# CALIFORNIA PUBLIC UTILITIES COMMISSION CONSUMER INFORMATION MANAGEMENT SYSTEM REVISED FEASIBILITY STUDY REPORT

**APRIL 28, 2006**

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| 1. | Submittal Date | April 28, 2006 |
|---|---|---|

| | | FSR | SPR | PSP Only | Other: |
|---|---|---|---|---|---|
| 2. | Type of Document | X | | | |
| | Project Number | | | | |

| | | | Estimated Project Dates | |
|---|---|---|---|---|
| | | | Start | End |
| 3. | Project Title | Consumer Information Management System | | |
| | Project Acronym | CIMS | 05/22/2006 | 08/31/2007 |

| 4. | Submitting Department | California Public Utilities Commission |
|---|---|---|
| 5. | Reporting Agency | N/A |

| 6. | Project Objectives |
|---|---|

The Consumer Information Management System (CIMS) is being deployed to enable the California Public Utilities Commission (CPUC) to better serve consumers who are seeking assistance in resolving complaints or answering questions about the utilities that CPUC regulates. The Consumer Complaint Tracking (CCT) system that staff currently uses is merely a data repository rather than a system that facilitates complaint resolution. The data collected is of such poor quality that internal users discount it as a tool.

When the new system is implemented, the CPUC will realize the following benefits:

✦ Effective resolution of consumer complaints in a manner that assures informed and accurate resolution.

✦ Efficient processing of complaints that enables Consumer Affairs Branch (CAB) Representatives to focus on those complaints that require intervention rather than performing data entry and manual processes that consume valuable time.

| 8. | Major Milestones | Est. Complete Date |
|---|---|---|
| | Procure vendor | December 31, 2006 |
| | Project work plan | January 31, 2007 |
| | Design/modifications specifications | February 28, 2007 |
| | Completion of testing | July 31, 2007 |

✦ Improved quality of service for consumers including faster complaint resolution.

✦ Improved timely access to accurate and complete data for use throughout the CPUC to enable staff to more easily identify trends in the utility industry and conduct enforcement.

| Deployment | August 31, 2007 |
|---|---|
| **Key Deliverables** | |
| Assessment | **January 31, 2007** |
| Design | **March 15, 2007** |
| Implementation | **July 15, 2007** |
| Deployment | **August 31, 2007** |
| PIER | **February 28, 2009** |

| 7. | **Proposed Solution** |
|---|---|

The Consumer Information Management System (CIMS) is being deployed to enable the California Public Utilities Commission (CPUC) to better serve consumers who are seeking assistance in resolving complaints or answering questions about the utilities that the CPUC regulates. The Consumer Complaint Tracking (CCT) system that staff currently uses is merely a data repository rather than a system that facilitates complaint resolution.

Market research and a demonstration of the top viable and developed solutions led to the conclusion that the most value-effective solution is a modified-off-the-shelf (MOTS) solution that will be deployed in eight months.

The solution will facilitate complaint resolution by:
   ✦ Automatically processing routine complaints through auto work flow thereby CAB staff to resolve more complex complaints.
   ✦ Allowing the attachment of supplemental documents to a record so that all staff can access the entire record electronically.
   ✦ Forcing data edits to ensure accurate and complete data in the complaints records.
   ✦ Allowing consumers electronic access to the status of their complaint.
   ✦ Having current business rules coded in the system thereby ensuring accurate resolution of complaints.
   ✦ Providing electronic guidance to staff on how to resolve difficult complaints.

The solution will be housed at the Department of Technology Services (DTS) Data Center. As such, the project costs include the purchase of hardware and software for those servers.  The solution will use hardware and software that is compliant with DTS and CPUC standards, which are widely supported in the marketplace.  The CPUC's Information Services Branch staff will support the system once it is in production.

Although more costly initially, annual maintenance and operations expenses for the proposed solution were the least of each of the viable solutions and actually makes this solution the most cost-effective solution within two years of the end of the project.

| Project # | 8660-43 |
|-----------|---------|
| Doc. Type | |

| Executive Contacts | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **First Name** | **Last Name** | **Area Code** | **Phone #** | **Ext.** | **Area Code** | **Fax #** | **E-mail** |
| **Agency Secretary** | N/A | | | | | | | |
| **Dept. Director** | Steve | Larson | 415 | 703-1487 | | 415 | 703-1758 | Sl2@cpuc.ca.gov |
| **Budget Officer** | Dallas | Cooper | 415 | 703-2691 | | 415 | 703-5922 | dmc@cpuc.ca.gov |
| **CIO** | Karen | Davis | 415 | 703-2024 | | 415 | 703-3613 | kmd@cpuc.ca.gov |
| **Project Sponsor** | Jack | Leutza | 415 | 703-1060 | | 415 | 703-4405 | jml@cpuc.ca.gov |

| Direct Contacts | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **First Name** | **Last Name** | **Area Code** | **Phone #** | **Ext.** | **Area Code** | **Fax #** | **E-mail** |
| **Doc. prepared by** | Mary | Winkley, MGT of America, Inc. | 916 | 501-5284 | | 916 | 443-1766 | mwinkley@mgtamer.com |
| **Primary contact** | Karen | Davis | 415 | 703-2024 | | 415 | 703-3613 | kmd@cpuc.ca.gov |
| **Project Manager** | Karen | Davis | 415 | 703-2024 | | 415 | 703-3613 | kmd@cpuc.ca.gov |

| 1. | What is the date of your current Operational Recovery Plan (ORP)? | Date | 01/06 | | Project # | 8660-43 |
|---|---|---|---|---|---|---|
| 2. | What is the date of your current Agency Information Management Strategy (AIMS)? | Date | 08/04 | | Doc. Type | |
| 3. | For the proposed project, provide the page reference in your current AIMS and/or strategic business plan. | Doc. | AIMS, Attachment 7 | | | |
| | | Page # | 1 | | | |

| | | | Yes | No |
|---|---|---|---|---|
| 4. | Is the project reportable to control agencies? | | X | |
| | **If YES, CHECK all that apply:** | | | |
| X | a) **The project involves a budget action.** | | | |
| | b) **A new system development or acquisition that is specifically required by legislative mandate or is subject to special legislative review as specified in budget control language or other legislation.** | | | |
| X | c) **The estimated total development and acquisition cost exceeds the departmental cost threshold and the project does not meet the criteria of a desktop and mobile computing commodity expenditure (see SAM 4989 – 4989.3).** | | | |
| | d) **The project meets a condition previously imposed by Finance.** | | | |

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|---|---|
| Doc. Type | |

**Budget Augmentation Required?**

| No | |
|---|---|
| Yes | X |

**If YES, indicate fiscal year(s) and associated amount:**

| FY | 2005-06 | FY | 06-07 | FY | 07-08 | FY | 08-09 | FY | |
|---|---|---|---|---|---|---|---|---|---|
| | $0 | | $1,699,320 | | $537,488 | | $53,838 | | $ |

## PROJECT COSTS

| | Fiscal Year | 2005-06 | 2006-07 | 2007-08 | 2008-09 | | TOTAL |
|---|---|---|---|---|---|---|---|
| 1. | | | | | | | |
| 2. | One-Time Cost | $33,559 | $1,746,326 | $445,620 | $0 | | $2,225,504 |
| 3. | Continuing Costs | 0 | 3,819 | 195,241 | 146,362 | | 345,422 |
| 4. | TOTAL PROJECT BUDGET | $33,559 | $1,750,145 | $640,861 | $146,362 | $ | $2,570,927 |

## SOURCES OF FUNDING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 5. | General Fund | | | | | | $ |
| 6. | Redirection | | | | | | $ |
| 7. | Reimbursements - 0462 | $33,559 | $1,750,145 | $640,861 | $146,362 | | $2,570,927 |
| 8. | Federal Funds | | | | | | $ |
| 9. | Special Funds | | | | | | $ |
| 10. | Grant Funds | | | | | | $ |
| 11. | Other Funds | | | | | | $ |
| 12. | PROJECT BUDGET | $33,559 | $1,750,145 | $640,861 | $146,362 | | $2,570,927 |

## PROJECT FINANCIAL BENEFITS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 13. | Cost Savings/Avoidances | $0 | $0 | $0 | $0 | $0 | $0 |
| 14. | Revenue Increase | $0 | $0 | $0 | $0 | $0 | $0 |

**Note: The totals in Item 4 and Item 12 must have the same cost estimate.**

| | | |
|---|---|---|
| **Project #** | **8660-43** |
| **Doc. Type** | |

| | | |
|---|---|---|
| **Vendor Cost for FSR Development** (if applicable) | $179,200 |
| **Vendor Name** | MGT of America, Inc. |

## VENDOR PROJECT BUDGET

| | | 2005-06 | 2006-07 | 2007-08 | 2008-09 | TOTAL |
|---|---|---|---|---|---|---|
| 1. | **Fiscal Year** | **2005-06** | **2006-07** | **2007-08** | **2008-09** | **TOTAL** |
| 2. | **Primary Vendor Budget** | $0 | $716,160 | $329,440 | $8,400 | $1,054,000 |
| 3. | **Independent Oversight Budget** | 0 | 163,680 | 33,480 | 0 | $197,160 |
| 4. | **IV&V Budget** | 0 | 80,977 | 16,870 | 0 | $97,847 |
| 5. | **Other Budget (Project Manager)** | 0 | 292,160 | 59,760 | 0 | $351,920 |
| 6. | **TOTAL VENDOR BUDGET** | $0 | $1,252,977 | $439,550 | $8,400 | $1,700,927 |

--------------------------------------------------(Applies to SPR only)--------------------------------------------------

## PRIMARY VENDOR HISTORY SPECIFIC TO THIS PROJECT

| | | |
|---|---|---|
| 7. | **Primary Vendor** | |
| 8. | **Contract Start Date** | |
| 9. | **Contract End Date (projected)** | |
| 10. | **Amount** | $ |

## PRIMARY VENDOR CONTACTS

| | **Vendor** | **First Name** | **Last Name** | **Area Code** | **Phone #** | **Ext.** | **Area Code** | **Fax #** | **E-mail** |
|---|---|---|---|---|---|---|---|---|---|
| 11. | | | | | | | | | |
| 12. | | | | | | | | | |
| 13. | | | | | | | | | |

| Project # | 8660-43 |
|---|---|
| Doc. Type | |

## RISK ASSESSMENT

| | Yes | No |
|---|---|---|
| **Has a Risk Management Plan been developed for this project?** | X | |

| General Comment(s) |
|---|
| The CPUC understands that risk management planning is a vital component of ensuring project success. A disciplined approach to risk management includes developing a Risk Management Plan that identifies and documents potential risks (risk identification), identifies ways in which they can be minimized (risk mitigation planning), and includes policies and procedures to monitor and resolve risks that arise (track and control). A Risk Management Plan along with processes has been developed for this project. <br><br> When a high risk issue is identified and the probability of it occurring is either high or medium, the Project Manager is to inform the Executive Steering Committee. Both the risk and mitigation strategy will be presented to the Executive Committee at its weekly meetings so that a plan for mitigation can be decided. <br><br> For those risks identified as medium in nature and the probability of it occurring is high or medium, the Project Manager presents the risk and mitigation strategy to the Project Sponsor. If the Project Sponsor chooses, he may elevate the risk and mitigation strategy to the Executive Steering Committee for a determination of the course of action. <br><br> The issues identified as high risk for this project include (1) change in CPUC's priorities, and (2) effectiveness of the decision-making process.  When the Project Manager is hired, he/she will be required to review the Risk Management Plan and develop mitigation strategies immediately for the high risks. <br><br> Those risks identified as medium risk include (1) change in scope, (2) creating the interfaces with existing CPUC data systems, and (3) CAB staff being resistant to change. The mitigation approach for the interfaces will be to ensure the system vendor understands the extent of the interfaces and the technology environment. The mitigation approach for potential changes in scope will require a clear definition of business objectives in the request for proposal and a strong change management process. The mitigation approach for potential resistance to change by staff is to involve them throughout the process and to communicate frequently with staff about project progress. <br><br> The Project Manager and his/her team will also update the Risk Management Plan as the project progresses. |

# 3.0 Business Case

This section describes the complaint resolution program and process, the business opportunities that exist to enhance how consumer complaints are resolved, the California Public Utilities Commission's (CPUC's) business objectives, and functionality that would be needed in a new system.

This section includes:

**3.1     Business Program Background**

      3.1.1    Consumer Affairs Branch (CAB) Organization
      3.1.2    Informal Complaint Resolution Program
      3.1.3    Formal Complaint Process

**3.2     Business Problem or Opportunity**

      3.2.1    Effectiveness
      3.2.2    Efficiency
      3.2.3    Quality of Service
      3.2.4    Data Quality

**3.3     Business Objectives**

      3.3.1    Increase Effectiveness of Complaint Resolution
      3.3.2    Increase Efficiency of Complaint Resolution Process
      3.3.3    Improve Quality of Service
      3.3.4    Improve Data Quality

## 3.1 Business Program Background

The CPUC sets the rates and regulates investor-owned utilities, including among others telecommunications (local, long distance, and wireless), energy, and water.

The CPUC's mission states (in part): "We are responsible for ensuring that customers have safe, reliable utility service at reasonable rates, protecting against fraud, and promoting the health of California's economy."[1] One manner in which it can ensure customers are protected against fraud is to assist them in resolving complaints against utilities. Another is to identify potential harmful practices by the utilities and then prosecute those engaging in unlawful utility marketing and billing activities.

To provide guidance, the CPUC is governed by five Commissioners appointed by the Governor in staggered six-year terms. The Commissioners establish the CPUC's policy through documents known as 'decisions'. General Orders establish industry practice implementing the policies.

Within the CPUC, the CAB is responsible for assisting consumers by answering inquiries and resolving specific types of consumer complaints. In fiscal year (FY) 2004-05, consumers reached CAB approximately 48,000 times for assistance in resolving complaints or to have questions answered.

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[1]    CPUC Mission Statement, CPUC's Web site, March 24, 2006.

The CAB staff uses the Consumer Complaint Tracking (CCT) system to log these inquiries and complaints as they are filed. The original version of the CCT system, developed in 1988, was moved to a new platform with "as is" functionality in 1998. The system was not redesigned to capitalize on the new capabilities of this platform or needs of the staff. As a result, the current system serves as a data repository rather than a system that facilitates complaint resolution.

When the new system is implemented, the CPUC will realize the following benefits:

✦ Effective resolution of consumer complaints in a manner that assures informed and accurate resolution.

✦ Efficient processing of complaints that enables CAB Representatives to focus on those complaints that require intervention rather than performing data entry and manual processes that consume valuable time.

✦ Improved quality of service for consumers including faster complaint resolution.

✦ Improved timely access to accurate and complete data for use throughout the CPUC to enable staff to more easily identify trends in the utility industry and conduct enforcement.

The remainder of this section describes the program of resolving consumer complaints and answering inquiries; identifies the process through which a complaint flows; describes limitations of the existing system; and identifies the business functionality needed to more effectively and efficiently serve consumers.

### 3.1.1 CAB Organization

The CAB staff resolves complaints in offices in San Francisco, Los Angeles, and Sacramento. The CAB Manager is in the San Francisco office. Recently a supervisor was promoted to Interim Manager in the Los Angeles office. Each oversees the responsibilities of their respective offices. There are five supervisors who actively oversee CAB staff, and 35 CAB Representatives that perform the complaint resolution function. Six Intake staff open mail and enter complainant contact information into the system in preparation for the CAB Representatives' work. Four Retired Annuitants solely work to reduce the complaint backlog. One Retired Annuitant works on Formal complaints. The staff is fairly evenly divided between the San Francisco and Los Angeles offices with one person performing the complaint resolution from the Sacramento office. Exhibit 3.1 displays the type and number of positions.

**EXHIBIT 3.1**
**NUMBER AND TITLE OF POSITIONS**

| NUMBER OF POSITIONS | TITLE | FUNCTION | VACANCIES |
|---|---|---|---|
| 1 | Manager | Manage CAB | 0 |
| 1 | Interim Manager | Manage Los Angeles Office | 0 |
| 5 | Supervisors | Oversee Intake and CAB Representatives | 0 |
| 35 | CAB Representatives | Review data, input additional data, analyze issue, and resolve complaints | 1 |
| 7 | Intake | Open mail, input preliminary data into system | 1 |
| 5 | Retired Annuitants | Reduce the backlog of complaints (4); Resolve Formal complaints (1) | N/A |

Although the official organization chart indicates that CAB staff are divided into telecommunications and energy groups, staff responsibilities have recently changed and CAB Representatives are expected to handle both energy and telecommunications inquiries and complaints.

Exhibit 3.2 displays the structure of the CAB organization per the official July 2005 organization chart. The organization chart that is adopted next will reflect the combined organizational responsibilities to answer each type of complaint.

**EXHIBIT 3.2**
**CAB ORGANIZATIONAL CHART**
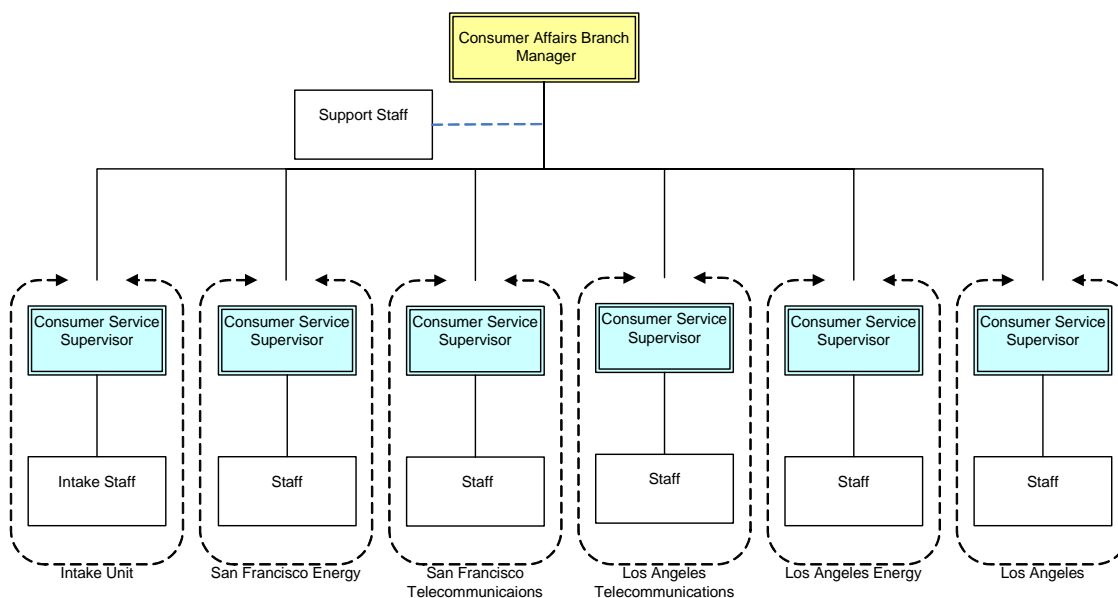


### 3.1.2 Informal Complaint Resolution Program

The CAB staff (known as CAB Representatives) assists consumers by responding to inquiries about, and resolving complaints against utilities. The collected data resides in a system known as the CCT system. Generally, resolution of inquiries and complaints are divided between the San Francisco and Los Angeles offices, with some cases sent to the CAB Representatives in Sacramento.

Consumers can submit complaints through seven methods described below. (Throughout this document, unless specifically accepted, "complaint" refers to all complaints including "Impounds" that require a consumer to send the amount of the utility bill that is in question.) Once submitted, CAB Representatives work with the consumer and utility to resolve the complaint. All CAB Representatives are to enter pertinent data into the CCT system so that the consumer's record is complete and accurate. The process for capturing the data and resolving the complaint is described in detail below.

There are two complaint processes ("Informal" and "Formal") that require the same information but are performed differently. The "Informal" complaint process is typically the first contact consumers have with the CPUC to resolve issues and typically occurs after the consumer has attempted resolution with the utility. Sometimes, consumers call the CPUC with an inquiry that does not result in a complaint but is entered into the CCT system. Both the inquiry and complaint processes follow

similar tracks and are represented in five main tasks, with the inquiry process ending after task 2. The five tasks are:

1. Inquiry and complaint intake.

2. Inquiry and complaint reviewed and additional data entered as needed.

3. Complaint investigated and resolution initiated.

4. Resolution completed and complaint closed.

5. Complaint appealed.

### 3.1.2.1 Inquiry and Complaint Intake

Consumers can contact the CPUC in a variety of methods to pose an inquiry or register a complaint against a utility. The process by which CAB staff enters the initial contract information is called "Intake." The methods by which consumers can file a complaint or make an inquiry include:

✦ *Telephone*: Consumers can also call a toll-free number to talk with a CAB Representative to pose an inquiry or file a complaint. Until March 19, 2006, the phones were answered from 10:00 a.m. to 3:00 p.m. Monday through Friday. All calls go through a queue that is located in the San Francisco office which routes calls to staff in all three offices. Six CAB Representatives in the San Francisco office and four staff in the Los Angeles office respond to phone calls during this five-hour period, except for the scheduled hour lunch break. Beginning March 20, the phones were answered by all CAB Representatives from 9:00 a.m. to 3:00 p.m. Monday through Friday. The CAB Representative key enters all relevant information regarding the inquiry or complaint into the CCT system. The CAB Representative then attempts to resolve the complaint during the course of the phone call, and if he/she cannot, he/she will suggest that the consumer submit the complaint in writing. For the most part, complaints that arrive via telephone are coded as "Public" complaints. Inquiries or complaints that arrive at CPUC by any other source are noted as "Informal." All records identified as "Public," whether inquiry or complaint, are supposed to be closed at the end of the call. Either the consumer's complaint is resolved or they are encouraged to submit their complaint in writing to be resolved later. Consumers cannot file a complaint via the telephone system. In FY 2004-05, CAB Representatives entered approximately 17,736 "Public" inquiries and complaints into the CCT system. Approximately 2,791 of these were inquiries and 14,945 were complaints. Additionally, approximately 68 calls were entered into the system as something other than a complaint or inquiry. Calling a CAB Representative is the most popular form of contact with the CPUC by consumers.

✦ *Mail*: Consumers can submit inquiries or complaints in writing. Inquiries or complaints that arrive via the mail are divided between the Los Angeles and San Francisco offices. The mail is opened and a CAB staff member (known as Intake staff) key enters contact data (known as "skeleton" data) into the system. Mail sent to Los Angeles is done so before skeleton data is entered into the system. The complaint is then routed to a CAB Representative for resolution. Complaints that are submitted in writing are coded as "Informal" complaints. In FY 2004-05 consumers submitted approximately 14,465 complaints and 1,297 inquiries in writing. Contacting via mail is the second most popular method consumers use to contact the CPUC.

✦ *Web Mail*: A consumer can also submit a complaint via the CPUC's Web site, which is then sent as an email to a unique email account monitored by CAB Intake staff. The

Web submission does not automatically populate the database. The Intake staff prints the email, enters skeleton data into the CCT system, and processes it as an email inquiry or complaint. In FY 2004-05, approximately 243 inquiries, 6,032 complaints, and 189 "other" records were sent via Web mail.

✦ *Email*: When a consumer sends a complaint via email to the CPUC, CAB Intake staff prints the email then key enters the skeleton data into the CCT system. The email does not automatically populate the database. Once entered, the inquiry or complaint is assigned to a specific CAB Representative's work queue. In FY 2004-05, approximately 180 inquiries, 3,723 complaints and 99 emails coded as "other" were submitted via email.

✦ *Facsimile (fax)*: Intake staff key enter skeleton data contained in an inquiry or complaint sent via fax and then route the fax to a CAB Representative similar to the standard mail process. In FY 2004-05, 615 faxes were received—30 were inquiries, 569 were complaints, and 16 were coded as "other."

✦ *Walk-In*: The San Francisco and Los Angeles offices accept inquiries and complaints from consumers who visit the office. These are known as "Walk-Ins." In Los Angeles, the administrative staff provides the consumer with a form to complete and in San Francisco the forms are available in the lobby of the building. Sometimes, a CAB Representative will work with a consumer at the time they come in to resolve the complaint. Once submitted, Intake staff manually enters skeleton data into the CCT system and forwards the form to a CAB Representative. In FY 2004-05, the offices collectively received 43 inquiries and 231 complaints via Walk-In.

✦ *Higher Official*: Complaints arriving from an elected official's office or a CPUC Commissioner are routed directly to the CAB Manager—not Intake staff. The complaint is logged in a spreadsheet maintained by the CAB Manager and assigned to a supervisor for resolution. The supervisor key enters the data into the CCT system. Once a finding is made by the Supervisor and the CAB Manager, the consumer and originating office are notified of the finding via a letter generated by the system and customized by the CAB Supervisor. The inquiries and complaints are sometimes referred to as "Goldenrods" due to the color of paper used in processing the complaints. In FY 2004-05, there were 20 inquiries and 148 complaints coded as being received from a "Higher Official."

After the Intake staff input the "skeleton" data (which results in a unique case number being automatically assigned by the CCT system) and create a paper file they assign the complaint or inquiry to a CAB Representative based on a paper log they keep in which they note which CAB Representative received the last case. Since the system cannot automatically notify the CAB Representative of his/her assignment, the Intake staff place the paper file in the CAB Representatives' workspace.

Of those records that can be counted (some phone call inquiries or complaints are not entered into the CCT system if staff resolve the issue quickly on the phone), there were an average of approximately 52,158 contacts (not necessarily separate complaints) made annually in each of the last three fiscal years through the various contact methods.

Exhibit 3.3 provides statistics on the source through which the consumer initiated contact with CPUC for each of the last three fiscal years for both inquiries and complaints.

**EXHIBIT 3.3**
**NUMBER OF CONTACTS BY SOURCE**

| FISCAL YEAR | TELEPHONE | MAIL | WEB | EMAIL | FAX | WALK-INS | SOURCE NOT ENTERED INTO CCT | HIGHER OFFICIAL | TOTALS |
|---|---|---|---|---|---|---|---|---|---|
| 2002-03 | 26,926 | 22,363 | 3,766 | 2,460 | 1,173 | 556 | 117 | 376 | 57,737 |
| 2003-04 | 18,501 | 18,465 | 5,784 | 3,223 | 1,092 | 441 | 18 | 249 | 47,773 |
| 2004-05 | 18,182 | 17,303 | 6,464 | 4,002 | 615 | 275 | 954 | 169 | 47,964 |
| **TOTALS** | **63,609** | **58,131** | **16,014** | **9,685** | **2,880** | **1,272** | **1,089** | **794** | **153,474** |
| **AS A % OF TOTALS** | **41.45%** | **37.88%** | **10.43%** | **6.31%** | **1.88%** | **0.83%** | **0.71%** | **0.52%** | |

### 3.1.2.2. Inquiry and Complaint Review

Inquiries and complaints are coded as "public" or "informal." Public cases are those received via the toll-free number. All other cases are to be noted as "informal." Once a CAB Representative receives the inquiry or complaint or while he/she is on the phone with the complainant, he/she reviews it to identify additional data that should be entered into the CCT system. This requires entering various codes and may include entering a narrative of the complaint. The codes include contact type (complaint, impound, or inquiry), category (for example, billing), subcategory (for example, slamming), utility type (telecommunications, energy, water), corporate identification (name of company), source (for example, letter, phone calls), and disposition code. The CAB Representative has a "details" field (keyword searchable) in which they can enter additional data if there is not an appropriate dedicated field in the CCT system.

A letter to the consumer acknowledging receipt of his/her complaint or inquiry is not automatically sent. Once the CAB Representative has entered the relevant data, he/she can then choose to send the consumer a prewritten acknowledgement letter indicating that the CPUC has received his/her complaint. In 2004-05, 41,101 complaints were filed. The CCT system indicated that 11,933 acknowledgement letters were sent representing about 29 percent of the filed complaints. Since acknowledgement letters are not sent to complainants who filed and resolved the complaint on the telephone, approximately 41 percent of the complainants would not receive acknowledgement letters. That leaves approximately 30 percent of the complainants not receiving a letter acknowledging the filing of their complaint and not having an alternative method of determining complaint status other than calling already overburdened CAB Representatives.

### 3.1.2.3 Complaint Investigated and Resolution Initiated

While the consumer is on the phone, the CAB Representative contacts the appropriate utility on another line, explains the issue and provides the complainant's name and phone number. The CAB Representative then connects the two parties and can hang up. Telecommunications "public" complaints—typically consume approximately five minutes. In FY 2004-05, there were 8,888 "public" telecommunications complaints, and 3,823 "public" energy complaints.

For complaints not easily solved, or that arrive in writing, once data has been entered into the CCT system the CAB Representatives then search the utility's Web site for the most recent tariff data (rules and rates governing the utility) since the most current data is not available within the

CPUC's systems. The tariff data is the most significant indicator of whether the utility is working within its prerogative or whether there is justification for the complaint.

Once the tariffs are reviewed, the CAB Representative may need to send a letter to the consumer requesting additional data (for example, a utility bill if it is a billing dispute). If additional information is not needed, the predominant method for complaint resolution is for the CAB Representative to mail or fax a letter, accompanied by a copy of the complaint, to the utility requesting the utility to resolve the complaint within 20 days.

If supplemental information was needed and is received, the CAB Representative enters pertinent data into the CCT system and then mails or faxes a letter to the utility requesting the utility to resolve the complaint within 20 days. Certain complaints (known as slamming in which a utility switches service without approval of the consumer) require the staff member to request a voice file that is provided on compact disc (CD) from the utility. Staff members are responsible for entering collected data into the CCT system regardless of how the information is received (for example, on the phone, CD, or via letter).

### 3.1.2.4 Resolution Completed and Complaint Closed

The utilities typically send a letter or email to the CPUC indicating their position on the complaint. If the utility does not resolve the complaint in favor of the consumer, the CAB Representative makes a determination of whether to further pursue complaint resolution or close the case. If the CAB Representative determines it worthy of pursuing, he/she will make another attempt to resolve the complaint by calling the utility.

Since the system cannot detect when a case is closed, the CAB Representative is supposed to enter a code that indicates the complaint was closed. Once the case closed code is entered, a CAB Representative may generate a form letter to the consumer notifying him/her of final disposition (for example, closed in favor of the utility, closed in favor of the consumer). According to staff, letters are most often sent when the complaint is not resolved in favor of the consumer. These types of letters must be custom drafted and thus take, on average, an hour to draft due to the complexities of the reasons that the utility did not rule in favor of the consumer. Once completed, a copy of the letter is printed and filed in the paper file.

Cases are automatically closed by the system when the consumer does not respond within 30 days to a letter from CPUC requesting additional information. The last method for closing cases is by a request of the CAB Manager to Information Services Branch (ISB) staff to close unresolved cases that are at least two years old and that do not involve an impound account. A notation is made in each record that it was "auto-closed." Exhibit 3.4 identifies the number of records auto-closed in each of the last four times this procedure was invoked.

