



## ATTACHMENT B<sup>1</sup>

**FILED**

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### Findings of Fact

1. Chino Hills' October 28, 2011 and Ontario's November 21, 2014 petitions for modification of D.09-12-044 contends that the actual impacts on the cities and itstheir residents of the partially constructed, new tubular steel pole towers and even taller, new lattice towers in the ~~150 foot wide City~~ ROW constitute "new facts." The towers approach 200 feet tall.

~~2. Chino Hills' application for rehearing of D.09-12-044 is pending.~~

2. The FEIR provides factual data for reassessment of the multiple variables that contribute to visual impact at a particular point along the Project ROW; similarities and differences among Chino Hills, Duarte and Chino/Ontario are instructive. The FEIR confirms that the ROW in Chino Hills is the narrowest, the route the longest and affects the most residential structures. Similarly, the ROW is equally narrow in Ontario with the same visual and other impacts along this route. Housing density is greater elsewhere and likewise, the tower cross arms are closer to the edge of the ROW.

3. The Chino Hills' community has been extremely vocal in its opposition to the approved Project design in Segment 8A. To defend the community from what it perceives to be an intolerable threat, the city council has appropriated significant sums to file and litigate the petition (approximately \$2 million in addition to about \$1.8 million filed in the CPCN proceeding). While Ontario did not fully participate in prior proceedings, it has adequately explained its interest in the proceeding and why it was unable to participate earlier.

4. Given that approximately 220 houses border the Segment 8A ROW in Chino Hills and Segment 8 ROW in Ontario, it is reasonable to construe a proportionately large impact on local tax revenues, given the diminution in value of so many individual residential parcels in a single community.

5. Chino Hills recommends UG5 (single circuit, 2 cables/phase); SCE does not support undergrounding but if the Commission orders a design change in Segment 8A, SCE recommends UG2 (single circuit, 3 cables/phase). Ontario requests similar treatment of Segment 8 within Ontario as that provided to Segment 8A.

6. No party contends that it is technically impossible to construct a 500 kV transmission line utilizing XLPE cable technology, underground in conduit, in the Chino Hills' or Ontario's ROW.

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<sup>1</sup> This Attachment includes the text of D.13-07-018 as modified by later decisions. However, all changes introduced by D.14-01-005 as this decision did not make simple textual edits to the decision. Moreover, Ontario understands that factual hearings may be required to determine cost allocations and further CEQA work may be required. This Attachment is intended to outline Ontario's requested result and not necessarily all procedural steps that may be necessary.

7. Construction of an XLPE 500 kV underground transmission line is feasible.

8. High voltage XLPE cable technology transmission lines of 400 kV and 500 kV are operational in Europe, Russia and Asia; high voltage lines of 345 kV and less are operational in the United States at present. Most of these operational lines appear to have been built to solve specific locational problems (river crossings, access to urban zones, etc.).

9. Splice joints and other cable accessories tend to pose the primary risk for failure of high voltage underground technology using XLPE cable, not the cable itself. CIGRE Bulletin 379 lists the average repair time for land installations of 220 to 500 kV lines in ducts/troughs/tunnels as 45 days.

10. Separate assessments by Chino Hills, Ontario and SCE establish that a single circuit line is adequate to meet near term energy and capacity demands for Segments 8A and 8 within Ontario, including the interconnection of 4,500 MW of new wind generation in the TWRA.

11. On balance, the evidence establishes that the double circuit 500 kV aboveground design for Segments 8A and 8 within Ontario was intended to serve at least two different objectives: reduction in Corona (Audible Noise, Radio Interface, etc.) and EMF (both Electric and Magnetic field effects), as well as low-cost, future transmission expansion such as the future, potential upgrade of the Mesa Substation to 500 kV.

12. While how long a single circuit in Segments 8A and 8 within Ontario will be adequate is a point of heated disagreement, SCE forecasts no need to actually bring an operational, second circuit online before 2021.

13. Both parties ultimately concede that a single circuit line could carry at least 2000 amps.

14. The record offers three analyses of curtailment risk, each very different in content, approach and underlying objectives. SCE's evidence includes two simplistic studies that warn of the potential for significant near-term curtailment without Segment 8, but do not assess curtailment risk with Segment 8 operational. Chino Hills' evidence includes a sophisticated production cost study (not without input or modeling errors) that finds no curtailment attributable to Segment 8A in 2016 and very little in 2022, though some curtailment occurs in the Tehachapi area as a whole.

15. While the record indicates that some curtailment has occurred in the Tehachapi area recently, the reasons are unclear.

16. While the record does not persuasively answer how long a single circuit Segment 8A or 8 within Ontario will suffice, the only logical conclusion is that SCE agrees with Chino Hills that under current planning forecasts, an operational, single circuit Segments 8A and 8 within Ontario will not cause curtailment before 2021.

