15 April 2010

To: Demand Model Methodology Evaluation (DMME) Committee
From: Demand Forecast Energy Efficiency Quantification Project (DFEEQP)-DMME Committee
Subject: Guidelines for a Transparent Evidentiary Process

I. Background

There have been calls for improved transparency in the Energy Commission's demand forecasts from a variety of stakeholders and other state agencies. Energy Commission has been sponsoring an internal project, the Demand Model Methodology Evaluation (DMME) to review its demand forecasting processes. As part of this project, DMME is developing guidelines for a transparent evidentiary process.

A committee of the Demand Forecast Energy Efficiency Quantification Project (DFEEQP) has been working with Energy Commission's DMME project. The DFEEQP-DMME Committee has undertaken to prepare draft guidelines, and submits these to the Energy Commission's DMME project for inclusion in the final report.

II. Applicability

The guidelines provided in this document are intended to improve evidentiary quality and transparency for stakeholders who are committed to better understanding models and model results employed in Energy Commission proceedings.

The Energy Commission has committed itself to improving transparency in its demand forecasting activities, and in turn, expects all other parties sponsoring modeling efforts discussed in the Integrated Energy Policy Report (IEPR) proceeding to improve their transparency as well. The transparency guidelines proposed in this document apply to all models and modeling results discussed by stakeholders in IEPR proceedings. An effort has been made to balance the desirability of transparency with language that ensures protection of intellectual property.

III. Overarching Principles for Model Selection and/or Construction

The following general recommendations are designed to influence the selection of models for future use in Energy Commission processes, in particular, for the Energy Commission's demand forecasting efforts. They represent overarching principles and are in addition to the policies recommended for model transparency. These recommendations are from the DFEEQP-DMME Committee, but are not part of the text that constitutes the language of the proposed transparency guideline.

A. Model Flexibility
Flexible models are preferred. Models must be flexible enough to easily accommodate a reasonable number of different inputs and/or specifications.
Discussion: Stakeholders may not have the technical expertise on hand to make their own model runs, and the sponsoring party may lack resources to conduct changes in inputs and/or specifications if the model is not sufficiently flexible to be readily changed with updated or alternative information.

B. Clarity
Models designed in a manner that enables experienced professionals to understand their structure, components, inputs and outputs are preferred.
Discussion: Models will necessarily vary in terms of complexity and clarity. To the degree possible, models should be designed in a manner that allows stakeholders the opportunity to understand them and to more become involved in forecasting processes in their area of interest.

C. Process
A process that facilitates stakeholder understanding of and input to modeling activities, that enables decision-makers to understand complex issues, and that enhances the quality of modeling results is preferred.
Discussion: Due to the complexity of key modeling processes, stakeholders and even policymakers may have difficulty fully understanding the processes, inputs, outputs, and weighing the merit of critiques and alternatives. A process guided by one or more qualified experts can assist stakeholders and policymakers in participation and decision-making while simultaneously helping to ensure timely results.

IV. Recommendation Categories

The recommendations are formulated in several key categories. First, an evidentiary process is proposed, including: 1) an officer to design and implement the process, guide discussion of models and model results, set priorities and ensure timely results; and, 2) an independent expert review panel to provide technical expertise and recommendations, and in particular to consider long-term multi-cycle issues and to facilitate learning over time. The second category addresses model transparency through 1) documentation of the computer model and results; 2) access to the model itself and/or to alternative model runs or specifications; and, 3) recommended ethics standards for modelers.

These components of the transparency guidelines and administrative process are mutually reinforcing. Sponsoring entities are required to prepare and submit documentation regarding their model(s), data inputs and sources, structure and specifications, and outputs. There are provisions in the guidelines to allow stakeholders access to models and data and/or to participate in a process wherein the sponsoring entity prepares runs with alternative data and/or specifications. A modeler's code of ethics is included both to ensure that professional standards are upheld and to provide protection against potential undue influence on modeling processes or results. An

officer will oversee and facilitate the evidentiary process with the assistance of an expert panel convened to aid in interpretation of complex modeling issues. Provisions are included for protection of intellectual property and confidential information. Stakeholders requesting access to models, data and/or modifications to modeling specifications are required to provide their request in writing together with justification in support of their petition.