**EXHIBIT 3.4**
**NUMBER OF RECORDS AUTO-CLOSED**

| DATES OF CLOSURE | NUMBER OF RECORDS AUTO-CLOSED |
|---|---|
| May 23, 2002 | 6,215 |
| May 5, 2003 | 2,741 |
| March 16, 2004 | 2,525 |
| February 1, 2006 | 3,628 |

System screen shots, the written complaint, original documents (bills), CD voice recordings, and

other artifacts become part of the case file and are physically stored in the paper file created when the complaint arrived. The system cannot accept data from digitized documents (for example, a PDF document) nor does it allow other electronic records to be associated with a record.

Prior to closing the complaint, files are maintained in the staff's work spaces or nearby empty cubicles. Once the case is closed the file is eventually filed on shelves accessible to all staff before being transferred to an archival facility. The only way to see the entire file is to retrieve the paper file.

Exhibit 3.5 shows the number of complaints and inquiries that were filed and closed in each of the last three fiscal years.

EXHIBIT 3.5
NUMBER OF CASES FILED AND CLOSED

| FISCAL YEAR | NUMBER OF FILED CASES | NUMBER OF CLOSED CASES |
|---|---|---|
| 2002-03 | 57,737 | 59,377 |
| 2003-04 | 47,773 | 45,476 |
| 2004-05 | 47,964 | 36,743 |
| TOTALS | 153,474 | 141,596 |

### 3.1.2.5 Complaint Appeal Process

To appeal the Informal complaint finding, the consumer uses the Appeal Process. When a CAB Representative sends a consumer a notice indicating their case has been closed, he/she may include information explaining their right to appeal the decision. When an appeal arrives, it is assigned to a CAB supervisor who may seek the assistance of the CAB Representative who originally worked the complaint to gather pertinent data. The CAB Representative or Supervisor may seek additional material from the consumer or the utility before the CAB supervisor makes a finding. Once a finding has been made, the parties are notified of the decision by a letter generated from the CCT system.

### 3.1.3 Formal Complaint Process

Formal complaints are initiated by the complainant and are submitted on paper to the Division of Administrative Law Judges (ALJ). An ALJ asks the CAB Representative specifically assigned to the "Formal" complaint process to review information in the CCT system to determine if the complainant filing a Formal complaint previously submitted an Informal complaint and whether the case was closed. Whether or not the complainant has completed the Informal complaint process the same CAB Representative works with the consumer and the utility to attempt to resolve the complaint before pursuing the Formal complaint process. Since there is no code for this step in the process, there is no way to identify how many cases begin but do not complete the Formal complaint process. In those situations where the parties can not come to an agreement, the CAB Representative notifies the ALJ so that the ALJ can move forward with the Formal complaint process. These are then coded as Formal complaints in the CCT system. When deciding Formal complaints, the ALJ will not request the case file from CAB since at that point CPUC changes its role from consumer advocate to judge. Of the approximate 76 cases filed annually as Formal complaints, only one proceeds with the "Formal" complaint status.

## 3.2 Business Problem or Opportunity

The CPUC is the primary agency charged with enforcing consumer protections against fraudulent telecommunication practices on behalf of residential, small business, wire line and wireless customers. These deceptive carrier practices include slamming (switching a consumer's service to another carrier without their permission), cramming (charging a consumer for new services they did not request), abusive marketing and other deceptive carrier activities.

Recognizing the need to enhance consumer protection, on March 2, 2006, the CPUC adopted the Consumer Bill of Rights (CBOR) in its Telecommunications Consumer Bill of Rights proceeding. The CBOR was the result of six years of extensive and contentious deliberation to identify the optimal consumer protection framework for the telecommunications industry.

The CBOR order emphasizes enhanced enforcement and consumer education programs. This approach is intended to equip consumers with the information necessary to make wise choices among the extensive array of telecommunications providers and services. The order further directs that changes be made to the CPUC's consumer complaint resolution process. It expands enforcement capabilities where the CPUC assists customers in resolving their disputes with carriers, at times seeking the cooperation of other federal and state government agencies, and at other times, taking formal administrative action against carriers who violate the laws and rules that apply to their service offerings in California.

To accomplish the enforcement and protection initiatives set forth in the CBOR order, the CPUC requires a technology solution that is:

1. Capable of responding to recurrent and customized queries, both to determine the sources of complaints and the need for enforcement;

2. A resource for CAB Representatives by providing concurrent online access to rules, statutes, policies, and similar informal complaints, increasing responsiveness to consumers;

3. Flexible in design to meet existing needs and to respond to future needs resulting from regulatory changes.

The CCT system is not equal to these tasks. It is an antiquated database, originally designed to track individual cases rather than to provide management with information to assess particular trends in utility or consumer issues. It does not relate complaint information that comes in disparate forms, for example Web based, written mail or telephone contact. It does not assist the CPUC in satisfying customer needs for complaint resolution or to spot trends on which to base enforcement activities. The inadequacies of the CCT will become even more acute as newer violations develop and surface in the competitive telecommunications marketplace.

Over the last three FYs, the CPUC's ability to respond to consumers' needs has diminished according to the CAB Manager. In FY 2002-03, the CPUC resolved approximately 1,440 more complaints than were filed (by closing complaints open at the beginning of the fiscal year). In 2003-04, only 2,297 more cases were filed than were closed. In 2004-05, however, 11,221 more cases were opened than were closed. The dramatic decrease in CAB's ability to effectively and efficiently close cases has impacted the consumer's quality of service. As of December 31, 2005, approximately 25,637 cases were waiting to be resolved.

Since the CCT system is a data repository rather than a knowledge-based system that facilitates complaint resolution, cases are predominantly processed manually. The filing and refiling of cases makes it difficult to keep track of older cases not yet resolved. When needing to

file a supplemental document, finding a case among the approximate 732 cases any particular CAB Representative may have open, consumes valuable time.

Of the 83,436 consumers who called the CPUC wanting to speak to a CAB Representative, 30,527—nearly 37 percent—hung up before reaching staff due to lengthy hold times. In addition to having difficulty filing a complaint via the toll-free number, consumers have difficulty finding the status of their complaint. With no Web access to allow a consumer to determine where his/her complaint is in the process, consumers either wait long periods of time or go without knowing the status of their complaints.

Lastly, since the CCT system has limited capability to code multiple complaints within one case (for example, the practice of placing unauthorized, misleading, or deceptive charges on a telephone bill—known as cramming—and switching long-distance carriers without authorization—known as slamming) and lacks data edits, the data in the system is incomplete and often inaccurate. For staff throughout the CPUC tasked with investigating, analyzing, and monitoring utility compliance, performance, and behavior, the data captured during complaint filing is of such poor quality and questionable integrity that, even though it could contain important metrics, these users discount this data as a tool.

The current CCT system and process does not enable staff to effectively or efficiently resolve consumer complaints. Additionally, system limitations have hampered the CAB's ability to provide better quality of service to consumers and have reduced staff's ability to have timely access to complete and accurate data to identify potential fraudulent activities.

Recognizing the above, the CPUC has prioritized achieving the following four objectives as the CAB staff processes consumer inquiries and complaints:

- ✦ Increase effectiveness in resolving complaints.
- ✦ Increase efficiency in processing complaints.
- ✦ Improve quality of service.
- ✦ Improve data analysis throughout CPUC.

Prudent industry best practices require the CPUC to examine existing business processes to see what efficiencies can be obtained and reform them prior to implementing a technological solution for service improvement. To simply apply a new system without streamlining underlying operations would be to run the risk of further entrenching inefficient processes.

During the information gathering phase of this Feasibility Study Report (FSR), when current business processes are examined, it was obvious to everyone involved that CAB could greatly benefit from business process reengineering (BPR). As examples of surface inefficiencies, many of the procedures used by CAB had not been holistically reviewed or revised in 15 years and no written policies or training manual existed.

A meeting was promptly convened with appropriate management resulting in the assignment of a team tasked with the analysis and reengineering of the business processes. The core team is comprised of three individuals—all from outside the CAB to provide objectivity—and includes staff with prior experience in business process reengineering. An additional team comprised of the CAB Manager and two outside staff was created to chart business process work flow and identify process changes that could be implemented quickly that would immediately improve efficiency.

Some of the process inefficiencies identified and reengineered to date include increasing the hours that CAB Representatives are available to the public and requiring all CAB Representatives to answer the phones during those hours, rather than the previous method that did not require all CAB Representatives to answer the phones. Work is also currently underway on a policy and procedures manual as well as training documentation for new hires.

The BPR efforts will continue and will be enhanced by the work flow aspects of the proposed new system. In the interim, the CPUC is adopting policies that enhance consumers' rights.

On March 2, 2006, the Commissioners approved General Order 168, known as the "Consumer Bill of Rights Governing Telecommunications Services" (Bill of Rights). The main purpose of the General Order is to expand education and improve enforcement of existing telecommunications rules. The CPUC is launching a statewide campaign to educate consumers about these rights and expects to initially see an increase in the number of telecommunications complaints filed as a result. If not rectified, issues with the current system, processes, and outcomes will be magnified as additional complaints are received. The following sections provide examples of how the system is less effective and efficient than a system should be, and how this impacts the consumer's quality of service and users' timely access to accurate and complete data.

## 3.2.1. Effectiveness

The system's limited capacity and functionality delays timely and informed responses to consumers. Tariff data is crucial for complaint resolution. The CCT system does not hold nor can it easily access utility tariff data contained in the CPUC's other systems thus, staff search utilities' Web sites for this data. The CAB Representatives indicate this is one of the most time-consuming aspects of complaint resolution.

Since the system is not knowledge-based, it cannot provide CAB Representatives with approaches to resolving difficult complaints. Thus, when a CAB Representative needs assistance resolving a difficult complaint he/she must seek assistance from a supervisor or a colleague. With the recent change in assignments so that all CAB Representatives resolve both energy and telecommunications complaints, this limitation delays the CAB Representative from providing a speedy and informed response to the consumer.

The result of the system's limitations is lengthy complaint resolution and continued increase in the backlog of complaints.

### Inaccessible Tariff Data Slows Complaint Resolution

The CPUC regulates utilities through issuing rules and approving rates for each utility it regulates (collectively known as a tariff). Utilities must return to the CPUC to formally request a change to their tariffs. The CPUC issues its decision about tariff changes by accepting or rejecting a document known as an Advice Letter, which is submitted by the utility. On average, there have been 3,739 Advice Letters issued annually in the last eight years. Tariff data is the single most crucial information used by CAB Representatives to resolve consumer complaints.

Each utility's tariff information is captured in another CPUC database known as the Proposal and Advice Letter Log (PAL). Data in an Advice Letter is periodically entered into PAL. Although access to tariff data is crucial for complaint resolution, the CCT system cannot access the PAL database, nor can it house the tariff data. Instead, the CAB Representatives search for current data on each utility's Web site consuming valuable time.

**System Not Knowledge-Based**

The CCT system neither contains "what if" scenarios for staff to draw upon, nor is current law or regulation coded in the application in such a way to guide staff (known as business rules). As a result, the system can neither proactively provide suggestions on how to handle a particular type of complaint, nor can it detect an incorrect resolution code after the fact. Recently, responsibilities for the CAB Representatives were changed such that the CAB Representatives are no longer dedicated to either energy or telecommunications complaints, but are required to resolve both types of complaints. Staff indicates that when they receive a complaint which they do not know how to resolve, they confer with a colleague or Supervisor who is more familiar with resolving that type of complaint. Although it is good they are seeking assistance, it would be more effective and efficient if the system provided information to assist the CAB Representative in resolving the complaint and notified the CAB Representative of an incorrect resolution approach.

**Complaint Resolution Is a Lengthy Process**

Staff spends valuable time processing routine complaints rather than focusing on those that require mediation and negotiation with the utilities. The system is unable to automatically populate the database with complaint information submitted via the Web, unable to forward routine complaints to the appropriate utility for resolution, and unable to automatically generate a letter to the utilities by populating predrafted letters. As a result, resolving routine complaints can take much longer than is necessary and delays processing of all other complaints.

Of the 41,101 complaints filed in FY 2004-05, approximately 8,956 or 22 percent are still open between nine and 21 months later. Exhibit 3.6 demonstrates that historically the predominance of cases close after they are one year old.

**EXHIBIT 3.6**
**CASES CLOSED IN THE CCT SYSTEM**

| LENGTH OF TIME TO CLOSE CASE | NUMBER OF CLOSED CASES | PERCENT OF ALL CLOSED CASES |
|---|---|---|
| 0 – 30 days | 29,080 | 9.32% |
| 31- 60 days | 25,283 | 8.11% |
| 61 – 90 days | 15,694 | 5.03% |
| 91 – 120 days | 11,468 | 3.68% |
| 121 days – 365 days | 44,556 | 14.28% |
| 1 year – 5 years | 185,828 | 59.57% |
| **TOTAL** | **311,940** | **100.00%** |

With the backlog, CAB Representatives do not have time to immediately send letters to the utilities requesting resolution. In approximately 34 percent of the complaints filed, a letter to the utility was sent within one week. However, in 31 percent of the complaints filed, letters were not sent to the utility until over 31 days after the case was filed.

Once the utility receives the letter requesting resolution, the complaint is resolved within 21 days in 19 percent of the cases. An additional 25 percent of the cases are resolved within 60 days of the letter being sent to the utility. However, in over 45 percent of the cases in which a letter is sent to the utility requesting resolution, cases are resolved over 90 days and up to six years later. Exhibit 3.7 depicts the percent of cases that are resolved within a specified time limit.

**EXHIBIT 3.7**
**TIME FRAME TO RESOLVE CASE ONCE LETTER SENT TO UTILITY**

| TIME FRAME BETWEEN CPUC LETTER SENT AND CASE RESOLUTION | CASES RESOLVED | PERCENT OF TOTAL CLOSED CASES |
|---|---|---|
| 1 week | 17,019 | 11.32% |
| 8 days – 21 days | 12,038 | 8.00% |
| 22 days – 60 days | 38,225 | 25.42% |
| 61 days – 90 days | 14,263 | 9.49% |
| 91 days – 1 year | 44,006 | 29.27% |
| 1 year – 2 years | 19,505 | 12.97% |
| 2 years – 6 years | 5,302 | 3.53% |
| **TOTAL** | **150,358** | |

**Backlog Continues To Increase**

As of December 31, 2005 there were approximately 25,687 unresolved cases—known as the backlog. This is in spite of a 17 percent decrease in cases filed between FY 2002-03 and FY 2004-05.

Exhibit 3.8 shows the increase in backlog over each of the last three fiscal years. There were no major changes in staffing, processes, or the system in FY 2004-05 that would account for the decrease in CAB's ability to close cases that fiscal year.

**EXHIBIT 3.8**
**BACKLOG**

| FISCAL YEAR | BACKLOG AT START OF FY | CASES FILED | TOTAL CASES CLOSED | CUMULATIVE ENDING BACKLOG |
|---|---|---|---|---|
| 2002-03 | 15,778 | 57,737 | 59,377 | 14,138 |
| 2003-04 | 14,138 | 47,773 | 45,476 | 16,435 |
| 2004-05 | 16,435 | 47,964 | 36,743 | 27,656 |
| 2005-06 (Through 12/31/05) | 27,656 | 20,598 | 22,567 | 25,687 |

The backlog contributes to the length of time for resolution of new complaints as CAB Representatives are trying to resolve complaints that are aged while also addressing new complaints.

### 3.2.2. Efficiency

The CCT system cannot associate supplemental materials with a record, does not permit Web submissions to automatically populate the database once screened, or alert staff to significant events in a record's history. The result of such system deficiencies is an inefficient process that requires staff to process routine complaints rather than those that require mediation or negotiation.

### Record Is Predominantly Paper-Based

The CCT system does not allow CAB Representatives to capture all the data electronically that is required to resolve a complaint. After data entry is complete, CAB staff prints all the relevant screens and files it in the paper file. When a CAB Representative needs supplemental information (for example, utility bill, recorded conversation, or response from the utility), it is often provided on paper (or CD) and filed in the paper file. The CCT system cannot electronically receive, store, or transmit this information.

Each time supplemental information arrives, the CAB Representative must retrieve the paper file for filing of the new information. If supplemental materials do not all arrive at the same time, CAB Representatives must physically locate the file, insert the newest supplemental material, refile the case, and continue this process until sufficient information exists for the CAB Representative to resolve the case. Staff indicates this can occur up to six times on a case. A very quick review of a mere 25 cases found that on average, there were 13 documents for telecommunications cases and 21 for energy cases.

### Heavy Reliance on Manual Processes

The complaint can be submitted on paper (for example, letter or fax) or via a digital means (for example, phone, email, or Web submission). Regardless of the method through which the complaint is received, it requires either the Intake staff or CAB Representative to accept the complaint and key enter it into the CCT system. In the event of a Web submission, the CCT database is not populated, but the data is converted to an email, which Intake staff prints out and then key enters into the CCT system.

Once initial data is key entered into the system, a paper file is created and forwarded to a CAB Representative. This staff person must review the paper file, request additional information if appropriate, and then generate a form letter or complete a fax coversheet to the utility requesting resolution. The request is then either faxed or mailed to the utility. The same steps are taken regardless of whether it is a routine complaint that can be easily resolved between the utility and consumer, or whether it is a difficult complaint that requires mediation by the CAB Representative. The system cannot automatically identify and process routine complaints. As a result of having to process all complaints manually, the CAB Representatives have less time to focus on complaints that require mediation or negotiation.

### System Does Not Notify Staff of Events

The CPUC requests utilities to respond to a request for complaint resolution within 20 days of receiving the CPUC's request. After a CAB Representative sends a request to a utility for resolution, the CAB Representative sets the file aside. There is no systematic method for the CAB Representative to know if the case aged beyond the 20 days as the current system does not provide alerts to CAB Representatives. As a result of the system's limitations, staff cannot prioritize their daily workload based on upcoming deadlines unless they have created an effective manual process to track aged cases. A case that is filed after another may be resolved sooner as a result.

### 3.2.3. Quality of Service

Due to technology limitations, consumers do not receive the level of customer service that the CAB Manager, supervisors, and representatives would like to provide. The system does not provide an electronic means for a consumer to find the status of his/her case. Thus, consumers may not know the status of their case until they receive a notice from the utility or the CPUC

indicating it has been resolved since accessing a CAB Representative is time consuming and letters indicating the CPUC received the consumer's complaint, may not be acknowledged. Thus, consumers must call the CPUC to find case status information. Between April 2005 and February 2006, 43 percent of the callers to the toll-free line, unable or unwilling to spend the amount of time it took for their call to be answered, hung up before reaching a CAB Representative. Additionally, the distribution of case assignments impacts when the case will be addressed. Thus, some cases that arrive after others may receive attention first. Consumers are not assured of a first-in, first-served approach which creates an inequity in service.

### System Does Not Allow Consumer to Access Case Status

Currently, the system does not allow a consumer Web access to his or her case to determine case status. Compounding this deficiency, the CCT system is permissive as to whether the CAB Representative sends a letter to the consumer acknowledging receipt of the complaint. In 2004-05, of the 24,962 "Informal" complaints, 11,933 or 48 percent received a letter acknowledging receipt of the complaint. As a result, approximately one-half of the consumers who submitted complaints by other than a toll-free call were not made aware of their complaint status until receipt of a closure letter from either the utility or the CPUC.

### Consumers Hang Up Due to Long Waits

Until March 15, 2006, there were six CAB Representatives in San Francisco and four in Los Angeles that answered consumer calls from 10:00 a.m. until 3:00 p.m. Monday through Friday. From July 2005 through February 2006, these staff answered approximately 35,088 calls, or 5.5 calls per hour per CAB Representative. During the same period, 27,479 callers—or almost 44 percent of all callers—hung up before reaching a CAB Representative. In response to the Bill of Rights, the policy was changed mid-March to require all CAB Representatives to answer the phones between the hours of 9:00 a.m. and 3:00 p.m. Monday through Friday. The effect is likely to be responding to more complaints received via the toll-free number but responding to fewer that are filed on paper (letter, Web, email, and fax).

### Case Assignment Inequity Results In Some Cases Not Resolved In Timely Fashion

There are a number of variables that inequitably impact case assignment. The source from which the inquiry or complaint arrives, and even the utility against which a complaint is filed, can impact when it gets resolved. For example, all complaints sent via email are queued to one particular CAB Representative. Complaints about a particular utility are assigned to another CAB Representative. If either of these staff process these quickly, they could be processing complaints that were filed before complaints received earlier that are being processed by another CAB Representative. This inequitable assignment is due to system limitations not being able to automatically assign cases regardless of source, and processes that do not require even distribution of complaints.

Additionally, when new CAB Representatives are hired, cases are not reallocated to the new staff in an attempt to balance the workload. Thus, cases that arrive at the desk of a new CAB Representative may be resolved sooner than cases that had been previously filed. If the system automatically assigned cases based on predefined rules identifying which CAB Representative should receive the case, workload would be better balanced and consumers could be better assured that case resolution is based on a first-in, first-served policy.

### 3.2.4 Data Quality

Users throughout the CPUC are tasked with investigating, analyzing, and monitoring utility compliance, performance, and activities. Consumer complaint data can contain important

metrics for these users. Unfortunately, the significant issues with the accessibility, accuracy, and completeness of the CCT system data have forced these users to discount this data as a tool.

Global trends, such as increased or decreased overall complaint frequency and/or complaint type, may indicate a modified or different regulatory approach would be advisable. Having readily available access to accurate and complete data enables staff and Commissioners to make these determinations in an informed manner.

The CPUC units that are consumers of CAB data who are affected by inaccessibility to accurate and complete data include:

✦ The Telecommunications Division, Carrier Branch staff which needs complaint data when evaluating tariff change requests submitted by utilities.

✦ The Water Division which needs access to the complaint database to enter and access its own complaints. Two secretaries in the Water Division currently enter water-related complaints directly into the CCT system but they cannot retrieve the data in report format.

✦ The Division of Ratepayer Advocates, Telecommunications & Consumer Issues Branch staff who needs this complaint data to identify potentially harmful industry trends to determine whether the Commission needs to take any actions on behalf of consumers.

✦ The Consumer Protection and Safety Division, Telecommunications, Energy, California Environmental Quality Act Fraud Section which needs complaint data to identify potential trends in the industries (for example, the practice of placing unauthorized, misleading, or deceptive charges on a telephone bill—known as cramming—or switching long-distance carriers without authorization—known as slamming) so that CPUC can investigate further and potentially take action against these utilities on behalf of the consumers collectively. The Division also needs data as the complainant provided it, to be able to develop the case issue that may have been filed up to a year before enforcement action was initiated.

### 3.2.4.1 Inaccessible Data

Since information associated with a case may not all be in the electronic record, when staff throughout the CPUC needs to review a case, they must physically retrieve the paper file. Paper files can be found in work stations, in boxes on the floor, in storage areas, and in file cabinets. Due to the backlog, filing takes secondary priority to resolving complaints. Staff throughout the CPUC indicated that it is difficult to find files. (Between 2002-03 and 2004-05, 9.5 percent of the complaints were coded as slamming complaints and as a matter of process require CAB Representatives to review information on the CD to resolve the complaint.) Since the backlog of open records (and thus paper files) is approximately 25,687 and there are 35 CAB Representatives—if the cases were evenly disbursed—on average each CAB Representative would have approximately 732 open cases through which they would have to search for a particular paper file. When closed cases that are not yet filed on the shelves are added, the search for a paper file is completed in approximately 50 percent of the situations, according to staff.

### 3.2.4.2 Inaccurate Data

The inaccuracy of the data in the database means it can only be of limited use to act as a barometer of utility practices or indicate areas where regulatory enforcement is needed. Data inaccuracy occurs as a result of the lack of policies and procedures and a system that does not

have embedded rules to prevent inaccurate data from being entered (for example, the close date is before the file date). The following are descriptions of ways in which the database is populated with inaccurate data.

## Complaint Can Be Entered Twice

Both system limitations (automatic closing of cases and search capability) and processes result in cases being entered more than once. If a CAB Representative cannot resolve a consumer's complaint filed via the toll-free line, the CAB Representative suggests the complainant submit his or her complaint in writing. At that time, the case that was phoned in is automatically closed by the system. If the complainant then writes in with a complaint, the written complaint does not supplement the complaint already in the system; a new record is created. Additionally, if supplemental materials come in with a description of the complaint, the staff may enter still another new record if it is not apparent the complaint was already filed. This inability to link two complaints received via different methods increases workload, artificially inflates the number of unique complaints, and reduces the effectiveness and value of system reports.

The system also has an unsophisticated search capability. When CAB Representatives enter a complainant's name and zip code, the CCT system will present options of potential duplicates. Staff is to review the list of records of the potential duplicates and make a determination based on information provided if the complaint could potentially be a duplicate. If staff determines it is not a duplicate because the name or zip code does not match exactly, they may enter the data a second time. Staff indicated that often times the list of potential duplicates is so lengthy— especially if the record is for a complainant with a common surname—that they ignore the list and create a new record. As a result, there are duplicate records in the system. Not only is it inefficient to have to enter data twice and work the same case twice, but adding a new record skews the count of actual cases that need to be worked.

Since the system cannot automatically count potential duplicates, a manual count was made of a snapshot of records. All 4,609 records for the letter "S" on a given day were requested to identify possible duplicates. Those that were inquiries—493 records—were eliminated from the count since these are not complaints. To arrive at the count, if the consumer's last name, address, or phone number matched, it was considered a possible duplicate. In this manual review of the remaining 4,116 records that are complaints or impounds, 308 records, or approximately 7.5 percent are possible duplicates. (This count does not include what would be considered the "original" record.)

## Data Quality Control Measures Absent

The database does not provide drop-down menus with definitions for the many codes that must be entered. The lack of facilitated decision-making combined with a lack of documented current processes related to data entry has created an environment in which multiple CAB Representatives categorize similar complaints differently, or skip categorization altogether. Additionally, neither the system nor processes require data entry in any particular field. In FY 2004-05, nearly 10 percent of the filed cases were missing a category (for example, billing issue) while 11 percent were missing a code designating the subcategory (for example, slamming). Seven percent of the complaints that fiscal year did not identify the type of utility (for example, telecommunications or gas). Over 8 percent in that time period were missing the corporate identifier. Nearly 40 percent of the cases in this time period were missing part or all of the service address.

### Integrity of Original Entry Not Maintained

The CCT system allows anyone with edit rights to edit any field without the system capturing the previous version of the data or identifying who made the changes. As a result, there is no way of knowing whether the data in the field is the original data or whether it has been changed. Universally, staff explained that they have returned to cases where substantive information was changed in certain fields without their knowledge. The lack of an acceptable security and roles management function of the current system once again brings into question the quality of the data throughout the system.

### *3.2.4.3 Incomplete Electronic Data*

Since the system does not associate supplemental materials with an electronic file, any electronic file of a record for which supplemental materials were submitted is incomplete. The only complete file for that record is the paper file. Additionally, the system's limitation of not being able to accept multiple complaint types for one complainant's record results in incomplete data being entered for those complaints.

### System Does Not Associate Supplemental Information

The database accepts key entry of data but does not allow scanning of documents or associations between electronic information and an existing record. The complaint process often involves collection of supplemental information such as the utility bill (for dispute of a charge) or a voice recording (for slamming complaints). As the CCT system is incapable of capturing electronic files, the supplemental information is filed in the paper file. Thus, the database does not include the entire complaint file.

### Insufficient Ability to Capture Multiple Codes

In addition to the electronic data not being captured and associated with each record, the system does not allow multiple complaint categories for one complainant to be coded into the system. For example, if a consumer has a billing issue and a service complaint, the CAB Representative must choose one of the two complaints and enter a code for that complaint only. The other complaint cannot be coded, but can be noted in a free-form field so that it is captured. As a result, it cannot be counted when reports are run on complaint types. Without being able to count the true number of complaints, the CPUC's trend analysis is based on incomplete data.

Additionally, the system does not allow a CAB Representative to enter multiple complaint types (known as subcategories) for one complainant. For example, when a complainant indicates that his or her long-distance service was changed to another carrier without his/her approval (known as slamming) and he/she was overcharged, the CAB Representative must choose either slamming or billing dispute as the subcategory, but cannot enter both. This limitation of multiple categorizations increases the subjectivity of category choices by CAB Representatives and reduces the effectiveness and value of category-related complaint reports.

## 3.3 Business Objectives

Recognizing the program and business opportunities that exist, the CPUC has identified and prioritized the business objectives for a new consumer information management system (CIMS). The business objectives, in priority order, are:

✦ Increase Effectiveness of Accurate Complaint Resolution.

✦ Increase Efficiency of Complaint Resolution Process.

✦ Improve Quality Of Service to Consumer.

✦ Facilitate Data Analysis Throughout CPUC.

The section below highlights the most significant business functional requirements that will enable CAB to meet these business objectives. A chart of the complete functional requirements follows.

### 3.3.1 Increase Effectiveness of Complaint Resolution

A. Ensure access to all relevant data.

✦ Ensure regulations and laws are coded in the application (known as business rules) to facilitate correct response to consumer.

✦ Allow pop-up access to provide guidelines for how to resolve specific types of complaints when staff enters complaint type so that staff have guidance on how to handle a complaint.

✦ Provide interface to other databases.

### 3.3.2 Increase Efficiency of Complaint Resolution Process

B. Reduce manual processes.

✦ Automate data input (for example, Web or interactive voice response submission of complaint).

✦ Automate work flow to minimize human intervention for routine cases.

✦ Provide for automated online edits of data to reduce the submittal of incomplete or inaccurate data.

✦ Allow attachment of digitized supplemental documents (for example, utility bill) to record.

✦ Enable automatic assignment of case to appropriate staff person.

C. Increase system's ability to accept data input by consumer and utility.

✦ Automate business rules that determine and assign the most appropriate staff person.

✦ Automate business rules to assist staff in making correct decision.

### 3.3.3 Improve Quality of Service

D. Ensure appropriate response is provided to consumer.

✦ Automate business rules that determine and assign the most appropriate staff person.

✦ Automate business rules to assist staff in making correct decision.

E. Facilitate access to consumer-related information.

✦ Relational data that is consumer-centric.

F. Improve data integrity and accuracy.

✦ Ensure consistent and appropriate application of rules for use of data field.

✦ Provide drop down menus to ensure consistency in use of data fields.

✦ Provide for automated data edits and validation.

G. Increase standardization and consistency among existing processes and outputs.

✦ Apply business rules and edits to data entry that conform to federal and state laws and regulations, and CPUC policies.

### *3.3.4 Enhance Data Quality*

H. Enable useful, accurate, and timely reporting of data.

✦ Provide for automated online edits of data to reduce the submittal of incomplete or inaccurate data.

✦ Allow attachment of digitized supplemental documents (for example, utility bill) to record.

✦ Automate business rules to assist staff in making correct decision when inputting data.

✦ Allow assignment of multiple types of complaints for one complainant (for example, slamming and overcharge in one complaint).

✦ Generate automated management reports that meet the needs for daily, monthly, quarterly, and annual reports.

✦ Tag complaints with multiple categories or key words for reporting purposes and allow extensibility for new categories and key words.

I. Provide sufficient security and privacy safeguards.

✦ Provide the ability to maintain confidentiality of data through authorized access to data on a need-to-know basis.

✦ Provide appropriate security levels to ensure that only authorized users can create, read, update, and/or delete data.

J. Ensure consumers of data outside of consumer complaint unit but within the CPUC have easy and ready access to most current data.

