnection Study, consistent with Section The Distribution Provid Interconnection Study Requests from the pre The DGS Phase II Inter necessary, analyses p Interconnection Study Interconnection Reque Study Process, (ii) idel physically interconnec responsibility for the D Interconnection Reque Distribution Provider's contents of the content of the physically interconnection Reques Distribution Provider's | g documentation equest and post- d stability databa subject to confic n D.7. der will conduct a that will incorpor- vious DGS Phas erconnection Stud erformed in the E to account for th- ests or other proje- ntify Distribution t the Generating istribution Upgra- est a final Point o Interconnection | , work pa Intercon ases for t dentiality DGS Pl ate eligil ate ate eligil ate ate eligil ate ate eligil ate ate eligil ate ate eligil ate ate eligil ate ate eligil ate ate eligil ate ate eligil ate ate eligil ate | apers, and relevar nection Request he DGS Phase II arrangements hase II ble Interconnection connection Study. (i) update, as ase I awal of he Interconnection es needed to (iii) assign cost identify for each nnection and a, (v) provide an | nt | | - Formatted: Left, Indent: Left: 1.15" |
| | estimate for each Inter Provider's Interconnec timing requirements ba maximize achievemen Generating Facilities, a | tion Facilities, an ased on operation t of the Commerce as applicable. | <u>nd (vi) op</u> nal studi | timize in-service es in order to ration Dates of the | (Continued) | | |
| Advice Let Decision N | | Issued by Brian K. Cherry | | Effective | 0RAFT 2/19/2013 | _ | |
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| | GENEF | ELECTRIC RULE NO. 21 RATING FACILITY INTERCONN | ECTIONS | Sheet 74 |
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| lvice Letter No: ecision No. | 4110-E 12-09-018 | Issued by Brian K. Cherry | Date Filed Effective Baselution No. | DRAFT 2/19/20 |
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| | GENE | ELECTRIC RULE NO. 21 RATING FACILITY INTERCONNI | ECTIONS | Sheet 75 | | |
|--------------------------------|--|---|--|--|--|------|
| F. REVIE | W PROCESS FO | OR INTERCONNECTION REQ | UESTS (Cont'd.) | (<u>N</u>) | Formatted: Font: 12 pt, All | caps |
| 3. DE | TAILED STUDY | INTERCONNECTION REVIEW | / PROCESS (Con | t <u>'d.)</u> I | | |
| <u>db</u> | . <u>Independent Di</u> | stribution Group Study Process | <u>s (Cont'd.)</u> | (N) | | |
| | ix) DGS Phase | II Interconnection Study Result | s Meeting | | Formatted: Font: 12 pt | |
| | If requested | <u>by an Applicant in a Distril</u> ing shall be held among Di | bution Study Gro | oup, a | Formatted: Font: 12 pt | |
| | CAISO, if ap | plicable, and the Applicant to d | iscuss the results | of the | Formatted: Font: 12 pt | |
| | DGS Phase | II Interconnection Study, inc | luding selection | of the | Formatted: Font: 12 pt | |
| | Mithin five | rcial Operation Date and assic (5) Business Days of such | ned cost respons | <u>SIDILITY.</u> | Formatted: Font: 12 pt | |
| | Applicant, D the results n be complete Phase II Inte | Il contact Applicant to establi- istribution Provider and the C neeting. If Applicant wants to I d within thirty (30) Calendar erconnection Study, unless mi on Provider and Applicant. | AISO, if applicab have a meeting, i Days of the final | <u>le, for</u> <u>t must</u> DGS | | |
| | x) Re-Evaluatic | n of Distribution Upgrades Fe | ollowing DGS Ph | ase_II | Formatted: Font: 12 pt | |
| | Interconnect required Dis Distribution I re-evaluation from the da | ment following the issuance of on Study is required to re-e stribution Upgrades due to Provider shall so notify the App i shall take no longer than sin te of notice. Any cost of the Applicant being re-evaluated. | valuate an Appl a project withd plicant in writing. (ty (60) Calendar | <u>cant's</u> <u>rawal,</u> Such Days | Formatted: Font: 12 pt | |
| | viii <u>ix) Timing</u> | of the DGS Phase II Interconne | ction Facilities St | udy. | | |
| | Agreement responsibility | Provider shall tender a draft Ge oursuant to F.3.e.i. Refer to / and time frames for com ion Agreement. | Section F.3.e fo | r cost | | |
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| | | ECTRIC RULE NO. 21 FACILITY INTERCONNECT | TIONS | Sheet 76 | | | |
|-----------------------------------|---|---|---|---|----------------------------------|----------|--|
| . REVIE | V PROCESS FOR INTE | RCONNECTION REQUE | STS (Cont'd.) | (N) | | | |
| <u>3</u> 3. DET | AILED STUDY INTERC | ONNECTION REVIEW PR | ROCESS (Cont | 'd.) | | | |
| d b. | Independent Distribution | n Group Study Process (C | ont'd.) | | | | |
| | ix) Timing of the DGS F (Cont'd <u>.</u>) | Phase II Interconnection F | acilities Study | | | | |
| | the required time fra Facilities Study, Dis the Distribution Stud Interconnection Fac | tion Provider determines to ame for completing the Inter- tribution Provider shall not dy Group in writing as to the silities Study and provide a h an explanation of the rea | erconnection tify each Applica ne -status of the n estimated | ant in I | | | |
| | i <u>x) viii) Timing of the In</u> t | terconnection Facilities Stu | dy. (Cont'd.) | | | | |
| | Within thirty (30) Calend Interconnection Fina | lar Days after <u>S</u>econd and ancial Securit <u>y</u> | Third Postings | of I | | | |
| | posting prior to 120 DGS Phase II Interco Interconnection Fina construction activitie based on the cost re Distribution Upgrade Facilities set forth in Facilities Study, or t | Distribution Study Group v Calendar Days after public connection Study report, ar ancial Security on or before as, as set forth in Sections asponsibility for Network U as, and Distribution Provide the final DGS Phase II Inf he final Interconnection Sy n Facilities Study is waived | cation of the fina ad third postings the start of F.4.c and F.4.d pgrades, er's Interconnec erconnection retem Impact St | al s <u>of</u> l ction tudy | | | |
| | xi) Withdrawal and Rea in a Distribution Stu | allocation of Cost to Interco | onnection Requ | ests I | ← ← | (| Formattee 0.31", Line Level: 1 + |
| | Generator Interconn identified in the In determine if they a provides the final Applicant, or deter conducted pursuant | Interconnection Request lection Agreement is termi terconnection Studies wi ire still needed. If the Interconnection Facilitie mines that a restudy is to Section F.3.b.xii. An Group Study not al | inated, the upgr II be revaluate Distribution Pro S Study repo needed, it wi | rades + ed to (N) wider rt to ed in | | ``({ | at: 11 + AI Indent at: Formattee |
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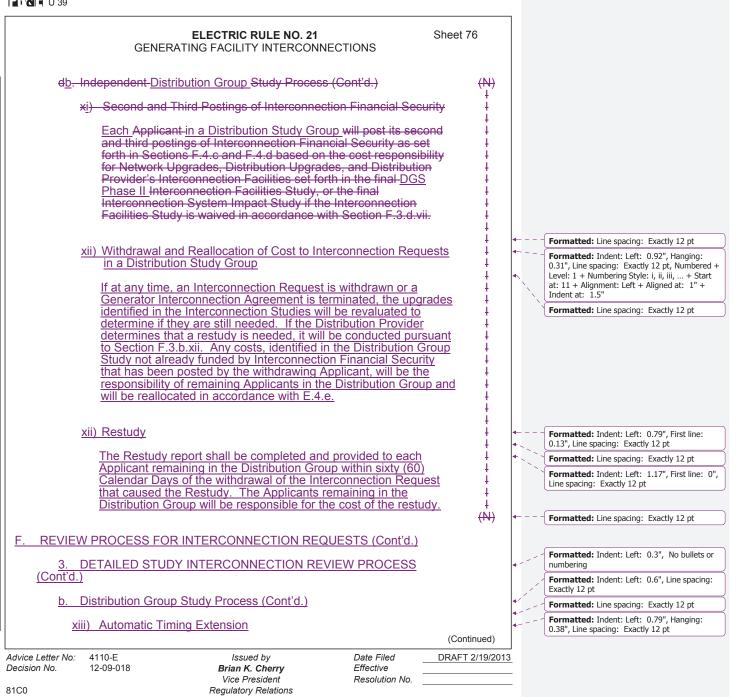
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|---|---------------------------|--|--|---|
| | withdrawing Applicants | ction Financial Security that has b g Applicant, will be the responsi in the Distribution Group and wil e with E.4.e. | een posted bility of ren I be realloca | <u>by the</u> naining nted in |
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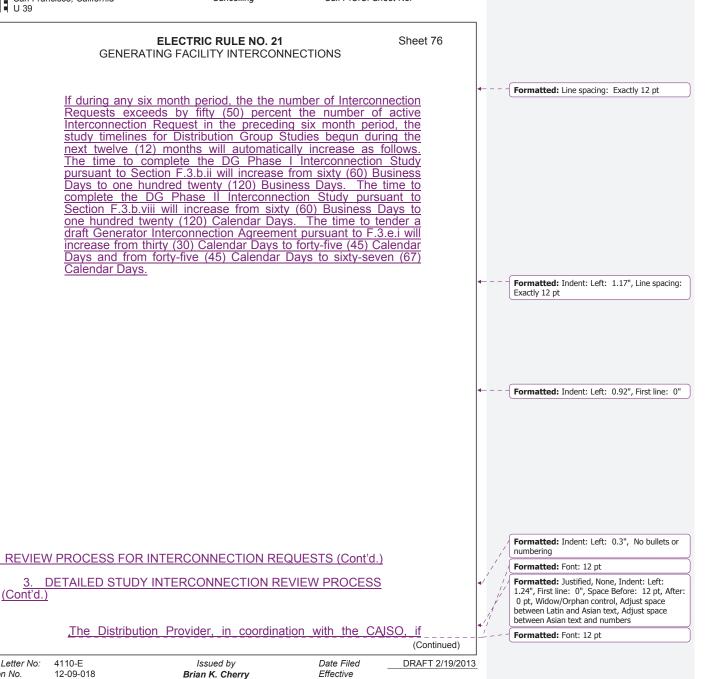




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| | | ECTRIC RULE NO. 2 FACILITY INTERCO | | IONS | Sheet 7 | 76 | |
| | applicable, shall de is at or near the b potentially impact is r Affected System Op them of the time an soon as practicable. | oundary of an Aff uch Affected Syste nade, the Distributi perator(s) to the Sco d place of the sche | ected m(s). on Pro oping N | System(s) so f a determinat vider shall invi leeting by info | <u>as to</u> ion of te the rming | | Formatted: Font: 12 pt |
| Advice Letter N Decision No. | | ly report to each Ap a Interconnection F se of a Distribution tion Study -but in n after Distribution Pr nection Study repo | plicant acilities Group o even ovider | in the Distribu Study results Study the DG t later than for | <u>ty-five</u> nal | tinued) 2/19/2013 | |
| Decision No. 81C0 | 12-09-018 | Brian K. Cherry Vice President Regulatory Relations | | Effective Resolution No. | | | |

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| | GENE | ELECTRIC RULE NO. 21 RATING FACILITY INTERCONN | ECTIONS | Sheet 76 |
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| | | GI | ELECTRIC RULE NO. 21 ENERATING FACILITY INTERCONN | ECTIONS | Sheet 77 | | |
| F. | REVIEW | PROCESS | FOR INTERCONNECTION REQU | JESTS (Cont'd.) | | | |
| 3 | 3. DETA | AILED STUD | Y INTERCONNECTION REVIEW | PROCESS (Cont'o | d.) | | |
| | <u>db</u> . ⊣ | ndependent | -Distribution Group Study Process | (Cont'd.) | | | |
| | <u>xii</u>) |) Restudy | | | | | |
| | | The Post | udy report shall be completed and | provided to each | | | |
| | | | remaining in the Distribution Study | | + | | Formatted: Font color: Black |
| | | (30 <u>ninety</u> s | sixty (690) Calendar Days of withd | rawal of the | | [| Formatted: Font color: Black |
| | | Interconne | ection Facilities Study results mee Request that caused the Restudy | t ing, it (The Applicante | | 11 | Formatted: Font color: Black |
| | | remaining | in the Distribution Study Provider | shallGroup will be | | | Formatted: Font color: Black |
| | | | le for the cost of the restudy. | <u></u> | | | |
| | <u>xiii</u> | <u>If during a</u> Requests | Timing Extension iny six month period, the the numb exceeds by fifty (50) percent the r | number of active | | • · · · · · · · · · · · · · · · · · · · | Formatted: Indent: Left: 0.79", Hanging: 0.38", Line spacing: Exactly 12 pt, Outline numbered + Level: 3 + Numbering Style: i, ii, iii, + Start at: 12 + Alignment: Left + Aligned at: 0.5" + Indent at: 0.75" |
| | | | ection Request in the preceding si elines for Distribution Group Studie | | | | Formatted: Line spacing: Exactly 12 pt |
| | | next twelv The time t pursuant f | re (12) months will automatically in to complete the DG Phase I Interc to Section F.3.b.ii will increase fro ne hundred twenty (120) Business | crease as follows. onnection Study n sixty (60) Busine | SS | | Formatted: Indent: Left: 1.17", Right: 0.97", Space After: 0 pt, Widow/Orphan control, Don't allow hanging punctuation, Font Alignment: Baseline |
| | | complete | the DG Phase II Interconnection S | Study pursuant to | <u>'</u> | | |
| | | Section F | .3.b.viii will increase from sixty (60 |) Business Days to | | | |
| | | one hundi | red twenty (120) Calendar Days. | The time to tender | <u>a</u> | | Formatted: Font color: Black |
| | | | erator Interconnection Agreement with draft appendices, unless Appli | | | · | Formatted: Font color: Auto |
| | | Interconne F.3.e for c Generator | ection Facilities Study results mee cost responsibility and time frames r Interconnection Agreement will in adar Days to forty-five (45) Calence | ting. Refer to Sect for completing the acrease from thirty | ion | | |
| | | forty-five (| (45) Calendar Days to sixty-seven | (67) Calendar Day | <u>s.</u> | | Formatted: Font color: Black |
| | c. T | ransmission | Cluster Study Process | | | | |
| | | | | | (Continued) | | |
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| u | Applicant's Intercor Inder this Rule reg Interconnection underconnection | nnection Request shall be deem ardless of whether Applicant ap der the WDT. | ed withdrawn pplies for | |
| T | ransmission Clust ariff in accordance | ter Study Process of the Wholes e with its provisions. If Applicar | sale Distribution It fails Screen (| ו ס, |
| S | tudied under the T | connection Request fails Screen Transmission Cluster Study Proo on of applying for Interconnectio | cess, Applicant | be |
| | GENERA | ATING FACILITY INTERCONNEC | TIONS | |
| | | ELECTRIC RULE NO. 21 | | Sheet 77 |



al Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

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ELECTRIC RULE NO. 21 Sheet 78 GENERATING FACILITY INTERCONNECTIONS REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.) З. Formatted: Indent: Left: 0.3", No bullets or numberina c. Transmission Cluster Study Process An Applicant that chooses to apply under the Transmission Cluster Study Process of the WDT must file a valid Interconnection Request and post the applicable study deposit as set out in Distribution Provider's WDT. If Applicant chooses to apply under the WDT, then Applicant's Interconnection Request will be subject to the terms of Distribution Provider's WDT applicable to the Transmission Cluster Study Process, including those provisions establishing cost responsibility. Upon completion of the Transmission Cluster Study Process under the WDT, Applicants that are eligible for a Statejurisdictional Interconnection can, in accordance with the WDT, either execute the applicable Commission-approved Rule 21 Generator Interconnection Agreement for Exporting Generating Facilities or the WDT Generator Interconnection Agreement. Such Commissionapproved Generator Interconnection Agreement for Exporting Generating Facilities will include the cost responsibility established in the Transmission Cluster Study. If and when an Applicant submits a new interconnection request under the WDT, Applicant is under the jurisdiction of FERC. On the date the applicable Commission-approved Rule 21 Generator Interconnection Agreement for Exporting Generating Facilities is executed by Applicant, or Producer where those are different entities, and Distribution Provider, jurisdiction over the Interconnection reverts back to the Commission. d. Independent Study Process Scoping Meeting i) Within five (5) Business Days after Distribution Provider notifies Applicant that the Interconnection Request has passed Screens Q and R and is thus eligible for the Independent Study Process, Distribution Provider shall contact Applicant to establish a date agreeable to Applicant and Distribution Provider for a scoping meeting. (Continued) Advice Letter No: 4110-E Issued by Date Filed DRAFT 2/19/2013 Decision No. 12-09-018 Brian K. Cherry Effective Vice President Resolution No. 81C0 Regulatory Relations



Original Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

31945-E

ELECTRIC RULE NO. 21 Sheet 79 GENERATING FACILITY INTERCONNECTIONS REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.)REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) 3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.) d. Independent Study Process (Cont'd.) i) Scoping Meeting (Cont'd.) The purpose of the scoping meeting shall be: (i) to discuss reasonable Commercial Operation Dates and alternative interconnection options; (ii) to exchange information, including any transmission data that would reasonably be expected to impact Applicant's interconnection options; (iii) to analyze such information; and (iv) to determine feasible Points of Interconnection and eliminate alternatives given resources and available information. Distribution Provider will bring to the scoping meeting, as reasonably necessary to accomplish its purpose, such already available technical data, including, but not limited to; (i) general facility loadings, (ii) general instability issues, (iii) general short circuit issues, (iv) general voltage issues, and (v) general reliability issues. Applicant will bring to the scoping meeting, in addition to the technical data in Attachment A of the Rule 21 Exporting Generating Facility Interconnection Request form, any system studies previously performed. Distribution Provider, the CAISO, if applicable, and Applicant will also bring to the meeting personnel and other resources as may be reasonably required to accomplish the purpose of the meeting in the time allocated for the meeting. On the basis of the meeting, Applicant shall designate its Point of Interconnection. The duration of the meeting shall be only what is sufficient to accomplish its purpose. (Continued) Advice Letter No: 4110-E Issued by Date Filed DRAFT 2/19/2013 Decision No. 12-09-018 Brian K. Cherry Effective Vice President Resolution No. 81C0 Regulatory Relations



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| | | GENE | ELECTRIC RULE NO. 21 RATING FACILITY INTERCON | NECTIONS | Sheet 80 | |
|-------------------|-----------------|--|--|---|-----------------|-----------------------------|
| F. | REVIEW F | PROCESS FOR | R INTERCONNECTION REC | UESTS (Cont'd.) | | Formatted: Indent: Left: 0" |
| 3 | 3. DETAI | | ITERCONNECTION REVIEW | V PROCESS (Cont'o | <u>d.)</u> | |
| | <u>d. In</u> | dependent Stu | dy Process (Cont'd.) | | | |
| | <u>i)</u> | Scoping Mee | <u>ing (Cont'd.)</u> | | | |
| | | Distribution P Study Agreen Process Stud scope of the Interconnection estimate of the that Applicant | (15) Business Days after the rovider shall provide Applicar <u>nent with provisions for an</u> In y Agreement, which shall cor nterconnection System Impa on Facilities Study, contain a e cost to perform such studie is responsible for the actual on Studies, including reasona | nt with an <u>Detailed</u> dependent Study itain an outline of the ct Study and non-binding good fa is, and shall specify cost of the | iith | |
| F. | REVIEW F | PROCESS FOI | R INTERCONNECTION REG | UESTS (Cont'd.) | | |
| Ę | B. DETAI | LED STUDY IN | ITERCONNECTION REVIEW | V PROCESS (Cont'o | d.) | |
| | d. Ind | dependent Stu | dy Process (Cont'd.) | | | |
| | i) — | Scoping Mee | ing (Cont'd.) | | | |
| | | (30) Business | Il execute and deliver to Distr Study Process Study Agreen Days after the scoping mee on Request shall be deemed | ent no later than thi ting, or the | rty | |
| | ii) | Timing of the | Interconnection System Imp | act Study Results. | | |
| | | complete and report within s Independent Impact Study Distribution P CAISO for rev | ordinary circumstances, Distri issue a final Interconnection sixty (60) Business Days afte Study Process Study Agreen indicates a need for Network rovider will share applicable view and comment and will in nterconnection System Impa | System Impact Stud r the execution of ar nent. If the System t Upgrades, study results with the corporate comments | dy 1 | |
| | | the required t | istribution Provider determin ime frame for completing the ct Study, Distribution Provide | Interconnection | | |
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| | | status of the Interconnectio an estimated completion da reasons why additional time | | act |
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| | | GENERA | ELECTRIC RULE NO. 21 TING FACILITY INTERCONN | ECTIONS | Sheet 81 | | |
| <u>F.</u> R | REVIEW | PROCESS FOR II | NTERCONNECTION REQU | JESTS (Cont'd.) | 4 | | - Formatted: Indent: Left: 0" |
| 3 | . DETA | ILED STUDY INTE | ERCONNECTION REVIEW | PROCESS (Cont'o | <u>d.)</u> | | |
| | <u>d. Ir</u> | ndependent Study | Process (Cont'd.) | | | | |
| | <u>ii)</u> | Scoping Meeting | g (Cont'd.) | | | | |
| | | relevant support Interconnection power flow, shor planned Distribu Request for the may be required | istribution Provider shall provider shall provider shall provide a state of the sta | pers and pre- nection Request uses, and currently ne Interconnection pact Study. Applica greement with term | ant S | | |
| | <u>iiii</u> |) Interconnection S | System Impact Study Result | ts Meeting | • | ⊢ | Formatted: Numbered + Level: 1 + Numbering Style: i, ii, iii, + Start at: 3 + Alignment: Left + Aligned at: 0.9" + Indent at: 1.15" |
| F. R | EVIEW | PROCESS FOR I | NTERCONNECTION REQU | JESTS (Cont'd.) | | | |
| 3. | | ILED STUDY INTE | ERCONNECTION REVIEW | PROCESS (Cont'o | 3.) | | |
| | d. Ir | ndependent Study | Process (Cont'd.) | | | | |
| | iii) |) Interconnection | System Impact Study Resu | Its Meeting. | | | |
| | | among Distributi Applicant to disc System Impact S Within five (5) B Provider shall co | an Applicant, a results mee ion Provider, the CAISO, if a cuss the results of the Interc Study, including assigned co usiness Days of <u>thesuch</u> rec ontact Applicant to establish oution Provider and the CAI ing. | applicable, and connection <u>Facilities</u> ost responsibility. quest, Distribution a date agreeable | to | | |
| | | | | | | | |
| Advice | etter No: | 4110-E | Issued by | Date Filed | (Continued) | | |
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| | Initial Posting of Applicant shall n Financial Securi Section F.4.b, w provided with the report, or its Inte withdrawn. The Security will be t Upgrades, Distri Interconnection System Impact S | TING FACILITY INTERCONNE f Interconnection Financial S nake its initial posting of Inte ty in accordance with the rec ithin sixty (60) Calendar Day e final Interconnection Syste erconnection Request shall b initial posting of Interconnec based on the cost responsibi- bution Upgrades, and Distric Facilities set forth in the final Study report. | ecurity. rconnection quirements of 's after being m Impact Study e deemed tion Financial lity for Network pution Provider's I Interconnection | (Continued) |
| | | ELECTRIC RULE NO. 21 | | Sheet 81 |



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Pacific Gas and Electric Company San Francisco, California

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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

31945-E

ELECTRIC RULE NO. 21 Sheet 82 GENERATING FACILITY INTERCONNECTIONS F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) 3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.) Independent Study Process (Cont'd.) d. v) Modifications At any time during the course of the Interconnection Studies, Applicant, Distribution Provider, or the CAISO, as applicable, may identify changes to the planned Interconnection that may improve the costs and benefits (including reliability) of the Interconnection, and the ability of the proposed change to accommodate the Interconnection Request. To the extent the identified changes are acceptable to Distribution Provider, the CAISO, as applicable, and Applicant, such acceptance not to be unreasonably withheld, Distribution Provider shall modify the Point of Interconnection and/or configuration in accordance with such changes without altering the Interconnection Request's eligibility for participating in Interconnection Studies. At the Interconnection System Impact Study results meeting, Applicant should be prepared to discuss any desired modifications to the Interconnection Request. After the publication of the final Interconnection System Impact Study report, but no later than five (5) Business Days following the Interconnection System Impact Study results meeting, Applicant shall submit to Distribution Provider, in writing, modifications to any information provided in the Interconnection Request. Distribution Provider will forward Applicant's request for modification to the CAISO, if applicable, within two (2) Business Days of receipt. If no Interconnection System Impact Study results meeting is held, Applicant shall submit to Distribution Provider any requested modifications within twenty-five (25) Business Days of the receipt of the final Interconnection System Impact Study report. (Continued) Advice Letter No: 4110-E Issued by Date Filed DRAFT 2/19/2013 Decision No. 12-09-018 Brian K. Cherry Effective Vice President Resolution No.

