



651 Commerce Drive
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Facilities Committee Meeting Agenda

Date: February 1, 2023
Subject: NCPA Facilities Committee Meeting
Location: NCPA, 651 Commerce Drive, Roseville, California 95678 // Conference Call
Time: 9:00 am

****In compliance with the Brown Act, you may participate via teleconference at one of the meeting locations listed below or attend at NCPA Headquarters. In either case, please: (1) post this Agenda at a publicly accessible location at the participation location no later than 72-hours before the meeting begins, and (2) have a speaker phone available for any member of the public who may wish to attend at your location.****

NCPA, 651 Commerce Drive, Roseville, CA 95678 (916) 781-3636

ALAMEDA MUNICIPAL PWR 2000 Grand St., Alameda, CA	BAY AREA RAPID TRANSIT 2150 Webster Street, 10 th Floor, Oakland, CA	CITY OF BIGGS 3016 Sixth Street, Biggs, CA
CITY OF GRIDLEY 685 Kentucky Street, Gridley, CA	CITY OF HEALDSBURG 401 Grove Street, Healdsburg, CA	CITY OF LODI 1331 S. Ham Lane, Lodi, CA
CITY OF LOMPOC 100 Civic Ctr. Plaza, Lompoc, CA	CITY OF PALO ALTO 250 Hamilton Avenue, 3 rd Floor Palo Alto, CA	PLUMAS-SIERRA REC 3524 Mulholland Way, Sacramento CA
PORT OF OAKLAND 530 Water Street, Oakland, CA	CITY OF REDDING 3611 Avtech Pkwy., Redding, CA	CITY OF ROSEVILLE 2090 Hilltop Circle, Roseville, CA
CITY OF SHASTA LAKE 4332 Vallecito St., Shasta Lake, CA	SILICON VALLEY POWER 881 Martin Ave., Santa Clara, CA	TURLOCK IRRIGATION DISTRICT 333 E. Canal Drive, Turlock, CA
CITY OF UKIAH 300 Seminary Ave., Ukiah, CA		

The Facilities Committee may take action on any of the items listed on this Agenda regardless of whether the matter appears as a Discussion/Action Item or a Report or an Information Item. When this Agenda is supplemented by Staff Reports, they are available to the public upon request. Pursuant to California Government Code Section 54957.5, the following is the location at which the public can view Agendas and other public writings: NCPA Offices, 651 Commerce Drive, Roseville, California, or www.ncpa.com.

Persons requiring accommodations in accordance with the Americans with Disabilities Act in order to attend or participate in this meeting are requested to contact the NCPA Secretary at (916)781-3636 in advance of the meeting to arrange for such accommodations.

REVIEW SAFETY PROCEDURES

1. Call Meeting to Order and Roll Call

PUBLIC FORUM

Any member of the public who desires to address the Committee on any item considered by the Committee at this meeting before or during the Committee's consideration of that item shall so advise the Chair and shall thereupon be given an opportunity to do so. Any member of the public who desires to address the Committee on any item within the jurisdiction of the Committee and not listed on the Agenda may do so at this time.

OPEN SESSION

DISCUSSION / ACTION ITEMS

2. **Approval of Minutes** – Approve minutes from the January 4, 2023 Facilities Committee meeting.
3. **Nexant Cost Allocation Model Billing Determinants for FY 2024** – Staff is seeking a recommendation for Commission approval of the billing determinants that will be used in the FY 2024 Nexant Cost Allocation Model. (*Commission Category: Consent; Sponsor: Power Settlements*)
4. **NCPA Casualty Insurance Renewals** – Staff is seeking a recommendation for Commission approval to renew the Agency's excess liability, worker's compensation, and automobile insurance programs for March 2023 to March 2024. (*Commission Category: Consent; Sponsor: Risk Management*)

INFORMATIONAL ITEMS

5. **New Business Opportunities** – Staff will provide an update regarding new business opportunities. (*Sponsor: Power Management*)
6. **NCPA Generation Services Plant Updates** – Plant Staff will provide the Committee with an informational update on current plant activities and conditions. (*Sponsor: Generation Services*)
7. **Planning and Operations Update** – Staff will provide an update on issues related to planning and operations. (*Sponsor: Power Management*)
8. **NCPA Geothermal Facility – Geo Battery Energy Storage System** – Geothermal staff will lead a discussion regarding a possible Battery Energy Storage System at Geo. (*Sponsor: Geo*)
9. **Next Meeting** – A Special Facilities Committee meeting is scheduled for next Wednesday, February 8, 2023 to review the FY 2024 annual budget. The next regular Facilities Committee meeting is scheduled for March 1, 2023.

ADJOURNMENT

AB/cp



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Minutes – Draft

Date: January 5, 2023
To: NCPA Facilities Committee
From: Carrie Pollo
Subject: January 4, 2023 Facilities Committee Meeting Minutes

- 1. Call Meeting to Order and Roll Call** – The meeting was called to order by Committee Vice Chair Shiva Swaminathan (Palo Alto) at 9:04 am. Attending via teleconference and on-line presentation were Midson Hay (Alameda), Dennis Schmidt (Biggs), Cliff Wagner and Jake Carter (Gridley), Khaly Nguyen (Port of Oakland), Nick Rossow (Redding), Basil Wong (Santa Clara), and Cindy Sauers (Ukiah). Peter Lorenz (non-voting Representative with TID) also attended via teleconference and online presentation. Those attending in person are listed on the attached Attendee Sign-in Sheet. Committee Representatives from BART, Healdsburg, Lompoc, Plumas-Sierra, Shasta Lake, and TID were absent. A quorum of the Committee was established.

PUBLIC FORUM

No public comment.

OPEN SESSION

DISCUSSION / ACTION ITEMS

- 2. Approval of Minutes from the December 7, 2022 Facilities Committee Meeting.**

Motion: A motion was made by Cliff Wagner and seconded by Brian Schinstock recommending approval of the December 7, 2022 Facilities Committee meeting minutes. A vote was taken by roll call: YES = Alameda, Biggs, Gridley, Lodi, Palo Alto, Port of Oakland, Redding, Roseville, Santa Clara, and Ukiah. The motion passed.

- 3. Authorize NCPA's General Manager to Execute Confirmation Number 0290 for Performance Mechanical, Inc. Services to Roseville/Roseville Electric Utility and Issue a Purchase Order Under the Support Services Program** – Subject to approval by the Roseville City Council of the requested services under the terms of the Northern California Power Agency Support Services Program Agreement and its determination under CEQA, staff was seeking a recommendation for approval of Resolution 23-03 authorizing the NCPA General Manager or his designee to execute Confirmation Number 0290 in the amount not-to-exceed \$751,675.00, with any non-substantive changes as approved by the NCPA General Counsel, and issue a Purchase Order to Performance Mechanical, Inc. for HRSG maintenance, piping work, hydro-testing, other needed maintenance, outage support, and parts supply for Roseville during its spring 2023 outage.

The City of Roseville became a signatory to the NCPA Support Services Program Agreement (SSPA) on October 5, 2015, which agreement authorizes among other things, the purchase or acquisition of goods and services by NCPA Members through use of NCPA's agreements with its vendors.

NCPA executed an Agreement with Performance Mechanical, Inc. for outage support, maintenance services and parts supply on December 5, 2022. Roseville/Roseville Electric Utility (Roseville) submitted a Member Task Request under the SSPA for services from Performance Mechanical, Inc. in October 2022. Confirmation Number 0290 is subject to approval by the Roseville City Council and its determination that the action contemplated by this Confirmation does not require further analysis under CEQA. The Confirmation not-to-exceed amount is \$751,675.00 (including cost of services and NCPA administrative fees) for services during Roseville's 2023 spring outage. There is no guarantee that the full amount of services will be paid to Performance Mechanical, Inc., but is merely a limit of potential expenditures.

There is no fiscal impact to NCPA. The services provided by Performance Mechanical, Inc. to Roseville will be billed to and paid by Roseville pursuant to the terms of the Support Services Program Agreement. NCPA's administrative costs will be reimbursed by Roseville.

Motion: A motion was made by Brian Schinstock and seconded by Jiayo Chiang recommending Commission approval subject to approval by the Roseville City Council of the requested services under the terms of the Northern California Power Agency (NCPA) Support Services Program Agreement and its determination under CEQA, approval of Resolution 23-03 authorizing the NCPA General Manager or his designee to execute Confirmation Number 0290 with a not-to-exceed amount of \$751,675.00, with any non-substantive changes as approved by the NCPA General Counsel, and issue a Purchase Order to Performance Mechanical, Inc. for HRSG maintenance, piping work, hydro-testing, other needed maintenance, outage support, and parts supply for the Roseville Energy Park facilities during its spring 2023 outage. A vote was taken by roll call: YES = Alameda, Biggs, Gridley, Lodi, Palo Alto, Port of Oakland, Redding, Roseville, Santa Clara, and Ukiah. The motion passed.

- 4. NCPA Geothermal Facility – 2023 Amendment to the Second Amendment and Restatement of the Steam Suppliers Joint Operating Agreement for the Southeast Geysers Effluent Pipeline Project** – Staff presented background information and was seeking a recommendation for Commission Approval for the General Manager or his designee to enter into the 2023 Amendment to the Second Amendment and Restatement of the Steam Suppliers Joint Operating Agreement for the Southeast Geysers Effluent Pipeline (SEGEP) Project between NCPA and Geysers Power Company, LLC, extending the term of Exhibit A to the Agreement through September 17, 2028, with any non-substantial changes recommended and approved by NCPA General Counsel, for use at NCPA's Geothermal facility.

The Southeast Geysers Effluent Pipeline (SEGEP) Project is a cooperative project between Lake County Sanitation District, Calpine, and NCPA that has been in operation since September 23, 1997. The project provides wastewater to The Geysers for the purposes of maintaining the reservoir pressure and increasing steam reserves of the geothermal field.

Calpine and NCPA share in the operating and maintenance costs for SEGEP, as detailed in the Steam Suppliers Joint Operating Agreement (JOA). Per the JOA, Electrical power to operate the pumps stations can be supplied by either Calpine or NCPA. The value of the electrical power is based on the Local Market Price. Calpine and NCPA either pays or reimburses the other entity for their share of electrical power. The payment or reimbursement is based on the volume of water each receive during a calendar year.

In addition, both Calpine and NCPA receive Bucket 0 Renewable Energy Credits (REC's) for the electrical power supplied to the effluent pipeline. Calpine as a private corporation is allowed to convert the Bucket 0 REC's into Bucket 3 REC's that are typically valued at \$0.50 to \$1.00 per MWh. Members of NCPA, as a Public Agency, are allowed to convert the Bucket 0 REC's into Bucket 1 REC's that are typically valued around \$15 per MWh.

An Amendment to the Steam Suppliers Joint Operating Agreement SEGEF Project was signed on March 2, 2018, which required NCPA to provide the entire power supply for the Bear Canyon Pump Stations except in outage situations. This allowed Calpine to sell power normally reserved for SEGEF on the Day Ahead market and receive higher valued Bucket 1 REC's. In return, Calpine compensated NCPA for its relative share of the electricity costs at the Local Market Price and further paid NCPA one half the value of a Bucket 1 REC or \$7.50 per MWh for all electricity supplied to SEGEF.

A further Amendment to the Steam Suppliers Joint Operating Agreement SEGEF Project was signed on February 1, 2021 adding clarifying language to describe the parties' agreement with respect to the supply of power to the Bear Canyon Pump Stations, and extending the term of Exhibit A of the agreement to January 28, 2023. This 2023 Amendment extends the term of Exhibit A to the underlying agreement through September 17, 2028, to coincide with the current expiration date of the Steam Suppliers Joint Operating Agreement.

Motion: A motion was made by Basil Wong and seconded by Brian Schinstock recommending Commission approval delegating authority to the NCPA General Manager or his designee to enter into the 2023 Amendment to the Second Amendment and Restatement of the Steam Suppliers Joint Operating Agreement Southeast Geysers Effluent Pipeline Project (SEGEF) between NCPA and Geysers Power Company, LLC, extending the term of Exhibit A to the Agreement through September 17, 2028, with any non-substantial changes recommended and approved by NCPA General Counsel, for use at NCPA's Geothermal facility. A vote was taken by roll call: YES = Alameda, Biggs, Gridley, Lodi, Port of Oakland, Roseville, Santa Clara, and Ukiah. ABSTAIN = Palo Alto and Redding. The motion passed.

- 5. NCPA CT Facilities – Find the Proposed Activities of the Combustion Turbine Facilities 2023 Outages Qualify for CEQA Categorical Exemptions Found in the CEQA Guidelines Sections 15301(b), 15302(c), 15309 and 15311(c) (Classes 1, 2 and 9 as Described in Title 14 of the California Code of Regulations at §§15000 et seq.)** – Staff presented background information and was seeking a recommendation for Commission approval finding the proposed activities of the Combustion Turbine Facilities 2023 Outages qualify for CEQA categorical exemptions found in the CEQA Guidelines Sections 15301(b), 15302(c), 15309 and 15311(c) (Classes 1, 2 and 9 as described in Title 14 of the California Code of Regulations at §§15000 et seq.).

In accordance with proper maintenance of the Combustion Turbine facilities, NCPA's Combustion Turbine facilities will be conducting their annual outages in February and March 2023. The Scope of Work for the Combustion Turbine Facilities 2023 Outages include the following:

CT1 Lodi February 2023 Outage:

1. Fire System Testing
2. Gas Compressor Maintenance
3. CT Borescope Inspection
4. CT Inlet Filters Replacement
5. Scaffold Support
6. BOP Maintenance
7. Electrical Relay Testing
8. Rental Support Equipment

CT1 Alameda March 2023 Outage:

1. Fire System Testing
2. Gas Compressor Maintenance
3. CT Borescope Inspection
4. CT Inlet Filters Replacement
5. Scaffold Support
6. BOP Maintenance
7. Electrical Relay Testing
8. Rental Support Equipment

All of the work described above involves maintaining existing equipment, and is regular and recurring work.