✦ Ad hoc report writing capability.

✦ Sufficient searchable fields to be relevant to various users.

K. Automatically produce standard reports.

✦ Define standard reports.

L. Identify trends in errors of data input or decision making.

✦ Record and audit all changes to transaction data, and identify the date, time, and individual that made each change.

## 3.4 Business Functional Requirements

This section presents the key functional requirements of the CCT replacement project. The requirements represent a collaborative effort of numerous CPUC managers and staff driven by the business problems and needs identified in Section 3.2. Most functional requirements are

relevant to more than one project goal or opportunity for improvement. Collectively, these functional requirements define the functional aspects of the proposed solution.

When the CIMS solution is implemented, the CPUC will realize the following benefits:

✦ Effective resolution of consumer complaints. The system functionality that will enable this includes:

  − Pop-up suggestions for resolution of similar cases to facilitate more immediate resolution.

  − Programmed business rules including law and regulations that govern complaint resolution to ensure appropriate application to case resolution.

  − Access to data throughout CPUC (for example, tariff data) so that CAB staff have sufficient information available to provide the correct response to consumers.

  − Relational data that associates relevant data to maximize its value for complaint resolution and trend analysis.

  − Online tutorial to quickly train new staff.

✦ Efficient processing of complaints that enables CAB Representatives to focus on those complaints that require intervention rather than performing data entry and manual processes that consume valuable time. To achieve this goal, the system will:

  − Automate data collection to reduce data entry by CAB staff.

  − Automate work flow so that (1) routine complaints are sent to the utility without CAB staff intervention, (2) utility can electronically notify CIMS of resolution status, and (3) a letter to the consumer is automatically generated describing case resolution status.

  − Associate supplemental information with the electronic record to facilitate access to the entire case file without having to search through paper file.

  − Automate generation of form letters in nonroutine cases.

✦ Improved quality of service for consumers. To achieve these goals, the system will:

  − Auto work flow which allows CAB Representatives to (1) be available for consumers when they contact the CPUC and (2) allows CAB Representatives to process nonroutine complaints in a more timely fashion.

  − Auto assignment of cases which ensure even case workload distribution so that cases are handled on a "first-in, first-served" basis.

✦ Improved timely access to accurate and complete data for use throughout the CPUC. The system will achieve that objective by forcing data entry to be thorough and accurate before the record is accepted. The system will:

  − Force data entry so that fields are not left blank.

  − Perform on-line edits to ensure appropriate data rules are followed (for example, not entering a "close" date that precedes a "file" date).

  − Increase the number of codes that can be entered to provide additional granularity of the data.

&ndash; Provide sufficient space to capture consumer's complaint as they state it whether via the phone or written correspondence.

Exhibit 3.9 identifies the CPUC's business objectives and associated functional requirements as it relates to consumer complaint management. Enhancing effectiveness (serving the consumer more quickly and accurately) is CPUC's first priority. Efficiency with which the work is done is the second priority. The next highest priority is enhancing quality of the consumer's experience (for example, reducing delays) and enhancing the quality of the data collected and used. Facilitating staff and management's ability to analyze data and make decisions through timely access to accurate and complete data is the last business objective of the consumer complaint management process.

**EXHIBIT 3.9: BUSINESS OBJECTIVES AND CORRESPONDING FUNCTIONAL REQUIREMENTS**

| BUSINESS OBJECTIVE | FUNCTIONAL REQUIREMENTS |
|---|---|
| **INCREASE EFFECTIVENESS** | |
| (A) Ensure access to all relevant data | ✦ Ensure regulations and laws are in business rules to facilitate correct response to consumer. |
| | ✦ Allow pop-up access to similar complaints when staff enters complaint type so that staff have guidance on how to handle that type of complaint. |
| | ✦ Provide online procedure manual for staff. |
| | ✦ Provide interface to other databases (PAL, UTS, etc.) within the CPUC as well as the NORTEL phone system so that sufficient data from other units (for example, tariff data) within CPUC is available for staff to make an informed judgment about the consumer complaint. |
| | ✦ Ensure relational data (for example, associate utility with complaints). |
| | ✦ Provide the ability to capture multiple addresses and foreign addresses. |
| | ✦ Provide for capturing of sufficient amount of data to ensure complainant can be reminded of their issue when contacted up to a year later. |

| BUSINESS OBJECTIVE | FUNCTIONAL REQUIREMENTS |
|---|---|
| **INCREASE EFFICIENCY** | |
| (B) Reduce manual processes | ✦ Automate data input (for example, Web or interactive voice response submission of complaint). |
| | ✦ Automate work flow to minimize human intervention for routine cases. |
| | ✦ Provide for online edits of data to reduce the submittal of incomplete or inaccurate data. |
| | ✦ Allow attachment of digitized supplemental documents (for example, utility bill) to record. |
| | ✦ Enable automatic assignment of case to appropriate staff person. |
| | ✦ Generate automated alerts (ticklers) to notify when an item is coming due, due, and past due. |
| | ✦ Allow view of complete electronic file (including supplemental documents) by all who have the appropriate permissions. |
| | ✦ Allow receipt of email from utility. |
| | ✦ Automate generation of preapproved forms and letters. |
| | ✦ Automatically track and record work as it progresses through key process events. |
| | ✦ Provide case tracking reports to monitor complaint resolution |
| | ✦ Provide the ability to automatically populate form letters with customer information. |
| | ✦ Provide the ability to generate custom letters from templates. |
| | ✦ Provide the ability to automatically generate appropriate notice and fax or email on demand from workstation. |
| | ✦ Generate communications (letters, emails, faxes) that conform to CPUC's correspondence guidelines and standards. |
| | ✦ Automatically generate closure letters and complaint investigation reports. |
| | ✦ Provide the ability to automatically generate the assignment and past due cases. |
| | ✦ Provide Web-based feature to allow staff access to field and data definitions and descriptions. |
| | ✦ Enable staff to run reports that are calculations of records (including multiplication, division, and percentages). |
| | ✦ Provide ability to search for customer to see existing or previous cases by at least four different fields. |
| | ✦ Provide the ability for changing a case code to those with appropriate permissions. |
| (C) Increase system's ability to accept data input by consumer and utility | ✦ Provide Web-based form for consumer input. |
| | ✦ Provide the ability for the utility to respond to complaint electronically within the system. |
| | ✦ Provide the ability for the consumer to check the status of his/her complaint electronically. |

| BUSINESS OBJECTIVE | FUNCTIONAL REQUIREMENTS |
|---|---|
| **IMPROVE QUALITY OF SERVICE** | |
| (D) Ensure appropriate response is provided to consumer | ✦ Automate business rules that determine and assign the most appropriate staff person. |
| | ✦ Automate business rules to assist staff in making correct decision when inputting data. |
| | ✦ Allow assignment of multiple types of complaints for one complainant (for example, slamming and overcharge in one complaint). |
| (E) Facilitate access to consumer-related information | ✦ Relational data that is consumer-centric. |
| (F) Improve data integrity and accuracy | ✦ Ensure consistent and appropriate application of rules for use of data field. |
| | ✦ Provide drop down menus to ensure consistency in use of data fields. |
| | ✦ Provide for automated data edits and validation. |
| | ✦ Provide the ability to track multiple contacts and addresses for a single complaint. |
| | ✦ Prohibit data in specified fields from being changed |
| | ✦ Provide for online edits of data to reduce the submittal of incomplete or inaccurate data. |
| | ✦ Forced spelling. |
| | ✦ Forced usage of common data elements (for example, "Street" rather than "St."). |
| | ✦ Provide the ability to input foreign addresses. |
| | ✦ Automatically assign unique identifier. |
| (G) Increase standardization and consistency among existing processes and outputs | ✦ Apply business rules and edits to data entry that conform to federal and state laws and regulations, and CPUC policies. |
| | ✦ Ensure that data elements and codes included in the system comply with state and federal privacy statutes and regulations. |
| **IMPROVE DATA QUALITY** | |
| (H) Enable useful, accurate and timely reporting of data | ✦ Provide for online edits of data to reduce the submittal of incomplete or inaccurate data. |
| | ✦ Allow attachment of digitized supplemental documents (for example, utility bill) to record. |
| | ✦ Automate business rules to assist staff in making correct decision when inputting data. |
| | ✦ Allow assignment of multiple types of complaints for one complainant (for example, slamming and overcharge in one complaint). |
| | ✦ Generate automated management reports that meet the needs for daily, monthly, quarterly, and annual reports. |
| | ✦ Tag complaints with multiple categories or key words for reporting purposes and allow extensibility for new categories and key words. |

| BUSINESS OBJECTIVE | FUNCTIONAL REQUIREMENTS |
|---|---|
| | ✦ Provide for the relating of data fields. |
| | ✦ Provide the ability for staff to generate customized reports within preestablished parameters. |
| | ✦ Allow customer to check status of his/her own case via multiple methods (for example, Web and interactive voice response). |
| | ✦ Support online, ad hoc report generation and data extract capabilities for all Commission staff. |
| | ✦ Provide the ability to run the following reports: |
| |   − Staff can view or print a report of cases assigned to them. |
| |   − Ah hoc reports based on queries by staff. |
| |   − Overdue responses from utilities to complainant. |
| |   − Supervisors can view and print reports. |
| |     ♦ Average age on open cases. |
| |     ♦ Representative activity reports by staff member. |
| |     ♦ Response time to close cases. |
| |     ♦ Number of cases going to appeal. |
| |     ♦ Disposition of appealed cases. |
| |   − Dashboard view for status of cases. |
| |   − Trend data report. |
| | ✦ Provide access to historical data. |
| | ✦ Provide the ability to perform trend and geographic analysis. |
| (I) Provide sufficient security and privacy safeguards | ✦ Provide the ability to maintain confidentiality of data through authorized access to data on a need-to-know basis. |
| | ✦ Provide appropriate security levels to ensure that only authorized users can create, read, update, and/or delete data. |
| | ✦ Allow opening of closed cases. |
| | ✦ Prohibit cases from being deleted. |
| | ✦ Provide policy-based security management, based on user identity and roles. |
| | ✦ Provide ability to track data usage and data changes by creating an audit trail. |
| | ✦ Provide appropriate and authorized access to data to staff and internal stakeholders. |
| (J) Ensure consumers of data outside of consumer complaint unit but within CPUC have easy and ready access to most current data | ✦ Ad hoc report writing capability. |
| | ✦ Sufficient searchable fields to be relevant to various users. |
| (K) Automatically produce standard reports | ✦ Define standard reports. |
| (L) Identify trends in errors of data input or decision-making | ✦ Record and audit all changes to transaction data, and identify the date, time, and individual that made each change. |

# 4.0 Baseline Analysis

The purpose of this section is to provide a clear understanding of the technical environment that supports the current Consumer Complaint Tracking (CCT) system. In addition, it is intended to describe the manner in which the functional units within the Consumer Affairs Branch (CAB) of the Consumer Service and Information Division utilize the CCT system to perform their job duties. This section builds upon the Business Case provided in Section 3.0, and supports the need to implement the proposed solution described in Section 5.0.

The following are the Baseline Analysis subsections.

## 4.1    Current Method

4.1.1    Objectives of the Current System
4.1.2    Ability to Meet Workload
4.1.3    Internal User Satisfaction
4.1.4    External User Satisfaction
4.1.5    Technical Satisfaction
4.1.6    Data Characteristics
4.1.7    Security, Privacy, and Confidentiality
4.1.8    Equipment Requirements
4.1.9    Software Characteristics
4.1.10  Internal and External Interfaces
4.1.11  Personnel Requirements
4.1.12  System Documentation
4.1.13  Failures of the Current System

## 4.2    Technical Environment

4.2.1    Expected Operational Life
4.2.2    External Systems(s) Interface(s)
4.2.3    State-Level Information Processing Policies
4.2.4    Financial Constraints
4.2.5    Legal and Public Policy Constraints
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4.2.7    Anticipated Changes in Equipment, Software, or the Operating Environment
4.2.8    Availability of IT Personnel

## 4.3    Existing Infrastructure

4.3.1    Desktop Workstations
4.3.2    LAN Servers
4.3.3    Network Protocols
4.3.4    Application Development Software
4.3.5    Personal Productivity Software
4.3.6    Operating System Software
4.3.7    Database Management Software
4.3.8    Application Development Methodology
4.3.9    Project Management Methodology

## 4.1 Current Method

The California Public Utilities Commission (CPUC) developed the CCT system over thirty years ago to facilitate the collection of consumer complaint information received by the CPUC.

This section provides an understanding of the CCT system technical environment. It also describes the software applications and information systems that support the CAB processes. Subsequently, it will provide further information about the characteristics of the data in the system, the entry and reporting protocols for this data, and the interfaces that encompass the data collection within the system. The tables in each section below provide a basic overview of the steps currently involved in the CCT system processes.

### 4.1.1 Objectives of the Current System

The objectives of the current system are to collect data related to complaints and inquiries received by CAB to facilitate consumer complaint resolution and to make this data available for analysis and reporting by the CPUC divisions that oversee performance of regulated utilities.

### 4.1.2 Ability to Meet Workload

While facilitating basic data entry and reporting, the CCT system does not offer the efficiency improving features of contemporary databases such as an easy search engine to identify the record for the same complainant, submission of data into the system by the complainant, or auto work flow to process routine complaints. The absence of these features in combination with the manual processes that occur outside of the CCT system to accommodate system shortcomings have resulted in a situation where CAB is unable to meet its daily workload. This is in spite of a 17 percent overall decrease in cases filed between the fiscal years 2002-03 to 2004-05.

### 4.1.3 Internal User Satisfaction

Internal users of the CCT system are primarily CAB Representatives and their supervisors. These users experience ongoing dissatisfaction with the CCT system in three areas: the inability to link duplicate cases, lack of system enforcement for data input and consistency of use of codes, and the speed and up-time of the system.

The CCT system does not allow users to link duplicate cases related to the same complaint or incident. The current system processes force the closure of a telephone complaint on the same day as it was opened. If the consumer is not in agreement with the outcome of the resolution then the CAB Representative directs the consumer to enter a written complaint through another method (for example: mail, facsimile, email, or Web form). Within the CCT system, this second filing of the same complaint will be documented and worked as a unique complaint unrelated to the original (and closed) telephone complaint. This inability to link two complaints received via different methods contaminates the reporting of complaints by category and utility, artificially inflates the number of unique complaints per consumer, and reduces the effectiveness and value of system reports. Since there is no link, without manually going through the database, there is no way to determine how many phone inquiries or complaints were followed-up with a written complaint. Therefore, case load numbers are not accurate. (Section 3.0 explains that a cursory review of cases identified approximately 7.5 percent of the cases as being duplicates.)

The CCT system lacks data input aids that would ensure consistency in input, data validation routines to ensure complete and accurate data entry, and data protection once the information has been submitted to ensure information originally captured is stored with the record. The most

glaring example of this is the single field to support consumer or business names within the system. With one field available for first name, last name, middle initial, or business entity name the system does not require the name to be entered as last name, first name and it does not require a name be entered at all. This shifts the burden of data analysis from the system to the CAB Representative.

Contemporary data systems automatically differentiate between a consumer's name and business name and provide multiple fields for consumer names and titles allowing easier searches to identify a potential existing record for that complainant. The free-form entry in the CCT system of the name introduces the opportunity for duplicate entries. One consumer complaint can produce multiple cases through such common input errors as: John Smith, J. R. Smith, or Mr. & Mrs. Jonathon Smith. These duplicates require additional manpower to address or correct or remain undetected and reduce the value and effectiveness of data reports for analysis.

Within the CCT system the appeals process is handled differently between different supervisors. The system does not enforce any specific work flow or process. This lack of work flow enforcement means that some appeals are denoted within the system differently than others, and some closed cases are actually cases under appeal. This decreases the efficiency of the appeals process and reduces the value and effectiveness of data reports.

The CCT system has been prone to sluggishness and occasionally goes down during the workday. There has been a concerted effort by the Information Services Branch (ISB) to address slow or sluggish response times for the CCT system functions as reported by CAB Representatives and supervisors. This has led to load sharing by moving the Los Angeles office users to a separate server in order to improve resource utilization for the application. The ISB also has two larger servers being configured as the new balanced application servers. These changes have had a positive effect on the CAB Representative's perception of some performance improvements. However, it is unlikely that these changes are going to produce significant improvements in the throughput of complaint processing or reductions in the backlog.

### 4.1.4 External User Satisfaction

External users of the CCT system are primarily the CPUC employees who are tasked with investigating, analyzing, and monitoring utility compliance, performance, and activities. Consumer complaint data can contain important metrics for these users. Unfortunately, the significant issues with the accuracy and completeness of the CCT system data have forced these users to discount this data as a tool. The CPUC's recent decision, General Order 168 also known as the "Consumer Bill of Rights Governing Telecommunications Services," recognized the devalued nature of this data for analysis and enforcement.

One example of how the CCT data is currently compromised is in the area of complaint categorization. Staff throughout the CPUC needs to know the type of complaint for trend analysis and enforcement purposes. Required field constraints do not exist allowing CAB Representatives to choose whether to enter data, even that which is necessary for monitoring and reporting—such as selecting appropriate categories. In addition, a lack of clear processes and instructions related to data entry has created an environment in which multiple CAB Representatives categorize similar complaints with different categories and subcategories, or skip categorization altogether. This creates difficulty in utilizing the data for reporting purposes, as similar cases will not be found within the same reporting parameters. Of the 95,737 cases

filed on or after January 1, 2004, 10 percent were not aligned with any category and 12 percent were not aligned with any subcategory.

In addition, a limitation of the CCT system is that only one complaint category and subcategory may be applied to any complaint. It is not uncommon for consumer complaints to include multiple issues that the CPUC would find valuable for effective review and analysis through system reports. This limitation of multiple categorizations increases the subjectivity of category choices by CAB Representatives and reduces the effectiveness and value of category-related complaint reports.

An additional example of dissatisfaction comes from users tasked with analyzing and evaluating the performance and actions of utilities in that they are unable to utilize the CCT system data for geographic information system (GIS)-related or geographic analysis. This information is utilized to determine if utility actions are focused on particular socioeconomic areas geographically representing specific race, economic status, or other available factors. The inability to use the data is due primarily to the fact that address information is not required within the CCT system for case filing. Of the 364,190 cases in the CCT system, 113,391 or 31 percent, do not have a customer address and, 258,086 or 71 percent, do not have a service address. Without data in either the customer address or the service address fields, analysis cannot be completed relative to consumer location to identify trends in industry behavior in a particular geographic area.

## 4.1.5 Technical Satisfaction

The original version of the CCT system went into production in 1988 on a Unisys mainframe. The system was migrated in 1998 to a three-tiered, Web-based client server architecture running Oracle on a UNIX server. The decision was made to move the system to its new platform with "as is" functionality; therefore, the system was not redesigned to capitalize on the new capabilities of this platform. After the migration, add-on features such as query and reporting front ends were added by ISB programming staff.

The result of these years of modification to this system is an extremely cumbersome and clunky system that is difficult to change. Rather than be an integral part of the system, changes are "add-ons." The schema is so poor that modifications sometimes require the programmer to change multiple tables that perform different functions but have the same data set. There is no current application development methodology in use at the CPUC. Changes to the system are not documented. As a result, when a programmer makes a change to one area of functionality in the system, they can adversely affect another without knowing it since there is no system documentation to review beforehand. Technical support staff is hesitant to make changes due to the unpredictable affect it may have on another functionality of this system.

For the end user, it results in illogical screen navigation and the ability to bypass data entry. For example, since the code to enforce a disposition code at the time of case closing appears in only one of the two places it should be within the application, the system does not require the user to enter case disposition code. The combination of a very old application that has had many changes made to it with the lack of documentation results in staff attempting to respond to users' needs, but not always being successful. Sometimes the efforts negatively affect another function but the ISB staff does not know that until a user identifies the problem.

### *4.1.6 Data Characteristics*

The deficiencies of data-entry enforcement, both within the CCT system as well as with related processes, have resulted in the CCT system data being incomplete both in quantity as well as quality.

The CCT system is not integrated with the Interactive Voice Response (IVR) phone system; therefore there is no system-documented action or linkage between the CAB Representatives answering a phone call and the data entered into the CCT system. In this environment, some CAB Representatives choose not to enter simple inquiries into the CCT system while others actually choose to do so. This inconsistency creates difficulties for understanding actual volumes of inquiries handled when reporting by consumer or utility.

In addition, not all complaints are entered into the CCT system. For example, complaints received related to moving companies and passenger carriers do not get entered into the CCT system even though the CPUC regulates these entities. Similarly, public safety complaints unrelated to mobile homes also do not get entered into the CCT system.

The quality of the data that is entered into the CCT system is also detrimentally affected by the system's lack of functionality. The following are a few of the problems and implications:

✦ The lack of data enforcement results in fields not being entered.

- Not having complaint type artificially skews a number of complaints in a particular type. This prevents staff required to analyze the data from accurately identifying trends.

- Not having service addresses minimizes the CPUC's ability to determine if consumers in a particular geographic area are being unfairly targeted for illegal practices.

✦ Data entry is inconsistent and time consuming.

- Not having drop down menus to easily enter data (for example city name) results in staff typing names in rather than merely clicking a button or avoiding data entry altogether.

✦ Data fields are not discrete.

- The field for the consumer's name is one field. Some staff enter the last name first while others enter the first name first. Some staff enter Jane Doe while others use titles such as "Mrs. John Doe." For complaints at a business, some enter the business name while others enter the consumer's name. Not having discrete fields minimizes the ability to find a potential duplicate record by searching on last name.

✦ Definitions are not provided for subcategory codes.

- The system's inability to provide definitions for the codes CAB Representatives are to enter results in staff coding the same type of complaint differently. New employees struggle to remember the difference between "Back billing" and "Disputed bill" or "Balance/Level Pay Plan" versus "Payment Arrangement."

✦ Data entry is time consuming.

- Staff must type in most fields which is time consuming. With the pressure of working cases, staff sometimes neglects to enter data. Contemporary systems

provide choices based on initial key entry. For example, if the staff types in "San" the system offers "San Francisco," "San Pablo" and other city names beginning with "San." Contemporary systems also auto populate fields based on information that is key entered. For example, after staff enters the zip code, the system could auto populate the city field to save time and ensure accuracy.

✦ The system cannot calculate dates to ensure accurate entry or notify staff of needed actions.

– The CAB staff can edit previously entered dates and enter case closing dates that pre-date the case open date affecting the accuracy of the record. Contemporary systems generally have noneditable, system-generated dates representing key activities within a work flow process such as case opening and case closing. Contemporary systems can also calculate dates and notify staff at key action dates such as when the 20-day data request of the utilities has expired.

A report out of the CCT system describing the time frames between when cases were opened, when letters were sent to utilities, and when cases were closed contained the following erroneous results:

♦ In 17 cases data requests were sent to utilities over ten years after the related cases had been filed.

♦ In 190 cases data requests were sent to utilities before cases were ever filed. In one case a data request was sent to a utility four years before the case was filed.

♦ In 4,846 cases a data request was sent to utilities after the case was closed. In one case a data request was sent to a utility 18 years after the case had been closed.

Data in the CCT system is of such little value it should not be migrated to the new system as it will contaminate the new database and call into question the validity of all data within the new system.

## 4.1.7 Security, Privacy, and Confidentiality

The CCT system utilizes a limited role-based security structure that is contained within the application itself. Users have reporting-only rights or editing rights. If users have editing rights, they are able to edit any case. The CCT system logs when users open and view cases but does not log when edits are made, by whom those edits are made, or what the edits include. Supervisors and CAB Representatives edit information entered by other CAB Representatives even after documentation has been sent to the utility and/or the consumer. This ability and practice, along with the system's inability to archive or version entered information, allows for the manipulation of the historical records of cases.

Access restrictions to the CCT system are also substandard. Access to the CCT system should be restricted to those CPUC employees needing to utilize the system for either data entry or reporting. In practice individuals within the CPUC who are no longer affiliated with the CAB and whose work no longer requires access to the CCT system retain access and edit privileges.

### 4.1.8 Equipment Requirements

The CCT system requires the use of the IVR phone system and a desktop computer for all CAB Representatives and supervisors. The system requires an Oracle server environment for centralized operation. Additional information is available in *Section 4.2 Technical Environment.*

### 4.1.9 Software Characteristics

| ITEM | DESCRIPTION |
|---|---|
| Desktop Workstations | - Windows XP Standard with SP2<br>- Office 2003 Standard Suite (Outlook & Word)<br>- Symantec AntiVirus Corporate Addition |
| Server Operating System Software | - Unix HPUX 11.3 |
| Application Development Software | - Oracle Developer 6i 6.0.8 (Forms and Reports)<br>- Oracle SQL Developer |
| Database Management Systems | - Oracle 9i and 10g |

### 4.1.10 Internal and External Interfaces

The CCT system lacks any electronic interoperability with other systems. This deficiency limits utilizing technologies for efficiency gains such as having data auto-flow into the CCT system from consumer generated emails and Web-form submissions, simple and quick access to related utility information when researching complaints, and centrally updated contact information for use by CAB Representatives when more information is required from the utility.

### 4.1.11 Personnel Requirements

The CCT system requires two Application Developers to spend part of their time adjusting the system in response to evolving CAB and the CPUC reporting and data collection needs.

### 4.1.12 System Documentation

There are no current adopted polices and procedures for the use of the current CCT system, though various informal processes and previously developed manuals do exist.

There is no adopted training manual or program for staff to use but an effort is underway to develop a program and manual.

Complete technical documentation for the CCT system does not exist.

### 4.1.13 Failures of the Current System

The current CCT system exhibits significant failures in its ability to support CAB's responsibility to assist consumers with resolving complaints and responding to inquiries related to utilities and the analysis, monitoring, and enforcement of utility compliance and activities.

Consumers are unable to effectively and efficiently get their complaints resolved as demonstrated by the existing backlog issues and the need to auto-close thousands of open cases. The manual processes required to complete the complaint resolution tasks in response to the lack of automated work flow and efficiency improving features within the current CCT system decrease CAB's effectiveness in servicing consumers.

The CAB Representatives spend time analyzing and working cases that are actually duplicates but which cannot be linked within the current CCT system. This, along with the system lacking a built-in work flow that enforces consistency, increases the time it takes to resolve consumer complaints which adds to the ever-growing backlog.

It is difficult and time consuming to extend the current CCT system. In addition, each extension to the system increases the overall instability and increases the risk of system downtime.

The multitude of system deficiencies related to data entry and case management has resulted in data that is incomplete relative to the quantity of cases, inconsistent relative to the quantity of cases by type, incomplete in areas such as consumer address information and categorization information, and erroneous relative to the dating of process actions.

The CCT system lacks generally accepted security controls to limit data editing and the lack of change log information results in an inability to audit user actions and if necessary, revert edited or deleted data back to a previous state.

Once files are closed the lack of functionality to incorporate electronic documents within the CCT system forces an ongoing reconciliation between the electronic system record and a paper file. There is currently no ability to consistently correlate the electronic information in the CCT system with the physical location of the paper documents. At any given time the documents may be on a CAB Representative's desk in Los Angeles, Sacramento, or San Francisco, filed in either Los Angeles or San Francisco (and within San Francisco on either the third or fourth floor), or piled in randomly filled boxes stacked in cubicles, hallways, and closets in the San Francisco office.

## 4.2 Technical Environment

This section provides a detailed description of the technical environment affecting the CCT system and infrastructure. It includes a description of the general technical environment, policies and procedures that must be considered, staffing requirements, and any relevant policies and legal constraints that must be recognized. It also provides a description of the technical resources and staffing requirements needed to support the current CCT system.

Enhancement to, or replacement of, the CCT system will require an extended implementation to fit into the current technical environment at the CPUC ISB with minimal changes. The ISB plans to continue the use of HP Unix servers using the Oracle 9i and 10g Relational Database Management Systems (RDBMS). Staff in ISB will assist with any new solution in order to identify technical requirements, test, implement, administer and maintain the new system. It is also anticipated that the new system will allow for changes in the operating procedures for the CAB. Both CAB users as well as other CPUC users of the system will need additional training to utilize the system to its fullest potential for day-to-day operations.

The figure below provides a high-level context of the CCT system. The primary CCT system objectives are twofold. One objective is to facilitate complaint resolution through capturing and tracking the filed complaints and inquiries. The second objective is to provide timely access to accurate and complete data for analysis and reports used Commissionwide.

CCT APPLICATION CONTEXT
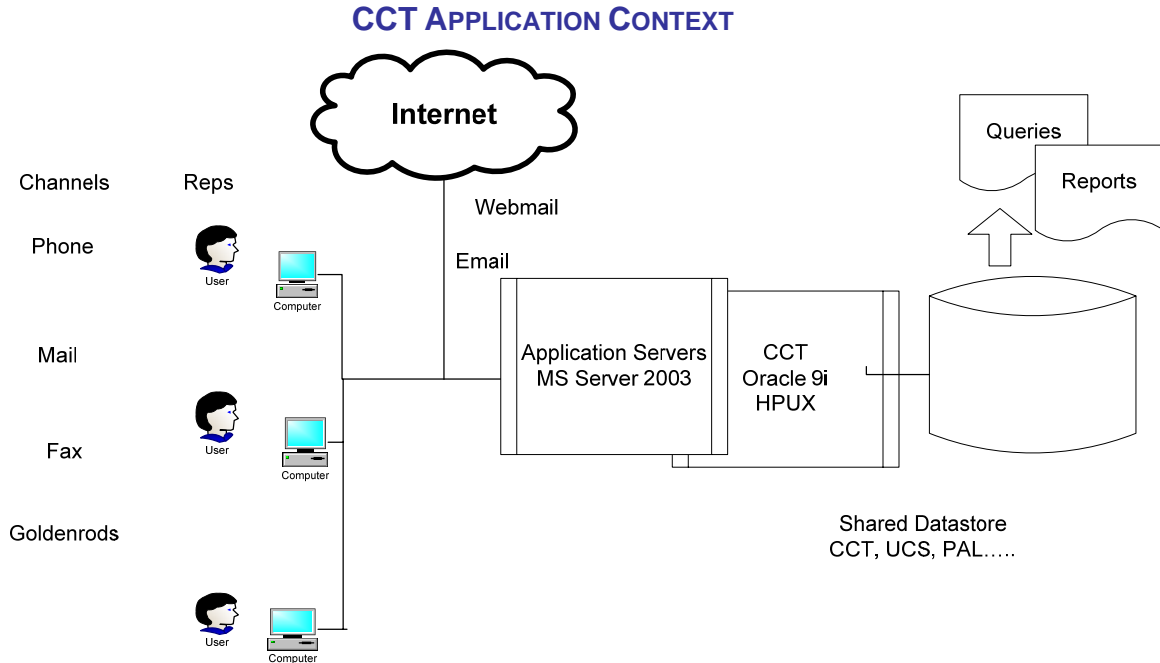


### IVR Phone System

The IVR phone system utilized by CAB is a recently installed (2005) Nortel Symposium Call Center Server r.5.0 running on a Windows 2000 server. The system is the single point of contact for a toll-free number that distributes inbound calls to representatives located in Los Angeles, Sacramento, and San Francisco. The switch supports automatic call distribution (ACD) Skills Based routing to all representative and supervisor telephone sets. This system is used as a stand-alone skills based routing application and does not currently provide or retrieve information from the CCT system. Although the CPUC may not be purchasing all of it, the functionality of this system includes[2]:

- ***Motorola 68040 Commercial Processor.*** This processing capability enables Meridian 1 Option 11C to support the rich suite of desktop, attendant, networking, administration, and Voice-over IP (VoIP) applications delivered with Meridian 1 X11 software. This is accompanied by the carrier grade five nines reliability.

