Energy Division Straw Proposal on LTPP Planning Standards

August 6 and 7, 2009 Workshops

R.08-02-007, Phase 1

Simon Eilif Baker
CPUC Energy Division, Procurement
## Agenda Overview – Day 1

<table>
<thead>
<tr>
<th>TIME</th>
<th>ITEM</th>
<th>LEAD(S)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00 – 10:30AM</td>
<td>Overview, Opening Remarks, and Background</td>
<td>ED Staff</td>
</tr>
<tr>
<td>10:30 – 11:00AM</td>
<td>Building Blocks – Guiding &amp; Working Principles, Definitions</td>
<td>ED Staff</td>
</tr>
<tr>
<td>11:00AM – 12:00PM</td>
<td>Foundational Elements – Indicative Resource Plans, Renewables and Transmission Study, Renewables Integration Study</td>
<td>ED Staff/E3</td>
</tr>
<tr>
<td>12:00 – 1:00PM</td>
<td>*** LUNCH BREAK ***</td>
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<tr>
<td>1:00 – 2:00PM</td>
<td>Foundational Elements – Deliverability Risk Assessment, Coordination of Resource Planning</td>
<td>ED Staff</td>
</tr>
<tr>
<td>2:00 – 3:00PM</td>
<td>Analytical Process – Scenarios, Portfolios, Sensitivity analysis</td>
<td>ED Staff/E3</td>
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<tr>
<td>3:00 – 3:15PM</td>
<td>*** BREAK ***</td>
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<tr>
<td>3:15 – 3:45PM</td>
<td>Evaluation Criteria – Metrics and Assessments</td>
<td>ED Staff</td>
</tr>
<tr>
<td>3:45 – 4:30PM</td>
<td>Inputs and assumptions – Calculating net short, New resource cost and performance; Market prices</td>
<td>ED Staff</td>
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<tr>
<td>4:30 – 5:00PM</td>
<td>Joint System Plan Alternative</td>
<td>ED Staff/E Aspen</td>
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</table>
## Agenda Overview – Day 2

<table>
<thead>
<tr>
<th>TIME</th>
<th>ITEM</th>
<th>LEAD(S)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00 – 11:30AM</td>
<td>Consecutive versus Concurrent Approaches to System and Bundled Analyses</td>
<td>ED Staff, All</td>
</tr>
<tr>
<td>11:30AM – 12:30PM</td>
<td>Presentation of SCE/SDG&amp;E Alternative Proposal</td>
<td>SCE/SDG&amp;E Representative</td>
</tr>
<tr>
<td>12:30 – 1:30PM</td>
<td>*** LUNCH BREAK ***</td>
<td></td>
</tr>
<tr>
<td>1:30 – 2:30PM</td>
<td>Q &amp; A on SCE/SDG&amp;E Alternative Proposal</td>
<td>All</td>
</tr>
<tr>
<td><strong>ENERGY DIVISION PROPOSAL</strong></td>
<td><strong>SCE/SDG&amp;E ALTERNATE PROPOSAL</strong></td>
<td><strong>JAN REID ALTERNATIVE PROPOSAL</strong></td>
</tr>
<tr>
<td>2:30 – 3:00PM</td>
<td>Presentation of Jan Reid Alternative Proposal</td>
<td>Jan Reid</td>
</tr>
<tr>
<td>3:00 – 3:15PM</td>
<td>Q &amp; A on Jan Reid Alternative Proposal</td>
<td>All</td>
</tr>
<tr>
<td>3:15 – 3:30PM</td>
<td>Wrap-up/Next Steps</td>
<td>ED Staff</td>
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</tbody>
</table>
Amended Schedule for Phase 1

- August 21 – Comments on Staff and Alternative Proposals
  - Including responses to post-workshop questions (Attachment 4)
- August 31 – Reply Comments
- Q4 2009 (estimated) – Proposed Decision
- Q4 2009 (estimated) - Decision
Purpose of Today’s Workshop

• Present staff’s proposal on planning standards in response to the August 28, 2008 ACR/Scoping Memo
• Clarify and explain the Staff Proposal, so that parties have a full understanding when they comment
• Respond to selected pre-workshop questions
• Not to discuss comments, except on the timelines as instructed in the Amended Scoping Ruling
Opening Remarks

