


Project Complexity and Sizing

| | A | B | C | D | I | K | N | O | P |
|----|---|--|------------------------------|--|---------------------|-----------|---|---|---|
| 1 | | | | | | | | | |
| 2 |  | Pacific Gas and Electric Company | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | Application Development Project Complexity and Sizing Worksheet | | | | | | | | |
| 7 | | | | | | | | | |
| 8 | | | | | | | | | |
| 9 | | Date Checklist Completed: | 4/10/2009 | | | | | | |
| 10 | | ITWR # (If applicable): | 38094 | | | | | | |
| 11 | | Proposal Description: | Residential and CARE Tiering | | | | | | |
| 12 | | Client Portfolio Lead: | Yamaguchi, Richard | | | | | | |
| 13 | | Anticipated Start Date of Project (MM/DD/YYYY): | 1/1/2011 | | | | | | |
| 14 | | Anticipated End Date of Project (MM/DD/YYYY): | 12/31/2011 | | | | | | |
| 15 | | | | | | | | | |
| 16 | Please provide a response for ALL criteria! The responses provided impact the Total Score for the proposed project, which helps determine the Preliminary Project Cost. | | | | | | | | |
| 17 | # | CRITERIA | RESPONSE | ASSUMPTIONS | SCORE | | | | |
| 18 | 1 | Expected duration of the project (in weeks): | 52 | (Calculated Based on Anticipated Start/End Dates, above) | 2 | | | | |
| 19 | 2 | Anticipated ISTS Application Development Labor Days | 2793 | See Assumptions Tab | 3 | | | | |
| 20 | 3 | How many 3rd party vendor firms will provide services for this project? | 1-2 | See Assumptions Tab | 4 | | | | |
| 21 | 4 | If the technology is known, has it been successfully implemented before at PG&E? | Yes | See Assumptions Tab | 6 | | | | |
| 22 | 5 | How well are the Requirements for this proposal known by the Business (have the Requirements been documented)? | Medium | See Assumptions Tab | 6 | | | | |
| 23 | 6 | Is there a pre-existing PG&E support group to maintain/support the application? | Yes | See Assumptions Tab | 2 | | | | |
| 24 | 7 | What is the level of dependency on other projects (e.g. resources, deliverables, etc)? | Medium | See Assumptions Tab | 2 | | | | |
| 25 | 8 | Will the system exchange or provide data to any entities outside of PG&E (suppliers, customers, regulatory agencies, etc)? | Yes | See Assumptions Tab | 6 | | | | |
| 26 | 9 | What is the level of criticality of the system to the users and PG&E customers? | Business important | See Assumptions Tab | 9 | | | | |
| 27 | 10 | How many internal PG&E users will be impacted by this project? | 1-100 | See Assumptions Tab | 3 | | | | |
| 28 | 11 | What is the anticipated amount of formal training that will be required for PG&E users? | Low | See Assumptions Tab | 3 | | | | |
| 29 | 12 | How many PG&E Lines of Business (LOBs) will be impacted by the project? | 2-3 | See Assumptions Tab | 6 | | | | |
| 30 | | | | | TOTAL SCORE: | 52 | | | |
| 31 | | | | | | | | | |
| 32 | Additional Notes & Assumptions: | | | | | | | | |
| 33 | | | | | | | | | |
| 34 | See Assumptions Tab | | | | | | | | |
| 35 | | | | | | | | | |

Project Complexity and Sizing

Cell: B18

Comment: Duration is calculated based on the above start and end project dates.

Cell: B19

Comment: High level estimate of application development labor days (project management through service introduction/deployment) including middleware, integration, configuration, etc.

Cell: B20

Comment: This indicates the number of 3rd-party vendor firms, NOT individual contributors and is intended to reflect potential additional project management effort to manage external vendors

Cell: B21

Comment: Has the technology to be implemented during the project been previously implemented at PG&E? How familiar are the project resources with the technology?

Cell: C21

Comment: Yes = The technology has been successfully implemented before at PG&E. Resources are very familiar with the technology.

No = The technology has not been attempted or implemented successfully previously. Resources have little or no familiarity with the technology.

Cell: B22

Comment: Does the Business fully understand their needs in completing the project? Have their needs been agreed to and documented?

