Hello CEC Public Benefits Staff: June 1st, 2011, 2:10pm Docket # 11-1-IEP-1N

My comments on your Workshop build on Tom Conlon's comments. Hopefully, I can maintain his friendly diplomatic tone. I am writing as a member of the general public, and not as any official group or consulting company.

First, as Tom notes, much PIER work has been done at the contract level, leaving the database solutions recommended by Vanessa Kritlow as an opportunity to link higher level goals to programs and budgets as "Feedback Loop and work flow process" methods to be further developed.

Tom Conlon, and your staff, both address 4 big ideas but with some differences. I too add distinctions in ***bold italics*** to:

1. Workflow and Work Plan integration ***at multiple levels over ten year Energy Futures Horizon;***

2. Staff training ***and Senior Staff collaborations in strategic performance KPIs as well as benefit assessment tools and methods;***

3. Database Enhancements ***to the Resources Agency and State Enterprise Architecture Initiatives linked to CEC's IT capital investment plans;***

4. ***Consultant's Contracts***. Smart Word xml Templates, and continuous process improvement.

1- Workflow "Information" Integration: Focus upon high level Energy Interagency Goals

As Tom Conlon notes, Staff assumes a "Contract Document" perspective rather than an Agency or Interagency mission perspective. Chair Robert Weisenmiller identified an Inter-Agency Energy Roadmap as important to this IEPR 2011 process, expanded below. CEC is the single most important research organization, and the Roadmap's Chart format demonstrates where other agencies align, and where dependencies between agencies needs special attention.

The Energy Futures' work flow planning begins, ideally, with the 5 PIER mandates under AB 1890 and any additional legislated mandates. From these inputs, senior staff develop more specific requirements as a Research Plan Portfolio and creatively develops a Statement of Work with evaluation criteria and operational definitions semantically crafted from the mandates so there is traceable alignments up and down the organizational levels. Each Contract (RFP) includes a Statement of Work (SOW) and a Word Template for reporting the results of that work on the evaluation criteria dimensions, thus assuring a robust cycle across the next ten year time horizon.

With smart technology and web semantics (xml, xsd, RDF, etc.) each proposed contract can be evaluated prior to work, during the work, and after the work on the respective dimensions or themes.

But rather than using Tom's recommended themes, why not use what Chair Robert Weisenmiller recommends using in his Revised Scoping document? **http://www.energy.ca.gov/2011_energypolicy/notices/2011-03-30_Revised_Scoping_Order.pdf**

Specifically, the first page of that document (attachment # ___) addresses three bullets, and I direct your attention to bullet # 1 and #3.

Bullet #1 - most forcefully, directs attention to Gov. Brown's 8 Elements and a Roadmap - Implementation Plan. While he does this via footnote - I have spent almost a week working thru the ramifications and implications for improved interagency information sharing and collaboration on state Energy Priorities. The LAO report by Mark

Newton (319-8323 or mark.newton@lao.ca.gov) also implies a visual and dynamic **Roadmap** would reduce redundancy between agencies and limit the scope of research to prioritized needs as they evolve over the next decade.

1. Gov. Brown's 8 elements available at **http://www.jerrybrown.org/sites/default/files/6-15%20Clean_Energy%20Plan.pdf**
2. The CCEF website contains a one page Interagency Roadmap

http://www.cacleanenergyfuture.org/common/CCEF%20Roadmap_vFinal.pdf

3. And a 121 page "Users Manual" **http://www.cacleanenergyfuture.org/common/CCEF%20Implementation%20Plan_vFinal_2a.pdf**

What is partially implicit here is how the CEC's stated Enterprise Architecture document (Sept. 2008 - http://www.itsp.ca.gov/pdf/0540-3360-ITCP.pdf) relates to State CIO level strategic plans and Resource Agency strategic plans. I do not want to step on toes by ignorance, but the use of MetaVista consultants as Enterprise Architects by the CEC might be effectively used to help integrate not just the CEC but the other State Energy Agencies as represented by the Roadmap referenced by Chair Weisenmiller in the above document. Essentially, you can view this Roadmap as a simple demonstration of phase 1 of a larger knowledge and data management framework described in detail by NASCIO documents available to the State Enterprise Architect (EA) - Lee Mosbacher. If these EA ideas are already being evaluated I apologize.

Bullet #3 - Review and evaluation of the PGS - is partially resolved by this May 19, 2011 Workshop on Benefits Assessment. However, alignments between Gov. Brown's 8 points, the 5 + criteria mandated by AB 1890, and the overarching but possibly conflicting goals represented by the 54 distinct workflows listed in the Inter-Agency Roadmap promise exciting dialogs and value modeling between stakeholders well before the January 1, 2012 sunset of Electricity funded PIER research.

Looking closely at the 1 page INTERAGENCY ROADMAP to achieving legislated Energy Goals across the key agencies on a ten year event horizon: "A good display is worth 20 IQ points" as an Apple Fellow once claimed.

Check the Legend at the bottom right hand side and note the implications for improved information coordination within and between the key agencies; perhaps supported by the CEC's proposed Enterprise Architecture plans and team members (Gov's Energy Czar, MetaVista consultants, the State Enterprise Architect, CEC IT staff, and Roadmap Visio designer K Parker, etc.)

2. Staff training and Senior Staff collaborations in strategic performance KPIs as well as benefit assessment tools and methods;

Key Performance Indicators are widely discussed in the literature, and the Roadmap provides opportunities for senior managers to clarify the semantics of terms used on the far left side of the chart and expose natural conflicts between goals and metrics by asking and getting answers to the kinds of questions posed in specific RFPs and IEPR workshops. Junior staff development and training follow logically from strategic level development and process level development. Much literature is available from the Process Management disciplines on the web and in tutorial forms. My personal preference is Paul Harmon's recent work on current practices. Staff's recommendations are sound, but just need an expansion in scope in order to achieve the AB 1890 goals.

3. Database Enhancements to the Resources Agency and State Enterprise Architecture Initiatives linked to CEC's IT capital investment plans;

Simply stated, your organization already has the foundation in place within your IT department's liaison with other IT departments and the Office of State CIO. Contracts have been made with MetaVista for Enterprise Architecture and Service Oriented Architecture development. XML Schema and Resource Description Framework (RDF) standards and tools are at hand. Federal services to support MetaVista's bold tasks should be known. Using sound knowledge acquisition methods, many of your recent RFPs for Knowledge about Building technology and information technology as well as building performance measurement (and commissioning) will provide excellent and reusable content.

4. Consultant's Contracts. Smart Word xml Templates, and continuous process improvement.

Both Tom's and Vanessa's documents connect consulting contracts with data on results expected, results actually achieved, and variance. Connecting the processes so they work as smoothly as a web-based reservation service like Expedia and a knowledge base like Wikipedia is a bit more complicated. Word 2010 contains the tools for smart Templates developed around the semantics of Benefit Assessment Reporting on State Energy Solutions.

Different disciplines must be involved in these efforts, and different agencies have different cultures and philosophies of operation. Political realities are well known barriers to the many innovations your workshop has identified. But California State Government is not alone, and I would like to point you to a recent NIST Summit conference as a free resource, if you ask.

In Conclusion:

Thank you for allowing us the opportunity to make suggestions. My assumptions about the "real problem" you face may be off focus. My primary focus is the benefits possible from Chairman Weisenmiller's listing of 3 documents in a footnote. I apologize if the assumptions I have made about the depth and breadth of resources around the Roadmap are too naïve.

Regards,

Bob

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STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION

In the Matter of:	)	Docket 11-IEP-1
	)	
Preparation of the	)	Committee Revised Scoping Order
2011 Integrated Energy Policy Report	)	

COMMITTEE REVISED SCOPING ORDER

In this order, the California Energy Commission's Integrated Energy Policy Report Committee (Committee) revises the scope of the *2011 Integrated Energy Policy Report* (*2011 IEPR*). The initial Scoping Order was issued August 31, 2010. Chair Robert B. Weisenmiller is the Presiding Member and Commissioner Karen Douglas is the Associate Member of the Committee.

Revisions to the *2011 IEPR* scope include:

- Addressing the energy policy priorities for energy efficiency, renewable resources (distributed and utility scale), energy storage, and combined heat and power facilities that are articulated in Governor Brown's Clean Energy Jobs Plan, along with specific approaches from the California Clean Energy Future roadmap and implementation plan.[1]
- Consideration of public safety and energy reliability implications emerging from investigations related to the natural gas explosion in one of the pipelines in Pacific Gas and Electric Company's natural gas transmission system in San Bruno, San Mateo County, on September 9, 2010.
- Review and evaluation of the Public Goods Charge and related program funding, particularly for renewable technologies and public interest research, which were established by Assembly Bill 1890 (Brulte, Chapter 854, Statutes of 1996) and extended by Assembly Bill 995 (Wright, Chapter 1051, Statutes of 2000) and Senate Bill 1194 (Sher, Chapter 1050, Statutes of 2000) through January 1, 2012.

[1] The Governor's Clean Energy Jobs Plan is available at: http://www.jerrybrown.org/sites/default/files/6-15%20Clean_Energy%20Plan.pdf. The California Clean Energy Future roadmap and implementation plan, which were prepared under a partnership between the California Energy Commission, the California Air Resources Board, the California Public Utilities Commission, the California Environmental Protection Agency, and the California Independent System Operator, are available at http://www.cacleanenergyfuture.org/.

