

153 FERC ¶ 61,384  
UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Norman C. Bay, Chairman;  
Cheryl A. LaFleur, Tony Clark,  
and Colette D. Honorable.

Southern California Edison Company

Docket No. RC15-1-000

ORDER ON LOCAL DISTRIBUTION DETERMINATION

(Issued December 31, 2015)

1. In this order, the Commission grants in part and denies in part Southern California Edison Company's (SoCal Edison) application for a Commission determination of whether certain facilities owned and operated by SoCal Edison are "used in local distribution of electric energy" pursuant to section 215 of the Federal Power Act (FPA).<sup>1</sup> As discussed below, based on the current use of the facilities as described in SoCal Edison's application and data request response, the Commission finds that the SoCal Edison's facilities at issue are used in local distribution, with the exception of certain discrete protection systems and the segments of the associated transmission lines located within the yards of two substations in the North of Lugo system.

**I. Background**

2. In section 215(a)(1) of the FPA, Congress exempted "facilities used in the local distribution of electric energy" from Commission jurisdiction.<sup>2</sup> However, whether facilities are used in local distribution or transmission raises a question of fact, which the Commission has jurisdiction to determine.<sup>3</sup>

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<sup>1</sup> 16 U.S.C. § 824o (2012).

<sup>2</sup> 16 U.S.C. § 824o(a)(1) (2012).

<sup>3</sup> *E.g.*, *FPC v. Southern California Edison Co.*, 376 U.S. 205, 210 n.6 (1964) (stating whether facilities are used in local distribution is a question of fact to be decided by the Commission).

3. In Order No. 773, the Commission approved modifications to the North American Electric Reliability Corporation's (NERC) definition of "bulk electric system."<sup>4</sup> The revised definition has a bright-line threshold that includes all facilities operated at or above 100 kV and specific categories of facilities and configurations as inclusions and exclusions to the definition. The Commission indicated in Order No. 773 that the application of the core definition and the exclusions should serve to exclude most facilities used in local distribution from the bulk electric system.<sup>5</sup> The Commission also recognized that there may be some rare instances that present a factual question as to whether a facility that remains in the bulk electric system after applying the "core" definition and the four exclusions should nonetheless be excluded because it is used in local distribution.<sup>6</sup> The Commission determined that, in such instances, the Commission itself should resolve the factual question of whether the facilities are used in local distribution. Thus, entities must apply to the Commission for a determination of whether an element is used in local distribution. Further, the Commission concluded that it would make jurisdictional determinations on a case-by-case basis and would apply the seven factor test as set forth in Order No. 888<sup>7</sup> to make such determinations.

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<sup>4</sup> *Revisions to Electric Reliability Organization Definition of Bulk Electric System and Rules of Procedure*, Order No. 773, 141 FERC ¶ 61,236 (2012); *order on reh'g*, Order No. 773-A, 143 FERC ¶ 61,053, *order on reh'g and clarification*, 144 FERC ¶ 61,174 (2013), *aff'd sub nom. People of the State of New York and the Pub. Serv. Comm'n of New York v. FERC*, 783 F.3d 946 (2d. Cir. 2015).

<sup>5</sup> The core definition states: "Unless modified by the lists shown below, all Transmission Elements operated at 100 kV or higher and Real Power and Reactive Power resources connected at 100 kV or higher. This does not include facilities used in the local distribution of electric energy." Order No. 773, 141 FERC ¶ 61,236 at P 12.

<sup>6</sup> Order No. 773, 141 FERC ¶ 61,236 at P 79.

<sup>7</sup> *Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities*, Order No. 888, FERC Stats. & Regs. ¶ 31,036 (1996), *order on reh'g*, Order No. 888-A, FERC Stats. & Regs. ¶ 31,048, *order on reh'g*, Order No. 888-B, 81 FERC ¶ 61,248 (1997), *order on reh'g*, Order No. 888-C, 82 FERC ¶ 61,046 (1998), *aff'd in relevant part sub nom. Transmission Access Policy Study Group v. FERC*, 225 F.3d 667 (D.C. Cir. 2000), *aff'd sub nom. New York v. FERC*, 535 U.S. 1 (2002).

