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STATE OF CALIFORNIA

Energy Resources Conservation  
and Development Commission

In the Matter of:

Complaint & Investigation )

Jurisdictional Determination Regarding East and )

North Brawley Geothermal Developments )

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Docket No. 11-CAI-02

**REPLY BRIEF OF ORMAT NEVADA, INC.**

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## INTRODUCTION

Pursuant to the Committee’s September 26, 2011 Order, Ormat Nevada, Inc. (“Ormat” or “Respondent”) hereby submits this Reply Brief in response to the Opening Brief of California Unions for Reliable Energy (“CURE” or “Complainant”). CURE has failed to prove by a preponderance of the evidence the two allegations set forth in its Complaint: (1) that the net generating capacities of the North Brawley Geothermal Development Project (“North Brawley”) and the East Brawley Geothermal Development Project (“East Brawley”) are individually 50 megawatts or more and (2) that North Brawley and East Brawley are a single facility that will function as an interdependent and physically interconnected generation unit, sharing both transmission and water supply infrastructure.

In this proceeding, the Commission need not even determine whether the allegations in CURE’s Complaint have been proved by a preponderance of the evidence. Where, as here, there is no evidence to support CURE’s allegations, the question “as to whether the evidence preponderates are eliminated.”<sup>1</sup> The lack of evidence presented by CURE requires that CURE’s Complaint be dismissed, with prejudice.

Moreover, having utterly failed to prove the allegations set forth in its Complaint, CURE’s Opening Brief continues CURE’s trend of creating new allegations as it wanders through this proceeding, speculating in theories not previously pled, and failing to provide evidentiary support for its new allegations. Ormat responds below to the most egregious of the inaccurate factual allegations set forth in CURE’s Opening Brief, in the order in which the arguments appear in CURE’s Opening Brief.

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<sup>1</sup> *Reese v. Smith*, 9 Cal. 2d 324, 328 (1937).

## DISCUSSION

### **I. CURE has failed to prove by a preponderance of the evidence that North Brawley and East Brawley are a single, interdependent, physically interconnected facility.**

CURE's Complaint alleged that the "Commission must assume jurisdiction over North Brawley and East Brawley because it is one facility with a combined generating capacity of 150 MW [that] will function as interdependent and physically interconnected generation unit, sharing both transmission and water supply infrastructure."<sup>2</sup> Specifically, CURE alleged that North Brawley and East Brawley were "simultaneously conceived and planned"<sup>3</sup>, are "virtually identical"<sup>4</sup>, "are proposed on adjoining parcels of land"<sup>5</sup>, "will interconnect to the electrical grid through one substation"<sup>6</sup>, "will share utility service pursuant to a water supply agreement between Ormat and the City of Brawley"<sup>7</sup>, "that the North Brawley and East Brawley power plants will be physically joined to facilitate cooling water blowdown delivery"<sup>8</sup>, and that the "well fields associated with each facility will be physically interconnected through cables and brine and cooling water pipelines."<sup>9</sup> Not one of these allegations is factually correct, and none are supported by the evidentiary record.

#### **A. North Brawley and East Brawley were not developed simultaneously.**

CURE has failed to prove by a preponderance of the evidence that North Brawley and East Brawley were planned and developed simultaneously. In fact, the evidentiary record clearly

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<sup>2</sup> Verified Complaint and Request for Investigation by California Unions for Reliable Energy, 11-CAI-02, p. 2 (dated Jun 28, 2011) (hereinafter "Complaint").

<sup>3</sup> Complaint, p. 19; Opening Brief of California Unions for Reliable Energy, 11-CAI-02, p. 12 (dated Oct. 12, 2011) (hereinafter "CURE Opening Brief").

<sup>4</sup> Complaint, p. 19.

<sup>5</sup> Complaint, p. 19.

<sup>6</sup> Complaint, p. 20.

<sup>7</sup> Complaint, p. 20.

<sup>8</sup> Complaint, p. 20.

<sup>9</sup> Complaint, p. 20.

establishes that North Brawley and East Brawley were planned and developed separately by Ormat.

The North Brawley Geothermal Exploration Project was permitted by Imperial County in August 2006,<sup>10</sup> which allowed Ormat to drill geothermal exploration wells to determine the commercial productivity of the geothermal resource at the North Brawley site.<sup>11</sup> Based on the results from the North Brawley Geothermal Exploration Project, Ormat commenced development of North Brawley by filing a conditional use permit application with Imperial County in June 2007 for approval of a 49.9 net megawatt geothermal power plant.<sup>12</sup> ORNI 18, LLC, a subsidiary of Ormat, secured a power purchase agreement for North Brawley on June 29, 2007 (“North Brawley PPA”) with Southern California Edison (“SCE”).<sup>13</sup> North Brawley, and only North Brawley, is identified as the generating facility subject to the North Brawley PPA.<sup>14</sup> The conditional use permit for North Brawley was approved in November 2007, and construction of North Brawley began in December 2007.<sup>15</sup>

On December 11, 2007, the Imperial Irrigation District released its system impact study for North Brawley.<sup>16</sup> The system impact study evaluated the effects of approximately 50 megawatts of generation from North Brawley, 50 megawatts from a separate potential development, and 50 megawatts of “house load.”<sup>17</sup> The decision was made to study impacts from a separate development to evaluate whether and how much transmission capacity was available, given that “transmission capacity takes years to acquire,”<sup>18</sup> even though Ormat had yet to

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<sup>10</sup> Ex. 201, p. 1.