Background

The Public Resources Code requires the Energy Commission to prepare and adopt an Integrated Energy Policy Report (IEPR) every two years beginning in 2003, with an update in the intervening years. The IEPR presents an assessment of all aspects of energy supply, demand, production, transportation, delivery, distribution, and price. The objective of the IEPR is to evaluate market trends and develop energy policies that will "conserve resources, protect the environment, ensure energy reliability, enhance the state's economy, and protect public health and safety." (Public Resources Code § 25301[a])

On March 24, 2010, the Energy Commission adopted an Order Instituting Informational Proceeding to gather and assess information from market participants to be used in developing the *2011 IEPR* and to delegate authority to develop the *2011 IEPR* to the Committee. The information and data collected during the current proceeding will provide the robust and complete record needed for the Committee to make its energy policy recommendations to the full Energy Commission.

The Public Resources Code also directs state government entities to carry out their energy-related duties and responsibilities using the information and analyses contained in the IEPR. Therefore, the Committee will coordinate closely with other agencies during this proceeding to ensure consistency in the underlying information that is used to develop policy recommendations in this report that may affect those agencies.

Scope of the *2011 Integrated Energy Policy Report*

The *2009 IEPR,* adopted in December 2009*,* identified many challenges associated with implementing California's energy policy goals. The report recommended policies and actions in each of California's energy sectors — electricity, natural gas, and transportation — to reduce energy demand and greenhouse gases, develop a broader range of alternative energy resources, improve energy infrastructure, and continue to develop and adopt the "clean energy" technologies that are critical for long-term reliability and economic growth.

In the *2011 IEPR*, the Committee intends to focus on the most effective approaches for implementing Governor Brown's Clean Energy Jobs Plan, building off the California Clean Energy Future vision. The Clean Energy Jobs Plan highlights energy efficiency goals like reducing peak energy demand, making new homes and commercial buildings in California "zero net energy," adopting stronger appliance efficiency standards, and using more efficient technologies such as combined heat and power projects to generate electricity. It also includes the Governor's goals to increase renewable electricity in California by adding 12,000 megawatts of localized electricity generation, 8,000 megawatts of large-scale renewables, and the energy storage capacity to help integrate these renewable resources into the electricity delivery system. The *2011 IEPR* will explore the challenges to meeting these goals and propose programs and policies to address those challenges.

In addition to evaluating the best approaches to implement Governor Brown's Clean Energy Jobs Plan, the *2011 IEPR* – consistent with its mandate to assess energy issues affecting public health and safety – will consider new information from investigations related to the 2010 natural gas pipeline explosion in San Bruno. The IEPR proceeding will address how the San Bruno event and any regulatory changes resulting from the subsequent investigations may affect the state's goal of maintaining a safe, reliable, efficient, and affordable energy system. The areas of power plant siting and analyses of the ability of California's integrated electricity and natural gas systems to serve all demand will receive particular focus. The Energy Commission will work with the state's energy agencies to support planning and siting efforts needed to assure that the state's energy delivery systems do not allow such tragedies to occur again.

The *2011 IEPR* will consist of a set of subsidiary documents that are anticipated to be published from July through September 2011, followed by a summary document outlining the major findings and policy recommendations in those volumes that will then be proposed for adoption by the Energy Commission in December, 2011. The subsidiary documents will cover the following general topic areas:[2]

- **Energy Efficiency**
  - Status of Assembly Bill 758 (Skinner, Chapter 470, Statutes of 2009) program to increase energy efficiency savings in existing homes and other buildings, including those that are publicly owned.
  - Consumer information programs regarding energy use in individual homes, cost-benefits of retrofit choices, and incentives and financing options.
  - Status of California's efforts to make new homes and commercial buildings zero net energy consumers by 2030.
  - Consideration of stronger appliance standards for lighting, consumer electronics, and other products.
  - Development of new combined heat and power projects using excess heat or electricity produced by industrial facilities.
  - Study of statewide energy efficiency potential and establishment of new 10-year goals for publicly owned utilities, and progress of the state's investor- and publicly owned utilities toward achieving previous goals, as required by Assembly Bill 2021 (Levine, Chapter 734, Statutes of 2006).

[2] Attachment A provides a list of subsidiary documents and describes specific topics to be covered in each document.

- **Renewable Generation Infrastructure in California**
  - Development of a strategic plan for renewable energy development in California, including:
    - Evaluation of statewide renewable energy potential for both utility scale and distributed generation, including consideration of potential issues with biological resources, cultural resources, military land uses, or other concerns.
    - Identification of ways to assist local governments to achieve high levels of renewable development in their jurisdictions.
    - Analysis of the role of energy storage, demand response, load management, and the smart grid in helping California meet its renewable energy goals, and the potential for Public Goods Charge funding and the Renewable Resources Trust Fund to facilitate strategic planning, development, and deployment of all of these strategies.
    - Strategies for developing 12,000 megawatts of localized power by 2020, including solar systems of up to 2 megawatts on the roofs of warehouses, parking lot structures, schools, and other commercial buildings as well as solar energy projects up to 20 megawatts on public and private property throughout the state, including:
      - Identification of obstacles and opportunities to increase distributed generation while protecting ratepayers, including the optimal placement of distributed generation within utility transmission systems at the community level.
      - Implementation of a system of renewable power payments (commonly called feed-in tariffs).
      - Following through on opportunities to increase the installation of distributed generation projects on state property.
    - Strategies for developing 8,000 megawatts of utility-scale renewable generation and the priority transmission infrastructure needed for renewable energy development by 2020, including:
      - Evaluation of how to improve the renewable project review and decision processes through a review of lessons learned from power plant siting processes in 2010,[3] continued close coordination between public agencies at the state and federal level to facilitate joint project review, and development of the Desert Renewable Energy Conservation Plan to achieve long-term development and conservation goals in the California desert.

[3] California Energy Commission, Examining Issues Related to Commission Processing of Applications for Thermal Power Plant Projects, Order Instituting Information Proceeding, Docket #10-SIT-OII-1, http://www.energy.ca.gov/siting_lessons/.

        - Identifying priority renewable and reliability projects, including investment priorities and strategies for the transmission infrastructure required to interconnect the 8,000 megawatts of large-scale renewable capacity noted above.[4] Particular attention will be paid to projects funded through the American Recovery and Reinvestment Act that have permits to construct and that will be using transmission line upgrades, existing transmission corridors, and the development of new transmission corridors.
    - Assessment of whether implementing the above programs for developing localized and large-scale renewable generation will enable California to derive 33 percent of its energy from renewable sources by 2020, and examination of the legislative and overall policy options for reaching higher levels during the next twenty to thirty years.

- **Review of Public Goods Charge and Energy Research, Development, and Demonstration Programs**
  - Strategic planning for energy research in California under the Public Interest Energy Research Program.
  - Gas pipeline evaluation and monitoring methods to enhance public safety and system reliability.
- **Bioenergy Development in California**
  - Progress and actions needed to achieve sustainable biomass development in California in the electricity and transportation sectors, as required by Governor Schwarzenegger's Executive Order S-06-06.
- **Transportation Fuel Supply, Demand, and Infrastructure**
  - Effects of economic growth trends on transportation fuel demand and supply.
  - Analysis of petroleum, alternative, and crude oil demand and supply trends.
  - Barriers to and progress toward meeting California's transportation energy goals, including the Low Carbon Fuel Standard, achieving 26 percent alternative fuel use by 2022, and producing a minimum of 40 percent of the state's biofuels within California by 2020.
  - Evaluation of research, development, demonstration, and deployment activities funded under the Alternative and Renewable Fuel and Vehicle Technology Program, as required by Assembly Bill 109 (Núñez, Chapter 313, Statutes of 2008).

[4] Please note that the transmission analyses and discussions that have traditionally been part of the stand-alone *Strategic Transmission Investment Plan* in past IEPR cycles will during this cycle be included in the *Strategic Plan for Increasing Renewable Generation and Transmission Infrastructure in California.*

- **Electricity and Natural Gas Supply, Demand, and Infrastructure**
  - Assessment of issues affecting future California electricity and natural gas demand, cost, energy storage, and infrastructure additions, consistent with the goals in the Governor's Clean Energy Jobs Plan.
  - Assuring resource adequacy, reliability, and deliverability.
  - Examination of the need for new electricity infrastructure on a regional basis, beginning with a two-year process analyzing system reliability in the South Coast Air Basin as required by Assembly Bill 1318 (V. Manuel Perez, Chapter 285, Statutes of 2009) that considers the reliability impacts of the State Water Resources Control Board's policy on phasing out once-through cooling at coastal power plants, the availability and cost of emission reduction credits in the South Coast Air Quality Management District, and the retirement of aging gas-fired units.
  - Implications of the September, 2010 natural gas transmission pipeline explosion in San Bruno on energy planning and new infrastructure siting, with a priority on ensuring public safety.
  - Assessment of availability, reliability, and efficiency of the western regional and California electricity transmission system capacity and use.
  - Recommended actions for implementing transmission investments that ensure reliability, relieve transmission congestion, and meet future growth in load and generation, including generation from renewable resources.
  - Status report on recommended actions related to nuclear power plants that were made in the *2008 IEPR Update*.

2011 Integrated Energy Policy Report Schedule

The *2011 IEPR* proceeding will use the following general schedule. When workshop and hearing topics and dates are finalized, notices and supporting material will be posted on the Energy Commission's website and stakeholders will be notified at least 10 days in advance of the workshop or hearing date. The current schedule is posted at http://www.energy.ca.gov/2011_energypolicy/workshop_schedule.pdf and is updated regularly.