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| | GENEF | ELECTRIC RULE NO. 21 ATING FACILITY INTERCONNE | CTIONS | Sheet 83 |
|-----------------------------------|---|---|--|---------------------------------------|
| F. REVIEW | PROCESS FOR | INTERCONNECTION REQUE | ESTS (Cont'd.) | |
| 3. DET | AILED STUDY IN | TERCONNECTION REVIEW F | ROCESS (Cont' | d.) |
| d. | Independent Stud | y Process (Cont'd.) | | |
| v | v) Modifications | (Cont'd) | | |
| | specifically: (a proposed Gen parameters as the Generating characteristics configuration. if applicable, w the Interconne Distribution Pr modifications Business Days modification. for that specifi Study or other constitute a M If the propose Modification, A modification o | bermitted under this Section F.) a decrease in the electrical or erating Facility; (b) modifying th sociated with the Generating F g Facility step-up transformer in t; and (c) modifying the intercor Distribution Provider, in coordi vill evaluate whether the proposi- ction Request constitutes a Ma ovider will inform Applicant in w would constitute a Material Moo s of receipt of the proposed req Any change to the Point of Inte ed by Distribution Provider in a wise allowed under this Section aterial Modification. | utput (MW) of the ne technical acility technology npedance nation with CAIS sed modification t aterial Modification vriting whether the dification within 10 uest for rconnection, exce n Interconnection n F.3.d.v, shall be a Material ne proposed ection Request for | vor O, o n. e 0 ept |
| | within ten (10) Modification d | Business Days after being pro etermination results. | vided the Materia | al |
| | Modifications r System Impac Interconnectio Provider will p the re-evaluati complete the r additional time the proposed r Interconnectio make such de | lifications determined not to be may still necessitate the need to t Study to determine modification n Facilities and Distribution Upg rovide Applicant an estimate of on and the associated increme e-evaluation. Applicant may ei and cost to complete the re-eve modification request, or proceed n Request for such modification termination within ten (10) Busi I the Material Modification resu | o re-evaluate the ons to the grades. Distributi time to complete ntal cost required ther accept the valuation, withdra d with a new n. Applicant shall ness Days after | l to w |
| | | | | (Continued) |
| Advice Letter No: Decision No. | 4110-Е 12-09-018 | lssued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/2013 |
| 81C0 | | Vice President Regulatory Relations | Resolution No. | |



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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

| | GENE | ELECTRIC RULE NO. 21 RATING FACILITY INTERCONN | JECTIONS | Sheet 84 |
|-----------------------------------|--|---|--|--------------------------------------|
| F. REVIEW | PROCESS FO | R INTERCONNECTION REQI | UESTS (Cont'd.) | |
| 3. DETA | AILED STUDY IN | ITERCONNECTION REVIEW | / PROCESS (Con | ťd.) |
| d. | Independent Stu | dy Process (Cont'd.) | | |
| v | i) Scope and P | urpose of the Interconnection | Facilities Study a | nd Study Deposit |
| | meeting, or (i receipt of the no Interconne Applicant sha by Distributio MW or less, A deposit, as se | (i) five (5) Business Days follo i) within twenty-five (25) Busin final Interconnection System action System Impact Study re Il submit to Distribution Providen n Provider. At that time, for G Applicant shall also submit the et out in Section E.3.a, unless a in accordance with Section F | ness Days of the Impact Study repo- esults meeting is h der the data requir enerating Facilitie Facilities Study the Facilities Study | neld, red es 5 |
| v | ii) Waiver of the | Interconnection Facilities Stu | ıdy | |
| | Applicant mut Calendar Day Interconnection Provider shall Agreement, to to Section F.3 completing the Applicant cho to a Generator in writing to b facilities deem responsible for support the sa Transmission Section F.3.e | Study may be waived if Distri- ually agree to such waiver. W is after Distribution Provider p on System Impact Study report on Facilities Study results meet tender a draft Generator Inte- ogether with draft appendices, be for cost responsibility and t e Generator Interconnection <i>A</i> oses to forgo the Facilities Stu- or Interconnection Agreement, e responsible for all actual cos- ned necessary by Distribution or all costs associated with Pa afe and reliable operation of the System as set forth in Section for cost responsibility and tim e Generator Interconnection <i>A</i> | Vithin thirty (30) rovides the final rt to Applicant (if the eting, Distribution rconnection to Applicant. Re time frames for Agreement If udy and move direct Applicant must a sts of all required Provider. Application rallel Operation and ne Distribution and n E.4. Refer to the frames for | he fer ectly gree ant is |
| Advice Letter No: Decision No. | 4110-E 12-09-018 | lssued by Brian K. Cherry | Date Filed Effective | (Continued) DRAFT 2/19/2013 |
| 81C0 | | Vice President Regulatory Relations | Resolution No. | |



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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

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|---|--|--|---|--|
| | GENERA | ELECTRIC RULE NO. 21 TING FACILITY INTERCONN | ECTIONS | Sheet 85 |
| F. REVIEW | PROCESS FOR I | NTERCONNECTION REQU | JESTS (Cont'd.) | |
| 3. DETA | AILED STUDY INTI | ERCONNECTION REVIEW | PROCESS (Cont | 'd.) |
| d. Ir | ndependent Study | Process (Cont'd.) | | |
| V | iii) Timing of the In | terconnection Facilities Stud | d <u>y.</u> | |
| | provided to App Applicant posts accordance with Network Upgrace with a Gross Na submits the Face E.3.a and F.3.d. and/or Network are limited to Di- only, the Intercon- within forty-five initial Interconne Facilities with a Applicant submi If applicable, Dis results with the C incorporate CAIS to issuing a final Applicant. Within thirty (30 provides the fina Applicant, or with Interconnection Distribution Prov Interconnection unless Applicant | tion Facilities Study shall be licant within sixty (60) Busin the initial Interconnection Fi Section F.4.b where Distrib les are identified and, for Ge meplate Rating of 5 MW or illities Study deposit in accor v. In cases where no Distri Upgrades are identified and stribution Provider's Intercor innection Facilities Study sh (45) Business Days after Ap action Financial Security and Gross Nameplate Rating of ts the Facilities Study deposi stribution Provider will share CAISO for review and comm SO comments, if any, into th Interconnection Facilities St) Calendar Days after Distrib al Interconnection Facilities Si hin thirty (30) Calendar Day Facilities Study results mee vider shall tender a draft Ge Agreement, together with dr t requests an Interconnection Refer to Section F.3.e for c completing the Generator In | ess Days after nancial Security ir pution Upgrades o enerating Facilities less, Applicant dance with Sectio bution Upgrades the required facili nection Facilities all be completed oplicant posts the for Generating 5 MW or less, sit. the applicable stu- ient, and will e study report price tudy report to sufting, if requested, nerator raft appendices, ost responsibility a | r <u>ities</u> i <u>dy</u> or |
| | | | | (Continued) |
| Advice Letter No: Decision No. 81C0 | 4110-E 12-09-018 | Issued by Brian K. Cherry Vice President Regulatory Relations | Date Filed Effective Resolution No. | DRAFT 2/19/2013 |



Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

| | GENERAT | ELECTRIC RULE NO. 21 | NECTIONS | Sheet 86 |
|-----------------------------------|--|---|---|-----------------|
| F. REVIEW | PROCESS FOR IN | TERCONNECTION REQ | UESTS (Cont'd.) | |
| <u>3. DETA</u> | ILED STUDY INTER | RCONNECTION REVIEW | V PROCESS (Cont | <u>d.)</u> |
| <u>d. Ir</u> | ndependent Study P | rocess (Cont'd.) | | |
| <u>vi</u> | ii) Timing of the Inte | erconnection Facilities Stu | udy. | |
| | the required time Facilities Study, E writing as to the and provide an es | oution Provider determine frame for completing the Distribution Provider shall status of the Interconnect stimated completion date additional time is required | Interconnection notify Applicant in ion Facilities Study with an explanatior | |
| ix |) Interconnection F | acilities Study Results Me | eeting. | |
| | Distribution Provi discuss the result including assigne Days of the reque to establish a dat | pplicant, a results meetin der, the CAISO, if applica ts of the Interconnection I d cost responsibility. Wit est, Distribution Provider e agreeable to Applicant, f applicable, for the result | able, and Applicant Facilities Study, hin five (5) Busines shall contact Applic Distribution Provid | to ss ant |
| | Facilities Study re tender a draft Ge with draft append | Calendar Days after the I esults meeting, Distribution nerator Interconnection A ices, to Applicant. Refer and time frames for con- greement. | on Provider shall Agreement, togethe to Section F.3.e for | |
| <u>x)</u> | Second and Third | Postings of Interconnec | tion Financial Secu | rity |
| | Interconnection F and F.4.d based Upgrades, Distrib Interconnection F Facilities Study, o | t its second and third pos- inancial Security as set fo- on the cost responsibility ution Upgrades, and Dist acilities set forth in the fir or the final Interconnection connection Facilities Stud Section F.3.d.vii. | orth in Sections F.4 for Network tribution Provider's nal Interconnection n System Impact | <u>.c</u> |
| | | | | (Continued) |
| Advice Letter No: Decision No. | 4110-E 12-09-018 | Issued by Brian K. Cherry Vice President | Date Filed Effective Resolution No. | DRAFT 2/19/2013 |
| 81C0 | | Regulatory Relations | Resolution NO. | |



Cancelling

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

| | GEN | ELECTRIC RULE NO. 21 | CTIONS | Sheet 87 |
|-----------------------------------|---------------------------------------|---|------------------------------------|-----------------|
| F. REVIEW | PROCESS F | OR INTERCONNECTION REQUE | <u>STS (Cont'd.)</u> | |
| <u>3. DETA</u> | ALED STUDY | INTERCONNECTION REVIEW P | ROCESS (Cont' | <u>d.)</u> |
| <u>e.</u> G | enerator Inter | connection Agreement | | |
| <u>i)</u> | Tender | | | |
| | Interconnec | ution Provider shall tender a draft ction Agreement, together with dra (30) Calendar Days of the followir | ft appendices, | |
| | i) Provisior results mee | n of the final Interconnection Facilit sting, if held) to Applicant, | ties Study report | (or |
| | <u>ii) Provisior</u> report (or re | n of the final Interconnection Syste esults meeting, if held) to Applican | <u>m Impact Study</u> <u>t,</u> | |
| | report to ea | n of the final DG <mark>S</mark> Phase II Interco ach Applicant in the Distribution Stu eting, if held). | | |
| | | shall provide written comments, to the draft appendices within thirt | | no |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | (Continued) |
| Advice Letter No: Decision No. | 4110-E 12-09-018 | Issued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/2013 |
| 81C0 | | Vice President Regulatory Relations | Resolution No. | |



Pacific Gas and Electric Company San Francisco, California U 39

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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

| | GENERA | ELECTRIC RULE NO. 21 TING FACILITY INTERCONNE | CTIONS | Sheet 88 |
|-----------------------------------|--|--|---|--|
| | | INTERCONNECTION REQU | . , | (N) I It'd.) I |
| e. (| Generator Intercon | nection Agreement (Cont'd.) | | |
| i | i) Negotiation | | | |
| | Distribution Pro- concerning the Agreement at a Applicant with 1 final Interconnection Interconnection Study Process concerning any Generator Inter (90) Calendar I with the final D case of the Dis Interconnection System Impact is waived) in th Producers who Distribution Gro upgrades trigge accordance wit be completed in requests. Proc | g Section F.3.e.i, at the required system in appendices to the Generato appendices to the Generato any time after Distribution Pro- the final Interconnection Faci- ection System Impact Study in a Facilities Study is waived) of the system Impact Study of Study report in the case of 1 Distribution Provider and A visputed provisions of the a reonnection Agreement for mo- Days after Distribution Provid GS Phase II Interconnection tribution Group Study Proces to Facilities Study report (or find Study report if the Interconne e case of the Independent State Interconnection Request to Dup Study Process will be re- pop Study Process will be re- cered by more than one Interce tha payment schedule that a n time for the earliest COD of stem and Transmission Systemed and Transmission Systemed State Interconnection State Interconnection Systemed State Statemed State Interconnection Statemed Sta | s with Applicant r Interconnection pyider provides lities Study repor report if the or final DGS Phas the Distribution G pplicant shall neg ppendices to the ot more than nine ler provides Appl Study report in the sis or the final hal Interconnection ection Facilities S tudy Process. were studied in a quired to fund onnection Request llows such Interconnection f such Interconnection f such Interconnection sts associated w eliable operation | $\frac{t (or}{se } $ |
| Advice Letter No: Decision No. | 4110-E 12-09-018 | lssued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/2013 |
| 81C0 | | Vice President Regulatory Relations | Resolution No. | |



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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

31946-E*

| | | GEN | ELECTRIC RULE NO. 21 ERATING FACILITY INTERCONNEC | TIONS | Sheet 89 |
|-------|-------------|---|---|--|--------------------------------|
| F. | REVIE | W PROCESS FO | DR INTERCONNECTION REQUES | STS (Cont'd.) | |
| | 3. DE | TAILED STUDY | INTERCONNECTION REVIEW PF | ROCESS (Cont'd | .) |
| | e. | Generator Interd | connection Agreement (Cont'd.) | | |
| | | ii) Negotiation | (Cont'd.) | | |
| | | it may reque tender of the pursuant to procedures the Parties, has Agreement, to Section K the final <u>DG</u> <u>of the Distril</u> Facilities St Study repor <u>the case of</u> to have with Provider sha Interconnec | ant determines that negotiations a est termination of the negotiations a e draft Generator Interconnection A Section F.3.e.i and initiate Dispute pursuant to Section K. Unless other if Applicant or Producer, where the not executed the Generator Interco or initiated Dispute Resolution pro s, within ninety (90) Calendar Days <u>S Phase II Interconnection Study roution Group Study Process or Inter</u> udy report (or final Interconnection t if the Interconnection Facilities St the Independent Study Process, it drawn its Interconnection Request all provide to Producer a final Gene tion Agreement within fifteen (15) E mpletion of the negotiation process | at any time after Agreement Resolution erwise agreed by ose are different connection cedures pursuan after issuance of eport in the case erconnection System Impact udy is waived) in shall be deemed . Distribution erator Business Days | r t f |
| | | Extensions of upon in the Reasonable the Intercon System Imp waived. Inte Process will beyond the Commercial Agreement i producer is and Networt Interconnec schedule ag Agreement. | of Commercial Operation Date. of tThe Commercial Operation Date executed Generator Interconnectio Commercial Operation Dates will I nection Facilities Study results meet act Study results meeting if the Fac exconnection Requests under the Ir not be granted extensions except control of Producer. A request for Operation date after the Generator s executed will be agreed to provic still responsible for funding ant Dist (Upgrades as specified in the Gen tion Agreement and under the sam reed upon in the Generator Intercoc This provision has no impact on a preement terms. | n Agreement. be discussed at eting or the cilities Study is in circumstances an extension of r Interconnection led that, the tribution Upgrade erator e payment innection | 2 <u>8</u> |
| Advir | ce Letter N | o: 4110-E | Issued by | Date Filed | (Continued) DRAFT 2/19/2013 |
| | sion No. | 12-09-018 | Brian K. Cherry Vice President Regulatory Relations | Effective Resolution No. | |



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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

| | GENERA | ELECTRIC RULE NO. 21 TING FACILITY INTERCONNE | CTIONS | Sheet 90 |
|-----------------------------------|---|---|---|---|
| F. REVIE | W PROCESS FOR | INTERCONNECTION REQU | JESTS (Cont'd.) | (N) |
| <u>3</u> 3. DET | TAILED STUDY IN | TERCONNECTION REVIEW | PROCESS (Con | ťd.) |
| f. | Engineering & Prod | curement (E&P) Agreement | | |
| | advance the impler request, and Distribut authorizes Distribut of long lead-time ite interconnection. He to offer an E&P Agr result of an allegati or comply with any The E&P Agreeme shall provide for Ap | a Generator Interconnection A nentation of its interconnectio bution Provider shall offer, an tion Provider to begin enginee ems necessary for the establis owever, Distribution Provider reement if Applicant is in Disp on that Applicant has failed to prerequisites specified in oth nt is an optional procedure. To oplicant to pay the cost of all a ake advance payments or pro- osts. | on, an Applicant n E&P Agreement ering and procure shment of the shall not be oblig bute Resolution a or meet any milest er parts of this Ru The E&P Agreem activities authorize | nay I that I ement I gated I s a I tones I ule. I ent I ed by I |
| | | | | |
| Advice Letter No: | 4110 E | locued by | Date Filed | (Continued) |
| Advice Letter No: Decision No. | 4110-E 12-09-018 | Issued by Brian K. Cherry Vice President | Effective Resolution No. | DRAFT 2/19/201 |
| 82C0 | | Regulatory Relations | | |



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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

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|--------------|--|--|--|---|
| | GENE | ELECTRIC RULE NO. 21 RATING FACILITY INTERCONN | ECTIONS | Sheet 91 |
| F. RE | EVIEW PROCESS FC | R INTERCONNECTION REC | QUESTS (Cont'd.) | (N) |
| <u> </u> | DETAILED STUDY I | NTERCONNECTION REVIEW | N PROCESS (Con | ťd.) |
| | f. Engineering & P | rocurement (E&P) Agreement | t (Cont'd.) | |
| | cancellation cost interconnection, whether or not su Applicant withdra Distribution Prov equipment order Applicant shall be To the extent tha Distribution Prov which event Distription paid by Applicant of such equipme to Applicant, in w | ay the cost of such authorized s for equipment that is already which cannot be mitigated as uch items or equipment later b aws its Interconnection Reque ider terminates the E&P Agree ed can be canceled under real e obligated to pay the associa t the equipment cannot be rea- ider may elect: (i) to take title ribution Provider shall refund / t for such equipment and shall nt, or (ii) to transfer title to and which event Applicant shall pay ery of such equipment. | y ordered for its hereafter describer become unnecessa st, or either Applica ement, to the exter sonable terms, ted cancellation co asonably canceled to the equipment, i Applicant any amou I pay the cost of de d deliver such equip | ry. If I ant or I it the I sts. I n I unts I elivery I oment I |
| 4. | INTERCONNECTIO | N FINANCIAL SECURITY | | |
| | a. Types of Interco | nnection Financial Security. | | |
| | any combination | ion Financial Security posted of the following types of Inter d in favor of Distribution Provid | connection Financi | |
| | or financial i | le and unconditional letter of on nstitution that has a credit ration d Poor's or A2 or better by Mo | ng of A or better by | bank l / l |
| | (b) an unconditi <u>that</u> has a cr or better by | onal and irrevocable guaranty edit rating of A or better by St Moody's; | r issued by a comparation of a comparati | any I or A2 I (N) |
| | in an interes | sit standing to the credit of Di t-bearing escrow account ma titution that is reasonably acce | intained at a bank | or |
| | | | | (Continued) |
| Advice Lette | er No: 4110-E 5. 12-09-018 | Issued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/2013 |



Pacific Gas and Electric Company San Francisco, California U 39

Cancelling

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

| | GENEF | ELECTRIC RULE NO. 21 RATING FACILITY INTERCONNE | ECTIONS | Sheet 92 | |
|---|--|--|--|--|--|
| F. REVIE | W PROCESS FO | R INTERCONNECTION REQ | UESTS (Cont'd.) | (N) | |
| 4. INTER | CONNECTION FI | NANCIAL SECURITY (Cont'd. |) | | |
| <u>a.</u> | Types of Intercor | nnection Financial Security (Co | onťd.) | | |
| | in such form as D to time by notice | inancial Security instruments a istribution Provider may reaso to Applicants, or in such other proved as reasonably accepta | nably require fror form as has beer | n time I | |
| | Interconnection F any time the guar maintain the cred provide to Distribu Security meeting | der shall require the use of sta inancial Security to the greate rantor of the Interconnection F it rating required by this Section ution Provider replacement Int the requirements of this Section f the change in credit rating. | st extent possible inancial Security f on F.4.a, Applican erconnection Fina | ancial I Eails to I It shall I Incial I | |
| | Provider in an inte | n deposit standing to the credit erest-bearing escrow account will accrue to Applicant's ben | under subpart (d) | of I | |
| b. | Initial Posting of | Interconnection Financial Secu | urity | | |
| | Interconnection S | y (60) Calendar Days after pub system Impact Study report, Ap tion Provider, two separate Inte ents. | oplicant must pos | t, with I | |
| First, Applicant proposing to interconnect a Large Generating Facility shall post an Interconnection Financial Security instrument in an (N) amount equal to the lesser of (i) fifteen percent (15%) of the total cost responsibility assigned to Applicant in the final Interconnection System Impact Study or final DGS Phase I Interconnection Study in the case of the Distribution Group Study Process for Network Upgrades, (ii) \$20,000 per MW of electrical output of the Large Generating Facility or the amount of megawatt increase in the generating capacity of each existing Generating Facility as listed by Applicant in its Interconnection Request, including any requested modifications thereto, or (iii) \$7,500,000. | | | | | |
| | | | | (Continued) | |
| Advice Letter No: Decision No. | 4110-E 12-09-018 | lssued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/2013 | |
| 84C0 | | Vice President Regulatory Relations | Resolution No. | | |

| | Pacific Gas and Electric Company San Francisco, California U 39 | Cancelling | Original | Cal. P.U.C. Sheet N Cal. P.U.C. Sheet N | | | |
|----------------------------------|---|--|--|--|---|--------------------------------------|----------------------|
| | ELEC GENERATING FA | TRIC RULE NO | | | Sheet 93 | | |
| F. R | EVIEW PROCESS FOR INTER INTERCONNECTION FINANC b. Initial Posting of Interconne | IAL SECURIT | Y (Cont'd | .) | (N) | | |
| | Applicant proposing to inte post an Interconnection Fir equal to the lesser of (i) fift responsibility assigned to A Impact Study <u>or final DGS</u> <u>of the Distribution Group S</u> \$20,000 per MW of electric the amount of megawatt in existing Generating Facility Request. | ancial Security een percent (1 pplicant in the <u>Phase I Interc</u> tudy Process for al output of the crease in the g | y instrume 5%) of the final Inte onnection or Networ e Small G enerating | ent in an amount e total cost rconnection Syst <u>Study in the cas</u> k Upgrades, or (i enerating Facility capacity of each | em <u>se</u> ii) / or n | | |
| | Second, Applicant shall als instrument in the amount o estimated cost responsibili Interconnection System Im <u>Study in the case of the Dis</u> Distribution Provider's Inter Upgrades. | f twenty percer y assigned to a pact Study <u>DG</u> stribution Grou | nt (20%) o Applicant <u>S Phase</u> p Study F | of the total in the final <u>I Interconnection</u> rocess for | | | |
| | The failure by an Applicant Security required by this Security required by this Security required by this Security Figure 5.6. | ection F.4.b sh | all result i | n the | | | |
| | Applicant shall provide Dist has posted the required Int than the applicable final da | erconnection F y for posting. | inancial S | Security no later | | | |
| | Applicant shall provide Dis has posted the required In than the applicable final da | terconnection l | <u>ber with w</u> Financial | ritten notice that Security no later | | Formatted: Indent: Le 1.19", Left | eft: 0.92", Tab stor |
| | | | | | (N) | | |
| | | | | | (Continued) | | |
| Advice Let Decision N 85C0 | <i>lo.</i> 12-09-018 | Issued by Brian K. Cherry Vice President gulatory Relations | | Date Filed Effective Resolution No. | DRAFT 2/19/2013 | <u>></u> | |



Pacific Gas and Electric Company San Francisco, California U 39

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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

| | GENER | ELECTRIC RULE NO. 21 ATING FACILITY INTERCONNEC | CTIONS | Sheet 94 |
|-----------------------------------|---|---|---|--|
| F. REVIE | W PROCESS FOR | R INTERCONNECTION REQU | ESTS (Cont'd.) | (N) |
| 14. INT | FERCONNECTION | I FINANCIAL SECURITY (Cont | ťd.) | |
| C. | Second Posting o | f Interconnection Financial Sec | curity | |
| | publication of the <u>final</u> Interconnection System Impact St waived <u>in the case</u> post two separate First, Applicant pro | hundred twenty (120) Calendar final <u>DGS Phase II Interconnec</u> on Facilities Study report (or fin udy report if the Interconnection <u>e of the Independent Study Pro</u> Interconnection Financial Secu oposing to interconnect a Large connection Financial Security in | tion Study report nal Interconnection Facilities Study cess), Applicant urity instruments e Generating Fac | on I / is I shall I . I cility I |
| | the total Interconn Network Upgrades percent (30%) of t Network Upgrades Study (final DGS I Distribution Group Study (final DGS I | ection Financial Security poste s equals the lesser of (i) \$15 m he total cost responsibility assis s in either the final Interconnect Phase I Interconnection Study i Study Process) or final Interco Phase II Interconnection Study Study Process), whichever is | d by Applicant fo illion, or (ii) thirty gned to Applicar tion System Impa in the case on th ponection Faciliti in the case of th | or I I at for I act I <u>e</u> I es I |
| | post an Interconnection total Interconnection Network Upgrades percent (30%) of the Network Upgrades Study or final Inter final DGS Phase I | ng to interconnect a Small Generation Financial Security instrur on Financial Security posted by s equals the lesser of (i) \$1 mill he total cost responsibility assis is in either the final Interconnect roonnection Facilities Study,(fin 1 Interconnection Studies, responsibility Process) whichever is less of the study Process of the study of | ment such that the y Applicant for lion, or (ii) thirty gned to Applicar tion System Impa al DGS Phase I ectively, for the | ne I I I nt for I act I |
| | instrument such th posted by Applica Facilities and Dist total cost responsi Interconnection St Study Process if the such as t | s shall also post an Interconnect nat the total Interconnection Fin nt for Distribution Provider's Int ribution Upgrades equals thirty ibility assigned to Applicant in t tudy or final Interconnection Fa ystem Impact Study in the case he Interconnection Facilities St ler's Interconnection Facilities a | ancial Security terconnection percent (30%) o he final <u>DGS Ph</u> cilities Study , ; o e of the Indepence udy is waived, fo | I (N) f the ase II r final lent |
| | | | | (Continued) |
| Advice Letter No. Decision No. | : 4110-E 12-09-018 | Issued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/2013 |
| 86C0 | | Vice President Regulatory Relations | Resolution No. | |



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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

| | GENERA | ELECTRIC RULE NO. 21 ATING FACILITY INTERCONNE | ECTIONS | Sheet 95 |
|-----------------------------------|---|--|--|--|
| F. REVIE | W PROCESS FOR | | UESTS (Cont'd.) | (N) |
| 24. INT | ERCONNECTION | FINANCIAL SECURITY (Con | nt'd.) | |
| C. | Second Posting of | Interconnection Financial Se | ecurity (Cont'd.) | |
| | Distribution Provide Upgrades on beha Calendar Days afte Interconnection Stur report (or final Inte of the Independent Study is waived), t Generator Intercor second posting of | Construction Activities of Ne er's Interconnection Facilities If of Applicant is prior to one er publication of the final DGS udy report or final Interconne rconnection System Impact S t Study Process if the Interco hat start date must be set for nection Agreement and Appl Interconnection Financial Sec er than Section F.4.c. | and Distribution hundred twenty (<u>5 Phase II</u> ction Facilities Study report in the nnection Facilities th in Applicant's licant shall make | udy I <u>e case</u> I s I its I |
| | Security required b Interconnection Re Section F.6 or, if a | Applicant to timely post the Int by this Section F.4.c shall res equest being deemed withdra pplicable, shall constitute gro rconnection Agreement. | ult in the wn and subject to | |
| d. | Third Posting of In | terconnection Financial Secu | ırity. | |
| | or Distribution Prov Upgrades on beha | tart of Construction Activities vider's Interconnection Facilit If of Applicant, whichever is e parate Interconnection Financ | ies or Distribution earlier, Applicant | n I shall I |
| | Network Upgrades equals one hundre assigned to Applica Interconnection Stu final Interconnection | e Interconnection Financial Se , Applicant shall modify this i d percent (100%) of the total ant for Network Upgrades in <u>udy or final</u> Interconnection F on System Impact Study in the <u>Process</u> if the Interconnection | nstrument so that cost responsibilit the final <u>DGS Pha</u> acilities Study, or e case of the | t it I ty I ase II (N) the |
| | | | | (Continued) |
| Advice Letter No: Decision No. | 4110-E 12-09-018 | Issued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/2013 |
| 87C0 | | Vice President Regulatory Relations | Resolution No. | |



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Pacific Gas and Electric Company San Francisco, California U 39