- ***Ethernet Connection.*** Provides an Equipment LAN (ELAN) connection into server-based applications such as Symposium Call Center Server (for intelligent skill based routing within Call Centers), standalone CallPilot servers (for Unified Messaging), and Optivity Telephony Manager (for PC based system administration). It can also be used to deliver Simple Network Management Protocol (SNMP) alarm traps to open management workstations such as Optivity Network Management System or HP OpenView. The SNMP compatibility allows more efficient Meridian 1 alarm management, to provide a unified view of network operations in managing both voice and data networks.

- ***Keycode Software Activation.*** Offers a software delivery system which enables Feature Packages and Terminal Number levels to be activated by keycodes, allowing for

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[2]   This information was found on the vendor's Web site on March 8, 2006 and can be found at: http://products.nortel.com/go/product_assoc.jsp?segId=0&parId=0&rend_id=4341&contOid=100177668&prod_id=16001&locale=en-US .

faster order fulfillment. The X11 Software release upgrades are handled via PCMCIA cards. All of the software features of the release are then loaded onto the Option 11C system and just those features desired by the business can be activated. Keycodes also address adding or modifying features as business needs change or expand.

- *Effective Voice Messaging.* For unified messaging, CallPilot brings email, voice mail, and fax management to each employee's desktop PC. Meridian 1 Option 11C also supports traditional voice mail solutions. The Meridian Mail Card Option provides voice mail messaging as well as a wide variety of other features for efficient message management.

- *Call Center Management.* With Nortel Web portal solutions portfolio the CPUC can take advantage of the skills based routing and customer relationship management applications.

- *Powerful Networking.* Used throughout the network, a powerful suite of Integrated Services Digital Networking features and standards are supported with ISDN Q.Sig. The ISDN is a set of standards that is capable of transmitting fully digital communications (voice, data, fax, and image) over the same facilities. With Q.Sig support, these transmissions can also be across the network, even if switches are made up of multiple vendor platforms (provided these vendors also support the Q.Sig standard).

- *Distribution Over IP.* With the IP Expansion Option, Meridian 1 Option 11C expansion cabinets that house Intelligent Peripheral Equipment (IPE) can be distributed across campus via 100Base-T Copper or 100Base-F Fiber point-to-point. This allows the CPUC the opportunity to leverage existing bandwidth to QoS-enabled VoIP communications, with full survivability of the remote expansion cabinets should a power outage or network failure occur at main headquarters.

- *PC System Management.* Optivity Telephony Manager provides a suite of Windows-based applications that enables the conduction of traffic analysis, configuration of Meridian digital and IP telephones, and performance of call tracking and billing functions—either on-site or remotely over the Web.

- *Flexible Remote Solutions.* The IPE supports the Remote Office 9150/9110/9115 portfolio, bringing flexible, feature rich, and powerful branch office and telecommuter remote solutions to the enterprise. All three offerings support both traditional voice and VoIP communications at the remote location.

The phone system connects to the San Francisco, Los Angeles, and Sacramento offices into a Network ACD. All inbound calls, outgoing calls, and routing is handled at the switch in the San Francisco office. Supervisors can monitor employees (ready to take a call, logged off, time on calls, etc.) and can request ad hoc reporting for, and from, any location.

The CAB Representatives have a second phone on their desks that is utilized for local calls. Issues with dropping calls when transferring and conference calling within the Nortel system have caused many CAB Representatives to utilize the second phone as an outbound line when they have a consumer on the Nortel handset. This issue has been determined to be an installation issue and a change order has been initiated to change all Centrex lines within the Symposium system from "ground start" to "loop start" signaling. This will enable the CAB Representatives to initiate a three-way call, transfer calls, or to just simply transfer without having to utilize the second phone.

### 4.2.1 Expected Operational Life

The original version of the CCT system went into production in 1988 as a MAPPER Application on a Unisys mainframe. The system was migrated in 1998 to a three-tiered, Web-based Client Server architecture running Oracle on a UNIX server. The decision was made to move the system to its new platform with "as-is" functionality; therefore, the system was not redesigned to capitalize on the new capabilities of this platform. After the migration, add-on features such as query and reporting front ends were added by ISB programming staff.

The result of these years of modification to this system is an extremely cumbersome and brittle system requiring ever-increasing manpower to revise and maintain. Technical support staff are hesitant to make further changes due to the fragile nature of this system. The current CCT system is past its functional operational life.

Any new system should be expected to not only meet current data-entry and reporting demands but also be extensible to accommodate both growth in overall data storage and usage as well as increased interoperability with other CPUC databases.

### 4.2.2 External System Interfaces

The CCT system is a stand-alone system and does not currently interoperate with any other data systems or an existing document management system. Due to limitations within the CCT system, auxiliary data collection and reporting systems have been developed that will need to be interoperable with an enhanced solution. These auxiliary systems represent a variety of databases including Oracle RDBMS, Microsoft SQL Server 2000, Microsoft Access, and Microsoft Excel.

Exhibit 4.1 below contains the 16 Oracle systems in the CPUC Application Portfolio.

**EXHIBIT 4.1**
**CPUC APPLICATION PORTFOLIO**

| SYSTEM NAME | USED BY | DESCRIPTION |
|---|---|---|
| Application User Maintenance System (AUM) | ISB (IMSD) | Maintains and tracks user and application security for all Oracle applications. |
| Case Information System (CIS) | CPUC | Records history and current status of all Formal Complaints and applications before the Commission. |
| California Teleconnect Fund (CTF) | TELCO | Maintains certification information for schools, libraries, and CBOs who apply for funding through the California Teleconnect Fund program. |
| Employee Organization and Phone Systems (EOP/EOS) | CPUC | Maintains all employee phone and organization information. Used to assign staff in all other Oracle applications and to generate the in-house phonebook. |
| Electric Service Providers (ESP) | TELCO | Tracks the filing of applications to become a registered ESP, including service areas, customers, and history of suspensions. |
| Operations Sections System (OSS) | ISB (IMSD) | Miscellaneous jobs which are run on demand by the ISB Operations Section. |

*Continued*

| SYSTEM NAME | USED BY | DESCRIPTION |
|---|---|---|
| Proposal and Advice Letter Tracking (PAL) | ENERGY TELCO WATER | Monitors filing of proposal and Advice Letters and protests. |
| Payphone Service Providers (PSP) | CPSD | Tracks payphone compliance with signage (information displayed at the payphone location) and rates charged for intra/inter Local Access and Transport Areas, and directory assistance calls within California. |
| Standard Time Reporting (STR) | WATER ISB | Records employee absences. |
| System Maintenance (SYSALL) | ISB | Maintains dictionary tables and procedures common to all applications. |
| Transportation Informal Complaint Tracking (TIC) | CPSD | Tracks consumer inquiries and informal complaints against transportation companies (household goods movers and passenger carriers). Used by the CPSD division. |
| Transportation Management Information System (TMIS) | CPSD FISCAL (IMSD) | Maintains licensing, financial, and insurance data on moving companies and for-hire passenger carriers (limousines, airport shuttles, charter, and scheduled bus operators). Information on for-hire vessel carriers, intrastate private carriers of passengers, and interstate passenger and household goods carriers are limited to registration and insurance data. |
| Utility Contact System (UCS) | ENERGY TELCO WATER | Tracks names, addresses and service characteristics of all regulated non-transportation utilities. |
| User Fees System (UFS) | ENERGY TELCO WATER CPSD | Tracks payment information of all non-transportation utilities and railroad companies. |
| Utility Supplier Diversity Program (USDP) | Utilities | Tracks applications to the USDP program that allow businesses to be listed as minority and/or woman-owned businesses. |
| Work Tracking System (WTS) | CPUC | Tracks employee work hours for specific tasks. This is a management tool for determining workload priorities. |

## 4.2.3 State-Level Information Processing Policies

According to the State Administrative Manual for Information Management Planning, each agency identifies opportunities to improve program operations through strategic uses of information technology. Each agency also establishes and maintains an information technology infrastructure that supports the accomplishment of agency business strategies, is responsive to agency information requirements, and provides a coherent architecture for agency information systems.

The existing CCT system will not allow CAB to meet the basic service obligations of the CPUC in either servicing consumers or analyzing utility performance through complaint volumes.

### 4.2.4 Financial Constraints

The CPUC is requesting additional funds for a replacement system through a Budget Change Proposal.

### 4.2.5 Legal and Public Policy Environment

As part of its stated mission, the CPUC must monitor the safety of utility and transportation operations, oversee markets to inhibit anticompetitive activity, prosecute unlawful utility marketing and billing activities, govern business relationships between utilities and their affiliates, and resolve complaints by consumers against utilities.

### 4.2.6 Commission Policies and Procedures Related to Information Management

The CPUC has an email policy, an Internet policy, a telephone-use policy, and a computer equipment policy that are posted on the CPUC's Web site and are available for employee review. Any vendor selected to work on this project will be asked to adhere to these policies.

### 4.2.7 Anticipated Changes in Equipment, Software, or the Operating Environment

The ISB is anticipating an update to the current infrastructure environment in which the CCT system operates. This update will increase CAB's effectiveness by improving response time and allowing more concurrent sessions.

The following is an overview of the anticipated CCT operating environment scheduled to be implemented in September 2006. An overview of the existing CCT operating environment can be found in *4.3.2 LAN Servers*.

## ANTICIPATED ORACLE ENVIRONMENT (EFFECTIVE SEPTEMBER 2006)
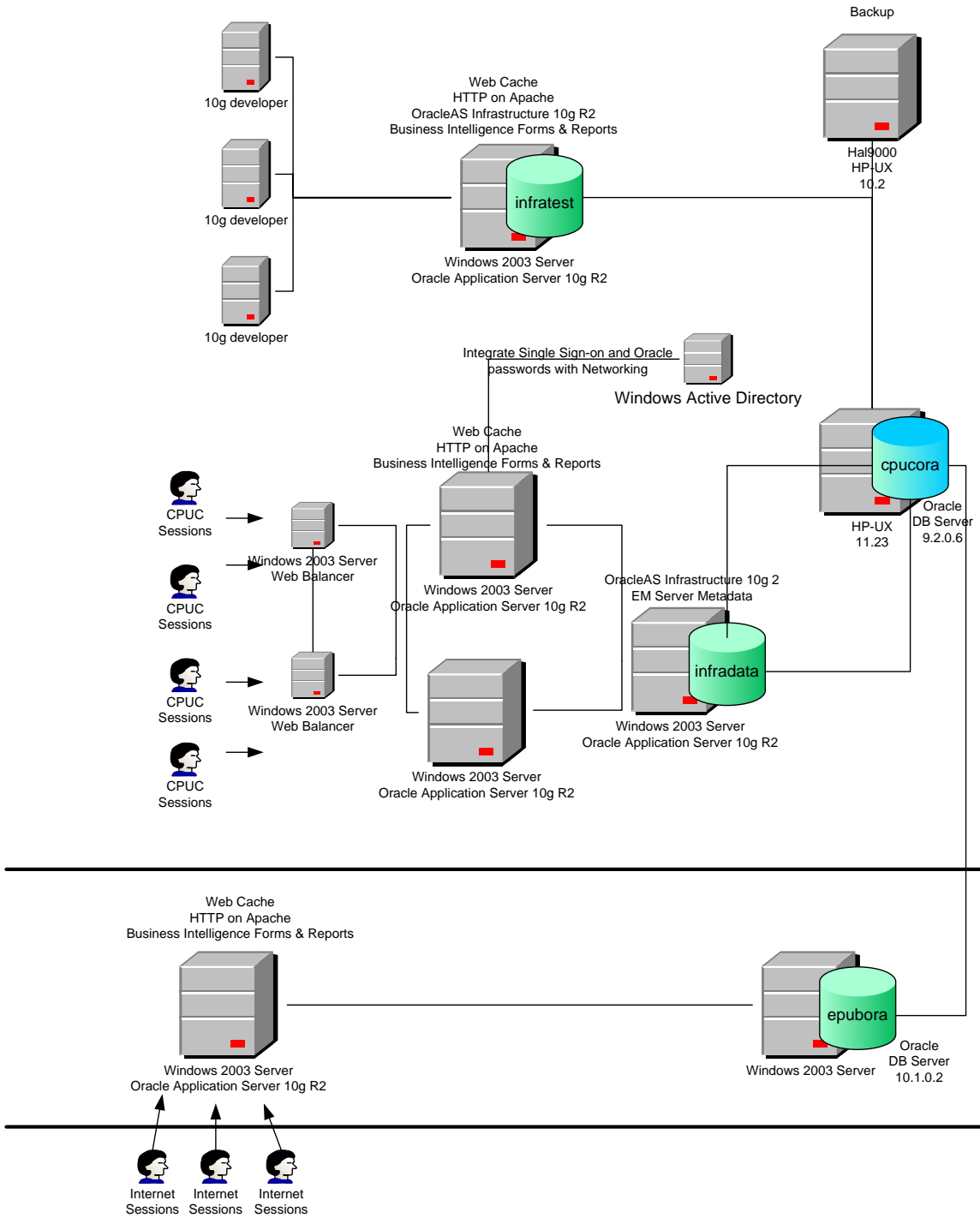


### 4.2.8 Availability of IT Personnel

The CCT system is supported by ISB which consists of 25 full-time state staff. Services provided by ISB include:

- Applications Programming.

- Operations Support.

- Analysis and Procurement.

- Help Desk Services.

- Network Administration.

Currently, three staff members dedicate a portion of their time (0.1 personnel year [PY] collectively) to the support and maintenance of the CCT system. These staff will need to participate in identifying the technical requirements for the replacement of the CCT system. The new system will need one PY to support and maintain the system and respond to staff requests. Since the new system will be in Oracle, the skill set of the staff member supporting the new system is the same as the skill set of current staff. The selected staff member will only have to learn the new application functionality.

A breakdown of ISB staff by service area and skill-set is in Exhibit 4.2. The breakdown of personnel by skill-set demonstrates the need for the CCT system to remain within an Oracle environment if ISB personnel are to be tasked with supporting and updating an enhanced solution. The implementation of a non-Oracle database or application system will require additional training resources if ISB personnel are to support and update the system.

**EXHIBIT 4.2**
**ISB PERSONNEL BY SKILL AREA**

| TOTAL STAFF BY AREA | | | | | | |
|---|---|---|---|---|---|---|
| APPLICATIONS PROGRAMMING | | | | | | |
| | COBOL | DBA | ORACLE | OS 1100 | SQL | UNISYS OS |
| 4 | 0 | 2 | 3 | 0 | 0 | 2 |
| OPERATIONS SUPPORT | | | | | | |
| | BACKUP MAINFRAME | BACKUP SERVERS | BATCH JOB PROCESSING | SYSTEMS MONITORING | RECOVERY | |
| 3 | 0 | 2 | 0 | 3 | 3 | |
| ANALYSIS AND PROCUREMENT | | | | | | |
| | CONTRACT MANAGEMENT | AGENCY LIAISON | GRAPHIC DESIGN | PROCUREMENT | SYSTEMS ANALYSIS | TECHNICAL WRITING |
| 2 | 1 | 2 | 1 | 2 | 1 | 1 |
| HELP DESK SERVICES | | | | | | |
| | DESKTOP APPLICATIONS | DESKTOP OS | HARDWARE SUPPORT | NEW PRODUCT TESTING | TRAINING | |
| 8 | 8 | 8 | 8 | 2 | 8 | |
| NETWORK ADMINISTRATION | | | | | | |
| | BACKUP SOFTWARE | GEN. NW SUPPORT | HARDWARE CONFIG | MS OS | APPLICATIONS | NETWORK ADMIN |
| 8 | 6 | 6 | 6 | 6 | 6 | 6 |

| NETWORK ADMINISTRATION (CONT.) | | | | | |
|---|---|---|---|---|---|
| **NETWORK DESIGN** | **NETWORK MONITORING** | **NETWORK SECURITY** | **UNIX OS** | **UPS** | **WEB ADMIN** |
| 2 | 2 | 6 | 2 | 2 | 2 |

| NETWORK ADMINISTRATION (CONT.) | | | | | |
|---|---|---|---|---|---|
| **WEB APPLICATIONS** | **WEB DESIGN** | | | | |
| 2 | 2 | | | | |

Note:    The total amount of staff in any section may be smaller than the sum of staff in all skill sets as some staff have multiple skill sets.

## 4.3 Existing Infrastructure

This section describes the CPUC's and the CCT system's existing infrastructure and technical architecture to provide a context in which the proposed solution will be implemented.

### 4.3.1 Desktop Workstation

**Exhibit 4.3** displays the typical new workstation configuration for staff at the CPUC.

**EXHIBIT 4.3**
**WORKSTATION CONFIGURATION**

| CONFIGURATION |
|---|
| Pentium 4, 3.0 Ghz |
| 1 GIG RAM |
| 80 G HD |
| DVD-Rom |
| CD R/W |
| 17" Flat Panel display |

### Printers

The CPUC printers are predominantly networked printers, but there still exist some locally attached personal printers. The size and speed of the printers are based on the users' needs.

### 4.3.2 LAN Servers

Access to the CCT system is via the LAN within the San Francisco office and via high-speed T1 connections from the Los Angeles and Sacramento offices. The following exhibit depicts the CCT architecture.

CCT ARCHITECTURE

CCT Application
Servers

SF Users

CPUC Oracle
Database Server

Windows

Oracle

Production

CPUC NETWORK

CPUC FIREWALL

Application
Portfolio

CCT

CIS

PAL

UCS

12 Others

Group

SF

Server

Group

LA

Server

Windows

Oracle

Development

Server

LA Users
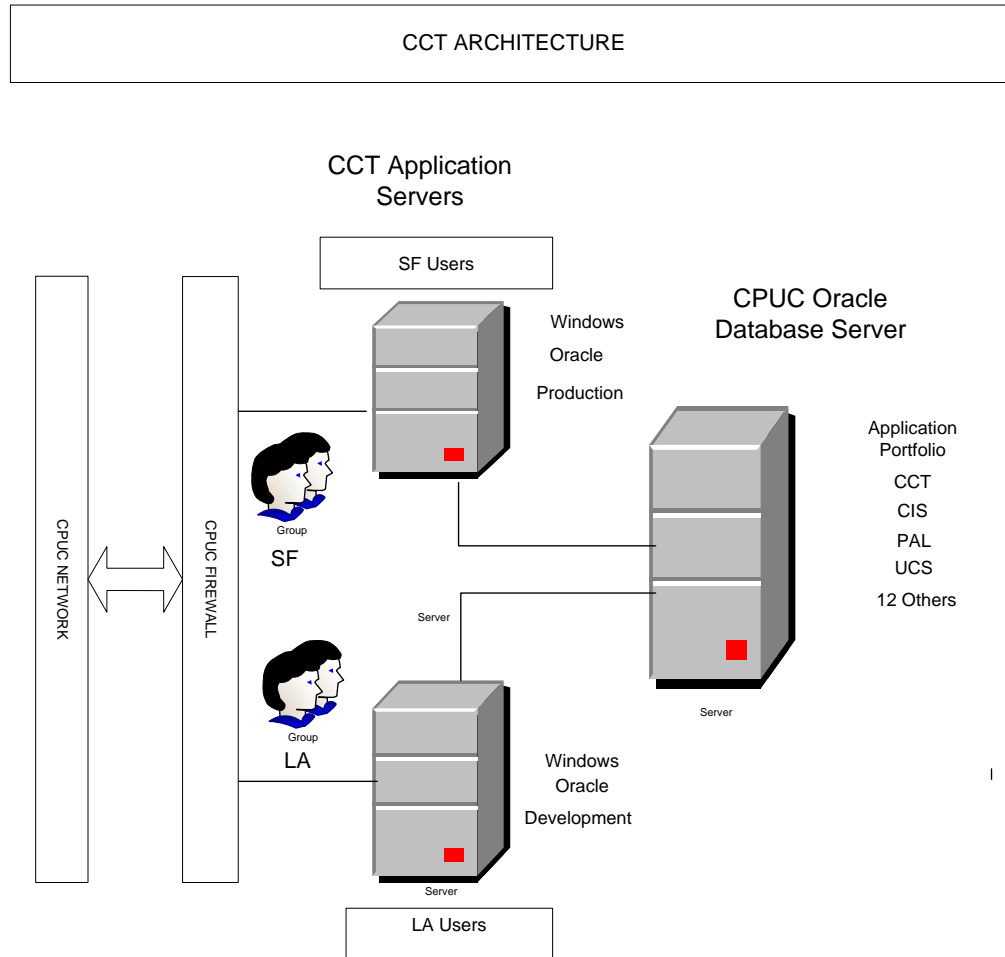
This is a recent configuration change for the CCT system. The ISB technology staff reconfigured system access to add a second application server with additional capacity to improve response time for the CAB Representatives. Now the Los Angeles CAB Representatives and Intake users' CCT sessions run on the current development server.

### 4.3.3 Network Protocols

There are a variety of standards employed in the network area due to the nature and complexity of data communications. In most cases, no single vendor or product can provide all of the services needed to support a complex network. The specific standards established at the CPUC include TCP/IP as the standard transport protocol for network traffic both inside and outside of the CPUC. The ISB supports SNA and TCP/IP data communications for TCP/IP connectivity to the Department of Technology Services (DTS) data center (formerly the Stephen P. Teale Data Center). The DHCP is used for TCP/IP addressing within the San Francisco office LAN-connected workstations. Workstations in Los Angeles and Sacramento utilize static IP addressing. All CPUC servers are statically addressed.

All cabling within the Sacramento and Los Angeles offices are Category 5 which is capable of 100Mbs transfer. The cabling in the San Francisco office is a mixture of Category 3, 4, and 5. Throughput speeds vary by need:

- Exchange Servers and a few selected servers are on Gigabit.

- All other Servers are on 100mb.

- Desktops are on 10mb.

The CCT system is protected by a firewall. This firewall separates the network into three network nodes:

1. *The Public Service Network* – This includes the Internet servers accessible to the public.
2. *The SNA Network* – This is DTS-related HR and fiscal-services applications.
3. *The CPUC Internal Network* – This is where most users connect and is the environment in which the CCT system resides.

The firewall is connected to the external network through a router, which restricts incoming network traffic to selected addresses or subnet masks. Cisco brand routers are used for all WAN connectivity and HP brand switches for LAN connectivity. This configuration prevents anyone in the external network from directly accessing the CCT system.

| ITEM | DESCRIPTION |
|---|---|
| LAN Servers | - Windows 2003 Server, Windows 2000 Server, Windows NT4 Server<br>- SNA Gateways<br>- HP-UX<br>- Checkpoint Firewall –Secure Platform<br>- Exchange |
| Network Protocols | - TCP/IP<br>- SNA |

## 4.3.4 Application Development Software

The following table provides the information regarding the Application Development Software that the CPUC utilizes for their various current applications.

| ITEM | DESCRIPTION |
|---|---|
| Application Development Software | - Oracle Developer 6i 6.0.8 (Forms and Reports)<br>- Oracle SQL Developer<br>- SQL*Plus and PL-SQL Script<br>- Dreamweaver |
| Web Application Development Software | - MS Content Management Server<br>- MS Server 2003 / MS Server 2000 (IIS)<br>- VisualStudio.NET/VisualStudio<br>- VisualBasic.NET/VisualBasic<br>- C#.NET<br>- Oracle Application Server (Apache) |

### 4.3.5 Personal Productivity Software

The following table provides a description of the personal productivity software used on the typical CPUC workstation computer.

| ITEM | DESCRIPTION |
|---|---|
| Desktop Workstations | Office 2003 Standard Suite<br> - Outlook<br> - Word<br> - Excel<br> - PowerPoint<br> - Symantec AntiVirus Corporate Edition<br> - Hummingbird Document Management 5.1.05 |
| Optional Desktop Applications | - MS Access<br> - Adobe Acrobat Pro 7.0<br> - Roxio Easy CD Creator (only CDRW drives) |
| Personal Productivity Software | - Adobe Acrobat Pro 7.0<br> - Arcview (GIS system used by CPSD and DRA)<br> - MS Visio<br> - Crystal Ball (Statistical and Reporting software)<br> - MS Project 2003<br> - E-Views (Forecasting and Statistical software)<br> - Adobe Photo Shop CS (Used by CISD and IMSD)<br> - Adobe Illustrator CS (Used by CISD and IMSD)<br> - Monarch<br> - SPSS<br> - Omni Page Pro<br> - Jaws (Speech Enabled) |

### 4.3.6 Operating System Software

The following table provides a description of the operating system software for the typical CPUC workstation computer and on the CPUC servers.

| ITEM | DESCRIPTION |
|---|---|
| Desktop Workstations | - Windows XP Standard with SP2 |
| Server Operating System Software | - Unix HPUX 11.3 (1 legacy system on 10.20 – 32 bit)<br> - Windows 2003 Server, Windows 2000 Server, Windows NT4 Server |

### 4.3.7 Database Management System

The following table provides a description of the database management system software utilized by the CPUC.

| ITEM | DESCRIPTION |
|---|---|
| Database Management Systems | - Oracle 9i and 10g<br> - MySQL<br> - MS SQLServer |

### 4.3.8 Application Development Methodology

The CPUC does not currently have a standard Application Development Methodology in place that would constrain the vendor development of a new CCT system. The vendor will be required to utilize a robust, standard methodology.

### 4.3.9 Project Management Methodology

The CPUC subscribes to the Department of Finance's project management methodology but is open to any robust, standard project management methodology.

# 5.0 Proposed Solution

This section identifies the alternative which best satisfies the previously defined objectives and functional requirements. The California Public Utilities Commission (CPUC) conducted market research and analysis to determine the alternative solutions to best meet the CPUC's needs. In the evaluation of the alternative solutions, it was determined that there were three viable approaches available to meet the CPUC's business objectives and functional requirements:

✦ Modified-Off-The-Shelf (MOTS) in which the vendor modifies a current system.

✦ Commercial-Off-The-Shelf (COTS) in which the vendor installs and configures its product.

✦ Application Development (App Dev) in which the vendor develops a custom solution.

Exhibit 5.1 identifies the traits generally associated with each type of approach.

EXHIBIT 5.1
TRAITS OF EACH APPROACH

| TRAIT | MOTS | COTS | APP DEV |
|---|---|---|---|
| Meets Business Requirements | Meets most requirements | Meets many requirements | Meets all business requirements |
| Flexibility | Very flexible to changes | Least flexible to changes | Very flexible to changes |
| Cost | Tends to have the moderate overall cost | Tends to have the lowest overall cost | Tends to have the highest overall cost |
| Time to Deploy | Moderate time to deploy | Shortest time to deploy | Longest time to deploy |
| Risk | Low risk since modifying developed solution | Lowest risk since already developed | Highest risk since creating with no existing functionality |

Based on an evaluation of the proposals submitted in response to the CPUC's request for information (RFI), the CPUC believes that the MOTS solution will be the most cost-effective solution to meet its business requirements while minimizing development risk.

The proposed solution is presented in the following sections:

**5.1.    Solution Description**

**5.2.    Rationale for Selection**

**5.3.    Other Alternatives Considered**

     5.3.1    Alternative 1
     5.3.2    Alternative 2

## 5.1 Proposed Solution Description

Each of the solutions has its strengths. The proposed solution is a MOTS solution chosen from among COTS, MOTS, and App Dev approaches. The major factors contributing to the selection of this solution are:

✦ The prioritization of needing to meet scope, schedule, and budget in that order.

✦ The prioritization within scope of meeting (1) effectiveness, (2) efficiency, (3) quality of service to the consumer, and (4) data quality in that order.

✦ The balance between flexibility to respond to future business needs and development risk.

✦ The flexibility to modify the system as statutory, regulatory, or agency environments change.

✦ Modifying the existing system, which functions primarily as a data repository rather than a system that facilitates processing of complaints, was not an option.

✦ The ability to resolve more complaints without additional staff in the event the CPUC education campaign yields more complaints.

There are many ways in which the system will change how a complaint can be processed. Section 3.0 describes the current process which:

(1) Does not provide sufficient data for the Consumer Affairs Branch (CAB) Representative to immediately resolve complaints with information on internal CPUC systems.

(2) Is laden with manual processing distracting staff from processing complaints in a timely fashion.

(3) Involves an overwhelming mass of papers that are burying the staff.

(4) Lacks in, and inconsistently allows data entry resulting in invalid data rendering trend analysis nearly impossible to accurately complete.

(5) Lengthens processing of complaints (some complaints over two years old).

(6) Results in less quality of service than the CPUC would like.

The following describes how the process can be implemented using the new system.

The selected solution will enable a consumer to log on to the CPUC Web site and submit a complaint at 10:00 p.m.—long after the CPUC offices are closed. The complaint sits on the server outside the firewall for security purposes. That night, the complaint is batch processed and automatically populates the Consumer Information Management System (CIMS) database. Within a short period of time, the routine complaint is directed to the appropriate utility with a request for resolution. A code is entered into the system that the complaint was automatically sent to the utility and the date it was sent. The clock begins counting so that within 20 days the utility is notified if it has not resolved the complaint and responded—electronically—to the CPUC. The complaint is assigned to a CAB Representative who handles routine complaints to which a utility either did not respond or responded that they would not resolve the complaint in favor of the consumer. When either the CAB Representative is notified by the utility that it will not resolve the complaint in favor of the consumer, or the 20 day deadline has passed, the CAB Representative is notified for the first time that action needs to be taken. Up until this point, processing is completely automated. Relieved from the processing of routine complaints, CAB

Representatives will be more efficiently utilized, focusing on complaints that require mediation or negotiation.

For those complaints that need the CAB Representative's attention, the CAB Representative opens the record and may see that there were supplemental documents attached to the record. The CAB Representative could glance at his/her second monitor to review the supplemental documents—that were scanned in and associated to a record by Intake staff—and make a determination whether the complaint can be resolved. (Two monitors exist at each CAB Representative's desk to reduce eye fatigue and to speed up processing in that the CAB Representative does not have to scroll back and forth between the record and the many pages of supplemental documents.) The CAB Representative may key enter codes into the system from information on the supplemental documents. To do so, the CAB Representative merely has to click on the field and a drop-down menu will provide choices to ensure uniform data entry. Should he/she have a question about one of the codes, they can click on the code and a description will pop up, thereby ensuring the appropriate use of the codes. To resolve the complaint, the CAB Representative searches the Proposal and Advice Letter Log (PAL) database through the CIMS interface to PAL for utility contact information and tariff data. Should the CAB Representative have questions about how to resolve the complaint he/she could click a button to request suggestions from the system based on "what if" scenarios. Once the CAB Representative determines the most appropriate resolution, he/she can enter the disposition code and close out the complaint at which time the computer automatically generates a letter to the consumer describing the disposition of the complaint from one of the many form letters created for this purpose.