2011 IEPR Task	***Date***
Order Instituting Informational Proceeding for *2010 IEPR Update* and *2011 IEPR* Released	March 24, 2010
Revised Scoping Order for *2011 IEPR* Released	March 30, 2011
Staff and Committee Workshops and Hearings on Specific Topics	October 2010–September 2011
Release/approval of subsidiary volumes	July 2011-September 2011
Issue *Committee Draft 2011 IEPR*	September 2011
Committee Hearing on *Draft 2011 IEPR*	October 2011
Issue *Committee Final 2011 IEPR*	November 2011
Business Meeting Adoption	December 2011

Participation in the Integrated Energy Policy Report Proceeding

The *2011 IEPR* policy recommendations will be based on the record developed during the proceeding, including data and technical analyses by the staff and by other participants. In addition, analysis and information developed as part of other proceedings at the Energy Commission and by other agencies will be incorporated as appropriate. Docket 11-IEP-1 will be used for the *2011 IEPR* proceeding. Parties will be directed to use this docket and related subdockets listed below when submitting information for the Energy Commission's consideration. Note that as the IEPR process evolves over the course of 2011, some of these subdockets may be continued into the *2012 IEPR Update* proceeding.

11-IEP-1A	–	General/Scope
11-IEP-1B	–	Electricity Resource Plans
11-IEP-1C	–	Electricity Demand Forecast
11-IEP-1D	–	Electric Reliability
11-IEP-1E	–	Strategic Transmission Investment Planning
11-IEP-1F	–	Energy Efficiency/Demand Response
11-IEP-1G	–	Renewables
11-IEP-1H	–	Distributed Generation
11-IEP-1J	–	Nuclear Issues
11-IEP-1K	–	Natural Gas System Safety, Supply, Demand, Price
11-IEP-1L	–	Transportation Fuels and Infrastructure
11-IEP-1M	–	Bioenergy Development
11-IEP-1N	–	Research and Development
10-SIT-OII-1	–	Power Plant Siting Lessons Learned

To reduce the amount of paper used and time spent duplicating paper documents in this proceeding, the Committee, pursuant to the authority granted to the Presiding Member under California Code of Regulations, title 20, section 1210(a), hereby orders that all filings be done electronically, either through e-mail or on a Compact Disk. Signatures may be indicated on electronic copies by embedding a scanned signature graphic, "Original signed by" or similar words, or a scanned copy of the signature page may be appended to the electronic file. Any questions regarding this requirement should be directed to Lynette Green, IEPR project manager, at (916) 653-2728 or by e-mail at [lesterno@energy.state.ca.us].

The Committee encourages the active participation of all interested and affected stakeholders to ensure a complete and thorough record. As in previous proceedings, the Committee recognizes that close coordination with federal, state, local, tribal, and other agencies is critical to identifying and addressing energy infrastructure and related environmental challenges. The Committee directs staff to continue working with these agencies to ensure their participation in this proceeding.

The Energy Commission's Public Adviser provides the public assistance in participating in Energy Commission activities. If you want information on how to participate in this proceeding, please contact the Public Adviser's Office at (916) 654-4489 or toll free at (800) 822-6228, by FAX at (916) 654-4493, or by e-mail at [PublicAdviser@energy.state.ca.us].

News media inquiries should be directed to the Media and Public Communications Office at (916) 654-4989 or by e-mail at [mediaoffice@energy.state.ca.us]. Technical questions should be directed to Suzanne Korosec, Assistant Director of Policy Development, at (916) 654-4516 or by e-mail at [skorosec@energy.state.ca.us].

Date: March 30, 2011

ROBERT B. WEISENMILLER
Chair and Presiding Member
Integrated Energy Policy Report Committee

KAREN DOUGLAS
Commissioner and Associate Member
Integrated Energy Policy Report Committee

Mail Lists: energy policy

ATTACHMENT A
2011 INTEGRATED ENERGY POLICY REPORT
PROPOSED SUBSIDIARY VOLUMES[5]

- **Electricity Infrastructure Report**
  - Assessment of electricity infrastructure needs in California, beginning with a two-year analysis of system reliability in the South Coast Air Basin as required by Assembly Bill 1318 (V. Manuel Perez, Chapter 285, Statutes of 2009). This analysis will consider the reliability impacts of the State Water Resources Control Board's policy phasing out once-through cooling at coastal power plants, the availability and cost of emission reduction credits in the South Coast Air Quality Management District, and the retirement of aging gas-fired units.
  - Progress of publicly owned utilities toward meeting resource adequacy requirements set by the Public Utilities Commission, as required by Assembly Bill 380 (Núñez, Chapter 367, Statutes of 2005).
- **Natural Gas Assessment Report**
  - Assessment of issues affecting future California natural gas demand, cost, and infrastructure additions.
  - Implications of new information resulting from the investigation of the September 2010 natural gas transmission pipeline explosion in San Bruno on maintaining a reliable, efficient, safe, and affordable energy system.
- **Electricity and Natural Gas Demand Forecast**
  - Forecasts of electricity, peak demand, and natural gas demand for each utility planning area in California and for the state as a whole.
- **Transportation Report**
  - Assessments and forecasts of transportation fuel supply, demand, production, delivery, distribution, and prices.
  - Assessments of achieving alternative fuels policy goals and evaluation of progress to implement research, development and demonstration programs as required by Assembly Bill 109 (Nuñez, Chapter 313, Statutes of 2008).
- **Strategic Plan for Increasing Renewable Generation and Transmission Infrastructure in California**
  - As outlined by Governor Brown's Clean Energy Jobs Plan, the Energy Commission will prepare a renewable energy plan intended to expedite permitting of the highest priority renewable generation and transmission projects with the

[5] Please note that as the IEPR evolves over the course of 2011, some of these subsidiary volumes may be continued into the *2012 IEPR Update* proceeding.

goal of developing 12,000 megawatts of distributed generation and 8,000 megawatts of utility-scale renewables by 2020.

  - The renewable energy plan will identify and recommend actions required to implement transmission system investments needed to ensure renewables interconnection as well as system reliability. This information meets the requirements of Senate Bill 1565 (Bowen, Chapter 692, Statutes of 2004) but will be included in the renewable energy plan rather than in a stand-alone *Strategic Transmission Investment Plan* as was done in past IEPR cycles.

- **Achieving Energy Savings in California Buildings**
  - Progress of implementation of a comprehensive program to achieve energy efficiency savings in existing buildings as required by Assembly Bill 758 (Skinner, Chapter 470, Statutes of 2009).
  - Progress toward making new homes and commercial buildings in California "zero net energy" consumers.
- **Achieving Cost-Effective Energy Efficiency for California**
  - Analysis of statewide energy efficiency potential for publicly owned utilities and establishment of 10-year energy efficiency goals, as required by Assembly Bill 2021 (Levine, Chapter 734, Statutes of 2006).
  - Development of new combined heat and power applications at industrial facilities.
- **Status of Bioenergy Development in California**
  - Progress and actions toward achieving sustainable biomass development in California, as required by Governor Schwarzenegger's Executive Order S-06-06 (*2011 Bioenergy Action Plan*, adopted by the Energy Commission March 23, 2011).
- **Strategic Planning For Energy Research in California: Public Interest Energy Research Program**
  - Evaluation of energy research efforts by the Public Interest Energy Research Program and their contribution to California's energy policy goals.
- **Lessons Learned from 2010 Energy Commission Power Plant Siting**
  - Results of Order Instituting Investigation #10-SIT-OII-1, *Examining Issues Related to Commission Processing of Applications for Thermal Power Plant Projects,* and identification of ways to expeditiously transition to an electronic document filing system.
- **Status Report on Recommendations for California's Nuclear Power Plants**
  - Report on utility progress on recommendations relating to nuclear power plants that were provided in the *2008 Integrated Energy Policy Report Update* as directed by Assembly Bill 1632 (Blakeslee, Statutes of 2006, Chapter 722).

Inter-Agency Roadmap

Resource Areas & Key-Elements | **Categories** | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2020 + | **Major Policy Decisions (Timelines Under Discussion)**

California State Energy Agencies California Clean Energy Future

Demand
- Energy Efficiency
- Water Use
- Demand Response
- Distributed Generation

Planning & Forecasting
- 2009 IEPR
- D1 D1.5,6,14 **CEC** – Demand Forecast and Incremental EE Scenarios (2011, 2013, 2015, 2017, 2019)
- D2 D1.5ST, T1 **CEC** – 2011 Integrated Energy Policy Report; DP1
- D2 D1.4,5,7,14 **CEC** – 2013 Integrated Energy Policy Report; DP2
- D2 D1.4,5,7,14 **CEC** – 2015 Integrated Energy Policy Report; DP3
- D2 D1.4,5,7,14 **CEC** – 2017 IEPR; DP4
- D2 D1.4,5,7,14 **CEC** – 2019 IEPR; DP5
- D3 D1.4-8,10 **CPUC** – Energy Efficiency Strategic Plan (Update to Plan; Progress Report; Progress report)
- D4 D1.5,6,10 **CEC** – Statewide Energy Efficiency Potential Estimates
- D4 D1.4,5, 6,10 **CEC** – Statewide Energy Efficiency Potential Estimates (2013, 2015)
- D4 D1.4,5, 6,10 **CEC** – Statewide EE Potential Estimates (2017)
- D4 D1.4,5, 6,10 **CEC** – Statewide EE Potential Estimates (2019)
- D5 D1.4,5, 9,10,15 **CPUC** – PotI and/or Goals for IOU EE Prog Cyc (2017)
- D5 D1.4,5, 9,10,15 **CPUC** – Potential and / or Goals for Energy Efficiency Program Cycles (2013)
- D6 D3,5,6,10 **CPUC** – 2010 – 2012 Utility Energy Efficiency Programs (EE research activity project output)
- D6 D3,5,6,7,10 **CPUC** – 2013 – 2015 Utility Energy Efficiency Programs
- D6 D3,5,6,7,10 **CPUC** – 2016 – 2018 Utility Energy Efficiency Programs
- D6 D3,5,6,7,10 **CPUC** – 2019 – 2021 Utility Energy Efficiency Programs