Cell: C22

Comment: Low = The Business has no knowledge of the Requirements for the proposal; no Requirements have been discussed or documented.

Medium = The Business has minimal knowledge of the Requirements for the proposal; some of the Requirements have been discussed and documented.

High = The Business has a good understanding of the Requirements for the proposal; many of the Requirements have been discussed and documented.

Cell: B23

Comment: Can the proposed project/application be maintained and supported by an existing PG&E support group (Help Desk, Operations Group, System Administrators, etc)?

Cell: C23

Comment: Yes = The project/application can be maintained and supported by an existing PG&E support group

No = The project/application cannot be maintained and supported by an existing PG&E support group

Cell: B24

Comment: Are any of the proposed project's resources, deliverables, processes, or technology dependent on any other project or initiative?

Cell: C24

Comment: Low = The proposed project has little or no dependency on other projects or initiatives

Medium = The proposed project has some dependency on other projects or initiatives

High = The proposed project is highly dependent on other projects or initiatives

Cell: B25

Comment: Is data being passed through the PG&E firewall? May impact project risk and complexity.

Cell: C25

Comment: No = No data will be passed through the PG&E firewall

Yes = Data will be passed through the PG&E firewall

Cell: B26

Comment: A measure of the criticality of the system to users and PG&E customers

Cell: C26

Comment: Business Critical: requires the highest possible availability; outage/failure recovery time is minutes or hours (e.g., SCADA systems)

Business Important: requires high availability; outage/failure recovery time is less than 24 hours

Business Standard: default category, most systems will fit this category; does not require high availability; outage/failure recovery time is less than 2 days

Business Historical: does not require high availability; outage/failure recovery time is 2-5 days (e.g., storage systems)

Cell: B27

Comment: Measures the degree of change/impact to the organization. Higher numbers imply greater need for change management, training, and number of new/modified business processes.

Project Complexity and Sizing

Cell: B28

Comment: A measure of the total effort required to formally train all users, considering that multiple users may be trained concurrently (e.g., classroom)

Cell: C28

Comment: Low = <7 Hours of Deliverable Content
Medium = 8-14 Hours of Deliverable Content
High = >14 Hours of Deliverable Content

Cell: B29

Comment: The PG&E Lines of Business are:

- Energy Delivery
- Engineering & Operations
- Customer Care
- Generation
- Energy Procurement
- Finance
- HR
- Risk & Audit
- Shared Services



Application Development Preliminary Project Costing Checklist

| Legend | |
|--------|----------------------|
| | Enterable/Modifiable |
| | Overwritten |
| | Not Updatable |
| | Default Value |

| | |
|---|------------------------------|
| Date Checklist Completed: | 4/10/2009 |
| ITWR # (if applicable): | 38094 |
| Proposal Description: | Residential and CARE Tiering |
| Client Portfolio Lead: | Yamaguchi, Richard |
| Anticipated Start Date of Project (MM/DD/YYYY): | 1/1/2011 |
| Anticipated End Date of Project (MM/DD/YYYY): | 12/31/2011 |

| | | Weight |
|--|-------------------|--------|
| PG&E ISTS Labor Blended Daily Rate per Resource | \$941.16 | 70% |
| External ISTS Labor Blended Daily Rate per Resource | \$1,481.52 | 30% |
| COMBINED ISTS BLENDED DAILY RATE PER RESOURCE | \$1,103.27 | |
| | | Weight |
| PG&E Business Labor Blended Daily Rate per Resource | \$995.28 | 75% |
| External Business Labor Blended Daily Rate per Resource | \$1,992.69 | 25% |
| COMBINED BUSINESS BLENDED DAILY RATE PER RESOURCE | \$1,244.63 | |