4. The factors of the seven factor test are: (1) local distribution facilities are normally in close proximity to retail customers; (2) local distribution facilities are primarily radial in character; (3) power flows into local distribution systems, and rarely, if ever, flows out; (4) when power enters a local distribution system, it is not reconsigned or transported onto some other market; (5) power entering a local distribution system is consumed in a comparatively restricted geographic area; (6) meters are based at the transmission/local distribution interface to measure flow into the local distribution system; and (7) local distribution systems will be of reduced voltage.<sup>8</sup> Further, in Order No. 773 the Commission also determined that, consistent with Order No. 888, the factors identified in the seven factor test are not exclusive when determining whether an element is used in local distribution. The Commission indicated that use of the seven factor test would be a “starting point” but that the Commission would take into consideration other case-specific factors in particular situations.<sup>9</sup>

## **II. SoCal Edison Application**

5. SoCal Edison is an investor-owned electric utility company serving 4.9 million customers in Southern California.<sup>10</sup> In its application, SoCal Edison includes testimony and supporting exhibits, which, according to SoCal Edison, provide a complete analysis needed to resolve the question of whether the facilities at issue are used in local distribution. SoCal Edison states that it built its higher voltage transmission system to efficiently connect these lower voltage distribution systems serving relatively rural and sparsely populated areas. SoCal Edison explains that it operates its integrated transmission system delivering bulk power from around the Western Interconnection principally at 500 kV, 220 kV, 161 kV alternating current and 1000 kV direct current. SoCal Edison also states that its local distribution facilities operate at 115 kV down to 4 kV. SoCal Edison explains that at issue in this proceeding are its 115 kV systems and facilities that are not integrated with the transmission system.

6. According to SoCal Edison, the 115 kV facilities were designed to operate at higher voltages to reduce line losses over the long distances in remote areas, and are radial to the integrated transmission network to provide increased reliability, voltage stability and safety, as well as provide additional operational flexibility. SoCal Edison

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<sup>8</sup> Order No. 888, FERC Stats. & Regs. ¶ 31,036.

<sup>9</sup> Order No. 773, 141 FERC ¶ 61,236 at P 71.

<sup>10</sup> SoCal Edison is designated in the NERC compliance registry as a distribution provider, generator owner, generator operator, load-serving entity, resource planner, transmission owner, transmission operator and transmission planner.

adds that, at the formation of the California Independent System Operator, Inc. (CAISO), the Commission recognized these 115 kV SoCal Edison facilities as local distribution.<sup>11</sup> SoCal Edison states that those 115 kV facilities take power off of the CAISO's integrated transmission network at only a single point and transform it down for use in localized areas to serve SoCal Edison's customers.

7. SoCal Edison operates its local distribution networks radially from the bulk electric system in order to maintain a high level of transmission network resiliency and distribution system operational flexibility. SoCal Edison asserts that this distinctive design, in which a single substation serves as the interface between the integrated transmission network and each radial local distribution system or facilities, maintains electrical isolation between SoCal Edison's radial local distribution systems. SoCal Edison explains that each system has normally open circuit breakers that maintain electrical isolation from neighboring systems. The normally open circuit breakers exist to "roll" (i.e., transfer) load to a neighboring system. According to SoCal Edison, this minimizes the impacts of any unforeseen forced outages on SoCal Edison's customers, and ensures that these distribution facilities do not negatively impact the reliability of the bulk electric system.

8. SoCal Edison seeks a determination of the following seven 115 kV facility configurations (collectively, "the 115 kV Facilities"):

(i) Devers 115 kV system - covers approximately 1,120 square miles of service area and is comprised of twenty four 115 kV substations connected to one another by 188 circuit miles of power lines servicing approximately 511 MW of peak load, 2.2 percent of SoCal Edison's 2014 peak demand.

(ii) El Casco 115 kV system - covers approximately 50 square miles of service area comprised of seven load-serving substations and 82 circuit

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<sup>11</sup> *Pacific Gas and Electric Co., et al.*, 77 FERC ¶ 61,077 (1996). SoCal Edison indicates that all the facilities at issue in this proceeding were deemed to be local distribution with the exception of the reconfigured Devers and Mirage 115 kV systems. According to SoCal Edison these facilities were initially configured as CAISO grid facilities, but in 2013 were split into two radial distribution systems and re-classified as non-ISO. SoCal Edison represents that the remaining 115 kV facilities have been classified as non-ISO, local distribution since the onset of the CAISO. SoCal Edison Application at 2 & n.3.

miles of power lines and related facilities that support approximately 188 MW of peak load, 0.8 percent of SoCal Edison's 2014 peak demand.

(iii) Mirage 115 kV system - covers approximately 112 square miles of service area comprised of six 115 kV substations and 78 circuit miles of power lines and related facilities that support approximately 480 MW of peak load, 2 percent of SoCal Edison's 2014 peak demand.