<sup>11</sup> Ex. 200, Appendix C, pp. 10-11.

<sup>12</sup> 9/26/11 RT 225:22-23.

<sup>13</sup> See Ex. 203, North Brawley PPA-Redacted (21827).

<sup>14</sup> Ex. 203, North Brawley PPA-Redacted (21827), Exhibit B.

<sup>15</sup> Ex. 201, p.1.

<sup>16</sup> Ex. 201, Attachment.

<sup>17</sup> 9/26/11 RT 252-253.

<sup>18</sup> 9/26/11 RT 254: 2-6.

actually develop a second project.<sup>19</sup>

Exploration of geothermal resources at East Brawley began in March 2008, when Imperial County granted a conditional use permit for the East Brawley Geothermal Exploration Project.<sup>20</sup> This allowed Ormat to drill geothermal exploration wells to test and evaluate the geothermal resource at the East Brawley site.<sup>21</sup> Development of East Brawley began in August 2008 when Ormat filed a conditional use permit application with Imperial County for approval of a 49.9 net megawatt geothermal power plant.<sup>22</sup> A revised conditional use permit application for East Brawley was submitted in January 2010,<sup>23</sup> which is still under review by Imperial County.<sup>24</sup> The evidence clearly establishes that the development of North Brawley and East Brawley has occurred on separate and distinct timelines. In short, these two projects were not developed simultaneously. CURE has offered no evidence that contradicts the multi-year separation in the permitting and development of these two separate facilities and sites.

**B. The North Brawley PPA does not support the conclusion that North Brawley and East Brawley are a single facility.**

To support its assertion that Ormat “simultaneously conceived and planned the North Brawley and East Brawley as one, 150 MW project,”<sup>25</sup> CURE cites to the North Brawley power purchase agreement.<sup>26</sup> CURE claims that “by June 2007, ORNI 18, LLC concluded negotiations with SCE for the sale of 50 and up 100 MW of generation from a proposed geothermal project north of Brawley, California.”<sup>27</sup> CURE further claims that “Ormat secured a potential buyer for East Brawley’s total, potential output more than one year before Ormat filed a conditional use

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<sup>19</sup> 9/26/11 RT 253: 23-25.

<sup>20</sup> Ex. 202.

<sup>21</sup> Ex. 34, Attachment 1, p. 1.

<sup>22</sup> 9/26/11 RT 229: 13-14.

<sup>23</sup> 9/26/11 RT 229: 17-18; Ex. 200, Appendix B.

<sup>24</sup> Ex. 202.

<sup>25</sup> CURE Opening Brief, p 12.

<sup>26</sup> CURE Opening Brief, pp. 9-10.

<sup>27</sup> CURE Opening Brief, p. 10.

permit application with the County to construct and operate the East Brawley Geothermal Development Project.”<sup>28</sup> CURE’s assertion is untrue for the following reasons.

First, while CURE has speculated that Ormat “intends to sell ” generation from East Brawley to SCE under the North Brawley PPA,<sup>29</sup> CURE has failed to present any evidence that the North Brawley PPA applies to the generation from East Brawley. Mere speculation does not constitute evidence sufficient to meet CURE’s burden of proof.<sup>30</sup> Therefore, even without consideration of the actual evidence, CURE has failed to meet its burden to prove this allegation.

Second, the North Brawley PPA provides that the only generating facility contemplated in the contract is from North Brawley<sup>31</sup>, not some general, unspecified “proposed geothermal project north of Brawley, California” as alleged by CURE.<sup>32</sup> Therefore, the evidence does not support CURE’s speculation that the North Brawley PPA applies to generation from East Brawley.

Third, CURE’s speculation that “Ormat secured a potential buyer for East Brawley’s total, potential output more than one year before Ormat filed a conditional use permit application with the County to construct and operate the East Brawley Geothermal Development Project” is contradicted by CURE’s own exhibits.<sup>33</sup> CURE’s Exhibit 19, which is the amended conditional use permit application for East Brawley states “ORNI 19 is negotiating a power purchase agreement (PPA) with Southern California Edison (SCE).”<sup>34</sup> Clearly, a “potential buyer” for the generation of East Brawley had not been previously “secured” by Ormat, as there would be no

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<sup>28</sup> CURE Opening Brief, p. 10.

<sup>29</sup> Complaint, p. 18.

<sup>30</sup> *Reese v. Smith*, 9 Cal. 2d 324, 328 (1937).