- Not a forum for debates over the “hybrid market”
  - Markets versus planning (WPTF)
    - Deliberately addressed in the Staff Proposal (See pp. viii-ix, pp. 22-23, p. 29, and pp. 35-36)
  - IOU procurement of system resources and cost allocation methodologies (ARèM, CLECA) and fit of the proposal with re-opening of direct access (ARèM, SCE)
- Not a forum to influence the PRM proceeding (WPTF, PG&E)
- Planning for OTC retirements increasingly prominent, per joint energy agency proposal and pending Water Board rulemaking

Scoping Ruling (pp. 1-3):
“At present the extent to which [new] generation resources will be procured via market structures is uncertain, but as they are developed…the methodologies being developed in this proceeding [may need to be adjusted or replaced]… It would be imprudent to assume at this time that other market structures will obviate the need for LTPP-authorized procurement and delay the timely development of 2010 LTPP policy guidance.”
California’s Aggressive Energy Policy Goals

- **Energy efficiency (“EE”):** CPUC’s adopted EE goals for the three IOUs: 4,500 MW and 16,000 GWh between 2009 and 2020
- **Demand response (“DR”):** Reduce peak demand by 5 percent (between 1,500 and 2,000 MW)
- **California Solar Initiative (“CSI”):** 3,000 MW nameplate of rooftop solar PV statewide by 2017
- **Combined heat and power (“CHP”):** CARB Proposed Scoping Plan set a goal of 4,000 MW of new installed CHP
- **33% Renewables Portfolio Standard (“RPS”):** 90 -100 TWh of renewable energy statewide
- **Once-Through-Cooling Mitigation (“OTC”):** SWRCB is promulgating new rules that could impact over 10,000 MW
California’s Greenhouse Gas Reduction Goals, per AB 32

Source: E3 2050 GHG model calibrated to the CARB Scoping Plan baseline
New renewables needed to meet 33% RPS by 2020: 75 TWh

Figure 10. Annual Renewable Generation Buildout for Timelines 2A and 2B

Source: CPUC/E3
Findings of 33% RPS Implementation Analysis

• Incremental cost of achieving 33% RPS:
  – 7.1% higher electricity expenditures in 2020 compared to 20% RPS
  – $3.6 billion in incremental energy costs in 2020

• State is not likely to meet 33% RPS by 2020 under current practices

• State faces external risks beyond its control

• There are tradeoffs to various strategies for achieving 33% RPS
Proposal Background

• In D.07-12-052, the Commission found that the IOUs’ long-term procurement plans were:
  – Deficient in planning for a GHG-constrained world,
  – Insufficient in planning for aggressive renewables goals, and
  – So inconsistent in their structures and assumptions that they could not be compared to one another.

• Energy Division directed to propose a standardized framework for resource planning, based on integrated resource planning principles (“planning standards”)
  – Proposal: to require standardized, in-depth resource planning analyses

• Objectives: Provide an analytical framework to:
  – integrate various policy initiatives
  – inform Commission decision-making, amidst tremendous uncertainty, with high-quality information and analysis
Building Blocks
Proposal Structure

- Guiding Principles for LTPP
- Working Principles for LTPP Planning Standards
- Proposed Planning Standards
- Detailed Proposed Planning Standards
- Foundational Elements

Implementation Alternatives
- Coordinated System Plans
- Joint System Plan
Guiding Principles

Taken directly from the OIR, these are general principles of the Commission’s LTPP oversight:

1. Ensure reliability
2. Ensure the lowest reasonable rates
3. Comply with the EAP loading order
4. Anticipate AB 32 constraints on IOU electricity portfolios
Working Principles

Taken from OIR or other Commission decisions, these are specific principles for LTPP planning standards:

A. Resource plans should take a realistic view of expected policy-driven resource achievements in order to ensure reliability and track progress toward goals
B. Resource plans should be compatible with the Commission's goal of advancing markets
C. Resource plans should be comparable and informative
D. The Commission should use common assumptions and consistent methodologies across all resource-related proceedings
E. Resource plans should be informed by an open and transparent process
F. Resource plans should consider whether substantial new investments in transmission and flexible fossil generation would be needed to integrate and deliver new resources to loads
Questions on Working Principles