These activities have already been subject to CEQA equivalent review. The proposed activities of the Combustion Turbine Facilities 2023 Outages are exempt from the provision of the California Environmental Quality Act (CEQA) pursuant to Sections 15301(b), 15302(c), 15309 and 15311(c) (Classes 1, 2 and 9 as described in Title 14 of the California Code of Regulations at §§15000 *et seq.*). This project consists of routine, recurring maintenance to the existing equipment listed above. This project will not change the function, size or operation of the equipment. A Notice of Exemption was approved by the NCPA Commission on September 27, 2013 for this class of work and was filed in Alameda County and San Joaquin County on January 14, 2014. Thus, this project conforms to these exemptions.

Motion: A motion was made by Jiayo Chiang and seconded by Basil Wong recommending Commission approval finding the proposed activities of the Combustion Turbine Facilities 2023 Outages qualify for CEQA categorical exemptions found in the CEQA Guidelines Sections 15301(b), 15302(c), 15309 and 15311(c) (Classes 1, 2 and 9 as described in Title 14 of the California Code of Regulations at §§15000 *et seq.*). A vote was taken by roll call: YES = Alameda, Biggs, Gridley, Lodi, Palo Alto, Port of Oakland, Santa Clara, and Ukiah. ABSTAIN = Redding and Roseville. The motion passed.

- 6. NCPA CT Facilities – Combustion Turbine Facilities 2023 Outages** – Staff provided background information and was seeking a recommendation for Commission approval authorizing the Combustion Turbine Facilities 2023 Outages and delegating authority to the General Manager or his designee to award bids, execute agreements, and to issue purchase orders for the outages in accordance with NCPA Purchasing Policies and Procedures, without further approval by the Commission, for a total cost not exceed \$464,500.

NCPA's Combustion Turbine Facilities have planned outages scheduled from February 1, 2023 through February 28, 2023 (CT1 Lodi) and March 1, 2023 through March 31, 2023 (CT1 Alameda) for work related to the 2023 outages. During the outages, the CT1 Facilities team will complete preventative maintenance work on equipment that cannot be worked on while the units are operating without affecting the output of the facility. NCPA will hire a number of contractors to perform work during the 2023 outages. Please see the table below for a breakdown of the outage costs.

CT1 2023 Outage Costs	
Balance of Plant	\$123,500
Electrical Systems	\$110,000
Gas Turbine	\$146,000
Stacks	\$15,000
Incidentals	\$15,000
Water Treatment	\$5,000
Contingency	\$50,000
	\$464,500

The budgetary funds to complete the CT Facilities 2023 Outages will come from the pre-collected funds in the Maintenance Reserve. Please see table below detailing the impact of these expenses on the Maintenance Reserve.

<u>Balances</u>	
Maintenance Reserve Balance (6/30)	\$3,035,456
FY23 Contributions	\$625,000
Outage Work	(\$464,500)
End of FY23 Balance	\$3,195,956

Motion: A motion was made by Cindy Sauers and seconded by Basil Wong recommending Commission approval authorizing the Combustion Turbine Facilities 2023 Outages and delegate authority to the General Manager or his designee to award bids, execute agreements, and to issue purchase orders for the outages in accordance with NCPA Purchasing Policies and Procedures, without further approval by the Commission, for a total cost not exceed \$464,500, to be funded from the Maintenance Reserve. A vote was taken by roll call: YES = Alameda, Biggs, Gridley, Lodi, Port of Oakland, Santa Clara, and Ukiah. ABSTAIN = Palo Alto, Redding, and Roseville. The motion passed.

7. **Reserve and Security Deposit Policies Study** – Staff presented background information and was seeking a recommendation for Commission approval to revise deposit calculation methodologies for the Schedule Coordination Program Agreement, Market Purchase Program, Gas Purchase Program, NCPA Green Power Project, Third Phase Agreements, and Single Member Services Agreements and authorization for the General Manager or his designee to temporarily implement revised Schedule Coordination Program Agreement deposit requirements through 2023 to allow time for the Members to vet and approve changes to the program agreement terms.

At the last Facilities Committee meeting, Members were supportive of the revised deposit calculation methodologies. However, Members expressed that they would like more discussion regarding the language in the agreements, and whether or not a resolution or a standing policy document is needed for approval of the revised deposit calculations. After internal discussions, staff recommend the deposit requirements for each of the programs be defined in Policy 200-101 Operating Reserves. This increases flexibility to make future approved methodology revisions without requiring additional amendments to the respective agreements.

Motion: A motion was made by Basil Wong and seconded by Brian Schinstock recommending Commission approval authorizing revised deposit calculation requirements for the Schedule Coordination Program Agreements, Third Phase Agreements, Market Purchase Program, Gas Purchase Program, NCPA Green Power Program, and Single Member Service Agreements (collectively “Programs”) unless otherwise required by the underlying agreements and approving the General Manager or his designee to temporarily implement revised Schedule Coordination Program Agreements deposit requirements through 2023 to allow time for the Members to vet and approve changes to the program agreement terms. The revised Schedule Coordination Program Agreements deposit calculation will be based on the highest two months of estimated CAISO costs, and the revised deposit calculation for the other Programs will be based on the highest single-month contract cost(s) plus the two highest months of negative Mark-to-Market, unless otherwise required by the underlying agreements. A vote was taken by roll call: YES = Alameda, Biggs, Gridley, Lodi, Palo Alto, Port of Oakland, Redding, Roseville, Santa Clara, and Ukiah. The motion passed.

Note: Not applicable to the Purchase Agreements Between Geysers Power Company, LLC and Northern California Power Agency and the Third Phase Agreement for Purchase Agreements with Geysers Power Company, LLC. These executed agreements require security in an amount equal to the highest three (3) months of estimated project costs for the initial term from January 2025 through

December 2026, as estimated by NCPA. No later than November 1, 2026, each Participant shall adjust the Security Deposit to an amount equal to the highest three (3) months of estimated Project Costs for the period January 2027 through December 2036, as estimated by NCPA.

8. **Resolution Commending Jiayo Chiang** – Adopt a resolution by all Facilities Committee Members commending the service of Jiayo Chiang, acting in the role of Facilities Committee Chair during Calendar Year 2022.

Motion: A motion was made by Shiva Swaminathan and seconded by Basil Wong recommending approval of the Resolution commending Jiayo Chiang as the 2022 Facilities Committee Chair. A vote was taken by roll call: YES = Alameda, Biggs, Gridley, Lodi, Palo Alto, Port of Oakland, Redding, Roseville, Santa Clara, and Ukiah. The motion passed.

INFORMATIONAL ITEMS

9. **New Business Opportunities** – No update was provided at the time of this meeting.
10. **Nexant Cost Allocation Model Billing Determinants for FY 2024** – Staff reviewed initial calendar year 2022 billing determinants that will be used in the FY 2024 Nexant Cost Allocation Model.

The Nexant Model is the Commission-approved methodology used to allocate Power Management and certain Administrative Services budget costs to Members and Participants. Staff identified and reviewed the source of changes to Members' respective costs from the change in underlying calendar year 2022 operating data used as allocators in the model. The final version of the Nexant Cost Allocation Model and associated underlying operational data are scheduled to be finalized by January 11, 2023, and published to NCPA Connect for Member review and feedback.

Staff noted there was a significant decline from the previous year with respect to contracted quantities, contract deal counts and contract hour counts, which are used as bill determinants in the Nexant Model. To account for the reduction in contract bill determinant amounts, Staff proposes to modify the current one-third split among BART and Pool Members' respective metered loads, contracts and resources that are used to produce a member-specific composite allocation percentage for various Nexant-related budget amounts. The proposed change in allocation basis is .333 for Loads, .241 for Contracts and .426 for Pool & BART Resources using an adjustment factor based on the respective ratios of energy produced from Pool Resources and contracted energy to the sum of total Pool and contracted energy (in MWhs) for calendar year 2022. Staff also proposes to modify the Nexant Model to incorporate BART resources into a new, combined BART and Pool Resources bill determinant for applicable Nexant-related costs. Staff proposes for the SFWPA project to be treated as a single Operating Entity for the purpose of Nexant schedule counts to more accurately allocate Nexant costs in light of the four different ESP accounts that are used by NCPA's scheduling applications to allocate amounts to BART, NCPA Pool, Roseville and Santa Clara project participants. Finally, Staff proposes to modify the Nexant rules for Eligible Intermittent Resources (EIR) to use Hourly Schedule Counts, aggregated to the daily level, as a bill determinant for EIR resources that are not scheduled in the Day Ahead Market.

The initial allocated results for FY 2024 indicate the biggest increases to Biggs, BART, and TID, by approximately 14.06%, 5.18%, and 3.05% respectively, with the updated CY 2022 determinants. Members with the biggest decreases include Plumas-Sierra and Lompoc at 15.58% and 11.46% respectively. Staff reviewed the underlying operational data, and provided an analysis regarding the cost drivers that resulted in the relative percentage changes in the allocations to Members.

The final proposed modifications for the FY 2024 Nexant Cost Allocation Model determinants results will be presented at the February Facilities Committee meeting. Staff will seek a recommendation for Commission approval at that time.

11. NCPA Geothermal Facility – Geo Battery Energy Storage System – NCPA Geothermal staff provided an informational presentation regarding a potential Battery Energy Storage System at Geo.

NCPA's geothermal facilities are not exporting at full line capacity due to declining steam pressures in the geothermal steam reservoir. NCPA is assessing a battery energy storage system that could utilize available capacity on the NCPA GEO 230kV transmission lines. The Geo Plant 2 contains Units 3 and 4. Plant 2's original total capacity was 110 MW. NCPA retired Unit 3 in 2010, due to resource changes. Unit 4 now exports 40 MW. NCPA has approximately 70 MW of available capacity on the Fulton transmission line.

Geo Plant 2 BESS Assumptions:

- 70 MW/280 MWh Size (4 Hour Batteries)
 - Largest size based on available remaining existing transmission capacity
- 110 MW/440 MWh Size (4 Hour Batteries)
 - Largest size based on total available existing transmission capacity leaving Plant 2
- Tesla Megapack (LFP – Lithium-iron Phosphate)
 - The LFP batteries have a higher energy density but release significantly less heat (approximately 50% less) than the metal-based batteries

Proposed Operations of GEO BESS:

70 MW (280 MWh)

- Charge Time (From Unit 4) – Approximately 7 Hours
- Discharge during peak in addition to Unit 4 (70+40 MW)

110 MW (440 MWh)

- Charge Time (From Unit 4) – Approximately 11 Hours
- Discharge during peak in place of U4 (110 MW)
- Shift Steam from Unit 4 to U1/2 (+25 MW @ Plant 1)

Geo BESS 70 MW Cost Estimate – July 2022

- Engineering - \$1,250,000
- Major Equipment - \$135,523,545
- Structures - \$427,400
- Foundations/Cable Vaults - \$6,883,580
- Trench Work/Conduit - \$1,219,359
- Cable - \$3,302,719
- Grounding - \$163,455
- Miscellaneous - \$2,005,990
- Civil Work - \$1,092,961
- Survey/Locates - \$85,000
- Permitting - \$75,000
- Construction Management - \$380,000
- Testing - \$300,000

BESS Project Total 70 MW – \$152,709,009

Geo BESS 110 MW Cost Estimate – July 2022

- Engineering - \$1,450,000
- Major Equipment - \$213,777,330

- Structures - \$626,900
- Foundations/Cable Vaults - \$10,670,517
- Trench Work/Conduit - \$2,074,639
- Cable - \$4,949,596
- Grounding - \$222,500
- Engineering - \$1,450,000
- Major Equipment - \$213,777,330
- Structures - \$626,900
- Foundations/Cable Vaults - \$10,670,517
- Trench Work/Conduit - \$2,074,639
- Cable - \$4,949,596
- Grounding - \$222,500

BESS Project Total 110MW – \$238,420,472

Staff is asking for feedback and interest in this project. Please contact Geo staff with questions and interest.

12. NCPA Generation Services Plant Updates – Plant Staff provided the Committee with an update on current plant activities and conditions.

CTs – CT1 had 0 starts of 3 forecasted. FYTD total is 84 starts. CT2 had 3 actual starts of 15 forecasted. FYTD total is 21 starts.

- **Forced Outages**
 - CT2 on 12/12 @ 2131 thru 12/13 @ 1100; Ambient temp conditions were <44* to support a startup which would have caused compressor icing damage due to lack of LP steam. GT Aero turbines are susceptible to icing conditions when ambient temps are low <44* and relative humidity @ >65% during a startup.
 - Alameda U1/U2 on 12/14 @ 0100 thru 1542; Loss of ECN circuit (AT&T), units weren't visible for dispatch. The line was cut early morning for the copper as per AT&T techs.
 - CT2 on 12/15 @ 1447 thru 1512, start failure due to hydraulic pressure switch reading low.
 - CT2 on 12/22 @ 1607 thru 1805 due to igniter trouble. GT late start (exceptional dispatch).
 - Alameda U1/U2 on 12/27 @ 0649 thru 2008; ECN circuit down (AT&T), units weren't visible for dispatch, informed dispatch to place an OMS ticket with CAISO for a 3 hour start up notification.
- **Planned Outages**
 - CT1 Lodi- 2/1/23 thru 2/28/23
 - CT1 Alameda- U1/U2- 3/1/23 thru 3/31/23
 - CT2 STIG- 4/1/23 thru 4/30/23

CT1 Lodi corrected run hours is 172.9 (86%) of 200 allowed based on a calendar year. CT1 Alameda Diesel Unit 1 has used 6.92 hours of 20, and Unit 2, 7.47 hours of 20, based on a rolling year. Staff reviewed the CAISO Commitment Runs for December 2022.