<sup>31</sup> Ex. 203, North Brawley PPA, Exhibit B.

<sup>32</sup> CURE Opening Brief, p. 10.

<sup>33</sup> CURE Opening Brief, p. 10.

<sup>34</sup> Ex. 19, p. 28. It should be noted that Ex. 19 is also provided as Exhibit 200, Appendix B.

need to negotiate a power purchase agreement if East Brawley already had one. Therefore, CURE's own evidence does not support CURE's theory.

Fourth, as discussed above, the East Brawley Geothermal Exploration Project, which allowed Ormat to begin drilling wells to evaluate the geothermal resource available at East Brawley, was not granted a conditional use permit until March 26, 2008, approximately nine months *after* the North Brawley PPA was executed, and *after* California Public Utilities Commission ("CPUC") Resolution E-4126 approved the North Brawley PPA.<sup>35</sup> The CPUC Resolution E-4126 statement that "SCE has reviewed the ORNI 18 resource test well results"<sup>36</sup> cannot be read as encompassing both North Brawley and East Brawley as a single facility because there were no resource test well results for East Brawley at the time this resolution was adopted. Therefore, CPUC Resolution E-4126 cannot be read as supporting the inference that North Brawley and East Brawley are a single facility.

As demonstrated above, CURE has failed to establish that the North Brawley PPA supports the conclusion that North Brawley and East Brawley are single facility.

### **C. North Brawley and East Brawley are not interdependent.**

CURE has failed to present any evidence to support its allegation that North Brawley and East Brawley are interdependent.<sup>37</sup> Any discussion of this allegation is noticeably absent from CURE's Opening Brief. Furthermore, the evidentiary record clearly establishes that North Brawley and East Brawley are completely independent of each other.<sup>38</sup> Therefore, CURE has failed to meet its burden to prove this allegation.

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<sup>35</sup> Ex. 1, Attachment C.

<sup>36</sup> Ex. 1, Attachment C, p. 13.

<sup>37</sup> Complaint, p. 2.

<sup>38</sup> 9/26/11 RT 265:1-22.

**D. The evidentiary record clearly establishes that North Brawley and East Brawley are located approximately 1.75 miles apart, and are not located on adjoining or contiguous parcels.**

CURE alleges that the “the North Brawley and East Brawley Project will be sited in a common location and on contiguous parcels of land.”<sup>39</sup> This statement is blatantly false. The evidentiary record clearly shows that North Brawley and East Brawley are located approximately 1.75 miles apart. Saying that these two facilities are sited in “a common location and on contiguous parcels” is the equivalent of saying that Capitol Park and Raley Field are located in a common location and on contiguous parcels.<sup>40</sup> CURE further alleges, for the first time in this proceeding, that “the North Brawley powerplant and East Brawley powerplant would only be separated by other land leased by Ormat for geothermal resource extraction.”<sup>41</sup> This allegation is not supported by the evidentiary record, and is in fact contradicted by CURE’s own exhibits.<sup>42</sup> For example, the projects are separated by the Brawley Wastewater Treatment Plant,<sup>43</sup> non-leasable lands,<sup>44</sup> and land owned, and not leased by Ormat, belonging to the Imperial Irrigation District.<sup>45</sup> In summary, CURE has failed to provide evidence supporting the allegations made in its complaint or the new allegations it raises in its Opening Brief.

**E. North Brawley and East Brawley will not share a common control room.**

It is unclear what CURE’s allegations are regarding the control rooms for North Brawley and East Brawley, given that CURE did not raise any allegations in its Complaint regarding the control rooms of North Brawley and East Brawley. CURE appears to allege that North Brawley

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<sup>39</sup> CURE Opening Brief, p. 13; also see Complaint, pp. 3, 19.

<sup>40</sup> In fact, the Raley Field and Capitol Park are actually located closer together—approximately 1.4 miles—than are North Brawley and East Brawley.

<sup>41</sup> CURE Opening Brief, p. 14.

<sup>42</sup> For example, see Ex. 19, Fig. 3 (designating land as “not part of the project area” for East Brawley). Ex. 19 is the same document as Attachment B to Respondent’s Ex. 200.

<sup>43</sup> Ex. 200, Attachment B, Fig. 2.

<sup>44</sup> 9/26/11 RT 259:8-12.

<sup>45</sup> 9/26/11 RT 259:12-16.

and East Brawley will share a common control room.<sup>46</sup> This allegation is not supported by the evidentiary record, which shows that North Brawley and East Brawley will each have its own control room.<sup>47</sup>

CURE also alleges that Ormat's witnesses contradicted each other regarding the functions of the control rooms at North Brawley and East Brawley.<sup>48</sup> This is incorrect. Ms. Wardlow, in response to CEC Staff's request for information, stated that there would be a dedicated computer at North Brawley that would allow for the monitoring and operation of East Brawley.<sup>49</sup> Mr. Sullivan, in response to a question from Hearing Officer Kramer, clarified the scope and type of monitoring and operations that could be conducted from that dedicated computer: reporting to Imperial Irrigation District of operating data, such as generation amount and online status, monitoring of production pumps, alarms, and other activity at East Brawley, and other typical operating information.<sup>50</sup> Moreover, Mr. Sullivan clarified the type of operations for East Brawley that could not be conducted from the dedicated computer at North Brawley, for example stating that the East Brawley facility cannot be turned off from North Brawley.<sup>51</sup> Therefore, there is no contradiction between Ormat's witnesses.