- Are the they listed in order of importance? Which takes precedence when they conflict? (SCE)
- How do C & D differ? (DRA)
Definitions

- **System** – An IOUs’ service territory inclusive of bundled, DA, and CCA customer load and exclusive of POU load, as defined in D.07-12-052 tables.
- **System (Resource) Plan** – Synonymous with an Indicative Resource Plan, a System Plan is on that, when adopted, provides IOUs with authorization to procure (build, contract for, or otherwise cause to be constructed) new resources to system and/or local RA requirements in their service areas. Loads and resource balance is on a physical basis. System Plans also address resource policy issues.
- **Indicative Resource Plan** and “indicative” – Synonymous with a System Plan, an Indicative Resource Plan is one in which projected future resource mixes are informational or illustrative only. In this context, “indicative” means the detailed, resource- and location –specific data in the resource plan represents a reasonable forecast of future resource mix based on the Commission’s judgment of the best available information. Commission approval of an Indicative Resource Plan does not grant pre-approval of resource procurement actions (other than for new resources to meet system and/or local RA requirements).
- **Bundled (Procurement) Plan** – A procurement plan to serve bundled customer load. Loads and resource balance is generally on a contractual basis.
Questions on Definitions

• Does staff mean the “Bundled Plan” would serve bundled load only from resources already built and would never include new resources? (AReM)

• Is staff proposing that the sole purpose of the Bundled Plan is to procure for “residual energy needs?” (AReM)

• How does the Commission ensure that resources planned or in operation by non-IOUs (ESPs, CCAs) and merchant IPPs are accounted for in determining a “system net short position?” (AReM, SCE, CLECA)
Foundational Elements, Part 1
Proposed Planning Standards

• Mindful of two distinct sets of analyses
  – System and bundled

• Two sets of recommendations:
  – For 2010 – More specific
  – For 2012 and beyond – More general

• Focus on process and procedure, because specific methodologies and numerical values are justifiably subject to change
* Per the Proposed Planning Standards for the 2010 LTPP, these Foundational Elements would be partially or wholly conducted by non-IOU entities and completed in advance of the proceeding; e.g., Energy Division’s 33% RPS Implementation Analysis and CAISO’s 33% RPS integration study.
Questions on Accompanying Studies Required by Foundational Elements

• Who will conduct them and who will pay for them? (GPI, CLECA, Jan Reid)
Indicative Resource Plans

• Basic premise for granularity of data is to justify fossil procurement in a GHG-constrained world.

D.07-12-052 (pp. 6-7): “Even in a GHG-constrained world, fossil resources are likely to play a vital role…but the IOUs’ plans do not demonstrate the analytical rigor to draw this conclusion…We will be more specific in subsequent proceedings with our expectations for long-term plans.”

• “Indicative” means granular information is informational and not intended to result in specific procurement requirements, other than for fossil

• Need for a “working forecast” for planning studies and to send signals to the market
Indicative Resource Plans - Pros

Potential benefits:

- Determining residual net system capacity needs
  - Accurately reflect NQC of “most likely” renewables portfolio
- Identifying transmission bottlenecks
  - Inform transmission planning and permitting processes
- Identifying resources needed for system integration
  - Accurately reflect integration costs depending on the renewables portfolio
- Identifying local capacity needs
  - CPUC-CEC-CAISO proposal on OTC implementation (reference: July 28 joint LTPP/IEPR workshop)
Indicative Resource Plans - Cons

Potential costs/risks:

• Markets vs. planning
  – Remain committed to competitive procurement
  – Provide planning-induced investment signals, where market-based price signals do not yet exist

• Added workload and complexity
  – Single biggest challenge, but can be partly mitigated through process management

• Misinterpretation of results
  – Decision language can clarify

• Consolidation of decision making
  – Decision language can clarify
Questions on Indicative Resource Plans