(iv) Valley 115 kV system - covers approximately 844 square miles of Riverside County, and is comprised of 25 load-serving substations with close to 387 circuit miles of power lines and related facilities that support roughly 1825 MW of peak load, 7.9 percent of SoCal Edison's 2014 peak demand.

(iv) Victor 115 kV system - covers approximately 300 square miles in San Bernardino County, and is comprised of 14 substations with close to 200 circuit miles of power lines and related facilities that support nearly 750 MW of peak load, 3.3 percent of SoCal Edison's 2014 peak demand.

(vi) Vista 115 kV system - covers approximately 90 square miles of service area, and is comprised of 11 load-serving substations and 136 circuit miles of power lines, and related facilities that support approximately 435 MW of peak load, 1.9% of SoCal Edison's 2014 peak demand.

(vii) North of Lugo region - SoCal Edison states that there are three 115 kV subsystems and several radial substations that SoCal Edison operates north of its Lugo 500/220 kV substation. The 115 kV subsystems are the Inyokern 115 kV, Kramer 115 kV, and Control 115 kV subsystems, and a portion of each subsystem is integrated with the transmission network and is under the operational control of the CAISO. SoCal Edison states that it does not seek a determination regarding the portions under CAISO's operational control. However, SoCal Edison seeks a determination of the SoCal Edison-controlled radial portions of the Inyokern, Kramer, and Control subsystems and the North of Lugo radial substations. According to SoCal Edison, these facilities are comprised of 13 substations and include over 1400 circuit miles that support approximately 290 MW of peak load. Approximately 16 percent of the load customers are modeled as large non-conforming retail load customers. SoCal Edison explains that these large customers include a cement plant, glass manufacturer, military facility, and aerospace manufacturer that connect directly at 115 kV. SoCal Edison adds that this region also serves many smaller retail load customers. The total SoCal Edison-controlled North of Lugo 115 kV service area is approximately 400 square miles and

includes portions of San Bernardino, Kern, Inyo, Tulare, and Mono Counties. Currently, there is 158.8 MW of cogeneration and 54.6 MW of hydro generation connected to the facilities located throughout the North of Lugo region.

9. SoCal Edison asserts that, unlike transmission facilities, the 115 kV Facilities generally do not operate in parallel with the integrated transmission network (i.e., are not looped with the transmission network). SoCal Edison adds that this is an important design feature that eliminates the possibility of power flowing into the local distribution facilities and back onto the transmission network, and thus prevents the local distribution facilities from negatively affecting the reliability of the integrated transmission network. SoCal Edison states that it analyzed each of the systems separately, applied the seven factor test and concluded that all 115 kV Facilities met all seven factors.

### **III. Notice of Filing, Responsive Pleadings and Data Request**

10. Notice of the application was published in the *Federal Register*, 80 Fed. Reg. 23,265 (2015), with interventions and protests due on or before May 18, 2015. Portland General Electric Company and the City of Moreno Valley, California filed motions to intervene, raising no issues. The Edison Electric Institute (EEI) filed a motion to intervene out-of-time. NERC and Western Electricity Coordinating Council (WECC) jointly filed a motion to intervene and comments. SoCal Edison filed reply comments.

#### **A. Comments and Reply Comments**

11. NERC and WECC comment that additional information is necessary to establish a complete record before an accurate determination can be made regarding the impact of the 115 kV Facilities on the bulk electric system. NERC and WECC identify the types of additional information they claim that SoCal Edison should provide before the Commission makes a determination, including a discussion of the potential reliability impact on the bulk electric system for the failure of SoCal Edison's local network protection systems, particularly, the protection systems associated with the 500/115 kV and 230/115 kV transformers connected to these networks.<sup>12</sup>

12. In reply, SoCal Edison provides certain additional information and asserts that such information supports its position that the 115 kV Facilities are used in local distribution, as well as the uniqueness of SoCal Edison's system design and operation. Regarding the question of failure of the protection systems, SoCal Edison explains that potential reliability impacts on the interconnected transmission network for the failure of

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<sup>12</sup> NERC/WECC Comments at 8.

the local network protection systems are dependent on the substation design serving the radial 115 kV system or facilities. Each of the substations serving the Devers, El Casco, Kramer, Mirage, Valley, and Victor 115 kV facilities have a 115 kV bus configuration that involves a “breaker- and-a-half arrangement” while the substation serving the Vista 115 kV system has a 115 kV bus configuration that involves a double-bus-double-breaker arrangement.