Taken together, these components of the transparency guideline will serve to ensure that models, input data, and results can be understood by stakeholders and policymakers, and in instances where information is less forthcoming (e.g., for protection of proprietary and/or confidential information or other reasons) the quality and completeness of such documentation can be considered in decision-making processes. This provides appropriate incentives to sponsoring entities to submit quality, transparent information, while providing avenues for stakeholder participation and protection of proprietary information all within the context of a managed and timely process.

Most importantly, the recommendations interact to serve both a) the near term requirements for a well reasoned resolution of complicated issues within the time available for a given cycle; and, b) the long term requirements for establishing an efficient collective learning process by helping to identify high priority questions that merit further analytical refinement for the next cycle.

V. Comments from DFEEQP Working Group

Comments were solicited from and submitted by stakeholders in the DFEEQP Working Group. These comments have been incorporated into the transparency guidelines.

Appendix B1:

Section 1: Introduction

1.01 Transparent Evidentiary Process -- Purpose
A transparent evidentiary process will facilitate stakeholder participation in Energy Commission processes. Ideally this will improve outcomes by enabling stakeholders and policymakers to better understand complex models, to have input during the process, and to comment effectively on model results and the policy implications of those results. Ultimately, this will help ensure that stakeholders and policymakers can trust the outputs of models employed in the Energy Commission's processes.

1.02 What is Transparency?
For these recommendations, transparency can be broadly defined as efforts to make it possible for interested parties to better understand, interpret, and participate in reviewing information employed in Energy Commission proceedings, including modeling efforts. Transparency incorporates activities to provide a process that would make available the kind of information that is helpful for all interested parties to reach meaningful interpretations and judgments about the validity and associated range of uncertainty corresponding to model assumptions, structure, specifications, and other relevant model performance characteristics.

1.03 Basis for Recommendations
These recommendations are based on stakeholder positions regarding the Energy Commission's processes.

1.04 Definitions
"Model" means an analytical tool that accepts data inputs and produces outputs based on a simulation or prediction methodology that relies on an internal specification regarding how outputs are affected by the inputs, and is typically designed to yield results for use in policy discussions or policy-making.
"Stakeholder" refers to an entity that has a "stake" in the outcome of the process by which various model results will be adjudicated, whether that stake is financial, political, or ideological.
"Sponsoring party" means an entity that is primarily responsible for submitting key data or the results of modeling efforts that are used in proceedings at the California Energy Commission.

1.05 Roles of Stakeholders and Sponsoring Parties
Stakeholders may review and comment upon the quality of information employed in the proceeding, model inputs, specifications and results and may participate in decisions regarding additional model runs, specifications and/or output formats, providing that requests and participation are reasonable, contributory, material and not excessive. Stakeholders that submit model results, alternative data inputs and/or specifications

shall do so subject to the transparency guidelines and shall become sponsoring parties for the material submitted for consideration in the proceeding.
Discussion: Stakeholders become sponsoring parties if they sponsor submission of this type of information for consideration in the proceeding.

1.06 Protection for Proprietary and Confidential Information
The evidentiary processes and transparency guidelines provide for protection of proprietary and confidential information (see Section 3.01).
Discussion: It is necessary to protect adequate protections for confidential and proprietary information.

Section 2: Evidentiary Process

2.01 Oversight
The Energy Commission shall monitor, facilitate and adjudicate all formal and, as appropriate, informal interactions between stakeholders and sponsoring parties with regard to models, including inputs, model specifications and results.
Discussion: An evidentiary process is required, but Energy Commission retains flexibility in decisions regarding implementing the system.