- What system and local needs would be covered? (PG&E)
- Would the IOUs need approval of Bundled Plans to proceed with RFOs for new gen? (CLECA)
- How will indicative information be used in other proceedings? (SCE, CLECA, SDG&E)
- What are examples of sufficient granularity? (PG&E)
- Would the system analysis use contract-specific data? (SDG&E)
- How can a system needs assessment be done individually, while other required studies would be done jointly? (SDG&E, CLECA)
Portfolio Analysis

• Modeling comparison of supply- and demand-side, and generation and transmission alternatives

• Benefits
  – Generation portfolio balancing
  – Supply-and demand-side interactions
  – Least-cost best-fit plans

• Costs/risks
  – Added workload and complexity
Renewables and Transmission Study

- High-level assessment of transmission need and costs to deliver renewables
- Potential benefits
  - Prioritization of renewable zones
  - Avoidance of double-counting
  - System physical infrastructure needs
- Potential costs/risks
  - Added workload and complexity
  - Misinterpretation of resource selection
  - Confidentiality issues
- 2010 LTPP recommendation: Use RETI and 33% RPS Implementation Analysis, as updated
Questions on Renewables and Transmission Study

• What is the purpose of the study? (SCE)
• Is Staff’s 33% RPS Implementation Analysis sufficient for the 2010 LTPP? (SCE, DRA)
• How would the study be used in the transmission CPCN process? (PG&E, SDG&E)
• How will the Commission mitigate potential misinterpretation by the market? (SCE)
• How will out of state resources be included? (SCE)
Renewables Integration Study

- Identification of flexible fossil needs to firm and shape intermittent renewables
- Potential benefits
  - Fossil needs matched to operability requirements
  - Least cost best-fit RPS procurement
- Potential costs/risks
  - Added workload and complexity
  - Potential inaccuracies introduced
- 2010 LTPP recommendation: CAISO’s 33% Integration Study
Questions on Renewables Integration Study

• When is the CAISO study estimated to be completed? (CLECA, SCE)

• What is meant by the need to “evenly distribute” among renewable technologies? (SCE)
Foundational Elements, Part 2
Deliverability Risk Assessment

- Reliability-focused assessment of likely achievements of policy-driven resources (i.e., “firm” delivered MWs)
  - Continuation of practice in previous LTPP cycles
- Recommended methodology and process varies by resource
- Potential benefits:
  - Increased reliability
  - Less reliance on uncompetitive procurement
- Potential cost/risk:
  - Added workload and complexity
  - Over-procurement
  - Implied re-litigation of policy goals
## Deliverability Risk Assessment – Recommended 2010 LTPP Methodologies

<table>
<thead>
<tr>
<th>Resource</th>
<th>Recommended Methodologies for Base Case Assumptions</th>
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<tbody>
<tr>
<td>EE</td>
<td>• The lesser of:</td>
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<tr>
<td></td>
<td>• 100% TMG goal (D.08-07-047, OP 3), or</td>
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<tr>
<td></td>
<td>• 2009 IEPR forecasts of embedded (committed) and uncommitted EE, based on CEC’s “reasonably expected to occur” standard</td>
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<tr>
<td>DR</td>
<td>Use D.08-04-050 Load Impact Protocols to generate forecasts of current 2009-2011 programs, other approved DR programs, and reasonably anticipated AMI-enabled DR. Submit outline and template for DR inputs to Energy Division 45 days prior to commencing modeling analyses.</td>
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<tr>
<td>Customer-side DG, including CSI</td>
<td>2009 IEPR forecasts of embedded self generation, based on CEC’s “reasonably expected to occur” standard</td>
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<tr>
<td>CHP</td>
<td>Commission convenes an LTPP CHP working group to produce estimates</td>
</tr>
<tr>
<td>Renewables</td>
<td>33% RPS Implementation Analysis, as updated</td>
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<tr>
<td>Fossil additions</td>
<td>Joint-IOU Report recommendation to include two categories:</td>
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<tr>
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<td>1. Known/High Probability Additions are under construction.</td>
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<tr>
<td></td>
<td>2. Other Planned Additions have a contract, but construction has yet to begin</td>
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Questions on Deliverability Risk Assessment