Energy Efficiency
- D7 D10 **CEC, CPUC** – Codes and Standards (Adoption; Effective; Adoption; Effective; Adoption; Effective)
- D8 **CEC, CPUC** – Other Market Transformation Support Programs; Financing, ARRA programs, workforce development, emerging technologies, marketing, local government, and water efficiency (ME&O Campaign Launch; Energy Water Nexus Pilot Completed; IDSM Pilot Results)
- D9 D8 S4,9,12 **CEC, CPUC** – Utility Energy Efficiency Evaluation, Measurement, and Verification (Final report 2006-2008 program cycle; Final IOU; Final report 2010-2012 program cycle; POU)

Demand Response
- D10 **CPUC** – 2009 – 2011 IOU Demand Response Program Implementation Cycle (IOU DR load impact filing; IOU DR load impact filing)
- D10 **CPUC** – 2012 – 2014 IOU Demand Response Program Implementation Cycle (IOU DR load impact filing; IOU DR load impact filing)
- D10 **CPUC** – 2015 – 2017 IOU Demand Response Program Implementation Cycle (IOU DR load impact filing; IOU DR load impact filing)
- D10 **CPUC** – 2018 – 2020 IOU Demand Response Program Implementation Cycle (IOU DR load impact filing; IOU DR load impact filing; IOU DR load impact filing)
- D11 **CPUC** – Dynamic Pricing[1] (PG&E large C&I effective; PG&E large agric. effective; PG&E large agric. effective; PG&E mid C&I effective; PG&E large agric. effective; Start direct bid in program (proxy DR pilot); Complete installation of advanced meters)
- D12 D11 S15 **ISO** – Demand Response Market Mechanisms (Proxy Demand Resource; Participating Load Refinement)
- D13 D11 **CEC, ISO** – Demand Response Research (HER DR Contracts Completed)

Distributed Generation
- D14 **CEC, CPUC** – Go Solar California Programs and Research (includes continuous research, evaluation, and design, and implementation of programs) (CSI RD&D final overview report publication; IOU potential goal date (if pace continues of program participation); IOU Programs; IOU solar PV and IOU hot water heating program completion; New Solar homes partnership)
- D15 D16, S7, T11, A3 **CPUC, CEC** – Combined Heat and Power
- D16 S7, P4 **CEC, CPUC** – Tariff Development
- D17 D16, S7, T2 **CEC, CPUC** – Emerging Renewables (SGIP Guidelines; SGIP Legislation End; ERP Program Report)

[1] Residential programs not represented. SCE's large C&I effective as of 10/2009; SDG&E's mid-to-large C&I effective as of 5/2008.

Supply
- Renewable Integration
- Existing Resources
- Natural Gas
- Resource Adequacy
- Western Region Integration

Policy Initiatives Impacting Supply Planning
- S1 S7 **ARB** – 33% Renewable Electricity Standard Development (RES Board Decision)
- S2 D2 A5 **CEC** – Bioenergy Action Plan for California (Plan Adoption; Final IR Not Published; S3) **CEC** – Implementation of Bioenergy Action Plan

Generation Planning / Need Determination
- S4 D1,2,12,13 S5,7,8,9,12,14 T2-7,9, P1-4 **CPUC** – 2010 Long Term Procurement Proceeding (LTPP); DP1
- S4 D1,2,12,13 S4,5,7,8,9,12,14 T2-7,9, P1-4 **CPUC** – 2012 Long Term Procurement Proceeding; DP2
- S4 D1,2,12,13 S4,5,7,8,9,12,14 T2-7,9, P1-4 **CPUC** – 2014 Long Term Procurement Proceeding; DP3
- S4 D1,2,12,13 S4,5,7,8,9,12,14 T2-7,9, P1-4 **CPUC** – 2016 LTPP; DP4
- S4 D1,2,12,13 S4,5,7,8,9,12,14 T2-7,9, P1-4 **CPUC** – 2018 LTPP; DP5
- S4 D1,2,12,13 S4,5,7,8,9,12,14 T2-7,9, P1-4 **CPUC** – 2018 LTPP
- S5 D1,2,12,13 S5,6,7,9,12,14 T2-5,7,9 P6 **Joint Agencies** – Once Through Cooling (OTC) Plan
- S5 D1,2,12,13 S5,6,7,9,12,14 T2-5,7,9 P6 **Joint Agencies** – Once Through Cooling Plan
- S5 D1,2,12,13 S5,6,7,9,12,14 T2-5,7,9 P6 **Joint Agencies** – Once Through Cooling Plan
- S5 D1,2,12,13 S5,6,7,9,12,14 T2-5,7,9 P6 **Joint Agencies** – OTC Plan
- S5 D1,2,12,13 S5,6,7,9,12,14 T2-5,7,9 P6 **Joint Agencies** – OTC Plan
- S5 D1,2,12,13 S5,6,7,9,12,14 T2-5,7,9 P6 **Joint Agencies** – OTC Plan
- S6 D1,2,12,13 S5,7,9,12,14 T2-5,7,9, P6 **ARB** – SCAQMD permit issues / AB 1318 (Reliability report to legislature)
- S7 D1,2,12,13 S4,5,9,12 T9 **ISO** – Renewable Integration Operational Studies (20% Study; Phase 1 33% Study; Phase 2 33% Study)

Renewable Generation Policy & Development
- S8 T9 **Multiple Agencies** – Renewable generation policy initiatives (REAT, REPG, DCREP, Solar PEIS, and PACT) (Draft DRECP Cons. Strategy; Solar PEIS Draft; PACT Validation; Solar PEIS Final & ROD; DRECP Final EIR)
- S9 S4,8,11 T2,3,6 **Multiple Parties** – Renewable Generation Development[1] (Competitive solicitation → project proposal → contract approval → permitting → interconnection → construction) (CPUC Quarterly RPS Report; Proposal entry; Proposal entry; Project live; Project live)
- S10 **CPUC** – Wholesale Distributed Renewable Procurement[2] (PG&E Decision; SDG&E Decision; Renewable Auction Mechanism Decision)
- S11 S9,10 P3 **CEC** – Renewable Certification and Tracking

[1] Not necessarily representative of POU, ESP, or future CCA processes
[2] 5-year programs, SCE program approved 6/2009 (500 MW), PG&E program approved 4/2010 (500 MW), SDG&E program approved 9/2010 (100 MW)

Conventional Generation Development
- S12 S4,5,7,14 **Multiple Parties** – Conventional Generation Development[3] (Competitive solicitation → project proposal → SB 1638 compliance evaluation / contract approval → permitting → interconnection → construction) (Proposal entry; Proposal entry; Project live; Project live)

[3] Not necessarily representative of POU, ESP, or future CCA processes

Improvements in Wholesale Markets & RA
- S13 **ISO** – Wholesale Market Performance Policy and Implementation (✓ Integration; ✓ Ancillary Services; ✓ Other market enhancements; Multi-stage generation; Convergence bidding; Scarcity pricing)
- S14 D1,13 S9,12 T2-5,7 P2 **CPUC, CEC, ISO** – Resource adequacy (LCR Study (Yearly Release); LCR; LCR; LCR; CAISO standard capacity product)

Generation RD&D
- S15 **ARB, CEC, CPUC** – CCS Review Panel
- S16 **CEC** – Public Interest Energy Research funded Geologic Carbon Capture and Storage Research, Development, and Deployment (Small scale CO2 injection pilot start; Small scale CO2 injection pilot end; Large scale CO2 injection pilot start (tentative); Large scale CO2 injection pilot end (tentative))
- S17 **CPUC** – CHPG and HECA (HECA Phase 2 decision)

ISO Generation Interconnection Queue

Transmission, Operations, Distribution
- Planning
- Permitting
- Siting
- Construction
- Advanced Metering
- Smart Grid
- Energy Storage

Transmission Development
- 2009 CEC STIP
- T1 S8,14 T2-4,6,8,10 **CEC** – 2011 Strategic Transmission Investment Plan (STIP); DP1
- T1 S8,14 T1,5,6,9 **CEC** – 2013 Strategic Transmission Investment Plan; DP2
- T1 S8,14 T1,5,6,9 **CEC** – 2015 Strategic Transmission Investment Plan; DP3
- T1 S8,14 T1,5,6,9 **CEC** – 2017 STIP; DP4
- T1 S8,14 T1,5,6,9 **CEC** – 2019 STIP; DP5
- T15 S8,9 T3,9 Oll/OIR Proposed Decision **CPUC** – Order Instituting Investigation and Order Instituting Rulemaking for Transmission to Access Renewable Energy Resources (Oll/OIR Proposed Decision)
- T2 **ISO, CTPG** – ISO Transmission Planning Process Phase 1 (develop state-wide conceptual transmission plan)
- T3 T2,7, 8,10 **ISO** – ISO Transmission Planning Process Phase 2 (Conditional vs. Uncond. Approval; Ongoing cycle)
- T4 S4,9, T8,9 T2 **POUs** – Transmission Planning for Non-ISO Balancing Authority Areas (2010 cycle)
- T6 S2 T1,2-4,7,15
- T6.1 **Project sponsors** – Transmission Proposal Development (Unconditional approval)
- T6.2 **CPUC** – Permitting and Siting (CPCN Issued)
- T6.3 **Project Sponsor** – Construction
- T6.4 **Project Sponsor and TO** – Energize / infrastructure
- **Multiple Parties** – Transmission Development Process (Transmission proposal development → permitting and siting → construction → energize infrastructure) (Project live)
- T5 S7,11,13 T1,3,4,8,9,15, P3,4 **ISO, POUs** – 2012 Annual Transmission Planning Cycle
- T5 S7,11,13 T1,6,8,9 **ISO and POUs** – 2013 Annual Transmission Planning Cycle
- T5 S7,11,13 T1,6,8,9 **ISO and POUs** – 2014 Annual Transmission Planning Cycle
- T5 S7,11,13 T1,6,8,9 **ISO and POUs** – 2015 Annual Transmission Planning Cycle
- T5 S7,11,13 T1,6,8,9 **ISO and POUs** – 2016 Annual Transmission Planning Cycle
- T5 S7,11,13 T1,6,8,9 **ISO and POUs** – 2017 TPP Cycle
- T5 S7,11,13 T1,6,8,9 **ISO and POUs** – 2018 TPP Cycle
- T5 S7,11,13 T1,6,8,9 **ISO and POUs** – 2019 TPP Cycle
- T5 S7,11,13 T1,6,8,9 **ISO and POUs** – 2020 TPP Cycle
- T5 S7,11,13 T1,6,8,9 **ISO and POUs** – 2021+ TPP Cycle

