

APPENDIX MODELING ASSUMPTIONS FOR ISO COMPLIANCE FILING

| | CASE 1 | CASE 2 | CASE 3 | CASE 4 | CASE 5 | CASE 6 | CASE 7 | CASE 8 | CASE 9 |
|----------------------|---|---|---|---|---|--|--|--|--|
| | <u>Reference Case assumptions</u> | <u>Sunrise per Applicant</u> | <u>Southern Route</u> | <u>Non-Wires Alternative</u> | <u>Sensitivity Case 1: Higher Renewables Reference Case</u> | <u>Sensitivity Case 1: Higher Renewables per Applicant</u> | <u>Sensitivity Case 1: Higher Renewables with Southern Route</u> | <u>Sensitivity Case 1: Non-Wires Alternative</u> | <u>Sensitivity Case 2: Higher Renewables with Sunrise per Applicant (online in 2011)</u> |
| | | | | | Same assumptions as Case 1 except as shown below | Same assumptions as Case 2 except as shown below | Same assumptions as Case 3 except as shown below | Same assumptions as Case 4 except as shown below | Same assumptions as Case 6 except as shown below |
| POLICY | | | | | | | | | |
| RPS Targets | | | | | | | | | |
| 2010 | 20% | 20% | 20% | 20% | 20% | 20% | 20% | 20% | 20% |
| 2015 | 20% | 20% | 20% | 20% | 27% | 27% | 27% | 27% | 27% |
| 2020 | 20% | 20% | 20% | 20% | 33% | 33% | 33% | 33% | 33% |
| | 2012 and 2015 | 2012 and 2015 | 2012 and 2015 | 2012 and 2015 | | | | | |
| YEARS MODELED | | | | | | | | | |
| LOADS | | | | | | | | | |
| | CEC 10/2007 forecast of 1-in-10 loads from LTPP | CEC 10/2007 forecast of 1-in-10 loads from LTPP | CEC 10/2007 forecast of 1-in-10 loads from LTPP | CEC 10/2007 forecast of 1-in-10 loads from LTPP | | | | | |
| Base In-Area Loads | | | | | | | | | |



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| | CASE 1 | CASE 2 | CASE 3 | CASE 4 | CASE 5 | CASE 6 | CASE 7 | CASE 8 | CASE 9 |
|-----------------------------------|---|---|---|---|--------|--------|--------|--------|---------------------|
| Adjustments to Loads | | | | | | | | | |
| Demand Response | From LTPP | From LTPP | From LTPP | From LTPP | | | | | |
| Energy Efficiency | From LTPP | From LTPP | From LTPP | From LTPP | | | | | |
| CSI | From LTPP | From LTPP | From LTPP | From LTPP | | | | | |
| Deistributed Gen. | From LTPP | From LTPP | From LTPP | From LTPP | | | | | |
| | | | | | | | | | |
| Out-of-Area Loads | Per ISO | Per ISO | Per ISO | Per ISO | | | | | |
| | | | | | | | | | |
| CFE loads | Per SDG&E/ UCAN | Per SDG&E/ UCAN | Per SDG&E/ UCAN | Per SDG&E/ UCAN | | | | | |
| | | | | | | | | | |
| FUEL PRICES | | | | | | | | | |
| | | | | | | | | | |
| Fuel Prices | | | | | | | | | |
| Henry Hub Prices | Per ISO | Per ISO | Per ISO | Per ISO | | | | | |
| AZ gas prices | Per ISO | Per ISO | Per ISO | Per ISO | | | | | |
| All other gas prices | Per ISO | Per ISO | Per ISO | Per ISO | | | | | |
| | | | | | | | | | |
| GENERATION (NON-RENEWABLE) | | | | | | | | | |
| | | | | | | | | | |
| Existing In-Area Resources | | | | | | | | | |
| | Online through 2012 | Online through 2012 | Online through 2012 | Online through 2012 | | | | | Online through 2011 |
| Existing South Bay Plant | | | | | | | | | |
| | | | | | | | | | |
| New Generation in SDG&E Area | | | | | | | | | |
| | Add enough peaking capacity to meet reliability requirements of ISO | Add enough peaking capacity to meet reliability requirements of ISO | Add enough peaking capacity to meet reliability requirements of ISO | Add enough peaking capacity to meet reliability requirements of ISO | | | | | |
| Peakers | | | | | | | | | |

| | CASE 1 | CASE 2 | CASE 3 | CASE 4 | CASE 5 | CASE 6 | CASE 7 | CASE 8 | CASE 9 |
|-------------------------------|--|--|--|--|--------|--------|--------|--------|--------|
| CCs | Assume Carlsbad Energy Center comes online in 2013 | Assume Carlsbad Energy Center comes online in 2013 | Assume Carlsbad Energy Center comes online in 2013 | Assume Carlsbad Energy Center comes online in 2013 | | | | | |
| New Out-of-Area Resources | | | | | | | | | |
| Coal generation | Use ISO assumptions except reduce all coal generation by 75% | Use ISO assumptions except reduce all coal generation by 75% | Use ISO assumptions except reduce all coal generation by 75% | Use ISO assumptions except reduce all coal generation by 75% | | | | | |
| Fill Resources | Add combined cycles as needed to replace coal plants to meet reliability targets | Add combined cycles as needed to replace coal plants to meet reliability targets | Add combined cycles as needed to replace coal plants to meet reliability targets | Add combined cycles as needed to replace coal plants to meet reliability targets | | | | | |
| Costs of New Generation | | | | | | | | | |
| CTs | ISO Phase 1 | ISO Phase 1 | ISO Phase 1 | ISO Phase 1 | | | | | |
| CCs | ISO Phase 1 | ISO Phase 1 | ISO Phase 1 | ISO Phase 1 | | | | | |
| GENERATION (RENEWABLE) | | | | | | | | | |
| New Generation in SDG&E Area | | | | | | | | | |