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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

| | GENE | ELECTRIC RULE NO. 21 ERATING FACILITY INTERCONN | ECTIONS | Sheet 96 |
|----------------------------------|---|---|---|--|
| F. REVI | EW PROCESS F | OR INTERCONNECTION REQ | UESTS (Cont'd.) | (N) |
| <u>3</u> 4. IN | TERCONNECTIO | ON FINANCIAL SECURITY (Co | ont'd.) | |
| d. | Third Posting o | f Interconnection Financial Sect | urity (Cont'd.) | |
| | Distribution Pro Upgrades, Appl hundred percen Applicant for Dis final <u>DGS Phas</u> Facilities Study, | the Interconnection Financial S vider's Interconnection Facilities icant shall modify this instrument t (100%) of the total cost respo stribution Provider's Interconnect <u>e II Interconnection Study or fin</u> or the final Interconnection Systen <u>Independent System Process</u> if is waived. | s or Distribution nt so that it equals nsibility assigned ction Facilities in t <u>al</u> Interconnection stem Impact Study | sone I to I he I y in I |
| | Security require | n Applicant to timely post the In d by this Section F.4.d shall co le Generator Interconnection A | nstitute grounds fo | ancial I or I I |
| e. | Termination of | of Withdrawal of Interconnection the Generator Interconnection A Financial Security for Projects udy Process | Agreement on | |
| | Request or term shall allow Distr Financial Secur Upgrades at the liquidated Interco separately provi Network Upgrad cost responsibil final Interconne System Impact | orth in Section F.4.e.i, withdrawa ination of a Generator Intercon ibution Provider to liquidate the ity, or balance thereof, posted b time of withdrawal. To the ext connection Financial Security pl ided by Applicant to satisfy its o les in accordance with Section ity for Network Upgrades assign ction Facilities Study, or the fina Study if the Interconnection Fac vider shall remit to Applicant the | Interconnection Interconnection by Applicant for Ne ent the amount of us capital, if any, obligation to finance E.4 exceeds the t ned to Applicant b al Interconnection cilities Study is wa | nt I etwork I the I ce I otal I y the (N) |
| | | | | (Continued) |
| Advice Letter No Decision No. | o: 4110-E 12-09-018 | Issued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/2013 |
| 88C0 | | Vice President Regulatory Relations | Resolution No. | |



Cancelling

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

| | GENEF | ELECTRIC RULE NO. 21 RATING FACILITY INTERCONNE | ECTIONS | Sheet 97 |
|---------------------------------------|---|--|--|--|
| F. REVIEW | V PROCESS FO | R INTERCONNECTION REQI | UESTS (Cont'd.) | (N) |
| 14. INTE | ERCONNECTIO | N FINANCIAL SECURITY (Co | nt'd.) | |
| | Termination of th Interconnection F | Withdrawal of Interconnection le Generator Interconnection A Financial Security <u>for Projects s</u> dy <u>Process</u> . (Cont'd.) | greement on | |
| l l l l l l l l l l l l l l l l l l l | Generator Interco Applicant of any I Applicant for Dist Distribution Upgra to pay for costs ir Provider on beha Interconnection F | Interconnection Request or ter onnection Agreement shall rest interconnection Financial Secu- ribution Provider's Interconnect ades, except with respect to ar neurred or irrevocably committed of Applicant for Distribution F facilities and Distribution Upgra der has not been reimbursed. | ult in the release irity posted by ition Facilities and ny amounts neces ed by Distribution Provider's | d I ssary I I |
| | Security Upo | or Partial Recovery of Interconr n Withdrawal of Interconnection of Generator Interconnection A | on Request or | |
| | released to A withdrawal o | the Interconnection Financial S Applicant, consistent with Section f the Interconnection Request terconnection Agreement occu sons: | on F.4.e.ii, if the or termination of | the I |
| | (1) Failure to | o Secure a Power Purchase Ag | greement. | ļ |
| | terminati Applican failed to the energy faith effo demonst process Affiliate t | ne of withdrawal of the Intercon on of the Generator Interconne t demonstrates to Distribution secure an acceptable power p gy or capacity of the Generatin rt to do so. A good faith effort rating participation in a compe or bilateral negotiations with a hat progressed, at minimum, to unter-parties of proposed term | ection Agreement Provider that it ha urchase agreeme g Facility after a can be establishe titive solicitation n entity other than o the mutual exch | t, I as I ent for I good I ed by I n an I |
| | | | | (Continued) |
| Advice Letter No: Decision No. | 4110-E 12-09-018 | lssued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/2013 |
| 89C0 | | Vice President Regulatory Relations | Resolution No. | |



Cancelling

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

| | GENE | ELECTRIC RULE NO. 21 RATING FACILITY INTERCONNE | ECTIONS | Sheet 98 |
|-----------------------------------|---|---|---|---|
| F. REVIE | N PROCESS FO | OR INTERCONNECTION REQU | JESTS (Cont'd.) | (N) |
| 54. INT | ERCONNECTIO | N FINANCIAL SECURITY (Cor | nťd.) | |
| | Termination of the Interconnection | f Withdrawal of Interconnection ne Generator Interconnection A Financial Security <u>for Projects S</u> Idy Process. (Cont'd.) | greement on | |
| | Security Upo | or Partial Recovery of Interconn on Withdrawal of Interconnectio of Generator Interconnection A | n Request or | d.) |
| | (2) Failure t | o Secure a Necessary Permit. | | |
| | terminat Applicar receivec Authorit | me of withdrawal of the Intercor ion of the Generator Interconne it demonstrates to Distribution F a final denial from the primary y of any permit or other authoriz struction or operation of the Ger | ection Agreement Provider that it ha issuing Governm zation necessary | , l Is l nental l |
| | | e in the Cost of Distribution Prov s or Distribution Upgrades. | vider's Interconne | ection I |
| | terminat on an in is greate Intercon Whichev Upgrade System This See increase | It withdraws the Interconnection es the Generator Interconnection crease of: (i) more than 30% or er, in the estimated cost of Distr nection Facilities; or (ii) more th er is greater, in the estimated c es allocated to Applicant from th Impact Study to the Interconne- ction F.4.e.i.(3) shall not apply it e under (i) or (ii) above is the rese ed by Applicant pursuant to Sec | on Agreement ba \$300,000, which ibution Provider's an 30% or \$300, ost of Distributior le Interconnection ction Facilities St f the cause of the sult of a change | ever s 000, n n udy. |
| | | | | (Continued) |
| Advice Letter No: Decision No. | 4110-E 12-09-018 | Issued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/201 |
| 90C0 | | Vice President Regulatory Relations | Resolution No. | |



Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

| | | GENE | ELECTRIC RULE NO. 21 RATING FACILITY INTERCONNE | ECTIONS | Sheet 99 |
|---------------------------------|------|--|--|--|---|
| F. REVI | IEW | PROCESS FC | OR INTERCONNECTION REQU | JESTS (Cont'd.) | (N) |
| <u>3</u> 4. IN | NTEF | RCONNECTIO | N FINANCIAL SECURITY (Cor | nťď.) | |
| e. | Te | ermination of th | f Withdrawal of Interconnection ne Generator Interconnection A Financial Security. (Cont'd.) | | |
| | i) | Security Upo | or Partial Recovery of Interconr on Withdrawal of Interconnectio of Generator Interconnection A | n Request or | d.) |
| | | Created | Change in Applicant's Intercon by Distribution Provider's Char nection. | | f 1 |
| | | terminat on a ma Study in Facility r final Inte Point of Intercon different | nt withdraws the Interconnection tes the Generator Interconnection terial change from the Intercon- the Point of Interconnection for mandated by Distribution Provider erconnection Facilities Study. A Interconnection shall be where nection has moved to (i) a differ line on a different right of way, cocation than previously identif | on Agreement ba nection System Ir r the Generating der and included i material change the Point of rent substation, (or (iii) a material | npact I I n the I in the I ii) a I y I |
| | ii) | | r Determining Non-Refundable tion Financial Security for Netw | | |
| | | the Fina (or Fina | ne Hundred Twenty (120) Caler <u>I-final</u> Interconnection Facilities <u>I-final</u> Interconnection System In the Interconnection Facilities S | Study Report rep npact Study Rep | ort I |
| | | Financia | y time after the initial posting of al Security for Network Upgrade or before one hundred twenty (* | s under Section I | 4.b I |
| | | | | | (Continued) |
| Advice Letter N Decision No. | | 4110-E 12-09-018 | Issued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/2013 |
| 91C0 | | | Vice President Regulatory Relations | Resolution No. | |



Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

| | Applica Intercor under (i apart fr Pre-Cor Provide | uction Activities for Network Up nt, the lesser of the remaining nnection Financial Security or t i) above. If Applicant has sepa om the Interconnection Financ nstruction Activities for Networ er will credit the capital providee nnection Financial Security and | balance of the the amount calculated arately provided capita ial Security to finance k Upgrades, Distributi d as if drawn from the | al I I on I |
|--------|--|--|---|---|
| | report in Applica termina applical Provide for Netw Applica percent Financi \$10,000 Genera retained Financi | eport (or final Interconnection S f the Interconnection Facilities int withdraws the Interconnection tes the Generator Interconnection ble, in accordance with Section er shall liquidate the Interconne work Upgrades under Section int in an amount of (i) any poste t (50%) of the value of the post al Security for Network Upgrad 0 per requested and approved iting Facility Capacity at the tim d by Distribution Provider), or (i al Security has been drawn do | Study is waived), on Request or tion Agreement, as n F.4.e.i, Distribution ction Financial Securi F.4.b and reimburse ed amount less fifty red Interconnection les (with a maximum of MW value of the ne of withdrawal being ii) if the Interconnectio wn to finance Pre- | 2 |
| | Final In Intercor Intercor | One Hundred Twenty (120) Cale terconnection Facilities Study I nnection System Impact Study nnection Facilities Study is Wa e date of issuance of the final I | Report (or Final Report if the ived). (Cont'd.) | |
| | | or Determining Non-Refundable ction Financial Security for Net | | d.) I |
| | Termination of t | of Withdrawal of Interconnection the Generator Interconnection Financial Security. (Cont'd.) | | |
| 4. INT | ERCONNECTIO | ON FINANCIAL SECURITY (Co | ont'd.) | |
| REVIE\ | W PROCESS F | OR INTERCONNECTION REG | QUESTS (Cont'd.) | (N) |
| | GENE | ELECTRIC RULE NO. 21 ERATING FACILITY INTERCONN | | neet 100 |
| | | GENE | | ELECTRIC RULE NO. 21 Sh GENERATING FACILITY INTERCONNECTIONS |



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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

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| | G | ELECTRIC RULE NO. 21 ENERATING FACILITY INTERCONNE | ECTIONS | Sheet 101 |
|----------------------|---|--|--|--|
| F. REVIE | W PROCESS | FOR INTERCONNECTION REQU | JESTS (Cont'd.) | (N) |
| <u>3</u> 4. INT | ERCONNEC | TION FINANCIAL SECURITY (Cor | nťd.) | |
| e. | Termination | ct of Withdrawal of Interconnection of the Generator Interconnection A ion Financial Security. (Cont'd.) | | |
| | | e for Determining Non-Refundable nection Financial Security for Netwo | | |
| | `´ Afte | veen One Hundred Twenty-One (12 r Final Interconnection Facilities Stu mencement of Construction Activit | udý Report and th | |
| | Cale Inter Syst Stuck Prov App term appl Prov for N App perc Fina \$20, Gen retai Fina Con App Inter unter unter Prov Prov Prov | any time between one hundred two indar Days and after the date of iss connection Facilities Study report (em Impact Study report if the Interce ly is waived), and the commencemen- ities for either Network Upgrades of ider's Interconnection Facilities or I icant withdraws the Interconnection inates the Generator Interconnection ider shall liquidate the Interconnect letwork Upgrades under Section F icant in an amount of (i) any posted ent (50%) of the value of the postern ncial Security for Network Upgrade 000 per requested and approved M erating Facility Capacity at the time ned by Distribution Provider), or, (ii ncial Security has been drawn dow struction Activities for Network Upg icant, the lesser of the remaining b connection Financial Security or th- er (i) above. If Applicant has separa t from the Interconnection Financia Construction Activities for Network upd icconnection Financial Security and a connection Financial Security and a | uance of the final or final Interconn- connection Facilit ent of Construction or Distribution Upgra on Agreement, as F.4.e.i, Distribution tion Financial Sec 4.c. and reimburs d amounts less fif d Interconnection s (with a maximu IW value of the e of withdrawal be) if the Interconnec rades on behalf of alance of the e amount calcula ately provided caj I Security to finar Upgrades, Distrib as if drawn from the | ection I ies I ies I ades, I ades, I bon I curity I se I ty I m of I ing I ection I of I botaI I oce I oution I |
| Advice Letter No: | | Issued by | Date Filed Effective | DRAFT 2/19/2013 |
| Decision No. 93C0 | 12-09-018 | Brian K. Cherry Vice President Regulatory Relations | Resolution No. | |



Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

| | GEN | ELECTRIC RULE NO. 21 ERATING FACILITY INTERCONN | ECTIONS | Sheet 102 |
|-----------------------------------|---|---|--|--|
| F. REVIE | N PROCESS F | OR INTERCONNECTION REQ | UESTS (Cont'd.) | (N) |
| <u>)</u> 4. INTI | ERCONNECTI | ON FINANCIAL SECURITY (Co | ont'd.) | |
| | Termination of | of Withdrawal of Interconnection the Generator Interconnection A n Financial Security. (Cont'd.) | | |
| | ii) Schedule f Interconne (Cont'd.) | or Determining Non-Refundable oction Financial Security for Netw | Portion of the vork Upgrades. | |
| | (3) After C | Commencement of Construction | Activities. | |
| | of App Reque Agree | Construction Activities on Netwo licant commence, any withdrawa st or termination of the Generate ment by Applicant will be treated n F.4.e. | al of the Interconn or Interconnection | ection I |
| | (4) Notific | ation and Accounting by Distribu | ition Provider. | |
| | Busine Securi liquida with ar liquida not oth incurre behalf be app Applic Financ procee Proper | ution Provider will notify Applica ess Days of liquidating any Interce ty. Within seventy-five (75) Cale ting event, Distribution Provider n accounting of the disposition of ted Interconnection Financial Se nerwise reimbursed to Applicant ed or irrevocably committed by D of Applicant in accordance with blied as directed by the Commiss ant with remaining proceeds fror sial Security cannot be located, se eds shall escheat to the State put ty Law commencing with the Ca dure § 1500. | connection Financ endar Days of any will provide Applid f the proceeds of ecurity and all proo or applied to cost bistribution Provide this Section F.4.e sion. Where an Interconnection such remaining rsuant to the Unc | cant I the I ceeds I s I er on I shall I I laimed I |
| | | | | (Continued) |
| Advice Letter No: Decision No. | 4110-E 12-09-018 | Issued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/201 |
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| | GENEF | ELECTRIC RULE NO. 21 RATING FACILITY INTERCONNE | ECTIONS | Sheet 10 | 3 | | |
|-------------------|--|--|---|--|---------------------|----------|--|
| F. REVIE | W PROCESS FO | R INTERCONNECTION REQU | JESTS (Cont'd.) | | (N) | | |
| <u>4. INT</u> | ERCONNECTION | N FINANCIAL SECURITY (Cor | <u>nť'd.)</u> | | Ì | - | Formatted: Indent: Left: 0.25", No bullets or numbering |
| <u>e.</u> | Termination of th Interconnection F | Withdrawal of Interconnection e Generator Interconnection A inancial Security for Projects S dy Process. (Cont'd.) | greement on | e | | | |
| | ii) Schedule for Interconnecti (Cont'd.) | Determining Non-Refundable on Financial Security for Netwo | Portion of the ork Upgrades. | | | | |
| | (Cont'd.) | CCESS FOR INTERCONNEC | | | | - | Formatted: Indent: Left: 0.67", Numbered + Level: 1 + Numbering Style: a, b, c, + Start at: 1 + Alignment: Left + Aligned at: 1.25" + Indent at: 1.5" |
| Ge | of the Generat | /ithdrawal of Interconnection F or Interconnection Agreeme ty for Interconnection Reque p Study. | nt on Intercon | nection | | * | Formatted: Indent: Left: 0.67" |
| | Generator Interci to liquidate the In posted by Applic the time of with Interconnection provided by Ap Upgrades or Dis exceeds the to Distribution Up Interconnection Impact Study i Distribution Prov Withdrawal of Generator Interci Applicant of ais with respect to a irrevocably comm for Distribution | an Interconnection Request onnection Agreement shall allo neterconnection Financial Secur ant for Network Upgrades or E drawal. To the extent the ar Financial Security plus capi plicant to satisfy its obligation stribution Upgrades in accord stribution Upgrades in accord trades assigned to App Facilities Study, or the final I f the Interconnection Faciliti ider shall remit to Applicant the an Interconnection Request connection Agreement shall re- ny Interconnection Financial stribution Provider's Interconnection any amounts necessary to pa nitted by Distribution Provider Provider's Interconnection Fa- ider has not been reimbursed. | w Distribution P rity, or balance t Distribution Upgra nount of the light tal, if any, sep on to finance N ance with Section Network Upgrad licant by the nterconnection S ies Study is we excess amount or termination esult in the release Security post Security post action Facilities, y for costs incu | rovider hereof, ades at uidated warately letwork on E.4 des or final System vaived, - - - - - - - - - - - - - - - - - - - | | 4 | Formatted: Indent: Left: 0.92" |
| Advice Letter No: | 4110-E | Issued by | Date Filed | `` | inued) 2/19/2013 | | |
| Decision No. | 12-09-018 | Brian K. Cherry Vice President | Effective Resolution No. | DNAFT | 211312013 | | |
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| | GENI | ELECTRIC RULE NO. 21 ERATING FACILITY INTERCONN | ECTIONS | Sheet 103 |
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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

31959-E

| ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS | Sheet 104 |
|---|---|
| F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) | |
| 5. COMMISSIONING TESTING AND PARALLEL OPERATION | |
| a. Commissioning Testing | |
| Producer Arranges for and Completes Commissioning Testing o Facility and Producer's Interconnection Facilities: Producer is re- testing new Generating Facilities and associated Interconnection according to Section L.5 to ensure compliance with the safety ar provisions of this Rule prior to being operated in parallel with Dis Provider's Distribution or Transmission System. For non-Certifie Producer shall develop a written testing plan to be submitted to I Provider for its review and acceptance. Alternatively, Producer a Provider may agree to have Distribution Provider conduct the red Producer's expense. Where applicable, the test plan shall include test procedures published by the manufacturer of the Generating Interconnection Facilities. Facility testing shall be conducted at a agreeable time, and depending on who conducts the test, Distrib Producer shall be given the opportunity to witness the tests. | sponsible for a Facilities ad reliability tribution d Equipment, Distribution and Distribution quired testing at le the installation g Facility or a mutually |
| b. Parallel Operation or Momentary Parallel Operation | |
| Producer shall not commence Parallel Operation of its Generatir Distribution Provider's system unless it has received Distribution express written permission to do so. Distribution Provider shall a Producer's Generating Facility for Parallel Operation or Momenta Operation with Distribution Provider's Distribution or Transmissio writing, within five (5) Calendar Days of satisfactory compliance all applicable agreements. Compliance may include, but not be provision of any required documentation and satisfactorily compli inspections or tests as described herein or in the agreements for Producer and Distribution Provider. | Provider's authorize ary Parallel on System, in with the terms of limited to, eting any required |
| | (Continued) |

Advice Letter No: Decision No. 4110-E 12-09-018

Issued by **Brian K. Cherry** Vice President Regulatory Relations

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Resolution No.

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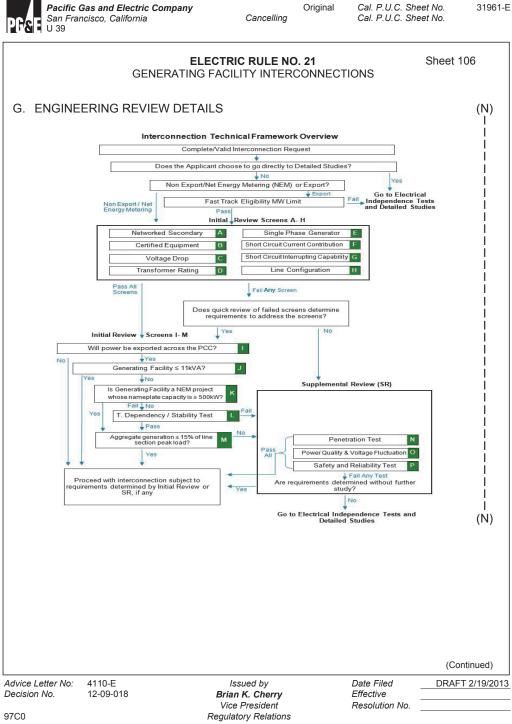
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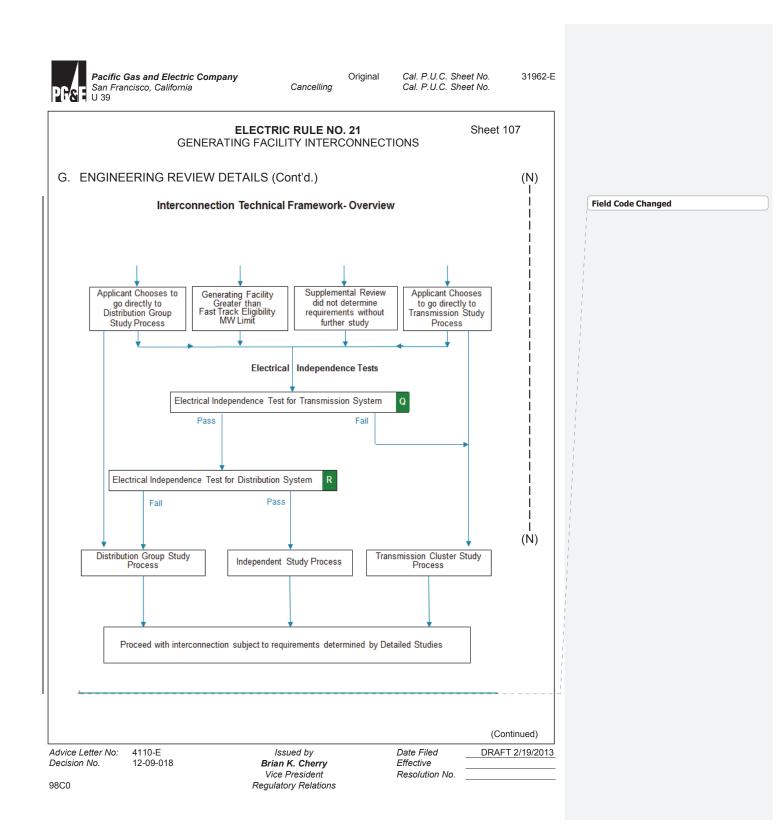
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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

| | | (| ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS | Sheet 1 | 05 |
|-------------------|-------------------------------|--|--|--|---|
| F. | REV | EW PROCES | SS FOR INTERCONNECTION REQUESTS (Co | ont'd.) | (N) I |
| | 6. V | ITHDRAWAL | - | | |
| | ror()totrrsrv, ve VtarIIII | bice of such the Intercon quirements a Disputes), Dis be withdraw eemed withdr ereasons for otice, Applica espond with ir upports its po otifies Distribu- pplicant cures ithdrawal was stablished pu /ithdrawal sha e Interconne the connection terconnection terconnection terconnection terconnection terconnection terconnection the event of ovisions in S t Applicant's r | withdraw its Interconnection Request at any tim withdrawal to Distribution Provider. In addition, nection Request, if Applicant fails to adhere to t and timelines of this tariff, except as provided in stribution Provider shall deem the Interconnectio on and shall provide written notice to Applicant or rawal within five (5) Business Days and an expla r such deemed withdrawal. Upon receipt of suc ant shall have five (5) Business Days in which to nformation or action that either cures the deficient sition that the deemed withdrawal was erroneou uton Provider of its intent to pursue Dispute Res s the deficiency or supports its position that the s erroneous, Applicant shall not lose its queue p rsuant to Section E.5. all result in the removal of the Interconnection R ction Study process. If Applicant disputes the w om the Interconnection Study process and has a e Resolution as set forth in Section K, Applicant' n Request will not be considered in any ongoing n Study during the Dispute Resolution process. such withdrawal, Distribution Provider, subject i ection D.7 and Sections E.3.a, as applicable, sh request, all information that Distribution Provider eted study conducted up to the date of withdrawa n Request. | after receipt he Section K in Request f the anation of h written either ncy or us and solution If deemed bosition request from vithdrawal elected to s to the hall provide, r developed | |
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| | | | | (Cor | ntinued) |
| Advice Decisio | Letter I on No. | o: 4110-E 12-09-018 | Issued by Date File Brian K. Cherry Effective | d DRAF | T 2/19/2013 |
| 96C0 | | | Vice President Resolution Regulatory Relations | on No. | |







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| Advice Letter N Decision No. | | 110-E 2-09-018 | lssued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/2013 |
| | | | | | (Continued) |
| | | continue to Scree The proposed G equipment packa inverter-based g Spot Network's r the interconnecti | enerating Facility meets the en B pursuant to Section G. age and, together with the a eneration, shall not exceed naximum load or 50 kW. U on of a Generating Facility or cause unnecessary opera ors. | 1. ggregated other the smaller of 5 of nder no condition result in a backfe | sed I % of a I shall I ed of I |
| | • | If Yes (fail), must Generating Facili | t go to Supplemental Review ity is on a Spot Network and | w except if the dimeets the follow | l I ving l |
| a. | . Sci | reen A: Is the PC | C on a Networked Seconda | ary System? | |
| 4. | . If p act | ossible without fu | irther study check if the Ger equipment. | nerating Facility v | vill I I |
| 3. | | termine if phase t nimal review. | palancing on the transforme | r is possible with | |
| 2. | . Re | place overloaded | secondary conductors with | larger conductor | ·. |
| 1. | | place an overload nsformer. | ded distribution transformer | with a larger | |
| S o | ome o f a fai | examples of solut led Screen A thro | tions that may be available to bugh H are: | to mitigate the im | pact I |
| A | throu eterm | igh H are not pas | sts of Screens A through M sed, a quick review of the fa ents to address the failure(s a required. | ailed Screen(s) m | |
| 1. IN | ITIAL | REVIEW SCRE | ENS | | |
| G. ENGI | NEEF | RING REVIEW DE | ETAILS (Cont'd.) | | (N) |
| | | GENERAT | ELECTRIC RULE NO. 21 ING FACILITY INTERCONNE | CTIONS | Sheet 108 |



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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