Hydro – Collierville (CV) Power House was at 99.5% availability and New Spicer Meadows (NMS) Power House was at 96.6% availability during the month of December. NMS storage increased by 4,700 acre feet at 6% month over month from 75,600 acre feet to 80,300 acre feet. At this time last year New Spicer Meadows Reservoir storage was 6,140 acre feet. McKays Reservoir spilled heavily during the month with more spilling forecasted. Current precipitation is 20.4 inches, at 158% of average for this date. Snow pack is at 69% of April 1 average.

The Hydro facilities are coming off of a very wet stretch in the watershed with an atmospheric river event last weekend.

- Water issues on the Hydro Project:
 - CV and Spicer unit trips, roadway issues, high tail-water, sump flooding, roadway blockages, landslide dewatering well maintenance, Beaver Creek Diversion trips, and a Collierville culvert failure
 - Every available Hydro employee was called out
 - Staff is dealing with the fallout and preparing for another upcoming storm

Regulatory events for the month included:

- Filed FERC Security annual report
- Filed FERC and DSOD annual DSSMR
- Preparing the USGS water year report

Geo – There were no safety incidents to report for the month of December. Safety training is 100% complete for CY 2022. The average net generation level for the month was 74.6 MW. Total net generation was 55.5 GWh. The actual year 2022 net generation was 764 GWh YTD, 4.1% over forecasted. The year 2022 net generation forecast was 734.1 GWh YTD. Steam Field repairs included the Well J-5 steam leak repair. The Unit 4 Overhaul is progressing. The general scope of work for the Unit 4 overhaul includes:

- **Balance of Plant Work - Completed**
 - Inspected & Tested of 13.8 KV and 480 V Bus Work and Breakers
 - Repaired & Installed Main Steam Stop Valves
 - Cleaned Unit #4 Main Condenser Tubes
 - Cleaned Gas Removal System Condensers
 - Cleaned Unit #4 Cooling Tower Basin
 - Completed Repairs in Plant #2 Stretford System
- **Unit #4 Turbine Generator Repairs**
 - Received Turbine Diaphragms
 - Repaired Overhead Crane
 - Repaired Casing
 - Conducted Seal and Lube Oil Flushes

13. Planning and Operations Update –

- **Current Resource Integration Activities in Progress**
 - Dagget Solar / Storage – Q2 2023
 - *Pending* Lodi Thermal Project – June 2023
 - Sandborne Storage – Q3 2023
 - Scarlet Solar / Storage – Q3 2023
 - Proxima Solar / Storage – Q1 2024
 - Deer Creek – *On Hold*
- **Geysers Power Company LLC Purchase Agreements and Third Phase Agreement**
 - Purchase Agreements
 - RPS Agreement and RA Agreement
 - Effective Date: December 23, 2022
 - Geysers Geothermal Third Phase Agreement
 - Effective Date: December 22, 2022

- Next Steps
 - Project Participation Percentage Transfer Deadline
 - Deadline: April 30, 2023
 - Key Steps Required:
 - Provide written notice of intent to accept transfer to NCPA
 - Execute the Geysers Geothermal Third Phase Agreement by the Transfer Completion Deadline
- **Market Conditions** – Staff discussed the challenges of the current market conditions with the price of natural gas being extremely high right now, and the impact that is having. Current NCPA activities include:
 - January 2023 LEC Planned Outage Cancelled
 - Active tracking of EAL and liquidity positions
 - Expecting EAL to increase above credit limit first week of January 2023
 - Expected peak of EAL January 18, 2023
 - Increased EAL may extend throughout Q1 2023
 - Working with select Members to increase collateral postings
 - Evaluating use of balance-of-month authority
 - Evaluating liquidity for December 2022/January 2023 expected/forecasted costs
 - Considering use of additional resource supply in response to high prices (discretionary hydro)
 - Regulatory outreach

14. Next Meeting – The next Facilities Committee meeting is scheduled for February 1, 2023.

ADJOURNMENT

The meeting was adjourned at 12:13 pm by the Committee Vice Chair.



Submitted To:



NCPA Power Management Cost Allocation Study

Phase IIa Recommendations

Final Report

January 14, 2010

Prepared By:



January 14, 2010

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1.1 INTRODUCTION

The Northern California Power Agency (NCPA) currently allocates the costs of providing Power Management services to its members using a methodology that is structured with the intention to first:

- Identify the costs associated with four groups of services - Schedule Coordination, Real Time Dispatch, Power Pool Management, and Resource Management (referred to as “Step 1” in this report.)

and then to:

- Allocate these costs to the members receiving services in each of these areas (referred to as “Step 2” in this report)

The objective of the Facilities Committee is to develop an allocation methodology that is consistent with the principles of cost causation, as well as being consistent with an additional set of principles for cost allocation that was developed and agreed upon by the Facilities Committee in earlier phases of this project. Nexant was directed to analyze the current methodology, and make recommendations for an improved approach, based upon these principles.

In a presentation made to the NCPA Facilities committee on April 11, 2009 (See Appendix A) Nexant proposed a revision to the current cost allocation methodology.

This revision, termed “Option 2” added new cost categories or buckets and updated or added additional allocation parameters. No major structural changes in the charge accounting system were required to implement this option. In developing this option, Nexant made the following observations:

- The methodology by which approximately \$400,000 of software related costs were pre-allocated to sub-program budget line items (referred to as “Step 0” in this report), was inconsistent with the overall methodology and with cost causation
- The manner in which sub-program budget line items were allocated to service grouping cost categories (“Step 1”) was not completely documented, the documentation for some sub-programs were out of date, and in some cases, the allocation of service costs did not seem appropriate to the cost category
- The methodology by which the cost category dollars were allocated to members (“Step 2”) is based upon an out-dated time and motion study and outdated business model of the services provided within each of the service groupings - Schedule Coordination, Real Time Dispatch, Power Pool Management, and Resource Management.

Upon further analysis, Nexant concluded that the basis of the current methodology – particularly Step 2 - is out of date, and that none of the data is usable because the original Step 2 methodology is based on a time and motion type study for an outdated business model.

As a consequence, Nexant has proposed, and the Facilities Committee agreed to pursue, an “Option 2.5”. This proposed methodology restructures the Step 2 allocation to be based directly on the Power Management sub-program budget line items, as allocated to each service/cost category in Step 1. This structure makes the cost allocation of Step 2 consistent with Step 1, and eliminates the outdated business model and allocation parameters based upon the outdated time and motion study. Allocation parameters and parameter weights need to be determined for each of the allocated sub-program budget line items for each cost category.

In the April 11, 2009 presentation, Nexant defined a complete framework, made final recommendations on a sub-set of parameters and parameter weights, and has identified other parameters and weights which require further analysis before the final parameters and weightings could be established. Nexant had insufficient time and budget to complete all necessary work and to finalize the Option 2.5 revised cost allocation methodology.

Subsequently, the Facilities Committee authorized Nexant to complete the Option 2.5 methodology. In order to complete the parameter definitions and determine parameter values for the methodology, Nexant submitted a detailed data request to NCPA staff (See Appendix B); NCPA responded to the request (Appendices C-F); Nexant held 2 full day on-site meetings with NCPA staff and conducted several follow-up conference calls to gather needed data and to discuss the steps needed to complete the Option 2.5 methodology..

This report presents the final Step 1 and Step 2 allocation recommendations based upon a detailed cost causation analysis of the NCPA PM budget and the associated activities and services provided to members.

The cost causation based parameter weights included in the Option 2.5 methodology for all non-SCALD costs (Power Pool Management, Energy Risk Management, Power Settlements, and Contract Management) were determined from an analysis of the NCPA budget and related documentation for these areas.

SCALD costs were also analyzed by Nexant, and to the degree possible, the cost causation basis of Schedule Coordination and Real Time Dispatch were determined. Nexant also noted that the nature of some SCALD costs are “lumpy”, in particularly the “System Monitoring” related costs, and noted that these do not lend themselves to solely a detailed, strictly cost causation based allocation based upon time and motion type information. Nexant recommends that these costs be allocated to members on the basis of capacity usage or general overhead, allocated either on the basis of Operating Entity, membership, or proportional overhead.

1.2 SUMMARY OF RECOMMENDATIONS

Figure 2-1 shows a graphical depiction of the cost allocation methodology recommended by Nexant. “Step 0” costs are billed or allocated directly to members. This includes the new IT integrated systems cost allocation, as well as programs such as the Market Power Purchase, Natural Gas Information, and Green Power program.

In “Step 1”, two new cost categories have been added: Risk Management (“Risk” in the Diagram) and Power Settlements (PS), in addition to the existing categories of Schedule Coordination (SC), Real Time Dispatch (RT), Power Pool Management (PP), and Resource

Management (RM). In “Step 2”, the costs in each category are allocated to members by an appropriate set of allocation parameters, shown graphically under “Step 2” Allocation Parameters.

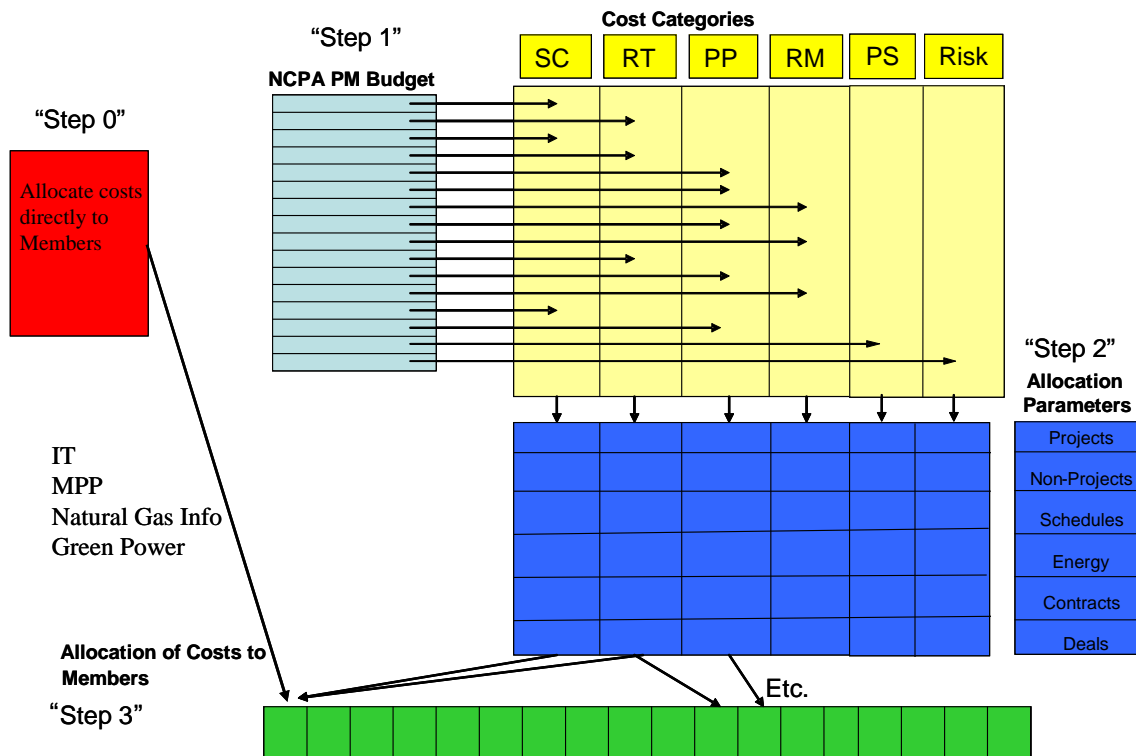


Figure 2-1 Option 2.5 Revised Cost Allocation Method

Table 2-1 shows the principles adopted by the Facilities Committee upon which a cost allocation methodology should be based. The table provides an evaluation of the current and proposed methods against each of the principles.

Table 2-1 Cost Allocation Principles

Cost Allocation Principle	Current Method	Alternative – Nexant Option 2.5
Driven by cost causation	Yes initially, but no longer matches business model	Yes. Requires budget-based analysis of labor hours to allocate costs.
Transparent	Process – Yes Time and motion data - No	More transparent – budget based
Cost lumpiness	Yes	Yes
Durable	No	Yes
Stable	Yes	Expected
Consistent with agreements	Yes	Yes
Supports choice	Some degree – e.g., only MSSA members are allocated by load	More– addition of line-by-line choice in sub-program Step 2 allocation parameters
Support two-stage allocation (allows for adjustments)	Yes	Yes

The following sections provide a complete summary of Nexant's recommendations for changes in the NCPA PM cost allocation methodology.