Thus, with the new system, CAB Representatives are freed from inefficient paper processing to interacting with consumers.

Three-quarters of the complaints received are telecommunications complaints. Four-fifths of those are routine complaints that to resolve, the CAB Representative has only to send a letter to the utility or talk to the utility representative. In neither case must the CAB Representative engage the utility in a negotiation nor does the CAB Representative need to mediate between the utility and consumer. These complaints are ideally suited to be resolved through the auto work flow process leaving the CAB Representative available to respond to those that require mediation or negotiation.

The sections below explain each component of the proposed solution.

1. **Hardware**

   The proposed solution will require the procurement of hardware to operate the CIMS system. It will include Web, application, and database server platforms, scanners, and a second monitor for each CAB staff member. The servers will comply with the CPUC and Department of Technology Services' (DTS') current technology standards and will be sited at DTS.

   Multiple environments will be created to house the production, development, and test systems. The solution will incorporate the high availability model (that is, minimal downtime) meaning that if the production environment fails, the test environment will act as a fail-over system.

   The CPUC currently has a Document Management System (DMS). Two scanners are needed in CAB to scan supplemental documents and associate the documents with a record. The DMS will be the repository for the actual document, and CIMS will associate

it with a record and provide access. One scanner will be housed in the San Francisco CPUC office, while the other will be used in the Los Angeles office. With an average complaint file containing 15 pages of documents, the CPUC will need the capacity to handle approximately 259,545 pages of documents annually, or 1,042 pages per day.

One additional monitor for each CAB Representative is needed to reduce eye fatigue. (Managers at a state department in which a consumer complaint system that uses scanned documents strongly encouraged dual monitors as staff complained of significant eye fatigue when they attempted to use only one monitor—even a large screen monitor.)

Exhibit 5.2 displays a high-level diagram of the hardware configuration for the proposed solution.

**EXHIBIT 5.2**
**PROPOSED SOLUTION HARDWARE CONFIGURATION**
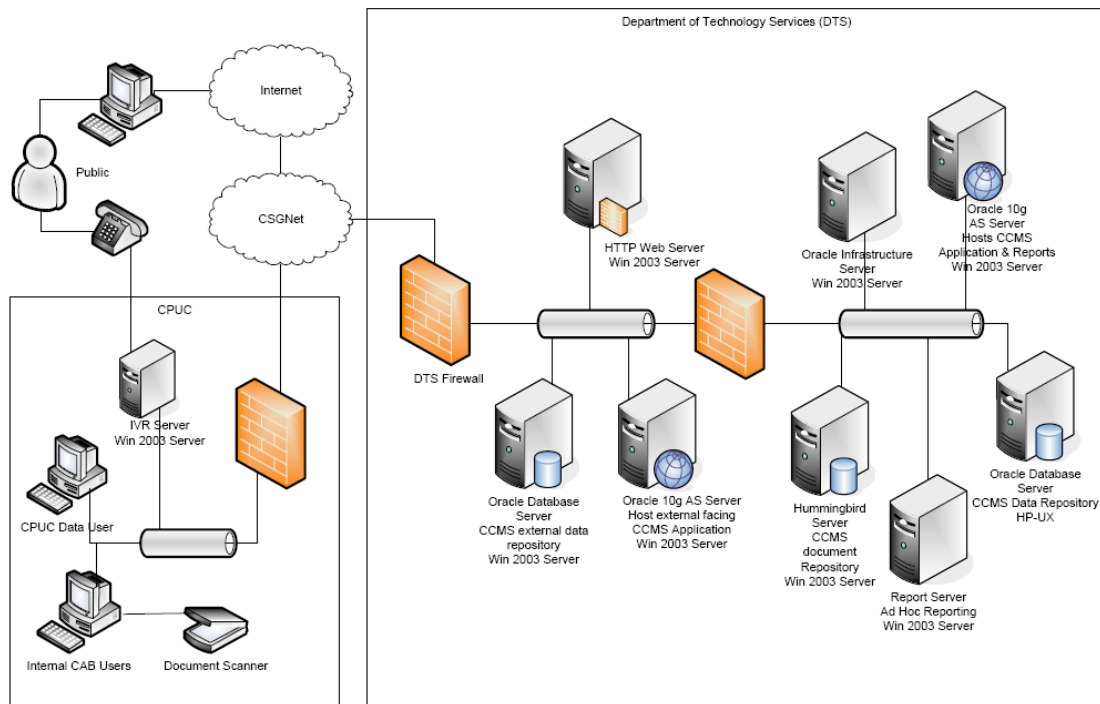


The hardware configurations are listed below by environment:

✦ Production Intranet Environment

  – Application and Report Server

    • Dell 2850 2U rack-mounted Server
    • 3.0 GHz Dual Xeon processor with 2MB cache
    • 4 GB RAM
    • 36 GB HD RAID 1 Operating System Drive
    • 3 - 73 GB HD in RAID 5 configuration for data
    • 24X CD ROM Drive
    • Dual Internal NIC
    • Redundant Power Supply with dual cords

- Master Database Server

  - HP rx2600 Server
  - 1.3 GHz Dual Titanium 2 processor 3MB cache
  - 32 GB RAM
  - HP Storage Works Disk System with 8 – 73 GB Disks
  - HP Ultrium 215 Array Module
  - 24X CD ROM Drive
  - Dual Internal NIC

- Ad Hoc Report Server

  - Dell 2850 2U rack-mounted Server
  - 3.0 GHz Dual Xeon processor with 2MB cache
  - 4 GB RAM
  - 36 GB HD RAID 1 Operating System Drive
  - 3 - 73 GB HD in RAID 5 configuration for data
  - 24X CD ROM Drive
  - Dual Internal NIC
  - Redundant Power Supply with dual cords

- Web Server

  - Dell 2850 2U rack-mounted Server
  - 3.0 GHz Dual Xeon processor with 2MB cache
  - 4 GB RAM
  - 36 GB HD RAID 1 Operating System Drive
  - 3 - 73 GB HD in RAID 5 configuration for data
  - 24X CD ROM Drive
  - Dual Internal NIC
  - Redundant Power Supply with dual cords

- Oracle Infrastructure Server

  - Dell 2850 2U rack-mounted Server
  - 3.0 GHz Dual Xeon processor with 2MB cache
  - 4 GB RAM
  - 36 GB HD RAID 1 Operating System Drive
  - 3 - 73 GB HD in RAID 5 configuration for data
  - 24X CD ROM Drive
  - Dual Internal NIC
  - Redundant Power Supply with dual cords

✦ Production/Internet Environment

- Internet Application Server

  - Dell 2850 2U rack-mounted Server
  - 3.0 GHz Dual Xeon processor with 2MB cache
  - 4 GB RAM
  - 36 GB HD RAID 1 Operating System Drive
  - 3 - 73 GB HD in RAID 5 configuration for data
  - 24X CD ROM Drive

- • Dual Internal NIC
- • Redundant Power Supply with dual cords

- − External Database Server

  - • Dell 2850 2U rack-mounted Server
  - • 3.0 GHz Dual Xeon processor with 2MB cache
  - • 4 GB RAM
  - • 36 GB HD RAID 1 Operating System Drive
  - • 3 - 73 GB HD in RAID 5 configuration for data
  - • 24X CD ROM Drive
  - • Dual Internal NIC
  - • Redundant Power Supply with dual cords

- − IVR Server

  - • Dell 2850 2U rack-mounted Server
  - • 3.0 GHz Dual Xeon processor with 2MB cache
  - • 4 GB RAM
  - • 36 GB HD RAID 1 Operating System Drive
  - • 3 - 73 GB HD in RAID 5 configuration for data
  - • 24X CD ROM Drive
  - • Dual Internal NIC
  - • Redundant Power Supply with dual cords

✦ Development Environment (housed at the vendor site)

- − Application, Ad Hoc Report, DB Server

  - • Dell 2850 2U rack-mounted Server
  - • 3.0 GHz Dual Xeon processor with 2MB cache
  - • 4 GB RAM
  - • 36 GB HD RAID 1 Operating System Drive
  - • 3 - 73 GB HD in RAID 5 configuration for data
  - • 24X CD ROM Drive
  - • Dual Internal NIC
  - • Redundant Power Supply with dual cords

- − IVR App Dev Server

  - • Dell 2850 2U rack-mounted Server
  - • 3.0 GHz Dual Xeon processor with 2MB cache
  - • 4 GB RAM
  - • 36 GB HD RAID 1 Operating System Drive
  - • 3 - 73 GB HD in RAID 5 configuration for data
  - • 24X CD ROM Drive
  - • Dual Internal NIC
  - • Redundant Power Supply with dual cords

✦ System Test Environment

- − Application and Report Server

  - • Dell 2850 2U rack-mounted Server
  - • 3.0 GHz Dual Xeon processor with 2MB cache

- 4 GB RAM
- 36 GB HD RAID 1 Operating System Drive
- 3 - 73 GB HD in RAID 5 configuration for data
- 24X CD ROM Drive
- Dual Internal NIC
- Redundant Power Supply with dual cords

− Master Database Server

- HP rx2600 Server
- 1.3 GHz Dual Itanium 2 processor 3MB cache
- 32 GB RAM
- HP Storage Works Disk System with 8 – 73 GB Disks
- HP Ultrium 215 Array Module
- 24X CD ROM Drive
- Dual Internal NIC

− Ad Hoc Report Server

- Dell 2850 2U rack-mounted Server
- 3.0 GHz Dual Xeon processor with 2MB cache
- 4 GB RAM
- 36 GB HD RAID 1 Operating System Drive
- 3 - 73 GB HD in RAID 5 configuration for data
- 24X CD ROM Drive
- Dual Internal NIC
- Redundant Power Supply with dual cords

− Web Server

- Dell 2850 2U rack-mounted Server
- 3.0 GHz Dual Xeon processor with 2MB cache
- 4 GB RAM
- 36 GB HD RAID 1 Operating System Drive
- 3 - 73 GB HD in RAID 5 configuration for data
- 24X CD ROM Drive
- Dual Internal NIC
- Redundant Power Supply with dual cords

− External Database Server

- Dell 2850 2U rack-mounted Server
- 3.0 GHz Dual Xeon processor with 2MB cache
- 4 GB RAM
- 36 GB HD RAID 1 Operating System Drive
- 3 - 73 GB HD in RAID 5 configuration for data
- 24X CD ROM Drive
- Dual Internal NIC
- Redundant Power Supply with dual cords

− IVR Application Server

- Dell 2850 2U rack-mounted Server

- 3.0 GHz Dual Xeon processor with 2MB cache
- 4 GB RAM
- 36 GB HD RAID 1 Operating System Drive
- 3 - 73 GB HD in RAID 5 configuration for data
- 24X CD ROM Drive
- Dual Internal NIC
- Redundant Power Supply with dual cords

✦ Scanners (2 required)

− Fujitsu fi-5530c Scanner

- Vertical feed 35 ppm
- 100-sheet feeder
- 3,000 pages/day duty cycle

✦ Desktop Hardware Required

− HP 19" LCD Flat Panel Monitor for each CAB Representative

− HP Graphics card for each CAB Representative to drive second monitor

2. **Software**

The list of software is based on the vendor's proposal and includes new operating system and database software. The software needed to scan documents is recommended by the CPUC's current DMS vendor. The following lists software needed for the separate environments as well as desktop software at the end.

✦ Production Intranet Environment

− Application and Report Server

- Microsoft Windows 2003 Server
- Oracle Application Server 10g
- Oracle Application Server Report Services 10g
- Modified complaint tracking application

− Master Database Server

- HP-UX (Unix Operating System)
- Oracle Database 10g

− Ad Hoc Report Server

- Microsoft Windows 2003 Server
- Oracle Business Intelligence 10g

− Web Server

- Microsoft Windows 2003 Server
- Oracle Application Server 10g

− Oracle Infrastructure Server

- Microsoft Windows 2003 Server
- Oracle Application Server 10g

✦ Production/Internet Environment

- Internet Application Server

  - Microsoft Windows 2003 Server
  - Oracle Application Server 10g
  - Oracle Container for J2EE
  - Modified complaint tracking application

- External Data Server

  - Microsoft Windows 2003 Server
  - Oracle Database 10g

- Interactive Voice Response Server

  - Microsoft Windows 2003 Server
  - IVR Software

✦ Development Environment

- Application, Ad Hoc Report, DB Server

  - Microsoft Windows 2003 Server
  - Oracle Container for J2EE
  - Oracle Application Server Report Services 10g
  - Oracle Business Intelligence 10g
  - Oracle Database 10g
  - Modified complaint tracking application

- IVR App Dev Server

  - IVR Software

✦ System Test Environment

- Application and Report Server

  - Microsoft Windows 2003 Server
  - Oracle Container for J2EE
  - Oracle Application Server Report Services 10g

- Master Database Server

  - HP-UX (Unix Operating System)
  - Oracle Database 10g

- External Database Server

  - Microsoft Windows 2003 Server
  - Oracle Application Server 10g

- Ad Hoc Report Server

  - Microsoft Windows 2003 Server
  - Oracle Business Intelligence 10g

- Web Server

  - Microsoft Windows 2003 Server
  - Oracle Application Server 10g

- Oracle Infrastructure Server

  - Microsoft Windows 2003 Server
  - Oracle Application Server 10g

✦ IVR Software

  - IVR Software to interface phone system with proposed solution.

✦ Desktop Software Required

  - No desktop software is required for CAB Representative or end-users of the proposed solution.

  - Support for the dual monitor configuration recommended for the CAB Representative can be supported by the Windows XP operating system currently installed on all desktops.

✦ Software for Intake Staff

  - Scanner Software on the desktop of two Intake Staff will be required to support the conversion of paper documents into electronic form.

    - Kofax Ascent Capture 75k pages/month.
    - Kofax Ascent PDF Image + Text.
    - Kofax Ascent Capture Full Station.
    - Kofax VRS Workgroup/USB.
    - GNC Release Script - Hummingbird Document management software to manage scanned documents.
    - Document management software to scan documents in Intake Unit desktop.

3. **Technical Platform**

The CPUC intends to use hardware and software that complies with DTS and CPUC standards, which are widely supported in the marketplace. This includes:

✦ Microsoft Windows for the server platform (except for the master database servers).

✦ Oracle external databases servers.

✦ J2EE for App Dev platform.

✦ HP Unix for master databases server.

4. **Development Approach**

The proposed solution vendor will complete all modifications to the solution using a structured methodology to perform required modifications. The Information Services Branch (ISB) staff will not participate in making modifications. Before modifications are made, the vendor will require assistance from subject matter experts (SMEs) to refine the requirements and to test the final product to ensure it meets their needs. Data in the CCT system will not be migrated to the new system. Therefore, the vendor will not undertake data conversion.

The vendor will use its own project management team during the application modifications and implementation. The robustness of the methodology will be a primary consideration in the vendor selection process. Data in the Consumer Complaint Tracking

(CCT) system will not be migrated to the new system. Therefore, the vendor will not undertake data conversion.

5. **Integration Issues**

The proposed solution will not integrate with other applications.

6. **Procurement Approach**

*Approach*. The CPUC procurement staff will develop a Statement of Work (SOW) to procure a vendor that will develop SOWs for project management, independent project oversight, and independent verification and validation (IV&V) vendors. The CPUC staff will contact a number of vendors from the Department of General Services' (DGS') Master Service Agreement (MSA) to solicit bids. The MSA provides a competitive yet quick process. The award to develop these SOWs is expected to occur after project approval in the May Revision process since the CPUC is redirecting existing funds. The vendor will need to develop these quickly as the CPUC would like the Project Manager, independent project oversight contractor (IPOC), and IV&V vendors to be under contract before development of the RFP for the system vendor begins, so that they can participate.

The CPUC procurement staff will also write a SOW to procure a vendor that will develop the system vendor RFP. The procurement staff will contact a number of vendors on DGS' MSA to solicit bids. Again, the MSA provides a process that enables the CPUC to acquire the vendor through competitive means and also meet its schedule.

The CPUC intends to issue an RFP to procure a system vendor to ensure the solution that best meets the business objectives and functional requirements is competitively procured. The CPUC will seek the assistance of DGS procurement specialists to ensure the CPUC correctly implements the procurement process. The CPUC recognizes that a procurement that is well thought out and executed according to DGS' policies and procedures, will better protect the State and ensure the vendor clearly understands the requirements.

*Market Research*. Once business and functional requirements were developed based on interviews, focus groups with staff, and document reviews, the team identified a number of firms that appeared to provide the needed functionality. These firms were identified through knowledge of the customer-service industry and Internet research. Searches were performed to identify firms that had products that were customer-centric and/or had an automated work flow solution. Additionally, eight public utilities commissions throughout the United States were contacted (New York, Texas, Florida, Pennsylvania, Georgia, Ohio, Illinois, and Michigan) to inquire as to whether their consumer complaint resolution systems were developed by a vendor. Seven responded to our RFI. Of the seven, five developed systems in-house. If the system was developed by a vendor, that vendor was added to the list of vendors who would receive the RFI. After research and telephone conversations with firms that appeared able to meet the requirements, a total of 38 firms were sent the RFI. Additionally, the RFI was provided to a service that sends RFIs and RFPs to vendors that subscribe to its service.

Thirteen proposals were received, but one was disqualified since it was received after the deadline. From the review of the 12 proposals, it was determined that four firms met the most critical functional requirements. From those four firms, the CPUC identified and evaluated three viable alternatives that best met the functional requirements. Those

proposals were evaluated in more depth against the business objectives, functional requirements, and the project's priorities.

7. **Technical Interfaces**

The proposed solution will interface with internal systems only. There are no significant technical interface issues because all applications are in the CPUC Application Portfolio within the Oracle system. (A list that more fully describes the business need for access to the data in each application is included in Section 4.0.) The following are the applications to which the solution needs to interface:

✦ Proposal and Advice Letter Log

  – Monitors filing of proposal and advice letters and protests

✦ Transportation Management Information System

  – Maintains licensing, financial and insurance data on moving companies, and for-hire passenger carriers (limousines, airport shuttles, charter, and scheduled bus operators). Information on for-hire vessel carriers, intrastate private carriers of passengers, and interstate passenger and household goods carriers are limited to registration and insurance data.

✦ Transportation Informal Complaint Tracking

  – Tracks consumer inquiries and informal complaints against transportation companies (household goods movers and passenger carriers).

✦ Utility Contact System

  – Tracks names, addresses, and service characteristics of all regulated nontransportation utilities.

✦ Electric Service Providers

  – Tracks the filing of applications to become a registered ESP, including service areas, customers, and history of suspensions. Employed by CAB Representatives when resolving complaints.

✦ User Fees System

  – Tracks payment information of all nontransportation utilities and railroad companies.

✦ Application User Maintenance System

  – Maintains and tracks user and application security for all Oracle applications.

✦ Employee Organization and Phone Systems

  – Maintains all employee phone numbers and organization information. Used to assign staff in Oracle applications.

✦ System Maintenance

  – Maintains dictionary tables and procedures common to all applications.

8. **Testing Plan**

The proposed solution will adhere to industry standards for testing systems of this size, especially completing rigorous testing before putting the application into production.

There are no significant testing issues with the proposed solution. It will be the responsibility of the Project Manager, in concert with the CPUC, to insure adequate project time for testing; sufficient testing time will be built into the project schedule. The vendor will provide a test plan to the Project Manager to review and approve.

There will be a separate testing environment established by the vendor, who is responsible for unit and system testing. The CPUC, along with the vendor, will conduct acceptance testing prior to the system going into production. After passing all acceptance tests with no Critical Errors, the system will be placed into production.

9. **Resource Requirements**

Staff who performs the various functions within the CAB and data users throughout the CPUC will participate in refining requirements.

End users will participate in user acceptance testing during which they will be encouraged to attempt resolution of each type of case to ensure the system works as required.

All CAB staff, supervisors, and managers will undergo a three-to-five day training program. Data users will undergo a one-day training program to learn to access standard reports and develop ad hoc reports.

One ISB systems analyst will work with the vendor during deployment and learn to maintain the system after the system goes into production so that users receive a fast response time to requests and problems.

10. **Training Plan**

The Vendor will conduct the training with CAB staff, supervisors, managers, and other department staff. This is a more effective model than a train-the-trainer approach at this time. The CAB has limited staff resources, which are needed to resolve complaints as opposed to being redirected to conduct training. Staff training will be conducted in shifts to minimize the disruption of service to consumers. Managers and supervisors will receive one additional day of training to learn the management reporting functionality.

Training will be conducted on the test environment to allow for a comprehensive experience with the solution without affecting the production environment. Staff training will be completed before the system goes into production. Training of data users will occur after CAB staff training is complete to minimize the length of time between training and production.

The vendor will create and supply all training material to the CPUC.

Training of one ISB-dedicated resource will be ongoing throughout the requirements and test phases of the project. The ISB staff involvement during the requirements and test phases will provide them with the knowledge of the system to provide operational support for end-users after the system is in production. Additionally, it allows them to perform analysis on system errors when they arise.

11. **Ongoing Maintenance**

A maintenance agreement between the vendor and CPUC will be established for the vendor to provide one year of ongoing maintenance for the application and any third-party software that is part of the proposed solution. Thereafter, one ISB systems analyst will maintain the system.

The CPUC reviewed their Operational Recovery Plan and recognized the benefits of siting the new system at DTS and contracting with DTS to provide maintenance of the servers under a Service Level Agreement. The CPUC intends to take advantage of DTS' hot back-up capabilities, back-up and disaster recovery services, and application of operating system patches and upgrades.

12. **Information Security**

The CPUC will ensure data maintained in the CIMS database is safeguarded through physical and logical security. The system must be implemented with security infrastructure and tools for protection of programs and data. The proposed solution is designed to protect the system from intentional unauthorized access attempts as well as security breaches due to accidental causes. The proposed solution provides policy-based security management based on user identity and role. Security levels ensure that only authorized users can create, read, update, and/or delete data.

Audit trails and history files provide the ability to track data usage and data changes. The system prohibits cases from being deleted.

In those circumstances in which the consumer enters information, the data is not accepted into the system without verification. The data entered on the Web form is first entered into the external database outside the DTS firewall. This data is validated and then as part of a batch process, it is transferred to the master database on the HP-UX box inside the DTS firewall, where it is visible to the CAB staff. The process is run nightly to transfer the data from the external database to the internal database. Regardless of the process implemented, the CPUC will comply with the State's security requirements in the State Administrative Manual, including Sections 4840-4845.

13. **Confidentiality**

Access to the solution will be restricted to specific users. Confidentiality will be maintained through the use of industry standard policy-based security management to provide authorized access for system users based on their identity and role(s). When staff change positions or leave the CPUC, their access authority will be eliminated.

14. **Impact On End Users**

This system will dramatically impact the CAB staff, as it will significantly transform how they resolve consumer complaints. The current system requires staff to enter data, but the system does not provide any assistance in resolving complaints. It does not have drop-down menus to quickly make a selection rather than type information. The system does not provide suggestions on how to resolve the complaint when the CAB Representative is uncertain of the solution. It does not automatically forward completed work to the next step in the process and as a result, requires staff to take valuable time to complete.

The CPUC is currently undertaking a business process reengineering effort to address the issues that need to be resolved whether or not a new system is deployed. Before this system is deployed, the processes will have to be refined to take full advantage of the system's capabilities. Many staff have difficulty with change, but less so if they believe they understand what is going to happen, and when and why it is happening.

Change management is key to the success of any project because although the technology can work, if the staff does not accept it, the success of the project is minimized. To combat resistance, it is important to (1) communicate with the staff early

and often, (2) incorporate the staff's needs into the business requirements, (3) ensure sufficient training is provided so that the staff understand the system's capabilities and are comfortable using the system, (4) provide an easy-to-use user's manual for easy reference, especially when the system is new to staff, (5) involve the staff in developing process changes so that they have influence over how they are decided, and (6) document the new process flow identifying what the system does and the responsibilities of staff.

Additionally, and unique to this particular project, the CAB Manager should dedicate a certain number of staff (dependent upon how many unresolved complaints there are) to resolving complaints on the legacy system so that staff are not required to use both systems. As unresolved complaints on the legacy system diminish, these staff should start working new complaints on the new system.

15. **Impact On Existing System**

The CIMS solution will have no impact on the existing system since the data will not be converted and there is no interface with the old CCT system. Data is not being converted from the old to the new system because there was a desire to keep the poor data in the CCT system from undermining the validity of the data in CIMS. As data integrity is a major contributor to the lack of use of the data, it is important that the new system not be contaminated. The legacy system will be used to resolve existing complaints and once completed, will no longer be supported. Until then, the systems will operate in parallel and staff will support both systems.

Currently, approximately 0.1 personnel year is consumed annually to support the CCT system. The ISB staff will continue to support the system since the time and cost is nominal and there is benefit until all the cases on the system are resolved.

16. **Consistency With Overall Strategies**

The Agency Information Management Strategy for the CPUC lists the proposed solution as the second priority for its information technology projects. In addition, the proposed project meets the state's direction of improving customer service through technological solutions (Goal 1 of the Statewide Information Technology Strategic Plan).

17. **Impact On Current Infrastructure**

The proposed solution will not require any changes to the CPUC's existing information technology infrastructure.

Since the system will be sited at the DTS' data center, costs were included in the proposal to purchase hardware for that purpose. No additional communications capacity is required to support the solution.

18. **Impact On Data Center**

The proposed solution will be sited at DTS and therefore require processing support from DTS. The cost estimates have been provided by the data center and are included in the Economic Analysis Worksheets (EAW) in Section 8.0.

The CPUC will coordinate with DTS for installation and maintenance of the production and test environments. Due to its extensive capabilities, the CPUC is requesting DTS to regularly back-up the system and maintain the server hardware and operating systems. Once in production, the CPUC will coordinate the installation of software patches to the

application and database software with DTS. As would be expected, the Project Manager will identify when each of the steps will be undertaken, in concert with other project activities.

### 19. Data Center Consolidation

The proposed solution will receive processing support from DTS, which is consistent with the State requirements. The cost estimates have been provided by the data center and included in the EAW in Section 8.0.

### 20. Backup And Operational Recovery

The proposed solution will be sited at DTS. That data center has hot back-up facilities that would enable recovery of data within one day thereby minimizing the negative impact on consumers.

The DTS will be contracted to back-up the system daily with transaction log backups to occur every one-half hour. Weekly backups of all servers and off-site storage of these backups will be requested.

Additionally, DTS will provide operational recovery support for the proposed solution. The costs for recovery are included in the estimates DTS provided. The ongoing costs associated with the proposed operational recovery plan are included in the EAWs in Section 8.0.

### 21. Public Access

The proposed solution, for security reasons, does not provide direct public access to the master database or the server. Exhibit 5.3 (see next page) depicts that external access is on the outside of the DTS firewall through a separate Web server and external database server. External data will be validated and then through a nightly batch process, transferred to the master database on the HP-UX box inside the DTS firewall. Although the CPUC can benefit from consumers entering data about their complaints, the CPUC wants to ensure there is no potential for a security breach.

### 22. Costs and Benefits

The estimated one-time cost of implementing the proposed solution is $2,690,137. Continuing costs are projected to be $345,422—the least of any of the alternatives. The expenses are identified in Exhibit 5.3 below. Interestingly, though, just two years after the end of fiscal year 2008-09, the COTS solution is just as costly as the MOTS since its annual ongoing costs are almost double the MOTS.

**EXHIBIT 5.3**
**MOTS ONE-TIME AND ONGOING EXPENSES**

| ONE-TIME COST | |
|---|---|
| CAB Staff to assist with requirements definition and testing | $80,653 |
| Hardware (see list above) | $147,544 |
| Software licenses (see list above) | $113,580 |
| Software Modifications | $961,600 |
| Project Management | $351,920 |
| Independent Project Oversight Contractor | $197,160 |
| Independent Verification and Validation | $97,847 |
| Procurement Assistance | $165,000 |
| Data Center Services | $15,200 |
| Travel and Training | $95,000 |
| **TOTAL ONE-TIME COST** | **$2,690,137** |
| **CONTINUING COST** | |
| One ISB PY to maintain the system | $169,627 |
| Hardware licenses | $5,975 |
| Software licenses | $35,620 |
| Contract Services: assistance with ongoing modifications to the system based on user needs | $92,400 |
| Data center services | $41,800 |
| **TOTAL CONTINUING COST** | **$345,422** |

A more detailed explanation of costs and assumptions used is presented in Section 8.0.

Many benefits that cannot be quantified will occur when the system is deployed. The purpose of the CIMS project is to better serve consumers. It was not envisioned to either generate revenue or save money. The consumer will realize significant benefits such as (1) reducing significant delays in reaching staff through the toll-free line since staff will have time to respond to the calls; (2) CAB staff being able to readily answer questions and resolve complaints since the business rules will be programmed into the system thereby providing information to the staff; (3) complaints being resolved more quickly since routine complaints will be processed through auto work flow allowing staff to focus on the more difficult complaints; and (4) being served on a first-come, first-served basis since the system will be able to queue work. The four objectives with some of the functionality are listed below. (A chart with the business objectives and all the functionality is at the end of Section 3.0.)

✦ Increase Effectiveness Of Complaint Resolution

–  Improve search capability for CAB Representatives to quickly find consumer's case.

–  Interface to other databases to provide a single source for accurate and current information.

–  Provide a single repository for all complaint files.

✦ Increase Efficiency of Complaint Resolution Process

- Automate data input to CIMS using Web form or interactive voice response to submit complaints.

- Automate work flow to minimize human intervention for routine cases.

- Allow attachment of electronic documents (for example, a utility bill) to a record.

- Enable automatic assignment of complaints to appropriate staff.

✦ Improve Quality of Service

- Allows the consumer to know where their complaint is in the process.

- Complaints processed in a more timely fashion since routine complaints are automatically processed freeing staff to focus attention on cases that require mediation or negotiation.

- Work queues that allow first-in, first-served process.

✦ Improve Data for Analysis

- Immediate access to standardized and ad hoc reports.

- Forced data entry so that relevant data points are not skipped.

- Drop-down menus to provide uniform choices.

- On-line definition of codes to ensure educated identification of category and sub-category of complaints.

- Improve data integrity and accuracy with such requirements as drop-down menus to ensure consistency in use of data fields.

- Ensure consistent and appropriate application of rules for use of data fields.

23. **Sources of Funding**

The proposed alternative will be wholly funded through Fund 0462—PUC Utilities Reimbursement Account. A Budget Change Proposal will be submitted for FY 2006-07 through the May Revise process for those funds that are not being redirected. The funding needed by fiscal year is presented in Exhibit 5.4.