**F. North Brawley and East Brawley will not share transmission infrastructure.**

CURE alleges that North Brawley and East Brawley "will shar[e] transmission infrastructure," specifically, a substation.<sup>52</sup> CURE has failed to present any evidence to support this allegation. Furthermore, this allegation is not supported by the evidentiary record, which

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<sup>46</sup> CURE Opening Brief, p. 15.

<sup>47</sup> Ex. 201, Ex. 202.

<sup>48</sup> CURE Opening Brief, p. 16.

<sup>49</sup> Ex. 201 and Ex. 202.

<sup>50</sup> 9/26/11 RT 283:1-25; 284: 1-12.

<sup>51</sup> 9/26/11 RT 283:1-25; 284: 1-12.

<sup>52</sup> Complaint, p. 2; CURE Opening Brief, p. 15.

clearly establishes that North Brawley and East Brawley will each have its own substation.<sup>53</sup> East Brawley will have a gen-tie line that runs from its individual substation to Imperial Irrigation District's transmission system.<sup>54</sup> While East Brawley will interconnect to the Imperial Irrigation District's transmission system at the same point of interconnection as the North Brawley substation, this does not mean that North Brawley and East Brawley will share a substation.<sup>55</sup> Therefore, as there is no evidence supporting this allegation, CURE has failed to meet its burden of proof.

**G. CURE has failed to prove that North Brawley and East Brawley will share utility service pursuant to a water supply agreement with the City of Brawley.**

CURE's Complaint alleges that North Brawley and East Brawley "will share utility service pursuant to a water supply agreement between Ormat and the City of Brawley."<sup>56</sup> CURE has failed to present any evidence to support this allegation. Any discussion of this allegation is noticeably absent from CURE's Opening Brief. Furthermore, the evidentiary record clearly establishes that North Brawley and East Brawley will not share utility service, will not share a water supply agreement, and that neither project has a water supply agreement with the City of Brawley.<sup>57</sup> Therefore, CURE has failed to meet its burden to prove this allegation.

**H. North Brawley and East Brawley will not be physically joined to facilitate cooling water blowdown delivery.**

CURE has failed to prove its allegation that North Brawley and East Brawley will be physically joined to facilitate cooling water blowdown delivery.<sup>58</sup> CURE's Opening Brief states that "Ormat also revised East Brawley's Project Description to include two water pipelines,

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<sup>53</sup> Ex. 200, Appendix B, p. 2; Ex. 201, Ex. 202.

<sup>54</sup> 9/26/11 RT 262:8-15.

<sup>55</sup> 9/26/11 RT 262:1-15.

<sup>56</sup> Complaint, p. 20.

<sup>57</sup> 9/26/11 RT 260:5-25, 261:1-4.

<sup>58</sup> Complaint, p. 2;

which would cross the New River; one for ‘canal water,’ and the other for cooling tower water blowdown water ‘possibly from North Brawley to East Brawley.’”<sup>59</sup> However, this statement is not supported by the evidentiary record, as CURE misrepresents the actual text of the East Brawley revised conditional use permit application. Page 27 of the revised conditional use permit application for East Brawley describes a pipeline crossing, which would be a truss structure spanning the New River to support equipment needed to connect some of the geothermal wells for East Brawley.<sup>60</sup> The revised conditional use permit application also discusses the *possibility* that the crossing would also support a pipe for cooling tower blowdown water from North Brawley to East Brawley.<sup>61</sup> However, as Mr. Sullivan testified, no cooling water pipelines connecting North Brawley and East Brawley will be constructed.<sup>62</sup> This is confirmed by Exhibit 47.<sup>63</sup>

**I. CURE has failed to show that Ormat will construct water pipelines to connect North Brawley and East Brawley.**

CURE’s Opening Brief alleges, without citation to any evidentiary support, that “Ormat is seeking County authorization to construct water pipelines to connect the two Project sites.”<sup>64</sup> There is no citation to any exhibit in the evidentiary record because this allegation is simply untrue.

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<sup>59</sup> CURE Opening Brief, p. 21.

<sup>60</sup> Ex. 19, p. 27.

<sup>61</sup> Ex. 19, p. 27.

<sup>62</sup> 9/26/11 RT 262: 16-22.

<sup>63</sup> See generally, Ex. 47; also see Ex. 47, Section 3.0 Project Description, Figure 3.0-2.

<sup>64</sup> CURE Opening Brief, p. 18.