1.2.1 Step 0

- NCPA IT Staff has developed a new proposed approach to allocate costs (approximately \$400k) associated with the Integrated System
 - The allocation methodology was approved by the Facilities Committee on September 30, 2009

1.2.2 Step 1

- **Schedule Coordination**
 - A labor hour based analysis based upon the data provided by NCPA Staff which is included in the appendices validated the allocation of 80% of the Schedule Coordination sub-program to this cost category, and 20% to Real Time Dispatch.
 - The allocation of the WECC NERC Compliance sub-program of 50% to Schedule Coordination and 50% to Real Time Dispatch is based upon the staff level in each sub-program.
- **Real Time Dispatch**
 - 100% of the Dispatch and Real Time Resource Management sub-program is allocated to this cost category
 - 20% of the Schedule Coordination sub-program is allocated to this cost category as discussed above.
 - 100% of the SCADA sub-program is allocated to RT, subject to the revisions in the Step 0 methodology.
 - 50% allocation of WECC/NERC Compliance as discussed above.
- **Power Pool Management** – The following allocations of costs are made to the Power Pool Management cost category based on Power Management labor hours (a detailed analysis is included in Appendix C)
 - Forecasting – 31% Pool, with the remainder allocated to Resource Management (RM)
 - Resource Planning, Optimization, Risk Analysis and Management – 82.17% Pool with the remainder allocated to Resource Management (RM)
 - Pre-scheduling – 57.36% Pool with the remainder allocated directly to other entities receiving pre-scheduling services as discussed under RM (Based upon analysis of PM budget included in Appendix C)
 - Power Pool Operations and Settlement Standards – 100% Pool
 - Pooling Agreement Coordination and Administration – 100% Pool
 - Industry Restructuring – 33.3% Pool, with the remainder allocated to Resource Management (RM)

- **Resource Management**
 - Forecasting – 69% to RM (See corresponding allocation under Pool Management above)
 - Resource Planning, Optimization, Risk Analysis and Management – 17.83% to RM (See corresponding allocation under Pool Management above)
 - Power and Fuels Transactions – 100% to RM
 - Pre-scheduling - 6.79% SVP, 6.79% Roseville, 0.96% TID, 19.27% BART, 8.82% TDPUD (Based upon analysis of PM budget included in Appendix C)
 - Facilities Agreement Administration – 100% RM
 - Contract Maintenance, Negotiation, and Administration and Litigation Support – 100% RM
 - Industry Restructuring – 66.7% RM (See corresponding allocation under Pool Management above)
- **Settlements** (New Cost Category)
 - Billing, Balancing and Settlements – 100% Settlements
 - Deal Control and Data Validation – 100% Settlements
 - CAISO Data Validation – 100% Settlements
- **Risk Management** (New Cost Category)
 - Market Risk Management – 100% Risk Management
 - Counter Party Credit – 100% Risk Management

1.2.3 Step 2

- **Schedule Coordination**
 - All SC costs are allocated based on 100% Schedules. The Schedules allocation parameter has been revised per Nexant recommendations (Refer to Section 2.2.2).
- **Real Time Dispatch**
 - Pmax – 53.01% , for the resources and contracts receiving RT Dispatch services, including the following functions (refer to the resources table in Appendix F):
 - Outage coordination
 - Unplanned variations in generation
 - ISO required generation changes due to grid issues
 - ISO required generation changes due to reliability issues
 - ISO instructions due to accepted bids
 - Scheduled Energy– 28.17%

- Scheduled Energy is the prior year's 12 month energy sum in MWh for the following: (See Appendix H for an example of the calculation of this parameter)
 - NCPA Pool Load (metered)
 - SVP Load (metered)
 - SC Trades Out of NCPA (scheduled)
 - Exports at all inter-ties (scheduled)
 - Sales to the CAISO (scheduled)
 - Imports for BART (scheduled)
 - Function is adjusting for changes in load
- Active Day Inter-tie Schedules – 9.41%
 - Refer to Appendix H for the calculation methodology for Active Day Inter-tie schedules
 - Function is reacting to outages on the CAISO grid that require changes to member contract supply resources other than NCPA owned generation (COTP, Marble, South of Tesla, MSR, New Firm Use.)
- Pool and BART Contracts – 9.41%
 - Pool plus BART Contract months
 - Function is adjusting for failures of Pool and BART supply contracts
- **Power Pool Management** – Nexant's original recommendation was to allocate costs on the basis of 1/3 Load, 1/3 Pool and BART Contract Hours, 1/3 Pool Resources (with the following Load definitions for each sub-program) as a means of equitably spreading the pooling costs using the primary cost drivers. The Ad-Hoc Group of Pool Members decided to continue using the current allocation basis of 78% Load (as defined below for each sub-program and 22% Pool and BART Contracts, pending more detailed cost-causation based analysis by the Pooling Committee.
 - Forecasting – Load is Pool and BART.
 - Resource Planning, Optimization, Risk Analysis and Management – Load is Pool and BART
 - Prescheduling – Load is Pool
 - Power Pool Operations and Settlement Standards – Load is Pool
 - Pooling Agreement Coordination and Administration - Load is Pool
 - Industry Restructuring – Load is Pool
- **Resource Management**
 - Forecasting – Allocated on the basis of Pmax (for resources and non-project resources receiving service, refer to Appendix F)

- Resource Planning, Optimization, Risk Analysis and Management – Allocated on the basis of Pmax (for resources and non-project resources receiving service, refer to Appendix F)
- Power and Fuels Transactions – Allocated on the basis of MWh for CT1 and CT2
 - Will include Lodi Energy Center in allocation when on-line
- Pre-scheduling – Charged directly (by-passes Step 2)
 - 6.79% SVP, 6.79% Roseville, 0.96% TID, 19.27% BART, 8.82% TDPUD (Refer to Appendix C.)
- Facilities Agreement Administration – Namplate (for resources and non-project resources receiving services, refer to Appendix F)
- Contract Maintenance, Negotiation, and Administration and Litigation Support – Namplate (for resources and non-project resources receiving services, refer to Appendix F)
- Industry Restructuring – Nexant’s original recommendation was to use Namplate capacity; the Facilities Committee decided to use Pmax instead (refer to Appendix F)
- **Risk Management**
 - Market Risk Management
 - Nexant’s original recommendation was to allocate 100% to PM A&G based on the general benefit of the program to the organization
 - The Facilities Committee has instead adopted an allocation of 50% to NCPA agency A&G, and 50% to the Pool.
 - Counterparty Credit
 - Allocated on the basis of 100% Contract months for all transactions, for those contracts for which NCPA is the counterparty.
- **Settlements**
 - Billing, Balancing and Settlements – 100% allocation NCPA agency A&G
 - Deal Control and Data Validation – 100% by a weighted measure of “Deal IDs” including long term, hour ahead, and day ahead deals weighted 50%/50% by contract hours and number of contracts. Refer to Appendix G for a description of this methodology.
 - CAISO data Validation – 100% by CAISO schedules
 - Refer to Appendix H for a description of the calculation of CAISO schedules.

Section 2 Documentation of Recommended Changes in Steps 1 and 2

2.1 INTRODUCTION

This section provides explanations and documentation of the recommended changes in Steps 1 and Step 2 of the cost allocation methodology.

2.2 SCHEDULE COORDINATION

2.2.1 Step 1

2.2.1.1 *Schedule Coordination and Real Time Portfolio Balancing*

The following table documents the allocation of 20% of the Schedule Coordination sub-program hours to the Real Time Dispatch cost category related functions. The shaded hours show in the table from the Schedule Coordination sub-program that are allocated to the RT cost category are 20% of the SC sub-program hours.

Cost Category	Function	Sub-Programs (Hours)	
		Dispatch and RT Resource Management	Schedule Coordination
RT	Outage Coordination	113	191.7
	Adjusting for changes in load #1	3209	
	Unplanned variations in generation #2	552	166.3
	ISO required generation changes due to grid issues #3	488	831.6
	Failures of supply contracts #4	244	831.6
	Reacting to outages on the CAISO grid that require changes to member contract supply resources other than NCPA owned generation #5	244	831.6
	ISO instructions due to reliability issues #6	49	83.2
	ISO instructions due to accepted bids #7	297	0
SC	Schedule Coordination (Day Ahead)		600
	Schedule Coordination (Hour Ahead)		180
	Schedule Coordination (Adjustments to schedules)		182
	Schedule Coordination (schedule validation)		3650
	Schedule Coordination (market validation)		3650
	Schedule Coordination (Settlements department corrections)		608
	Training		
	WECC/NERC meeting participation/Standards compliance		
	Meter issue/settlement resolution and SCADA management		
	Management and supervision	2060	1350
	System Monitoring	3264	2174
	Totals	10520	15330

2.2.1.2 WECC/NERC Compliance

The 50/50 split between SC and RT is reasonable based on staffing split between SC/RT, given that this is primarily staff training, conference participation and travel.

2.2.2 Step 2

All allocations for SC for Step 2 are on the basis of 100% Schedules, as revised per Nexant recommendations. The schedule count does not include capacity schedules.

Counted schedules are from the NCPA database using Appendix A3 of NCPA's Power Schedule Guide. The NCPA Power Schedule Guide contains the detailed description of how, what and when to submit schedules from the NCPA Operating Entities to the NCPA Schedule Coordinator (NCPA SC). Appendix A3 identifies the following:

- Schedule Names utilized for scheduling
- When the schedules are submitted and processed
 - DA = Day Ahead
 - HA = Hour Ahead which includes CAISO Hour Ahead Scheduling Process (HASP) schedules, and Non-CAISO schedules during the active day but prior to the active hour.
 - RT = Real-Time which includes CAISO schedules processed after the close of HASP for CAISO schedules, and during the active hour for Non-CAISO schedules.
- CAISO Schedule – Identifies if the schedule is processed with the CAISO.

The following is a summary of how the total schedules are calculated:

DA Schedules – Each type of DA schedule identified will receive a count of one irrespective of the number of hours scheduled for the given day.

HA Schedules – HA schedules receive a count of one whenever the HA schedule for a given hour is different from the DA schedule for the corresponding hour (HA change).

RT Schedules – Any RT schedule receives a count of one for each hour of the schedule (RT change).

Count schedules sent to the CAISO as one schedule for each Operating Entity.

Total Schedule Count – This is the sum of DA, HA, and RT schedules for each entity that is scheduled by NCPA SC.

The following table shows the Schedule Based Allocations using data from April-August of 2009.

	Total Schedules - SC Step 2						
4/1 - 8/31/2009	Pool	SVP	RSVL	BART	TDPU	TID	Total
DA	8,236	5,219	2,203	937	220	774	17,589
HA	4,951	5,099	20	-	-	210	10,280
RT	3,119	5,094	913	-	-	40	9,166
Total	16,306	15,412	3,136	937	220	1,024	37,035
% of Total	44.03%	41.61%	8.47%	2.53%	0.59%	2.76%	100.00%

As a validation of the use of schedules as an allocator, Nexant analyzed data provided by NCPA that estimated the labor hours spent in the SC function for the 2009-2010 budget year.

Detail - Day Ahead Scheduling	Labor Hours
Load for Pool and SVP	60
Exports for Roseville	60
SC Trades outs for TID	60
NCPA owned resources	120
Member owned resources	90
NCPA owned contracts	120
Member owned contracts	90
Total Day Ahead Scheduling	600

Detail - Hour Ahead Scheduling	Labor Hours
Load for Pool and SVP	0
Exports for Roseville	30
SC Trades outs for TID	0
NCPA owned resources	30
Member owned resources	30
NCPA owned contracts	30
Member owned contracts	60
Total Hour Ahead Scheduling	180

Other Activities	
After the fact flag corrections required for settlement purposes associated with Pool and SVP	608
Hour ahead schedule validation for Pool and SVP	3650
Hour Ahead market monitoring - Pool and SVP Contracts	3650
Adjustments to schedules due to events in RT	182

Summary of SC Labor Hours	Hours	Percentage
Pool and SVP	7968	64.3%
Roseville	90	0.7%
TID	60	0.5%
Resources	270	2.2%
Contracts	300	2.4%
RT adjustments	182	1.5%
Management and Supervision	1350	10.9%
System Monitoring	2174	17.5%
Total SC Hours	12394	100.0%

The final steps needed for this validation are to select a methodology for allocating the Management and Supervision and System Monitoring time. In this allocation, the “lumpiness” of SC services should be taken into account, by allocating costs based upon capacity as well as volume.

One approach to account for the lumpiness is to take Operating Entities into account by allocating a portion of the Management and System Monitoring time by OE. In the following table, Management time is allocated proportionally, and the System Monitoring time is allocated by Operating Entity – 25% each to Pool, SVP, Roseville, and TID.

The final allocation calculations used to validate the schedule-based allocator are:

Final Allocations	
Pool and SVP	82.0%
Resources and Contracts	5.2%
Roseville	5.7%
TID	5.5%
Real Time Adjustments	1.6%
Total	100.0%

These allocations are very close to the Schedule-based allocation, and serves as a labor hour based validation of the Schedule based allocation which Nexant recommends.

2.3 REAL TIME DISPATCH

2.3.1 Step 1

Nexant verified that the Step 1 allocations are appropriate for the RT Dispatch cost category, except for the “Step 0” allocations of some IT costs to the SCADA sub-program. See the labor hour analysis under the Schedule Coordination section.

2.3.2 Step 2

NCPA provided the following detail of labor hours in RT by function. The following table shows the allocation parameters for each of the RT functions recommended by Nexant. Pmax has been selected as the allocator to reflect the operational nature of Real Time Dispatch. For Pmax, the function is allocated only to those resources and contracts that receive the service. The sets of resources include: 1) NCPA owned resources; 2) NCPA contracts; 3) Member owned resources; 4) Member owned contracts. Refer to Appendix F for a table of all resources and contracts, and the services that they receive.

See above and in Appendix H for a definition of Scheduled Energy.

Real Time Function	Total Hours	Allocator	Percentage
Outage Coordination	304.3	Pmax (for resources that receive service, see Appendix F)	2.3%
Adjusting for changes in load	3208.5	Scheduled Energy (See Appendix H)	23.8%
Unplanned variations in generation	718.2	Pmax (for resources that receive service)	5.3%
Reacting to outages on the CAISO grid that require changes to NCPA owned generation	1320	Pmax (for resources that receive service)	9.8%
Failures of Pool and BART supply contracts	1075.8	Pool and BART Contracts – Contract hours	8.0%
Reacting to outages on the CAISO grid that require changes to member contract supply resources other than NCPA owned generation	1075.8	Active Day Inter-tie Schedules (See Appendix H)	8.0%
ISO instructions due to reliability issues	132	Pmax (for resources that receive service)	1.0%
ISO instructions due to accepted bids	297.1	Pmax (for resources that receive service)	2.2%
Management and Supervision	2060	Proportional	15.3%
System Monitoring	3264.3	Pmax (for resources that receive service)	24.3%
Total	13456		100.0%

Management and Supervision time is allocated proportionally to the other allocators, and System Monitoring is allocated on the basis of Pmax for those resources and non-resource projects

receiving Real Time services (See Appendix F.) The final Step 2 allocators (subject to annual review of SCALD labor hours) are shown in the following table:

Final RT Step 2 Allocation Values	
Pmax (For resources that receive the service, per each function)	53.01%
Scheduled Energy	28.17%
Active Day Intertie Schedules	9.41%
Pool and BART Contracts	9.41%

The following table shows an example of the calculation of Active Day Inter-tie schedules.