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| | GEN | ELECTRIC RULE NO. 21 NERATING FACILITY INTERCONNE | CTIONS | Sheet 109 |
|---------------------------------|---|---|---|-----------------------|
| G. ENGI | NEERING REVI | EW DETAILS (Cont'd.) | | (N) |
| 1. IN | IITIAL REVIEW | SCREENS (Cont'd.) | | |
| a. | Screen A: Is | the PCC on a Networked Seconda | ry System? (Cor | nťd.) |
| | If No (pass | s), continue to Screen B. | | |
| | Facilities p Systems b network pr | ce: Special considerations must be proposed to be installed on Networ because of the design and operatio rotectors. There are no such cons in systems. | ked Secondary | |
| b. | Screen B: Is | Certified Equipment used? | | |
| | Does the Inter as set out in S Provider appre | rconnection Request propose to us Section L or does the equipment ha oval? | se Certified Equip ave interim Distril | oment I oution I |
| | If Yes (pas | ss), continue to Screen C. | | |
| | If No (fail) | continue to Screen C pursuant to S | Section G.1. | |
| | has not compl met the intent Distribution Pr | val allows Distribution Provider to t leted this Rule's Certification requi of this screen. Interim approval is rovider's discretion on case by cas rating Facility does not guarantee a acility. | rements as havir granted at e bases, and ap | ng l I proval l |
| | been Certified Distribution Pr of the Genera Functions. Si | If the Generating and/or Interconn I or previously approved by Distribu- rovider does not need to repeat its ting and/or Interconnection Facility te Commissioning Testing may stil e Protective Functions are working | ution Provider, full review and/o 's Protective I be required to | |
| | Certification in have been tes | dicates that the criteria in Section ted and verified. | L, as appropriate | e, I (N) |
| | | | | (Continued) |
| Advice Letter N Decision No. | o: 4110-E 12-09-018 | Issued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/2013 |
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Pacific Gas and Electric Company San Francisco, California U 39

| | | | | ELECTRIC RULE NO. 21 | TIONS | Sheet 11 | 0 |
|--|-----------------------------------|---|---|--|---------------------------------------|--------------|--------------|
| | G. ENGINI | EER | RING REVIEW DET | AILS (Cont'd.) | | | (N) |
| | 1. INI ⁻ | TIAL | REVIEW SCREEN | NS (Cont'd.) | | | |
| | C. | Scr | een C: Is the Start | ting Voltage Drop within acc | eptable limits? | | |
| | | • | If Yes (pass), conti | nue to Screen D. | | | |
| | | • | If No (fail), continue | e to Screen D pursuant to S | ection G.1. | | |
| | | | e: This Screen onl toring the Generato | y applies to Generating Fac r(s). | ilities that start | by | |
| | | Volt | tribution Provider hat tage Drop is accept vider's discretion. | as two options in determinir table. The option to be used | ig whether Star d is at Distributi | ting on | |
| | | Fac | ility's starting In-rus | Provider may determine that sh Current is equal to or less ing of the Customer's service | s than the | ıg | |
| | | Option 2: Distribution Provider may determine the impedances of service distribution transformer (if present) and the secondary conductors to Customer's service equipment and perform a volta drop calculation. Alternatively, Distribution Provider may use tak nomographs to determine the voltage dropVoltage drops cause starting a Generator must be less than 2.5% for primary Interconnections and 5% for secondary Interconnections. | | | | | |
| | | Sig | nificance: | | | | |
| | | 1. | This Screen addre may be caused by | esses potential voltage flucto Generators that start by mo | uation problems otoring. | s that | |
| | | 2. | When starting, Ge on the service volt | enerating Facilities should hat tage to other Distribution Pro | ave minimal impovider Custome | oact ers. | |
| | | 3. | Passing this Screet its Generating Fac this Rule, Section | en does not relieve Produce cility complies with the flicke H.2.d. | r from ensuring r requirements | that of | (N) |
| | | | | | | (Conti | nued) |
| | Advice Letter No: Decision No. | No: 4110-E Issued by Date Filed 12-09-018 Brian K. Cherry Effective | | | | | 2/19/2013 |
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Original Cancelling

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

| | | | | GENEF | ELECTRIC RULE NO. 21 RATING FACILITY INTERCONNECTIONS | Sh | eet 111 |
|---|------------------|----|--------|---|---|----------------------------|--------------------------------|
| | G. | EN | GIN | EERING REVIEW | / DETAILS (Cont'd.) | | (N) |
| | | 1. | INI | TIAL REVIEW SC | REENS (Cont'd.) | | |
| | | | d. | Screen D: Is the exceeded? | e transformer or secondary conductor rat | ting | |
| | | | | Facilities connect transformer or se | aggregated Gross Ratings for all the Ge ted to a secondary distribution transforme condary conductor rating, modified per e der practice, absent any Generating Fac | er exceed t established | the I |
| | | | | • If Yes (fail), co | ontinue to Screen E pursuant to Section | G.1. | ļ |
| | | | | • If No (pass), o | continue to screen E. | | |
| 1 | | | | or secondary con analysis determin | is screen addresses potential secondary iductor overloads. When Distribution Pro- nes a transformer or conductor change is der will furnish Applicant with an explana eded. | ovider's required, | |
| | | | e. | Screen E: Does imbalance? | the Single-Phase Generator cause unac | ceptable | |
| | | | | interconnected or | Generating Facility is single-phase and is n a center tap neutral of a 240 volt servic ble imbalance between the two phases o | e, does it | volt I |
| | | | | • If Yes (fail), co | ontinue to Screen F pursuant to Section | G.1. | |
| | | | | • If No (pass), o | continue to screen F. | | (N) |
| | | | | | | | |
| | Advice | | ar No. | 4110-E | Issued by Date Fil | | (Continued) DRAFT 2/19/2013 |
| | Aavice Decisi | | | 4110-E 12-09-018 | Issued by Date Fil Brian K. Cherry Effective Vice President Resolut | re | JTAFT 2/19/2013 |
| | 102C0 |) | | | Regulatory Relations | | |



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Pacific Gas and Electric Company San Francisco, California U 39

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

| | | | | GENE | ELECTRIC RULE NO. 21 RATING FACILITY INTERCONNECTIONS | | Sheet 112 | |
|---|---|-------------------------------------|------------------|---|--|--|-----------------|--|
| | G. | ENG | SINE | ERING REVIEW | V DETAILS (Cont'd.) | | (N) | |
| | | 1. INITIAL REVIEW SCREENS (Cont'd.) | | | | | | |
| | | | | Screen E: Does mbalance? (Co | s the Single-Phase Generator cause una nt'd.) | acceptable | | |
| I | | | t t F C | ransformer with hat the aggrega between the two Provider's analy | enerating Facilities connected to a single 120/240 V secondary voltage must be ated gross output is as balanced as prace phases of the 240 volt serviceWhen vsis determines a transformer change is vider will furnish the customer with an ex- is needed. | installed s cticable Distribution required. | n l I | |
| | | | | Screen F: Is the acceptable limit | e Short Circuit Current Contribution Rati s? | io within | | |
| | | | • | If Yes (pass) | , continue to Screen G. | | | |
| | | | • | If No (fail), c | ontinue to Screen G pursuant to Sectior | ו G.1. | | |
| | | | N G | lote: This Scre Gross Rating of | en does not apply to Generating Facilitie 11 kVA or less. | es with a | | |
| | | | D S to | vistribution Tran hort Circuit Con Distribution Pl | I at primary side (high side) of the Dedic isformer serving a Generating Facility, th ntribution Ratios of all Generating Facilit rovider's Distribution System circuit that lity must be less than or equal to 0.1. | he sum of t ties connec | cted I | |
| | Significance: If the Generating Facility passes this Screen, it can expected that it will have no significant impact on Distribution Provider's Distribution System's short circuit duty, fault detection sensitivity, relay coordination or fuse-saving schemes. | | | | oution | be (N) | | |
| | | | | | | | (Continued) | |
| | | e Letter | | | | Filed | DRAFT 2/19/2013 | |
| | Decisio 03C0 | on No. | | 12-09-018 | Brian K. Cherry Effec Vice President Reso Regulatory Relations | tive Iution No. | | |

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Original Cancelling

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

| | | LECTRIC RULE NO. 21 G FACILITY INTERCONNEC | TIONS | Sheet 113 |
|-----------------------------------|--|---|--|-----------------|
| G. ENGINE | ERING REVIEW DET | AILS (Cont'd.) | | (N) |
| 1. INIT | IAL REVIEW SCREEN | IS (Cont'd.) | | |
| g. | Screen G: Is the Shor | t Circuit Interrupting Capabi | ility Exceeded? | |
| | Generating Facilities or protective devices and substation breakers, fu nterconnection Reques of the short circuit inter | nerating Facility, in aggrega in the distribution circuit, cau equipment (including, but n se cutouts, and line reclose st equipment on the system rupting capability; or is the hat already exceeds 87.5 % | use any distribu not limited to, ers), or n to exceed 87.3 Interconnection | 1 5% 1 |
| | If Yes (fail) continue | e to Screen H pursuant to S | Section G.1. | İ |
| | If No (pass), continue | ue to Screen H | | |
| | Note: This Screen doe Gross Rating of 11 kVA | s not apply to Generating F A or less. | acilities with a | |
| 6 | | nerating Facility passes this cause any of Distribution P | | |
| | | | | (Continued) |
| Advice Letter No: Decision No. | 4110-Е 12-09-018 | lssued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/2013 |
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| | | LECTRIC RULE NO. 21 G FACILITY INTERCONN | ECTIONS | Sheet 114 | | | |
|--|--|---|--|--------------------------------|--|--|--|
| 1. INIT h. | EERING REVIEW DETAILS (Cont'd.) TIAL REVIEW SCREENS (Cont'd.) Screen H: Is the line configuration compatible with the Interconnection type? If Yes (pass), continue to Screen I. If No (fail), continue to Screen I pursuant to Section G.1. Note: This Screen does not apply to Generating Facilities with a Gross Rating of 11 kVA or less Line Configuration Screen: Identify primary distribution line configuration that will serve the Generating Facility. Based on the type of Interconnection to be used for the Generating Facility, determine from Table G.1 if the proposed Generating Facility passes the Screen. | | | | | | |
| - | Type Primary Distribution Line Type Configuration Three-phase, three-wire Three-phase, four-wire (For any line that has such a section OR mixed three-wire a | Table G-1 e of Interconnection Type of Interconnection to be made to Primary Distribution Line Any type Single-phase, line-to-neutral All others & four-wire) | Result/Criteria Pass Screen Pass Screen To pass, aggregate Generating Facility nam rating must be less than or equal to 10% of Line Section peak load | | | | |
| Advice Letter No: Decision No. 105C0 | 4110-E 12-09-018 | lssued by Brian K. Cherry Vice President Regulatory Relations | Date Filed Effective Resolution No. | (Continued) DRAFT 2/19/2013 | | | |



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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

| | GENEF | ELECTRIC RULE NO. 21 RATING FACILITY INTERCONN | NECTIONS | Sheet 115 |
|---------------------------------|--|---|---|---|
| G. ENG | NEERING REVIEW | DETAILS (Cont'd.) | | (N) |
| 1. 11 | NITIAL REVIEW SC | REENS (Cont'd.) | | |
| h | . Screen H: Is the Interconnection t | line configuration compatible ype? (Cont'd.) | e with the | |
| | Facility is of a "the distribution transf neutral configurat Distribution Provi | ne primary distribution line se ree-wire" configuration, or if the ormer is single-phase and co ion, then there is no concern der's, or other Customer's eq grounding during the operation ve Function. | he Generating Fac onnected in a line-to about overvoltage juipment caused by | illīty's l o- l es to l v loss l |
| i. | Screen I: Will po | wer be exported across the F | PCC? | |
| | If Yes, Contin | ue to Screen J. | | |
| | across the PC | ensure that the Generating F CC, the Generating Facility m five options. Following that s | ust incorporate on | e of I |
| | exported across t provided. The de (export) of the se | se Power Protection"): To en he PCC, a reverse power Pro fault setting for this Protectiv rvice transformer's rating, wit y. For multiple tariff intercon | otective Function n e Function shall be h a maximum 2.0 | nay be I e 0.1% I I |
| | | | | (Continued) |
| Advice Letter I Decision No. | Vo: 4110-E 12-09-018 | Issued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/2013 |
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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

| | GENERA | ELECTRIC RULE NO. 21 TING FACILITY INTERCONNE | ECTIONS | Sheet 116 |
|-----------------------------------|---|---|---|--|
| G. ENGIN | EERING REVIEW D | DETAILS (Cont'd.) | | (N) |
| 1. INI | TIAL REVIEW SCR | EENS (Cont'd.) | | |
| i. | Screen I: Will pow | er be exported across the P | CC? (Cont'd.) | |
| | minimum amount o (and, therefore, tha Function may be pr Function shall be 5 | n Power Protection"): To en f power is imported across th t power is not exported), an ovided. The default setting % (import) of Generating Fa mum 2.0 second time delay. | he PCC at all time under-power Pro for this Protective cility's total Gross | tective I |
| | export of power is I all of the following of Generating Facility rating of Producer's the Generating Fac service transformer apply to Customers | Non-Islanding Protection): 1 imited to acceptable levels, t conditions be met: a) the tota must be no more than 25% s service equipment; b) the tr ility must be no more than 5 capacity rating (this capacit taking primary service witho) the Generating Facility must | this option require al Gross Capacity of the nominal ar otal Gross Capac 0% of Producer's y requirement do out an intervening | es that I of the I npere I ity of I es not I |
| | this evaluation will was originally sized not the intent of this | of the Customer's service ec be that rating for which the c l or for which an upgrade has s provision to allow increased of the customer's service pa size. | ustomer's utility s s been approved d export simply b | service I It is I y I |
| | | | | (Continued) |
| Advice Letter No: Decision No. | 4110-E 12-09-018 | lssued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/201 |
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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

| | | | LECTRIC RULE NO. 21 G FACILITY INTERCONNECT | TIONS | Sheet 117 |
|-----------------------------------|---|---|--|---|--|
| G. ENGIN | EEF | RING REVIEW DET | AILS (Cont'd.) | | (N) |
| 1. INI ⁻ | ΓΙΑΙ | L REVIEW SCREEN | IS (Cont'd.) | | |
| i. | Sc | reen I: Will power b | e exported across the PCC | ? (Cont'd.) | |
| | use in c adc not Sys gre | ed, requires the Net comparison to its hos ditional Protective Fu be exported to Distr stem. This option re | erating Facility Rating): Thi Rating of the Generating Fa st facility's minimum load, th unctions is not required to e ribution Provider's Distributi oquires the Generating Facil oducer's verifiable minimum | acility to be so nat the use of nsure that pow on or Transmis ity capacity to | small I I ver will I ssion I be no I |
| | Op | tion 5: Inadvertent E | export as described in Appe | ndix One. | |
| | Sig | nificance: | | | |
| | 1. | power, Distribution does not need to b | d that the Generating Facilit Provider's Distribution or T e studied for load-carrying power flow effects on Distr | ransmission S capability or | ystem I I |
| | 2. | | ts the use of reverse-power Islanding Protective Functic | | |
| | 3. | Generating Facilitie protection to qualif | s, under certain defined con es that incorporate Certified y for interconnection throug plementing reverse power on ns (Option 3). | Non-Islanding h the Fast Tra | , ck I |
| | | | | | (Continued) |
| Advice Letter No: Decision No. | | 110-E 2-09-018 | lssued by Brian K. Cherry Vice President | Date Filed Effective Resolution No. | DRAFT 2/19/2013 DRAFT 2/19/2013 |
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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

| | | | | GENERA | ELECTRIC RULE NO. 21 | ECTIONS | Sheet 118 |
|---|-------------------|---------|--------|--|--|---|-----------------|
| | G. | ENG | SINE | ERING REVIEW | DETAILS (Cont'd.) | | (N) |
| | | 1. | INIT | IAL REVIEW SCR | EENS (Cont'd.) | | |
| | | | j. | Screen J: Is the G less? | Bross Rating of the Generatir | ng Facility 11 kVA | or I |
| 1 | | | | If Yes (pass), s complete. | kip Screens K, L . and M <u>: and</u> | Initial Review is | |
| | | | | If No (fail), cont | tinue to Screen K. | | ļ |
| | | | 1 | fault current levels | Generating Facility will have and any potential line overvo er's Distribution System neut | oltages from loss | on I of I |
| | | | k. | | Generating Facility a Net Ene with nameplate capacity les | | |
| | | | | If Yes (pass), s | kip screen L and continue to | screen M. | |
| | | | | If No (fail), cont | tinue to screen L. | | |
| | | | : : | interconnection of I such facilities to by | purpose of this Screen is sole NEM facilities below this size pass Screen M. The use of I Review analysis. In Supple /zed. | threshold by allo nameplate capac | ity I |
| | | | | | | | |
| | | . 1 . 4 | - 11- | 1140 F | land by | | (Continued) |
| | Advice Decisio | | | 4110-E 12-09-018 | Issued by Brian K. Cherry | Date Filed Effective Baselution No. | DRAFT 2/19/2013 |
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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

| | | | | GENEF | ELECTRIC RULE NO. 21 RATING FACILITY INTERCONNEC | TIONS | Sheet 119 |
|---|------------------|----|-----|--|--|---|-----------------|
| | G. | EN | GIN | EERING REVIEW | / DETAILS (Cont'd.) | | (N) |
| | | 1. | INI | TIAL REVIEW SC | REENS (Cont'd.) | | |
| | | | I. | Screen L: Trans | mission Dependency and Transm | nission Stability | y Test |
| I | | | | or posted, transie Generating Facili Provider, with ear requests. Where | ction Request for an area where: int <u>/dynamic</u> stability limitations, or ty has interdependencies, known rlier-queued Transmission Syster (i) or (ii) above are met, the impa Request to the Transmission Syste | r (ii) the propos to Distribution n interconnecti acts of this | sed I Ion I |
| | | | | • If Yes (fail), S | upplemental Review is required. | | I |
| | | | | • If No (pass), o | continue to Screen M. | | I |
| | | | | identified as havin | ecial consideration must be given ng current or future (due to currer equests) grid stability concerns. | i to those areas ntly-queued | S |
| | | | m. | Section less than | e aggregate Generating Facility ca n 15% of Line Section peak load f matic sectionalizing devices? | apacity on the for all line secti | Line I ons I |
| | | | | • If Yes (pass), | Initial Review is complete. | | |
| | | | | • If No (fail), Su | pplemental Review is required. | | I I |
| | | | | Significance: | | | i |
| | | | | minimal impa | tion of Generating Facility capacit act on the operation and load rest Provider's Distribution System. | | of (N) |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | (Continued) |
| | Advice Decisi | | | 4110-E 12-09-018 | lssued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/2013 |
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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

| | | | | G | | LECTRIC RU G FACILITY I | ILE NO. 21 NTERCONNEC | TIONS | Sheet 12 | 20 |
|--|---|----|-----|---------------------|----------------------------|-----------------------------|---|---|----------------------|-----------|
| | G. | EN | GIN | EERING RE | VIEW DET | AILS (Cont'o | 1.) | | | (N) |
| | | 1. | INI | TIAL REVIE | W SCREEN | IS (Cont'd.) | | | | |
| | | | m. | Section less | s than 15% | of Line Sec | rating Facility o tion peak load ng devices? (C | apacity on the for all line section ont'd.) | Line ons | |
| | | | | Facility Provide | capacity m r's Distribu | ay be differe | ent since the im will no longer l | ation of Genera pact on Distrib pe minimal, the | ution | |
| | | | | Facility need | ds additiona | al study and | y to identify if this not intended on on a line sec | l as justification | ı for | |
| | | 2. | SU | PPLEMENT | AL REVIEV | V SCREENS | 3 | | | |
| | The Supplemental Review consists of Screens N through P. If any of t Screens are not passed, a quick review of the failed Screen(s) will determine the requirements to address the failure(s) or that Detailed Studies are required. In certain instances, Distribution Provider may b able to identify the necessary solution and determine that Detailed Studies are unnecessary. Some examples of solutions that may be available to mitigate the impact of a failed Screen are: | | | | | | | | l y be Studies | |
| | | | 1. | Replacing a | a fixed capa | icitor bank w | ith a switched | capacitor bank | | |
| | | | 2. | Adjustment | of line regu | ulation settin | gs. | | | |
| | | | 3. | Simple reco | onfiguration | of the distril | oution circuit. | | | (N) |
| | | | | | | | (Con | tinued) | | |
| | Advice Decisi | | | 4110-E 12-09-018 | | lssued b Brian K. Cl | | Date Filed Effective | DRAFT | 2/19/2013 |
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Pacific Gas and Electric Company San Francisco, California U 39

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

| | | | GEN | ELECTRIC RULE NO. 21 ERATING FACILITY INTERCONNE | ECTIONS | Sheet 121 |
|---|-------|------------------------|---|--|---|---------------------------------|
| | G. | ENGIN | EERING REVIE | EW DETAILS (Cont'd.) | | (N) |
| | | 2. SU | PPLEMENTAL | REVIEW SCREENS (Cont'd.) | | |
| | | a. | Screen N: P | enetration Test | | ļ |
| | | | be calculated, a power flow m the Line Section | ths of line section minimum load can be estimated from existing d lodel, is the aggregate Generatin In less than 100% of the minimu led by automatic sectionalizing d cility? | ata, or determined g Facility capacity m load for all line | I from I on I |
| | | | • If yes (pass | s), continue to Screen O. | | |
| | | | requirement Independent to Screen (Studies are Independent | a quick review of the failure may the to address the failure; otherwin nee Tests and Detailed Studies a D. (Note: If Electrical Independen e required, Applicants will continu nee Tests and Detailed Studies a Supplemental Review Screens, if | se Electrical are required. Cont nce tests and Deta te to the Electrical after review of the | ailed I I I |
| | | | Note 1: If none to Screen N. | of the above options are availab | le, this screen def | aults I |
| I | | | account when Section minimus solar Generatin load will be use Facilities and & tracking system | be of Generating Facility technolo calculating, estimating, or determ um load relevant for the application of Facilities with no battery stora ed (i.e., 10 am to 4 pm for fixed p a am to 6 pm for solar Generating ns), while absolute minimum load ng Facility technologies. | nining circuit or Lin on of this screen. ge, daytime minim anel solar Genera Facilities utilizing | e I For I ium I ting I |
| I | | | Facility, the ne Point of Comm | this screen is being applied to a t export in kW, if known, that white on Coupling into Distribution Pro considered as part of the aggreg | <u>ch</u> may flow acros vider's Distributior | s the I n I (N) |
| | | | | | | (Continued) |
| | | e Letter No: on No. | 4110-E 12-09-018 | Issued by Brian K. Cherry | Date Filed | DRAFT 2/19/2013 |
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Pacific Gas and Electric Company San Francisco, California U 39

Original Cancelling

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

31977-E*

| | | | GENERA | ELECTRIC RULE NO. 2 TING FACILITY INTERCO | | Sheet 122 |
|---------------------------|------|---|--|---|---|--------------------|
| G. EN | IGIN | EERING | REVIEW | DETAILS (Cont'd.) | | (N) |
| 2. | SU | PPLEME | NTAL REV | /IEW SCREENS (Cont'd. |) | |
| | a. | Screen | N: Penet | tration Test (Cont'd.) | | |
| | | Generat | ing Facility | n Provider will not conside capacity for purposes of own to be already reflecte | this screen Generat | ing l |
| | | to 500 k ¹ Distribut studied i | W that may ion Provide n the Trans | erating Facilities with net y flow across the Point of er's Distribution or Transn smission Cluster Study P dent Study Process. | Common Coupling i nission System will r | nto I not be I |
| | | result in have a n | power flow | etration of Generating Fac v from the circuit back tow pact on equipment loading stribution System. | vard the substation w | es not I /ill I |
| | b. | Screen | O: Power | Quality and Voltage Test | ts | |
| | | | | existing Generating Facilit n circuit, and/or substation | | 1e |
| | | volt con | age regula Ipliance wi | rmined within the Suppler tion on the line section ca th Commission Rule 2 an Itage requirements under | an be maintained in id/or Conservation V | oltage I |
| | | í volt | age fluctua | rmined within the Suppler ation is within acceptable practice similar to IEEE14 | limits as defined by I | |
| | | | | | | (Continued) |
| Advice Lett Decision N | | · 4110-E 12-09-01 | 18 | Issued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/2013 |
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31978-E*

| | | CTRIC RULE NO. 21 FACILITY INTERCONNECT | IONS | Sheet 123 |
|----------------------------------|---|--|--|----------------------|
| G. ENGIN | EERING REVIEW DETAI | LS (Cont'd.) | | (N) |
| 2. SL | PPLEMENTAL REVIEW S | SCREENS (Cont'd.) | | |
| b. | Screen O: Power Quali | ty and Voltage Tests | | |
| | In aggregate with existing | g generation on the line se | ection (Cont'd.) | |
| | | d within the Supplemental et IEEE 519 limits at the P | | |
| | • If yes to all of the abo | ve (pass), continue to Sc | reen P. | |
| | determine the require Electrical Independer Continue to Screen P Detailed Studies are i Electrical Independer | ove (fail), a quick review o ments to address the failu ice Tests and Detailed Str (Note: If Electrical Indep required, Applicants will c ice Tests and Detailed Str mental Review Screens.) | ure; otherwise udies are requi endence tests ontinue to the udies after revi | red. I and I |
| | experienced by other Cus | Itages and undesirable in stomers on Distribution Pr tion of the Generating Fac | ovider's Distrik | |
| C. | Screen P: Safety and F | Reliability Tests | | |
| | generation capacity on th | proposed Generating Faci le Line Section create imp adequately addressed with | acts to safety | egate I or I I |
| | address the failure; or | the failure may determine therwise Electrical Indepe required. Continue to Sec | ndence Tests | |
| | • If no (pass), Supplem | ental Review is complete | | (N) |
| | | | | (Continued) |
| Advice Letter No Decision No. | 4110-E 12-09-018 | lssued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/2013 |
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31979-E*

| | GEN | ELECTRIC RULE NO. 21 IERATING FACILITY INTERCONNECTIO | Sheet 124 NS | |
|--|---|---|--------------------------------------|--|
| G. ENGIN | EERING REVIE | EW DETAILS (Cont'd.) | (N) | |
| 2. SUPPLEMENTAL REVIEW SCREENS (Cont'd.) | | | | |
| C. | Screen P: Sa | afety and Reliability Tests (Cont'd.) | | |
| Significance: In the safety and reliability test, there are several factors that may affect the nature and performance of an Interconnection. These include, but are not limited to: | | | | |
| | 1. Generating | g Facility energy source | | |
| | 2. Modes of synchronization | | | |
| | 3. Unique system topology | | | |
| | 4. Possible impacts to critical load customers | | | |
| | 5. Possible safety impacts | | | |
| The specific combination of these factors will determine if any system study requirements are needed. The following are some examples of the items that may be considered under this screen: | | | | |
| | dominated | Does the Line Section have significant minimum loading levels dominated by a small number of customers (i.e. several large commercial customers)? | | |
| | 2. Is there an even or uneven distribution of loading along the feeder? | | | |
| | 3. Is the proposed Generating Facility located in close proximity to the substation (i.e. <2.5 electrical line miles), and is the distribution line from the substation to the customer composed of large conductor/cable (i.e. 600A class cable)? | | | |
| | | | (Continued) | |
| Advice Letter No: Decision No. | 4110-E 12-09-018 | | ate Filed DRAFT 2/19/2013 fective | |
| 115C0 | | - | esolution No. | |



Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

| | | | | GI | | | JLE NO. 21 INTERCONNE | ECTIONS | S | heet 125 | | |
|-------------------|----|------|---|---|---|---|---|--|---|--|--|--|
| G. | EN | GINE | EERING | RE\ | /IEW DETA | ILS (Cont' | d.) | | | (N) | | |
| | 2. | SU | PPLEM | ΞΝΤΑ | L REVIEW | SCREEN | S (Cont'd.) | | | | | |
| | | C. | Screen | P: | Safety and | Reliability | Tests (Cont'o | 1.) | | | | |
| | | | pre | vent tage a | reconnectio | on of the ge | ncorporate a enerator to th nin normal lin | e system ur | ntil syste | | | |
| | | | Fac Fac | cility, cility t | such that tr | ansfer of the pring distrib | ed by the prop ne line sectio pution circuit/s | n(s) of the C | Generati | ng l Jer l | | |
| | | | | | e Generatin s and equip | | ıtilize Certifie | d anti-island | ling | | | |
| | 3. | DE | ETAILED STUDY SCREENS | | | | | | | | | |
| | | a. | | | s the Interco ssion Syste | | Request elect | trically Indep | pendent | of I | | |
| | | | based interco Reque located anticipa If Distri describ have p Indepe determ Applica | on kr nnec st to f l at a ated f ibutio bed al asse nden ines ant m | nowledge of tion request the Distribut point of inte to require o n Provider bove, then d Distribution ce for the C that interde | the interded to under an erconnection r contributed determiness the Interco on Provider AISO Con pendencie ed under th | on with the C ependencies ny tariff, whet n is of sufficie on such that i to the need to t | with earlier- her the Inter ent MW size t is reasona for Network dependenci juest will be tion of Elect If Distribution scribed above | queued rconnect bly Upgrad es exist deemed rical on Provid ve, then | ion I I Ies. I as I I to I | | |
| | | | | | | | | | | (Continued) | | |
| Advice Decisio | | | 4110-E 12-09-0 | | | lssued Brian K. C Vice Pres | herry | Date Fileo Effective Resolutio | | DRAFT 2/19/2013 | | |
| 116C0 | | | | | | Regulatory R | | Resolution | | | | |