**EXHIBIT 5.4**
**SOURCES OF FUNDING**

| | FISCAL YEAR | | | | |
| --- | --- | --- | --- | --- | --- |
| | **2005-06** | **2006-07** | **2007-08** | **2008-09** | **TOTAL** |
| Redirected | $30,000 | $50,824 | $103,373 | $92,524 | $280,280 |
| Requested | | $1,699,320 | $537,488 | $53,838 | $2,290,646 |
| **TOTALS** | **$30,000** | **$1,750,145** | **$640,861** | **$146,362** | **$2,570,927** |

## 5.2 Rationale for Selection

The proposed solution provides the CPUC with the most effective means of meeting the CPUC's business requirements as well as those CPUC may have in the future, while minimizing risk and controlling timeframes and project cost. Specific considerations are as follows:

*Benefits*. The proposed solution meets CIMS requirements by increasing the effectiveness and efficiency of complaint management throughout the entire complaint life cycle, improving the quality of service consumers receive, and improving the validity of data collected during the complaint process. Data from multiple locations within the CPUC needed to resolve complaints is brought together into meaningful information for the CAB Representatives. Data from the phone system is able to interoperate with data from the CIMS system, allowing for a synchronization of call information with complaint information.

Within the complaint life cycle, the proposed solution offers automated work flow to handle specific types of complaints without CAB Representative interaction, allowing more complaints to be processed in a shorter period of time. Controls are also in place to ensure that all required data is entered into CIMS for each complaint and that each piece of data is entered correctly and in a valid format. These efficiencies and increases in data validity allow for (1) the CPUC and consumers to utilize the CIMS data to track complaints throughout the life cycle, (2) accurate analysis of trends and emerging issues, and (3) a decrease in the time it takes for a complaint to be resolved while simultaneously improving the quality of service consumers receive.

*Cost*. When costs were reviewed for all viable solutions, including COTS, MOTS, and App Dev proposals, the proposed solution was less expensive than most and slightly more costly than others. The MOTS was $600,000 more than the COTS but $1.6 million less than the App Dev proposal. Interestingly, though, just two years after FY 2008-09, the COTS solution eclipses the MOTS in cost since its annual ongoing expenses are almost double the MOTS. This solution avoids the significant costs that would be associated with a pure App Dev project while offering more value than a preconfigured COTS solution, and in a short time period is less costly than the COTS.

*Time*. The proposed solution can be implemented faster than App Dev solutions because of its existing base software. In addition, since the modifications can be made in stages, the effective time to implementation is similar to COTS solutions with the added value of more directly meeting both current and future complaint-management needs.

*Risk*. The review of available solutions verified that multiple vendors within the marketplace have experience in meeting business requirements similar to those needed for CIMS. Some even have experience developing consumer-centric systems with successful prior system modifications and implementations in California state agencies. (In fact, the customer demonstrated the system rather than the vendor and was very excited about the system's functionality.) Since this solution is based upon an existing application, and mitigated by proven project management and App Dev methodologies, the proposed solution is a moderate risk.

## 5.2.1 Assumptions Used When Choosing Solution

The following assumptions were made when selecting the solution with the most value.

*Scope*. Effectively meeting both current and anticipated future business requirements was of primary concern when choosing a solution. While vendors with App Dev solutions were able to demonstrate an understanding and ability to meet the current business requirements, concerns existed over the risk inherent in these solutions for meeting schedule and budget estimates. In addition, these projects were more likely to require high-cost modifications in order to meet future business requirements.

The COTS solutions reviewed were less likely to meet current and future business requirements due to their need to maintain a shared, core code set and work flow processes. Since CPUC prioritized meeting the full extent of the business requirements as its top priority, these COTS solutions were determined to be of less overall value. The MOTS solutions offer similar success histories and existing solution frameworks, but with the advantage of being modifiable in order to meet current and future requirements with the lowest risk and cost.

*Schedule*. As CPUC's responsibilities for both oversight of utilities and response to consumers continue to evolve and change, it is important that the proposed vendor solution not only deploy as quickly as possible to address current system shortfalls but also respond quickly to future CPUC requirements. Application development solutions, by their very nature, were determined to be the least likely to meet the scheduling needs of a fast deployment and would be slow to respond to future needed changes.

The COTS solutions could be deployed very quickly, but were challenged in the area of scope. The MOTS solutions, and specifically the solution proposed, were able to offer fast initial deployments through leveraging previous successful deployments as well as iterative modifications to meet the desired business requirements. In addition, future requirements can be met with modifications to the core solution allowing for compartmentalized, efficient deployment cycles.

*Budget*. Although budget was prioritized after scope and schedule, ranking it last did not mean that the CPUC did not want to be fiscally prudent. To minimize costs, the CPUC required proposed solutions be Oracle-based as that is the environment in which many of the CPUC applications are housed and in which staff are trained. The CPUC assumed that the vendor community could propose a viable solution in the Oracle-based environment. The marketplace provided a number of viable solutions based in Oracle.

### 5.2.2 Constraints On Choosing a Solution

The following constraints are recognized relative to the selection of the proposed solution.

*Maintaining the Current System Cannot Be A Viable Option*. The current system has demonstrated that it is not robust enough to meet the minimal business requirements as it performs primarily as a data repository and not as an effective complaint management system. The current work flows, system processing rules, and information displays do not help the CAB Representatives resolve complaints in a timely manner or meet basic levels of quality consumer service. In addition, data entered into the current system cannot be validated, will continue to be inconsistent, and will continue to foster duplicate records and erroneous reports. Analysis will continue to be unreliable lowering the overall effectiveness of the CPUC to monitor utilities and service consumers.

*Developing An Improved System In-House Is Not A Viable Option*. The time required to develop an improved solution with the existing CAB and ISB resources will take substantially longer than a vendor-driven solution. In addition, significant increases in ISB resources would be required to develop a solution as the current staff does not have experience doing App Dev to meet these business requirements. Lastly, the risk increases when state staff builds solutions as opposed to purchasing a solution from a vendor.

## 5.3 Other Alternatives Considered

It is very rare that any information technology project focused on business problems/ opportunities, business objectives, and business requirements would have only one solution. In light of this, a thorough analysis was conducted of all feasible alternatives that would meet the project's objectives and requirements.

In a review of the marketplace, the CPUC identified two alternative solutions to the proposed solution.

1. Procure COTS to track consumer complaints.

2. Develop a new CCT system from the ground up for CPUC.

A more detailed understanding of both alternatives is found in Section 5.3.1 and 5.3.2 of this Feasibility Study Report (FSR). In the case of both alternatives, the CPUC would benefit by having the following functionality:

- Access to online procedure manuals from within the application.

- Online suggestions for similar cases to reduce response time to complaints.

- Information that completes a field data entry as the user types.

- Drop down menus to speed up data retrieval.

- Auto work flow to increase the use of utility resources in addressing common complaints while minimizing CPUC resources.

The above functionality will increase the efficiency in the training of new or additional staff and continuity of information during any staff turnover, resulting in improved efficiency and higher quality service to consumers.

### 5.3.1 Alternative 1 – Implement COTS Software

*Description*. One alternative solution is for the CPUC to procure a COTS system installed and configured by the vendor. This alternative will meet a majority of the functional requirements set forth in Section 3.0 of this FSR without the need for significant changes to the application. There is, though, important functionality that is not available in existing commercial solutions, including:

✦ *Business Rules*. A COTS solution does not enable customization such that the CPUC's business rules would be embedded in the solution. Thus, the system could not assist CAB Representatives to resolve consumer complaints using the laws and regulations relating to utilities in California. Although processing of complaints is facilitated, the knowledge base that CAB Representatives need is not included.

✦ *User Guidance*. A COTS solution would not provide CAB Representatives who have a question about how to handle a difficult complaint with test cases to use as examples. As a result, staff would not receive the guidance they need to quickly resolve complaints in a manner that is compliant with law, regulation, and CPUC policies.

✦ *Form Letters*. Key stages in the complaint life cycle include the generation and mailing of form letters to consumers and utilities. It is critical that these letters are (1) system generated for consistency and accuracy of generation date, and

(2) archived within the system for future reference. The CAB Representatives also need the ability to view and edit sections of these form letters prior to sending. These letters also need to be available for sending by hardcopy, fax, and email to ensure effective communication with all consumers and utilities. The COTS solution offers a generous number of form letters, but does not archive the letters.

✦ *Complaint Queuing and Reviews*. A critical issue with the existing system is that the data gets contaminated due to the inability of the system processes to accommodate queuing and reviewing of complaints prior to entering them into the database as complaints. When information is received and entered as a complaint, it needs to be evaluated by a CAB Representative, categorized, and then processed according to systemwide procedures. This ability to create managed queues of complaints is the foundation of not only higher-integrity data for analysis and reporting, but also increased efficiency of complaint handling as these queues can be managed and processed "intelligently" by both the system and CAB Representatives. The COTS solution offers complaint queuing.

*Costs*. The one-time cost of implementing the solution is $1,788,968. Annual ongoing costs are estimated to be $640,036. The total project cost would be $2,429,004, which in this projection is less than the MOTS, but which exceeds the MOTS in just two years as a result of the expensive ongoing expenses. A more detailed explanation of costs is documented in Section 8.0.

| ONE-TIME COST | |
|---|---|
| Staff | $24,025 |
| Hardware | $172,539 |
| Software | $499,920 |
| Software Configuration | $41,000 |
| Project Management | $254,533 |
| Independent Project Oversight Contractor | N/A |
| Procurement Assistance | $344,200 |
| Data Center Services | $7,600 |
| Other | $166,150 |
| **TOTAL ONE-TIME COST** | **$1,788,968** |
| **CONTINUING COST** | |
| Staff | $40,094 |
| Hardware | $14,225 |
| Software | $536,318 |
| Contract Services | N/A |
| Data Center Services | $49,200 |
| **TOTAL CONTINUING COST** | **$640,036** |

*Benefits*. Many of the benefits in the proposed solution can also be realized in this alternative solution. This COTS solution, though, inherently has certain limitations to customization necessary to meet specific CPUC requirements related to increasing the effectiveness of the system and the efficiency in which complaints are handled and consumers are serviced. The proposed solution is preexisting software that has been developed to be modified and extensible, versus this COTS solution which is preexisting

software that has been developed to be configured, but not necessarily or easily customized or modified. Benefits of this COTS alternative include:

✦ Meets most reports that staff need.

✦ Offers improved management oversight and monitoring compared to the current system.

✦ Can meet most of the CPUC work flow changes being put in place to maximize a new system.

✦ Offers consumers information regarding their complaint status, alleviating the need to speak to a CAB Representative to get this information.

✦ Can interface with systems from other divisions.

✦ Will ensure an improvement in data quality and integrity.

✦ Will improve CAB Representative effectiveness and efficiency.

A survey of the marketplace shows that Alternative 1 can meet the CPUC's major requirements. The following functions are included in the Alternative 1 COTS solution that is not in the proposed solution (but which may be able to be added):

✦ Interactive Voice Response (IVR) connection is built into the base solution.

✦ Voice submission of complaints without a CAB Representative.

✦ Automatic export of reports to other managers and CPUC departments in various formats (Excel, Comma Delimited, and PDF).

✦ Monitoring of queues using a dashboard graphical interface.

| ADVANTAGES OF ALTERNATIVE 1 | DISADVANTAGES OF ALTERNATIVE 1 |
|---|---|
| This solution includes extended features not in either the proposed solution or other alternatives. | This solution may not be flexible enough to reflect changes in legislative and regulatory agency rules and guidelines ensuring ongoing effectiveness in servicing consumers. |
| The lack of App Dev and project management methodologies, resources, and skill-sets at CPUC would not be a significant risk factor for integration or ongoing maintenance. | While this solution will meet all primary requirements "out of the box," it will not meet all secondary requirements without additional customizations, which may or may not be accommodated. |
| There is a low risk relative to Alternative 2 (App Dev) due to preexisting products and previous successful implementations. | Due to limited customization, this solution is most likely to require changes to agency processes in response to the preexisting way in which the solution is programmed to operate. This is likely to increase staff resistance and raise the risk of implementation and change management. |
| This solution can be deployed in as short or a shorter time frame than the other solutions. | |

### 5.3.2 Alternative 2 – Custom Application Development and Implementation

**Description.** An additional alternative solution is for the CPUC to procure a software development vendor and design, develop, and implement a new system. This alternative can meet the majority of the functional requirements set forth in Section 3.0 of this FSR, limited only by timelines, budget, the technical capacity of the vendor, and the CPUC's ability to allocate resources for the design and requirements stages. This alternative has the greatest ability to meet the CPUC requirements and be flexible for future changes, but it also is the riskiest and most costly alternative.

**Costs.** In order for Alternative 2 to meet the objectives and functional requirements, the estimated one-time cost of implementing the solution is $3,276,738. Annual continuing costs are estimated to be $754,641. The total project cost would be $4,031,379. A more detailed explanation of costs is documented in Section 8.0.

| ONE-TIME COST | |
|---|---|
| Staff | $122,627 |
| Hardware Purchase | $62,544 |
| Software License | $64,580 |
| Software Development | $1,326,400 |
| Project Management | $449,307 |
| Independent Project Oversight Contractor | $497,240 |
| Independent Verification and Validation Vendor | $265,280 |
| Procurement Assistance | $344,200 |
| Data Center Services | $ 22,800 |
| Travel and Training | $121,760 |
| **TOTAL ONE-TIME COST** | **$3,276,738** |
| CONTINUING COST | |
| Staff | $138,786 |
| Hardware Maintenance | $5,975 |
| Software Licenses | $13,120 |
| Contract Services – Annual maintenance | $528,000 |
| Data Center Services | $34,200 |
| Other - Travel | $34,560 |
| **TOTAL CONTINUING COST** | **$689,560** |

**Benefits**: All benefits gained by the CPUC through the proposed solution can also be realized through this alternative solution. In addition, desired but not required features are also available with this alternative that will not be available in either the proposed solution or Alternative 1. All benefits listed in section 5.3.1 can also be met with this alternative.

| ADVANTAGES OF ALTERNATIVE 2 | DISADVANTAGES OF ALTERNATIVE 2 |
|---|---|
| This solution can be specifically structured to meet all of the CPUC business needs and desired functionality. | This solution will take the longest to deploy in relation to either the proposed solution or Alternative 1. |
| This solution is the most flexible to respond to legislative, regulatory, or agency changes. | This solution will require the CPUC to add personnel who have the skills and experience required to manage the definition, design, development, testing, implementation, and maintenance of a custom-built enterprise system. |
| This alternative solution can be implemented with the least amount of changes to the CPUC processes and work flows. Future changes will also have the least impact on existing processes. | The CPUC will need to dedicate many more individuals from CAB for long periods of time to assist in the design and validation of system components. This will detrimentally affect the ability to efficiently process complaints unless additional resources are added to compensate. |
| | This solution introduces a number of risks that are not found in the other solutions, not the least of which is that ISB staff have not had the opportunity to develop an application using structured App Dev methodology. |
| | This solution will cost more than any other solution. |

## 5.3.3 Evaluation of Alternatives

A summary assessment of each of the alternatives is shown below and includes the underlying criteria in each major category (for example, benefits, cost, time, and risk) and how each alternative is ranked in each category.

| | COTS | APPLICATION DEVELOPMENT |
|---|---|---|
| **Benefits**<br>- Effectiveness<br>- Efficiency<br>- Management Oversight | **Moderate**<br>- Might not be flexible enough to respond to statutory, regulatory, or agency changes | **High**<br>- Very flexible to respond to statutory, regulatory, or agency changes<br>- High adoption rate |
| **Cost**<br>- Acquisition<br>- Implementation<br>- Ongoing operation | **Moderate**<br>- Lower implementation cost<br>- Can host solution at lower cost to CPUC | **High**<br>- Higher implementation cost |
| **Time**<br>- Acquire systems<br>- Implement<br>- Test<br>- Stabilize | **Low**<br>- Shortest time to acquire and implement | **High**<br>- Longest time to acquire and implement<br>- Requires greatest staff resources to support vendor |
| **Risks**<br>- Functional<br>- Technical<br>- Implementation | **Low**<br>- Development already completed<br>- Low technical risk | **High**<br>- High technical risk |

# 6.0 Project Management Plan

This section describes the California Public Utilities Commission's (CPUC's) approach to effectively and successfully managing the implementation of the Consumer Information Management System (CIMS). The CPUC subscribes to the Department of Finance's (DOF) Project Management Methodology as described in State Information Management Manual (SIMM) section 200 and will hire a vendor with experience commensurate to the size and risk of this project.

This section includes:

**6.1**     **Project Manager Qualifications**

**6.2**     **Project Management Methodology**

**6.3**     **Project Organization**

**6.4**     **Project Priorities**

**6.5**     **Project Plan**

    6.5.1 Project Scope
    6.5.2 Project Assumptions
    6.5.3 Project Phasing
    6.5.4 Project Team Roles and Responsibilities
    6.5.5 Project Schedule

**6.6**     **Project Monitoring**

**6.7**     **Project Quality**

**6.8**     **Change Management**

**6.9**     **Authorization Required**

## 6.1 Project Manager Qualifications

The CPUC intends to hire a consultant who is an experienced Project Manager to manage this project since it is a mission-critical project. The Project Manager must have experience managing a project of similar size, scope, and complexity as the CIMS. This Project Manager should have experience developing and managing a project plan that includes: a reasonable but detailed project schedule and budget; an approach to communicating within and outside the organization about the project; an identification of and mitigation approach to risks; a process to identify, document, and resolve issues; an approach to ensuring quality throughout deployment; and an approach to change management that ensures project support throughout the organization. Additionally, the CPUC expects this person to have the following minimum qualifications:

✦ Experience managing projects for the public sector in similar environments.

✦ Experience with developing and implementing communication plans that include both staff and appointed persons, industry, and external stakeholders (for example, the public).

✦ Effective interpersonal skills.

✦ Experience leading teams to a common goal.

✦ Experience and knowledge of data management principles.

✦ Experience with reengineering processes.

✦ Knowledge of, and experience with, the state's oversight processes for projects of this size and risk level.

✦ Knowledge of, and experience with, the state's procurement laws and regulations.

✦ Knowledge of, and experience with, the pertinent sections of the State Administrative Manual and State Information Management Manual.

## 6.2 Project Management Methodology

The CPUC intends to implement the project using the DOF's Project Management Methodology as articulated in SIMM Section 200. The Project Manager will choose a tool that effectively schedules the activities and balances resources to ensure the project meets the scope and is brought in on time and on budget.

## 6.3 Project Organization

The Project Team organizational structure is depicted below in Exhibit 6.1. Specific roles and responsibilities are described in section 6.5.4.

**EXHIBIT 6.1**
**PROJECT TEAM STRUCTURE**



Exhibit 6.2 (see next page) shows that within the Consumer Services and Information Division (CSID) is the CAB for which the CIMS is being implemented.

## EXHIBIT 6.2
## CONSUMER AFFAIRS BRANCH

**Consumer Service and Information Division**

Director, CEA III
**Linda Serizawa**

Total: 68

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**Administration Branch**

Administrative Assistant II
**Dorothy Lee**

Executive Assistant
**Mary Lou Tousey (on loan from Exec)**

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**Public Advisor Office (10)**

Public Advisor, CEA II
**Harriet Burt**

Public Utilities Regulatory Analyst III
**Judy Cooper**
**Kyle DeVine**
**Mary Evans**
**Vacant**

Public Utilities Regulatory Analyst II
**John Morgan**
**Rosalina White (on loan to Telco)**

Staff Services Analyst
**Emilio Victorio-Sanchez**

Program Technician III
**Beatriz C. Yumang**

---

**Communications Office (6)**

Information Officer III, CEA
**Terrie Prosper**

Information Officer I (Specialist)
**Susan Carothers**

Management Services Technician
**Lourdes Directo**

Assistant Information Officer
**Carol Robinson**

Secretary
**Anna Hom (on loan to CPSD)**

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**Administration Branch Consumer Services Issues Analysis**

Public Utilities Regulatory Analyst V
**Jessica Hecht**

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**Consumer Affairs Branch**

Consumer Services Manager
**Karen Dowd**

Total: 46

Management Services Technician
**Araceli Vitug**

Digital Print Operation II
**Arif Khalik (on loan from IMSD)**

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**Utility Supplier Diversity Program**

Public Utility Regulatory Analyst V
**Art Jimenez**

Public Utility Regulatory Analyst II
**Marshall Kennedy**

Public Utility Regulatory Analyst I/II
**Vacant - New**

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**Consumer Services Issues Analysis (1)**

Public Utility Regulator Analyst V
**Jessica Hecht**
**Steve Linsey***

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**Intake Unit**

Consumer Services Supervisor
**Rebecca Reyes**

Total: 6

Consumer Services Supervisor
**Marie C. Tognotti (Blanket)**

Consumer Affairs Representative, PUC
**Vacant (x-Timmons)**

Office Technician (General)
**Doris Johnson**

Office Services Supervisor I (General)
**Enriqueta Padua**

Program Technician II
**Sonia Callao**
**Shirley Sabella**

Word Processing Technician
**Annie Brown (on loan from CPSD)**

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**San Francisco Energy**

Consumer Services Supervisor
**Mona Dzvova**

Total: 9

Consumer Affairs Representative, PUC
**Sheila Davis**
**Roland Esquivias**
**Jennifer Haug**
**Douglas Phason**
**Juanita V. Porter**
**Vacant (x-Dzvova)**
**Vanant (x-Swisher)**
**Vacant (x-Tagaloa)**

Consumer Services Manager
**Marco Valenti (Ret. Ann.) (Blanket)**

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**San Francisco Telecommunications**

Consumer Services Supervisor
**Richard B. Sparacino**

Total: 9

Consumer Affairs Representative, PUC
**Nellie Abrena**
**Rebecca Bacon**
**Patricia Long**
**Nancy Rodriguez**
**Eulander Summerville**
**Patricia Yorn**
**Vacant (x-Clark)**
**Vacant (x-Seigler**

Information Systems Technician
**Rosario Cervantes (on loan from MSD)**

---

**Los Angeles Telecommunications**

Consumer Services Supervisor
**Antoinette House**

Total: 9

Consumer Affairs Representative, PUC
**Virginia Armstrong**
**Denise Frias**
**John Gallegos**
**Alma George**
**Patricia Herert**
**Shawna Lane**
**Etta West**

Legal Secretary
**Juliane Banks (on loan to CPSD)**

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**Los Angeles Energy**

Consumer Services Supervisor
**Juanita Hill**

Total: 5

Consumer Affairs Representative, PUC
**Katrina Brown**
**Juanita Lane**
**Drisha Melton**
**Shantanro Williams-Lee**

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**Los Angeles**

Consumer Services Supervisor
**Robert Ricondo**

Total: 6

Consumer Affairs Representative, PUC
**Love Asiedu-Akrofi**
**Maria Pinedo**
**Vacant**

Office Technician (Typing)
**Mekta Mercado**
**Cecelia Flores**

The Information Services Branch (ISB) is responsible for ensuring CIMS conforms to the department's technology policies and standards. Exhibit 6.3 below shows the ISB organization.

**EXHIBIT 6.3**
**ISB ORGANIZATION**



**Information Services Branch**

Information Service Bureau Chief/CIO
**Karen Davis**

Total: 36

**Analysis and Procurement (5)**

Staff Information Systems Analyst (Specialist)

**Jody L. Pocta**
**William Vicini**

Associate Information Systems Analyst (Specialist)

**Maria Abad**

Assistant Information Systems Analyst

**Raquel Berlind**

Information Systems Technician

**Rosario Cervantes (on loan to CSID)**

**Network Administration (10)**

Staff Information Systems Analyst (Specialist)

**Jay Auriemma**
**Barry Carlson**
**Albert Fuller**
**Jose A. Hammons**
**Vickie Lachney**
**Jennie Lee**
**Wyman Low**
**Danny Yu**

Associate Information Systems Analyst (Specialist)

**Rita B. Bessone (on loan to BSS)**
**Rose H. Wong**

**Data Processing Manager I**
**Vacant**

Total: 9

**Help Desk Services**

Staff Information Systems Analyst (Supervisor)

**Steve Allen (Blanket)**

Total: 8

Staff Information Systems Analyst (Specialist)

**Arlene Brice**
**John Hart**
**Anna M. Mateo**
**Hye G. Min**
**Vacant (x-Allen)**

Associate Information Systems Analyst (Specialist)

**Edwin Maglipon, Jr.**

Assistant Information Systems Analyst

**Ismael Gonzalez**
**Liela Tan**

Senior Programming Analyst (Supervisor)

**Joyce A. Fong**

Total: 11

**Applications Programming**

Staff Programmer Analyst (Specialist)

**George P. Daniel**
**Vincent P. Houben**

Associate information Systems Analyst (Specialist)

**Billy Ching**
**Candace Hammond**

**Operations Support**

Staff Information Systems Analyst (Supervisor)

**Helen M. Lum**

Total: 6

Information Systems Technician

**Susan H. Pelissier**

Computer Operator

**David R. Jimenez**
**Josephine Ko**
**Sandra Mui**
**Vacant**

The CPUC organization is shown below in Exhibit 6.4. Gaining access to executives within a department to make project decisions is typically very difficult. The Executive Director is the Executive Sponsor of CIMS, which demonstrates the level of visibility for this project. Exhibit 6.4 (see next page) shows the CPUC organization from a high-level.

**EXHIBIT 6.4**
**CPUC ORGANIZATION**

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                              │    Governor     │
                              └─────────────────┘
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 │ Consumer │ │ Consumer │ │Deputy Executive  │          │Deputy Executive│
 │Services &│ │Protection│ │Director for      │          │Director for   │
 │Information│ │& Safety  │ │Administration and│          │Policy         │
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      │Management │ │munications│ └────────┘ └────────┘ │Planning  │ │Governmental│
      │Services   │ └──────────┘                        └──────────┘ │Affairs   │
      └──────────┘                                                   └──────────┘
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## 6.4 Project Priorities

Every project has three variables that must be prioritized. A change in one variable will likely have an impact on the others. When a Project Manager is required to make a decision that impacts the variables, they are to return to the predetermined priorities of each of the variables for guidance.

The DOF's terms and definitions used below identify the priorities for this project:

✦ Constrained: the variable cannot be changed, or is the number one priority.

✦ Accepted: the variable is somewhat flexible to the project circumstance, or is the second priority.

✦ Improved: the variable can be adjusted, or is the variable with the most flexibility.

For this project, project scope is the least flexible as the system must meet business needs throughout the CPUC, not just in CAB. Additionally, the system must be flexible enough to be responsive to statutory and regulatory changes that will occur over time. With the passage of General Order 168 and its potential impact on CAB, the CPUC has prioritized the schedule as the second priority. Last of the three priorities, although not insignificant, are the resources assigned to the project. Exhibit 6.5 (see next page) identifies the project priorities.

**EXHIBIT 6.5**
**PROJECT PRIORITIES**

| Variables | Priorities |
|-----------|------------|
| Schedule | 2 |
| Scope | 1 |
| Resources | 3 |

## 6.5 Project Plan

Project planning includes the identification of what is to be done (scope), what the team assumed to be true when developing the plan (assumptions) how the project will be deployed, the team's roles and responsibilities, and the deployment schedule. This section describes each of these components for CIMS.  Each of these will be clearly defined in the Project Charter, one of the first deliverables the Project Manager completes. Developing the Project Charter with these components and providing it to each team member ensures that the project team starts with the same vision for the project. It serves as the reference document for the project team throughout the project life cycle.

### 6.5.1 Project Scope

The CIMS will address the business requirements identified by CAB staff and consumers of the data, which is detailed in Section 3.4. As a result of deploying this system, the CPUC will be able to more effectively and efficiently serve consumers, provide a higher quality of service to consumers, and have timely access to accurate and complete data. To achieve this, the project will include activities that are necessary to effectively plan the project and execute the plan.

### 6.5.2 Project Assumptions

Many assumptions are made during project planning. For this project, the following assumptions were made:

✦ Review of the project documents and approval of the project and funding will be completed by the DOF and the Legislature by May 20, 2006.

✦ The State budget will be passed by June 30, 2006.

✦ Funds will be available throughout the project life cycle.

✦ Development of the RFP for the MOTS vendor will commence July 1, 2006.

✦ The CPUC will procure the services of a qualified Project Manager, independent oversight vendor, and an independent verification and validation vendor for this project.

✦ The MOTS vendor will be engaged and will commence work by January 2, 2007.

✦ The CPUC's business requirements and their priority will not change during the project. They are, in order, to increase effectiveness in answering consumer inquiries and resolving consumer complaints, increase efficiency of carrying out the processes, improve quality of service to consumers, and provide timely access to accurate and complete data.

✦ The Executive Sponsor and Project Sponsor will champion this project within and outside the CPUC to increase acceptance throughout the project life cycle.

✦ The appropriate CPUC subject matter experts (SME) will be available to participate in further defining the system requirements, testing, and training.

✦ The ISB staff will be trained to maintain the system.

✦ Procured vendors will meet their respective responsibilities outlined in their contract regarding scope, schedule, and budget.

✦ Department of General Services (DGS) staff will participate in the development of the Request for Proposal (RFP) and vendor evaluations.

✦ Standard DGS contract terms and conditions are approved by each vendor.

✦ The DGS will approve the Information Technology Procurement Plan by May 20, 2006.