	ISO Schedules - RT Step 2 (Limit counts to Active Day Inter-tie schedules)						
4/1 - 8/31/2009	<u>Pool</u>	<u>SVP</u>	<u>RSVL</u>	<u>BART</u>	<u>TDPU</u>	<u>TID</u>	<u>Total</u>
DA	-	-	-	-	-	-	-
HA	89	487	-	-	-	-	576
RT	41	604	-	-	-	-	645
Total	130	1,091	-	-	-	-	1,221
% of Total	10.65%	89.35%	0.00%	0.00%	0.00%	0.00%	100.00%

2.3.2.1 *An Alternative View of RT Dispatch*

Under the current cost allocation methodology, the Real Time Step 2 parameters result in over 90% of these costs being allocated to resources and non-project resources. We understand that this high allocation to resources is based partly upon the rationale that the RT function is required as a result of the ownership of NCPA generation resources. The preceding section discusses an activity based Step 2 basis which would result in a Step 2 analysis with about 53% allocated directly to resources. What follows is a discussion of this issue.

NCPA staff offered the following discussion:

The RT Dispatch function flows as a function of being a generator owner and generator operator under the NERC Reliability Criteria and as a result of obligations that we have to the bond holders for NCPA projects. Over time we have added to the work that goes on there, both in the form of taking on responsibility for non-NCPA owned resources, contracts and load following activities. If we then compare and contrast “why the function is necessary” against “what type of work now goes on there” it appears that you get two vastly different outcomes. In the first instance “why the function is necessary” would lead to allocations based on resource ownership or capacity with most of the time being attributed to “system monitoring” activities. In the second instance, where we have attempted to determine where the time is spent, given the additional work activities taken on by the organization you end up with a completely different allocation methodology, with load taking on a larger share of the allocation responsibility.

This particular activity (RT Dispatch) seems to be a little unique in this regard. I don't have a solution for it, but the allocation determination should probably address this unique situation in some fashion.

Nexant acknowledges that RT Dispatch is unique, and that cost allocation is in part a function of asset ownership. The cost allocation methodology recommended by Nexant attempts to include the activities in RT that are cost-causation based, in addition to asset ownership based costs.

2.4 POWER POOL MANAGEMENT

2.4.1 Step 1

NCPA provided a detailed accounting of labor hours in the Forecasting and Pre-scheduling program. Refer to Appendix C for this labor analysis for each of the sub-program areas.

2.4.1.1 Forecasting

Of the total 2708 labor hours in the Forecasting sub-program, 31% were identified as pool related, and 69% as resource related.

2.4.1.2 Resource Planning, Optimization and Risk Analysis

Of the 1690 labor hours in the Resource Planning sub-program, 56.34% were identified as Pool related, 15.79% as Resource related, and 27.87% as overhead (long term forecasts prepared for the supply portion of the annual budget). The overhead hours are spread proportionally to the Pool and Resource Management cost categories..

2.4.1.3 Pre-Scheduling

NCPA staff were able to specifically identify labor hours for the Pre-scheduling sub-program for the Pool, SVP, Roseville, TID, BART, and TDPUD. The Step 2 allocation for non-Pool members can be by-passed, and these costs assigned directly to these members. Refer to Appendix C for a detailed breakdown of the allocated hours.

2.4.1.4 Power Pool Operations and Settlement Standards

This is a Pool related sub-program and is assigned 100% to the Pool.

2.4.1.5 Pooling Agreement Coordination and Administration

This is a Pool related sub-program and is assigned 100% to the Pool

2.4.1.6 Industry Restructuring

In discussions with NCPA PM staff, Nexant observed that it is difficult to quantify the Step 1 allocation for this sub-program based on labor hours. NCPA provided an estimate that 1/3 of sub-program time is for the Pool, and 2/3 for Resources, which Nexant recommends be used in the allocation methodology.

2.4.2 Step 2

- Nexant's original recommendation was for all sub-programs to be allocated on the basis of 1/3 Load (as defined below for each sub-program), 1/3 Pool and BART Contract-Months, and 1/3 Pool Resources. (Load is defined differently for each sub-program, as follows.) . The Ad-Hoc Group of Pool Members decided instead to continue using the current allocation basis of 78% Load (as defined below for each sub-program and 22% Pool and BART Contracts, pending more detailed cost-causation based analysis by the Pooling Committee.

2.4.2.1 *Forecasting*

Load is for Pool and BART

2.4.2.2 *Resource Planning, Optimization and Risk Analysis*

Load is for Pool and BART

2.4.2.3 *Pre-Scheduling*

Load is Pool only

2.4.2.4 *Power Pool Operations and Settlement Standards*

Load is Pool only

2.4.2.5 *Pooling Agreement Coordination and Administration*

Load is Pool only

2.4.2.6 *Industry Restructuring*

Load is Pool only

2.5 RESOURCE MANAGEMENT

2.5.1 Step 1

NCPA provided a detailed accounting of labor hours in the Forecasting and Pre-scheduling program. Refer to Appendix C for this labor analysis for each of the sub-program areas.

2.5.1.1 *Forecasting*

69% of the Forecasting sub-program budget is allocated to Resource Management. Refer to Appendix C for documentation of this allocation.

2.5.1.2 *Resource Planning*

17.83% of the Resource Planning sub-program is allocated to Resource Management. Refer to Appendix C for documentation of this allocation. This includes a proportional allocation of the overhead hours to Pool and Resources.

2.5.1.3 *Power and Fuels Transactions*

100% allocation to Resource Management has been validated. This sub-program exclusively procures gas for CT1 and CT2.

2.5.1.4 *Prescheduling*

As indicated in Section 2.1.4.3, NCPA staff was able to directly assign Pre-scheduling labor hours to members. These allocations will by-pass Step 2, and be allocated directly to members. The allocations for non-Pool members are 6.79% SVP, 6.79% Roseville, 0.96% TID, 19.27% BART, and 8.82% TDPUD (Refer to Appendix C.)

2.5.1.5 *Facilities Agreement Administration*

100% to Resources Management has been validated.

2.5.1.6 *Contract Maintenance, Negotiation, and Administration and Litigation Support*

The Contracts program and budget has been restructured, so that only Resource related contract work is included in the sub-program budget. The 100% allocation to RM has been validated.

2.5.1.7 *Industry Restructuring*

As mentioned above, it is difficult to quantify the Step 1 allocation for this sub-program based on labor hours. NCPA estimates that 2/3 of this sub-program should be allocated to Resources.

2.5.1.8 *All Other Sub-Programs*

The Transmission Program has been removed from the NCPA PM budget for 2010.

2.5.2 Step 2

The Step 2 allocators for Resource Management are selected as appropriate for the sub-program. The allocation of costs to the Resource Management category is both operationally based and “agreement based . The basis of allocation for the operational sub-programs either Pmax or MWh. For the agreement based sub-programs, nameplate capacity as specified in the agreements for the resources is the basis of allocation.

2.5.2.1 *Forecasting*

Forecasting is allocated on the basis of Pmax for resources receiving the service. Refer to Appendix F.

2.5.2.2 *Resource Planning*

Forecasting is allocated on the basis of Pmax for resources receiving the service. Refer to Appendix F.

2.5.2.3 *Power and Fuels Transactions*

The appropriate allocation of this sub-program is CT1 and CT2, based upon MWh.

2.5.2.4 *Pre-scheduling*

Step 2 is by-passed by the direct allocation to members of the Pre-scheduling sub-program. The allocations for non-Pool members are 6.79% SVP, 6.79% Roseville, 0.96% TID, 19.27% BART, and 8.82% TDPUD. (Refer to Appendix C.)

2.5.2.5 *Facilities Agreement Administration*

This sub-program is allocated to resources and non-resource projects based upon the Nameplate capacities specified in the Facilities Agreement. Refer to Appendix F.

2.5.2.6 *Contract Maintenance, Negotiation, and Administration and Litigation Support*

This sub-program is allocated to Resources based upon the Nameplate capacities specified in the Facilities Agreement, for the Resources and non-project Resources that receive services. Refer to Appendix F.

2.5.2.7 *Industry Restructuring*

This sub-program is allocated to resources based upon the Pmax capacities for the resources and non-project resources receiving this service. Refer to Appendix F.

2.6 SETTLEMENTS

2.6.1 Step 1

Settlements is a new cost category, to which 100% of the Power Settlements program budget is allocated.

NPCA provided a detailed labor hour analysis of the services provided by the Power Settlements program; refer to Appendix E for the labor analysis and program descriptions.

2.6.2 Step 2

2.6.2.1 *Billing, Balancing and Settlements*

This sub-program is allocated 100% to all-agency A&G. The services provided under this program for preparation of the All Resources Bill should be allocated in proportion to the total costs allocated to each member.

2.6.2.2 *Deal Control and Validation*

Deal Control and Data Validation – 100% by a weighted measure of “Deal IDs” including long term, hour ahead, and day ahead deals weighted 50%/50% by contract hours and number of contracts. Refer to Appendix G for a description of this methodology.

2.6.2.3 *ISO Data Validation*

This sub-program is specific to scheduling in and out of the CAISO. The allocation basis is 100% by CAISO schedule (includes exports, imports, and SC-SC trades.) Refer to Appendix H.

2.7 RISK MANAGEMENT

2.7.1 Step 1

A new cost category for Risk Management has been created. 100% of the Risk Management program budget is allocated to this cost category.

Refer to Appendix E for a detailed labor hour analysis of the services provided by the Risk Management program.

2.7.2 Step 2

2.7.2.1 *Market Risk Management*

Nexant's original recommendation was to allocate 100% to PM A&G. The Facilities Committee has instead adopted an allocation of 50% to all agency A&G and 50% to the Pool.

2.7.2.2 *Counter Party Credit Risk*

This sub-program is allocated on the basis of 100% Contract months (all transactions) for those contracts for which NCPA is the counterparty.

The April 13, 2009 Nexant presentation was provided to NCPA as an attachment to the data request presented in Appendix B.

The purpose of this information request is to obtain the necessary data to validate and finalize the recommendations for the NCPA Power Management cost allocation methodology. Nexant is requesting that NCPA provide information and conduct a detailed analysis of the PM budget and planned work to validate the “Step 1” allocations of sub-program budgets to cost categories and to determine the cost causation basis of the “Step 2” allocation parameters for each of the sub-program budget line items that are allocated to the “Step 1” cost categories. The primary focus is on the “Red” and “Blue” cells of the revised methodology, as presented on April 13, 2009 (See attached presentation, and references to the presentation in this request.)

A budget and planned-work based review of the SCALD, Pool Portfolio Management, Energy Risk Management, Contract Management, and Power Settlements Programs will be conducted. The key focus will be on budgeted/planned staff labor hours and other large expense items in order to determine the cost causation basis for the staff time and systems requirements and capacity usage, and to determine what factors drive labor hour– Schedules, Contracts, MSS Load, Membership, and Project and Non-Project resources, etc.

Nexant will also review the member questions as submitted in response to the Phase II report.

The information request is organized by the five “Step 1” cost categories – Schedule Coordination, Real Time Dispatch, Power Pool Management, Resource Management, and Billing, Balancing, and Settlements, as well as a General Information category.

In order to stay on schedule for this final phase of the project, Nexant requests that the information be returned by September 22, 2009.

GENERAL ITEMS

1) General items required for this analysis include:

- The most recent program and sub-program descriptions
- The latest available budgets and budget forecasts

2) A list of all Resources and Non-Resource contracts that are scheduled, dispatched, settled, or provided with contract administration services.

This should include all NCPA resources, all NCPA non-resource contracts, non-NCPA resources that are provided with PM services (and a description of the services provided and the labor hours or system capacity used), and non-NCPA contracts that are managed on the behalf of members (with a description of the services provided and the labor hours or system capacity used.)

The first part of this request may best be summarized in a table that has a row per resource and columns that indicated whether the resource is scheduled in the DA process, in the CAISO market, dispatched by NCPA, settled in the CAISO process, settled in the NCPA process, administered by NCPA and any other meaningful NCPA process.

3) An estimate of the costs of providing services to non-NCPA Resources and Non-Resources, to be treated as direct-bill expenses.

SCHEDULE COORDINATION

1) Power Settlements – Deal Control and Data Validation – Step 1 Allocation:

- A labor hour or system capacity based accounting of the Deal Control and Data Validation sub-program budget and an associated analysis of allocations of costs to Schedule Coordination, Power Pool Management, and Resources Management for Step 1 allocation
- Reference Slide 18 of the 4/13 Nexant presentation

2) A calculation of schedules per Nexant recommendations for use as an allocation parameter for Schedule Coordination and for the Billing, Balancing and Settlements cost categories. This should include a detailed build-up of how the number of schedules is calculated.

- Slides 19-20 of 4/13 presentation

REAL TIME DISPATCH

Reference Slide 21 of 4/13 presentation.

1) Updated dependable and nameplate capacity for each Resource and Non-resource contract managed or provided with services. (NCPA owned and non-owned.)

2) The ownership split of CT#1, and a description of differences in how the units are scheduled for members, and which services are provided for each of the units.

3) Estimate and justification of the percentage of the Real Time Dispatch sub-program budgets (Dispatch and Real Time Resource Management, 20% of Schedule Coordination and Real Time Portfolio Balancing, and SCADA) that are required to manage the MSSA. This could be based on labor hours or system capacity use.

- Identify any other MSSA specific costs in other sub-program budgets

4) Up-to-date list of Contracts as used for allocation for Real Time Dispatch, Power Pool Management, and Billing, Balancing and Settlements. Identify which contracts are entered into and managed on behalf of members under the MPP.

POWER POOL MANAGEMENT

Reference Slide 22 of 4/13 presentation.