**J. CURE has failed to show that Ormat plans to supply both North Brawley and East Brawley with effluent from the City of Brawley.**

CURE's Opening Brief alleges, without any evidentiary support, that Ormat "plans to supply" both North Brawley and East Brawley "with effluent from the City of Brawley,"<sup>65</sup> and that "as recently as April 2011, Ormat was pursuing a water supply agreement with the City of Brawley which could support both Projects' operational water demands."<sup>66</sup> CURE alleges that this agreement "was subject to ongoing discussions between Ormat and the City as recently as April 14, 2011."<sup>67</sup> To support these allegations, CURE cites to its Exhibit 20. However, Exhibit 20 does not support *any* of the allegations identified above. Exhibit 20 appears to be a letter dated April 14, 2011, which was sent from the City of Brawley to CURE in response to a Public Records Act request. The letter does not provide any indication as to what the letter was responsive to, the subject matter of the request, or if this letter is even related to either North Brawley or East Brawley.<sup>68</sup> Moreover, CURE failed to present a witness to testify regarding the contents of this letter, or to simply confirm that this letter is even relevant to this proceeding. Therefore, CURE has failed to prove this allegation.<sup>69</sup>

**K. CURE's allegation that Ormat failed to provide CEC Staff with documents relating to North Brawley's and East Brawley's water supply is untrue.**

CURE asserts that Staff's testimony regarding the water supplies of North Brawley and East Brawley should be "afford[ed] no weight" as Ormat failed to provide Staff with key documents such as Ormat's water supply agreement with Imperial Irrigation District.<sup>70</sup> This is

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<sup>65</sup> CURE Opening Brief, p. 18.

<sup>66</sup> CURE Opening Brief, p. 19.

<sup>67</sup> CURE Opening Brief, pp. 22-23, citing to Ex. 20.

<sup>68</sup> Ex. 20.

<sup>69</sup> Furthermore, even if one assumes that North Brawley will receive treated effluent from the City of Brawley at some point in the future, it is unclear how this is relevant to the issue of whether North Brawley and East Brawley were conceived as a single facility in 2007, as alleged by CURE.

<sup>70</sup> CURE Opening Brief, p. 23.

blatantly untrue. Ormat provided the following documents as appendices to Ormat's Verified Answer:

- Appendix B: the revised East Brawley conditional use permit application, which describes the proposed water use and supplies for East Brawley;
- Appendix C: the North Brawley conditional use permit application, which describes the proposed water use and supplies for North Brawley;
- Appendix G: North Brawley's water supply agreement with Imperial Irrigation District; and
- Appendix H: the Application for Tertiary Treatment System submitted by East Brawley, which describes the use of treated effluent from the Brawley Wastewater Treatment Plant for East Brawley.

These documents were reviewed by Mr. Terrence O' Brien prior to his written declaration.<sup>71</sup>

Contrary to CURE's allegation, Ormat provided to Staff all the information Staff requested and Staff's conclusion is entitled to great weight.

**II. CURE Has Failed to Present Evidence That the Generating Capacity of Either North Brawley or East Brawley, Calculated Pursuant to the Commission's Methodology, is 50 MW or more.**

CURE has failed to prove by a preponderance of the evidence the allegations in its Complaint regarding the generating capacity of North Brawley and East Brawley. Implicitly conceding this failure of proof, CURE's Opening Brief raises new allegations not previously pled in CURE's Complaint regarding the individual generating capacities of the two facilities. CURE's failure to prove by a preponderance of the evidence the allegations in CURE's

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<sup>71</sup> Ex. 300, Declaration of Terrence O' Brien, Declaration 4.

Complaint will be discussed separately from CURE's failure to prove by a preponderance of the evidence the new allegations raised in CURE's Opening Brief.

**A. CURE has failed to present evidence that the contract capacity identified in the North Brawley PPA represents the generating capacity of either North Brawley or East Brawley.**

CURE's Complaint specifically alleges that the generating capacities of North Brawley and East Brawley "meet the Commission's 50 MW jurisdictional threshold and are both subject to the Commission's licensing authority"<sup>72</sup> on the basis that:

The 50 MW of generation, which Ormat is contractually obligated to sell to SCE from North Brawley-and the additional 50 MW of generation it intends to sell to SCE from East Brawley- is the difference between the facilities' maximum gross rating and minimum auxiliary load.<sup>73</sup>

As more fully explained in Respondent's Opening Brief, CURE failed to present any evidence on this allegation.<sup>74</sup> Furthermore, it is undisputed in the evidentiary record that the contract capacity identified in a PPA is completely irrelevant to the calculation of the generating capacity of a facility pursuant to Section 2003 of the Commission's Regulations.<sup>75</sup> It is also undisputed that the contract capacity identified in a PPA represents a completely different calculation than that conducted under Section 2003.<sup>76</sup> Therefore, CURE has failed to prove this allegation by a preponderance of the evidence.

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<sup>72</sup> Complaint, p. 2.