2.02 Officer
The Energy Commission shall designate a person or entity (an "Officer") to conduct the evidentiary process.
Discussion: The Officer will serve in an administrative role to conduct and manage the process for the Energy Commission.

2.02.01 Responsibilities
The Officer shall develop and monitor the evidentiary process, facilitate communication among and elicit information from stakeholders to establish a record, ensure that requests are processed in a timely and appropriate manner, and resolve disputes.

The Officer shall:
1. Design and facilitate the process, and establish guidelines for participation.
2. Facilitate development of a written record.
3. Ensure that the transparency guidelines are followed.
4. Build consensus and agreement through negotiations and compromise to resolve a variety of issues.
5. Solicit input from the expert Panel and stakeholder working group(s).
6. Make sound decisions and explain the rationale for those decisions.
7. Work cooperatively with all levels of the Energy Commission and Energy Commission staff, sponsoring parties and stakeholders.
8. Communicate clearly and effectively verbally and in written communication.
9. Analyze a variety of problems in the light of applicable principles and exercise independent judgment in arriving at conclusions.
10. Resolve disputes.

Discussion: The Officer has broad responsibilities to manage and facilitate the process on behalf of the Energy Commission.

2.03 Components
The evidentiary process shall be realized through the activities defined in this section.

2.03.01 Schedule
The Officer shall determine a schedule by which workshops, hearings, testimony and public requests will be incorporated into the proceeding.
Discussion: The Officer will be responsible for ensuring that the process proceeds in a timely fashion.

2.03.01a Prioritization
The Officer shall establish priorities for evaluating models, inputs and model results, considering issues including but not limited to: available resources, timeline, reasonableness, materiality, data quality and availability and likely magnitude of the effects of alternative data and/or specifications on the anticipated results.
Discussion: The Officer will set the agenda and priorities for a given cycle. Priorities must be established in order for the process to proceed in a meaningful and timely fashion.

2.03.01b Postponement
The Officer may determine that certain issues should be postponed for consideration in subsequent cycles, based on input from the expert Panel.
Discussion: The expert Panel will be charged with taking a longer-term view and is expected to provide input regarding prioritization of issues spanning multiple cycles. The Officer will make final decisions regarding scheduling for a current cycle but will be expected to defer to the expert Panel regarding multi-cycle issue prioritization.

2.03.02 Quality and Formats of Inputs and Outputs
The Officer shall establish processes to ensure that information and other relevant material submitted and/or discussed in the evidentiary processes is reliable, credible and complete, and that data, information and reports are supplied in the proper formats to the extent feasible and reasonable.

2.03.02a Review
The Officer shall develop processes to review information submitted into the proceeding for credibility, completeness and quality.
Discussion: This mechanism will allow for review of material submitted to or discussed during the proceeding.

2.03.02b Recommendation
The Officer shall facilitate development of recommendations and requirements to ensure that information submitted and/or discussed in the evidentiary processes is reliable, credible and complete, and that data, information and reports are supplied in the proper formats to the extent feasible and reasonable.
Discussion: This mechanism will provide opportunities for feedback to sponsoring parties regarding data and information quality and formats.

2.03.03 Particular Adjudication
The Officer may order any, or all, of the sponsoring parties to incorporate a particular input assumption or specification in model runs and may require sponsoring parties to incorporate data and/or assumptions in model runs that are entered into the record.

Discussion: It is the Officer's prerogative to request a particular model run in order to better understand specific analytic issues, and the Officer may require such runs to be entered into the record. However, sponsoring parties will retain the ability to endorse their preferred version. Sponsoring parties will not be required to change their overall analytic approach.

2.04 Stakeholder Working Group(s)

The Officer shall convene and/or have access to one or more stakeholder working groups, with membership selected by the Officer, as a means for informing stakeholders regarding the evidentiary process and obtaining stakeholder input.

Discussion: The stakeholder working group(s) will include key stakeholders and other entities as deemed reasonable by the Officer.