1) Step 1 Allocation:

- Provide a detailed budget-based validation and justification of Step 1 allocations between Power Pool Management and Resource Management for the Forecasting, Resource Planning, Optimization and Risk Analysis, Pre-scheduling, Contract Maintenance, Risk Management – Credit Review, and Power Settlements – Deal Control and Validation sub-programs.

- Address the following question from Palo Alto:
 - We would like to see the cost allocations to contacts – particularly the market based contracts that Palo Alto enters into periodically. We want to assure that only appropriate amounts of NCPA Contract Management/Risk Management costs are allocated to contract members like Palo Alto enter into on a bi-lateral basis.

2) Provide information on the number and types of contracts managed for the Pool, and contracts managed specifically for Resources. Provide descriptions of Risk Management and Contract Administration services provided for these contracts.

The following is a good example a budget based analysis provided by NCPA for allocation the Forecasting sub-program between Power Pool and Resources. This is the type of analysis that is required.

Example: Forecasting Allocation

Here's a snapshot of the labor hours for Tom Lee's budget for FY2010:

FORECASTING, PLANNING, PRESCHEDULING & TRADING													OTHER RESOURCES				
No.	Name	Position	Forecasting	Resource Optimization, Risk Analysis & Mgmt.	Power & Fuel Transactions	Pre-Scheduling	Power Pool Oper. & Settlement Standards	Facilities Acquisition Administration	Hydro	NCPA Green Power Project	Natural Gas Information Program	Gas CT & STIG	Market Purchase Project				
			557-102-180 532-010-000	557-102-200 532-010-000	557-102-300 532-010-000	557-102-400 532-010-000	557-102-500 532-010-000	557-102-600 532-010-000	557-102-700 532-010-000	557-102-800 532-010-000	557-102-900 532-010-000	557-103-000 532-010-000	557-103-100 532-010-000	557-103-200 532-010-000			
1	Lee, Thomas S.W.	Supervisor - Portfolio and Pool Mgmt.	388	443	147	125	489	96		289	12	25	120				
2	Bonetto, Jan	Engineer II - Transmission Congestion/Market Analysis	1,288	146	33		143			294	09		290				
3	Goslin, Kenneth	Engineer IV - Forecasting	754	454	36	454	182						290				
4	Griffith, Dana Wm	Engineer IV, Power Coordination & Planning	126	242	59			124		1,840	58	75	40				
5	Imamura, Donald T.	Short Term Planner	89	346	107	643	247	198					598				
6	McMahon, Kevin	Lead Pre-Scheduler	17		258	1,680		135									
7	Worthington, Norm	Scheduler, Hydro	86		59	687			1,248								
8	Wilson, Deborah	Office Assistant I (Casual)		1,040													
9	Vacant	Student Assistant (Casual) *											-				
10	Vacant	Student Assistant (Casual) *											-				
Total Hours			2,708	2,599	490	3,829	1,511	453	1,248	1,498	113	280	1,600				
Total in Person Years			1.30	1.44	0.33	1.75	0.53	0.22	0.60	0.72	0.05	0.05	0.51				
Total Budget \$			\$ 230,525	\$ 234,934	\$ 72,730	\$ 378,321	\$ 118,053	\$ 48,570	\$ 127,291	\$ 146,478	\$ 9,587	\$ 18,714	\$ 101,887				

And the description for the Forecasting subprogram as reflected in the FY 2010 budget:

- **Forecasting**

The forecasting effort includes the following areas: Member loads (long- and short-term up to real-time), economic and business assessments, energy markets and prices (e.g. A/S, XM, natural gas, etc.), hydrology and weather (regional and specific to Collierville), and retail rates. The weekly market price for power and fuel report and bi-weekly conference call discussions are products of this program.

Included in this function are the following activities and cost components:

Subscription costs associated with economic, price and weather forecasting services

Software costs associated with load forecasting and a stand alone statistical analysis package (SAS) that is used to support statistical analyses across the organization and across business units

Staff labor required to support the biweekly market conditions review meetings and calls

Staff labor required to support load forecasting efforts as part of the budget, in response to reporting obligations to the CAISO and CEC and in an operational context in the Day Ahead and Real Time scheduling time frames.

Out of the 2,708 hours shown in Forecasting subprogram, we estimate that the time allocated to Ken Goeke and Don Imamura (843 hrs) largely go to load/pool related efforts. We believe the balance of the time allocated in forecasting is more resource specific or applicable to the broader membership (1,865 hrs), so the split appears to be 31% pool and 69% resources

RESOURCE MANAGEMENT

1) Step 1 Allocation: Justify the percentage allocations of sub-program budgets to Resource Management. These sub-programs include:

- Forecasting, Resource Planning, Optimization and Risk Analysis, Power and Fuel Transactions, Pre-scheduling, Contract Admin, Risk Management – Credit Review, and Settlement – Deal Control and Validation.

2) Given the Step 1 allocations of budgets to Resource Management, provide a labor hour and other budget cost-based breakdown of sub-program budget line items for Resource Management. The analysis should indicate the percentage of the cost of each sub-program provided to each Resource and Non-Resource: Hydro, Geo, CT#1 (Roseville), CT#1 (Lodi and Alameda), Western, SCL, Greagle, Mendocino, PalBug, and others as appropriate.

The relevant sub-programs are 1) Forecasting, 2) Resource Planning, Optimization and Risk Management, 3) Power and Fuel Transactions, 4) Pre-scheduling, 5) Facilities Administration, 6) Contract Maintenance, Negotiation and Admin, Litigation Support. Support, 7) Risk Management – Credit Review, 8) Power Settlements – Deal Control and Data Validation

If the cost causation basis for any sub-program is primarily capacity based (dependable or nameplate capacity, system use, or other measure of capacity), this should be justified.

- Reference Slide 23.

BILLING, BALANCING AND SETTLEMENTS

1) Power Settlements – Billing Balancing and Settlements

- A description of the primary cost causation factors for this sub-program: a labor-hour based analysis of staff time as spent per Member, per Resource, or as driven by the number of schedules, contracts, and load.
- Reference Slide 24.

Response to Data Request from Section 5 – Question 1 and Section 6 – Questions 1 and 2

FORECASTING

		FORECASTING & PRESCHEDULING						OTHER RESOURCES					
		Forecasting	Resource Optimizatin, Risk Analysis & Mgmt.	Power & Fuel Transactions	Pre Scheduling	Power Pool Administration	Facilities Agreement Administration	Hydro	NCPA Green Power Project	Natural Gas Information Program	Gas CT & STIG	Market Purchase Project	
Name	Position	557-102-100 532-010-000	557-102-200 532-010-000	557-102-300 532-010-000	557-102-400 532-010-000	557-102-500 532-010-000	557-102-600 532-010-000	535-008-000 532-010-000	557-110-000 532-010-000	557-024-001 532-010-000	557-024-000 532-010-000	557-120-000 532-010-000	Total
Lee, Thomas S.W.	Engineer V, Supv - Portfolio and Pool Mgmt	388	448	147	155	489	96		200	12	25	120	2,080
Goeke, Kenneth	Engineer IV - Forecasting	754	454	36	454	182						200	2,080
Griffith, Dana Wm	Engineer IV, Power Coordination & Planning	136	565	50			124		1,040	50	75	40	2,080
Bonatto, Jan	Engineer I - Transmission Congestion/Market Analysis	1,238	146	33		163			250	50		200	2,080
Inamura, Donald T.	Short Term Planner	89	346	107	663	267	108					500	2,080
McMahan, Kevin	Lead Pre-Scheduler	17		258	1,680		125						2,080
Worthington, Norm	Scheduler, Hydro	86		59	687			1,248					2,080
Vacant	Student Assistant (Casual)	520	520										1,040
Vacant	Office Assistant I (Casual)		1,040										1,040
Vacant	Student Assistant (Casual)		1,040										1,040
Total Hours		3,228	4,559	690	3,639	1,101	453	1,248	1,490	112	100	1,060	17,680
Total in Person Years		1.55	2.19	0.33	1.75	0.53	0.22	0.60	0.72	0.05	0.05	0.51	8.50

- Forecasting**

The forecasting effort includes the following areas: Member loads (long- and short-term up to real-time), economic and business assessments, energy markets and prices (e.g. A/S, XM, natural gas, etc.), hydrology and weather (regional and specific to Collierville), and retail rates. The weekly market price for power and fuel report and bi-weekly conference call discussions are products of this program.

Included in this function are the following activities and cost components:

Subscription costs associated with economic, price and weather forecasting services

Software costs associated with load forecasting and a stand alone statistical analysis package (SAS) that is used to support statistical analyses across the organization and across business units

Staff labor required to support the biweekly market conditions review meetings and calls

Staff labor required to support load forecasting efforts as part of the budget, in response to reporting obligations to the CAISO and CEC and in an operational context in the Day Ahead and Real Time scheduling time frames.

Out of the 2,708 shown in the Forecasting subprogram, we estimate that the time allocated to Ken Goeke and Don Imamura (843 hrs) largely go to load/pool related efforts. We believe the balance of the time allocated in forecasting is more resource specific or applicable to the broader membership (1,865 hrs) so the split appears to be 31% pool and 69% resources.

RESOURCE PLANNING, OPTIMIZATION, RISK ANALYSES AND MANAGEMENT

			FORECASTING & PRESCHEDULING					OTHER RESOURCES					
			Forecasting	Resource Optimization, Risk Analysis & Mgmt.	Power & Fuel Transactions	Pre Scheduling	Power Pool Administration	Facilities Agreement Administration	Hydro	NCPA Green Power Project	Natural Gas Information Program	Gas CT & STIG	Market Purchase Project
No.	Name	Position	557-102-100 532-010-000	557-102-200 532-010-000	557-102-300 532-010-000	557-102-400 532-010-000	557-102-500 532-010-000	557-102-600 532-010-000	535-008-000 532-010-000	557-110-000 532-010-000	557-024-001 532-010-000	557-024-000 532-010-000	557-120-000 532-010-000
1	Lee, Thomas S.W.	Engineer V, Supv - Portfolio and Pool Mgmt	388	448	147	155	489	96		200	12	25	120
2	Goeke, Kenneth	Engineer IV - Forecasting	754	454	36	454	182						200
3	Griffith, Dana Wm	Engineer IV, Power Coordination & Planning	136	565	50			124		1,040	50	75	40
4	Bonatto, Jan	Engineer I - Transmission Congestion/Market Analysis	1,238	146	33		163			250	50		200
5	Imamura, Donald T.	Short Term Planner	89	346	107	663	267	108					500
6	McMahan, Kevin	Lead Pre-Scheduler	17		258	1,680		125					
7	Worthington, Norm	Scheduler, Hydro	86		59	687			1,248				
8	Vacant	Student Assistant (Casual)	520	520									
9	Vacant	Office Assistant I (Casual)		1,040									
10	Vacant	Student Assistant (Casual)		1,040									
Total Hours			3,228	4,559	690	3,639	1,101	453	1,248	1,490	112	100	1,060
Total in Person Years			1.55	2.19	0.33	1.75	0.53	0.22	0.60	0.72	0.05	0.05	0.51

- Resource Planning, Optimization, Risk Analyses and Management**

Each element of this program is performed for the Pool and individual Members. A certain level of tailoring is required depending on the physical and financial needs of individual Members. The long-term (up to 10 yrs) load/resource optimization and balance portion of this program provides the basic information for the NCPA Annual Budget and is adjusted for other filing and resource commitment requirements. The short-term planning updates (current year up to 3 yrs) and risk assessment provide for pre-month forward transaction requirements (purchases and/or sales of power and fuel). The Value of Storage (opportunity cost of energy limited resources) for hydro resources and evaluation/development of resources and products (power plants, and power/fuel contracts) are also developed in this program. Special projects and transaction types (eg untangle/exchange) special studies (eg LMP/CRR, Steamfield Optimization, Hydro-PG&E cleanup, etc) are also developed under this program. Finally, this program provides support for the monthly comparison between the current FY Annual Budget vs the All Resources Bill (ARB), along with the initial design and development for this portal product.

Included in this function are the following activities and cost components:

Legal costs associated with procurement transactions, procurement RFP's and other FERC activity related to gas procurement

Software costs associated with the Plexos Production Cost Model, MRTU bidding model, at Risk and historical hydro data
Risk Management consulting services (if needed)

Staff labor to participate in weekly operational discussions of expected plant output level and operations and the integration of this information into adjusted forecasts, schedules and operating plans

Staff labor to review and coordinate with Operating Entities in the hydro project and to develop value of storage estimates

Staff labor to provide a running assessment of actual member costs versus budget forecast, coupled with a running updated estimate of forecast member costs for the portion of the year still outstanding versus the remaining budget as forecast.

Of the 2,999 hours allocated in this subprogram, we estimate the time allocated to Dana Griffith (565 hrs) and Jan Bonatto (146 hrs) are largely associated with the long term forecast prepared with the supply portion of the annual budget and as a result, is more resource specific and applies to the broader membership. We estimate the time allocated to Don Imamura (346 hrs) is largely associated with the short term planning updates and as a result in more specific to Pool related activities. Ken Goeke's work in this category is associated with analysis associated with CRR nominations and the implementation of settlement algorithms; Work associated with load following for the Pool and SVP; Settlement prototype work (COTP buyback, western/COTP displacement); and analysis of monthly scheduling results (A/S sales, CRR's, Load Following). Given this breakdown, we estimate the time allocated to Ken Goeke (454 hrs) is allocable as follows: approximately 80% of the effort is pool related and 20% is associated with billing/settlement work that is allocable to the broader membership that we would allocate as an overhead. We expect that the hours allocated to Tom Lee (448 hrs) should be allocated in proportion to the split between pool/resources/overhead that is derived from the effort of his staff. As a practical matter, the specific focus of Tom's time will vary from year to year in this area, with some years focusing almost exclusively on specific new resources such as the LEC and Western Geo projects, while in other years, he may be more focused on pooling related activities. On balance, we see the allocation of his time as being derived from the allocation of his staff as being appropriate. We estimate the time allocated to Deborah Wilson (1,040 hrs) is associated with preparation and distribution of information required to prepare power content labels. The power content labels themselves are prepared for pool members. Separately, plant and contract output data are summarized and sent to the California Energy Commission and to the relevant member in order that they have the data required to prepare their own power content labels to the extent NCPA does not prepare the label for them. Staff estimates that about 70% of the effort goes to supporting pooling activities and approximately 30% goes to support resource related reporting activities (which includes both contracts and resources whether member or NCPA owned. The table below summarizes these estimates.