13. SoCal Edison explains the design for the Control and Inyokern 115 kV substations is referred to as a double-bus-single-breaker arrangement.<sup>13</sup> According to SoCal Edison, the two substations do not have either a 500/115 kV or 230/115 kV transformer connected to them. SoCal Edison explains that remote protection would involve isolating fault conditions on radial 115 kV facilities by disconnecting the operating bus that is connected to the line where the primary protection system failed. SoCal Edison contends that such operation does not have an adverse impact to the reliability of the interconnected transmission network as analysis of bulk electric system facilities and the sectionalizing breakers already evaluates contingencies that result in the same operation. SoCal Edison avers that, although the failure of the Control and Inyokern protection systems during a fault will result in transmission facilities being taken out of service, loss of these facilities will not have an adverse impact on the bulk electric system.

#### **B. Data Request**

14. On September 2, 2015, Commission staff issued a data request for additional information: (1) studies SoCal Edison performed to show that protection system failures at Control and Inyokern would not have an adverse impact on bulk electric system reliability; (2) further explanation of SoCal Edison’s request to categorize protection facilities as local distribution when their misoperation would cause the loss of bulk electric system transmission lines; (3) procedures SoCal Edison uses to close its normally open breakers; (4) emergencies that would result in SoCal Edison closing the normally open breakers and the instances it has closed them in recent years; and (5) SoCal Edison’s exposure to fault induced delayed voltage recovery following contingencies in its 115 kV Facilities.

#### **C. SoCal Edison Response and Errata**

15. On September 30, 2015, SoCal Edison filed its response to the data request. SoCal Edison explains that it performs studies that mimic the results for the failure of the protection systems in question and that no Reliability Standards violations resulted from the misoperations. SoCal Edison defines an emergency that would result in a normally

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<sup>13</sup> SoCal Edison Reply Comments, Ex. SCE-1 at 8-9.

open breaker being closed, as any system condition whereby an exceedance (or an expected exceedance) of an established limit is realized. SoCal Edison explains, that the “incidents that would result in a normally open breaker being closed on the seven 115 kV distribution systems include not only emergencies, but also construction and maintenance outages.”<sup>14</sup> SoCal Edison provides information for each of the 115 kV Facilities, noting that the “vast majority” of instances in which SoCal Edison closed normally open breakers in the 115 kV Facilities over the past five years were for rolling (i.e. transferring) load during construction or maintenance outages.<sup>15</sup>

16. Separately, SoCal Edison filed an errata to its application. In the errata, SoCal Edison explains that it was not accurate when it stated that its normally open breakers are only closed for emergencies; SoCal Edison also closes its normally open breakers for construction and routine maintenance. Furthermore, SoCal Edison states that power would only flow in and out of SoCal Edison’s local networks simultaneously during abnormal system conditions when the normally open breakers are closed. Finally, SoCal Edison clarifies that at no point does power simultaneously enter and exit the 115 kV Facilities under normal operating conditions.

#### **IV. Discussion**

##### **A. Procedural Matters**

17. Pursuant to Rule 214 of the Commission’s Rules of Practice and Procedure, the timely, unopposed motions to intervene serve to make the entities that filed them parties to this proceeding.<sup>16</sup> In addition, pursuant to Rule 214(d) of the Commission’s Rules of Practice and Procedure, we grant EEI’s late-filed motion to intervene, given its interest in the proceeding, the early stage of the proceeding, and the absence of any undue prejudice or delay.<sup>17</sup> Rule 213(a)(2) of the Commission’s Rules of Practice and Procedure prohibits answers to protests and answers to answers unless otherwise ordered by the decisional authority.<sup>18</sup> We accept SoCal Edison’s reply comments because they provided information that assisted us in our decision-making process.

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<sup>14</sup> SoCal Edison Data Request Response at 8.

<sup>15</sup> *Id.*

<sup>16</sup> 18 C.F.R. § 385.214 (2015).

<sup>17</sup> 18 C.F.R. § 385.214(d).

<sup>18</sup> 18 C.F.R. § 385.213(a)(2) (2015).



## **B. Commission Determination**

18. For the reasons discussed below, we grant in part and deny in part SoCal Edison's application for a determination that SoCal Edison's 115 kV Facilities are "used in local distribution of electric energy" pursuant to section 215 of the FPA. Based on the specific facts presented in this case, and applying the seven factor test articulated in Order No. 773, we find that SoCal Edison's 115 kV Facilities are used in local distribution with the exception of the protection systems and the segments of the associated transmission lines located within the yards of the Control and Inyokern's 115 kV substations located in SoCal Edison's North of Lugo system. We conclude that these specific facilities are not used in local distribution. Our determinations in this proceeding are based on the current use of the SoCal Edison facilities as described in SoCal Edison's application and data request responses. SoCal Edison must report to the Commission if there is a material change in the utilization of the facilities that is relevant to the determination of their use as local distribution.