APPLICATION DEVELOPMENT LABOR

| PRIMARY COST CRITERIA | COMMENTS / ASSUMPTIONS | PRELIMINARY EFFORT (DAYS) | | | PRELIMINARY COST | | |
|---|---|---------------------------|--------------|--------------|--------------------|--------------------|--------------------|
| | | LOW | MID | HIGH | LOW | MID | HIGH |
| ISTS APPLICATION DEVELOPMENT | | | | | | | |
| ISTS Application Development Labor Days (Project Management through Service Introduction/Deployment), including Middleware, Integration, Configuration, etc. | (You Must Enter An Assumption) | 2,095 | 2,793 | 3,491 | \$2,311,071 | \$3,081,428 | \$3,851,784 |
| | Default Calculated Labor Days: | 2,095 | 2,793 | 3,491 | \$2,311,071 | \$3,081,428 | \$3,851,784 |
| PG&E BUSINESS | | | | | | | |
| PG&E Business Labor | 20% of App Dev Labor (Default = 20% of App Dev Labor) | 419 | 559 | 698 | \$521,439 | \$695,252 | \$869,065 |
| TECHNICAL ARCHITECTURE | | | | | | | |
| Technical Architecture Labor Days (Analyze/Design/Build/Test) for Development, Execution, and Operations environments necessary to support the Application. | 10% of App Dev Labor (Default based on Number of Users Impacted) | 209 | 279 | 349 | \$231,107 | \$308,143 | \$385,178 |
| USER TRAINING & PERFORMANCE SUPPORT | | | | | | | |
| User Training and Performance Support Labor Days (Analyze/Design/Build/Test) for the effort to create Training Material and Communications Plan to support the Application rollout. | 10% of App Dev Labor (Default based on Anticipated Amount of Formal User Training) | 209 | 279 | 349 | \$231,107 | \$308,143 | \$385,178 |
| LABOR DAYS SUBTOTAL: | | 2,933 | 3,910 | 4,888 | \$3,294,724 | \$4,392,965 | \$5,491,206 |
| Project Complexity and Size Factor: | | 293 | 391 | 489 | \$329,472 | \$439,296 | \$549,121 |
| TOTAL LABOR DAYS: | | 3,226 | 4,301 | 5,377 | \$3,624,196 | \$4,832,261 | \$6,040,327 |

Application Development Preliminary Project Costing Checklist

Default Value

| | |
|---------------------------|------------------------------|
| Date Checklist Completed: | 4/10/2009 |
| ITWR # (if applicable): | 38094 |
| Proposal Description: | Residential and CARE Tiering |
| Client Portfolio Lead: | Yamaguchi, Richard |

HARDWARE LABOR, MATERIALS, AND OTHER COSTS

| PRIMARY COST CRITERIA | COMMENTS / ASSUMPTIONS | PRELIMINARY COST | | |
|--|--|------------------|-----------|-----------|
| | | LOW | MID | HIGH |
| INFRASTRUCTURE | | | | |
| Hardware, Network, etc Costs (includes Labor) | (Default based on User Impact) | \$50,000 | \$65,000 | \$80,000 |
| System/Data Availability and Recovery | (Default Based on System Criticality and Data Protection/Retention Requirements) | \$37,500 | \$48,750 | \$60,000 |
| USER TRAINING | | | | |
| User Training Materials Costs | (Default Based on Anticipated Amount of Formal User Training) | \$8,500 | \$14,875 | \$21,250 |
| MISCELLANEOUS COSTS | | | | |
| Miscellaneous/Additional Costs (Licensing, Overheads - Facilities Costs, Telephony, etc) | (You Must Enter An Assumption) | \$0 | \$0 | \$0 |
| COST SUBTOTAL: | | \$96,000 | \$128,625 | \$161,250 |
| Project Complexity and Size Factor: | | \$9,600 | \$12,863 | \$16,125 |
| TOTAL HARDWARE, MATERIALS, AND OTHER COSTS: | | \$105,600 | \$141,488 | \$177,375 |

| | LOW | MID | HIGH |
|--|--------------------|--------------------|--------------------|
| TOTAL PRELIMINARY PROJECT COST: | \$3,730,000 | \$4,974,000 | \$6,218,000 |

| | | | | | | |
|--------------------|------------------|---------------------|------------------|------|---------|------------------|
| Project Start Date | Project End Date | work effort in days | duration in days | PM % | PM Days | Plan thru Deploy |
| 1/17/2011 | 12/31/2011 | 5,377 | 364 | 10% | 538 | 4,839 |