- What is the proposed level of standardization among IOUs? (PG&E)
- What is meant by the “CPUC interpretation of CARB goals? Is this the same/different from a Deliverability Risk Assessment (PG&E, CAC/EPUC)
- How should the IOUs determine “detailed schedules of on-line dates” for transmission? (SCE)
Coordination of Resource Planning

- Coordination on two levels:
  - Among IOU resource plans – through standardization
  - Among resource-related proceedings – through availability of information (e.g., “working forecast”)
- Potential linkages – Decision of whether/how to use information is deferred to decision-makers in respective proceedings
Coordination of Resource Planning – Pros & Cons

• Potential benefits:
  – Consistent assumptions
  – Information feedback
  – Comparable and informative plans
  – Useful information for external planning studies
  – Economize intervenor resources

• Potential costs/risks:
  – Added workload and complexity
  – Failure to reach IOU agreement
  – Confidentiality issues
  – Due process challenges
Questions on Coordination of Resource Planning

• Does “tracking progress towards goals” in the LTPP duplicate effort in dedicated proceedings? (DRA)

• When would the Commission decide on inputs and assumptions for the 2010 LTPP? (DRA)
Analytical Process
Analytical Process - Definitions

- **Scenario** - A possible future encompassing assumptions about policy requirements, market realities and resource development choices.
- **Portfolio** - A specific set of supply- and demand-side resources that provide electric service to retail loads under a given scenario.
- **Sensitivity** - Sensitivity analysis (or “sensitivity”) is a test to measure the change in output variable (e.g., cost) due to a change in input variable (e.g., gas price). In a sensitivity, the portfolio composition remains fixed.
- **Base Case** – A set of assumptions that are generally the same for all scenarios. Individual assumptions may be changed to develop Alternative Cases.
- **Alternative Case** – A scenario or sensitivity, which varies one or more base case assumptions.
Scenario Development

Scenario 1
- Portfolio 1
  - Develop metrics & sensitivity tests

Scenario 2
- Portfolio 2
  - Develop metrics & sensitivity tests

Scenario 3…etc.
- Portfolio 3…etc.
  - Develop metrics & sensitivity tests

Present draft portfolios to stakeholders

Revise portfolios as needed

IOU selects preferred portfolio
Questions on Analytical Process

- How many portfolios per scenario? (SCE, PG&E)
- What is an “alternative portfolio?” (PG&E)
- What is the difference between scenarios and sensitivities in the context of “alternative cases?” (DRA)
- Does this necessarily require capacity expansion modeling, or is hand-built approach acceptable? (SCE)
2010 LTPP Recommended Required Scenarios

0. Natural gas-only (benchmark)
1. CARB complementary policies
2. Least-cost renewables
3. Transmission-constrained
4. Nuclear retirements
Questions on Recommended Required Scenarios

• How does the least-cost renewables scenarios reflect current law? Which scenario would look at the potential benefits of regulatory flexibility? (SCE)

• Can the nuclear studies in the SWRCB’s proposed policy replace the Nuclear Retirements scenario? (SDG&E, PG&E)
2010 LTPP Optional Scenarios

5. IOU-preferred
6. High vehicle electrification
7. Very high gas/CO2 price
8. High in-state wind
9. IGCC or new nuclear
10. Market transformation
Questions on Optional Scenarios

• Why consider an optional high-wind scenario, and not other technologies such as solar? (SCE)
• Would the IOUs be allowed to look at different levels of CHP in scenarios? (SCE)
Sensitivity Analysis

• **Natural gas prices** – Test a wide range at feasible extremes
  – e.g.: $13/MMBtu (33% RPS Implementation Analysis)

• **CO2 prices** – Test a wide range at feasible extremes
  – E.g.: $100/ton

• **Need** – More later…

• **Technology cost** (System Plan only) – Test impact on portfolio cost of significant, but feasible changes in the cost of emerging technology
  – e.g.: $3,700/kW-e for thin-film solar
Evaluation Criteria
Evaluation Criteria

• Two types of evaluation criteria
  – Metrics – Quantitative
  – Assessments – Qualitative

• IOUs weigh evaluation criteria and document rationale for portfolio selection
  – IOU-preferred portfolio for proposed adoption by the Commission
  – Alternative portfolios (one for each required scenario)