<sup>73</sup> Complaint, p. 18.

<sup>74</sup> Opening Brief of Ormat Nevada, Inc., 11-CAI-02, pp. 5-7 (Oct. 12, 2011) (hereinafter "Respondent Opening Brief").

<sup>75</sup> 9/26/11 RT

<sup>76</sup> 9/26/11 RT 251: 18-25, 252: 1-7.

**B. CURE’s assertion that East Brawley is subject to the Commission’s jurisdiction based on the installation of six OEC’s is not supported by the evidentiary record.**

It is important to note that CURE’s Opening Brief alleges that East Brawley is subject to the Commission’s jurisdiction under only one theory: the installation of six OEC’s.<sup>77</sup> This theory was founded on CURE’s false assumption that East Brawley will be comprised of six OEC units, rather than a 49.9 net megawatt facility of “up to” six OEC units. The record is clear that the conditional use permit application for East Brawley describes the project as “49.9 net megawatt geothermal power plant consisting of up to six OEC binary generating units.”<sup>78</sup> As explained by Mr. Sullivan and Ms. Wardlow, the project description for East Brawley was described as “up to six” to provide Ormat with flexibility once the resource was fully evaluated and the design of the project completed in case 6 OECs are needed to reach the 49.9 MW design and permit limit.<sup>79</sup>

By insisting that East Brawley is subject to the Commission’s jurisdiction because the facility has “proposed six generators,”<sup>80</sup> CURE deliberately disregards the 49.9 megawatt constraint and “up to six” language provided in the conditional use permit application.<sup>81</sup> Furthermore, there is no evidence in the record that Ormat will install six OEC’s at East Brawley. CURE’s mistaken assumption that East Brawley will install six OEC’s in an amount above the 49.9 net megawatt constraint is not supported by the evidence, and does not constitute evidence that the generating capacity of East Brawley is 50 megawatts or more. Therefore, CURE has failed to meet its burden to prove that East Brawley is subject to the Commission’s jurisdiction.

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<sup>77</sup> CURE Opening Brief, p. 26.

<sup>78</sup> Ex. 200, Appendix B, p. 2 [emphasis added].

<sup>79</sup> 9/26/11 RT 279:23-25, 280:1.

<sup>80</sup> CURE Opening Brief, p. 26.

<sup>81</sup> Ex. 200, Appendix B, p. 2 [emphasis added].

**C. CURE’s assertion that North Brawley is legally entitled to install a sixth OEC is without any factual or legal basis.**

CURE’s Opening Brief alleges that North Brawley is subject to the Commission’s jurisdiction under three theories: the installation of six OEC’s, an assumed three percent increased pumping of brine flow by Ormat’s brine booster pumps, and an incorrect understanding of the auxiliary loads for North Brawley.<sup>82</sup> None of these allegations were pled in CURE’s Complaint, and all of these allegations are completely devoid of any evidentiary support.

CURE’s Opening Brief asserts “The fact that Ormat has only constructed a powerplant with five generators is both irrelevant and unhelpful to Ormat. It is irrelevant because Ormat is authorized by law to add a sixth generator under its existing permit. Therefore, Ormat is legally entitled to add a sixth generator.”<sup>83</sup> CURE appears to assume that Ormat has an unfettered legal right to install additional generating capacity at North Brawley without any limitation. This assumption is not supported by the evidentiary record.

First, the conditional use permit for North Brawley authorizes Ormat to construct a 49.9 net megawatt binary power plant.<sup>84</sup> While the conditional use permit permits North Brawley to install six OEC’s to reach the generating capacity of 49.9 megawatts, the permit clearly provides that “expanding the geothermal power plant beyond 49.9 MW and/or supplemental activities requiring additional major equipment or facilities shall require separate permits.”<sup>85</sup> Ormat has constructed a 49.5 net megawatt facility at North Brawley, with five OEC’s.<sup>86</sup> Installation of a sixth OEC that would expand the geothermal power plant beyond 49.9 megawatts is not

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<sup>82</sup> CURE Opening Brief, pp. 27-29.

<sup>83</sup> CURE Opening Brief, p. 27.

<sup>84</sup> Ex. 200, Appendix D, p. 7, S-1(a).

<sup>85</sup> Ex. 200, Appendix D, p. 7, S-1.