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Pacific Gas and Electric Company San Francisco, California U 39

Cancelling

Original

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

31981-E*

| | | | | GEN | ELECTRIC RULE NO. 21 ERATING FACILITY INTERCONNECTIONS | Sheet 126 |
|---|------------------|----|--------------|--|---|----------------------------------|
| | G. | EN | GINE | ERING REVIE | W DETAILS (Cont'd.) | (N) |
| | | 3. | DET | FAILED STUDY | SCREENS (Cont'd.) | |
| | | | a. | Screen Q: Is the Transmissi | e Interconnection Request electrically Independer on System? (Cont'd.) | nt of |
| | | | | conduct the De Controlled Grid Tariff. The res flow, and short of Appendix Y | by der will coordinate with the CAISO if necessary etermination of Electrical Independence for the CA as set forth in Section 4.2 of Appendix Y to the C ults of the incremental power flow, aggregate pow -circuit current contribution tests set out in Section to the CAISO Tariff will determine whether the Request is electrically independent from the CA I. | ISO I AISO I er I 4.2 I |
| | | | | • If Yes (pass |), continue to Screen R. | |
| | | | | • If No (fail), p | proceed to Section F.3.c. | |
| | | | | equal to 50 Coupling w | M Generating Facilities with net export less than or 0 kW that may flow across the Point of Common ill not be studied in the Transmission Cluster Stud ut may be studied under the Independent Study | |
| 1 | | | | interdepen with other i System into (i.e., be fou queued Dis interconned | e: Generating Facilities that are <u>electrically</u> dent with the Transmission System must be studie interconnection requests that have Transmission erdependencies. It is possible to pass this Screen and to have no electrical interdependencies with ea stribution System and/or Transmission System ction requests as set out above), be studied under at Study Process, and still trigger a Reliability Netv | Q I arlier- I I the I |
| | | | | | | (Continued) |
| | Advice Decisi | | er No: D. | 4110-E 12-09-018 | Issued by Date Filed Brian K. Cherry Effective Vice President Resolution No. | DRAFT 2/19/2013 |
| | 117C0 |) | | | Regulatory Relations | |



Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

31982-E*

| | GENER | ELECTRIC RULE NO. 21 ATING FACILITY INTERCONN | ECTIONS | Sheet 127 |
|----------------------------------|---|---|---|---|
| G. ENGI | NEERING REVIEW | DETAILS (Cont'd.) | | (N) |
| 3. DI | ETAILED STUDY S | CREENS (Cont'd.) | | |
| b. | earlier-queued ar | Interconnection Request inden nd yet to be studied interconne the Distribution System? | | |
| | the CAISO Contri Interconnection F relationships betw queued interconn Process, the Inde studied under pre to complete their Provider may cor and/or short-circu Base Case data, judgment to dete studied independ the Interconnection independence on to earlier-queued interconnection s independence for If Yes (pass), If No (fail), cor Significance: Inte earlier-queued in | on Requests that are electrica olled Grid, Distribution Provid Request for known or reasona ween the Interconnection Req election requests in the Distribu- pendent Study Process, or in edecessor interconnection pro- respective interconnection stru- duct incremental power flow, it duty tests using existing int overall system knowledge, ar rmine whether an Interconnec- ently of earlier-queued interco- on Request being evaluated for the Distribution System may interconnection requests that tudies, then it fails the evalua r the Distribution System. continue to Independent Stud- ntinue to the Distribution Grou- erconnection Requests that an terconnection requests that an terconnection requests that an iterconnection requests that he inalify for independent study. | er will evaluate ea bly anticipated uest and any earl ution Group Study iterconnection rec ocedures that hav- udies. Distributio aggregate power erconnection stud- nd engineering ction Request can onnection request or electrical be electrically rel thave yet to com tion of electrical y Process p Study Process re electrically rela | ach I lier- I /uests I quests I e yet I n I flow, I dies, I ibe I is. If ated I plete I I I I I |
| | | | | (Continued) |
| Advice Letter No Decision No. | o: 4110-E 12-09-018 | Issued by Brian K. Cherry Vice President | Date Filed Effective Resolution No. | DRAFT 2/19/2013 |
| 118C0 | | Regulatory Relations | Resolution NO. | |

| r | PGæ | Gas and Electric C ncisco, California | ompany | Cancelling | Original | Cal. P.U.C. Sh Cal. P.U.C. Sh | | 31983-E | | | | |
|---|----------------------|--|--|--|---|--|--|-----------|-------|-----------------|----------------|--|
| | | GENI | ELECTR ERATING FACI | LITY INTER | | IONS | Sheet 12 | 28 | | | | |
| | | | , | , | | | | (N) I | | | | |
| | 3 | AILED STUDY | , | , | | | | | | | | |
| | | Independent Si Interconnection | | and Distribu | tion Grou | p Study Proce | <u>ess</u> | | | | | |
| | | The Interconne System Impact to as DGS Pha Interconnection Process. The I Facilities, Distri necessary to m address short of associated with Provider anticip or the Interconn Upgrades, then during the study The estimated interconnection Study shall be a Group pro rata each Generatin and shared inter Study shall be a Group pro rata output of each megawatt incre Generating Fac | Study and an sel Interconner Study, respective interconnection bution Upgradi- itigate therma- irrcuit, dynamic the requested bates that Relian- the requested bates | Interconnect ection Study ctively, for the n Studies will les and Reli loverloads - c/-stability a d Interconnect ability Networks identify the provider will set forth in S circuit related ny, identified Interconnect of the short of e estimated acilities, if are interconnect of the maxim Generating cap | ction Facili <u>and DGS</u> <u>ne Distribu</u> <u>ill identify</u> ability Nei and voltag and voltag nd reliabil ection Ser ork Upgra <u>e need for</u> coordinat <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordinat</u> <u>coordi</u> | ities Study, re <u>S Phase II</u> <u>tion Group S</u> Interconnecti twork Upgrad ge violations, ity issues vice. If Distril des will be re <u>Reliability Ne</u> e with the CA <u>3.b or</u> F.3.d a <u>es and share</u> <u>a Distribuion</u> <u>uests in that S</u> <u>y contribution</u> <u>all other upgra</u> <u>detrough a</u> <u>watt electrica</u> <u>or the amount</u> <u>ach existing</u> | <u>Study</u> on es and bution quired, etwork JSO above. <u>d</u> <u>Group</u> <u>Study</u> <u>of</u> <u>Study</u> <u>of</u> <u>Study</u> <u>of</u> | (N) | Fc | prmatted: Inder | nt: Left: 0.9" | |
| | | | | | | | | | F | ormatted: Font: | : 12 pt | |
| | | . | | | | | | ~ | 1 X — | ormatted: Inder | | |
| | | | | | | | (Cont | tinued) | | | | |
| | Advice L Decision | 4110-E 12-09-018 | Bria | ssued by n K. Cherry | | Date Filed Effective | DRAFT | 2/19/2013 | | | | |
| | 119C0 | | | e President atory Relations | | Resolution No. | | | | | | |



Original Cancelling

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

| | | | ELECTRIC RULE NO. 21 NG FACILITY INTERCONNEC | | Sheet 129 | | | | |
|----------|--|--|--|---|---------------------------------|--|--|--|--|
| G. EN | IGINEE | RING REVIEW DET | AILS (Cont'd.) | | | | | | |
| 3. | DETA | ILED STUDY SCRE | ENS (Cont'd.) | | | | | | |
| | c. Independent Study Process <u>and Distribution Group Study Process</u> Interconnection Studies (Cont'd) | | | | | | | | |
| | i) | (1) Scope of the I Interconnection The Interconnection Study Process analysis, a sta and any other localized shor Distribution ar short circuit-du allocated to th that requires t CAISO Contro the Transmiss Section F.3.c. Interconnection Process or Dis subsequently Process will b circuit duty-rel | vstem Impact <u>and DGS Phas</u> nterconnection System Impa <u>m</u> Study. ection System Impact Study <u>in Study in the case of the Di</u> <u>a</u> may consist of a localized s ibility/ <u>dynamic</u> analysis, a po studies that are deemed new t circuit analysis will evaluate and Transmission System only uty related Reliability Network e Generating Facility <u>or Gen</u> he upgrades. Short circuit du biled Grid are appropriately e ion Cluster Study Process as The short circuit duty contri n Requests studied in the Im <u>stribution Group Study Proce</u> identified in the <u>Transmission</u> e allocated <u>its-their</u> pro rata s ated Reliability Network Upg rcuit duty contribution of eact | ct and DGS Phase stribution Group hort circuit wer flow analysi cessary. The impacts to the with any local k Upgrades erating Facilities uty impacts to th valuated only in s set forth in bution of any dependent Stud <u>ss</u> that are <u>1</u> Cluster Study hare of the shoo rades on the ba | ase I 5 s, 5 e v | | | | |
| Advice | etter No: | 4110-F | Issued by | Date Filed | DRAFT 2/19/2013 | | | | |
| Decision | | 12-09-018 | Brian K. Cherry Vice President | Effective Resolution No. | DIVIT 2/13/2013 | | | | |
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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

| | GENERATI | ELECTRIC RULE NO. 21 NG FACILITY INTERCONN | ECTIONS | Sheet 130 |
|-------------------|--|---|---|-------------------------------|
| G. ENGINE | ERING REVIEW DE | TAILS (Cont'd.) | | (N) |
| 3. DET | AILED STUDY SCR | EENS (Cont'd.) | | |
| | Independent Study F connection Studies (| Process and Distribution G (Cont'd.) | Group Study Proce | <u>SS</u> |
| i |) Interconnection S Interconnection S | System Impact <u>Study and</u> Study. (Cont'd.) | DGS Phase I | |
| | | e Interconnection System rconnection_Study. (Cont' | | DGS |
| | Interconnect Study Proces based, state requirement requested In indication of necessary to | nection System Impact S ion Study in the case of the ss. shall state the assumpt the results of the analyse or potential impediments terconnection Service, independent of time ocorrect any problems ideent the Interconnection. | ne <u>Distribution Gro</u> ptions upon which es, and provide the to providing the cluding a prelimina ie that would be | ary I |
| | Interconnect Provider's In and Reliabili of the Interco faith estimate | nection System Impact <u>S</u> <u>ion</u> Study shall provide a terconnection Facilities, E ty Network Upgrades that prinection Request along e of cost responsibility an time required. | list of Distribution Distribution Upgrace are required as a with a non-binding | (N) des, result good |
| Advice Letter No: | 4110-E | Issued by | Date Filed | (Continued) |
| Decision No. | 12-09-018 | Brian K. Cherry Vice President Regulatory Relations | Effective Resolution No. | |



Pacific Gas and Electric Company San Francisco, California

Cancelling

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

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| | | | GEN | ELECTRIC RULE NO. 21 NERATING FACILITY INTERCONNEC | TIONS | Sheet 131 |
| G. | . EN | GINEE | RING REVIE | W DETAILS (Cont'd.) | | |
| | 3. | DETAI | LED STUDY | SCREENS (Cont'd.) | | |
| | | | dependent St s (Cont'd.) | udy Process and Distribution Group | o Study Process | Interconnectior |
| | | ii) | | ction Facilities <u>Study and DGS Phasetion S</u> tudy. | <u>se II</u> | |
| | | | | and Purpose of the Interconnection hase II Interconnection Study. (Con | | |
| | | | not me Phase Interco Applica resourc require Interco Study a Interco | y time the Distribution Provider dete et the required time frame for comp I Interconnection Study due to the lanetion Requests in the Distribution ation Window, study complexity, or us ces on a reasonable basis to perform d time frame, the Distribution Provide nnection Customer(s) within the Dist as to the schedule status of the DGS nnection Study and provide an estir ith an explanation of the reasons whe d. | leting the DGS arge number of on Group Study unavailability of m the study in th der shall notify the stribution Group S Phase I mated completic | ne ne |
| | | | Applica relevar Interco stability | equest, the Distribution Provider sh ant(s) all supporting documentation, it pre-Interconnection Request and nnection Request power flow, short / databases for the DGS Phase I In subject to confidentiality arrangement D.7. | work papers ar post- circuit and terconnection | in |
| Adv | /ice Le | tter No: | 4110-E | Issued by | Date Filed | (Continued) DRAFT 2/19/2013 |
| | cision I | | 12-09-018 | Brian K. Cherry Vice President | Effective Resolution No. | |
| 122 | 2C0 | | | Regulatory Relations | _ | |



Original Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. 31986-E

ELECTRIC RULE NO. 21 Sheet 132 GENERATING FACILITY INTERCONNECTIONS The Interconnection Facilities Study or DGS Phase II Interconnection Study in the case of the Distribution Group Study Process shall specify and estimate the cost of the equipment, engineering, procurement, and construction work (including overheads) needed to implement the conclusions of the Interconnection System Impact Study or DGS Phase I Interconnection Study technical analyses in accordance with Good Utility Practice to physically and electrically connect the Generating Facility to the Distribution or Transmission System. The Interconnection Facilities Study or DGS Phase I Interconnection Study shall also identify (i) the electrical switching configuration of the connection equipment, including, without limitation: the transformer, switchgear, meters, and other station equipment; the nature and estimated cost of any Distribution Provider's Interconnection Facilities, Distribution Upgrades, and Network Upgrades necessary to accomplish the interconnection; and an estimate of the time required to complete the construction and installation of such facilities. <u>The</u> Interconnection Facilities Study or DGS Phase II Interconnection Study in the case of the Distribution Group Study Process will update, as necessary, analyses performed in the Interconnection System Impact Study or DGS Phase I Interconnection Study-in the case of the Distribution Group Study Process, to account for withdrawal of interconnection requests in the interconnection aueue. H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS This section is consistent with the requirements of ANSI/IEEE 1547-2003 Standard for Interconnecting Distributed Resources with Electric Power Systems (IEEE 1547) Exceptions are taken to IEEE 1547 Clauses 4.1.4.2 Distribution Secondary Spot Networks and Clauses 4.1.8.1 or 5.1.3.1, which address Protection from Electromagnetic Interference. These are being studied for inclusion in a subsequent version of this Rule. Also, Rule 21 does not adopt the Generating Facility power limitation of 10 MW incorporated in IEEE 1547. (Continued) Advice Letter No: 4110-E Issued by Date Filed DRAFT 2/19/2013 Decision No. 12-09-018 Brian K. Cherry Effective Vice President Resolution No. 122C0 Regulatory Relations



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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

| | | | | ELECTRIC RULE NO. 21 NG FACILITY INTERCONNE | CTIONS | Sheet 133 | |
|----------------------|---|--|---|---|---|--|--|
| | GENEI (Cont'c | | NG FACILITY DE | SIGN AND OPERATING F | REQUIREMENT | S (N) I | |
| | - | | RAL INTERCONN REMENTS | ECTION AND PROTECTIV | /E FUNCTION | | |
| | pro not pro Inte imp Pro affe | e Protective Functions and requirements of this Rule are designed to otect Distribution Provider's Distribution and Transmission System and t the Generating Facility. A Producer shall be solely responsible for oviding adequate protection for its Generating Facility and erconnection Facilities. Producer's Protective Functions shall not poact the operation of other Protective Functions on Distribution ovider's Distribution and Transmission System in a manner that would ect Distribution Provider's capability of providing reliable service to its stomers. | | | | | |
| | a. | Pro | tective Functions | Required | | I I | |
| | | Dist follo Dist the Dist prev Prov | ribution or Transn wing Protective F ribution Provider's Generating Facilit ribution Provider's vent the Generatin vider's Distribution | operating in parallel with D nission System shall be eq unctions to sense abnorma bistribution or Transmissi y to be automatically disco bistribution or Transmissi og Facility from being conne or Transmission System i | uipped with the al conditions on ion System and onnected from ion System or to ected to Distribu inappropriately: | cause I | |
| | | (1) | frequency trip fu | voltage trip functions and c nctions; | over and under | | |
| | | (2) | prevent the Generating Facil Distribution or Tr Generating Facil Distribution or Tr Provider's Distrib within the ANSI (106 volts to 127 | equency sensing and time- erating Facility from energi ransmission System circuit ity from reconnecting with ransmission System unless oution System service volta C84.1-1995 Table 1 Range volts (on a 120 volt basis), of 59.3 Hz to 60.5 Hz, incl econds; and | zing a de-energi and to prevent f Distribution Proves bistribution age and frequence binclusive, and a | ized I the I vider's I cy is I ge of I | |
| | | | | | | (Continued) | |
| Advice L Decision | etter No: No. | | 10-Е -09-018 | lssued by Brian K. Cherry Vice President | Date Filed Effective Resolution No. | DRAFT 2/19/20 | |
| 122C0 | | | | Regulatory Relations | Resolution No. | | |



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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. 31987-E

| | | GENE | ELECTRIC RULE NO. 21 ERATING FACILITY INTERCONN | ECTIONS | Sheet 134 |
|-------|-----------------|--|---|---|-----------------|
| H. | GENE (Cont'o | | Y DESIGN AND OPERATING | REQUIREMENT | S (N) |
| | | ENERAL INTERC | CONNECTION AND PROTECT (Cont'd.) | TIVE FUNCTION | |
| | a. | Protective Fund | ctions Required (Cont'd.) | | |
| | | the formati Distributior | to prevent the Generating Fac on of an Unintended Island, ar ו Provider's Distribution Syster on of an Unintended Island. | nd cease to energi | ize l |
| | | Distribution Sys System circuit to Generating Fac Distribution circ | Facility shall cease to energiz tem for faults on Distribution P o which it is connected (IEEE 1 ility shall cease to energize Dis uit prior to re-closure by Distrib tem equipment (IEEE 1547-4.2 | rovider's Distribut 1547-4.2.1). The stribution Provider oution Provider's | ion l I |
| | b. | Momentary Par | ralleling Generating Facilities | | |
| | | used to transfe Distribution or | n Provider's approval, the tran r Producer's loads from Distrib Transmission System to Produ I lieu of the Protective Function | ution Provider's cer's Generating F | acility I |
| | | | | | (Continued) |
| | Letter No | | Issued by | Date Filed | DRAFT 2/19/2013 |
| | on No. | 12-09-018 | Brian K. Cherry Vice President | Effective Resolution No. | |
| 123C0 | | | Regulatory Relations | | |



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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

| | | GEN | ELECTRIC RULE NO. 21 ERATING FACILITY INTERCONN | ECTIONS | Sheet 135 |
|-------------------|---------------------|--|---|--|--|
| H. | GENEF (Cont'd | | TY DESIGN AND OPERATING | REQUIREMENT | |
| | | NERAL INTER | CONNECTION AND PROTECT (Cont'd.) | IVE FUNCTION | |
| | C. | Suitable Equipr | ment Required | | |
| | | Common Coup Article 100, the suitable for the interrupting the location. Produ shall be design shall not potent Distribution Pro Generating Fac 220% of the Int 4.1.8.3). The II withstand volta environments of | s or other interrupting equipmen bling (PCC) must be Certified or Definitions Section of the Natio ir intended application. This inc maximum available fault curren ucer's Generating Facility and In ted so that the failure of any sing tially compromise the safety and ovider's Distribution and Transm cility paralleling-device shall be of terconnection Facility rated volta nterconnection Facility shall hav ge and current surges in accord defined in IEEE Std C62.41.2-20 as applicable and as described | "Listed" (as define inal Electrical Coo ludes being capal at expected at the interconnection Fa gle device or com d reliability of ission System. T capable of withsta age (IEEE 1547- re the capability to lance with the 002 or IEEE Std | ed in I le) as I ble of I ir I cilities I ponent I he I unding I 0 I |
| | d. | Visible Discon | nect Required | | İ |
| | | Producer shall isolating switch Distribution Pro to isolate the C Distribution or | I by Distribution Provider's opera furnish and install a ganged, m h (or a comparable device mutua ovider and Producer) near the P Senerating Facility from Distribut Transmission System. The dev break nor provide over-current p | anually-operated ally agreed upon Point of Interconne tion Provider's vice does not have | ection I |
| | | | | | (Continued) |
| Advice Decisio | Letter No: n No. | 4110-Е 12-09-018 | Issued by Brian K. Cherry Vice President | Date Filed Effective Resolution No. | DRAFT 2/19/2013 |
| 124C0 | | | Regulatory Relations | | |



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| 125C0 | | | Regulatory Relations | | | |
|---------------------|------|-------|--|---|------------------------|----------|
| Decision No. | 12- | 09-01 | Vice President | Effective Resolution No. | | |
| Advice Letter No: | | 0-E | Issued by | Date Filed | DRAFT 2/ | /19/2013 |
| | | | | | (Continu | ued) |
| | (4) | be c | apable of being locked in the open position | n | | (N) |
| | (3) | b) | for Non-Emergency purposes be capable during normal business hours. Distributi possible, will provide notice to Customer to Customer's premises. | on Provider, w | here | |
| | (3) | a) | for Emergency purposes be capable of b quickly and conveniently 24 hours a day Provider personnel for construction, oper inspection, testing or to isolate the Gene Distribution Provider's Distribution or Tra without obstacles or requiring those see obtain keys, special permission, or secur | by Distributior ration, mainter rating Facility nsmission Sys eking access to | nance, from stem | |
| | (2) | | ude markings or signage that clearly indic sed positions. | ates open and | l | i I |
| | (1) | (Th | w visible verification that separation has t is requirement may be met by opening the erve contact separation.) | | | |
| | The | dev | ice must: | | | I |
| d. | Visi | ble [| Disconnect Required (Cont'd.) | | | ļ |
| - | | | NTERCONNECTION AND PROTECTIVE ENTS (Cont'd.) | FUNCTION | | |
| H. GENEI (Cont'c | | NG F | ACILITY DESIGN AND OPERATING RE | QUIREMENTS | 3 | (N) I |
| | | | ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECT | TIONS | Sheet 136 | 1 |
| | | | | | | |



Cancelling

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

| | | | GENE | ELECTRIC RULE NO. 21 ERATING FACILITY INTERCON | NECTIONS | Sheet 137 | |
|-------------------|------------------|------------|---|--|--|------------------------------|-------------|
| H. | GEN (Con | | | Y DESIGN AND OPERATING | G REQUIREMENT | S (| N) |
| | | | NERAL INTERC QUIREMENTS (| CONNECTION AND PROTEC (Cont'd.) | TIVE FUNCTION | | |
| | | d. | Visible Disconn | nect Required (Cont'd.) | | | |
| | | | type and loo installation. signage mu location pro If the switch signage wit | narked on the submitted single cation approved by Distribution If the device is not adjacent t ust be installed at a Distribution oviding a clear description of the is not accessible outside the ch contact information and a Di ocking device for the premises | n Provider prior to to the PCC, perma n Provider approve ne location of the d locked premises, istribution Provider | nent ed evice. | |
| | | | | Facilities with Non-Islanding in bere (kVA) or less are exempt | | | |
| | e |) . | Drawings Requi | ired | | | |
| | | | Generating Fac Protective Fund equipped with F approved by Di Certified Equip | I Operation or Momentary Par- cility, Distribution Provider shal ction and control diagrams. Go Protective Functions and a cor istribution Provider for system- ment may satisfy this requirem roved drawings and diagrams. | Il approve Produce enerating Facilities ntrol scheme previo wide application o | er's s ously r only | |
| | 1 | f. | Generating Fac | | | | |
| | | | for a particular | s Rule does not address the Ir Generating Facility, Distributio n other arrangements. | | oducer | N) |
| | | | | | | (Continue | ed) |
| Advice Decisio | Letter on No. | No: | 4110-E 12-09-018 | Issued by Brian K. Cherry | Date Filed Effective | DRAFT 2/1 | 9/2013 |
| 126C0 | | | | Vice President Regulatory Relations | Resolution No. | | |



Cancelling

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

| | | GENERA | ELECTRIC RULE NO. 21 TING FACILITY INTERCONNE | ECTIONS | Sheet 138 |
|---------|---|--|--|---|---|
| H. | GENEF (Cont'd | | DESIGN AND OPERATING | REQUIREMENT | S (N) |
| | 2. PRI | EVENTION OF INTE | ERFERENCE | | |
| | sup or faci take rea take faci Pro Dis with cau | erimpose a voltage Fransmission Syster erations, service to I lities. If such interfe e corrective action a sonable time to do s e corrective action ir lities causing interfe vider may, without I tribution Provider's I n Section D.9 of this | rate Generating or Interconn or current upon Distribution in that interferes with Distribu Distribution Provider Custom erence occurs, Producer mus t its own expense after bein so by Distribution Provider. I in a timely manner, or continue erence without restriction or I iability, disconnect Producer Distribution or Transmission Rule. To eliminate undesira , each Generating Facility sl | Provider's Distrib ution Provider ers, or communic st diligently pursu g given notice an ff Producer does ues to operate the imit, Distribution 's facilities from System, in accor able interference | oution cation le and d not e rdance |
| | a. | Voltage Regulation | | | |
| | | PCC while in paralle The Generating Fac | cility shall not actively regula el with Distribution Provider's cility shall not cause the serv (side the requirements of AN). | s Distribution Sys vice voltage at oth | tem. I her I Range I (N) |
| Advice | Letter No: | 4110-E | Issued by | Date Filed | (Continued) DRAFT 2/19/2013 |
| Decisio | | 12-09-018 | Brian K. Cherry Vice President | Effective Resolution No. | |
| 127C0 | | | Regulatory Relations | | |



Cancelling

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

| | | | | | Sheet 139 |
|--------|-----------------|--|--|--|---|
| | | GENE | ELECTRIC RULE NO. 21 ERATING FACILITY INTERCONI | NECTIONS | Sheet 139 |
| H. | GENE (Cont'o | | TY DESIGN AND OPERATING | 3 REQUIREMENTS | S (N) |
| | 2. PF | REVENTION OF | INTERFERENCE (Cont'd.) | | |
| | b. | Voltage Trip Se | tting | | |
| | | Protective Func regulation Func Distribution Pro- time whenever to voltage operation | ges in Table H.1 define protect tion and are not intended to de tion. Generating Facilities sha vider's Distribution System wit the voltage at the PCC deviate ig range. The Protection Func- age on all phases to which the | efine or imply a volu all cease to energiz hin the prescribed to s from the allowab ction shall detect ar | tage I e I trip I le I nd I |
| | | i) Generating | Facilities (30 kVA or less) | | |
| | | be capable experience plus to mini- volts, on a settings at i that minimiz on a 120-vo for voltage Voltage ma Interconned | Facilities with a Gross Rating of operating within the voltage d on Distribution Provider's Dis us 5% of the nominal voltage (120 volt base), at the service p the generator terminals may be zes nuisance tripping between oft base (88%-110% of nomina drop between the generator te y be detected at either the PC tion. However, the voltage ra on-line, shall stay within +/-5% | e range normally stribution System fr (e.g. 114 volts to 12 panel or PCC. The e selected in a mar 106 volts and 132 al voltage) to compe- erminals and the PC C or the Point of inge at the PCC, wi | om I 26 I trip I nner I volts I ensate I CC. I th the I (N) |
| Advice | Letter No | : 4110-Е | Issued by | Date Filed | (Continued) DRAFT 2/19/2013 |
| | on No. | 12-09-018 | Brian K. Cherry Vice President | Effective Resolution No. | |
| 128C0 | | | Regulatory Relations | | |