### *6.5.3 Project Phasing*

Phasing a project reduces risk to the CPUC since discrete deliverables are provided at the end of each phase. Should the deliverable not meet expectations for scope or quality, the end of the phase provides an appropriate time for the Project team to reevaluate the timing with which, or even whether, they move forward. Phasing begins with procurement activities—probably the single most significant activities that impact project success.

| RESPONSIBLE PARTY | DELIVERABLES | ESTIMATED START DATE | ESTIMATED COMPLETION DATE |
|---|---|---|---|
| **Procurement Document Development** | | | |
| CPUC Procurement | Statement of Work (SOW) for vendor to develop SOWs to acquire Project Manager, independent project oversight contractor (IPOC), and independent verification and validation (IV&V) vendors | May 22, 2006 | May 22, 2006 |
| Vendor | Statements of Work to procure vendors to perform: <br>• Project Management <br>• IPOC <br>• IV&V | May 23, 2006 | May 30, 2006 |
| CPUC Procurement | SOW for vendor to develop RFP for MOTS vendor | May 22, 2006 | May 30, 2006 |
| Vendor With Guidance From DGS & CPUC | RFP to procure a system vendor to deliver a MOTS solution | July 3, 2006 | October 2, 2006 |
| Department of General Services | RFP for MOTS vendor approved by DGS | October 2, 2006 | October 16, 2006 |

| RESPONSIBLE PARTY | DELIVERABLES | ESTIMATED START DATE | ESTIMATED COMPLETION DATE |
|---|---|---|---|
| **Issue Procurement Requests** | | | |
| CPUC | Issue SOW for Project Manager / Vendors Deliver Proposals | June 1, 2006 | June 8, 2006 |
| CPUC | Issue SOW for IPOC vendor / Vendors Deliver Proposals | June 1, 2006 | June 14, 2006 |
| CPUC | Issue SOW for IV&V vendor / Vendors Deliver Proposals | June 1, 2006 | June 14, 2006 |
| CPUC | Issue SOW for vendor to develop RFP | June 1, 2006 | June 8, 2006 |
| CPUC and Procurement Vendor | Issue RFP for MOTS vendor / Vendors Deliver Proposals | October 16, 2006 | November 15, 2006 |
| **Evaluation and Contract Award** | | | |
| CPUC | Evaluate proposals for Project Manager / Award contract | June 9, 2006 | July 3, 2006 |
| CPUC | Evaluate proposals for IPOC vendor / Award contract | June 15, 2006 | July 3, 2006 |
| CPUC | Evaluate proposals for IV&V vendor / Award contract | June 15, 2006 | July 3, 2006 |
| CPUC | Evaluate proposals for vendor to develop RFP / Award contract | June 9, 2006 | July 3, 2006 |
| CPUC and Procurement Vendor With Guidance From DGS | Proposal Evaluation and Vendor Selection for MOTS Vendor | November 15, 2006 | December 15, 2006 |
| CPUC and DGS | Award Notification/Protest Period for System Vendor | December 15, 2006 | December 29, 2006 |
| DGS | DGS Reviews and Approves Contract for MOTS vendor | December 15, 2006 | December 29, 2006 |
| **Commence Work** | | | |
| Project Management Vendor | Begin development of Project Charter | July 3, 2006 | August 31, 2006 |
| IPOC Vendor | Meet with Project Manager | July 3, 2006 | July 3, 2006 |
| IV&V Vendor | Meet with Project Manager | July 3, 2006 | July 3, 2006 |
| Procurement Vendor | Meet with CPUC to begin development of RFP for MOTS vendor | July 3, 2006 | October 2, 2006 |

| RESPONSIBLE PARTY | DELIVERABLES | ESTIMATED START DATE | ESTIMATED COMPLETION DATE |
|---|---|---|---|
| Project Manager | Project Plan | October 2, 2006 | January 15, 2007 |
| MOTS vendor | Refinement of Requirements and Design Specifications | January 2, 2007 | January 31, 2007 |
| MOTS vendor | Modification and testing of software such that it meets business requirements | February 1, 2007 | July 31, 2007 |
| MOTS vendor | Deployment | August 1, 2007 | August 15, 2007 |
| Department of Technology Services | Deployment of hardware | June 1, 2007 | June 14, 2007 |
| CPUC staff | User acceptance testing | July 2, 2007 | July 31, 2007 |
| MOTS vendor and CPUC staff | User training | August 1, 2007 | August 31, 2007 |
| MOTS vendor and CPUC staff | Training of ISB staff | August 1, 2007 | August 31, 2007 |

## 6.5.4 Project Team Roles and Responsibilities

A formal project structure provides the Project Team with a clear understanding of the authority and responsibility necessary for successful accomplishment of project activities, and enables Project Team members to be held accountable for effective performance of their assignments. The following will be the roles and responsibilities for each of the Project Team members.

### Executive Sponsor—Steve Larson

The Executive Sponsor provides project ownership at the highest possible level within the CPUC. The Executive Sponsor is responsible for:

✦ Providing leadership and oversight as needed.

✦ Approval of significant changes to scope, schedule, or budget.

✦ Being an advocate for the project throughout the CPUC and with external stakeholders including the control agencies and the Legislature.

✦ Attends periodic project status briefings.

### Project Sponsor—Jack Leutza

The Project Sponsor provides guidance and direction to the Project Manager to ensure that deliverables and functionality are achieved as defined in the project plans. The Project Sponsor has the following responsibilities:

✦ Ensures the solution design, development, and implementation align with the business rules and processes.

✦ Provides day-to-day direction and support to the Project Manager.

✦ Reviews and approves all project deliverables.

✦ Serves as the key business decision-maker of the project.

✦ Makes the final decision on procurement of vendors.

✦ Resolves significant issues and scope changes that cannot be resolved by the Project Team.

✦ Ensures the appropriate program staff throughout the CPUC actively participates in project development and deployment as appropriate for the life of the project.

✦ Attends regularly scheduled project management team meetings.

✦ Regularly communicates project status to the CPUC executives who are not members of the Executive Steering Committee.

✦ Chairs the Executive Steering Committee.

✦ Is an advocate for the project within the CPUC and with external stakeholders.

### EXECUTIVE STEERING COMMITTEE

**Jack Leutza**
Telecommunications Division

**Paul Clanon**
Deputy Executive Director for Administration and Operations

**Phil Enis**
Acting Director, CSID

**Rich Clark**
CPSD Director

**Karen Dowd**
CAB Manager

**Karen Davis**
ISB Chief/CIO

The Executive Steering Committee serves as the Change Control Board and is responsible for:

✦ Providing direction to the Project Sponsor for change orders that impact other entities within the CPUC.

✦ Allocating requested resources.

✦ Assisting with transition issues and removing roadblocks.

✦ Ensuring that recommendations of the independent project oversight contractor are implemented, or valid reasons are provided for why the recommendations are not implemented.

✦ Meeting at regularly scheduled intervals to discuss project status and resolve issues.

The independent project oversight contractor reports its findings to the Executive Steering Committee at the same time the contractor's report is submitted to DOF.

## Project Manager—Vendor On Behalf of the CPUC

The Project Manager is responsible for the day-to-day decision-making and management of project implementation to ensure the project meets its scope, schedule, and budget. The Project Manager is accountable to the Project Sponsor for project outcomes. This person is the prime contact with the system deployment vendor, manages the state's team, coordinates overall project activities, and ensures adherence to the agreed upon Project Management Methodology. The Project Manager must be experienced in managing IT projects of similar scope and size and must understand this project's objectives and the state's procurement processes. As such, the Project Manager:

✦ Leads development of the Project Charter—a document that describes the project's scope, schedule, and budget and describes roles and responsibilities.

✦ Plans and leads all project activities.

✦ Coordinates project activities to ensure scope, schedule, and budget are met.

✦ Develops project management-related deliverables.

✦ Establishes and leads regularly scheduled, but separate, project status meetings with the Project Team and Project Sponsor.

✦ Makes recommendations to Project Sponsor whether to approve project deliverables, with course of action if recommendation is to not approve deliverables.

✦ Attends Executive Steering Committee meetings.

✦ Reviews all project deliverables to ensure they meet project objectives.

✦ Directs and coordinates the activities of vendors.

✦ Maintains project work plan.

✦ Holds regularly scheduled status meetings.

✦ Institutes controls to determine adherence to the work plans and schedule.

✦ Reviews and approves vendor invoices once Project Sponsor has approved deliverable.

✦ Ensures all problems, issues, and changes are identified, documented, and addressed.

✦ Proposes actions or strategies in the resolution of significant issues related to project management, project communication, project staffing, and project scope.

✦ Develops and executes the risk management plan; identifies risks throughout project.

✦ Establishes an effective, structured method of communication and communicates the project status and updates to the Project Sponsor and Executive Steering Committee on a regularly scheduled basis.

✦ Develops a quality assurance plan and consistently monitors deliverables for adherence to the quality assurance plan.

## Subject Matter Experts

This team is comprised of SMEs from the affected divisions (Consumer Affairs Branch, Telecommunications, Consumer Protection and Safety Division, CSID, Division of Ratepayer Advocates, and Water) with the necessary knowledge to communicate needs and assist with analysis, testing, and deployment. Their participation will promote ownership of the solution with those most affected. This team will also provide day-to-day guidance for user needs. The

Project Team also includes the Information Services programming, database, and network administration staff who are responsible for working with the system vendor to the degree identified by the Project Manager.

## MOTS Vendor

The MOTS vendor will be responsible for development of the CIMS solution as well as overall success of the implementation. The system deployment vendor will ensure successful end-to-end processing of customer complaints activity and all associated functions and will be ultimately responsible for delivering an integrated, functional solution to support CIMS requirements within the required time frame. In addition to meeting the scope of work on budget and on schedule, the deployment vendor's responsibilities include:

+ Clarifying requirements with users if there is any ambiguity during software modification.
+ Identifying potential issues and discussing them with the CPUC's Project Manager in a timely fashion.
+ Evaluating the impact of the system among the divisions.
+ Providing clear and comprehensive training such that users finish the training session believing themselves fully capable of using the system.

## Independent Project Oversight Contractor

The Independent Project Oversight Contractor will report directly to the Executive Steering Committee. An Oversight Report will be produced by the consultant and made available to the DOF and the CPUC concurrently. The oversight consultant follows the guidelines in the SIMM section 200. The consultant has the following responsibilities:

+ Reviews project planning deliverables to ensure they are sufficient and meet applicable project standards.
+ Reviews ongoing project processes and activities.
+ Identifies project risks and monitors the project risk management process.
+ Develops an Independent Project Oversight Report and delivers a copy concurrently to both the CPUC and the DOF.
+ Employs principles embodied in the state's Independent Project Oversight Framework.
+ Ensures that the project deliverables are satisfactory.

## Independent Verification and Validation Vendor

The IV&V vendor performs an important role on this project. Independent testing and auditing of the project against defined requirements is the most important function this vendor performs to reduce the CPUC's risk. The IV&V vendor will:

+ Review project deliverables for quality assurance and alignment with the project plan and project objectives.
+ Review technical specifications functionality to ensure adherence to the project plan.
+ Review application code to determine whether the system vendor is following industry accepted practices and that the code will achieve the business functionality.

✦ Offer suggestions for problem and issue resolution.

✦ Validate deliverables through independent testing.

A pictorial representation of the project organization can be found in section 6.3.

### 6.5.5 Project Schedule

The section describing project phasing, section 6.5.3, presents the schedule for high-level project tasks including:

✦ Procuring vendors to provide project management, independent oversight, and IV&V services along with the vendor that will modify its product.

✦ Time spent with staff refining design specifications.

✦ Software modifications.

✦ User acceptance testing.

✦ Software and hardware installation.

✦ Training for both users and technical staff.

The project is scheduled in phases to allow the Project Team to retain a valuable deliverable at the end of each phase rather than wait for project completion. In addition to weekly status reporting, progress status should be reported at the end of each phase. This will enable the Executive Sponsor to determine whether to proceed with the project.

## 6.6 Project Monitoring

Ensuring the project is on track requires a structured project monitoring program that should be a facet of every aspect of this project. The Project Manager will establish industry standard policies and procedures for tracking and communicating project progress.

The Project Manager will:

✦ Lead regularly scheduled team meetings to review progress and resolve issues.

✦ Use standard reporting mechanisms including: written and oral status reports, issues lists, and risk management updates to track progress; ensure identified issues are addressed and reevaluate and identify new risks.

✦ Participate in regularly scheduled meetings with the Project Sponsor and MOTS vendor to discuss project progress, identify and address unresolved issues, and discuss next steps.

✦ Attend the Executive Steering Committee meetings to report on project progress against scope, schedule, and budget.

✦ Review reports submitted by the independent project oversight contractor and develop approaches to address identified issues.

✦ Communicate frequently with the contract manager about procurement and vendor performance issues.

The Project Manager will also enjoy the expertise of an IV&V vendor who will regularly assess the software modifications and make recommendations for adjustments to the Project Manager.

The CIMS project will enjoy a "top-down" and "bottom-up" approach to project quality. The Executive Steering Committee will provide "top-down" project oversight. The composition of the Executive Steering Committee ensures broad and balanced oversight, as it includes executive, program, and IT staff. The Project Manager, Project Oversight Vendor and the IV&V vendor will provide "bottom-up" project oversight.

Independent project oversight will be provided by an outside vendor through regular audits of project progress against stated objectives and deliverables. The contractor will provide these reports to the CPUC and the DOF as required.

A single documentation location (known as a project library) will be developed to store, organize, track, control, and disseminate all information and items produced by, and delivered to, the project. The library will include a file structure with defined access and permissions. It will also include an interface, such as a Web page, where any CPUC staff member can obtain project information, the latest documentation, and provide input on issues or make comments to the Project Team. This type of "open door policy" with regard to the project artifacts, is an additional method for those who are not as close to monitor its progress.

## 6.7 Project Quality

In order to ensure that the project meets identified business and technical objectives and requirements, the CIMS Project Manager will develop a Quality Assurance Plan based on the state's Project Management Methodology. The plan will have the following elements:

✦ Measurable objectives.

✦ Acceptance testing plan.

✦ Schedule of audits/reviews of key tasks.

✦ Process to ensure all deliverables are approved and an acceptance form is signed by the Project Sponsor. This acceptance form will be required to be submitted with the invoice before the vendor's invoice is processed.

Additional measures taken to ensure quality include a deliverables-based contract and an Independent Project Oversight contractor reviewing project progress and making recommendations to the Project Team at periodic intervals. Lastly, the Project Manager will be required to respond to the issues identified by the IV&V vendor, or explain why he/she believes the project should not address the issue.

## 6.8 Change Management

Changes to a project's scope is one of the major contributors to the project not meeting the schedule or budget and sometimes even to project failure. The Project Manager will establish criteria and a process that involves the Project Sponsor and Executive Steering Committee to review and either accept or reject requested changes. The Project Sponsor will review all change requests and determine whether they meet the established change criteria. For any decisions that cannot be made by the Project Sponsor, the Executive Steering Committee will provide input. In the change management plan, change requests will be:

✦ Drafted by the Project Team (both developers and end users).

✦ Reviewed and edited by the Project Manager.

✦ Decided by the Project Sponsor with direction from the Executive Steering Committee if necessary.

✦ Implemented by the Project Team.

A change log will be maintained to ensure all changes are tracked and impact to the project is documented.

Projects also have an unpredictable component that can impact scope, schedule, budget and performance – people. With Business Process Reengineering efforts already underway in the affected user community, the replacing of an existing, familiar system with a more automated, sophisticated, state-of-the-art system poses significant risk of indifference, resistance or outright rejection to these changes. Therefore, the Change Management Plan must also address transition management.

The CPUC's Change Management Plan will conform with accepted project management methodologies and to state requirements as outlined in the SIMM.

## 6.9 Authorization Required

Since this project is beyond the CPUC's delegated authority, the CPUC must seek project and funding approval from the control agencies including DOF and the Legislature. Additionally, DGS must approve the procurement approach.

# 7.0 Risk Management Plan

The California Public Utilities Commission (CPUC) understands that risk management planning is a vital component of ensuring project success. A disciplined approach to risk management includes developing a Risk Management Plan that identifies and documents potential risks (risk identification), identifies ways in which they can be minimized (risk mitigation planning), and includes policies and procedures to monitor and resolve risks that arise (track and control). The result is the creation of an environment where the project team knows that planning for and mitigating risks throughout the project is crucial to project success.

The CPUC realizes that risk management is a dynamic process that occurs throughout the project life cycle. Therefore, two parties will have primary responsibility for developing and implementing the Risk Management Plan: the Project Manager and the modified off-the-shelf (MOTS) vendor's Project Manager. The Project Manager will be responsible for leading and managing the risk management planning process and reporting to the Project Sponsor and Executive Steering Committee on potential risks and approach to resolving them as it may include a change in scope, schedule, or budget.

The specific roles of these parties are described in more detail below.

✦ *Project Manager*. The Project Manager will be responsible for working with the MOTS vendor's Project Manager to identify potential risks. Together, they will also:

  – Develop a process for tracking and managing issues and risk factors.

  – Develop mitigation measures and contingency plans.

  – Monitor project risks.

  – Elevate risks to the Project Sponsor and/or Executive Steering Committee as appropriate.

  – Implement contingency plans when necessary.

✦ *MOTS Vendor's Project Manager*. The vendor's Project Manager will be responsible for developing and submitting to the CPUC's Project Manager a baseline risk management plan for software modification activities. This baseline Risk Management Plan will be developed using the risk management plan elements provided in this Feasibility Study Report (FSR) as a starting point. The CPUC's Project Manager will incorporate these risks into the project risk management plan and the MOTS vendor's Project Manager will continue to identify potential risks throughout the project life cycle.

✦ *Independent Project Oversight Contractor (IPOC)*. The project will employ an IPOC vendor to provide independent oversight using an information technology professional's experience and industry standards. The additional review of project processes and deliverables by this resource is intended to provide a third-party, independent assessment of project risk areas with appropriate findings and recommendations.

✦ *Independent Verification & Validation (IV&V)*. The IV&V vendor will be responsible for identifying software development risks throughout the project life cycle. He/she will report directly to the Project Manager and together they will categorize the risk impact and probability then identify risk mitigation steps that can be taken.

✦ *Project Team*. All members of the Project Team will be involved in identifying potential risks and working with the Project Manager to develop contingency plans.

To reduce risk with the Consumer Information Management System (CIMS) project, the CPUC has developed a risk management approach detailed in this section. The approach is based on the State Information Management Manual (SIMM) Section 200 guidelines and includes these components:

## 7.1 Risk Management Worksheet

7.1.1 Risk Assessment
7.1.2 Risk Identification
7.1.3 Risk Analysis and Qualification
7.1.4 Risk Prioritization
7.1.5 Risk Response
7.1.6 Risk Acceptance
7.1.7 Risk Mitigation
7.1.8 Risk Sharing

## 7.2 Risk Response and Control

7.2.1 Risk Tracking
7.2.2 Risk Control

## 7.1 Risk Management Worksheet

There are many factors that influence whether a risk exists on a particular project. What may be a risk for one is not necessarily a risk for another. Exhibit 7.1 identifies a description of potential risks (risk category), the likelihood the event will occur (probability), the area of the project that would be affected should the risk become a problem (affected project area), and steps that might be taken to minimize the chance the risk will arise (preventive/contingency measures).

### EXHIBIT 7.1
### RISK MANAGEMENT WORKSHEET

| RISK CATEGORY/ EVENT DESCRIPTION | PROBABILITY | AFFECTED PROJECT AREA | PREVENTIVE/CONTINGENCY MEASURES |
|---|---|---|---|
| **Project Management Risks** | | | |
| **Stakeholder Participation** | | | |
| Change in Agency priorities | High - .70 | Schedule  Budget | Adjust schedule as necessary.  Adjust budget as necessary. |
| Effectiveness of decision-making process | High - .80 | Schedule  Budget | Establish Executive Steering Committee as a decision-making body that meets weekly to address activities that impact scope, schedule, or budget.  Establish clear roles and responsibilities through the Project Charter. Gain commitment from the Executive Steering Committee and Executive Sponsor for adherence to those roles and responsibilities. |

| RISK CATEGORY/ EVENT DESCRIPTION | PROBABILITY | AFFECTED PROJECT AREA | PREVENTIVE/CONTINGENCY MEASURES |
|---|---|---|---|
| **Scope** | | | |
| Change in scope | Medium - .50 | Scope Schedule Budget | Clearly define business objectives and functional requirements in request for proposal (RFP). Seek executive involvement early and often throughout the project life cycle. Follow defined change management process. |
| **Staffing** | | | |
| Availability of ISB Personnel | Low - .10 | Schedule | Present Project Plan including schedule to Information Services Branch (ISB) Director to gain approval of use of resources. Adjust schedule as necessary. Adjust staff responsibilities as necessary. |
| Availability of knowledgeable subject matter experts (SME) with sufficient time to participate in design requirements stage. | Low - .40 | Schedule | Present Project Plan to Consumer Affairs Branch (CAB) Manager and gain commitment for use of resources. Develop plan for CAB Manager to meet responsibilities while providing sufficient number of knowledgeable SMEs. Adjust schedule as necessary. |
| **Schedule** | | | |
| Vendor unable to implement within project timeline. | Low - .20 | Schedule | Project Manager continuously tracks vendor progress against deliverables and schedule. Project Manager meets frequently with vendor's Project Manager to identify issues that need to be resolved. Effectively manage change control process. Adjust schedule as necessary. |
| **Financial Risks** | | | |
| **Cost** | | | |
| Underestimated costs | Low - .20 | Budget | Effectively manage change control process. Ensure vendor contract contains terms and conditions that shares risk with vendor. Request additional funding. |

| RISK CATEGORY/ EVENT DESCRIPTION | PROBABILITY | AFFECTED PROJECT AREA | PREVENTIVE/CONTINGENCY MEASURES |
|---|---|---|---|
| **Technology Risks** | | | |
| **Technical** | | | |
| Data interfaces with existing CPUC data systems | Medium - .50 | Schedule Budget | Clearly describe interface needs in RFP. Project Manager lead meetings of the CPUC managers that need to share data to jointly develop an approach. Adjust schedule as necessary. Adjust budget as necessary. |
| **Change Management/Operational Risks** | | | |
| **Internal** | | | |
| Interrupting business operations | Low - .10 | Schedule | Run parallel systems. Schedule interruptions to occur after 5:00 p.m. and before 8:00 a.m. |
| CAB staff resistant to change. | Medium - .50 | Schedule | Early and consistent communication with CAB staff. Engage SMEs in requirements definition and refine understanding throughout project. Engage SMEs in business process re-engineering before the system is deployed to take full advantage of system's functionality. Conduct demonstration of software early to generate enthusiasm. Emphasize need for comprehensive training program in system vendor RFP. Involve union as necessary regarding organizational changes related to the system. Adjust schedule as necessary. |

This exhibit shows the project management, financial, technology, and change management/ operational risk levels at the current phase of the project. Medium levels of risk in Project Management, Technology, and Change Management/Operational areas are attributed to the implementation environment. The low-level risk associated with financial risk is due to the vendor responses to the request for information (RFI) all being close in cost and employing a stringent change control process that will be used to strictly manage the budget. A discussion of each area follows.

✦ Project management risk is high due to the CPUC having many priorities that may distract the executives from making timely decisions, and there being many goals the CPUC executives have that could impact scope. If the Executive Steering Committee team members are unavailable when the Project Manager needs a decision, it could

delay the schedule and increase the budget. Scope changes may occur if the CPUC executives—who are in the early stages of determining how to implement the Bill of Rights—take on more responsibilities than the functional requirements can address. Specific staffing risks include challenges accessing knowledgeable CPUC staff during the design requirements stage and continued availability of ISB staff throughout the project life cycle. Schedule risks are considered low because the scope is fairly well-defined and the schedule for this project is based on recent experience with comparable projects in the State, and was designed to minimize schedule risk.

✦ Financial risk is projected to be low since the CPUC received a number of proposals in response to the RFI that were close in cost ranges.

✦ Technology risk is medium since the new solution is a MOTS solution and will interface with existing systems.

✦ Change management/operational risk is medium since human nature is resistant to change, although the staff within CAB reacted positively to conceptual systems. The SMEs who will operate the system will be heavily involved in defining the requirements to ensure the system meets their needs. Additionally, a Communications Plan will be developed that ensures early and frequent communication with all CPUC staff about the project.

The risks identified in the risk management worksheet will be augmented with others as project planning is underway and continues throughout the project life cycle by any member of the team. As the project progresses and the potential for the risk to become a problem passed, a risk may be removed from the list.

## 7.1.1 Risk Assessment

The approach to risk assessment is for the team to identify risks, analyze their potential impact on the project, determine the probability and significance if they occur, and make a decision as to whether the risks are acceptable.

## 7.1.2 Risk Identification

Risk identification is the responsibility of every team member. During initial project planning, the team must evaluate all aspects of the project to determine whether there is potential for a particular risk to occur. The initial identification of risks should be speculative, broad, and based on the team's experiences. Areas to examine include whether the:

- Scope is feasible for the organization and vendor.
- Schedule is based on experience and knowledge of the environment.
- Cost estimate is reasonable.
- Project includes significant technology change.
- Project is larger or more complex than the organization has experience with.
- Organization has a culture of change.
- Organization has established project management culture.
- Team members have the skills to participate in implementing the system.
- The SMEs have sufficient time to participate in requirements definition.

The following risk areas were identified from the list:

- ✦ Project Management
  - – Stakeholder Participation
  - – Scope
  - – Staffing
  - – Schedule
- ✦ Technology Risks
  - – Technical
- ✦ Change Management/Operational Risk
  - – Internal
- ✦ Financial Risks
  - – Cost

As new risks are identified during the life of the project, they will be aligned with these categories or new categories will be created as appropriate.

### 7.1.3 Risk Analysis and Quantification

Project risks will be tracked and analyzed on an ongoing basis, and discussed as part of regular project management meetings. Risks will be analyzed based on the type of risk, probability of the risk occurring, the ability to mitigate the risk, and the potential effect of the risk.

The section below describes the relevant factors that were evaluated in order to determine the level of severity of the risk and the priority that should be assigned to each risk. These factors will be used as new risks are identified throughout the project life cycle.

1. Assign an **Impact Rating** to the risk:

   - ✦ *High* – if the risk represents a significant negative impact on project scope, schedule, or budget.

   - ✦ *Medium* – if the material impacts would significantly affect users, consumers, or other key stakeholders.

   - ✦ *Low* – all other risks.

2. Assign a **Probability Rating** to the risk:

   - ✦ *High* – if the risk is considered almost certain to occur or very likely to occur.

   - ✦ *Medium* – if the risk has a 50/50 chance of occurring or very likely to occur.

   - ✦ *Low* – if the risk is considered unlikely to occur.

3. Assign the **Time Frame** for mitigation of the risk (for example, determine the time frame within which action must be taken to successfully mitigate the risk):

   - ✦ *Short* – if the time frame is less than one month.

   - ✦ *Medium* – if the time frame is between two and five months.

   - ✦ *Long* – if the time frame is greater than five months.

4. Determine the **Risk Exposure** from the matrix (see next page).

|  | | PROBABILITY RATING | | |
|---|---|---|---|---|
|  | | HIGH | MEDIUM | LOW |
|  | HIGH | *High* | *High* | *Medium* |
| IMPACT | MEDIUM | *High* | *Medium* | *Low* |
|  | LOW | *Medium* | *Low* | *Low* |

5. Determine the **Risk Severity** from the matrix below.

|  | | EXPOSURE RATING | | |
|---|---|---|---|---|
|  | | HIGH | MEDIUM | LOW |
|  | HIGH | *High* | *High* | *Medium* |
| TIME FRAME | MEDIUM | *High* | *Medium* | *Low* |
|  | LOW | *Medium* | *Low* | *Low* |

## *7.1.4 Risk Prioritization*

Given that this is a mission-critical project, risk handling will be based on Risk Severity and will conform to the following guidelines:

✦ *Low Risk Severity*. Risk assessment and management will generally be handled by the Project Manager. The Project Manager may choose to escalate the risk handling to the Project Sponsor if the situation warrants.

✦ *Medium Risk Severity*. After initial assessment, the Project Manager will escalate the risk to the Project Sponsor with a recommendation for mitigation of the risk.

✦ *High Risk Severity*. The Project Manager will inform the Executive Steering Committee and provide a mitigation approach.

Based on the current risk analysis, each risk has been prioritized and ranked. Those risks with high priority will receive a greater degree of attention from the project team and resources. Low-priority risks will be monitored on a regular basis. Based on the risk analysis and quantification completed (See earlier Risk Management Worksheet), the following high risks have been identified in priority order:

✦ Project Management

– Change in Agency priorities

– Decision-making structure

The following risks, rated medium, are prioritized as:

✦ Project Management

– Changes in scope

✦ Change Management/Operational Risks

 – CAB staff resist change

 ✦ Technology

 – Data interfaces with existing CPUC data systems

The remainder of the risks are rated as low, which means they are not likely to occur and can be handled by the Project Manager should they become problems.

## 7.1.5 Risk Response

The Project Management Team recognizes that risk response planning must be appropriate to the severity of the risk, cost effective in meeting the challenge, timely to be successful, realistic within the project context, agreed upon by all parties involved, and owned by a responsible person. These considerations go into choosing the response when project risks are defined. The project team evaluates risk responses in the following order, beginning with those that have the highest likelihood of effectiveness:

 ✦ Avoidance

 ✦ Acceptance

 ✦ Mitigation

 ✦ Sharing

The Project Team will develop, as part of the risk response planning, both a Contingency Plan and a Fallback Plan. The Contingency Plan will be applied to identified risks which arise during the project or if intermediate milestones are missed. The Fallback Plan will be utilized if a high-impact risk is encountered or if the selected solution is determined to not be fully effective.

In responding to risks the Project Team may develop a cause-and-effect relationship diagram in order to determine the results of varying responses. Once the appropriate risk response is determined, residual risks and secondary risks will be examined and the appropriate responses developed. (Residual risks are those that remain after avoidance, sharing, or mitigation responses have been taken. They also include minor risks that have been accepted and addressed. Secondary risks are those that arise as a direct result of implementing a risk response. These are identified, and appropriate responses planned.)

## 7.1.6 Risk Avoidance

Whenever determining the appropriate response to recognized risks, the Project Team will first determine if risk avoidance is the solution. Risk avoidance is typically the first solution examined since in many instances because it is the most effective solution. Risk avoidance requires changing the scope or the project plan in order to respond to a recognized risk. The following questions should be asked or answered to determine if avoidance is the best response.

 ✦ Will reducing scope avoid this risk?

 ✦ Will adding resources reduce this risk?

 ✦ Will adding time to the project reduce this risk?

 ✦ Will adopting a proven approach instead of an innovative one reduce this risk?

### 7.1.7 Risk Acceptance

Risk acceptance as a response, indicates that the project team has decided not to change the project plan to deal with a risk or they are unable to identify any other suitable response strategy. The team may accept the risk in either an active or passive manner. (Active acceptance may include developing a contingency plan. Passive acceptance requires no action, leaving the project team to deal with the risks as they occur.)

### 7.1.8 Risk Mitigation

Risk mitigation seeks to reduce the probability and/or consequences of a risk to an acceptable threshold. The team prefers to take early action to reduce the probability of a risk occurring. This is usually more effective than trying to repair the consequences after it has occurred. Mitigation costs must be appropriately related to the probability of the risk and its consequences.

Risk mitigation strategies for this project are detailed in Section *7.2 - Risk Management Worksheet.*

### 7.1.9 Risk Sharing

Risk sharing is seeking to shift the consequence of a risk to a third party together with ownership of the response. Sharing the risk gives another party responsibility for its management; it does not eliminate it from the project. Often a payment-upon-acceptance contract with a vendor for all, or part, of the risk-prone work will help share the risk. The Project Manager intends to engage in risk sharing as a proactive strategy with the selected vendor.

## 7.2 Risk Tracking and Control

Risk tracking and control processes play a significant role in ensuring that identified risks are resolved in a timely manner, especially if they impact the critical path. Without a process to track risks that occur, risks can easily be forgotten and impact the project's scope, schedule, and/or budget. The following describes the proposed risk tracking and control processes for this project.

### 7.2.1 Risk Tracking

As stated above, the Project Manager—leading the team—will be required to complete a full Risk Assessment and Risk Management Plan as one of his/her initial deliverables. The Risk Management Plan will include methods to track risks including using a database tool that:

+ Assigns a unique number to each risk.
+ Tracks the assigned ratings, as well as efforts to mitigate the risk.
+ Calculates the number of new risks since the last project team meeting in which risks were assessed.

The risk tracking system will also include:

+ Processes to continuously reevaluate risk rankings.
+ Identification of those risks affecting the project's critical path.
+ Procedures to track progress toward resolving the risk.

The Project Team will briefly meet each morning to review the ongoing status of the project, the tasks and assignments of the day, as well as identifying any risks on the horizon. The Project Team will meet weekly specifically to review the Risk Plan and ongoing efforts to mitigate risk, as well as to assess any new risks identified.

The Project Manager shall have authority to take action to mitigate risks that are determined to have low severity. Medium and high severity risks must be escalated to the Project Sponsor along with a mitigation approach. For high severity risk, notice will also be provided to the Executive Steering Committee.