Resource Planning, Optimization, Risk Analyses and Management				
	Pooling	Resources	Overhead	Total
Dana Griffith	0	0	565	565
Jan Bonatto	0	0	146	146
Don Imamura	346	0	0	346
Ken Goeke	363	91	0	454
Deborah Wilson	728	312	0	1040
Subtotal	1437.2	402.8	711	2551
	56.34%	15.79%	27.87%	
Tom Lee	252	71	125	448
Subtotal	252	71	125	448
Total	1690	474	836	2999
Percent of Total	56.34%	15.79%	27.87%	

In the event we do not create a new bucket to allocate the column entitled Overheads, we would recommend including this column in the Resources bucket and assessing the allocation factors in that bucket to make sure that costs associated with the effort in this category are allocated equitably.

POWER AND FUEL TRANSACTIONS

			FORECASTING & PRESCHEDULING						OTHER RESOURCES					
			Resource	Power & Fuel	Pre	Power	Facilities		NCPA	Natural	Gas	Market		
			Forecasting	Optimization, Risk Analysis & Mgmt.	Scheduling	Pool	Agreement		Green Power	Gas Information	CT & STIG	Purchase		
			557-102-100	557-102-200	557-102-300	557-102-400	557-102-500	557-102-600	535-008-000	557-110-000	557-024-001	557-024-000	557-120-000	
			532-010-000	532-010-000	532-010-000	532-010-000	532-010-000	532-010-000	532-010-000	532-010-000	532-010-000	532-010-000	532-010-000	Total
No.	Name	Position												
1	Lee, Thomas S.W.	Engineer V, Supv - Portfolio and Pool Mgmt	388	448	147	155	489	96		200	12	25	120	2,080
2	Goeke, Kenneth	Engineer IV - Forecasting	754	454	36	454	182						200	2,080
3	Griffith, Dana Wm	Engineer IV, Power Coordination & Planning	136	565	50			124		1,040	50	75	40	2,080
4	Bonatto, Jan	Engineer I - Transmission Congestion/Market Analysis	1,238	146	33		163			250	50		200	2,080
5	Inamura, Donald T.	Short Term Planner	89	346	107	663	267	108					500	2,080
6	McMahan, Kevin	Lead Pre-Scheduler	17		258	1,680		125						2,080
7	Worthington, Norm	Scheduler, Hydro	86		59	687			1,248					2,080
8	Vacant	Student Assistant (Casual)	520	520										1,040
9	Vacant	Office Assistant I (Casual)		1,040										1,040
10	Vacant	Student Assistant (Casual)		1,040										1,040
Total Hours			3,228	4,559	690	3,639	1,101	453	1,248	1,490	112	100	1,060	17,680
Total in Person Years			1.55	2.19	0.33	1.75	0.53	0.22	0.60	0.72	0.05	0.05	0.51	8.50

- Power and Fuel Transactions (purchase and/or sale) and related Products**

NCPA transacts to serve the physical and financial power and fuel needs of its Members through this program. The duration of these power and fuel transactions range from next hour to balance of month, but mostly for the Day Ahead time-frame. Efforts under this sub program are primarily associated with the procurement of fuel for the STIG and CT projects, where fuel may be procured for the project in order to make a market sale for the benefit of the project owners or to provide energy for the pool, where the energy would be priced at the market clearing price, but the project participant may also be a pool participant.

Included in this function are the following activities and cost components:

Staff labor to update and enter fuel related transactions including NCPA initiated, member initiated or asset related transactions

All costs associated with this subprogram are liquidated to the CT1 and CT2 projects and charged out according to project entitlement percentages.

PRE SCHEDULING

			FORECASTING & PRESCHEDULING					OTHER RESOURCES					Total	
			Forecasting	Resource Optimizatin, Risk Analysis & Mgmt.	Power & Fuel Transactions	Pre Scheduling	Power Pool Administration	Facilities Agreement Administration	Hydro	NCPA Green Power Project	Natural Gas Information Program	Gas CT & STIG		Market Purchase Project
No.	Name	Position	557-102-100 532-010-000	557-102-200 532-010-000	557-102-300 532-010-000	557-102-400 532-010-000	557-102-500 532-010-000	557-102-600 532-010-000	535-008-000	557-110-000	557-024-001	557-024-000	557-120-000	
1	Lee, Thomas S.W.	Engineer V, Supv - Portfolio and Pool Mgmt	388	448	147	155	489	96		200	12	25	120	2,080
2	Goeke, Kenneth	Engineer IV - Forecasting	754	454	36	454	182						200	2,080
3	Griffith, Dana Wm	Engineer IV, Power Coordination & Planning	136	565	50			124		1,040	50	75	40	2,080
4	Bonatto, Jan	Engineer I - Transmission Congestion/Market Analysis	1,238	146	33		163			250	50		200	2,080
5	Imamura, Donald T.	Short Term Planner	89	346	107	663	267	108					500	2,080
6	McMahan, Kevin	Lead Pre-Scheduler	17		258	1,680		125						2,080
7	Worthington, Norm	Scheduler, Hydro	86		59	687			1,248					2,080
8	Vacant	Student Assistant (Casual)	520	520										1,040
9	Vacant	Office Assistant I (Casual)		1,040										1,040
10	Vacant	Student Assistant (Casual)		1,040										1,040
Total Hours			3,228	4,559	690	3,639	1,101	453	1,248	1,490	112	100	1,060	17,680

Pre Scheduling

Provides for the day ahead load/resource pre-schedules for the Pool and other members (i.e. TDPUD and BART), and day ahead resource coordination/validation/scheduling for TID, BART, TDPUD, SVP and RO. The load/resource pre-schedules are balanced with additional Day Ahead transactions and accounting for all reserve requirements under respective control areas (CAISO, SMUD-WAPA and SPP). This operation also includes E-tagging, coordination/communications with all NCPA resource owners and management of CVP Corp Portal and CVP BR (Pool, BART and TD).

Included in this function are the following activities and cost components:

Brokerage fees on ICE, Landmark and Amerex required to support purchases and sales

OASIS and OATI Tagging Software

WECC Scheduling Meetings and Market Interface Committee participation

Staff labor to develop monthly load/resource balances for each pool member and to coordinate/adjust for differences between expected and actual western base resource deliveries

Staff labor to prepare daily pre-schedules for loads and resources, including Operating Entity (OE) coordination and implementation of OE operating instructions

Staff labor to investigate, correct or assist with any schedules that fail the CAISO SC validation process.

We estimate that the time allocated to Don Imamura (663 hrs) is largely associated with the reconciliation of monthly load/resource balances to day ahead load/resource balances and associated coordination of western resource deliveries. As such, this is primarily a pool related activity. We estimate that the time allocated to Kevin McMahan (1,680 hrs) is primarily associated with preparing pre-schedules associated with the Pool, SVP, Roseville, TDPUD, BART and TID. The level of effort here is estimated at 70% Pool, 10% SVP, 10% Roseville, 6% BART, 2% Truckee Donner and 2% TID, We estimate that the time allocated to Norm Worthington (687 hours) is largely associated with pre-scheduling activities for the hydro facility, BART and Truckee Donner. Approximately 30% of the time is associated with hydro related scheduling activities that is allocated equally between the pool, Roseville and SVP and 70% of the time is associated with BART and Truckee Donner scheduling related activities and should be split 50% to BART and 20% to Truckee Donner. The time allocated to Ken Goeke (454 hrs) is associated with the daily load forecasting for the Pool, BART and TDPUD. Approximately 50% of Ken's time is associated with preparation of the BART load schedule, 30% is associated with preparation of the TD load schedule and 20% is associated with the Pool schedule. Tom Lee's time (155 hrs) should be allocated in the same fashion as the supervisor for all of the work that occurs here.

Hydro related work under this category consists of daily modeling of day ahead generation requests and allocating Spicer generation based on release requirements and requests. It involves coordination of the information between each of the operating entities. Individual OE schedules are reviewed to ensure that project limits are not exceeded and/or that license obligations are being complied with.

Pre Scheduling							
	Pool	SVP	Roseville	TID	BART	TDPUD	Total
Kevin McMahan	1176	168	168	33.6	100.8	33.6	1680
Don Imamura	663	0	0	0	0	0	663
Norm Worthington	68.7	68.7	68.7	0	343.5	137.4	687
Ken Goeke	90.8	0	0	0	227	136.2	454
Subtotal	1998.5	236.7	236.7	33.6	671.3	307.2	3484
Percent of Total	57.36%	6.79%	6.79%	0.96%	19.27%	8.82%	
Tom Lee	88.9	10.5	10.5	1.5	29.9	13.7	155.0
Total	2087.4	247.2	247.2	35.1	701.2	320.9	3639.0
Percent of Total	57.36%	6.79%	6.79%	0.96%	19.27%	8.82%	

To the extent the above table must be merged into the four bucket categories, staff recommends that all columns except the pool column be merged into the Resources category and that appropriate allocation factors be developed within the Resource bucket to equitable allocate the costs. Examples might be number of e-tags created and managed, western, contracts (to better capture BART and TDPUD effort)

POWER POOL ADMINISTRATION

			FORECASTING & PRESCHEDULING						OTHER RESOURCES					
			Forecasting	Resource Optimizatin, Risk Analysis & Mgmt.	Power & Fuel Transactions	Daily, Monthly Risk Analysis & Mgmt.	Power Pool Administration	Facilities Agreement Administration	Hydro	NCPA Green Power Project	Natural Gas Information Program	Gas CT & STIG	Market Purchase Project	
				557-102-100	557-102-200	557-102-300	557-102-400	557-102-500		557-102-600	535-008-000	557-110-000	557-024-001	557-024-000
Name	Position		532-010-000	532-010-000	532-010-000	532-010-000	532-010-000	532-010-000	532-010-000	532-010-000	532-010-000	532-010-000	Total	
Lee, Thomas S.W.	Engineer V, Supv - Portfolio and Pool Mgmt		388	448	147	155	489	96		200	12	25	120	2,080
Goeke, Kenneth	Engineer IV - Forecasting		754	454	36	454	182						200	2,080
Griffith, Dana Wm	Engineer IV, Power Coordination & Planning		136	565	50			124		1,040	50	75	40	2,080
Bonatto, Jan	Engineer I - Transmission Congestion/Market Analysis		1,238	146	33		163			250	50		200	2,080
Imamura, Donald T.	Short Term Planner		89	346	107	663	267	108					500	2,080
McMahan, Kevin	Lead Pre-Scheduler		17		258	1,680		125						2,080
Worthington, Norm	Scheduler, Hydro		86		59	687			1,248					2,080
Vacant	Student Assistant	(Casual)	520	520										1,040
Vacant	Office Assistant I	(Casual)		1,040										1,040
Vacant	Student Assistant	(Casual)		1,040										1,040
Total Hours			3,228	4,559	690	3,639	1,101	453	1,248	1,490	112	100	1,060	17,680
Total in Person Years			1.55	2.19	0.33	1.75	0.53	0.22	0.60	0.72	0.05	0.05	0.51	8.50

- Power Pool Operations and Settlement Standards**

This sub program provides for the development and implementation of operational requirements for the NCPA Power Pool and any subsequent allocation requirements to the members of the NCPA Power Pool, including of the development of Pool procedures and development or modification of the technical aspects of Pooling Agreement Schedules.

All hours here are associated with Pool related activities and should be allocated 100% to the Power Pool Bucket

FACILITIES AGREEMENT ADMINISTRATION

			FORECASTING & PRESCHEDULING					OTHER RESOURCES							
			Forecasting	Resource Optimizatin, Risk Analysis & Mgmt.	Power & Fuel Transactions	Daily, Monthly Risk Analysis & Mgmt.	Power Pool Administration	Facilities Agreement Administration	Hydro	NCPA Green Power Project	Natural Gas Information Program	Gas CT & STIG			Market Purchase Project
Name	Position	557-102-100 532-010-000	557-102-200 532-010-000	557-102-300 532-010-000	557-102-400 532-010-000	557-102-500 532-010-000	557-102-600 532-010-000	535-008-000 532-010-000	557-110-000 532-010-000	557-024-001 532-010-000	557-024-000 532-010-000	557-120-000 532-010-000	Total		
Lee, Thomas S.W.	Engineer V, Supv - Portfolio and Pool Mgmt	388	448	147	155	489	96		200	12	25	120	2,080		
Goeke, Kenneth	Engineer IV - Forecasting	754	454	36	454	182						200	2,080		
Griffith, Dana Wm	Engineer IV, Power Coordination & Planning	136	565	50			124		1,040	50	75	40	2,080		
Bonatto, Jan	Engineer I - Transmission Congestion/Market Analysis	1,238	146	33		163			250	50		200	2,080		
Imamura, Donald T.	Short Term Planner	89	346	107	663	267	108					500	2,080		
McMahan, Kevin	Lead Pre-Scheduler	17		258	1,680		125						2,080		
Worthington, Norm	Scheduler, Hydro	86		59	687			1,248					2,080		
Vacant	Student Assistant (Casual)	520	520										1,040		
Vacant	Office Assistant I (Casual)		1,040										1,040		
Vacant	Student Assistant (Casual)		1,040										1,040		
Total Hours		3,228	4,559	690	3,639	1,101	453	1,248	1,490	112	100	1,060	17,680		
Total in Person Years		1.55	2.19	0.33	1.75	0.53	0.22	0.60	0.72	0.05	0.05	0.51	8.50		

Facilities Agreement Administration

This sub program provides for the development and implementation of operational requirements associated with the Facilities Agreement, including of the development of plant operating procedures and development or modification of the technical aspects of Facilities Agreement Schedules. As such, these hours should be allocated 100% to resources. An allocation of time to the various plants is not possible. The effort will vary widely from year to year. If we were to look back at the last year, the effort would be focused on the comprehensive update to the Facilities Agreement as opposed to any one plant, with a particular focus on efforts to develop a methodology for addressing common plant costs like scheduling and dispatch.