Transmission Planning Inputs
- T7 D1,2,12,13 S6,7,9,12,14 T2-6,9 **ISO** – Transmission Planning Reliability Assessment
- T8 S8 T1-5,9,15 **CEC** – Transmission Corridor Designation
- T9 S8 T8 **Joint Agencies** – Renewable Energy Transmission Initiative

Smart Meters, Smart Grid, and Storage
- T11 **Multiple Parties** – Smart grid demonstrations, standards development, and monitoring (Close Distribution of ARRA Funding)
- T12 **CPUC** – IOU smart meter installation, oversight, and monitoring (SDGE complete; SCE and PGE complete)
- T13 **CEC & CPUC** – Smart grid deployment plans for IOUs and POUs
- T14 **CEC** – Energy storage RD&D (Close Distribution of ARRA Funding)

Additional Areas
- Green House Gas
- Emerging Technologies
- Alternative Fuel Vehicles
- Climate Change

Cap & Trade Policy
- A1 **ARB** – Cap and Trade regulation development (Cap & Trade Decision)
- ARB Cap and Trade
- A2 A1 **ARB** – Cap and Trade regulation implementation

Transportation & Electricity Planning
- A3 **ARB** – Scoping plan update
- A4 **CPUC** – Alternative fuel-vehicle rulemaking (AFV Decision)
- A5 D1, S2,3 **CEC** – Alternative and renewable fuel and vehicle technology program (Initiation of funding solicitation)

Major Policy Decisions (Timelines Under Discussion)
- P1 PRM
- P3 Tradeable REC Decision
- P4 Renwble FIT Decision
- P5 SCAQMD Decision
- P6 SWRCB OTC

Roadmap Legend
- **Agency** – Policy focused activity
- **Agency** – Planning focused activity
- **Agency** – Procurement / markets focused activity
- **Agency** – Program focused activity
- **Agency** – Research and development focused activity
- One-time activities
- Represent cyclical activities
- Link to external web-site or report
- Link to internal additional detail
- Internal dependency connector
- Internal checkpoint to dashboard tracker
- D1 S2 T3 A4 Activity reference code
- Decision point
- Key decision point for possible course correction
- Key project or initiative output
- Representative cycle timeline

September 2010

CALIFORNIA
ENERGY
COMMISSION

California Energy Commission Information Technology Services Branch (ITSB)

INFORMATION TECHNOLOGY CAPITAL PLAN

September 8, 2008

Prepared by IT Services
Information Technology Services Branch
Version 4 (9/8/08)

Arnold Schwarzenegger,
Governor

Information Technology Capital Plan, Plan Year 2009-10 through 2013-14 Executive Approval Transmittal

Department Name

California Energy Commission

APPROVAL SIGNATURES

I am submitting the attached Information Technology Capital Plan as required by the State Administrative Manual Section 4904.

I certify that the IT Capital Plan was prepared in accordance with State Information Management Manual section 57 and that the proposed IT projects are consistent with our business strategies and information technology strategy.

I have reviewed and agree with the information in the attached Information Technology Capital Plan.

Chief Information Officer		Date Signed
Printed name:	Larry Smith	
Information Security Officer		**Date Signed**
Printed name:	Dale Chisum	
Budget Officer		**Date Signed**
Printed name:	Susan Aronhalt	
Department Director		**Date Signed**
Printed name:	Melissa Jones	

DEPARTMENT IT CAPITAL PLAN

Department Name and Org Code:	Plan Year:
California Energy Commission - 3360	2009-10 through 2013-14

1. **Summarize your organization's business goals and objectives below:**
   The California Energy Commission (Energy Commission) is involved in many energy related areas. The goals and objectives for each area are listed below:

Energy Efficiency

Goal:
The Energy Commission commits to making California's businesses, industries, schools, homes, and appliances more energy efficient. The Energy Commission plans to achieve this by developing and implementing energy efficiency building standards, identifying and developing ways to streamline energy use in agriculture, manufacturing, water systems, and processing functions. The Efficiency and Renewables Division exercises their responsibility for implementing renewable energy alternatives in new construction through outreach and education efforts keeping Californians informed on ways of using energy wisely as a good investment in the economy and the environment.

Objectives:
Adopt statewide energy efficiency targets for 2016 equal to 100 percent of economic potential, to be achieved by a combination of state and local standards, utility programs, and other strategies; Enlist publicly owned utilities in a collaborative relationship to further their efforts in aggressively ramping up energy efficiency programs. Publicly owned utilities can use their knowledge of local conditions and customers to craft new program ideas; Pursue legislation that would require energy audits and a cost-effective level of efficiency improvements at the time of sale of a building; Initiate a rulemaking, involving the CPUC and California ISO, to pursue the adoption of load management standards under the Energy Commission's existing authority; Enact appliance standards to improve the efficiency of appliances sold in California, including standards to increase the efficacy of general service lighting; Increase the efficiency standards for buildings so that, when combined with on-site generation, newly constructed buildings can be net zero energy by 2020 for residences and by 2030 for commercial buildings; Investigate market-based approaches to energy efficiency, such as "white tags" or "white certificates" (also known as energy efficiency certificates or credits), the companion to renewable energy credits.

Renewable Energy

Goal:
State law mandates that 20% of California's electricity be derived from renewable energy by the year 2010. Senate Bill 1078 (SB1078) and Senate Bill 1250 (SB1250) authorizes the Energy Commission to promote renewable electricity generation throughout the state of California. SB1078 (Sher, Chapter 516, Statutes of2002) introduced a Renewables Portfolio Standard(RPS) with the goal of increasing the portion of electricity derived from renewable resources and sold to retail customers to

20 percent by 2017. SB1250 (Perata, Chapter 512, Statutes of 2006) accelerated the 20 percent goal to 2010. To further focus on the importance of renewable energy, the passage of Assembly Bill 32 (AB32) mandates the Energy Commission to help provide California with the overall goal of 33% electricity production from renewable resources by 2020.

Objectives:
Leverage its renewable energy power plant licensing and transmission corridor designation authority, its environmental expertise, and its transmission planning and policy experience to guide further renewable resource development in California; Establish a more cohesive statewide approach for renewables development that identifies preferred renewable generation and transmission projects in a "road map" for renewable; Implement a feed-in tariff, set initially at the market price referent, for all RPS-eligible renewables up to 20 megawatts in size; Collaborate with the CPUC to evaluate feed-in tariffs for larger projects. Such tariffs should incorporate the value of a diverse mix of renewables as well as features of the most successful European feed-in tariffs; Collaborate with the CPUC to establish an appropriate feed-in tariff for excess generation from customer owned solar installations.

Energy Infrastructure

Goals:
Energy Commission provides: critical information and independent; objective analyses of the electricity and natural gas markets; electric and natural gas systems operations; electric, natural gas and environmental resource issues through energy data collection, analysis; reporting on energy trends, technical modeling; recommendations to improve functions of electricity and natural gas systems; markets and promote sound public policy; accurate and timely energy demand forecasts to policy makers by collecting; data analysis on electricity and natural gas consumption; forecasting for peak and total energy consumption by sector; relationship analysis of weather and peak electricity use; assessment of utilities having adequate year-ahead resources to meet demand; an estimate of conservation impacts on existing and proposed utility program activities as well as building and appliance standards and objective technical analyses and modeling to explain how energy is used in California.

Objectives:
Conduct a public process including the CPUC, utilities, and other stakeholders to determine an effective method to better delineate the energy efficiency savings assumptions in the Energy Commission's staff forecasts. Develop a common portfolio analytic methodology to clearly influence the long-term procurement plans filed by the investor-owned utilities. Refine in the *2009 Integrated Energy Policy Report* the input data used for developing technologies in the Cost of Generation Model and establish a process to regularly update changing technology costs over time. Include in the *2009 Integrated Energy Policy Report* a robust assessment of the effect of high levels of preferred resources on reducing natural gas prices. Ensure that California's interests in the nuclear process are protected by taking an active role in the Yucca Mountain licensing proceeding, challenging the United States Department of Energy's inadequate response to potential impacts identified by California, and continuing to participate in Department of Energy and regional planning activities for nuclear waste shipments. Incorporate Institute of Nuclear Power Operations (INPO) reviews and ratings of reactor operations into a meaningful public process while maintaining the value of the INPO

reviews as candid assessments. Assess the reliability implications of federal and state once-through cooling regulations for California's operating nuclear plants.