| Stage | Start Date | End Date | Typical Work Allocation Percentage by Stage | % of stage effort (do not change) | Override stage effort (override Col C) | Stage Work Days | % stage duration | Duration in days | Net Work Days |
|--------------|------------|------------|---|-----------------------------------|--|-----------------|------------------|------------------|---------------|
| Project Mgmt | 1/1/2011 | 12/31/2011 | | | | 538 | | | 260 |
| Plan | 1/1/2011 | 1/30/2011 | 1-5% | 8% | 8% | 387 | 8% | 29 | 20 |
| Analyze | 1/30/2011 | 3/7/2011 | 5-10% | 10% | 10% | 484 | 10% | 36 | 26 |
| Design | 3/7/2011 | 5/19/2011 | 15-35% | 20% | 20% | 968 | 20% | 73 | 54 |
| Build | 5/19/2011 | 9/5/2011 | 25-60% | 30% | 30% | 1452 | 30% | 109 | 78 |
| Test | 9/5/2011 | 11/17/2011 | 10-25% | 20% | 20% | 968 | 20% | 73 | 54 |
| Deploy | 11/17/2011 | 12/31/2011 | 3-5% | 12% | 12% | 581 | 12% | 44 | 32 |
| | | | | 100% | 100% | 5376:53 | 100% | 364 | |

| Roles | Workday |
|------------------|---------|
| Percentage Total | 5,377 |
| | 538 |
| | 387 |
| | 484 |
| | 968 |
| | 1,452 |
| | 968 |
| | 581 |

| | various | various | various | Env CoE | App Services | Software QA | DBA CoE | SP&A | FTE's | | | | | | | | | |
|--|---------|---------|---------|---------|--------------|-------------|---------|------|----------------|--------------|---------|---------|---------|----------|----------------|------|--|--|
| | | | | | | | | | Infrastructure | App Services | Env CoE | Env CoE | various | Business | Deployment CoE | | | |
| Business Analyst | 9.5 | 2.0 | 3.0 | - | 5.5 | 9.0 | 1.0 | 4.0 | 2.5 | 2.5 | 1.0 | 2.0 | 0.5 | 5.5 | 10.0 | 2.0 | | |
| Project Manager | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | |
| Application Designer | 9.5 | - | 1.0 | - | - | 0.5 | 0.5 | 4.0 | - | 1.5 | - | - | - | 2.0 | 2.0 | 9.5 | | |
| Configuration Manager | 3.5 | - | 3.0 | - | - | 1.0 | 0.5 | - | 2.5 | 2.5 | 1.0 | - | 0.5 | 5.5 | - | 5.5 | | |
| Programmer | 2.0 | - | 1.0 | - | 5.5 | 2.0 | 1.0 | - | 1.5 | 2.0 | 0.5 | - | - | 5.5 | - | 5.5 | | |
| Test Lead & Tester | - | - | - | - | 2.0 | 9.0 | - | - | 1.0 | 1.0 | - | - | - | 4.5 | - | 9.0 | | |
| Database Administrator/ Data Architect | 0.5 | - | - | - | 0.5 | 0.5 | 1.0 | - | - | - | - | - | - | 2.0 | 10.0 | 10.0 | | |
| Technical Architect | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | |
| Technical Architect | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | |
| Technical Architect | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | |
| Technical Architect | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | |
| Technical Architect | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | |
| Technical Operations Support Specialist | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | |
| Integration Solution Architect & Designer | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | |
| Human Performance Architect Training Administrator | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | |
| Deployment Lead & Specialist Service Introduction Lead | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | |
| Max FTE's (rounded to the nearest .5 fte) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | |

SR 33878 General Assumptions

- 1) SR33878 will be implemented after 2007 GRC phase 2 and before RTP changes
- 2) As a result of Generation charges being flat and Total Rates staying the same, it is assumed the discount credits for CARE, FERA, Medical, Employee Discount and CSI FERA exemptions will not change. The customer will receive the same discount with the flat generation rate as with the current tiered generation rates.
- 3) Changes will be required to the rate components that calculate CARE, FERA, CSI Fera Exemption, Medical, and Employee Discount.
- 4) The rate components that calculate the 1 cent EPS and 3 cent Gen Surcharge will be deleted and the cross references to those RC will be removed from other rate components.
- 5) Testing will have to redesign their Calc tool (used to verify correct rate calculation) to match the redesigned rates.
- 6) The building of the prototype rates will require extensive analysis.
- 7) Revenue reporting of TRAC charges will be required.
- 8) Testing of the rates by the test team will be quite broad as they will need to test all the different scenarios that can impact a rate.
- 9) Rates Build team Unit Testing will be quite extensive.
- 10) Changes will be required for EMR rates and SM Rates.
- 11) No significant changes are required for Commercial, Streetlight and Ag rate schedules.
- 12) Knowledge Center (KC) will create Functional Requirements (FR), Functional Design Alternative and a RICEF for the rates team.

Assumption Soft Tables

- 1 Changes are limited to the above 26 electric residential rate schedules
No changes in calculation of Minimum/Marl or Medical baseline - apart from possible rate value
- 2 changes
No changes to ratios used in Multi-Family rates for allocation of medical, care and non care and FERA
- 3 quantities
Residential Tiering will be completed **after** GRC II Phase 2 changes and **before** Real Time Pricing
- 4 changes
- 5 Rates Dept will provide a sample rate table for use in the detailed design and development stages
- 6 Existing Multi-family with medical footing issue is not addressed by these changes

- 7 DA negative bills are only addressed here by the use of a zero-capping method (as exists in E8 today)
A new TRAC rate component would not be broken into D and G for calc or Revenue Reporting
- 8 purposes
- 9 Option 2 will be easier to build and maintain
- 10 No SPL changes are needed
- 11 Documentation hours represent only rate schedule extracts and definition of test cases

NOTE: The Soft Tables development team has a strong preference for option 2 as we believe it will be easier and thus less expensive to maintain over time.

26 impacted Rate Schedules

| EMR | | SM | |
|------|-----------|-------|-----------|
| E1 | Prototype | HE1 | |
| E6 | | HE6 | |
| E7 | Prototype | HE7 | |
| E8 | | HE8 | Prototype |
| EA7 | | HEA7 | |
| EM | | HEM | |
| EML | | HEML | |
| ES | | HES | |
| ESL | | HESL | |
| ESR | | HESR | |
| ESRL | | HESRL | |
| ET | | HET | |
| ETL | Prototype | HETL | |

Revenue Reporting Assumptions

- 1 Knowledge Center (KC) will create Functional Requirements (FR), Functional Design Alternative and a RICEF for FT/GL and Revenue Reporting.
- 2 Estimation for design for both FT/GL and RR will come from KC.
- 3 Estimation for testing of FT/GL will come from Test Team.
- 4 Estimate includes the testing of the Revenue Reporting (RR) system.
- 5 New reporting of Tiered Revenue will be required.
- 6 New Revenue allocation and reporting of TRAC charges will be required.
Bill Calc Lines will be provided at the appropriate level and with the needed characteristics for RR System to report the required revenue (e.g., Bill Calc Lines will be at tiered level if tiered revenue is a reporting requirement).
- 7 Bill Calc Lines will be provided at the appropriate level and with the needed characteristics for RR System to report the required revenue (e.g., Bill Calc Lines will be at tiered level if tiered revenue is a reporting requirement).
- 8 The same or equivalent Bill Calc Lines will be available in order for Revenue Reporting to provide the current level of reporting (e.g., Components, Usage, CARE Shortfall amounts, exemptions)
- 9 Because of the extent of changes to the Rates, RR's testing of the associated Balancing Account allocation and reporting will need to be quite extensive.
- 10 There will need to be changes to the content of the SAP interface (e.g., New Distribution ID for TRAC), but there will be no structure changes.
- 11 Rates Billing - No changes required
- 12 Rates Demo - No changes required
- 13 MDSS - No changes required

ABS Assumptions 1 cent & 3 cent Surcharge

- 1 Frozen Rate is no longer needed for any rate calculation
- 2 Economic Development Discount will be calculated based on a new formula without using frozen rate

The SR stated that the change doesn't impact ABS. However, ABS system modification is needed because commercial care discount and economic development credit are based on the frozen rate which requires ABS to calculate the surcharges and deduct them from the base for these credits
- 3