2.05 Expert Panel

The Energy Commission shall convene a panel of highly qualified professional practitioners and/or experts ("Panel") to provide independent validation, review, and critique of all modeling based analyses and their components, provide advice on technical matters to the Officer, and on related matters at the request of the Officer. The Panel shall provide expertise to assist the Officer as needed during a given cycle, but shall have particular responsibility for considering long-term, multi-cycle issues and shall establish priorities for and recommend improvements for future cycles.

2.05.01 Responsibilities – Current Cycle

The expert Panel shall assist the Officer by providing council, review and recommendations at the request of the Officer to assist the Officer in making decisions within the evidentiary process and shall prepare reports and render opinions on matters as requested to do so by the Officer.

Discussion: The Panel will provide expertise to assist the Officer during the evidentiary process.

2.05.02 Responsibilities – Multi-cycle

The expert Panel shall have specific responsibilities for addressing complex, multi-cycle issues, and shall recommend priorities and improvements for future cycles.

Discussion: While the Officer is responsible for managing activities during a given cycle, the expert Panel will study and set priorities for addressing complex issues that require long-term approaches and perspectives.

2.05.03 Membership

The expert Panel shall be composed of approximately 3-5 highly qualified experts, selected by the Energy Commission, serving for terms established by the Energy Commission.

Discussion: The Energy Commission will select the expert Panel.

2.05.04 Administration

The expert Panel shall report to the Officer from an administrative perspective.

Discussion: The Officer will monitor, manage and facilitate the evidentiary process.

2.05.05 Independence
The expert Panel and each member thereof shall retain full independence of opinion as related to validation, review, and critique of all modeling based analyses and their components, and may submit information, reports and analyses in the evidentiary process.
Discussion: The expert Panel will report to the Officer from administrative perspective but their opinions do not need to conform to the Officer's preferences – they can be entered into the record independently.

2.05.06 Preference for Consensus
Members of the expert Panel are expected to reason in good faith with the goal of achieving agreement of opinion on key issues, but dissenting opinions will be made available to the Officer and may be entered into the record by the Officer and/or members of the Panel.
Discussion: The Officer (and ultimately the Energy Commission) will need to rely on the opinion(s) of the Panel and thus it is best if they reach consensus, but they are not required to do so.

2.05.07 Audience for Work Products
The expert Panel shall prepare reports and analyses in a manner suited for public and stakeholder review, but may also prepare reports or materials that contain or discuss proprietary and/or confidential information, and if so, the information will be made available only in accordance with appropriate non-disclosure guidelines.
Discussion: Key work products from the expert Panel will be intended for the public, but the Panel may also provide review and analyses related to proprietary or confidential material. Thus, some of the information prepared by the expert Panel may not be made available publically and/or may be modified to accommodate public review.

Section 3: Transparency Guidelines

3.01 Limitations and Proprietary and/or Confidential Information
Sponsoring parties shall comply with the transparency guidelines to the extent practicable while simultaneously following applicable rules governing disclosure of proprietary information, intellectual property and confidential information including but not limited to confidential customer information. Sponsoring parties shall meet their obligations as outlined in 3.01.01-3.01.03 with respect to their model or models, including input data, structure, algorithms and outputs.

3.01.01 Comply with the Transparency Guidelines
Sponsoring parties shall provide information and access in compliance with applicable sections of this document.
Discussion: Sponsoring parties must follow the guidelines.

3.01.02 Use Non-Disclosure Agreements
If sponsoring parties cannot fully meet obligations under 3.01.01 without non-disclosure agreements, sponsoring parties shall meet obligations under 3.01.01 by engaging in agreements to protect proprietary and confidential information, provided that such agreements are practical and would adequately protect such information pursuant to section 2505(a)(5)(B)1.a of the Energy Commission's confidentiality regulations (Cal Code Regs., tit.20, 2501 et seq.).
Discussion: Sponsoring parties must strive to provide information and access in a manner that is transparent for stakeholders and the public. In instances where providing information publically would constitute disclosure of proprietary and/or confidential information, an option for protecting such information may be to provide protected material to the Officer and/or the expert Panel and/or others, under appropriate non-disclosure agreements.