<sup>86</sup> 9/26/11 RT 242:22-23.

authorized by the permit. Therefore, CURE is incorrect in arguing that Ormat is “authorized by law” to add any additional OEC’s to North Brawley that would result in the net generating capacity of the facility to exceed 49.9 net megawatts. The North Brawley conditional use permit clearly states that such an expansion would require a separate permit.<sup>87</sup>

Second, CURE’s argument that Ormat has an absolute “legal right” to install additional generation at the North Brawley facility in an amount that would result in a net generating capacity above 49.9 megawatts, was contradicted by CURE’s own witness, Mr. David Marcus, who testified that Ormat would be required to amend the permit for North Brawley in order to increase the net generating capacity above 49.9 megawatts:

MR. MARCUS: I said that my recollection, based on seeing the document in passing, since it wasn't what I was focusing on, was that there was a condition requiring Ormat to go back to the county for an amendment to the CUP if they wanted to increase the output above 49.9 megawatts.<sup>88</sup>

Ormat, the County, and CURE’s witness all agree that the North Brawley conditional use permit limits Ormat to the construction and operation of a 49.9 net megawatt facility, and that the installation of additional generating capacity would require a separate permit.<sup>89</sup> Therefore, CURE’s argument that the North Brawley is subject to the Commission’s jurisdiction on the basis that North Brawley can increase the generating capacity of North Brawley above 49.9 net megawatts through the addition of a sixth OEC under the current conditional use permit is without any evidentiary support.

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<sup>87</sup> Ex. 200, Appendix D, p. 7, S-1.

<sup>88</sup> 9/26/11 RT 187:21-25.

<sup>89</sup> 9/26/11 RT 187:21-25; 294:2-25, 295:1-25.

**D. CURE’s assertion that North Brawley is capable of supporting 3% more brine flow is completely speculative, lacks any engineering basis, and is unsupported by the evidentiary record.**

CURE’s Opening Brief alleges that the generating capacity of North Brawley is 50.36 net megawatts, based on Mr. Marcus’ determination that “the pumps are physically capable of pumping 3% more brine than assumed by Ormat.”<sup>90</sup> At the outset, it should be noted that Mr. Marcus is not an engineer, and is not an expert in either geothermal resources or geothermal plant operations.<sup>91</sup> As Ormat’s geothermal experts Mr. Sullivan and Mr. Buchanan testified, Mr. Marcus’ conclusion that North Brawley is physically capable of pumping 3% more brine was based on several incorrect assumptions regarding how a geothermal plant operates. Therefore, Mr. Marcus’ testimony regarding the engineering and operational capabilities of North Brawley should be given no weight by the Commission.

Mr. Marcus made several assumptions in his calculation of the net generating capacity of North Brawley based on a 3 percent increased brine flow.<sup>92</sup> First, Mr. Marcus assumed that the sole limiting factor for the generating capacity of North Brawley was the brine booster pumps. As Mr. Sullivan stated, this assumption is incorrect, as there are several other factors that limit the generating capacity of North Brawley, including piping systems, fluid velocities, cabling, and corrosive characteristics of the resource that were not taken into consideration by Mr. Marcus.

Second, Mr. Marcus assumed that an increase in brine flow would result in a proportional increase in gross power, without any significant change in efficiency.<sup>93</sup> Both Mr. Sullivan and Mr. Buchanan testified that this is an incorrect assumption.<sup>94</sup> Specifically, Mr. Sullivan testified

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<sup>90</sup> CURE Opening Brief, p. 28.

<sup>91</sup> 9/26/11 RT 72:22-25, 73:1-8.

<sup>92</sup> 9/26/11 RT 113:14-20.

<sup>93</sup> 9/26/11 RT 113:14-20.

<sup>94</sup> 9/26/11 RT 237:2-10.

that increased brine flows above the design point leads to diminishing returns in gross power for the following reasons:

What happens is you have increased diminishing returns because the piping system is not designed for it. You have increasing differential pressure drop, increasing head on your production pumps, which increases parasitic load. You have potential limit on the motive fluid pumps that have to transfer that heat to the turbine, for five percent more flow. The motive fluid pump is not necessarily designed --it's not designed for the five percent more flow, it's designed for its design point.<sup>95</sup>

This point was confirmed by Mr. Buchanan, who testified that there is a logarithmic relationship between increasing brine flow and gross generation, and that gross generation tends to “flatten out” rather than increase, as brine flow increases, rather than having a proportional relationship.<sup>96</sup>

Third, Mr. Marcus assumed that a three percent change in brine flow would constitute a “small change” in plant operations, such that all other auxiliary equipment would be able to support a three percent increase.<sup>97</sup> As Mr. Sullivan testified, increasing flow rates, without any consideration of auxiliary equipment, such as the piping system, is poor engineering.<sup>98</sup>

Furthermore, Mr. Buchanan testified that the efficiencies of auxiliary equipment decrease as a result of increased brine flow above the design point, such that auxiliary loads increase “at an accelerated upward rate, which is an exponential function.”<sup>99</sup>

Fourth, Mr. Marcus assumed that North Brawley would be able to run on a continuous basis at a brine flow rate higher than the designated design point.<sup>100</sup> However, Mr. Sullivan testified that this is an incorrect assumption, and that North Brawley cannot run continuously at a

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<sup>95</sup> 9/26/11 RT 240: 18-25.

<sup>96</sup> 9/26/11 RT 244:15-22.

<sup>97</sup> 9/26/11 RT 114: 3-4, 181: 19-25.

<sup>98</sup> 9/26/11 RT 236:4-11.