17. The capacity needed in the near term in Segments 8A and 8 within Ontario could be constructed underground in time for the Project to reach commercial operation in late 2015 or early 2016.

18. The SCE and Chino Hills costs estimates for the various underground options, including UG5, are not based on an “apples to apples” comparison of direct and indirect costs.

19. SCE’s bid process included a Request for Information and Request for Proposal process that resulted in firm, fixed price bids in response to detailed cable and civil specifications; the bids, received sometime in December 2012, contain fixed prices, good for 180 days from their receipt. Chino Hills’ costing process, admittedly much less formal, was not designed to produce bid documents nor obtain bids but to provide an independent test of SCE’s numbers.

20. SCE concedes that an appropriate BIL, based on a BIL standard for Segment 8A, could be used instead of reactive compensation (which it costs at close to a \$23 million) at the transition station; however, SCE does not provide a timeline for developing the standard or implementing it as alternative. Without greater substantiation, we should not approve a cost cap component (for reactive compensation) that approaches \$23 million.

21. Any petition for modification that seeks an amendment to the cost cap for BIL or reactive compensation (if BIL is shown to be impracticable), must include a report on the cost and timeline for developing an appropriate BIL standard for Segment 8A and for implementing it, based on the level of detail that the Commission’s Energy Division may reasonably specify and must be supported by one or more declarations executed by knowledgeable persons under penalty of perjury, as provided by California law.

22. SCE’s contractor overhead and risk costs of almost \$10 million should be reduced to zero since SCE’s bid specifications provided to both cable manufacturers and civil contractors for this project required the bidders to include these costs within their scope of work.

23. Chino Hills is persuasive that 26% is an excessive multiplier (applied to all labor and equipment) to estimate environmental compliance costs, given the environmental work done to date and the substantial familiarity with the 3.5 mile ROW; we conclude that a factor of 10% should be adequate.

24. Chino Hills is persuasive that SCE’s use of 35% contingency is too high and should be reduced to 15%, which is the same percentage approved for the Project as a whole.

25. Chino Hills does not establish that SCE’s costs for cable construction are inflated. Among other things, Chino Hills has not shown that SCE’s estimates should be based upon 4000 kcmil cable rather than 5000 kcmil, or that a different choice would greatly reduce total costs, or that SCE’s design should eliminate two sets of two sets of splice vaults, the restraint vaults and telecommunications vaults.

26. Applying all of the adjustments for reactive compensation, contractor overhead and risk, environmental, and contingency costs to SCE’s UG5 estimate reduces that estimate from \$350 million to approximately \$241 million. These sums do not include an allowance for corporate overhead (which would be approximately \$15.7.7 million, using SCE’s factor of 6.5%).

27. Chino Hills’ proposed financial contributions actually would offset undergrounding

costs by a much smaller amount than Chino Hills's estimate of \$81,718,338. Only the proposed transfer to SCE of real property in fee (the land for the transition stations and the two-thirds of the ROW that Chino Hills owns) would reduce the capital costs to ratepayers through an offset to the cost cap.

28. The reasonable value of the Chino Hills' contribution of real property to SCE in fee is \$17,376,986, which values the three properties as follows: for the Western Transition Station property, \$512,144; for the ROW property, \$14,864,840; and for the Eastern Transmission Station, \$2 million.

29. The reasonable maximum cost for construction of UG5 in the Chino Hills Row is \$224 million, which includes an offset for Chino Hills' contribution of real property to SCE in fee.

30. On per mile basis, the total cost of \$224 million is approximately \$64 million per mile. To the extent that undergrounding costs elsewhere in California provide a benchmark of sorts, the cost to underground UG5 is not much higher.

31. On the cost record developed, it is reasonable and in the public interest to underground Segment 8A using UG5.

32. The Addendum to the Final EIR for the Tehachapi Renewable Transmission Project, October 2009, should be identified Reference Exhibit C. Because construction of underground options UG1 through UG5 would not trigger any of the conditions set forth in CEQA Guidelines §15162, preparation of an Addendum is appropriate pursuant to CEQA Guidelines §15164.

33. Similar cost allocations, readjustment and accounting provisions should be conducted to determine the applicable cost of undergrounding Segment 8 through Ontario.

## **Conclusions of Law**

1. Precedent establishes that the Commission has not applied the justification and timing requirements of Rule 16.4 and its predecessor, Rule 47, in a mechanical way if that would thwart justice; thus, even where the Commission has determined that a petition was not the appropriate procedural remedy, on occasion and for public policy reasons, it has considered the substantive merits and after that review, has either granted or denied the petition.