Cancelling

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

| 129C0 | | 12 | 2 0.0 | Vice President Regulatory Relations | Resolution No. | | |
|-------------------|---------------------|--------------|---|--|---|---|-----------|
| Advice Decisio | Letter No on No. | | 110-E 2-09-018 | lssued by Brian K. Cherry | Date Filed Effective | DRAFT | 2/19/2013 |
| ۵dvice | Letter No. | · A | Generator(s) Distribution S | | oution Provider's | (Con | tinued) |
| | | III <i>)</i> | the PCC varie volts) for the | stribution Provider's Distribution es from and remains outside no predetermined parameters set | ormal (Nominally forth in Table H- | / 120 | |
| | | | voltage range within +/-5% | e at the PCC, with the generato of nominal. | or on-line, shall s | tay | |
| | | | for Generatin and may requ absence of su capable of op applicable int either the PC compensated | Provider may have specific oper g Facilities with Gross Ratings uire adjustable operating voltag uch requirements, the Generati perating at a range between 88° erconnection voltage. Voltage C or the Point of Interconnection to account for the voltage at the | greater than 30 le settings. In th ing Facility shall % and 110% of i shall be detecte on, with settings he PCC. Howeve | kVA, le be the ed at er, the | |
| | | ii) | Generating F | acilities (greater than 30 kVA) | | | |
| | b. | Vol | ltage Trip Setti | ing (Cont'd.) | | | ļ |
| | 2. PR | REVE | ENTION OF IN | TERFERENCE (Cont'd.) | | | ļ |
| H. | GENE (Cont'o | | ING FACILITY | DESIGN AND OPERATING F | REQUIREMENT | S | (N) I |
| | | | GENER | ELECTRIC RULE NO. 21 ATING FACILITY INTERCONNE | CTIONS | Sheet 1 | 40 |



Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

| | | ELECTRIC RUL GENERATING FACILITY IN | | | Sheet 141 |
|---|---|---|---|---|--|
| H. GENERATIN (Cont'd.) | IG FA | CILITY DESIGN AND OF | PERATING REQUIR | EMENTS | (N) ! |
| 2. PREVEN | ITION | OF INTERFERENCE (C | ont'd.) | | |
| b. Volta | ge Tr | ip Setting (Cont'd.) | | | |
| iii) N | /oltag | e Disturbances (Cont'd.) | | | |
| | Т | Fable H.1: Voltage Trip Settings for Gettings | enerating Facilities* | | |
| | | upling (the ranges below are used to mal distribution system conditions) | Maximum Trip | Time** | |
| Assuming 120 Volt Ba | ase | % of Nominal Voltage | # of Cycles (Assuming 60 Hz Nominal) | Second | is I |
| Less than 60 volts | | Less than 50% | 10 Cycles | 0.16 Seco | onds |
| Greater than or equa 60 volts but less tha 106 volts | | Greater than or equal to 50% but less than 88% | 120 Cycles | 2 Secon | ids |
| Greater than 132 volts but less than or equal to 144 volts | | Greater than 110% but less than or equal to 120% | 60 Cycles | 1 Secor | nd I |
| Greater than 144 vo | lts | Greater than 120% | 10 Cycles | 0.16 Seco | onds |
| set points and trip tim ** "Maximum Trip Tin ceasing to energize remain connected to a "reconnect" feature. | es from ne" refer Distribut Distribut The pur | h a Rating greater than 30 kVA, set p those in Table H.1 may be negotiated rs to the time between the onset of th ion Provider's Distribution System to a pose of the allowed time delay is to a turbances. Set points shall not be us | with Distribution Provider ne abnormal condition and the Protective Function equipmen llow sensing of electrical cond allow for a Generating Facility | Generating F nt and circuit litions for use to minimize ti | Facility s may by the ripping |
| Advice Letter No: 4110 Decision No. 12-0 | D-E 19-018 | Issued by Brian K. Che Vice Preside | erry Effecti | | (Continued) DRAFT 2/19/201 |
| 130C0 | | Regulatory Rela | | | |



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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

| | | GEN | ELECTRIC RULE NO. 21 ERATING FACILITY INTERCONNECTIO | | Sheet 142 |
|------|---------------------|--|--|---|---|
| H. | GEN (Con | | Y DESIGN AND OPERATING REQU | IREMENTS | (N) |
| | 2. P | REVENTION OF II | NTERFERENCE (Cont'd.) | | |
| | С | Paralleling | | | |
| | | Distribution or Tr fluctuation at the voltage level of I System at the P(Section L, Certifi | Facility shall parallel with Distribution ransmission System without causing a PCC greater than plus/minus 5% of f Distribution Provider's Distribution or T CC, and meet the flicker requirements ication and Testing Criteria, provides ing the paralleling Function. (IEEE 154 | a voltage the prevailing Fransmission of Section H. technology-sp | .2.d. ecific |
| | d | Flicker | | | |
| | | customers on Di System. To min customers (IEEE Generating Facil "Maximum Borde (IEEE Recomme in Electric Power necessary to mir Customers on D System. Genera | Facility shall not create objectionable stribution Provider's Distribution or Tr- imize the adverse voltage effects exp 1547-4.3.2), flicker at the PCC cause lity should not exceed the limits define erline of Irritation Curve" identified in I ended Practices and Requirements for r Systems, IEEE STD 519-1992). Thi nimize the adverse voltage affects exp istribution Provider's Distribution or Tr ators may be connected and brought u fuction motor) provided these flicker li | ansmission erienced by of ed by the EEE 519-1993 r Harmonic Co s requirement operienced by o ransmission up to synchror | ther 2 ontrol : is other |
| | | | | | (Continued) |
| | e Letter ion No. | No: 4110-E 12-09-018 | Brian K. Cherry E | Date Filed | DRAFT 2/19/2013 |
| 131C | 0 | | Vice President F Regulatory Relations | Resolution No. | |

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| | | GENE | ELECTRIC RULE NO. 21 ERATING FACILITY INTERCONN | ECTIONS | Sheet 143 | |
|-------------------|---------------|---|---|--|--|-----|
| Н. | GENE (Cont | | TY DESIGN AND OPERATING | REQUIREMENT | Ì |) |
| | 2. PF | REVENTION OF I | NTERFERENCE (Cont'd.) | | | |
| | e. | Integration with | Distribution Provider's Distribut | tion System Grou | nding l | |
| | | voltages that ex Distribution Prov coordination of t | scheme of the Generating Facili ceed the rating of the equipmer vider's Distribution System and the ground fault protection on D tem (IEEE 1547-4.1.2) (See Se | nt connected to shall not disrupt t distribution Provide | he I | |
| | f. | Frequency | | | | |
| | | Facility shall ope Distribution or T Distribution or T and remains out amounts set for Functions shall | vider controls system frequency erate in synchronism with Distri ransmission System. Wheneve ransmission System frequency tside normal (nominally 60 Hz) th in Table H.2, the Generating cease to energize Distribution F ystem within the stated maximu | bution Provider's er Distribution Pro at the PCC varies by the predetermi Facility's Protecti Provider's Distribu | bvider's I s from I ined ve I |) |
| | | | | | | |
| | | | | | | |
| | | | | | (Continued) | |
| Advice Decisio | Letter No | o: 4110-E 12-09-018 | lssued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/20 | 013 |
| 132C0 | | | Vice President Regulatory Relations | Resolution No. | | |



Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

| | GENE | ELECTRIC RULE NO. RATING FACILITY INTERCO | | Sheet 144 |
|-----------|--|---|--|---|
| | ENERATING FACILIT | Y DESIGN AND OPERAT | ING REQUIREMENTS | 6 (N) |
| 2. | PREVENTION OF I | NTERFERENCE (Cont'd.) | | |
| | f. Frequency (Con | ıťd.) | | |
| | | Table H.2 <u>Frequency Trip Settings</u> | | |
| | | Frequency Range (Assuming 60Hz Nominal) Less than 59.3 Hz Greater than 60.5 Hz Less than 57.0 Hz Less than an adjustable value between 59.8 Hz and 57 Hz but greater than 57 Hz. [2] Greater than 60.5 Hz. | | 3,000 |
| | Function sensing equipm Transmission System to purpose of the allowed disturbances to avoid nui field adjustable by qualifi kVA, set points shall be Table H.2 may be negotia [2] – Unless otherwise required of 10 cycles shall be used | ize Distribution Provider's Distribution ent and circuits may remain connected t allow sensing of electrical conditions fo time delay is to allow a Generating isance tripping. Set points shall not be ed personnel). For Generating Facilitie, field adjustable and different voltage s ited with Distribution Provider. d by Distribution Provider, a trip frequent d. m trip time is used, a second under frequ | o Distribution Provider's Distribut r use by the "reconnect" feature. Facility to "ride through" shor user adjustable (though they m s with a Gross Rating greater th et points and trip times from the cy of 59.3 Hz and a maximum trip | ion or The t-term ay be an 30 sse in b time |
| | | | | (N) (Continued) |
| Advice Le | | Issued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/2013 |
| 133C0 | | Vice President Regulatory Relations | Resolution No. | |

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ompany Cancelling Original Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

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| | | GENER | ELECTRIC F ATING FACILITY | | | IS | Sheet 14 | 45 |
|----------------|-------------|--|---|---|--|---|---------------------------------|-------------------------|
| Н. | GEN (Con | ERATING FACILITY ťd.) | DESIGN AND | OPERATII | NG REQUI | REMENT | S | (N) I |
| | 2. F | REVENTION OF IN | TERFERENCE | (Cont'd.) | | | | |
| | g | . Harmonics | | | | | | ļ |
| | | When the General harmonic current i Transmission Sys Table H.3. The ha harmonic currents Distribution Provid Generating Facility distortion of a Gen criteria as for the H | njection into Di- tem at the PCC armonic current due to harmon ler's Distribution y connected (IE nerating Facility | stribution F shall not e injections ic voltage n or Transr EE 1547-4 | Provider's E exceed the shall be ex distortion p mission Sys 4.3.3.). The | Distribution limits stat cclusive of present in stem witho e harmoni | ted in f any out the c | |
| | | <u>Maximum harmonic</u> | Table H. current distortion | - | of current (I) | [1,2] | | |
| | | Individual harmonic order, h (odd harmonics) [3] Max Distortion (%) [1] – IEEE1547-4.3.3 [2] – I = the greater o without the GF, or the between the GF and th [3] – Even harmonics ar | GF rated current capac e PCC). | city (transformed | d to the PCC wh | 35 <u><</u> h dist 0.3 over 15 or 30 | ner exists | I I I I (N) |
| Advice | Letter I | <i>lo:</i> 4110-E | Issue | d by | Dat | e Filed | | tinued) 2/19/2013 |
| Decision 134C0 | on No. | 12-09-018 | Brian K. Vice Pre Regulatory | Cherry sident | Effe | ective solution No. | | |



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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

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| | | | LECTRIC RULE NO. 21 G FACILITY INTERCONNECT | | Sheet 146 |
|-----------------------|-----------------|---|--|--|--|
| | GENEI Cont'd | | GIGN AND OPERATING RE | QUIREMENTS | (N) ! |
| 2 | 2. PR | EVENTION OF INTER | ERENCE (Cont'd.) | | |
| | h. | Direct Current Injection | ı | | |
| | | Generating Facilities sl of rated output current Transmission System. | hould not inject direct currer into Distribution Provider's I | nt greater than (Distribution or |).5% |
| | i. | Power Factor | | | |
| | | to maintain the General output or a Distribution factor range from 0.9 k conditions. While not r inherent reactive powe option may offer reactive correction capacitors o a Generator Interconne | adequate reactive power co ting Facility power factor ne Provider specified power fa eading to 0.9 lagging, based required, for generators that r control capability Distributi ve power support in the form n its Distribution or Transmi ection Agreement or an Add ement, as described in Rule | ar unity at rated octor within a po on local syster do not have on Provider at in of power facto ssion System, u ed Facilities or | d I wer I n I ts I vr I under I |
| A -4 -5 | - 44 | 4440 5 | lana dan | | (Continued) |
| Advice Le Decision | | 4110-E 12-09-018 | lssued by Brian K. Cherry Vice President | Date Filed Effective Resolution No. | DRAFT 2/19/2013 |
| 135C0 | | | Regulatory Relations | | |



Cancelling

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

| | | GEN | ELECTRIC RULE NO. 21 ERATING FACILITY INTERCON | NECTIONS | Sheet 147 |
|-------------------|----------------------|---|---|---|--|
| H. | GENEF (Cont'd | | TY DESIGN AND OPERATING | G REQUIREMENT | S (N) |
| | 3. TE | CHNOLOGY SF | PECIFIC REQUIREMENTS | | |
| | a. | Technology Sp | pecific Requirements | | |
| | | the Generating with electronic responsible for Distribution Pro of either manua synchronizing is Short Circuit Co synchronism pr meet Section H agreed upon by Generators sha while operating System. A pow | Synchronous Generators: For t Facility circuit breakers shall b or electromechanical control. I properly synchronizing its Ger ovider's Distribution or Transmi al or automatic synchronous ec s required for all synchronous ontribution Ratio (SCCR) excer rotection is not required except 1.2.d (Flicker) (IEEE1547-4.2.5 y Producer and Distribution Pro- all automatically regulate powe in parallel with Distribution Pro- ver system stabilization Function per ating Facilities under 10 M | be three-phase dev Producer shall be herating Facility wit ssion System by m quipment. Automat Generators that ha eding 0.05. Loss o as may be necess). Unless otherwis boider, synchronou r factor, not voltage boider's Distribution on is specifically no | ices I h I leans I lic I ve a I f I sary to I e I s I a, I h |
| | b. | Induction Gene | erators | | |
| | | require a synch induction Gene Distribution or capacitors or of undesirable fer additional capa Distribution Pro | erators (except self-excited Inde ronizing Function. Starting or erators can adversely impact Di Transmission System voltage. ther techniques may be necess ro-resonance. When these co icitors) are installed on Produci ovider must review these meas y be required as determined in lection Study. | rapid load fluctuati istribution Provider Corrective step-sv sary and may caus unter measures (e. er's side of the PC0 ures. Additional | ons on I 's I vitched I e I .g. I C, I |
| | | | | | (Continued) |
| Advice Decisio | Letter No: on No. | 4110-E 12-09-018 | Issued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/2013 |
| 136C0 | | | Vice President Regulatory Relations | Resolution No. | |



Cancelling

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

| 137C0 | | | Regulatory Relations | | |
|----------------------------|---------------|--|--|---|--------------------------------|
| Advice Lett Decision No | | 4110-E 12-09-018 | lssued by Brian K. Cherry Vice President | Date Filed Effective Resolution No. | DRAFT 2/19/2013 |
| Advice Lett | or No. | 4110-E | locued by | Data Filad | (Continued) |
| | | equivalent Protective F | nay require a Transfer Trip s Function. | system of an | l (N) |
| | | Transmission System formation of an Uninte Provider's Distribution | lity that cannot detect Distril faults (both line-to-line and nded Island, and cease to e or Transmission System with | line-to-ground) energize Distrib ithin two second | ution I ds, I |
| | b. | Transfer Trip | | | |
| | | not cease to energize Transmission System Unintended Island sha designed to detect Dis line-to-line and line-to- | with an SCCR exceeding 0. Distribution Provider's Distr within two seconds of the fo all be equipped with Protecti tribution or Transmission S ground, and cease to energy or Transmission System with | ibution or ormation of an ve Functions ystem faults, bo gize Distribution | I I Dth I |
| | a. | Fault Detection | | | |
| 4. | SU | PPLEMENTAL GENER | RATING FACILITY REQUIR | REMENTS | |
| | | equipment. Non-grid-i | ers do not require separate : interactive or "stand-alone" ation with Distribution Provi | inverters shall r | I Inot be I In or I I |
| | C. | Inverters | | | l |
| 3. | TE | CHNOLOGY SPECIFIC | C REQUIREMENTS (Cont'd | 1.) | |
| | ENEF ont'd | | SIGN AND OPERATING RE | EQUIREMENTS | 6 (N) ! |
| | | | ELECTRIC RULE NO. 21 IG FACILITY INTERCONNEC | TIONS | Sheet 148 |



Cancelling

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

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| | | | GENE | ELECTRIC RULE NO. 21 RATING FACILITY INTERCONN | NECTIONS | Sheet 149 |
|-------------------|----|---|--|--|---|---|
| Н. | | NER/ ont'd.) | | Y DESIGN AND OPERATING | G REQUIREMENT | S (N) |
| | 4. | SUP | PLEMENTAL G | ENERATING FACILITY REQ | UIREMENTS (Co | nťd.) |
| | | c. F | Reclose Blockin | g | | |
| | | p n | eak load on any nay require add | egate Generating Facility capa y automatic reclosing device, I itional Protective Functions, in ng on some of the automatic r | Distribution Provid cluding, but not lir | er I |
| I. | | | | LATIONS, RESERVATION O UND OF SALVAGE VALUE | F UNUSED | |
| | 1. | INTE | RCONNECTIO | N FACILITIES AND DISTRIB | UTION UPGRADE | ES I |
| | | Rule | e, Interconnectio | for in the Generator Interconn on Facilities connected to Distr ution Upgrades shall be provi Distribution Provider at Produc | ribution Provider's ded, installed, owr | side of I |
| | 2. | THIF | RD-PARTY INST | TALLATIONS | | |
| | | optic Faci Distri Inter acco final trans Distri there expe desi to er shall asso | on, employ a qua- lities or Distribu- ribution Provider connection Fac- ordance with Dis- inspection and sfer ownership of ribution Upgrade eafter be owned ense. Producer gn, administration sure compliance I also be respon- pociated with the | aval of Distribution Provider, a alified contractor to provide ar tion Upgrades, to be owned a r, on Distribution Provider's sid ilities and Distribution Upgrade stribution Provider's design an acceptance by Distribution Pr of such Producer installed Inte es to Distribution Provider and I and maintained by Distribution shall pay Distribution Provider on, and monitoring of the insta e with Distribution Provider's usible for all costs, including ar transfer of Producer installed grades to Distribution Provider | nd install Interconr nd operated by de of the PCC. Su es shall be installed d specifications. I ovider, Producer s erconnection Facili I such facilities sha on Provider at Prod r's reasonable cos allation for such fa- requirements. Pro ny income tax liabi Interconnection Fa | ection I I Ich I Jpon I shall I ties or I all I ducer's I cilities I pducer I lity, I |
| | | | | | | (Continued) |
| Advice Decisio | | r No: | 4110-E 12-09-018 | Issued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/2013 |
| 138C0 | | | | Vice President Regulatory Relations | Resolution No. | |



Original Cancelling

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

| | | | ELECTRIC RULE NO. 3 GENERATING FACILITY INTERCO | | Sheet 150 |
|------------------|----|--|---|---|--|
| H. | | NERATING FA | CILITY DESIGN AND OPERATI | ING REQUIREMENTS | 6 (N) |
| | 3. | RESERVATIO | N OF UNUSED FACILITIES | | |
| | | Interconnection as Added Fact change in the Producer may the terms of it reserve idle In Distribution Pro- | Icer wishes to reserve Distribution In Facilities or Distribution Upgravilities for Producer at Producer's operation of Producer's Generat elect to abandon or reserve suc s agreement with Distribution Pro- terconnection Facilities or Distribu- ovider shall be entitled to continued to the ongoing operation and | des installed and oper expense, but idled by ing Facility or otherwis h facilities consistent ovider. If Producer ele- oution Upgrades, ue to charge Producer | a I se, I with I ects to I I |
| | 4. | REFUND OF S | SALVAGE VALUE | | |
| | | Facilities for w constructed and minimum, reco | icer elects to abandon the Specia hich it has either advanced the in nd transferred to Distribution Provider a eive from Distribution Provider a dded Facilities. | nstalled costs or vider, Producer shall, | ata I age I |
| J. | ME | TERING, MON | ITORING AND TELEMETERING | 6 | |
| | 1. | GENERAL RE | QUIREMENTS | | |
| | | J and shall me contained in D | Facilities shall be metered in ac eet all applicable standards of Dis pistribution Provider's applicable ovider manuals dealing with Met | stribution Provider tariffs and published | ction I |
| | 2. | METERING B | Y NON-DISTRIBUTION PROVID | DER PARTIES | |
| | | Metering Equi Provider exce | o, installation, operation, reading pment for Generating Facilities s of to the extent that the Commiss s be performed by others. | hall be by Distribution | |
| | | | | | (Continued) |
| Advice Decisi | | er No: 4110-E . 12-09-018 | Issued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/2013 |
| 139C0 |) | | Vice President Regulatory Relations | Resolution No. | |



Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

| | | | | GENEF | ELECTRIC RULE NO. 21 RATING FACILITY INTERCONNECT | IONS | Sheet 151 |
|---|-------|---|--|---|--|--|-----------------------|
| | J. | MET | ER | ING, MONITORII | NG AND TELEMETERING (Cont'o | d.) | (N) |
| | | 3. N | ١E٦ | GENERATION | OUTPUT METERING | | |
| | | (t i | Dut od n E nde | put Metering for e etermine applical Distribution Provid ependent System | customers may be required to insta evaluation, monitoring, and verifica ble standby and non-bypassable of ler's tariffs, to satisfy applicable Ca of Operator (CAISO) reliability requi- planning and operations. | ation purposes charges as de alifornia | and I fined I |
| | | (6 (0 (1 (1) 1 (1) 1 (1) 1 1 1 1 1 1 1 1 | Ger gen opt Dist star Dist nay Dist | neration Output N ctive options, for erator data to Dis to have Distributi tribution Provider adby and non-byp uirements. Howe tribution Provider y elect to install th | g Facility customers do not need to detering where less intrusive and/c Producer/Customer, are available stribution Provider. These Genera- ion Provider estimate load data in 's applicable tariffs to determine of passable and other applicable cha ever, if a Generating Facility custor 's estimate of the Generator(s) out the Net Generation Output Metering install Net Generation Output Metering | or more cost for providing ting Facilities accordance w r meet applica rges and tariff mer objects to tput, the custo g, or have | ith I ble I I |
|] | | (| a) | requirements set Provider does no Distribution Provi Provider-owned I expense The re | ons available to the customer mus t forth in Distribution Provider's Ru ot receive meter data in accordanc ider shall have the right to install D Net Generation Output Metering a elevant factors in determining the r ut Metering are as listed below: | le 22. If Distri e with Rule 22 Distribution t the custome | bution I 2, I I |
| | | (| a) | Data requiremen | ts in proportion to need for information | ation; | |
| | | (| b) | | on to install equipment that adequ ider's operational requirements; | ately address | es İ (N) |
| | | | | | | | (Continued) |
| | | e Letter on No. | No: | 4110-E 12-09-018 | lssued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/2013 |
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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

32005-E

| | | GENI | ELECTRIC RULE NO. 21 ERATING FACILITY INTERCONI | NECTIONS | Sheet 152 |
|--------------|-------------------------------|---|---|---|------------------------|
| J. ME | TEF | RING, MONITOF | RING AND TELEMETERING (| Cont'd.) | (N) |
| 3. | NE | T GENERATION | N OUTPUT METERING (Cont' | d.) | |
| | (C) | Accuracy and t collecting data; | ype of required Metering consi | stent with purpose | s of I |
| | (d) | Cost of Meterin | ng relative to the need for and a | accuracy of the dat | a; l |
| | (e) | The Generating Metering/monit | g Facility's size relative to the c oring; | cost of the | |
| | (f) | Other means o data, etc.); | f obtaining the data (e.g. Gene | rating Facility logs | , proxy l |
| | (g) | Requirements Producer. | under any Generator Interconn | ection Agreement | with |
| | Fac pur J.3 | cilities operating suant to Californ | in this Section may not apply to under Distribution Provider's N nia PUC section 2827, et seq. ction D.4, Compliance with Lav | Net Energy Meterir Nothing in this Se | ng tariff I ction I |
| | on Me | a quarterly basi | er will report to the Commission s, the rationale for requiring Ne nt in each instance along with t | et Generation Outp | ut I |
| 4. | PO | INT OF COMMO | ON COUPLING (PCC) METER | RING | |
| | ser Pro me ele ma | vice, Producer's ovider, and if req asure electric po ctric service Tar y be replaced w | sessing Distribution Provider's s PCC Metering shall be review quired, replaced to ensure that ower according to the provisior riff. Where required, the Custo rith a bi-directional meter so that 's site can be separately record | ved by Distribution it will appropriately ns of the Customer mer's existing met at power deliveries | 's I er I |
| | | | | | (Continued) |
| Advice Lette | | 4110-E 12-09-018 | Issued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/2013 |
| 141C0 | | | Vice President Regulatory Relations | Resolution No. | |



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Pacific Gas and Electric Company San Francisco, California U 39

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

| | | ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS | S | sheet 153 |
|------------------|-----|--|--|---|
| J. | MET | TERING, MONITORING AND TELEMETERING (Cont'd.) | | (N) |
| | 4. | POINT OF COMMON COUPLING (PCC) METERING (Cont'd | d.) | |
| | | Producer may, at its sole option and cost, require Distribution install multi-metering equipment to separately record power of Distribution Provider's Distribution System and retail purchas Distribution Provider. Where necessary, such PCC Metering designed to prevent reverse registration. | deliveries es from | |
| | | Generating Facilities for Net Energy Metering under PUC set et seq. shall have metering provided pursuant to the terms of applicable Net Energy Metering Tariff Schedule. | ctions 282 f the | 27, I I I |
| | 5. | TELEMETERING | | |
| | | If the nameplate rating of the Generating Facility is 1 MW or Telemetering equipment at the Net Generation Output Meter may be required at Producer's expense. If the Generating Fa Interconnected to a portion of Distribution Provider's Distribu operating at a voltage below 10 kV, then Telemetering equip required on Generating Facilities 250 kW or greaterDistrib shall only require Telemetering to the extent that less intrusiv more cost effective options for providing the necessary data are not available. Distribution Provider will report to the Corr designated authority, on a quarterly basis, the rationale for re Telemetering equipment in each instance along with the size of the facility. | ing location acility is tion Syste ment may ution Proving and/or in real tim mission co equiring | em 7 be 7/ider 1 1 1 1 1 1 1 1 1 1 1 |
| | 6. | LOCATION | | |
| | | Where Distribution Provider-owned Metering is located on Pr premises, Producer shall provide, at no expense to Distributi a suitable location for all such Metering Equipment. | oducer's on Provid | er, I (N) |
| | | | | (Continued) |
| dvice Decisio | | r No: 4110-E Issued by Date Fr 12-09-018 Brian K. Cherry Effectiv | | DRAFT 2/19/20 |
| 42C0 | | | tion No. | |