• Commission adopts preferred portfolio, whether IOU-preferred or alternative
Reliability as a Constraint, Not a Variable

• Each portfolio should meet the adopted PRM at the time of analysis.
• Staff discourages assessments of reliability benefits outside of the PRM proceeding
  – Avoid duplication of analysis in the PRM proceeding
  – Avoid unnecessary “pancaking” of reserves
# Evaluation Criteria for System Plans

<table>
<thead>
<tr>
<th>Metrics</th>
<th>Description</th>
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</table>
| **Cost**         | a) Net Present Value Revenue Requirement (utility cost), over at least 20-years and including “end-effects” after the 20-year period using a “salvage value“ approach.  
|                  | b) Total Resource Cost (customer cost and utility cost)                                                                                     |
| **Risk**         | Robust scenario and sensitivity analysis                                                                                                      |
| **GHG Emissions**| a) Total GHG emissions during each year of the planning horizon  
|                  | b) Average, per ton cost of GHG emissions abatement                                                                                         |

<table>
<thead>
<tr>
<th>Assessments</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>Environmental</strong></td>
<td>Environmental impacts of resource portfolios such as air emissions, land and water use requirements, and impacts on species</td>
</tr>
<tr>
<td><strong>Resource development timeline</strong></td>
<td>Expected timelines to achieve resource build-outs based on permitting and siting requirements, project development risk and other project development requirements</td>
</tr>
<tr>
<td><strong>Long-term GHG reductions and technology transformation</strong></td>
<td>Qualitative assessment of trajectory of GHG emissions towards 2050 goals, including assessment of potential for resource portfolios to drive long-term technology transformation to achieve GHG reductions.</td>
</tr>
</tbody>
</table>
Questions on Evaluation Criteria for System Plans

- Which metrics and/or assessments are meant to occur over a 10-year, 20-year, or longer time period? (SCE, SDG&E)
- Give an example of a “qualitative assessment of environmental impacts?” (SCE)
- What is the granularity of renewable and non-renewable resources in the timelines assessment? (PG&E)
- What is the level of standardization among IOUs on Environmental, Timelines and GHG Assessments? (PG&E)
- Give an example of a “Long-term GHG and market Transformation Assessment?”
### Evaluation Criteria for Bundled Plans

<table>
<thead>
<tr>
<th>Metrics</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost</td>
<td>Net Present Value Revenue Requirement (utility cost)</td>
</tr>
<tr>
<td>Risk</td>
<td>TEVaR and robust sensitivity analysis</td>
</tr>
<tr>
<td>GHG Emissions</td>
<td>Total GHG emissions in starting year and 10 years out</td>
</tr>
</tbody>
</table>

Any Questions?
Inputs and Assumptions
Inputs and Assumptions

1. Calculating net short
2. New resource cost and performance
3. Market price forecasts
4. Accompanying studies
   – a.k.a. Specific methodologies for Foundational Elements
   – Treated above
## Calculating Net Short

<table>
<thead>
<tr>
<th>Category</th>
<th>Source for Base Case Assumptions</th>
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<tbody>
<tr>
<td>Load growth</td>
<td>IEPR base case load forecast</td>
</tr>
<tr>
<td>EE</td>
<td>IEPR forecast of embedded and uncommitted EE and Commission interpretation of CARB goals*</td>
</tr>
<tr>
<td>DR</td>
<td>DR forecasts using D.08-04-050 Load Impact Protocols</td>
</tr>
<tr>
<td>CHP</td>
<td>Commission interpretation of CARB goals, subject to Deliverability Risk Assessment in LTPP CHP working group</td>
</tr>
<tr>
<td>Customer-side DG/CSI</td>
<td>For the 2010 LTPPs, use IEPR estimates of embedded self-generation, including CSI, SGIP, small CHP, etc.; for subsequent LTPPs, Commission interpretation of CARB goals, subject to Deliverability Risk Assessment</td>
</tr>
<tr>
<td>Resource additions and retirements</td>
<td><em>Joint-IOU Report</em> definitions for resource additions. Retirements to reflect the final OTC policy adopted by the SWRCB. If final OTC policy is pending, make reasonable estimates based on the anticipated final rule.</td>
</tr>
<tr>
<td>Re-contracting rates</td>
<td>IOU-specific for Bundled Plan only</td>
</tr>
</tbody>
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[1] See D.08-10-037 OP 1, at p. 256: “We recommend that [CARB] set [EE] requirements in its Scoping Plan at the level of all cost-effective [EE], with [EE] goals for [IOUs] set based on those adopted by the [CPUC] in D.08-07-047, and as may be revised and updated by the Public Utilities Commission from time to time.”
Need Sensitivity  
(a.k.a. Uncertainty Band)