Improving Transmission System

Goal:
The Energy Commission ensures that adequate generating capacity exists in California to meet current and future electricity demand while protecting public health and safety, and the environment; reviews and licenses power plant and electric transmission line applications and monitors compliance with permit conditions; develops and implements a strategic statewide electric transmission plan; designates electric transmission line corridors; and analyzes environmental and energy issues impacting California's energy supply systems.

Objectives:
Integrate distribution planning with other resource procurement processes to support the use of new low-carbon resources and applications — renewables, demand response, efficient combined heat and power, distributed generation, energy storage, advanced metering infrastructure, and plug-in hybrid electric vehicles; Fund research to develop and demonstrate technologies that will accelerate the transformation of the distribution grid into an intelligent and sustainable network; Develop new rate designs that will encourage consumers and utilities to invest in promising technologies; Provide financial incentives for utilities to meet goals related to performance, achievement of designated goals, service reliability, and customer assistance to achieve greater efficiency of electricity use; Allow utilities to recover the remaining book-value costs of equipment rendered obsolete by the deployment of a qualified smart grid system.

Natural Gas

Goal:
The Energy Commission in collaboration with the California Public Utilities Commission (CPUC) issued Decision (D.) 04-08-010 provides funding to be available for public interest natural gas research and development (R&D) projects. The goal is to improve natural gas energy efficiency and environmental quality, and development of renewable technologies that will provide benefits to the public.

Objectives:
Improve the ability to forecast natural gas production, demand, and price, including:

- Conducting a rigorous verification of the models used to forecast natural gas supply and price.
- Developing probabilities and quantifying outcomes for demand scenarios to gain better insight into natural gas demand.

Increase natural gas research and development for ways to advance energy efficiency for both consumers and power plants; Support displacing natural gas with renewable sources to generate electricity and alternatives such as solar for water and space heating; Establish with the CPUC an appropriate feed-in tariff for pipeline-quality biogas.

Transportation

Goal:
The Energy Commission will ensure that adequate and reliable transportation energy is provided to the California transportation sector while balancing economic, public health, safety, and environmental consequences. The passage of Assembly Bill 118 (AB118) has created the Alternative and Renewable Fuel and Vehicle Technology Program, to be administered by the Energy Commission, to provide, upon appropriation by the Legislature, grants, loans, loan guarantees, revolving loans, or other appropriate measures, to public agencies, businesses and projects, public-private partnerships, vehicle and technology consortia, workforce training partnerships and collaborative, fleet owners, consumers, recreational boaters, and academic institutions to develop and deploy innovative technologies that transform California's fuel and vehicle types to help attain the state's climate change policies. In addition, Assembly Bill 1007 (AB1007) (Pavley, Chapter 371, Statutes of 2005) the Legislature directed the California Energy Commission (Energy Commission), in partnership with the Air Resources Board (ARB), to develop and adopt a State Alternative Fuels Plan (Plan) to increase the use of alternative fuels without adversely affecting air quality and water quality or causing negative health effects.

Objectives:
Propose legislation that allows state appeals in the petroleum marine infrastructure lease renewal process at the Ports of Los Angeles and Long Beach; Assess the impact on infrastructure development of the State Lands Commission Marine Oil Terminal Engineering and Maintenance Standards, especially on clean fuels marine terminals in the Ports of Los Angeles and Long Beach; Advocate for a federal funding mechanism to maintain an adequate depth for tanker traffic in the Pinole Shoal in San Francisco Bay.

Land Use

Goal:
Decisions affecting land use directly affect energy use and the consequent production of greenhouse gases, primarily because of the strong relationship between where we live and work and our transportation needs. Significant efforts are necessary to reduce vehicle miles traveled to meet the state's emission reduction goals. California must begin reversing the current 2 percent annual growth rate of vehicle miles traveled. Research shows that increasing a community's density and its accessibility to job centers are the two most significant factors for reducing vehicle miles traveled. The Energy Commission's goal is to dedicate additional resources to study opportunities and barriers to integrated energy and land use planning.

Objectives:
Adopt a unified statewide growth management plan, based on local and regional plans, aligning state planning, financing, infrastructure, and regulatory land use policies and programs; Require regional transportation planning and air quality agencies to adopt 25-year and 50-year regional growth plans that provide housing, transportation, and community services for projected population increases while reducing greenhouse gas emissions to state-determined climate change targets; Expand efforts to provide technical and financial assistance to regional agencies and local governments to facilitate climate-friendly and energy-efficient planning and development; Model climate-friendly and energy-efficient development patterns; Determine the extent to which state and local tax policies affect and guide land use practices and revise policies that

encourage growth that is inconsistent with the state's growth management plan; Direct California's utilities to play an active role with regional and local governments to encourage climate-friendly and energy-efficient development in their service areas; Work with California's Congressional delegation to ensure that future federal highway and other transportation and land use-related legislation and programs include energy reduction and climate stabilization considerations.

Distributed Generation

Goal:
Improve California's air quality by developing reliable, cost effective, emission-reduction technologies for reciprocating engines, small turbines and microturbines, fuel cells, and hybrid fuel cell-microturbine technologies.

Objective:
Work with the CPUC to eliminate non-bypassable charges for combined heat and power and distributed generation and punitive standby reservation charges for distributed generation; Develop a methodology for estimating distributed generation costs and benefits.

2. What are your organization's plans to upgrade or replace your IT infrastructure for the following? When responding, please indicate the timeframes of your intended upgrade or replacement efforts.

The Energy Commission completed a PC deployment in May 2008 and upgraded the desktop hardware and software listed below. The next upgrade for desktop PC hardware and software is planned for May 2012. An Apple deployment is planned for the 4th quarter of 2008. At that time, new Apple computers will be purchased and the current versions of the software listed.

2.1. Hardware

HP dc7800 Small Form Factor (SFF) Computer Specifications

Size	H:3.95" W:13.3" D:14.9"
Weight	19.5 lbs
Processor	Intel Core 2 Duo E6850 3.0GHz dual core processor
Memory	2GB
Hard Drive	80GB
DVD	CD/DVD Reader/Writer
Floppy	Not Included1
I/O Ports	(8) USB 2.0 ports (2 front & 6 back)
	(1) Serial port, (1) Parallel port
	(2) PS/2 ports (keyboard and mouse)
	(2) Headphone (front and back)
	(1) Mic in (front)
Audio	Integrated High Definition Audio
Graphics	Integrated Intel Graphics
Bays	(1) 3.5" bay, (1) 5.25" bay
PCI Slots	2 low-profile slots

PCI x16 Slots	1 low-profile slot
PCI x1 Slots	1 low-profile slot
Network	Integrated Intel Gigabit
Input	HP Standard PS/2 Keyboard, 2-Button USB Optical Scroll Mouse
Power	80% High Efficiency 240W Active PFC Power Supply

Apple Hardware (Desktop A)

Power Mac G5 Dual 1.8GHz
1GB DDR400 SDRAM (PC3200) - 2x512
Accessory kit
Apple Keyboard & Apple Mouse
NVIDIA GeForce FX 5200 Ultra w/64MB DDR SDRAM
Dual 1.8GHz PowerPC G5
80GB Serial ATA - 7200rpm
Combo (CD-RW/DVD-ROM)

Apple Hardware (Desktop B)

iMac 1.8GHz w/17" TFT
1GB DDR400 SDRAM - 2 DIMMs
Accessory kit
Power Supply
Apple Keyboard & Apple Mouse
80GB Serial ATA - 7200rpm
SuperDrive (DVD-R/CD-RW)

2.2. Software

PC Software Name and Version	Type of Software
Windows XP SP 2	Desktop Operating System
NetWare Client 4.9.1 SP4	Network Client
Microsoft Word (Office Suite) 2007	Word Processing
Microsoft Excel (Office Suite) 2007	Spreadsheet
Microsoft PowerPoint (Office Suite) 2007	Presentation
Novell GroupWise 7.0.2	Email/Calendar
WinZip 11.1	Utility
Adobe Acrobat Standard 8.0	Publishing
TrendMicro OfficeScan 7.3	Anti-Virus/Anti-Spyware
Internet Explorer 7	Internet Browser
Nero Basic 8	CD/DVD Burner
Windows Media Player 11	Media Player

Apple Software

Software Name	Version	Type of Software
GroupWise Client	5.2	Email/Calendar

Hard Disk Tool Kit	4.5	Utility
Microsoft Word	Office Suite 2004	Word Processor
Microsoft Excel	Office Suite 2004	Spreadsheet
Microsoft PowerPoint	Office Suite 2004	Presentation
Illustrator	cs	Publishing
Indesign	2.x	Publishing
Mac OS X	OS X v10.3	Desktop Operating System
MacLinkPlus Deluxe	14	Utility
Macromedia Studio MX	Suite Mix	Publishing
Netware Client	1.1.2	Network Client
Norton Ant-Virus	9	Anti-Virus
Photoshop	cs	Presentation
QuickTime Pro	29.99	Media Player
Retrospect Desktop	5.1	Desktop Backup
Retrospect WorkGroup	5.1	Workgroup Backup
Stuffit Deluxe	8.x	Utility
Timbuktu	6.0	Utility
Toast Titanium	6.0	CD/DVD Burner
Virtual PC	6.1	PC Emulation
FreeHand	8	Presentation

2.3. Network

ITEM	Server Minimum Configuration
Processor	3.0 Ghz (per socket)
RAM	2 - 24GB
Hard Disk	70GB – 300GB
Drive	CD\DVD-ROM Drive
Network Interface Card	Gigabyte Ethernet Adapters
Display	Super VGA supporting 800 x 600 or higher-resolution

ITEM	Network Software
Microsoft	OS: Standard 2003 R2; Enterprise 2003 R2; SQL 2000;2005
Novell	OS: Netware 6.5
Linux	OS: Redhat 4.0

3. Existing Approved Reportable IT Projects

Provide the following information regarding your existing approved reportable IT projects on Table 1 on the following page:

- **Existing IT Project;**
- **Approved Project Cost;**

- **Project Number; and**
- **Implementation Date**

4. Proposed IT Projects

After each proposed IT project has been documented by answering questions 4.1 through 4.15 of the attached IT Project Proposal Form, provide the following information on Table 2 on the following page:

- **The name of each proposed IT project;**
- **The priority ranking;**
- **The FSR submission date; and**
- **The estimated cost**

Table 1-Existing Approved Reportable IT Projects Summary by Department

Existing IT Project	Approved Project Cost*	Project Number	Implementation Date
Dynamic Transportation Simulation Model (DynaSim)	$ 3,159,687	3360-56	February 2009

***Note:** If a Special Project Report (SPR) was submitted for review in July 2008 that includes project costs that differ from the last approved project document, enter both the last approved project cost and the revised project cost from the SPR under review.