3.03.03 Justification for Withholding Information
Sponsoring parties shall provide sufficient justification, if requested, to explain why some material or access, if any, cannot be provided in accordance with the transparency guidelines.
Discussion: Sufficient justification must be given if information or access cannot be provided.

3.02 Model, Input and Output Documentation
In order for stakeholders to adequately represent themselves and raise issues with a model, the model must be sufficiently documented in terms of model logic (basic processes which link inputs to outputs), inputs, outputs, equations and other such materials that can aid analysis of the information. The following material shall be prepared and shall be made available by the sponsoring parties to one another as well as other stakeholders upon request.

3.02.01 Documentation for Inputs and Input Data Sources

All inputs and input data sources will be clearly documented including name, vintage, source, rationale, and description/reasoning for any modifications to previous model runs.
Discussion: In order to most effectively evaluate model results, stakeholders and policy-makers will need to know which inputs were chosen, why they were chosen, which data sources were used, and, in the event that changes were made to prior submitted versions, accompanied by an explanation of why the changes were deemed necessary.

3.02.02 Model Manual
The model shall have a written manual that can be understood by an experienced professional, and shall contain, at a minimum, the information specified in Sections 3.02.02.a-3.02.02.c below.
Discussion: The manual does not need to be written such that anyone can understand it. Having a manual that can be understood by practitioners will be more important.

3.02.02.a Variables
A complete list of variables (input record types), input record formats, and a description of how the variables are used in the model.
Discussion: This is to provide a reference to help understand how the logical processes work.

3.02.02.b Model Operation and Logic
A complete description describing how the model operates and its logic.
Discussion: This includes, but is not limited to, equations, algorithms, flow charts, or other descriptive techniques.

3.02.02.c Diagnostics and Outputs
Description of diagnostics and output report formats.
Discussion: Additional information is often required to understand the model's operation and results.

3.02.03 Post-Processing Requirements for Outputs
Description(s) of post-processing requirements shall be provided.
Discussion: Understanding what post-processing was done will aid stakeholders in understanding what modifications are made to outputs.

3.02.04 Uncertainties and Caveats
Information regarding sources of uncertainty in the modeling results including interdependence among those uncertainties, and the potential range and/or effects of uncertainty on model results shall be provided together with caveats regarding the appropriate use and interpretation of results.
Discussion: Understanding the range, nature and potential effects of uncertainty, and caveats regarding interpretation of the results, is necessary for good policy-making.

3.02.05 Definitions of Terms
Terms shall be clearly described, ideally in a glossary.
Discussion: It is necessary for terms employed in the model, specifications, inputs and outputs to be clearly described.

3.02.06 Model or Information Updates
Any information modified or updated as relates to Sections 3.02.01-3.02.05, and entered into the proceeding, shall be provided to any entity that has previously requested information in the current modeling cycle.
Discussion: Stakeholders must have access to the most current information as it becomes available and is entered into the relevant proceeding.

3.02.07 Records Maintenance – Near Term
Copies of models and documentation discussed during the proceeding shall be maintained in the original form for at least 90 days after relevant clearing dates.
Discussion: Stakeholders must be able to have access to older versions of information until a final decision has been made on what version of the model (or models), inputs, outputs, and other information is adopted. Clearing dates could be, for example, the publication of a key document such as the preliminary forecast, and will be specified in the schedule.

3.02.08 Preservation of Final Approved Records and Models
Copies of final approved inputs, outputs, models, and all other data employed in the proceeding must be maintained in original form for at least 10 years after the adoption of approved information by the appropriate authority. Such records may either be: 1) retained by the sponsoring party, or, 2) provided to the Energy Commission for retention, following applicable guidelines for non-disclosure of proprietary and/or confidential information.
Discussion: The final approved versions of models and information submitted in the proceeding will need to be maintained for a longer period of time, due to their employment in other forums.