19. As discussed above, in Order No. 773, the Commission established a process by which an entity can seek a Commission determination whether facilities are "used in local distribution" as set forth in the FPA on a case-by-case basis.<sup>19</sup> When reviewing such an application, the Commission applies the "seven factor" test, as well other factors that should be taken into account in a particular situation.<sup>20</sup> The seven factor test is not subject to formulaic application or categorical standards.<sup>21</sup> Rather, the test requires comprehensive consideration of how the totality of the circumstances bears on each of the seven factors.<sup>22</sup> Below, we apply the seven factor test and other relevant factors, first to the bulk of SoCal Edison's 115 kV Facilities and, second, to the specific protection systems and associated lines within the yards of the Control and Inyokern 115 kV substations.

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<sup>19</sup> Order No. 773, 141 FERC ¶ 61,236 at PP 66-73.

<sup>20</sup> *See id.* P 71.

<sup>21</sup> *See* Order No. 888, FERC Stats. & Regs. ¶ 31,036, App. G at 31,980-81.

<sup>22</sup> *See California Pacific Electric Co., LLC*, 133 FERC ¶ 61,018, at PP 45-48 (2010).

## 1. Seven Factor Test Analysis

### a. Factor one - proximity of facilities to retail customers

20. We conclude that SoCal Edison's 115 kV Facilities are generally in close proximity to the retail customers they serve. We find that the terrain and population patterns in the seven 115 kV facilities, which are primarily in the desert region between Los Angeles and the Nevada border, warrant the use of higher than 100 kV for distribution. In addition, SoCal Edison uses single interface substations that are the sole source of energy from the integrated transmission system into each local distribution system, and bring power into the distribution system from the transmission system. The design is materially the same as SoCal Edison's lower voltage (e.g., 66 kV) systems, which are fed power from single interface substations connected to SoCal Edison's 220 kV network.<sup>23</sup>

### b. Factor two - primarily radial in character

21. We conclude that the 115 kV Facilities are not planned or designed to form parallel paths between the systems and the bulk electric system. SoCal Edison explains that each of the 115 kV Facilities radiates from a single substation in the integrated transmission network. Each system has "normally open" circuit breakers that maintain electrical isolation from neighboring systems.<sup>24</sup> We are persuaded by SoCal Edison's assertion that the normally open switches breakers exist to transfer load to a neighboring system during emergencies and construction and maintenance outages. To implement load rolling, i.e., transferring load to a neighboring system as needed to avoid service interruptions, SoCal Edison creates a momentary parallel with the adjacent system. SoCal Edison typically does this by closing a normally open breaker, then breaking the parallel by opening a different, normally closed breaker, thus resulting in load being rolled from one system to another with continuous service to the load. SoCal Edison states that at no point does power simultaneously enter and exit any of the 115 kV Facilities under normal operating conditions. While SoCal Edison indicates that there have been occasions where it closed a normally open breaker, the closures were infrequent and for the purpose of preserving reliability during outages.<sup>25</sup>

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<sup>23</sup> SoCal Edison Application, Ex. SCE-1 at 20.

<sup>24</sup> A "normally open" switch is a switch between two separate sets of facilities that, each standing alone, are radial systems that are connected by a switch that is set to the open position but occasionally is closed to maintain reliability.

<sup>25</sup> See SoCal Edison Application, Ex. SCE-1 at 21.

c. **Factor three - power flows into local distribution systems, and rarely, if ever, flows out**

22. We find that power flows into the 115 kV Facilities from the integrated transmission network through a single point. While SoCal Edison indicates that the flow at the point of interconnection with the transmission system is unidirectional, its direction can vary based on distribution system conditions.<sup>26</sup> In this case, the flow direction can be from the distribution system to the transmission network when the local generation exceeds the load (e.g., during some low load periods excess wind power flows from the Devers 115kV system) to the bulk electric system. Nevertheless, while that power may flow to the transmission system from the distribution system during low load periods as a result of increased generation on the distribution system, SCE explains that “the flow is, in most cases, always inbound from the integrated transmission network to the 115 kV Facilities.”<sup>27</sup> Thus, we conclude that the flow of power out of the 115 kV Facilities meets this factor.<sup>28</sup>

d. **Factor four - when power enters a local distribution system, it is not reconsigned or transported onto some other market**