| | CASE 1 | CASE 2 | CASE 3 | CASE 4 | CASE 5 | CASE 6 | CASE 7 | CASE 8 | CASE 9 |
|----------------------------------|--|---|---|--|--|--|--|--|--------|
| | None other than current contracts | None other than current contracts | None other than current contracts | Additions consistent with DEIR All-Source Alternative | | | | | |
| Solar Thermal | None other than current contracts | None other than current contracts | None other than current contracts | Additions consistent with DEIR All-Source Alternative | | | | | |
| Wind | None other than current contracts | None other than current contracts | None other than current contracts | Additions consistent with DEIR All-Source Alternative | | | | | |
| Biomass | None other than current contracts | None other than current contracts | None other than current contracts | Additions consistent with DEIR All-Source Alternative | | | | | |
| Rooftop PV | No incremental beyond CSI from above | No incremental beyond CSI from above | No incremental beyond CSI from above | Per DEIR (net of CSI assumed above) | | | | | |
| | | | | | | | | | |
| New Renewables Outside of SDG&E | ISO assumptions to meet 20% RPS target | ISO assumptions to meet 20% RPS target | ISO assumptions to meet 20% RPS target | ISO assumption s to meet 20% RPS target | ISO assumptions to meet 33% RPS target | ISO assumptions to meet 33% RPS target | ISO assumptions to meet 33% RPS target | ISO assumptions to meet 33% RPS target | |
| Imperial Valley renewables | Only add renewables that are cost-effective per ISO supply curve | Add renewables in Imperial Valley per ISO Phase 2 assumptions, regardless of cost-effectiveness | Add renewables in Imperial Valley per ISO Phase 2 assumptions, regardless of cost-effectiveness | Only add renewables that are cost-effective per ISO supply curve | | | | | |
| Other areas (in or out of CAISO) | Only add renewables that are cost-effective per ISO supply curve | Only add cost-effective renewables after adding renewables to Imperial Valley | Only add cost-effective renewables after adding renewables to Imperial Valley | Only add renewables that are cost-effective per ISO supply curve | | | | | |

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|--|---|---|---|---|--------|--------|--------|--------|---|
| Success rate for out-of-state renewables | ISO base case (50%) | ISO base case (50%) | ISO base case (50%) | ISO base case (50%) | | | | | |
| Costs of Renewables | Costs assumed by ISO in its Phase 1 Base Case | Costs assumed by ISO in its Phase 1 Base Case | Costs assumed by ISO in its Phase 1 Base Case | Costs assumed by ISO in its Phase 1 Base Case | | | | | |
| TRANSMISSION | | | | | | | | | |
| Sunrise | | | | | | | | | |
| Online Date | No | Yes (SDG&E's Enhanced Northern Route in 2012) | Yes (SDG&E Proposed Southern Route in 2012) | No | | | | | Yes (SDG&E's Enhanced Northern Route in 2011) |
| RPCC Coastal Alternative | n/a | Yes | Yes | n/a | | | | | |
| Other Bulk Transmission | | | | | | | | | |
| IID | | | | | | | | | |
| Rating of Path 42 | 800 MW | 800 MW | 800 MW | 800 MW | | | | | |
| Coachella Valley-Devers 2 | No | No | No | No | | | | | |
| Green Path North | No | No | No | No | | | | | |
| Dixieland - Imperial Valley | Yes | Yes | Yes | Yes | | | | | |
| CV-Devers 2 / GPN | No | No | No | No | | | | | |
| SCE | | | | | | | | | |
| Path 44 upgrades | No | No | No | No | | | | | |
| TE/VS | No | No | No | No | | | | | |
| DPV2 | Online in 2013 | Online in 2013 | Online in 2013 | Online in 2013 | | | | | |
| SDG&E | | | | | | | | | |
| Miguel Import Nomogram | Yes | Yes | Yes | Yes | | | | | |

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|--|------------------|------------------|------------------|------------------|--------|--------|--------|--------|--------|
| Other transmission additions | ISO assumptions | ISO assumptions | ISO assumptions | ISO assumptions | | | | | |
| Transmission System Operation | | | | | | | | | |
| 1150 MW limit east of Miguel? | Use ISO modeling | Use ISO modeling | Use ISO modeling | Use ISO modeling | | | | | |
| Costs of Sunrise | | | | | | | | | |
| Capital Costs | n/a | ISO Phase 2 | ISO Phase 2 | n/a | | | | | |
| O&M costs | n/a | UCAN | UCAN | n/a | | | | | |
| Sunrise Amortization Period | n/a | 58 years | 58 years | n/a | | | | | |
| RELIABILITY AND RMR MODELING APPROACH | | | | | | | | | |
| Avoided RMR/Capacity Costs | ISO approach | ISO approach | ISO approach | ISO approach | | | | | |
| Model RMR for SDG&E and LA? | yes | yes | yes | yes | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| Note: "LTPP" = D-07-12-052 | | | | | | | | | |

(END OF APPENDIX)