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Original

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

| | | | TRIC RULE NO. 21 ACILITY INTERCONNEC | TIONS | Sheet 154 |
|------------------|----|---|---|---|-----------------------------|
| J. | ME | TERING, MONITORING AND | TELEMETERING (Con | ťd.) | (N) |
| | 7. | COSTS OF METERING | | | |
| | | Producer will bear all costs of the incremental costs of opera Equipment. | | | uding I I I |
| | 8. | MULTIPLE TARIFF METERIN | G | | |
| | | The requirements of Section J Facility includes multiple gene one Net Energy Metering (NEI NEM), or where a Generating eligible generators in combina generators without Non-Expor ensure proper tariff administra and at each of the NEM eligibl under the same NEM tariff sch eligible generators under differ metering requirements will be schedule. | rators eligible for servic M) tariff schedule (e.g. Facility consists of one tion with one or more r t relays ("Reverse Pow tion, metering will be re e generator groups elig edule. For combinatio rent tariffs, billing admin | ce under more the NEM, BG-NEM, or more NEM- non-NEM eligible ver Protection"). equired at the PC gible for service ons of multiple N nistration and | FC- To CC EM |
| | | Where a Generating Facility or generator groups in combinati metering of the non-NEM gene in Section J.3. | on with one or more no | on-NEM generate | |
| | | | | | (Continued) |
| Advice Decisi | | | lssued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/2013 |
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Cancelling

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

32008-E

| | | | | GENE | ELECTRIC RULE NO. 21 RATING FACILITY INTERCONN | NECTIONS | Sheet 15 | 5 |
|--|------------------|----------------|---|---|--|---|---|---------------------------------------|
| | K. | DIS | PUT | E RESOLUTION | N PROCESS | | | (N) |
| | | | tion | | al procedures for timeline-relating procedures will apply for d | | | |
| | | 1. | SCC | PE | | | | |
| | | | mod betv tariff Dist juris to th | lify any provision veen Distributior f ("Implementing ribution Provide dictional tariffs, ne interconnectio | all have initial jurisdiction to in n of this Rule or of any agreen n Provider and Applicant or Pr g Agreements") and to resolve r's performance of its obligation the applicable agreements, ar on of Applicant's or Producer's illities pursuant to this Rule. | nents entered into oducer to impleme disputes regarding ons under Commis nd requirements re | ent this g sion- lated | |
| | | 2. | PRC | CEDURES | | | | |
| | | | (indi Part oblig requ purs | ividually referred ies") regarding I gations under its uirements related | between Distribution Provider d to in Section K as "Party" and Distribution Provider's or Prod a tariffs, the Implementing Agra d to the interconnection of Pro e shall be resolved according | d collectively "the ucer's performanc eements, and ducer's Facilities | e of its | |
| | | | | aggrieved Party pertaining to the and express not procedures unde email address a Interconnection Generator Interco be sent to the E Commission.— | Il be documented in a written to the other Party containing to dispute, the specific dispute a ice by the aggrieved Party tha er this Section. The notice sha nd physical address set forth in Agreement or Interconnection connection Agreement A cop nergy Division, Office of the D The receiving Party shall ackn alendar Days of its receipt. | the relevant knowr and the relief soug it it is invoking the all be sent to the P in the Generator Request, if there y of the notice sha irector, at the | n facts ht, 'arty's is no Il also | (N) |
| | | | | | | | (Conti | nued) |
| | Advice Decisi | | r No: | 4110-E 12-09-018 | lssued by Brian K. Cherry | Date Filed Effective | DRAFT | 2/19/2013 |
| | 144C0 | Vice President | | Vice President Regulatory Relations | Resolution No. | | | |



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Pacific Gas and Electric Company San Francisco, California U 39

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

32009-E

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| | | GENER | ELECTRIC RULE NO. 21 ATING FACILITY INTERCONNEC | TIONS | Sheet 156 |
|-----------------------------|-----|--|--|---|-----------------------------|
| K. DIS | SPU | TE RESOLUTION I | PROCESS (Cont'd.) | | (N) |
| 2. | PR | OCEDURES (Cont | 'd.) | | |
| | а | Party must design decisions for its re Calendar Days. In Provider shall prov and/or technical de | ed Party notifying the other Party ate a representative with the au spective Party to review the dis addition, upon receipt of the no- vide the aggrieved Party with all etails and analysis regarding an section requirements under disp Days. | ithority to make pute within sev otice, Distribution I relevant regula by Distribution | en (7) I on I atory I |
| | | Parties' authorized to try to resolve th | 5) Calendar Days of the date of d representatives will be require e dispute. Parties are expected efforts to resolve the dispute. | d to meet and o | confer I |
| | b. | date of the notice, negotiations for ar Parties may by mu mediation to the A The request may be adr program@cpu agreement may re | ot reached in forty-five (45) Cale either 1) a Party may request to additional forty-five (45) Calen utual agreement make a written DR Coordinator in the Commiss be submitted by electronic mail <u>uc.ca.gov</u> . Alternatively, both P equest mediation from an outsid is to be shared equally between | o continue dar Days or 2) request for sion's ALJ Divis to arties by mutua e third-party | the I I sion. I I |
| | C. | Commission pursu | Party may file a formal compla uant to California PUC section 1 Rules of Practice and Procedur | 702 and Article | e 4 of I |
| | | | a shall be construed to limit the r medies under Commission law. | | rty to I (N) |
| | | | | | (Continued) |
| Advice Lette Decision No | | 4110-E 12-09-018 | lssued by Brian K. Cherry Vice President | Date Filed Effective Resolution No. | DRAFT 2/19/2013 |
| 145C0 | | | Regulatory Relations | | |

| | PGa | Pacific Gas and Electric Company San Francisco, California U 39 | Cancelling | Original | Cal. P.U.C. She Cal. P.U.C. She | | 32010-E | |
|---|-----|---|---|--|---|--|-------------------------|--|
| | | | ECTRIC RULE NO. FACILITY INTERC | | IONS | Sheet 15 | 57 | |
| I | K. | DISPUTE RESOLUTION PROC PERFORMANCE DURING I Pending resolution of any dia proceed diligently with the punder this Rule except as de Agreements, unless the Imp Disputes as to the Interconn Section shall be subject to rea in this Section. CERTIFICATION AND TESTING INTRODUCTION This Section describes the tre equipment used for the Inter | ESS (Cont'd.) DISPUTE spute under this S erformance of the scribed in Section lementing Agreen ection Request ar esolution pursuan & CRITERIA est procedures an connection of Gel | Section, f ir respect <u>n F.6 an</u> nents ha nd imple t to the p nd requir nerating | the Parties sha tive obligation d the Impleme ve been termi mentation of the procedures set ements for Facilities to | s nated. nis : forth | (N) | |
| | | Distribution Provider's Distril Type Testing, Production Te Testing, -The procedures lis appropriate Underwriters La Electronic Engineers (IEEE) Commission (IEC) documen well as the testing described <i>Commission's Interconnection</i> Rule has been revised to be Standard for Interconnecting Systems. | sting, Commissio sted rely heavily o boratory (UL), Ins , and Internationa ts—most notably in May 1999 Nev on Requirements. consistent with A | ning Tes n those titute of I Electro UL 1741 w York S - As not NSI/IEE | sting, and Peri- described in Electrical and technical and IEEE 92 <i>tate Public Se</i> ed in Section E 1547-2003 | odic 9 as <i>rvice</i> 3, this wer | I I I I (N) | |
| Ľ | | e Letter No: 4110-E on No. 12-09-018 | Issued by Brian K. Cherry Vice President Regulatory Relations | | Date Filed Effective Resolution No. | | 2/19/2013 | |



Original Cancelling

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

| | | GENER | ELECTRIC RULE NO. 21 ATING FACILITY INTERCONN | ECTIONS | Sheet 158 |
|----------------------|--|---|---|--|---|
| L. (| CERTIF | ICATION AND TE | ESTING CRITERIA (Cont'd.) | | (N) |
| | 1. INT | RODUCTION (Co | nt'd.) | | |
| | Sec Ger Pro Fac Tra dev nun Tra ado | ction H of this Rule nerating Facility's vider's Distribution cility will cease pro nsmission System eloped assuming nber of connectior nsmission System | here, together with the technic e, are intended to provide ass equipment will not adversely n or Transmission System an- viding power to Distribution P n under abnormal conditions. a low level of Generating Fac hs to Distribution Provider's D h. At high levels of Generating ts and corresponding test pro- | urance that the affect Distribution d that a Generatir rovider's Distribut The tests were sility penetration o istribution or g Facility penetrat | I Ig I Iion or I I r I I ion, I |
| | One con Dis in S req Cer Inte | ce a Generator or sidered suitable for tribution or Transr Section L, Distribut uire retesting of su tification process | es criteria for "Certifying" Gen inverter has been Certified pe or Interconnection with Distrib nission System. Subject to th ion Provider will not repeat th uch Certified Equipment. It sh is intended to facilitate Gener rtification is not a prerequisite | er this Rule, it may ution Provider's le exceptions des le design review c nould be noted tha ating Facilities | y be I I cribed I or I at the I |
| | in c req wel to p has revi Cor with pre Cer | hanges in set poir uirements that will as equipment cu provide consistenc been submitted the sed Underwriters nverters, Controlle Distributed Energy vious Rule 21 cert tified Equipment f | o this Rule relative to IEEE 15 impact previously certified or rrently under evaluation. The y with IEEE 1547. Equipmen o a NRTL for testing prior to t Laboratories (UL) 1741 stand rs and Interconnection Systel gy Resources" and that subse iffication requirements will cor or Interconnection Requests date of the revised "UL 1741 | es, and other listed equipment se changes were t that is certified of he adoption of the lard titled "Inverte ms Equipment for equently meets the tinue to be accep submitted through | as I made I or that I e I rs, I use I e I e I oted as I |
| | | | | | (Continued) |
| Advice L Decisior | etter No: No. | 4110-E 12-09-018 | lssued by Brian K. Cherry Vice President | Date Filed Effective Resolution No. | DRAFT 2/19/2013 |
| 147C0 | | | Regulatory Relations | Resolution No. | |



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Pacific Gas and Electric Company San Francisco, California U 39

Original Cancelling

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

32012-E

| | GEN | ELECTRIC RULE NO. 21 IERATING FACILITY INTERCONNECTI | Sheet 159 ONS |
|-------------------------------|---|--|--|
| L. CEF | RTIFICATION AND | TESTING CRITERIA (Cont'd.) | (Ņ) |
| 2. | CERTIFIED AND | NON-CERTIFIED INTERCONNECTI | ON EQUIPMENT |
| | a. Certified Equip | oment | |
| | as having met requirements of Equipment for Distribution or a pre-package the necessary manufacturer's discretion of th the particular is | ted and approved (i.e. "Listed") by an both the Type Testing and Production described in this document is conside purposes of Interconnection with Disi Transmission System. Certification r d system or an assembly of compone functions. Type Testing may be done a factory or test laboratory, or in the fi- ie testing laboratory, field-certification installation tested. In such cases, sor d to be repeated at other installations | n Testing I red to be Certified I tribution Provider's I nay apply to either I ents that address I e in the I eld. At the I may apply only to I ne or all of the I |
| | When equipme manufacturer, information for | ent is Certified by a NRTL, the NRTL at a minimum, a Certificate with the for each device: | shall provide to the I ollowing I |
| | Administrative | : | |
| | | ive date of Certification or applicable first in series), and/or other proof that | |
| | (2) Equipmen | t model number(s) of the Certified eq | uipment; |
| | (3) The softwa | are version utilized in the equipment, | if applicable; |
| | (4) Test proce | edures specified (including date or rev | vision number); and |
| | (5) Laboratory | y accreditation (by whom and to what | standard). (N) |
| | | | (Continued) |
| Advice Letter Decision No. | | lssued by Brian K. Cherry | Date Filed DRAFT 2/19/2013 Effective |
| | | Vice Dresident | Decelution No. |

148C0

Vice President Regulatory Relations

Resolution No.



32013-E*

| | | GENERA | ELECTRIC RULE NO. 21 TING FACILITY INTERCON | NECTIONS | Sheet 160 |
|-----------------------------------|----------------------------|--|--|-------------------------|-----------------|
| L. CER | RTIFI | CATION AND TES | TING CRITERIA (Cont'd.) | | (N) |
| | | RTIFIED AND NON-CERTIFIED INTERCONNECTION EQUIPMENT | | | |
| . | a. (| Certified Equipment (Cont'd.) | | | |
| | - | Technical (As appropriate): | | | |
| | (| (1) Device ratings (kW, kV, Volts, amps, etc.); | | | |
| | (| (2) Maximum available fault current in amps; | | | |
| | (| (3) In-rush Current in amps; | | | |
| | (| (4) Trip points, if factory set (trip value and timing); | | | |
| | (| (5) Trip point and timing ranges for adjustable settings; | | | |
| | (| (6) Nominal power factor or range if adjustable; | | | |
| | (| (7) If the equipment is Certified as Non-Exporting and the method used (reverse power or underpower); and | | | |
| | (| (8) If the equipment is Certified as Non-Islanding | | | |
| | (| It is the responsibility of the equipment manufacturer to ensure that Certification information is made publicly available by the manufacturer, the testing laboratory, or by a third party. | | | |
| b. | b. I | Non-Certified Equipment | | | |
| | F a r F F I | For non-Certified equipment, some or all of the tests described in this Rule may be required by Distribution Provider for each Generating and/or Interconnection Facility. The manufacturer or a laboratory acceptable to Distribution Provider may perform these tests. Test results for non-Certified equipment must be submitted to Distribution Provider for the Supplemental Review. Approval by Distribution Provider for equipment used in a particular Generating and/or Interconnection Facility does not guarantee Distribution Provider's approval for use in other Generating and/or Interconnection Facilities. (N) | | | |
| | | | | | (Continued) |
| Advice Letter No: Decision No. | | 4110-E 12-09-018 | lssued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/2013 |
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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

| | | | | | | 01 | oot 161 |
|---|-------|----------|---------------------------------|--|--|--|-------------------------|
| | | | | GENE | ELECTRIC RULE NO. 21 ERATING FACILITY INTERCONNECTIONS | Sn | eet 161 |
| | L. | CEF | RTIF | ICATION AND | TESTING CRITERIA (Cont'd.) | | (N) |
| | | 3. | TYP | E TESTING | | | |
| | | | a. [.] | Type Tests and | Criteria for Interconnection Equipment Co | ertification | |
|] | | | t t | he specification his Rule. The r | by the second se | ment under /er only | |
|] | | | V r i F I a a | While UL 1741(equirements ar nduction Gener protection relay: Distribution Pro Gable L.1 as ap and/or Intercom and its control a | es the test criteria by Generator or inverter 1) was written specifically for inverters, the re readily adaptable to synchronous Gene rators, as well as single/multi-function com s. Until a universal test standard is develou vider or NRTL shall adapt the procedures propriate and necessary for a Generating nection Facilities or associated equipment and Protection Functions. These tests sha e sequence shown in Table JL.2 on the ne | e rators, trollers and pped, referenced Facility performan all be | in |
| | | | | | | | (Continued) |
| | | e Letter | | 4110-E 12-09-018 | Issued by Date Fi Brian K. Cherry Effectiv | | DRAFT 2/19/2013 |
| | 150C0 | | | 12 00 010 | Vice President Resolut Regulatory Relations | - | |
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| | | TRIC RULE NO. 21 ACILITY INTERCONN | ECTIONS | Sheet 162 |
|--|--|---|--|--|
| 3. TYPE a. T | CATION AND TESTING (E TESTING (Cont'd.) Type Tests and Criteria for Cont'd.) | | uipment Certifica | (N) tion |
| | Ta | able L.1 | | |
| Typ | e Test and Requirements for 1 | nterconnection Equipm | ent Certification | |
| | Type Test | Reference (1) | Synchronous li Inverter Generator G | nduction |
| DC Isol Simulat Dielectr Power F Harmon DC Inje Distribu Reset D Loss of Short C Load Tr Surge V AntI-sla Non-Ex In-rush | ic Distortion ction ction leav Control Circuit ansfer Vithstand Capability inding oort Current vnization References are to section numbers for Use in Independent Power Syst "inverter" may have to be adapted t apply in the fests to other technolog Required only if Non-Islanding desi Required for Generators that use D Required for Generators that use D Required for Generators that use D Required for all self-excited inductic sources when connected to Distrib | UL 1741 – 46.4 UL 1741 – 46.4 UL 1741 – 47.3 UL 1741 – 47.3 UL 1741 – 47.7 [L.3.e L.3.b L.3.c -L.3.d L.3.f] in either UL 1741 (Inverters, C ems) or this Rule. References to ther technologies by the les. gnation ation is desired. istribution Provider power to m o Generators as swell as Invert | otor to speed. ters that operate as voltage | X I Importately I Impe I Impe I Impe I Impe I Impe I Impe I Impe I Impe I Impe I |
| Advice Letter No: | 4110-E | Issued by | Date Filed | DRAFT 2/19/2013 |
| Decision No. 151C0 | | Brian K. Cherry Vice President gulatory Relations | Effective Resolution No. | |



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| | | GENER | ELECTRIC RULE NO. 2 ATING FACILITY INTERCO | | Sheet 163 |
|-----------------------------------|---------------------|------------------------------|--|--|------------------|
| L. CERTI | FICATIO | ON AND TE | ESTING CRITERIA (Cont'o | d.) | (N) |
| 3. TY | PE TES | STING (Con | t'd.) | | |
| a. | Type T (Cont'o | | riteria for Interconnection | Equipment Certificat | ion I |
| <u>Tabl</u> <u>Certi</u> | e L.2 T fication | ype Tests S | Sequence for Interconnect | ion Equipment | |
| Te | st No. | <u>Type Tes</u> | <u>t</u> | | |
| | 1 | Distributio | on Provider Voltage and F | requency Variation | |
| | 2 | Synchron | ization | | |
| | 3 | Surge Wit | thstand Capability | | |
| | 4 | Distributio | on Provider Voltage and F | requency Variation | |
| | 5 | Synchron | ization | | |
| | 6 | Other Red | quired and Optional Tests | | |
| | | | 3 must be done first and in order convenient to the te | | ests 4 I |
| b. | Anti-Is | landing Tes | st | | |
| | 1741 S these I | Section 46.3 nterconnec | the Anti-Islanding test pro will be considered Non-Is tion requirements. The te a Certified Non-Islanding (| landing for the purpo st is required only fo | oses of I r I |
| c. | Non-E | xport Test | | | |
| | Section these I | n L.7.a will I nterconnec | asses the Non-Export test be considered Non-Export tion requirements. This te a Certified Non-Export des | ing for the purposes est is required only for | of I |
| | | | | | (Continued) |
| Advice Letter No: Decision No. | 4110-E 12-09- | | Issued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/2013 |
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Pacific Gas and Electric Company San Francisco, California U 39

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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

| | | GENE | ELECTRIC RULE NO. 21 RATING FACILITY INTERCONNECTI | | Sheet 164 |
|----------|-----------|---|--|--|---|
| L. C | CERTI | FICATION AND 1 | TESTING CRITERIA (Cont'd.) | | (N) |
| 3 | . TY | PE TESTING (Co | ont'd.) | | ļ |
| | d. | In-rush Current | Test | | ļ |
| | | motor up to spec Section L.7.b to | pment that utilizes Distribution Prov ed will be tested using the procedure determine the maximum current dra The resulting In-rush Current is us Drop. | e defined in awn during this | |
| | e. | Surge Withstand | d Capability Test | | ļ |
| | | requirement in S accordance with 1000 V to confir the selected test Interconnection accordance with applicable stand control circuits, to confirm the equi provide misinfor The location/exp tested shall be c equipment docu | tion equipment shall be tested for the Section H.1.c in all normal operating I EEE Std C62.45-2002 for equipment in that the surge withstand capability t level(s) from IEEE Std C62.41.2-20 equipment rated greater than 1000 manufacturer or system integrator lards. For interconnection equipment use IEEE Std C37.90.1-2002. Thes pment did not fail, did not misoperate mation (IEEE 1547-5.1.3.2). Posure category for which the equipment clearly marked on the equipment lab mentation. External surge protection poment in harsher location/exposure | modes in ent rates less to y is met by usi 002. V shall be test designated nt signal and te tests shall te, and did not ment has beer rel or in the on may be use | 1 ing 1 ied in 1 i i: 1 i 1 |
| | | | | | |
| | | | | | (Continued) |
| Advice L | etter No: | 4110-E | Issued by | Date Filed | DRAFT 2/19/2013 |
| Decision | No. | 12-09-018 | Brian K. Cherry | Effective Resolution No. | |
| 153C0 | | | Regulatory Relations | = | |



| | | | | ELECTRIC RULE NO. 21 NG FACILITY INTERCONN | NECTIONS | Sheet 165 |
|------|------------------|--|--|---|--|---|
| L. | CEI | RTIFICATION | N AND TESTI | NG CRITERIA (Cont'd.) | | (N) |
| | 3. | TYPE TEST | ING (Cont'd.) | | | |
| | | f. Synchro | nization Test | | | |
| | | generato connecte System. (transitio provides on both 1 manufac that mon both fund current-s | ers, and inverte ed to Distributi The test is all n from stand-a such function he synchroniz turers can ver itoring and co ctions. This tes ource inverter | synchronous Generators, ers capable of operating a on Provider's Distribution so applied to the resynch alone to parallel operation ality. This test may not r ration and re-synchroniza ify to the satisfaction of the ntrols hardware and software st is not necessary for ind rs. Instead, the In-rush C to those generators. | as voltage-source or Transmission ronization Function n) on equipment th need to be perform tion functions if the he testing organiza- ware are common duction generators | while I I at I ed I e I tion I to I or I |
| | | device cl within the parallelir start with between Transmis outside c Facility is the test f synchror synchror | osure, all thre e stated limits meters are our g-device shal only one of th Generating F ssion System; of the synchron s brought with ive times for e nization with synchron the synchron is brought with ite times for e | trate that at the moment e synchronization param This test shall also dem tside of the limits stated i I not close (IEEE 1547-5. the three parameters: (1) acility and Distribution Pr (2) frequency difference; nization specification. Ver in specification prior to sy each of the three paramel ynch check or manual co st must verify that paralle the brought within specification | eters in Table L.3 nonstrate that if any n the table, the 1.2A). The test wi voltage difference ovider's Distributio or (3) phase angle orify that the Gener nchronization. Re ters. For manual ntrol with auto eling does not occu | y of I II I n or I e I rating I .peat I |
| | | | | | | (Continued) |
| | ce Let sion N | ter No: 4110-E | | Issued by | Date Filed Effective | DRAFT 2/19/201 |
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| Pacific Gas and Electric Company San Francisco, California U 39 | ny Cancelling | Original | Cal. P.U.C. Shee Cal. P.U.C. Shee | | | | | | |
|---|--|---|--|--|--|--|--|--|--|
| GENERAT | ELECTRIC RULE NO | | | Sheet 166 | | | | | |
| L. CERTIFICATION AND TES | TING CRITERIA (Co | nt'd.) | | (N) | | | | | |
| 3. TYPE TESTING (Cont'o | l.) | | | | | | | | |
| f. Synchronization Tes | st (Cont'd.) | | | | | | | | |
| Table L.3 Synchronization Parameter Limits [1] | | | | | | | | | |
| Aggregate Rating Free of Generator Units Differ (kVA) 0-500 > 500-1,500 > 1,500-10,000 [1] – IEEE 1547-5.1.1B | quency Voltage Difference ence (Δf, Hz) 0.3 0.2 0.1 | Phase Angle (ΔV, %) 10 5 3 | Difference (ΔΦ,°) 20 15 10 | | | | | | |
| performed on the pa | ge withstand test spe iralleling device to en ed in Section H.1.c (G erconnection system ltage and Frequency ider Manufacturing a tion test specified in e set points shall be t ne manufacturer. Th | shall be su variation variation nd Product Section L.3 ested at a s is test may | liance with the -5.1.3.3). bjected to Fest procedure ion Tests, Sec 3.f. Interconne single set of se be performed | pse I I I I e I ection I et I in I (N) | | | | | |
| Advice Letter No: 4110-E | Issued by | | Date Filed | (Continued) DRAFT 2/19/2013 | | | | | |
| Decision No. 12-09-018 155C0 | Brian K. Cherry Vice President Regulatory Relations | | Effective Resolution No | 510 4 1 210/2010 | | | | | |



Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

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| | | GENE | ELECTRIC RULE NO. 21 RATING FACILITY INTERCONNE | CTIONS | Sheet 167 |
|--------------------------|------|--|---|--|---|
| L. CI | ERTI | FICATION AND | TESTING CRITERIA (Cont'd.) | | (N) |
| 5. | СС | MMISSIONING | TESTING | | |
| | a. | Commissioning | Testing | | |
| | | verify protective Operation of a G software is chan Commissioning testing protective technician, or lid equipment) mus the manufacture and requirement Distribution Prov procedure be su days prior to the Provider has the Provider may all describing which Functions to be | Testing, where required, will be settings and functionality. Upor Generating Facility, or any time in ged that may affect the functions Test must be performed. An ind e equipment (professional engin ensed electrician with experienc t perform Commissioning Testin er's recommended test procedure ts per this Rule. vider may require written Commi bibitted to Distribution Provider a performance of the Commission e right to witness Commissioning so require written certification by n tests were performed and their tested during commissioning, pa equipment, may consist of the for | n initial Parallel nterface hardwars s listed below, ilvidual qualified eer, factory-cer g in accordance e to verify the se ssioning test at least 10 work ning Test. Distributi the installer results. Protec articularly with re | re or I a I tified I ective I extitngs I ettings I ing I ibution I on I tive I |
| | | (1) Over and ur | nder voltage | | |
| | | (2) Over and ur | nder frequency | | i |
| | | (3) Anti-Islandir | ng function (if applicable) | | I I |
| | | (4) Non-Export | ing function (if applicable) | | |
| | | (5) Inability to e | energize dead line | | (N) |
| | | | | | (Continued) |
| Advice Lei Decision N | | : 4110-E 12-09-018 | lssued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/2013 |
| 156C0 | | | Vice President Regulatory Relations | Resolution No. | |



| | GENE | ELECTRIC RULE NO. 21 RATING FACILITY INTERCONN | ECTIONS | Sheet 168 | | | |
|--|------------------------|---|-------------------------|-----------------|--|--|--|
| L. CERT | IFICATION AND T | ESTING CRITERIA (Cont'd.) | | (N) | | | |
| 5. CC | OMMISSIONING 1 | FESTING (Cont'd.) | | | | | |
| a. | Commissioning | Testing (Cont'd.) | | | | | |
| | (6) Time delay | on restart after Distribution Pro | vider source is sta | able | | | |
| | (7) Distribution | Provider system fault detectior | ו (if used) | i i | | | |
| | (8) Synchronizi | ng controls (if applicable) | | | | | |
| | | onnection Protective Functions e Generator Interconnection A | | iired I | | | |
| | interconnection e | Test shall include visual inspece equipment and protective settir the interconnection requireme | ngs to confirm | | | | |
| b. | Review, Study, a | and Additional Commissioning | Test Verification (| Costs | | | |
| A Producer shall be responsible for the reasonably incurred costs of the reviews, studies and additional Commissioning Test verifications conducted pursuant to Section E of this Rule. If the initial Commissioning Test verification is not successful through no fault of Distribution Provider, Distribution Provider may impose upon Producer a cost based charge for subsequent Commissioning Test verifications. All Costs for additional Commissioning Test verifications shall be paid by Producer within thirty days of receipt of Distribution Provider's invoice. The invoice provided by Distribution Provider shall consist of the hourly rate multiplied by the hours incurred by Distribution Provider and will separately specify the amount of time spent on-site from that spent in roundtrip travel to the Commissioning Test site. Additional cost, if any, will be specified on the invoice. If the initial Commissioning Test verification is not successful through the fault of Distribution Provider, that visit will not be considered the initial Commissioning Test verification. (N | | | | | | | |
| | | | | (Continued) | | | |
| Advice Letter No Decision No. | 2: 4110-E 12-09-018 | Issued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/2013 | | | |
| 157C0 | | Vice President Regulatory Relations | Resolution No. | | | | |



| | | GEN | ELECTRIC RULE NO. 21 ERATING FACILITY INTERCONNECTIO | Sheet 169 NS |
|-------------------------------|------------------|---|--|--|
| L. CER | RTIFI | CATION AND | TESTING CRITERIA (Cont'd.) | (N) |
| 5. (| CON | MISSIONING | TESTING (Cont'd.) | |
| (| c. (| Other Checks a | | |
| | C | Other checks a | nd tests that may need to be performe | ed include: |
| | (| (1) Verifying fi | nal Protective Function settings | i i |
| | (| (2) Trip test (L | .5.g) | i I |
| | (| (3) In-service 1 | tests (L.5.h) | i |
| (| d. (| Certified Equip | ment | i |
| | T r t C | Frack process in ninimum, pass his Rule and a Distribution Pro | cilities qualifying for interconnection the incorporate Certified Equipment that h ed the Type Tests and Production Test re judged to have little or no potential ovider's Distribution or Transmission St cilities, it is necessary to perform only t | ave, at a states and a states described in states and a states and a states and a states and a states and a state and a states and a st |
| | (| Production performed currents, a Generator frequency, | Function settings that have been chan Testing will require field verification. using injected secondary frequencies, pplied waveforms, at a test connection to simulate abnormal Distribution Prov or varying the set points to show that red (actual) Distribution Provider volta | Tests shall be voltages and using a rider voltage or the device trips at |
| | (| break disco ceases to e Transmissi | slanding function shall be checked by o onnect switch to verify the Interconnec energize Distribution Provider's Distrib ion System and does not re-energize i after the switch is closed. | tion equipment |
| | (| injection te adjusting th that the ap | exporting function shall be checked usi chniques. This function may also be t ne Generating Facility output and local plicable Non-Exporting criteria (i.e., re er) are met. | ested by loads to verify |
| | | | | (Continued) |
| Advice Letter Decision No. | | 4110-E 12-09-018 | Brian K. Cherry E | ate Filed DRAFT 2/19/2013 ffective |
| 158C0 | | | Vice President R Regulatory Relations | esolution No. |



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Pacific Gas and Electric Company San Francisco, California U 39

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

| | | GENERA | ELECTRIC RULE NO. 21 TING FACILITY INTERCONN | ECTIONS | Sheet 170 |
|--------------|-----|--|---|---|------------------------------------|
| L. CE | RTI | FICATION AND TES | STING CRITERIA (Cont'd.) | | (N) |
| 5. | СС | MMISSIONING TE | STING (Cont'd.) | | |
| | d. | Certified Equipmer | nt (Cont'd.) | | |
| | | | Review or an Interconnection ents or additional testing. | on Study may impo | ose I I |
| | e. | Non-Certified Equi | pment | | |
| | | described in Type Certified Equipmen Distribution Provide factory, in the field Distribution Provide of tests for a partice | ment shall be subjected to Testing (Section L.3) as well t Commissioning Tests (Se er's approval, these tests m as part of commissioning, c er, at its discretion, may also ular Generating Facility or, f ufficient experience with the | Il as those describ ction L.5.d). With ay be performed ir or a combination of o approve a reduc for example, if it | ed in I I the I f both. I |
| | f. | Verification of Setti | ings | | |
| | | devices are set to I | of Commission testing, Prod Distribution Provider-approv ed in the Commissioning Te | ed settings. Verifi | all I cation I |
| | g. | Trip Tests | | | |
| | | relays) that have no Interconnection Fac (e.g. contactor or c commissioning. Th associated interrup operate. Interlockin between interruptin | otective Functions and devided of previously been tested as cilities with their associated ircuit breaker) shall be trip the trip test shall be adequat ting devices open when the ng circuits between Protecting devices shall be similarly at has been tested and app | s part of the interrupting device ested during e to prove that the protective device ve Function device tested unless the | es I I s I es or I |
| | | | | | (N) |
| | | | | | (IN) |
| Advice Lette | | 4110-E 12-09-018 | lssued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/2013 |
| 159C0 | | | Vice President Regulatory Relations | Resolution No. | |



Cancelling

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

| | GENE | ELECTRIC RULE NO. 21 ERATING FACILITY INTERCONNEC | CTIONS | Sheet 171 |
|-----------------------------------|---|--|--|--|
| L. CERTIF | ICATION AND | TESTING CRITERIA (Cont'd.) | | (N) |
| 5. CO | MMISSIONING | TESTING (Cont'd.) | | |
| g. | Trip Tests | | | |
| | relays) that have Interconnection (e.g. contactor of commissioning, associated inter operate. Interlo between interru | Protective Functions and devices e not previously been tested as p Facilities with their associated int or circuit breaker) shall be trip tes The trip test shall be adequate t rupting devices open when the p ocking circuits between Protective pting devices shall be similarly test n that has been tested and approx | art of the terrupting device ted during o prove that the rotective devices Function device sted unless they | s |
| h. | In-service Tests | 3 | | |
| | previously been their associated shall be given a verify proper win measuring circu system energize measurement s each Alternating protective devic protective devic and voltage may voltage, and rea for in-service te | Protective Functions and devices tested as part of the Interconnec instrument transformers or that a n in-service test during commissi- ring, polarity, CT/PT ratios, and p lits. The in-service test shall be n ed and carrying a known level of o hall be made of the magnitude ar g Current (AC) voltage and currer e and the results compared to ex es with built-in Metering Function gnitudes and phase angles, or ma al and reactive power, the metere sting. Otherwise, portable amme eters shall be used. | tion Facilities wi are wired in the f oning. This test roper operation and ewith the po current. A and phase angle of the connected to t pected values. I s that report cur agnitudes of curr d values may be | ield I will I of the I wer I of I he I For I For I rent I rent, I |
| | | | | (Continued) |
| Advice Letter No: Decision No. | 4110-E 12-09-018 | Issued by Brian K. Cherry Vice President | Date Filed Effective Resolution No. | DRAFT 2/19/2013 |
| 160C0 | | Regulatory Relations | Nesolution NO. | |



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Pacific Gas and Electric Company San Francisco, California U 39

Cancelling

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

| | | | | GENER | ELECTRIC RULE NO. 21 RATING FACILITY INTERCONN | ECTIONS | Sheet 172 | |
|---|------------------|----|--------------------------------------|---|---|--|---|------|
| | L. | CE | RTI | FICATION AND TH | ESTING CRITERIA (Cont'd.) | | (N |) |
| | | 6. | PE | RIODIC TESTING | 3 | | ļ | |
| I | | | pe All Dis tes Dis ha | rformed as specific Periodic Tests pre- oducer shall maint- stribution Provider. stribution Provider zard areasBatte ecked and logged | nterconnection-related Protect ed by the manufacturer, or at escribed by the manufacturer a ain Periodic Test reports or a Periodic Testing conforming particular Line Section may be under special circumstances, eries used to activate any Prot once per month for proper volust be either replaced or a disc | least every four ye shall be performed log for inspection i to Distribution Pro e specified by such as high fire ective Function sh ltage. Once every | ears. J. by ovider all be four | |
| | | 7. | TYF | PE TESTING PRO | CEDURES NOT DEFINED IN | I OTHER STAND | ARDS I | |
| | | | de in Co | vice as Certified u Underwriters Labo | es the additional Type Tests n nder this Rule. These Type T pratories UL 1741 Standard In n Independent Power Systems | ests are not conta verters, Converter | ined s and | |
| | | | a. | Non-Exporting Te | est Procedures | | | |
| | | | | controllers and in certify the equipm Options 1 and 2, | ng test is intended to verify the verters designed to limit the e nent as meeting the requirement of the review process. Tests ckages and for controllers and ns integrated. | xport of power and ents of Screen I, are provided for | |) |
| | | | | | | | (Continued | 1) |
| | Advice Decisi | | | 4110-E 12-09-018 | Issued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/ | 2013 |
| | 161C0 |) | | | Vice President Regulatory Relations | Resolution No. | | |



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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No.

| | | GENEF | ELECTRIC RULE NO. 21 RATING FACILITY INTERCONNE | CTIONS | Sheet 173 |
|---|-----------------------------------|--|--|---|--|
| | L. CERTIFI | ICATION AND T | ESTING CRITERIA (Cont'd.) | | (N) |
| | 7. TYPE (Cont | | CEDURES NOT DEFINED IN (| OTHER STANDA | ARDS I |
| | a. I | Non-Exporting To | est Procedures (Cont'd.) | | |
| | i |) Discrete Rev | verse Power Relay Test | | |
| | | discrete reve to meet the r be understoo provide a trip | of the Non-Exporting test proce erse power and underpower rela equirements of Options 1 and 2 od that in the reverse power app o output with power flowing in th Provider's Distribution or Transn | y packages provention of Screen I. It solication, the related export (toward | vided I should I w will I |
| | | Step 1: Pow Pickup Level | er Flow Test at Minimum, Midpo Settings | oint and Maximu | im l |
| 1 | | desired expo pickup settin Apply nomini degrees pha pickup level. indication of which the rel the expected this test at th angles of 90 | the corresponding secondary pict of power flow of 0.5 secondary of g, assumes 5 amp and 120V C al voltage with minimum current se angle in the trip direction. In Observe the relay's (LCD or co power values. Note the indicate ay trips. The power indication s I power. For relays with adjusta e midpoint, and maximum setti , 180 and 270 degrees and verif measured watts will be zero or | watts (the minim T/PT secondary) t setting at zero (crease the curre omputer display) ed power level at should be within ible settings, rep ngsRepeat at fy that the relay of | um). (0) int to t 2% of weat phase |
| | | | | | (Continued) |
| | Advice Letter No: Decision No. | 4110-E 12-09-018 | Issued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/2013 |
| | 162C0 | | Vice President Regulatory Relations | Resolution No. | |



Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

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| | GEN | ELECTRIC RULE NO. 21 ERATING FACILITY INTERCONNE | CTIONS | Sheet 174 |
|-----------------------------------|---|---|--|----------------------------|
| L. CERTIF | ICATION AND | TESTING CRITERIA (Cont'd.) | | (N) |
| 7. TYPE (Con | | ROCEDURES NOT DEFINED IN | OTHER STAND | ARDS I |
| a. | Non-Exporting | Test Procedures (Cont'd.) | | |
| i |) Discrete R | everse Power Relay Test (Cont'd | l.) | |
| | Step 2: Le | ading Power Factor Test | | |
| | (calculated power facto voltage by current and adjustable | d voltage with a minimum pickup l value for system application) an or load current in the non-trip dire 135 degrees). Increase the curro d verify that the relay does not op settings, this test should be repe and maximum settings. | d apply a leading ection (current lag ent to relay ratec erate. For relay | gging I I I s with I |
| | Step 3: Mi | nimum Power Factor Test | | |
| | determined degrees. I higher thar Repeat for | voltage and with the minimum pid in Step 1, adjust the current pha ncrease the current level to pickun at 0 degrees) and verify that the phase angles of 90, 180 and 270 ay does not operate. | ase angle to 84 c ip (about 10 time relay operates. | or 276 I es I I |
| | Step 4: Ne | egative Sequence Voltage Test | | |
| | voltage and simulate no 180, lb at 6 | bickup settings determined in Ste d current at 180 degrees from trip ormal load conditions (for three-p 50 and Ic at 300 degrees). Remo /e that the relay does not operate | pping direction, to hase relays, use ove phase-1 volta | age I |
| | | | | (Continued) |
| Advice Letter No: Decision No. | 4110-E 12-09-018 | Issued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/2013 |
| 163C0 | | Vice President Regulatory Relations | Resolution No. | |



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Pacific Gas and Electric Company San Francisco, California U 39

| | GEN | ELECTRIC RULE NO. 21 ERATING FACILITY INTERCONNE | CTIONS | Sheet 175 |
|-----------------------------------|---|--|---|----------------------|
| L. CERTIF | ICATION AND | TESTING CRITERIA (Cont'd.) | | (N) |
| | E TESTING PR nťd.) | OCEDURES NOT DEFINED IN (| OTHER STANDA | ARDS I |
| a. | Non-Exporting | Test Procedures (Cont'd.) | | |
| | i) Discrete R | everse Power Relay Test (Cont'd | .) | |
| | Step 5: Lo | ad Current Test | | |
| | voltage and simulate no | bickup settings determined in Step d current at 180 degrees from the ormal load conditions (use la at 1 s). Observe that the relay does n | tripping direction 80, lb at 300 and | n, to I I lc at I |
| | Step 6: Ur | balanced Fault Test | | |
| | voltage and in the non- degrees, la | bickup settings determined in Step d 2 times rated current, to simulat trip direction (use Va at 0 degrees, a at 180 degrees, Ib at 0 degrees, Observe that the relay, especially operly. | e an unbalanced s, Vb and Vc at 1 and Ic at 180 | 180 I |
| | Step 7: Tir | me Delay Settings Test | | |
| | Adjust the operating t that the time | 1 settings and set time delay to a current source to the appropriate ime, and compare against calcula ier stops when the relay trips. Re delay settings. | level to determinated values. Ver | ne l ify l |
| | | | | (Continued) |
| Advice Letter No: Decision No. | 4110-E 12-09-018 | Issued by Brian K. Cherry | Date Filed Effective Baselution No. | DRAFT 2/19/2013 |
| 164C0 | | Vice President Regulatory Relations | Resolution No. | |



Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

| | | | ELECTRIC RULE NO. 21 NG FACILITY INTERCONNE | ECTIONS | Sheet 176 |
|-----------------------------------|------|---|---|--------------------------------------|--------------------|
| L. CERTIF | FICA | TION AND TEST | ING CRITERIA (Cont'd.) | | (N) |
| 7. TYP (Cor | | | OURES NOT DEFINED IN | OTHER STAND | ARDS I |
| a. | No | n-Exporting Test F | Procedures (Cont'd.) | | |
| | i) | Discrete Reverse | e Power Relay Test (Cont'o | d.) | |
| | | Step 8: Dielectric | c Test | | |
| | | Perform the test of minute. | described in IEC 414 using | g 2 kV RMS for 1 | |
| | | Step 9: Surge W | /ithstand Test | | |
| | | | e withstand test described r the surge withstand capa | | ed in I |
| | ii) | Discrete Underpo | ower Relay Test | | |
| | | discrete underpov of Option 2 of Sci | e Non-Exporting test proc wer relay packages and m reen I. A trip output will be roducer's load) drops below | eets the requiren provided when i | nents I mport I |
| | | | erpower relay, pickup is do nich the relay indicates tha | | |
| | | | | | (Continued) |
| Advice Letter No: Decision No. | | 110-E 2-09-018 | lssued by Brian K. Cherry | Date Filed Effective | DRAFT 2/19/2013 |
| 165C0 | | | Vice President Regulatory Relations | Resolution No. | |



Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

| | GENI | ELECTRIC RULE NO. 21 ERATING FACILITY INTERCONNECTION | | Sheet 177 |
|-----------------------------------|---|---|--|-----------------------------------|
| L. CERTIF | ICATION AND | TESTING CRITERIA (Cont'd.) | | (N) |
| 7. TYPI (Con | | OCEDURES NOT DEFINED IN OTH | HER STANDAF | RDS I |
| a. | Non-Exporting | Test Procedures (Cont'd.) | | |
| i | ii) Discrete Ur | nderpower Relay Test (Cont'd.) | | 1 |
| | Step 1: Po Pickup Lev | wer Flow Test at Minimum, Midpoint el Settings | t and Maximum | |
| | desired pov pickup setti | the corresponding secondary pickup wer flow pickup level of 5% of peak lo ing. Apply rated voltage and current lase angle in the direction of normal | oad minimum at 0 (zero) | |
| | computer d power leve be within 2' settings, re Repeat at p | he current to pickup level. Observe fisplay) indication of power values. No l at which the relay trips. The power % of the expected power. For relays peat the test at the midpoint, and matchase angles of 90, 180 and 270 deg ay operates (measured watts will be | Note the indicat indication shous with adjustabl aximum setting grees and verify | ed uld e s. y |
| | Step 2: Le | ading Power Factor Test | | |
| | voltage and load direction the current verify that t | vickup current setting determined in S d rated leading power factor load cur on (current leading voltage by 45 de to 145% of the pickup level determin he relay does not operate. For relay peat the test at the minimum, midpoi | rent in the norn grees). Decrea ned in Step 1 a /s with adjustat | nal I ase I nd I ble I |
| | | | | (Continued) |
| Advice Letter No: Decision No. | 4110-Е 12-09-018 | Brian K. Cherry | Date Filed Effective | DRAFT 2/19/2013 |
| 166C0 | | Vice President Regulatory Relations | Resolution No. | |



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Pacific Gas and Electric Company San Francisco, California U 39

Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

| | GEN | ELECTRIC RULE NO. 21 IERATING FACILITY INTERCONNECT | | heet 178 |
|-----------------------------------|---|--|--|-----------------|
| L. CERTIF | ICATION AND | TESTING CRITERIA (Cont'd.) | | (N) |
| 7. TYP (Con | | ROCEDURES NOT DEFINED IN OT | HER STANDAR | DS I |
| a. | Non-Exporting | Test Procedures (Cont'd.) | | |
| | ii) Discrete U | nderpower Relay Test (Cont'd.) | | |
| | Step 3: M | inimum Power Factor Test | | |
| | determined degrees. I value at 0 phase ang | I voltage and with the minimum pickud in Step 1, adjust the current phase Decrease the current level to pickup degrees) and verify that the relay op les 90, 180 and 270 degrees and ve or any current less than rated current | angle to 84 or 2 (about 10% of the erates. Repeat rify that the relay | ne I for I |
| | | | | |
| | voltage an simulate lig | pickup settings determined in Step 1 d 25% of rated current in the normal ght load conditions. Remove phase at the relay does not operate. Repe | load direction, t 1 voltage and | ο Ι Ι |
| | Step 5: U | nbalanced Fault Test | | i |
| | voltage an fault in the at 180 deg | pickup settings determined in Step 1 d two times rated current, to simulate normal load direction (use Va at 0 d grees, la at 0 degrees, lb at 180 degr Observe that the relay (especially si properly. | e an unbalanced legrees, Vb and lees, and Ic at 0 | Vc I |
| | Step 6: Ti | me Delay Settings Test | | |
| | Adjust the operating t that the tin | o 1 settings and set time delay to mir current source to the appropriate lev time, and compare against calculated ner stops when the relay trips. Repe delay settings. | vel to determine d values. Verify | nd I (N) |
| | | | | (Continued) |
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| | | ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS | Sheet 179 |
|-----------------------------------|---------------------------------------|--|--------------------------------|
| L. CERTIF | ICATION / | AND TESTING CRITERIA (Cont'd.) | (N) |
| 7. TYPE (Con | | G PROCEDURES NOT DEFINED IN OTHER | STANDARDS |
| a. | Non-Expo | ting Test Procedures (Cont'd.) | |
| i | i) Discre | te Underpower Relay Test (Cont'd.) | |
| | Step 7 | : Dielectric Test | |
| | Perfor minute | m the test described in IEC 414 using 2 kV R e. | MS for 1 |
| | Step 8 | : Surge Withstand Test | |
| | C37.9 | m the surge withstand test described in IEEE 0.1.1989 or the surge withstand test describe n L.3.e. | d in l |
| i | ii) Tests | for Inverters and Controllers with Integrated F | unctions |
| | under | ers and controllers designed to provide revers power functions shall be tested to certify the in ion of this function. Two methods are accept | ntended I |
| | curren underj functio curren | d 1: If the inverter or controller utilizes externa t/voltage measurement to determine the reve power condition, then the inverter or controller anally tested by application of appropriate sec ts and potentials as described in the Discrete Relay Test, Section L.7.a.i of this Rule. | rse or r shall be ondary |
| | | | (Continued) |
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Cal. P.U.C. Sheet No. Cal. P.U.C. Sheet No. Original

| | GENER | ELECTRIC RULE NO. 21 RATING FACILITY INTERCONN | IECTIONS | Sheet 180 |
|-----------------------------------|---|---|---|-----------------|
| L. CERTIF | ICATION AND T | ESTING CRITERIA (Cont'd.) | | (N) |
| | E TESTING PRC hťd.) | CEDURES NOT DEFINED IN | N OTHER STAND | ARDS I |
| a. | Non-Exporting T | est Procedures (Cont'd.) | | |
| | iii) Tests for Inv (Cont'd.) | erters and Controllers with Int | egrated Functions | |
| | underpower | d controllers designed to provi functions shall be tested to ce this function. Two methods a | ertify the intended | |
| | current/volta underpower functionally t currents and | the inverter or controller utilize ge measurement to determine condition, then the inverter or ested by application of approp potentials as described in the Test, Section L.7.a.i of this R | e the reverse or controller shall be priate secondary e Discrete Reverse | 1 |
| | used, then u power canno two seconds | external secondary current or nit-specific tests must be cond to be exported across the PCC . These may be factory tests, points are integral to the unit, of the field. | ducted to verify that for a period exce , if the measureme | at I eding I |
| b. | In-rush Current 7 | Fest Procedures | | |
| | This test will dete Generator. | rmine the maximum In-rush C | Current drawn by t | he l |
| | (1) Locked-Roto | r Method | | |
| | | t procedure defined in NEMA eptable if available). | MG-1 (manufactu | rer's (N) |
| | | | | (Continued) |
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| | GENEF | ELECTRIC RULE NO. 21 RATING FACILITY INTERCONNE | ECTIONS | Sheet 181 |
|-------------------|---|--|---|--|
| L. CERTIF | ICATION AND T | ESTING CRITERIA (Cont'd.) | | (N) |
| 7. TYPE (Con | | CEDURES NOT DEFINED IN | OTHER STAND | ARDS I |
| b. | In-rush Current T | est Procedures (Cont'd.) | | |
| | (2) Start-up Metl | hod | | |
| | by the manuacquisition measure the Generating Provider's I follow the n time and cu capture the defined as t during the s During the t must be cap the connect Report the graphical re with the cer | setup the Generating Facility e ufacturer. Using a calibrated of equipment with appropriate sp e current draw at the Point of I Facility starts up and parallels Distribution or Transmission Sy ormal, manufacturer-specified irrent resolution and accuracy maximum current draw within the maximum current draw for startup process, using a 10-cyc test, Distribution Provider sour pable of maintaining voltage w tion to the unit under test. Rep highest 10-cycle current as the spresentation of the time-curre tified In-rush Current must be made available to Distribution I | scilloscope or da eed and accuracy interconnection a with Distribution ystem. Startup sh procedure. Suffi shall be used to 5%. In-rush Cur m Distribution Pro- cle moving average ce, real or simula ithin +/- 5% of rat beat this test five a In-rush Current. nt characteristic a included in the te | ta y, s the hall cient rent is povider ge. ted, ed at ted, along st (N) |
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| | | GENER | ELECTRIC RULE NO. 21 ATING FACILITY INTERCONNE | CTIONS | Sheet 182 |
|-------|--|---|--|---|--|
| M. | APPENDIX | ONE | | | (N) |
| | Inadvertent | t Export | | | |
| | power from | t Export: "The u a Generating F an 60 seconds." | nscheduled and uncompensat Facility (GF) for a duration exc | ed export of real eeding two seco | nds I |
| | offset their sized to me Generator Generating System. In cannot ram small amou | facility load by i eet their peak do controls to ensu Facility to Distri situations whe p down quickly unts of power fo | onditions, an Applicant may cho- installing generation systems of emand with load following fund- ure conditional export of electri- ribution Provider's Distribution re the loading changes rapidly enough, the Generating Facil- or limited duration. The event of a short time is referred to as I | which are optima ctionality on the cal power from t or Transmission and/or the Gen ity may need to e of exporting | Ilý I he I erator I export I |
| | Inadvertent relevant to current rati reclose blo here. Also | t Export system the interconnec o, etc.) may nec ock, transfer trip, , it should be no | wing criteria be the minimum is. It should be understood that ction study process (15% screet cessitate additional technical r , ground bank, etc.) that are no oted that Inadvertent Export mirked Secondary Systems. | at other factors en results, short equirements (e.co ot explicitly noted | circuit I J. I I I |
| | Protect Systen require associa Functio overcu line fau line-to- | tive Functions a n faults (per Dis ed over and abo ated with the for ons may include rrent/voltage-re ult detection and | v is proposed with Inadvertent ind equipment to detect Distrib tribution Provider's standard p ve the basic Protective Function ur options in the Export Screer e, but are not limited to, direction straint overcurrent Protective I d overcurrent/overvoltage Protective n. The addition of a ground b necessary. | oution or Transm ractices) may be ons and equipme n. Protective onal Functions for line ective Functions | ission I e I ent I I e-to- I |
| | | | | | (Continued) |
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| | | | | GENERA | ELECTRIC RULE NO. 21 ATING FACILITY INTERCONNECTION | Sheet | 183 |
|---|---------|-------|-------------------------------------|---|--|--|------------------------|
| | М. | AP | PEN | DIX ONE (Cont'd.) | | | (N) |
| I | | 2) | inac be s spe | lvertent export allo similarly handled. | ent ratings can be mitigated by limiti wedTo a large degree, Voltage R The amount of Inadvertent Export is ovider requirements and should be values: | legulation may s dependent on | |
| | | | a. | 50% of the Genera | ating Facility Capacity, or | | |
| | | | b. | 10% of the continu the lowest rated fe 12kV), or | uous conductor rating in watts at 0.9 eeder conductor upstream of the GF | 9 power factor for ⁻ (i.e. 200kW @ | |
| | | | C. | 110% of the larges | st load block in the facility, or | | I |
| | | | d. | 500kW or some ot Provider | ther maximum level indicated by Dis | stribution | |
| | | | prov | vided to trip the cor | y, a reverse power Protective Funct nnected Generator(s) within two sec nadvertent Export is exceeded. | | |
| I | | 3) | Sys be I reve add to tr | tem, the expected ess than two occur erse power or unde ition to the reverse ip the connected G | nited impact to the Distribution or Tr frequency of Inadvertent Export oc rrences per 24-hour periodAdditio erpower Protective Function will be t power Protective Function describ Generator(s) if the duration of revers export) exceeds 60 seconds. | currences should onally, a separate required (in ed in 2) above) se power or | (N) |
| | Advice | Lette | er No: | 4110-E | Issued by Da | ate Filed | ontinued) |
| | Decisio | | | 12-09-018 | Brian K. Cherry Efi | fective | |
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