2. Chino Hills' petition for modification of D.09-12-044, filed on October 28, 2011, and Ontario petition for modification of D.09-12-044, filed on November 21, 2014, meets the procedural requirements of Rule 16.4 of the Commission's Rules of Practice and Procedure, as interpreted by Commission precedent, and should be considered on the merits.

3. As petitioner, Chino Hills and Ontario hasve the burden of proof to establish by a preponderance of the evidence that ~~its-their~~ petitions, ~~filed October 28, 2011~~, should be granted; accordingly, ~~Chino Hills~~the cities must show that the design D.09-12-044 approved for Segments 8A and 8 within Ontario should be changed to require construction of ~~Chino Hills~~the cities' preferred alternative instead.

4. D.09-12-044 does not sufficiently assess the towers' impact on community values and places an unfair and unreasonable burden on the residents of Chino Hills and Ontario by requiring construction of an aboveground double circuit 500 kV transmission line through Segments 8A and 8 within Ontario; that disproportionate burden should be rectified to require the underground construction of UG5.

5. The provisions of § 399.2.5 provide the Commission with the authority to find that "notwithstanding" the results of its analysis under §§ 1001 et seq., including consideration of the four factors under § 1002(a), the project may be found "necessary to facilitate" achievement of the renewable power goals of § 399.11 et seq. and, therefore, approved by the Commission. The construction stay on Segment 8A should be released so that construction of UG5 may commence.

6. Having conceded that BIL could be used on Segments 8A and 8 within Ontario instead of reactive compensation, the burden of producing additional evidence on BIL and a Segment 8A and 8 within Ontario BIL standard is on SCE.

7. Within 60 days of the date of today's decision, SCE should file and serve a petition for modification of today's decision if it wishes the cost cap adopted by today's decision to be amended to include a reasonable sum for development and implementation of a BIL standard in the design of UG5 (or for reactive compensation, if BIL is shown to be impracticable). Such petition must include a report on the cost and timeline for developing an appropriate BIL standard and for implementing it, based on the level of detail that the Commission's Energy Division may reasonably specify and, must be supported by one or more declarations executed by knowledgeable persons under penalty of perjury, as provided by California law.

8. This order should be effective immediately to avoid delay in completion of the TRTP.

9. The Addendum to the Final EIR was prepared consistent with CEQA, should be approved and should be received as Reference Exhibit C.

## ORDER

### IT IS ORDERED that:

1. The *Petition of the City of Chino Hills to Modify Decision 09-12-044 to Reopen the Record with Regard to Segment 8 of the Proposed Route*, filed by on October 28, 2011, and the City of Ontario's Amended Petition for Modification to Order the Undergrounding of Segment 8 is granted to the extent consistent with these Ordering Paragraphs.

2. Decision 09-12-044 is modified to require construction in Segments 8A and 8 within Ontario of the Tehachapi Renewable Transmission Project (Segments 4-11) the underground option referred to in the body of this decision as UG5, which is a single circuit, two cables per phase design using 5000 kcmil, cross linked polyethylene (XLPE) cable.

3. We adopt \$224 million (in 2013 dollars) as a reasonable maximum cost for UG5, excluding allowance for funds used during construction, and Decision 09-12-044 is modified to increase the reasonable maximum cost of the Tehachapi Renewable Transmission Project

(Segments 4-11) by that amount.

4. All Findings of Fact, Conclusions of Law and Ordering Paragraphs adopted by Decision 09-12-044 that are inconsistent with these Ordering Paragraphs are hereby deemed to be modified to comport with these Ordering Paragraphs and shall be so construed.

5. If Southern California Edison Company (SCE) wishes the Commission to amend the cost cap adopted in Ordering Paragraph 4, above, to include a reasonable sum for development and implementation of a Basic Insulation Level (BIL) standard in the design of UG5 (or for reactive compensation, if BIL is shown to be impracticable), SCE shall file and serve a petition for modification of this decision within 60 days of the date of this decision. Such petition must include a report on the cost and timeline for developing an appropriate BIL standard and for implementing it, based on the level of detail that the Commission's Energy Division may reasonably specify and, shall be supported by one or more declarations executed by knowledgeable persons under penalty of perjury, as provided by California law.

6. ~~The Petition of the City of Chino Hills to Modify Decision 09-12-044 to Stay Construction of Transmission Facilities in Segment 8A, filed on October 31, 2011, is denied as moot.~~

6. The partial stay of construction on Segment 8A of the Tehachapi Renewable Transmission Project, as ordered by Decision (D.)~~11-11-020, D.11-11-026, D.12-03-050 and D.13-03-019~~ \_\_\_\_\_, is released so that Southern California Edison Company may resume construction and complete Segment 8A in accordance with these Ordering Paragraphs.

7. The Addendum to the Final Environmental Impact Report for the Tehachapi Renewable Transmission Project, October 2009, is approved and received as Reference Exhibit C.