Table 2-Proposed IT Project Summary

Proposed IT Project	Priority Ranking	FSR Submission Date	Estimated Total Cost
Commission Enterprise Tracking System (COMETS)	1	December 15, 2008	$ 2,370,000

PROPOSED IT PROJECTS

Complete this IT Project Proposal Form (questions 4.1 though 4.15 below) for each proposed IT project that meets the definition of a reportable project as defined in the State Administrative Manual Section 4819.37:

4.1. Proposal name and priority ranking:

Commission Enterprise Tracking System (COMETS) / Priority Ranking:

4.2. Description of the proposed IT project:

COMETS will provide the California Energy Commission (Energy Commission) standardization for processing, approving, managing, reporting and closing out agreements (projects, contracts, grants, and loans). COMETS will initially provide project management support for two of the Energy Commission's most active agreement divisions, the Energy Research and Development Division (ERDD) and the Fuels and Transportation Division (FTD), and will ultimately serve as the Energy Commission's Enterprise System. In addition, COMETS will be a centralized repository with an accessible interface for viewing information and reports, and will allow Energy Commission staff to easily generate queries and provide information to decision makers, in the executive and legislative branches.

The Public Interest Energy Research (PIER) Program within ERDD awards up to $83 million annually to promote public interest energy research by partnering with energy research, development and demonstration (RD&D) organizations including individuals, businesses, utilities, and public or private research institutions. The ERDD is tasked with managing energy research in the public interest. The recent passage of AB118 has tasked the Fuel and Transportation Division within the Energy Commission to administer the Alternative and Renewable Fuel and Vehicle Technology Program. FTD will award over $100 million annually in grants, loans, loan guarantees, revolving loans, or other appropriate measures, to public agencies, businesses and projects, public-private partnerships, vehicle and technology consortia, workforce training partnerships and collaboratives, fleet owners, consumers, recreational boaters, and academic institutions to develop and deploy innovative technologies that transform California's fuel and vehicle types to help attain the state's climate change policies. Both the ERDD and FTD will use COMETS to track award expenditures and provide information to the Legislature and other external stakeholders as to how and where the funds are being used along with the current and future results of those expenditures.

4.3. Which of your department's business goals and objectives does this project support, and how?

The California Energy Commission is the state's primary energy policy and planning agency. This project will help track agreements and help fulfill the five major responsibilities of the Energy Commission:

Planning and forecasting future energy needs, power plant and transmission licensing, promoting energy efficiency, research and development of energy technologies and fuels and transportation technologies.

4.4. What are the expected business outcomes or benefits of the proposal as they relate to your organization's business goals and objectives?
COMETS will provide the divisions within the Energy Commission a means to monitor, manage, and report on all agreement expenditures that are critical to the success of the Energy Commission's programs.

The volume of activity and the nature of the agreements currently managed by the FTD and ERDD require efficient processing, thorough documentation, and robust reporting. Information about the agreements will be used by the Energy Commission to manage the creation, monitoring, and closure of the agreements. The Legislature, contractors, loan or grant recipients, the Energy Commission Policy Committees and other external stakeholders will be interested about how and where the appropriated money is being spent, along with results of those expenditures.

4.5. The following are from the State's IT strategic plan. Check the appropriate box(es) to identify the goals this proposal supports:

☒ **Supporting and enhancing services for Californians and businesses**
☒ **Enhancing information and IT security**
☒ **Reducing state operational costs (leveraging, consolidation, new technology, etc.)**
☒ **Improving the reliability and performance of IT infrastructure**
☒ **Enhancing human capital management**
☒ **Supporting state and agency priorities and business direction**

4.6. Is the proposal consistent with your organization's Enterprise Architecture?
☐ **Yes**
☒ **No**

If no, please explain why the deviation from the organization's Enterprise Architecture is necessary.
Upon the arrival (8/18/08) of the new CIO the department began the process to create and update the Enterprise Architecture.

4.7. Will the proposed system collect, store, transmit, or exchange confidential or sensitive information?
☐ **Yes**
☒ **No**

4.8. If this proposal is conceptually approved, what is the estimated date (mm/yyyy) the FSR will be submitted?
12/2008

4.9. What is the estimated project start date (mm/yyyy) if the FSR is approved?
02/2009

4.10. What is the duration of the proposed project?
24 months

4.11. Will the proposed project utilize the existing infrastructure?
☒ **Yes**
☐ **No**

If no, please explain.

4.12. Is the proposal related to another proposal or to an existing project?
☐ **Yes**
☒ **No**

If yes, describe the related proposal or project and how it is related:

4.13. Describe the consequences of not doing this proposed project at the planned timeframe:
The Fuels and Transportation Division (FTD) staff will not have an automated tool to effectively track awarded expenditures related to the Alternative and Renewable Fuel and Vehicle Technology Program (AB118). By not providing FTD staff an automated vehicle to track expenditures, problems may arise due to missed deadlines, forgotten projects, and/or lost information. The root causes include lack of sufficient training, high staff turnover, lack of consistent and documented procedures.

4.14. Check the appropriate box(es) to identify the proposal's funding strategy:
☐ **Augmentation needed**
☐ **Redirection of existing funds**
☒ **Other (describe):** ERPA, PIER, AB118 Technical Support

4.15. What are the estimated cost and funding source(s) by fiscal year through implementation (information should be provided in the following format):

Fund Source	2009-10	2010-11	2011-12	2012-13	2013-14 and future	Total
General Fund						
Federal Fund						
Special Fund*						
ERPA	$ 400,000	$ 150,000	$ 50,000	$ 50,000	$ 50,000	$ 700,000
PIER	$ 485,000	$ 250,000	$ 50,000	$ 50,000	$ 50,000	$ 885,000
AB118	$	$ 125,000	$ 50,000	$ 50,000	$ 50,000	$ 275,000
Total	$ 885,000	$ 525,000	$ 150,000	$ 150,000	$ 150,000	$1,860,000

*** Note: Identify the fund source and if the department is the sole user of the fund.**

Enterprise Architecture

A.1. Does your organization have documented Enterprise Architecture principles, strategies, or standards to guide decisions on technology projects?

☐ **Yes**
☒ **No**

A new CIO started at the Energy Commission on August 18, 2008 and began the planning process to create and establish an Enterprise Architecture.

A.2. Indicate on Table A-1 below, the completion status of the component Reference Models of your formal Enterprise Architecture efforts. If available, please submit a copy of your Enterprise Architecture document.

Table A-1, Enterprise Architecture Completion Status

Component Reference Model	Status			
	Implemented	**Implementation in Progress**	**Planned or Planning in Progress**	**Not Implemented and Not Planned**
Business			X	
Service			X	
Technical			X	
Data			X	

A.3. Describe the governance structure your organization uses to review and approve the Enterprise Architecture and any subsequent changes.

The Energy Commission's IT and executive management are currently creating an environment to create an IT Steering Committee to provide IT governance to the Energy Commission.

A.4. Does your organization have an Enterprise Architect? (if yes, provide their name, telephone number, and e-mail address below)

☐ **Yes**
☒ **No**

Name: _____

Classification: _____

Telephone Number: _____ **E-Mail:** _____

Information Security

B.1. How is your Information Security Officer involved in proposed project development efforts?

The ISO will be involved during project initiation, design approval and deployment.

B.2. What are your department's core business principles, policies and standards related to information integrity, confidentiality, and availability and the protection of information assets?

The Commission deploys a variety of IT security measures to protect its network systems and data. To achieve this goal the Commission has adopted and implemented many industry standard IT Security best practices. Using these IT security measures helps to ensure system and data reliability, confidentiality, availability and integrity. Below is an overview of the IT Security measures deployed at the Commission:

Physical Access and Security

The Commission's server room includes many physical security measures to protect its network systems and data. These measures include:

- The room is physically strong, is accessible by one entrance and contains no windows.
- The access door remains locked at all times to prevent unauthorized access.
- Access to the premises is controlled by designated ITSB staff.
- Air temperature and humidity are controlled by redundant A/C systems to within acceptable limits.
- All systems are electrically powered via a UPS system which provides:
  - Power conditioning to provide protection from surges and sags.
  - Sufficient battery power to run all systems during a blackout to allow for an automated, orderly and safe system shutdown.