23. It is clear from SoCal Edison’s application that power entering from the interconnected transmission network operated by the CAISO typically remains within the 115 kV Facilities and the radial nature of those facilities otherwise prevents this power from being transported back to the integrated transmission network for consignment to another market during normal operating conditions.<sup>29</sup> Further, SoCal Edison states that “generator owners interconnected to any of [SoCal Edison’s] 115 kV distribution facilities are provided distribution service from the point of interconnection to the [CAISO]-controlled grid where it could then be transported through the [CAISO] system the ultimate buyer of the resource.”<sup>30</sup> SoCal Edison asserts that factor four is satisfied as follows:

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<sup>26</sup> SoCal Edison Application at 31.

<sup>27</sup> SoCal Edison Application at 22.

<sup>28</sup> See SoCal Edison Application, Ex. SCE-1 at 23.

<sup>29</sup> *Id.*

<sup>30</sup> *Id.*

While actual generation offsets local system or substation load, the delivery of the power to the ultimate buyer is provided by the California ISO even if the buyer is the same entity whose load is offset. The role of the radial 115 kV systems and facilities with respect to this factor, however, remain unchanged. The California ISO is the Transmission Provider for SCE. Under the system conditions where power enters any radial 115 kV system or facilities, the local load exceeds the level of generation, if any. This power has been procured by SCE for SCE's customers and is not reconsigned or transported onto some other market. Further, the California ISO does not rely upon any of the radial 115 kV Facilities to serve the load of other transmission customers.<sup>31</sup>

24. Based on SoCal Edison's petition, we conclude that power entering SoCal Edison's 115 kV Facilities from the interconnected transmission network operated by the CAISO is not transported back to the integrated transmission network for consignment to another market. However, with regard to power produced by generators located on SoCal Edison's 115 kV Facilities, the explanation is less clear. While SoCal Edison asserts that this power is not "transported" because it is delivered at the CAISO interface and the actual power produced is consumed locally, it appears that power produced by such generators may be transported from the border of SoCal Edison's 115 kV Facilities, through CAISO's transmission facilities, to the ultimate purchaser. Nevertheless, we conclude that – on balance – it does not change our overall determination that the SoCal Edison 115 kV Facilities are used in local distribution.

e. **Factor five - consumption of power entering the distribution system is in a restricted area**

25. We find that the power entering into the 115 kV Facilities is consumed in a comparatively restricted geographical area, as evidenced by the relative proximity of the 115 Facilities to the retail customers. We also find that power entering a 115 kV Facility is used within the system or respective radial substation and is unable to serve load outside the respective area, except in the infrequent moments when normally open breakers on the 115 kV Facilities are closed and power flows to a neighboring SoCal Edison system.<sup>32</sup>

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<sup>31</sup> *Id.*

<sup>32</sup> *Id.* at 24; SoCal Edison Response at 6.

f. **Factor six - meters are based at the transmission/local distribution interface to measure flow into the local distribution system**

26. We conclude that SoCal Edison's metering of the 115 kV Facilities at or near the point of interconnection to the CAISO-controlled integrated transmission network is consistent with factor six. We are persuaded by SoCal Edison's explanation that the meters between the integrated transmission network and the 115 kV Facilities are necessary to enable reliable transfer of energy between the operational control jurisdictions of the CAISO and SoCal Edison and support reliable operations.<sup>33</sup> We also conclude that the meters are connected to the transformer banks for each 115 kV system measuring the flow into the 115 kV Facilities.

g. **Factor seven - local distribution will be of reduced voltage**

27. While SoCal Edison's transmission system consists of 500 kV, 220 kV, 161 kV AC and 1000 kV DC but also include some 115 kV, 66 kV and 55 kV facilities, we find that SoCal Edison's use of the 115 kV Facilities is for "reduced voltage," given the longer distances that must be traversed in serving retail load in these portions of SoCal Edison's service territory.<sup>34</sup>

28. In sum, given the totality of the circumstances and based on the specific facts presented here, we find that SoCal Edison's 115 kV Facilities "are used in local distribution" as set forth in section 215 of the FPA, except for the discrete facilities discussed immediately below.

2. **Protection Systems at Control and Inyokern**

a. **North of Lugo facility configuration**

29. SoCal Edison's North of Lugo facility configuration includes three 115 kV subsystems: Inyokern 115 kV, Kramer 115 kV, and Control 115 kV. In its application,

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<sup>33</sup> SoCal Edison Application at 33; Ex. SCE-1 at 24.