3.03 Access to Models, Input Data, and/or Alternative Specifications
In order for stakeholders to adequately represent themselves and raise issues, they may require opportunities to explore model operations and/or the effects of alternative inputs, specifications, and/or output formats.

3.03.01 Model Access Requests
Any stakeholder requesting model access will serve on the sponsoring party a written request meeting the requirements as outlined in Section 3.03.02. The sponsoring party will, at its election, if the request is granted, provide access as listed in Section 3.03.05 and/or alternative model runs as specified in Section 3.03.06 within a reasonable period of time as defined in Sections 3.03.03 and 3.03.04.
Discussion: Written requests help ensure that requests are thoughtfully prepared and entered into the public record, and serve to facilitate an appropriate and timely response from the sponsoring party.

3.03.02 Written Requests
Written requests shall include the information outlined below. Model access requests must contain information specified in 3.03.02.a and 3.03.02.b. Requests for additional runs to be conducted by the sponsoring party must contain requirements listed in 3.03.02.a-3.03.02.f.
Discussion: This ensures that the request is entered into the record. This rule is designed with the intention of encouraging legitimate, reasonable requests while discouraging frivolous requests.

3.03.02.a The nature of the request i.e., (model access and/or additional runs).
Discussion: This will help ensure that requests are thoughtfully prepared and aid the sponsoring party in understanding the request.

3.03.02.b The rationale for the request.
Discussion: This will help ensure that requests are thoughtfully prepared and aid the sponsoring party in understanding the request.

3.03.02.c How the request relates to their interest or position.
Discussion: This will help ensure that requests are thoughtfully prepared and aid the sponsoring party in understanding the request.

3.03.02.d Description of the level of participation that has been undertaken to engage with the sponsoring party during development of model runs and/or public or stakeholder discussions.
Discussion: Stakeholders requesting modeling runs should avail themselves of opportunities (if any) the sponsoring party has offered to discuss the modeling effort and/or obtain input.

3.03.02.e Expectations regarding the outcome or range of outcomes addressed by the additional activity.
Discussion: This will help ensure that requests are thoughtfully prepared and aid the sponsoring party in understanding the request.

3.03.02.f Estimate regarding the material implications of such outcomes on any results produced by the modeling effort.
Discussion: This will help ensure that requests are thoughtfully prepared and aid the sponsoring in understanding the request.

3.03.03 Written Response from Sponsoring Party
The sponsoring party shall reply, within 5 business days of written receipt of a request, indicating whether the request is complete and clear, and providing information regarding the manner in which the request will be processed, including a timeline.
Discussion: This ensures that the response has been received, read, and understood.

3.03.04 Timely and Reasonable Response
Access to the model or additional run request should be made available or conducted (as applicable) within 30 days of receipt of the request, unless the sponsoring party includes justification in their reply for why the 30 day timeframe cannot be met and/or why the request cannot be granted.
Discussion: Timely access to runs are critical to allowing parties adequate time to conduct their own runs of the model and/or participate in a process to propose and understand the results of alternative runs or specifications.

3.03.05 Provision of Access
The sponsoring party may grant requests for access to models and/or provide input data as follows in Section 3.03.05.a-3.03.05.d, and provided that the requests are reasonable and material. Additional information and support is required only as provided in Section 3.02 (model documentation).
Discussion: The sponsoring party has several options for responding to requests for access. Provision of access does not obligate the sponsoring party to provide training for, or otherwise perform actions for the requesting party, except as related to model documentation. Requests that are reasonable and credible will be preferred. Requests that may materially or substantively affect outcomes will have priority. Excessive requests will likely be denied and frivolous requests will be denied.

3.03.05.a Provide access to the model on the on sponsoring party's own computer.
Discussion: This does not obligate the sponsor to provide training for, or otherwise perform actions for the requesting party, except as related to model documentation.