Password Policies

To prevent unauthorized access to network systems and data the Commission enforces the use of complex passwords.

Passwords at the Commission must include:

- a minimum of eight characters;
- at least one alpha character (a,b,c,d….);
- at least one numeric character (1,2,3,4….);
- at least one special character (@, #, $, %….).

Other guidelines include:

- Memorize your password - never write it down.
- Keep your password private and never share it with others.
- Change your passwords every 3 to 6 months, or immediately if compromised.

Information Security

Simple passwords such as names of people or pets, words you can find in a dictionary and numbers in series are easily “cracked” in seconds by readily available software. More complex passwords provide better security against unauthorized access by malicious individuals intending to do harm.

Industry best practices suggest using a strong password called a “Pass Phrase”. A Pass Phrase is an easily remembered phrase or sentence. An example of a Pass Phrase is “the cow jumped over the moon”, string this together using numbers and special characters and you get “th3cowjumpedoverthem@@n”. The longer the number of characters in a password or Pass Phrase the harder it is for an intruder to crack.

Virus Protection

Viruses can cause a great deal of damage and interruption of services to networks, computers and data. To prevent virus attacks the Commission uses a layered approach to virus protection. These layers include:

- **Staff Awareness** – Information on the Commission’s Intranet educates staff on how to recognize viruses and what to do to prevent the spread of viruses.
- **E-mail Virus Protection Service** – Prevents virus infected e-mail from being delivered to the Commission.
- **E-mail Attachment Filtering** – Prevents e-mail messages containing certain types of attachments extensions (e.g. exe, bat ,etc.) from being delivered to the Commission.
- **Desktop/Server Virus Protection Software** – An enterprise client/server anti-virus software is used at the Commission. Client software is installed on all desktops and servers at the Commission. The server receives the latest virus definition file updates and pushes them to all devices on the network. If an infected file is detected the anti-virus software prevents the virus from infecting the desktops and network.

Network Firewall Protection

In order to keep the Commission’s network secure, the Commission protects and isolates its internal network from the outside Internet with an industry standard "firewall" architecture. The firewall analyzes inbound or outbound traffic to determine if it is authorized or not and then either permits or prevents access to the network. Two firewalls are used at the Commission for redundancy, in the event the primary firewall fails, a secondary firewall is automatically activated to maintain connectivity and protection.

Intrusion Prevention System

An Intrusion Prevention System (IPS) proactively monitors for any attempt to gain unauthorized access into the Commission’s network. If an attempt is detected, the IPS system can take defensive measures to prevent attacks by malicious individuals trying to do harm to the network or to gain access to network data.

Information Security

Data Backup System and Off-site Data Storage

The Commission utilizes an enterprise-class data backup system which provides nightly backup of all network systems and data. This backup system not only provides routine data backup and recovery but is an integral part of the Commission's Disaster Recovery and Business Continuity Plan.

Using this system, network staff can easily restore network files that staff may have lost or deleted by accident. The system also creates routine tape backups of mission critical data which are stored at a highly secure off-site location. This off-site storage provides the Commission the capability to fully restore all network systems and data in the event of a fire, natural disaster or any other event that might completely destroy the Commission's network.

Data Confidentiality

Data is a valuable resource vital to the performance of Commission's business functions and responsibilities. Proper management, protection, and control ensure maximum data security. The Commission's data confidentiality policy defines data security and protection requirements.

The essential elements of the Commission's Data Protection Policy include:

- **Data Classifications** - Data is classified as non-confidential or confidential by law.
- Data Ownership - All data must have a designated Data Owner, to assign security and to regulate access.
- **Secure Data Storage** - All data must be stored on the Commission's network to ensure data security. All confidential data is to be encrypted when being stored on portable devices or medium (e.g. Laptops, flash drives, DVD's, CD's, etc.).
- **Data Access** - The Data Owner ensures overall accountability for the use and security of the data.
- **Data Backup** - All data stored on the Commission's network is automatically backed up daily.
- **Data Security Breaches** - Security breaches should be reported to the Data Owner and ITSB. Unauthorized or inappropriate use of data and applications or lack of adherence to security policies and procedures will not be tolerated and may result in disciplinary action, which may include termination of employment.

External Audits and Testing

IT Security is an ongoing process. Periodic security audits are preformed on the Commission's systems by certified security professionals to evaluate existing security measures and to uncover potential security issues. The resulting audit reports provide IT with insights and countermeasures to prevent security incidents and provide a more secure IT environment.

Information Security

Staff Awareness

All Commission staff play an important role in preventing IT security incidences and protecting their data. Through awareness and training staff can make informed decisions on how they can do this.

Staff are encouraged to learn about basic computer security practices. Simple, easy to read computer security awareness information is available on the Commission's Intranet and can help staff to recognize the IT security risks that they face everyday both at work and at home.

Staff are also encourage to take training to learn how to use the Commission's standard software applications. Understanding how to properly use the computer tools available helps ensure that valuable data is properly stored and readily available. Having Statt save data to the network not only helps protect it from loss and corruption but can also facilitates sharing with other staff within a work group.

Help Desk and Information Security Officer

Routine IT security issues or concerns are reported to the Commission's Help Desk. Major IT security issues are reported and addressed by the Energy Commission's IT Security Officer.

B.3. If data within your department is shared with external entities, does your department implement data exchange agreements with these entities?

☐ **Yes**
☐ **No**

If no, please explain.

☒ **Not applicable**

B.4. How does your department ensure that software developers and programmers follow standards and best practices for Web, application, and system development?

IT drafted a Software Change Management procedures to provide oversight and governance to web, application, and system development.

Information Security

B.5. Does your organization have an Information Security Officer? (if yes, provide their name, telephone number, and e-mail address below)

☒ **Yes**
☐ **No**

Name: Dale Chisum

Classification: Staff Information Systems Analyst

Telephone Number: 916-654-4359 **E-Mail:** dchisum@energy.state.ca.us

Workforce Development, Workforce Planning and Succession Planning

C.1. Does your organization have a workforce development plan for IT staff?

☐ **Yes**
☒ **No**

If yes, briefly describe it.

C.2. Check the appropriate box(es) to identify which workforce development tools, if any, your organization is using for IT classifications:

☒ **Training**
☐ **Upward Mobility**
☒ **Mentoring**
☒ **Career Assessments**
☐ **Knowledge transfer program**
☒ **Performance Evaluations**
☐ **Other (please list)**

C.3. Does your organization have a workforce plan for IT staff (i.e., for Rank and File)?

☐ **Yes**
☒ **No**

If yes, briefly describe it.

C.4. Does your organization have a succession plan for IT staff (i.e., for Management)?

☐ **Yes**
☒ **No**

If yes, briefly describe it.

C.5. IT Staffing

Provide the following information in table C-1 on the following page:

- **The name of each IT classification currently in the organization.**
- **The number of staff in each IT classification in the organization.**
- **The number of staff in each IT classification eligible to retire in the next five years.**
- **The percentage of each IT classification eligible to retire in the next five years.**

Table C-1 — IT Staffing

IT Rank and File Staff Classification	Number of IT Rank and File Staff in Classification	Number of IT Rank and File Staff in Classification Eligible to Retire in Next 5 Years	IT Management Staff Classification	Number of IT Management Staff in Classification	Number of IT Management Staff in Classification Eligible to Retire in Next 5 Years
Associate ISA	12	0	Staff ISA Sup	4	2
Staff ISA	10	0	Senior ISA Sup	1	1
Staff Programmer	3	0	DPM III	1	1

Project Management, Portfolio Management and IT Governance

D.1. Does your organization have a process for improving the alignment of business and technology?

☒ **Yes**
☐ **No**

If yes, briefly describe it.
The Energy Commission has developed an IT Strategic Plan.

D.2. What is the status of implementing a formal portfolio management methodology for technology projects within your organization?

☐ **Implemented (Please describe)**

☐ **Implementation in progress (Please describe)**

☒ **Planned or planning in progress**
☐ **Not implemented and not planned**

D.3. List any automated tools being used for portfolio management. Enter "None" if no automated tools are being used.
None

D.4. What is the status of implementing a standard project management methodology for technology projects in your organization?

☐ **Implemented (Please describe)**

☐ **Implementation in progress (Please describe)**

☒ **Planned or planning in progress**
☐ **Not implemented and not planned**

Project Management, Portfolio Management and IT Governance

D.5. Does the organization require its project managers to be certified, either through a professional organization (e.g., PMI, ITIL) and/or through completion of specified project management coursework:

☐ **Yes**
- ☐ **PMI**
- ☐ **ITIL**
- ☐ **Agency-specified project management coursework (identify below)**

☒ **No**

D.6. Select from the list other areas of training your organization requires of its project managers:

☒ **Fundamental Project Management**
☒ **Systems Development Life Cycle**
☒ **Scheduling tool (identify below)**
- **– Microsoft Project**
- **–**
- **–**

☐ **Project Performance Management (e.g., Earned Value Management)**
☒ **Business Process Analysis**
☒ **Requirements Traceability**
☒ **Procurement/Contracts Management**
☐ **Other (identify below)**
- **–**
- **–**
- **–**

☐ **None**

D.7. Describe project-level governance practices, including change management, issue resolution, and problem escalation.

The project charter is the primary document for identifying scope, budget and resources. The Change Management Plan provides the process for change management and issue resolution. The Communication Plan provides for project escalation.

D.8. Does the project management methodology include processes for documenting lessons-learned and applying these to future projects?

☒ **Yes (Please describe)**

We are currently implementing project management methodologies.

☐ **No**