<sup>34</sup> See, e.g., *City of Holland, Michigan Board of Public Works*, 139 FERC ¶ 61,055 (2012); *reh'g denied*, 145 FERC ¶ 61,054 (2013); *City of Holland, Michigan Board of Public Works v. FERC*, No. 13-1306 (D.C. Cir. filed Dec. 16, 2013, held in abeyance).

SoCal Edison states that it considers portions of each as bulk electric system facilities. Specifically, the Control and Inyokern 115 kV buses are integrated with the transmission network and are part of the bulk electric system. However, certain 115 kV lines that emanate from the buses in each substation are ones that SoCal Edison considers to be for use in local distribution. Starting from the buses, the lines and downstream radial facilities have been designated as local distribution facilities since the formation of the CAISO. For each of the lines connecting SoCal Edison's local distribution facilities with the Control and Inyokern 115 kV bulk electric system buses, respectively, the lines are connected on opposite buses separated by one or two circuit breakers. Each of SoCal Edison's two 115 kV buses at the Control substation is protected from faults on the other bus by two bus-sectionalizing circuit breakers, and likewise, each of SoCal Edison's two 115 kV buses at Inyokern substation is protected from faults on the other via a single bus-tie circuit breaker.

**b. SoCal Edison Pleadings**

30. SoCal Edison asserts that treating the local protection systems as local distribution facilities does not present a reliability gap. SoCal Edison explains that it owns the facilities at both ends of the lines, it has exclusive control over all protection settings, and the protection systems on the 115 kV lines (or any of the facilities that interface with the bulk electric system) do not meet any of the applicability requirements of Reliability Standard PRC-005-2 since their purpose is to protect local facilities that are not currently considered part of the bulk electric system. In comments, NERC/WECC expressed concern that SoCal Edison needs to address the potential reliability impact for the failure of the local network protection systems, particularly, the protection systems associated with the 500/115 kV and 230/115 kV transformers.<sup>35</sup> In reply, SoCal Edison states:

the design for the Control and Inyokern 115 kV substations is referred to as a double-bus-single-breaker arrangement. These two substations do not have either a 500/115 kV or 230/115 kV transformer connected to them. Remote protection would involve isolating fault conditions on radial 115 kV facilities by disconnecting the operating bus which is connected to the line where the primary protection system failed. Such operation does not have an adverse impact to the reliability of the BPS as analysis of BES facilities and the sectionalizing breakers already evaluates contingencies that result in the same operation.<sup>36</sup>

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<sup>35</sup> NERC and WECC comments at 8.

<sup>36</sup> SoCal Edison Reply Comments, Ex. SCE-16 at 7. *See also* SoCal Edison Data Request Response No. 2 at 4-6 and Response No. 7 at 13-15.

In sum, SoCal Edison asserts that, though the failure of the Control and Inyokern protection systems during a fault will result in certain bulk electric system transmission lines being taken out of service, loss of these lines will not have an adverse impact on the bulk electric system.

31. In the data request, SoCal Edison was asked to provide studies supporting the assertion that the triggering of remote protection for failed line protection systems at Control and Inyokern substations and thus the resulting loss of bulk electric system lines will not have an adverse impact on the bulk electric system. SoCal Edison responded, in part, as follows:

SoCal Edison believes that the local distribution protection facilities are appropriately categorized as local distribution even though their misoperation would cause the loss of BES transmission elements because they meet the FERC functional tests and there is no adverse impact to the reliability of the Bulk Power System. ... There may be a marginal reduction in the exposure of the integrated transmission network to low probability contingencies affecting the loss of the Control or Inyokern 115 kV buses if the interfacing protection facilities on the local distribution lines were required to meet NERC Reliability Standards for protection equipment maintenance. However, more significantly, the inclusion of these interfacing local distribution protection facilities as part of the BES will have no effect on the resiliency of the integrated transmission network, the magnitude of impact from loss of a bus section at Control or Inyokern 115 kV substations, nor the duration of forced outages due to the loss of a bus section at Control or Inyokern 115 kV substations....<sup>37</sup>

32. SoCal Edison states that it has performed transmission planning studies showing that, while misoperations of the protection systems at Control and Inyokern would result in the loss of bulk electric system transmission lines, SoCal Edison would still meet the performance requirements of NERC's Transmission Planning (TPL) Reliability Standards.<sup>38</sup>

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<sup>37</sup> SoCal Edison Data Request Response No. 2 at 5-6. SoCal Edison provides the results of studies that mimic the failure of the non-bulk electric system protection at Control and Inyokern. These results indicate that no Reliability Standards are violated by the misoperations.