• Purpose of the need sensitivity is to capture any feasible extremes in due to:
  – Economic, demographic or weather variables;
  – For low need: more optimistic assumptions about policy-driven resources
    • E.g., For EE, CPUC/Itron Goals Study “high EE” scenario as assessed in the CEC’s uncommitted EE forecast
  – For high need: more pessimistic assumptions about policy-driven resources

• Should only capture variability not already accounted for in the PRM

• IOUs should estimate probability of occurrence and present a rationale justifying the estimates for (1) base case, (2) high need, and (3) low need.
Questions on Calculating Net Short

- Why isn’t renewables considered in Net short calculation? (SCE)
- What would the timing be for an LTPP CHP working group? (SCE)
- Why is it necessary to assume a re-contracting rate? (SDG&E)
- How would the “likelihood” of preferred resource forecasts be quantified? (PG&E)
- How would “exports” and “net interchange” values be determined? (DRA, SDG&E)
- How would need for local resources be shown? (SDG&E)
# New Resource Cost and Performance

<table>
<thead>
<tr>
<th>Category</th>
<th>Recommended Source</th>
<th>Recommended for 2010 LTPPs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Renewable resource availability, cost and performance by location</strong></td>
<td>IOUs propose a consistent set of renewable resource availability, cost and performance data by location based on RETI and subsequent studies</td>
<td>Cost and performance data should be derived from RETI assumptions, adjusted to reflect recent cost trends</td>
</tr>
<tr>
<td><strong>Conventional and other resource cost and performance</strong></td>
<td>IOUs propose a consistent set of assumptions based on publicly-available data sources</td>
<td>Cost and performance data for CCGT plants should be based on the MPR values</td>
</tr>
<tr>
<td><strong>New generation tax and financing assumptions</strong></td>
<td>IOUs propose a consistent set of assumptions and methodology for calculating the levelized cost of energy</td>
<td>IOUs propose a consistent set of assumptions and methodology for calculating the levelized cost of energy</td>
</tr>
<tr>
<td><strong>On-peak capacity</strong></td>
<td>NQC per RA proceeding</td>
<td>NQC per RA proceeding</td>
</tr>
<tr>
<td><strong>Transmission cost assumptions</strong></td>
<td>IOUs propose a consistent methodology for calculating the transmission cost associated with accessing renewable energy zones</td>
<td>Transmission costs should be based on cost information developed by the CAISO for RETI</td>
</tr>
<tr>
<td><strong>Distribution cost assumptions</strong></td>
<td>IOUs propose a consistent methodology for calculating the distribution costs associated with each portfolio, based initially on the CPUC EE Avoided Cost methodology</td>
<td>CPUC EE Avoided Cost methodology</td>
</tr>
</tbody>
</table>

Any Questions?
Market Price Forecasts

<table>
<thead>
<tr>
<th>Category</th>
<th>Recommended Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Gas Price</td>
<td>Gas price forecasts should be based on the most recent MPR methodology, or if the MPR is no longer in use by the Commission, the IOUs should propose a consistent forecasting methodology.</td>
</tr>
<tr>
<td>Biomass &amp; Coal Price</td>
<td>IOUs propose consistent price forecasting methodology</td>
</tr>
<tr>
<td>Electricity Market Price</td>
<td>IOU-specific methodology</td>
</tr>
<tr>
<td>CO2 Price</td>
<td>MPR CO₂ forecasting methodology</td>
</tr>
<tr>
<td>GHG Policy Assumptions</td>
<td>Energy Division proposes GHG policy assumptions for stakeholder review</td>
</tr>
</tbody>
</table>

Any Questions?
Joint System Plan Alternative
Commission Goals and a Potential Coordination Gap

- Protect ratepayers from stranded costs of over-investment
- Avoid crowding out of renewable resources by fossil alternatives
- Facilitate efficient completion of the LTPP System Plan phase
- Proposed Planning Standards recommend IOU coordination on inputs, assumptions, scenarios, consistent methodologies; but is there a coordination gap?
Would a Joint System Plan Narrow the Coordination Gap?