## 7.2.2 Risk Control

Risk control is necessary to help prevent failure on a project. The project team will ensure the Risk Management Plan is executed so that it can respond to risk events before they become serious problems. As risk events occur, the project team will implement the appropriate contingency plans to ensure the success of the project. The Risk Management Plan will be updated as anticipated risk events occur or are surpassed, and as actual risk events are evaluated and resolved.

The CPUC risk management process includes further development of this Risk Management approach in accordance with the State's Project Management Methodology. The Project Manager will submit an updated Risk Management Plan to the Project Sponsor within 30 days of project initiation. This plan will be used on an ongoing basis to identify risks, quantify the potential impact of each identified risk, present mitigation plans for each identified risk, and enact appropriate risk responses. Mitigation measures and contingency plans will be developed and implemented as high priority risks are identified and monitored. Project reserves (for example, time, personnel, funding) will be allocated at the discretion of the Project Sponsor.

The Project Manager will review new risk assessments as well as ongoing risk efforts weekly to:

- ✦ Evaluate and determine the risk exposure and severity.
- ✦ Identify appropriate action to avoid or mitigate the risk.
- ✦ Elevate the risk assessment and response to the project sponsor and/or executive steering committee, when appropriate.

Risk management is an effort that will occur throughout the project life cycle to identify, analyze, prioritize, and mitigate risks before they become severe problems that affect scope, schedule, and/or budget.
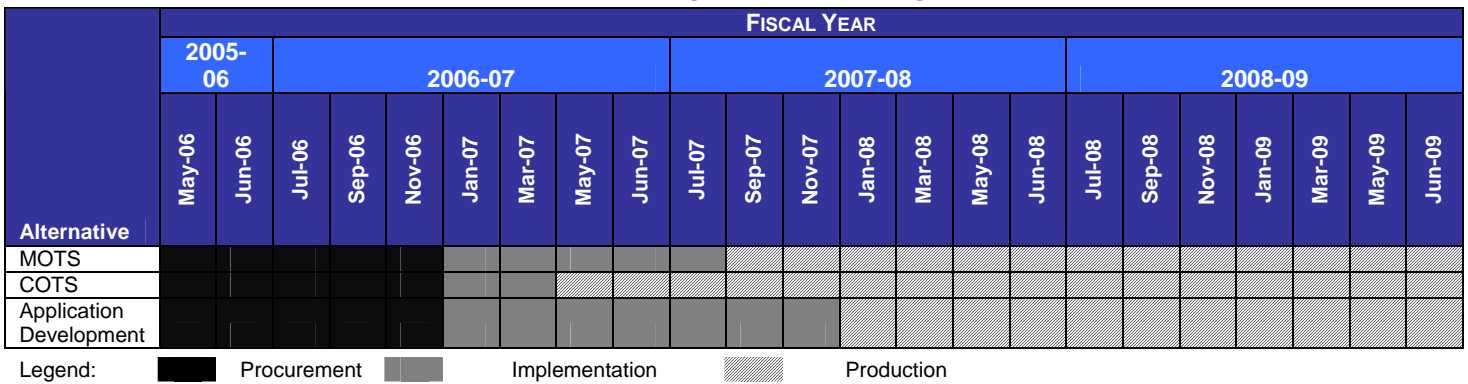
# 8.0    Economic Analysis Worksheets

This section presents the economic analysis worksheets (EAW) along with assumptions used and an explanation of costs for deployment of the CIMS. The project will commence upon approval in the May Revise process. Procurement activities will begin immediately and last approximately seven months. Development will start in January 2007 and end in August 2007. The project will then go under 22 months of maintenance and operations and end in June 2009. (The length of the maintenance and operations is based on the solution with the longest deployment schedule.) The CPUC will redirect funds in FY 2005-06 for expenses incurred for the last six weeks of FY 2005-06 during which work procurement efforts will be underway.

Three alternative solutions are presented in this EAW. The first is the preferred alternative, which is a MOTS. The others are a commercial-off-the-shelf package (COTS), and a custom development solution (application development).

Figure 8.1, below presents the project timeline associated with each alternative.

### FIGURE 8.1
### TIMELINE FOR ALTERNATIVES

| | FISCAL YEAR | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2005-06 | | 2006-07 | | | | | | | 2007-08 | | | | | | | 2008-09 | | | | | | |
| | May-06 | Jun-06 | Jul-06 | Sep-06 | Nov-06 | Jan-07 | Mar-07 | May-07 | Jun-07 | Jul-07 | Sep-07 | Nov-07 | Jan-08 | Mar-08 | May-08 | Jun-08 | Jul-08 | Sep-08 | Nov-08 | Jan-09 | Mar-09 | May-09 | Jun-09 |
| **Alternative** | | | | | | | | | | | | | | | | | | | | | | | |
| MOTS | | | | | | | | | | | | | | | | | | | | | | | |
| COTS | | | | | | | | | | | | | | | | | | | | | | | |
| Application Development | | | | | | | | | | | | | | | | | | | | | | | |

Legend:    ▇ Procurement    ▇ Implementation    ▨ Production

The CPUC based estimates for the baseline on current staffing and operating information augmented by one-time costs expected to occur in September 2006 as the CPUC upgrades the existing technology environment. Vendors' costs and some expectations for the CPUC staff were derived from the vendors' proposals. Each vendor estimated its schedule based on a January 1, 2007 start date. Many cost elements cross fiscal years.

The assumptions used to prepare each economic analysis worksheet, and the explanation of costs, are presented in the following sections:

**8.1    Assumptions**

**8.2    Existing System/Baseline Cost Worksheet**

**8.3    Proposed Alternative Cost Worksheet: MOTS**

**8.4    Alternative #1: COTS**

**8.5    Alternative #2: Application Development**

## 8.1 Assumptions

There are a number of assumptions that apply to all alternatives, and to some degree, existing system costs. These include:

- Staff costs are based on Schedule 8 reports for FY 2006-07.

- Staff positions were derived from the organization chart dated July 2005.

- A 34 percent benefit factor was applied to estimate fully loaded staff costs except for Retired Annuitants.

- Retired Annuitants are assumed to work the maximum 960 hours per year.

- Vacancies were projected at the highest salary for that position.

- Document Management is common in all three alternatives presented in the EAW. Assume that the CPUC's existing Document Management System (DMS) will be employed regardless of chosen alternative. As such, CIMS will be the "system of record" holding the consumer complaint information while scanned documents will be held in the DMS.

- The DTS hosting costs are the same for all three alternatives since the services required are identical and the number of servers does not vary significantly among the alternatives. All servers associated with CIMS will be hosted at DTS. The CPUC selected services and pricing from DTS' Rate Schedule. Additional T1 lines are not needed since the CPUC already has one existing CSGnet T1 subscription through DTS.

- The Project Manager, independent project oversight contractor (IPOC), and IV&V vendors will start July 1, 2006.

- Deployment will begin January 2007 for the MOTS vendor and end in August 2007.

The following should be used to calculate document management costs for each of the alternatives:

The CPUC has the majority of the necessary DMS equipment and licenses. Figure 8.2 below presents a summary of the hardware and software that must be purchased to support the DMS regardless of alternative chosen.

**FIGURE 8.2**
**COSTS RELATED TO DOCUMENT MANAGEMENT**

| | UNIT PRICE | NUMBER OF UNITS | TOTAL |
|---|---|---|---|
| **HARDWARE ONE-TIME COSTS** | | | |
| Scanner | $3,995.00 | 2 | $7,990 |
| Additional 19" Monitor | $335.17 | 48 | $16,088 |
| Graphics Card | $72.21 | 48 | $3,466 |
| **TOTAL** | | | **$27,544** |

| | UNIT PRICE | NUMBER OF UNITS | TOTALS |
|---|---|---|---|
| **SOFTWARE – ONE-TIME COST** | | | |
| Scanning software and scripts | $15,540 | 2 | $ 31,080 |
| **ANNUAL HARDWARE MAINTENANCE FEES** | | | |
| Scanner | $1,195 | 2 | $ 2,390 |
| **ANNUAL SOFTWARE MAINTENANCE FEES** | | | |
| Scanning software and scripts | $2,624 | 2 | $ 5,248 |
| **TOTAL** | | | **$38,718** |

Two scanners and scanning software will be purchased. A second 19" monitor and video card will be purchased for each of the 48 CAB staff to make it easier to review scanned documents while simultaneously reviewing a consumer's record. It is estimated that one-time hardware costs for DMS total $27,544. It is estimated that one-time software costs for DMS total $31,080. All pricing information is based on quotes from the CPUC's current DMS vendor.

In addition to the one-time cost of the equipment and software, the annual maintenance fee for the first year must be paid when the purchase is made. Annual hardware and software maintenance fees are $2,390 and $5,248, respectively.

The intake staff and CAB Representatives will be eliminating some duties related to associating supplemental materials with a record and taking on the responsibility of scanning documents. Currently, the staff open mail, look the record up in the CCT system, identify the corresponding complaint record and CAB Representative assigned to the complaint, walk the supplemental document over to the assigned CAB Representative, and index documents into paper files. With the DMS, they will need only to scan the document and type in the record number for the document to be associated with a record. As a result, no additional personnel years (PYs) are expected to result from scanning documents.

The following are explanations for each of the worksheets.

## 8.2 Existing System/Baseline Cost Worksheet

The following are explanations of costs for the "Existing System/Baseline Cost Worksheet."

✦ *Continuing Information Technology Costs—Staff (Salaries and Benefits)*

Currently, three Information System Bureau (ISB) staff spends part of their time supporting the current CCT system. A timekeeping report identified that the three staff spend 0.1 PY (in total) per year supporting the CCT system. Total annual continuing costs for ISB staff to support and maintain the CCT system are estimated at **$8,441**, which is represented in FY 2006-07, 2007-08, and 2008-09. Six weeks of their time in FY 2005-06 costs **$974**.

✦ *Continuing Information Technology Costs: Hardware Lease/Maintenance*

The only continuing annual hardware cost in the current IT environment is for the HP rx2600 server that houses the Oracle database. The CCT system shares this server with other applications used at the CPUC. Based on the database space and load taken up by the CCT system as a percentage of the total used by all of the applications using this server, 20 percent of the costs should be allocated to the CCT system. The annual fee

for the HP rx2600 server is $8,165. Twenty percent of this is **$1,633**, which is represented in each of the fiscal years except 2005-06. Six weeks of costs in FY 2005-06 is **$188**.

The CPUC has approval to upgrade the current IT environment that houses these applications. This new environment will be implemented in September 2006 and will impact the current CCT system until it is replaced. The upgrade was approved with the understanding there is sufficient equipment and software licenses from past purchases and that the only incremental hardware items needed to implement the proposed environment are two servers for Web balancing that cost $5,000 each for a total of $10,000. (This includes three years of maintenance.) Since this environment is shared with other applications, using the same 20 percent allocation factor described above, the CCT system's portion of the new server cost is **$2,000**, all reflected in FY 2006-07.

✦ *Continuing Information Technology Costs: Software Lease/Maintenance*

The only continuing software cost in the current IT environment is the annual upgrade and support costs for the Oracle software.

The CCT system shares the Oracle software with other applications used at the CPUC in a 20/80 allocation. The annual fee is $23,328. The CCT system's annual share of the annual Oracle upgrade and support costs is **$5,666**. The cost for six weeks for FY 2005-06 is **$654.**

The CPUC must purchase a one-time software license to implement the September 2006 environment: the Windows Server 2003 operating system (OS) license. The CPUC needs to purchase one OS for each of the two new servers at a cost of $1,500 per OS or $3,000, which includes three years of maintenance. The CCT system's portion of the new OS cost is **$600**, all reflected in FY 2006-07.

✦ *Continuing Information Technology Costs: Data Center Services*

The CPUC currently pays $12,000 annually for CSGnet T1 subscription through DTS. Assume the CCT system's portion of this cost is allocated proportionately based on headcount. The CPUC has 854 positions; CAB has 48. ($12,000 multiplied by 48/854 equals **$674** in each of the FY 2006-07 through 2008-09. Six weeks of service in FY 2005-06 costs **$78**.)

✦ *Continuing Information Technology Costs—Other*

Recurring telecommunications services (known as ACD) costs such as maintenance and operating costs for CAB's Symposium Call Center equipment and telephone line charges used by CAB staff are represented in this section.

The Symposium Call Center (CAB's telephone system) equipment and service-related costs are $48,538 annually and are composed of the following expenses. Recurring annual costs for CAB's Symposium Call Center equipment to support the CAB Representatives in Los Angeles, San Francisco, and Sacramento is $27,600 annually. Per AT&T, the annual maintenance contract rate for AT&T to provide round-the-clock support on the Symposium equipment is $20,938.

Beginning April 1, 2006, the Symposium Call Center equipment will be shared within the Consumer Protection Safety Division (CPSD), Licensing Section. Based on the number of agents in CAB and CPSD who will be using Symposium, assume 80 percent of total Symposium costs will be allocated to CAB. Therefore, total annual expenses are **$38,830**.

Telephone line charges for the Los Angeles and San Francisco CAB offices for FY 2004-05 were **$210,005.** That figure will be used for projection purposes since these costs vary by year.

Summing these costs, it is assumed that annual ACD Telecommunication Services costs are **$248,835**. Six weeks of these expenses is **$28,712.**

✦ *Continuing Program Costs—Staff*

The CAB currently has 48 authorized positions. Assume the maximum salary, based on title for CAB staff filling vacant positions and therefore not individually named in the Schedule 8 report. Total annual continuing costs for CAB staff are estimated at **$3,230,301**.

Some staff outside of CAB and ISB spends a significant amount of time extracting and manipulating the CCT system data due to the CCT system's shortcomings. The CPUC estimates that 14 staff outside of the CAB and ISB organizations spends a total of 2.6 personnel years collectively on these activities. These expenses total **$198,701** for a full fiscal year.

Combining these expenses results in annual program costs of **$3,429,002.** Six weeks of service in FY 2005-06 for CAB and staff outside CAB is **$395,654.**

## 8.3. Preferred Alternative Cost Worksheet: MOTS

The deployment schedule for the preferred alternative, a MOTS solution, will begin January 2007 and end August 2007.

✦ *One-Time IT Project Costs: Staff*

The CPUC Contract Manager will procure a vendor to write the RFP for the system vendor and separately the SOW to obtain the Project Manager, IPOC, and IV&V vendors. Since the CPUC intends to use DGS' Master Service Agreement (MSA), it will take approximately 40 hours in FY 2005-06 to complete this process at a cost of **$3,559**.

This same Contract Manager will serve as the Contract Manager throughout the engagement. These responsibilities are projected to consume 40 hours in FY 2005-06 to initiate the system vendor procurement, 40 hours in FY 2006-07, and 8 hours in FY 2007-08 to perform the invoicing and contract management services.

The CPUC staff, working with the MOTS vendor, estimated the CPUC staff required for the implementation.

- The CAB SMEs are required in FY 2006-07 to define the requirements. The projection is for a total of 0.25 CAB PY for two months.

- CAB SMEs are required in FY 2007-08 for testing. The projection is for a total of 0.25 CAB PY for two months.

- One full-time ISB programmer will be assigned to the project and will develop expertise as the system is deployed.

The CPUC assumes a full-time ISB programmer is assigned to support the system once it is in production (maintaining the system, supporting user requests, making minor modifications, etc.). For staff cost estimate, assume maximum salary for Staff Programmer Analyst (specialist)—annual salary $92,524. One-half of FY 2007-08 costs are **$46,262**, and FY 2008-09 costs are **$92,524.**

Total one-time staff costs are estimated at **$3,559** in FY 2005-06, **$50,824** for FY 2006-07, and **$72,532** for FY 2007-08 and fiscal year 2008-09 costs are **$92,524**.

✦ ***One-Time IT Project Costs: Hardware Purchase***

The vendor estimated hardware costs to run the MOTS system at **$120,000**.

In addition, DMS hardware must be purchased to support document imaging. Assume one-time costs for DMS hardware is **$27,544**.

The total one-time IT Project cost for hardware is **$147,544.**

✦ ***One-Time IT Project Costs: Software Purchase/License***

Software costs, including OS software, database software, and the MOTS application, is estimated by the vendor to cost **$82,500.**

In addition, DMS software must be purchased to support document imaging. Assume one-time costs for DMS software total **$31,080**.

The total one-time software costs are estimated to be **$113,580**.

✦ ***One-Time IT Project Costs: Contract Services***

*Software Customization*. Costs to customize the base software to meet the CPUC's requirements and to interface with the DMS are projected by the vendor to be **$716,160** in FY 2006-07 and **$245,440** in FY 2007-08.

*Project Management, Project Oversight, and IV&V Services*. Vendors will provide the Project Management, IPO, and IV&V services. The CPUC developed estimates for the Project Management and IPOC vendors based on hourly rates provided for these services. The IV&V costs are calculated at 20 percent of the software customization expenses since this vendor is focused on evaluating the software. All three vendors will participate in RFP development beginning mid-June 2006.

The table below presents the costs for these services assuming the contractors begin July 1, 2006 and continue through implementation (but not maintenance and operations).

| | FISCAL YEAR | | |
|---|---|---|---|
| | **2005-06** | **2006-07** | **2007-08** |
| Project Manager | $0 | $292,160 | $59,760 |
| Project Oversight | 0 | 163,680 | 33,480 |
| IV&V Services | 0 | 80,977 | 16,870 |
| **TOTALS** | **$0** | **$536,817** | **$210,110** |

*Other Contract Services*. Costs to develop the SOWs for the Project Manager, IPO, and IV&V vendors are estimated at **$30,000** in FY 2005-06.

Costs to develop the RFP for the system vendor are estimated to be **$125,000** in FY 2006-07. An additional **$10,000** in expenses is included to acquire DGS' expertise when procuring the system vendor.

✦ ***One-Time IT Project Costs: Data Center Services***

The DTS' hosting costs are $22,800 annually. Costs for the four-month implementation in FY 2006-07 are **$7,600**. (Ongoing costs are below.)

✦ *One-Time IT Project Costs: Other*

The vendor estimates:

- Travel expenses in FYs 2006-07 and 2007-08 are **$35,000** each year.
- Training costs for CPUC staff in FY 2007-08, will be **$25,000**.

✦ *Continuing IT Project Costs: Staff*

A full-time ISB programmer is assigned to support the system once it is in production (maintaining the system, supporting user requests, making minor modifications, etc.). Fiscal year 2007-08 costs of **$77,103** represent the ten months MOTS is in the maintenance and operations phase. Costs in FY 2008-09 are an additional **$92,524**.

✦ *Continuing IT Project Costs: Hardware Lease/Maintenance*

Annual maintenance fees for the purchased DMS hardware will be $2,390. Costs are **$1,195** in FY 2006-07, **$2,390** in FY 2007-08, and **$2,390** in FY 2008-09.

✦ *Continuing IT Project Costs: Software Maintenance/Licenses*

Annual maintenance fees for the purchased DMS software will be $5,248. Costs are **$2,624** in FY 2006-07, **$5,248** in FY 2007-08, and **$5,248** in FY 2008-09.

The CPUC assumes annual license fees for the Oracle Database that must be purchased for the MOTS will be **$7,500** in FY 2007-08, and $**15,000** in FY 2008-09.

✦ *Continuing IT Project Costs: Contract Services*

The cost of a developer from the MOTS vendor to provide as-needed support on CIMS for 12 months after the system is put into production is **$84,000** in FY 2007-08, and **$8,400** in FY 2008-09. This resource would assist the full-time ISB programmer assigned to CIMS as needed.

✦ *Continuing IT Project Costs: Data Center Services*

The DTS will be hosting the servers after CIMS is in production. The estimated continuing data center services costs are **$19,000** in FY 2007-08, and **$22,800** in FY 2008-09.

✦ *Continuing Existing Costs*

Continuing existing costs are derived from the current technology and program staff costs. Annual expenses for ISB staff are $8,441. Annual costs for CAB are $3,694,252. Continuing existing costs are estimated to be **$395,654** in FY 2005-06, **$3,696,852** in FY 2006-07, **$3,694,252** in FY 2007-08, and **$3,694,252** in FY 2008-09. (The increase in FY 2006-07 costs is due to one-time IT expenditures to upgrade the current IT environment.)

## 8.4 Alternative #1: COTS

The COTS implementation will take four months and start in January 2007.

✦ *One-Time IT Project Costs: Staff*

The CPUC Contract Manager will procure a vendor to write the RFP for the system vendor and separately the SOWs to obtain the Project Manager, IPO, and IV&V vendors. Since the CPUC intends to use DGS' MSA, it will take approximately 40 hours in FY 2005-06 to complete this process at a cost of **$3,559**.

This same Contract Manager will serve as the Contract Manager throughout the engagement. These responsibilities are projected to consume 40 hours in FY 2005-06 to initiate the system vendor procurement, 40 hours in FY 2006-07, and 8 hours in FY 2007-08 to perform the invoicing and contract management services.

The CPUC staff, working with the COTS vendor, estimated the PYs of the CPUC staff required for the implementation.

- The CAB SMEs are required in FY 2006-07 to define the requirements. The projection is for a total of 0.25 CAB PY for two months.

- Also in FY 2006-07, 0.2 ISB staff assist with IT infrastructure issues.

- One full-time ISB programmer will be assigned to the project and will develop expertise as the system is deployed and assist with infrastructure issues during deployment.

Assume one Staff Programmer Analyst (specialist) spends one month in FY 2007-08 on the Post Implementation Evaluation Report (PIER) at a cost of **$7,710**.

Total one-time staff costs are estimated at **$3,559** in FY 2005-06, **$12,401** for FY 2006-07, and **$8,066** for FY 2007-08.

✦ *One-Time IT Project Costs: Hardware Purchase*

Hardware to run the COTS software was estimated by the vendor to be **$144,995.**

In addition, DMS hardware must be purchased to support document imaging. Assume one-time costs for DMS hardware totals **$27,544.**

The total one-time hardware costs are estimated to be **$172,539**.

✦ *One-Time IT Project Costs: Software Purchase/License*

Software costs, including OS software, database software, and the COTS application estimated to be **$468,840.**

In addition, DMS software must be purchased to support document imaging. Assume one-time costs for DMS software total **$31,080.**

The total one-time software costs are estimated to be **$499,920.**

✦ *One-Time IT Project Costs: Contract Services*

*Software Customization*. Software customization costs are estimated by the vendor to cost **$41,000** in FY 2006-07.

*Project Management and Project Oversight Services*. The CPUC developed estimates for each of the contract services using hourly rates received from the vendors that provide these services. No IV&V services are necessary since there is no software development involved in this solution.

The table on the next page presents the costs for these services assuming the contractors begin July 1, 2006 and work full-time for the duration of the four-month implementation.

| | FISCAL YEAR | | |
|---|---|---|---|
| | **2005-06** | **2006-07** | **2007-08** |
| Project Manager | $0 | $243,467 | N/A |
| Project Oversight | $0 | $272,800 | N/A |
| IV&V Services | N/A | N/A | N/A |
| **TOTALS** | **$0** | **$516,267** | |

_Other Contract Services._ Costs to develop the SOWs for the Project Manager, IPOC, and IV&V vendors are estimated at **$30,000** in FY 2005-06.

Costs to develop the RFP for the system vendor are estimated to be **$125,000** in FY 2006-07. An additional **$10,000** in expenses is included to acquire DGS' expertise when procuring the system vendor.

✦ *One-Time IT Project Costs: Data Center Services*

The DTS will host all of the servers during the four-month implementation period. One-time data center services for this alternative are estimated to be **$7,600** in FY 2006-07. (Ongoing expenses are below.)

✦ *One-Time IT Project Costs: Other*

The vendor estimates:

- Cost for software installation and integration to be **$106,150** in FY 2006-07.
- Travel expenses for COTS vendor's consultants to be **$25,000** in FY 2006-07.
- Costs to train the CPUC staff to be **$35,000** in FY 2006-07.

✦ *Continuing IT Project Costs: Staff*

Assume an ISB programmer is assigned part-time to support the system once it is in production. Working with the COTS vendor, CPUC estimated that 0.2 PY will be needed.

For FY 2006-07, the calculated PY is actually 0.03 [0.2*(2/12) = .033] since the system is in production only the last two months of the fiscal year, but the EAW spreadsheet rounds the number to zero. The cost for FY 2006-07 is **$3,084** and both FYs 2007-08 and 2008-09 is **$18,505**.

✦ *Continuing IT Project Costs: Hardware Lease/Maintenance*

The CPUC assumes that the annual maintenance fees for the purchased DMS hardware will be $2,390. Costs will be **$1,195** in FY 2006-07, **$2,390** in FY 2007-08, and **$2,390** in FY 2008-09).

Maintenance fees for the servers that run the COTS software are **$2,750** in FY 2007-08, and **$5,500** in FY 2008-09.

✦ *Continuing IT Project Costs: Software Maintenance/Licenses*

Ongoing licensing fees presented by the vendor for the COTS software are **$81,990** in FY 2006-07, **$201,729** in FY 2007-08, and **$239,479** in FY 2008-09.

Additionally, annual maintenance fees for the purchased DMS software will be $5,248. Therefore, costs will be **$2,624** in FY 2006-07, **$5,248** in FY 2007-08, and **$5,248** in FY 2008-09.

+ *Continuing IT Project Costs: Data Center Services*

The DTS services costs are **$3,800** in FY 2006-07, **$22,800** in FY 2007-08, and **$22,800** in FY 2008-09.

+ *Continuing Costs*

The costs shown in the existing system/baseline worksheet remain the same over the time period shown in the EAW for each alternative.

Continuing IT staff costs are **$8,441** annually. The proportionate share in FY 2005-06 is **$974.**

The 50.6 PYs for continuing program staff cost $3,694,252 annually. The proportionate share in FY 2005-06 is **$395,654.**

Continuing costs are estimated to be **$426,260** in FY 2005-06, and **$3,694,252** each FY thereafter.

## 8.5 Alternative #2: Application Development

The application development implementation is projected to take 12 months starting in January 2007. This is the lengthiest implementation of the three alternatives.

+ *One-Time IT Project Costs: Staff*

The CPUC Contract Manager will procure a vendor to write the RFP for the system vendor and separately the SOWs to obtain the Project Manager, IPO, and IV&V vendors. Since the CPUC intends to use DGS' MSA, it will take approximately 40 hours in FY 2005-06 to complete this process at a cost of **$3,559**.

This same Contract Manager will serve as the Contract Manager throughout the engagement. We are assuming it will consume 40 hours in FYs 2005-06 and 2006-07 each, and 8 hours in FY 2007-08.

The CPUC staff, working with the Application Development vendor, estimated the CPUC staff required for the implementation.

- Assume CAB SMEs are required to define the requirements and for acceptance testing (0.25 CAB PY over the implementation).

- Assume one full-time ISB programmer will be assigned to the project. The ISB staff will develop expertise with the system during deployment and support the system once it is operational.

Assume one Staff Programmer Analyst (specialist) spends one month in FY 2007-08 on the PIER costs **$7,710**.

Total one-time staff costs are estimated at **$3,559** for FY 2005-06, **$56,391** for FY 2006-07, and **$62,678** for FY 2007-08.

+ *One-Time IT Project Costs: Hardware Purchase*

Hardware is estimated by the vendor to cost **$35,000** in FY 2006-07**.**

In addition, the DMS hardware must be purchased to support document imaging at one-time costs of **$27,544.**

The total one-time hardware cost is estimated to be **$62,544.**

+ *One-Time IT Project Costs: Software Purchase/License*

Software costs, including OS software and database software, are projected by the vendor to cost **$33,500** in FY 2006-07.

In addition, DMS software must be purchased to support document imaging with a one-time cost of **$31,080.**

The total one-time software cost is estimated to be **$64,580**.

+ *One-Time IT Project Costs: Contract Services*

*Software Customization*. The vendor estimated software customization costs to be **$548,800** in FY 2006-07, and **$777,600** in FY 2007-08.

*Project Management, Project Oversight, and IV&V Services.* The CPUC developed estimates for each of the contract services using hourly rates received from the vendors that provide these services except for IV&V services, which are estimated at 20 percent of the software development costs.

The table below presents the costs for these services assuming the contractors begin mid-June 2006 and work through the 12-month implementation.

| | **FISCAL YEAR** | | |
| --- | --- | --- | --- |
| | **2005-06** | **2006-07** | **2007-08** |
| Project Manager | $0 | $303,227 | $146,080 |
| Project Oversight | 0 | 333,560 | 163,680 |
| IV&V Services | 0 | 178,065 | 87,215 |
| **TOTALS** | **$0** | **$814,852** | **$396,975** |

*Other Contract Services*. Costs to develop the SOWs for the Project Manager, IPO, and IV&V vendors are estimated at **$30,000** in FY 2005-06.

Cost to develop the RFP for the system vendor is estimated to be **$125,000** in FY 2006-07. An additional **$10,000** in expenses is included to acquire DGS' expertise when procuring the system vendor.

+ *One-Time IT Project Costs: Data Center Services*

The DTS will host all of the servers during the 12-month implementation period. Except for the implementation schedule, assume the DTS assumptions presented in the MOTS alternative also apply in this alternative. One-time data center services for this alternative are estimated to be **$11,400** in FY 2006-07, and **$11,400** in FY 2007-08. (Ongoing expenses are below.)

+ *One-Time IT Project Costs: Other*

The vendor estimates:

- Cost for software installation to be **$12,800** in FY 2007-08.

- Travel expenses for consultants associated with the application development vendor to be **$48,480** in FY 2006-07, and **$60,480** in FY 2007-08.

The vendor's Installation Engineer and Project Manager will develop and deliver all training. Their costs are assumed in those expenses identified above.

✦ *Continuing IT Project Costs: Hardware Lease/Maintenance*

Annual maintenance fees for the purchased DMS hardware will be $2,390. Costs will be **$1,195** in FY 2006-07 (six months), and in FYs 2007-08 and 2008-09, **$2,390** each.

✦ *Continuing IT Project Costs: Software Maintenance/Licenses*

Annual maintenance fees for the purchased DMS software will be $5,248. Costs will be **$2,624** for FY 2006-07 (six months), and in FYs 2007-08 and 2008-09, **$5,248** each.

✦ *Continuing IT Project Costs: Contract Services*

The vendor's estimate to provide as-needed support and system enhancements on CIMS for 12 months after the system is put into production is **$264,000** in FYs 2007-08 and 2008-09, each. This resource would assist the full-time ISB programmer assigned to CIMS on an as-needed basis.

✦ *Continuing IT Project Costs: Data Center Services*

The DTS will host the servers after CIMS is in production. Estimated continuing data center services costs are **$11,400** for six months in FY 2007-08, and **$22,800** in FY 2008-09.

✦ *Continuing IT Project Costs: Other*

The vendor estimates that travel and living costs for the vendor's resources to support the CIMS for 12 months after go-live will be **$17,280** in FYs 2007-08 and FY 2008-09, each.

✦ *Continuing Costs*

Continuing costs are derived from the current technology and program staff costs. The annual expense for ISB staff is $8,441. The annual cost for CAB is $3,694,252. Continuing costs are estimated to be **$395,654** in FY 2005-06, **$3,696,852** in FY 2006-07, **$3,694,252** in FY 2007-08, and **$3,694,252** in FY 2008-09. (The increase in FY 2006-07 costs is due to one-time IT expenditures to upgrade the current IT environment.)