<sup>99</sup> 9/26/11 RT 245:1-3.

<sup>100</sup> 9/26/11 R 192: 1-2.

brine flow rate higher than the design point as the higher flow rate will cause failure, and quicker wear on the piping systems.<sup>101</sup>

In summary, Mr. Marcus' testimony that the generating capacity of North Brawley 50.36 megawatts based on a 3 percent increased brine flow is based on several flawed assumptions that lack any factual or engineering basis. As such, Mr. Marcus' testimony should be given no weight. Indeed, under cross examination, Mr. Marcus himself admitted that he could not testify under oath that the Project could generate 50 MW or more.<sup>102</sup>

**E. CURE's claim that North Brawley's generating capacity currently exceeds 50 MW is incorrect.**

CURE's Opening Brief claims that "Mr. Marcus has shown that North Brawley's generating capacity exceeds 50 MW assuming a limit on brine flow."<sup>103</sup> Mr. Marcus' testimony was based on the supporting details that Ormat provided in regards to the auxiliary load calculation for North Brawley.<sup>104</sup> These supporting details support the reasonableness of the auxiliary load information in the North Brawley heat and mass balance diagram. Mr. Marcus appears to use selected portions of the supporting details to support his analysis, where the substitution of certain items would enhance his argument. However, if Mr. Marcus had substituted every item on this list, and not just selected items in the supporting details chart into the gross and net calculation table for North Brawley, the net generating capacity for North Brawley is still well below 50 megawatts, not 50.212 megawatts as testified by Mr. Marcus.<sup>105</sup> Mr. Marcus' apparent error was failing to recognize that while some auxiliary load equipment, such as the Level 1 and Level 2 feed pumps, had lower parasitic load figures,<sup>106</sup> other

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<sup>101</sup> 9/26/11 RT 239:22-25, 240:1.

<sup>102</sup> 9/26/11 RT 184:15-25,185:1-5.

<sup>103</sup> CURE Opening Brief, p. 29.

<sup>104</sup> 9/26/11 RT 116-120:11.

<sup>105</sup> Ex. 204, North Brawley Auxiliary Loads Detail (Doc. Id: 21829).

<sup>106</sup> 9/26/11 RT 118-120:1-11.

equipment, such as the production well pumps, had higher parasitic load figures.<sup>107</sup> As Mr. Marcus' testimony is not supported by the evidence, his testimony must be given no weight. Therefore, CURE has failed to prove this allegation.

Furthermore, CURE's claim that the generating capacity of North Brawley exceeds 50 megawatts is belied by the testimony of CURE's own witness, Mr. Marcus, who stated:

MR. ELLISON: Can you testify that either North Brawley -- let's take North Brawley separately. Can you testify that North Brawley considering all of its facilities and components, all of the facilities that are out there now, can generate more than 49.5 megawatts?

MR. MARCUS: With the --

MR. ELLISON: Do you know that it can?

MR. MARCUS: With the wells to which it is connected today, are you asking me?

MR. ELLISON: With the wells that it's connected to today and with the -- with a -- well, let's just take that. With the wells that it's connected to today?

MR. MARCUS: I believe with the wells it is connected to today it cannot generate more than 49.5 megawatts net.<sup>108</sup>

Therefore, CURE's own witness testified that North Brawley, as it stands today, is incapable of generating more than 49.5 net megawatts.

### **CONCLUSION**

CURE has failed to provide any evidence, much less a preponderance of the evidence, to support the allegations set forth in its Complaint that (1) the generating capacities of North Brawley and East Brawley are 50 megawatts or more, respectively and (2) that the generating

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<sup>107</sup> Ex. 204, North Brawley Auxiliary Loads Detail (Doc. Id: 21829).

<sup>108</sup> 9/26/11 RT 184:15-25,185:1-5.

capacities of North Brawley and East Brawley should be aggregated. Having failed to prove the allegations in the Complaint, CURE raises new allegations in its Opening Brief, but these allegations as well are not supported by the evidentiary record.

CURE's unreasonable delay in bringing its Complaint has resulted in substantial prejudice to Ormat, who has invested substantial time and resources in the development of North Brawley in reliance on a legal permit issued by Imperial County. For the foregoing reasons, Ormat respectfully requests that the Commission deny CURE's Complaint, with prejudice, and issue an order disclaiming jurisdiction over both North Brawley and East Brawley.

October 19, 2011

Respectfully submitted,

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Energy Resources Conservation  
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In the Matter of Complaint Against )  
ORMAT NEVADA, INC. Brought By ) Docket No. 11-CAI-02  
CALIFORNIA UNIONS FOR RELIABLE )  
ENERGY )  
\_\_\_\_\_ )

**PROOF OF SERVICE**

I, Karen A. Mitchell, declare that on October 19, 2011, I served the attached *Reply Brief* of *Ormat Nevada, Inc.* via electronic and U.S. mail to all parties on the attached service list.

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

  
\_\_\_\_\_  
Karen A. Mitchell

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