• Would a Joint System Plan introduce more focused transmission investment?
• Would a Joint System Plan promote access to high priority renewable resources and thus limit fossil investment?
• The Joint System Plan is offered for parties’ to consider but it is not being proposed at this time.
• The Commission is open to considering staff and stakeholder proposals that address coordination gap issues, including but not limited to a Joint System Plan.
Coordinated System Plans

Coordinated Inputs/Methodology

PG&E System Plan

SCE System Plan

SDG&E System Plan

Commission Decision

PG&E Bundled Plan

SCE Bundled Plan

SDG&E Bundled Plan

Commission Decision

Joint System Plan

Identical Inputs/Methodology

Joint IOUs System Plan

Commission Decision

PG&E Bundled Plan

SCE Bundled Plan

SDG&E Bundled Plan

Commission Decision
Joint System Plan – Pros

Potential benefits

– Workload synergies and efficient use of IOU analytical resources
– Consistent inputs and methodologies
– Consistent information about progress on state policy goals
– More flexibility
– Simplify and expedite eventual approval of Bundled Plans
– Easier to administer
Joint System Plan - Cons

Potential costs/risks:
– Excessive standardization
– Logistical and process challenges
– Perception of central planning
– Perception of opaqueness
– Unintended consequences of IOU agreement
Day 2

Consecutive versus Concurrent Approaches to System and Bundled Analyses
The Timing Challenge

• “Added workload and complexity” is the biggest risk of the Staff Proposal
• Two-year cycle at risk
  – Potential complications coordinating with biennial IEPR and CEC load forecast
• Bifurcation of system and bundled phases is a possible solution
• SCE/SG&E alternative proposals?
• Parties commented on the need for more time (~6 mos.) in post-filing to prepare for hearings (DRA, SCE, Jan Reid)
  – Trade-offs between up-front process and post-filing process
Walkthrough of Example Proceeding Schedule

[See hand-out]
Process Timelines – Consecutive Option

• Pros
  – Avoids duplication of effort
  – Simplifies approval of Bundled Plans
  – More timely system need determination ~ 17 months
    • 21 months, if 6 months for post-filing
  – Allows time for Phase 2 system-versus-bundled methodology issues to be resolved

• Cons
  – Delayed approval of Bundled Plans
  – Decoupling and acceleration of Bundled Plans would mitigate, but workload impacts on IOUs, parties and the Commission may be a concern. Results in three concurrent processes:
    • R.08-02-007, Phase 2
    • System Plan
    • Bundled Plan
Process Timelines – Concurrent Option

• Pros
  – One decision, instead of two
  – Potentially enhanced coordination

• Cons
  – Duplication of effort
  – Delayed system need determination ~ 23 months
    • Over 2 years (~27 months), if 6 months for post-filing
  – Potential complications vis-à-vis Phase 2 system-versus-bundled methodologies issue
Back-up Slides
Proceeding History

• May 14, 2008 - Joint-IOU Pre-Workshop Report on Planning Standards
• May 21, 2008 - Workshop on Joint-IOU Recommendations
• June 30, 2008 – Technical assistance contract with Aspen/E3
• July 10, 2008 – Workshop on GHG Uncertainty
• August 26, 2008 – Workshop on 33% RPS Implementation Analysis
• August 28, 2008 – Workshop on Scenarios and Metrics
• August 28, 2009 – Phase 1 Scoping Memo
• June 12, 2009 – 33% RPS Implementation Analysis: Preliminary Results
• July 1, 2009 – Energy Division Straw Proposal on Planning Standards