<sup>38</sup> SoCal Edison Application, Ex. SCE-1 at 32-33.

c. **Commission Determination**

33. For the reasons discussed below, we conclude that SoCal Edison's protection systems and the segments of the associated transmission lines located within the yards of the Control and Inyokern's 115 kV substations located in SoCal Edison's North of Lugo system are not used in local distribution. In reaching this conclusion, pursuant to Order No. 773 we applied the seven factor test, as well as "other factors" that we consider appropriate in the particular situation before us.<sup>39</sup> Although the 115 kV Facilities pass the seven factor test, we also took into consideration other factors relevant to the record in this case, namely the reliability concern that arises due to a misoperation of the protection systems at the Control and Inyokern substations. We determine that, given the totality of the circumstances, the reliability concerns specific to the particular configuration weigh in favor of the Commission finding that the protection systems and segments of associated lines within the Control and Inyokern 115 kV are not "facilities used in the local distribution of electric energy." Further, while the Commission previously determined that these facilities are used in local distribution,<sup>40</sup> the protection system reliability concern discussed herein was not considered when these facilities were previously addressed by the Commission. We conclude that the consideration of this reliability concern justifies a departure from our earlier determination.

34. In particular, we are concerned that the failure of the primary protection systems during a single fault at Control and Inyokern will result in the loss of multiple bulk electric system transmission lines. As SoCal Edison acknowledges, "[r]emote protection would involve isolating fault conditions on radial 115 kV facilities by disconnecting the operating bus which is connected to the line where the primary protection system failed."<sup>41</sup> In other words, all sources to the bus have to be disconnected at the remote ends to isolate the bus where the distribution line fault has occurred. The Control and Inyokern station diagrams provided in SoCal Edison's application show bulk electric system transmission lines terminating at the same bus as facilities currently classified as distribution, which means that multiple bulk electric system lines would have to be taken out of service to isolate a fault on the distribution line if the distribution line protection fails.

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<sup>39</sup> Order No. 773, 141 FERC ¶ 61,236 at P 71.

<sup>40</sup> *Pacific Gas and Electric Co., et al.*, 77 FERC ¶ 61,077 (1996). See also SoCal Edison Application at 2 & n.3 and 17 & n.42.

<sup>41</sup> SoCal Edison Reply Comments, Ex. SCE-16 at 9.



35. We are not persuaded by SoCal Edison's argument that there can be no adverse impact on the bulk electric system so long as the system performance requirements of the TPL Reliability Standards are met. The bus configuration shown in the one line diagrams of Control and Inyokern 115 kV substations included in the record of this proceeding show that with the failure of the protection system associated with one of the non-bulk electric system facilities, at least two 115 kV bulk electric system facilities would be forced out of service. While the loss of these multiple 115 kV bulk electric system elements may still result in system performance that meets the requirements of the TPL Reliability Standards, this fact alone is not dispositive in determining whether facilities are used in the local distribution of electric energy. Because a relay misoperation could result in the loss of multiple bulk electric system elements, we find that, under these specific circumstances, the segments of the transmission lines associated with the individual protection systems at the Control and Inyokern substations are not "used in local distribution."

36. We note that the Control and Inyokern 115 kV substations are the only two SoCal Edison substations that use this configuration in which a non-bulk electric system line causes remote bulk electric system protection systems to operate resulting in forced outages of bulk electric system lines. Thus, we are not persuaded by SoCal Edison's concern that requiring this protection system to be treated as bulk electric system will lead to the designation of more SoCal Edison's facilities to also be included as part of the bulk electric system.<sup>42</sup>

37. Therefore, based on the totality of the circumstances, we conclude that the segments of the transmission lines associated with the individual protection systems at the Control and Inyokern substations are not "used in local distribution." This designation only applies to the segments from the bus to the substation fence of the 115 kV lines located in the Control and Inyokern 115 kV substations.

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<sup>42</sup> We note that the instant proceeding is used to determine whether the facilities in SoCal Edison's application are used in local distribution. The determination of whether facilities are part of the bulk electric system is based on application of NERC's definition and the exceptions process administered by NERC.

The Commission orders:

The Commission hereby approves in part and denies in part SoCal Edison's application, as discussed above.

By the Commission.

( S E A L )

Nathaniel J. Davis, Sr.,  
Deputy Secretary.