3.03.05.b Make the model available for use by the requesting party on one of the requesting party's computers.
Discussion: This does not obligate the sponsor to install, provide training for, or otherwise perform actions for the requesting party, except as related to model documentation.

3.03.05.c Make the model available through an external service.
Discussion: As a third option, the sponsoring party can make the model available through a third party, if it does not want to make either its own facilities accessible, or provide it directly to the requesting party.

3.03.05.d Provide input data and files
The complete set of input data (or files) as used in the sponsoring party's computer runs will be available upon request.
Discussion: Stakeholders should be able to see the input data as employed in the computer run. This allows stakeholders to see how the data are used and to check for any errors or to prepare information for alternative runs.

3.03.06 Additional Model Runs or Alternative Specifications

The sponsoring party shall make provisions to perform a limited number of additional model runs, and/or alterations to model specifications if requested to do so by one or more stakeholders, provided that the requests are reasonable and material, subject to the requirements in this Section.

Discussion: Some stakeholders may wish to understand the implications of alternative model runs or specifications but it may not be feasible or practicable for them to do so by obtaining access to the model as provided for in Section 3.03.05 above, including meeting the requirements for protection of intellectual property and/or confidential information. In making determinations regarding requested alternatives, factors including but not limited to available resources, timeline, reasonableness, materiality of the request, data quality and availability and likely magnitude of the change on the anticipated results may be considered. Requests that are reasonable and credible will be preferred. Requests that may materially or substantively affect outcomes will have priority. Excessive requests will likely be denied and frivolous requests will be denied.

3.03.06.a Selection of Alternative Runs, Inputs, Specifications or Output Formats

A series of approximately 3-5 different key categories for changes to inputs, specifications and/or output formats shall be proposed and vetted. Once the key inputs or alternative specifications have been identified, a similar process will be conducted to select the values used for the input categories and/or describe the alternative specifications or formats.

Discussion: In making determinations regarding requested alternatives, factors including but not limited to available resources, timeline, reasonableness, materiality of the request, data quality and availability and likely magnitude of the change on the anticipated results may be considered. The number of key categories and/or values considered in this process may be changed with sufficient justification. The number of runs or alternative specifications must be managed to control costs and timelines, but opportunities for considering alternatives are important to for a public process.

3.03.06.b Model Changes

Sponsoring parties may be required incorporate particular input assumptions or specification into model runs that are entered into the record.

Discussion: Analyses incorporating specific input assumptions and/or specifications may be required in order to better understand specific analytic issues. However, sponsoring parties will retain the ability to endorse their preferred version. Sponsoring parties will not be required to change their overall analytic approach.

3.03.06.c Model Changes

The sponsoring party does not have to make permanent changes to its model(s), but if the changes are not incorporated, the sponsoring party shall provide the justification to the requesting party, pursuant to 3.03.03 and 3.03.04.

Discussion: If an alternative model run or configuration yields a substantial change in results, then exploring whether or not the model should be permanently adjusted is warranted.

3.04 Code of Ethics

The following basic guidelines are expected of all modelers performing analyses employed in policy discussions or regulatory proceedings at the Energy Commission.

Discussion: This code is included with the specific intent that it both expects modelers to follow ethical guidelines and in so doing, seeks to protect them from pressure, real or perceived, to conduct analyses and/or use data or methods that may yield results that are materially or avoidably biased and/or misleading.

3.04.01

Modelers shall recommend and employ only those tools and methods of analysis and data sources that, in their professional judgment, are well suited to the problem at hand.

3.04.02

Modelers shall select and employ research tools and methods of analysis designed to yield fair and unbiased conclusions.

3.04.03

Modelers shall not knowingly make or support false or misleading interpretations of results or tacitly permit interpretations that are inconsistent with the available data.

3.04.04

Modelers shall not knowingly imply that interpretations should be accorded greater confidence than the data actually warrant.

3.04.05

If modelers determine that certain methods or the application of certain data sources or modeling results are likely to produce misleading information or conclusions, they have the responsibility to communicate their concerns and the reasons for them.