Response to Data Request from Section 4 – Question 3

		SYSTEM CONTROL & LOAD DISPATCH				
		Dispatch & RT Resource Management	Schedule Coordination & RT Balancing	System Control & Data Acquisition	WECC/NERC Compliance & Participation	
		556-101-100	556-101-200	556-101-300	556-101-400	
Name	Position	531-010-000	531-010-000	531-010-000	531-010-000	TOTAL
Young, Fred	Chief Dispatch & Scheduling	780	750	50	500	2,080
Wilke, David	Supervisor, Dispatch Operations	1,280	600	100	100	2,080
Linkiewicz, Lana	System Dispatcher	1,940	100		40	2,080
McCartney, Patricia A.	System Dispatcher	1,940	100		40	2,080
Ramirez, Baltazar	System Dispatcher	1,940	100		40	2,080
Brush, Michael	System Dispatcher - Relief	1,020	1,020		40	2,080
Sweeney, Tina	System Dispatcher	100	1,940		40	2,080
Andrade, Lori	System Dispatcher - Relief	1,020	1,020		40	2,080
Crosby, Scott	Schedule Coordinator	100	1,940		40	2,080
Feliciano, Alberto	Schedule Coordinator	100	1,940		40	2,080
Gundersen, James	Schedule Coordinator - Relief	100	1,940		40	2,080
Hill, Peter	Schedule Coordinator	100	1,940		40	2,080
McMahan, Kimberly	Schedule Coordinator	100	1,940		40	2,080
vacant	Student Engineer (Casual) *					-
vacant	Student Engineer (Casual) *					-
Total Hours		10,520	15,330	150	1,040	27,040
Total in Person Years		5.05	7.37	0.07	0.50	13.00

The metered subsystem aggregator agreement (MSSA) takes the place of a number of CAISO agreements that would have to be signed by NCPA members, but for the execution of the MSSA. The MSSA acts as a substitute for the following CAISO required agreements

- Participating Generator Agreement (PGA)
- Participating Load Agreement (not applicable for any NCPA members yet)
- Utility Distribution Company Operating Agreement (UDC)
- Participating Transmission Owner Agreement (PTO) (not applicable to any NCPA members yet)
- Meter Service Agreement (MSA)

The MSSA specifies all points of interconnection with the CAISO controlled grid including:

- Load points for each of the ten interconnected pool members (2 each for Alameda, Lodi, Lompoc and Port, 3 each for Palo Alto and 6 for SVP)
- Load points for SVP
- Double circuit Collierville to Bellota transmission line
- Two Geysers Lakeville 230kv lines
- COTP rights

- All Generating Facilities listed in Schedule 14 of the MSSA (see file 09162209 Nexant Request – Response to Section 2 Question 2 (list of Resources and Services).xlsx for a listing of resources and id's)

Given the nature of the MSSA agreement, we are not sure we fully understand what is being asked in question number 3 of the section 4 data request. Our sense is that the MSSA would have a set of costs that are allocable to activities associated with the following categories:

- Load
- Resources
- Contracts

And as such there would be no value in coming up with an estimate of costs to manage the MSSA because it would be meaningless from a cost allocation stand point.

We'll start our analysis with the assumption that the allocations to the three categories above will be based on the budget categories contained in "Schedule Coordination", "RT Dispatch" and "Resource Management" as opposed to MSSA Management and further that costs will flow to those categories in part based on labor hours and in part based on materials, supplies and services required to support the effort in each of those categories (Load, Resources or Contracts).

Dispatch and RT Resource Management

Provides for the 24x7 monitoring of member loads, real-time dispatch of resources, current day and real-time power trading, and facilities outage coordination in accordance with the Metered Sub-System Aggregator Agreement (MSSA), CAISO, SMUD, Western, WECC and NERC operating procedures and protocols

Outage coordination is a requirement of the CAISO tariff and the MSSA. NCPA provides outage coordination services for NCPA owned projects (Geo, Hydro, CT1, CT2), member projects (Ukiah – hydro, Palo Alto – Co bug, Richmond – landfill, Santa Cruz landfill, Keller Canyon – landfill, Ox Mountain – landfill),. Approximately 112 hours of the 10,520 hours allocated to Dispatch and RT Resource Management are associated with the outage coordination function. Additionally, from a Schedule Coordination standpoint, approximately 192 hours of the 15,330 hours allocated to Schedule Coordination and RT Balancing are associated with the planned outage coordination function. These hours were arrived at by assuming that outage processing from a dispatch/schedule coordination standpoint requires 10/5 minutes per outage. To the extent outage coordination services are provided, the level of effort is broken down by resource as follows:

Resource	Number of Planned outages
Alameda CTs	33
Collierville	26
Geysers Units 1-4	27
Lodi CT	4
New Spicer Meadow	16
Richmond Landfill	3
Roseville CTs	11
Santa Cruz Landfill	45
Ukiah Hydro	1
Resource	Number of unplanned outages
Alameda CTs	15
CoBUG	2
Collierville	8
Geysers Units 1-4	9
Lodi CT	3
New Spicer Meadow	14
Richmond Landfill	19
Roseville CTs	9
Santa Cruz Landfill	47
Ukiah Hydro	18

The balance of the hours associated with Dispatch and RT Resource Management are then allocable to Load, Resource and Contract related activities. Generation is adjusted to stay within the deviation band based on unplanned variations in load, unplanned variations in generator output levels, outages on the grid that prevent contracts from being delivered, failures of counterparties to perform for any reason, instructions from the CAISO to move generator output levels for reliability reasons, instructions from the CAISO to move generator output levels in response to an accepted bid (energy or A/S) in the CAISO's markets. Our estimate of the volume of work associated with each of these categories is as follows:

1. Reacting to unplanned variations in load associated with pool member load forecasts – 3565 (6 minutes per hour or 1 minute out of every 10 minute interval) hrs
2. Reacting to unplanned variations in generation associated with NCPA owned resources - 195/166 hrs (Dispatch/SC) – 20/10 minutes per outage due to CAISO Forced Outage reporting requirements and typical hour by hour nature of a forced outage.
3. Reacting to outages on the CAISO grid that require changes to NCPA owned generation – 488/832 hrs (Dispatch/SC)
4. Reacting to failures of supply contracts executed for the sole purpose of meeting pool member load obligations – 244/832 hrs (5 hours per month for Dispatch function and 10 hours per month for Schedule Coordination due to tag changes, resupply, etc. Calculated on an annual basis)
5. Reacting to outages on the CAISO grid that require changes to member contract supply resources other than NCPA owned generation – 244/832 (same as #4) hrs

6. Reacting to CAISO instructions to move generation for reliability reasons – 49/83 hrs – Approximately 1 hour per month per function(Dispatch)
7. Reacting to CAISO instructions to move generation for accepted bids in the CAISO markets - 297 hrs – 30 seconds per hour (Dispatch)

The work identified above is summarized in the table below:

Function	Dispatch and RT Resource Management	Schedule Coordination	SCADA	WECC/NERC Compliance	Total Hours
Total Hours	10520	15330	150	1040	27040
Outage Coordination	112.6	191.7	0		304.3
Adjusting for changes in load #1	3565		0		3565
Unplanned variations in generation #2	195.4	166.3			361.7
ISO required generation changes due to grid issues #3	488.4	831.6	0		1320
Failures of supply contracts #4	244.2	831.6			1075.8
Curtailements due to failures of CAISO grid (COTP, Marble)	244.2	831.6			1075.8
ISO instructions due to reliability issues #6	48.8	83.2	0		132
ISO instructions due to accepted bids #7	297.1	0	0		297.1
Schedule Coordination (Day Ahead)	0	600	0		600
Schedule Coordination (Hour Ahead)	0	180	0		180
Schedule Coordination (Adjustments to schedules)	0	182	0		182
Schedule Coordination (schedule validation)		3650			3650
Schedule Coordination (market validation)		3650			3650
Schedule Coordination (Settlements department corrections)		608			608
Training				440	0
WECC/NERC meeting participation/Standards compliance				600	0
Meter issue/settlement resolution and SCADA management			150		0
Management and supervision	2060	1350			3410
System Monitoring	3264.3	2174			5438.3

One conclusion that can be drawn from this data is that “system monitoring” or the last line in the above table, is the capacity that is left over after all of the variable activities have been completed and is the capacity associated with having the dispatch and scheduling capability available on a 24x7 basis. We’ll call it the fire station analogy.

Schedule Coordination

Provides for the Day-Ahead and Hour-Ahead balanced scheduling of NCPA and member loads and resources with the CAISO, compliance with WECC Unscheduled Flow Mitigation procedures, transaction E-tagging, and transmission availability monitoring.

The vast majority of variable Schedule Coordination activity is associated with the development of the day ahead schedules. The secondary level of variable effort is associated with updates to the hour ahead schedules, and a third level of variable effort is associated with schedule changes that are necessary as a result of activity resulting from events described above in the Dispatch and RT Resource Management discussion.

The level of variable effort in Schedule Coordination is directly proportional to the number of schedules being prepared and the corresponding detail (complexity) that is required to be provided on each schedule. Load schedules and contract schedules are relatively simple schedules to prepare and consume relatively small amounts of labor. In contrast, generator

schedules are more complex, as bids must be submitted for energy and ancillary services in the Day Ahead markets, and subsequently updated in the Hour Ahead markets for those instances where a DA bid was not accepted or the bid or schedule was modified by the CAISO for some reason. Given this background, the approximate level of effort provided in the following categories is estimated as follows

Day Ahead Schedule Preparation associated with Load for the pool and SVP – 60 hours
Day Ahead Schedule preparation associated with exports for Roseville – 60 hours
Day Ahead Schedule preparation associated with SC trades out for TID – 60 hours
Day Ahead Schedule preparation associated with NCPA owned resources – 120 hours
Day Ahead Schedule preparation associated with member owned resources – 90 hours
Day Ahead Schedule preparation associated with NCPA owned contracts – 120 hours
Day Ahead Schedule preparation associated with member owned contracts – 90 hours
After the Fact flag corrections required for settlement purposes associated with pool and SVP contracts – 608 hours

Hour Ahead Schedule Preparation associated with Load for the pool and SVP - 0
Hour Ahead Schedule preparation associated with exports for Roseville – 30 hours
Hour Ahead Schedule preparation associated with SC trades out for TID - 0
Hour Ahead Schedule preparation associated with NCPA owned resources – 30 hours
Hour Ahead Schedule preparation associated with member owned resources – 30 hours
Hour Ahead Schedule preparation associated with NCPA owned contracts – 30 hours
Hour Ahead Schedule preparation associated with member owned contracts – 60 hours
Hour Ahead Schedule validation with CAISO scheduling system associated with pool and SVP contracts – 3650 hours
Hour Ahead market monitoring associated with pool and SVP contracts – 3650 hours

Set of adjustments described above – 182 hours

Appendix E Labor Analysis of Risk Management and Power Settlements

Response to Data Request from Section 2 – Question 1

Revised budget descriptions are below:

Energy Risk Management

Energy Risk Management (ERM) is a middle office function in energy wholesale operations. It conducts analyses on energy market risk and counterparty credit exposure and provides independent oversight on front office energy procurement transactions, ensuring compliance with NCPA adopted risk management policy and procedures. In addition, ERM also works with Power Management in designing and implementing appropriate energy procurement/hedging strategy and guidelines.

Current budget designates one person to fulfill desired job functions, with support from Power Settlement group in counterparty credit evaluation and monitoring. ERM has two segments: market risk management and counterparty credit risk management.

Market Risk Management Program Functions & Goals (ROC, IROC Meetings & Activities)

1. *Assess and manage NCPA portfolio market exposure*

Develop, update and maintain models and tools; gather and process market data; and conduct quantitative, financial and statistical analyses on:

- a. Portfolio risk exposures (cost Value at Risk) due to market price volatilities of the underlying commodities (gas and power);
- b. Mark to market position of term transactions and assess and monitor counterparty credit risk exposures;
- c. Gas and power price movements, distribution, and volatilities, support front office energy procurement activities.

2. *Conduct ROC, IROC meetings and activities*

Prepare and present risk management reports to Risk Oversight Committee, upper management and member cities. Reporting package includes:

- a. Open position for the Pool and by individual member, on peak and off peak;
- b. Portfolio exposure to market price volatility (open position Cost Value at Risk);
- c. Mark to Market position of term contracts/transactions;
- d. Counterparty credit exposure, limits, and margin call status;
- e. Market analytics and update on gas & power price trends, distribution and volatilities;
- f. Compliance review and exception (if any) reports.

3. *Monitor economy and energy market development*

- a. Research and analyze macro and sector market events and development, including global and geopolitical events and development;
- b. analyze trends and driving factors of the energy commodity market movements;

4. Update policy/procedures and ensure compliance

- a. Develop, update, and implement energy risk management policies, procedures, and communications;
- b. Ensure compliance - provide independent oversight on wholesale energy operations, review deals and RFPs, ensure compliance with NCPA adopted policy & procedures and report on exceptions.

Counterparty Credit Risk Management Program Functions & Goals (Counter-party Credit Review & Analysis)

Counterparty credit exposure changes as contract mark to market position changes resulting from energy market price volatility. NCPA energy risk management program actively manages counterparty credit exposure via timely credit evaluation & update and on-going event monitoring. The agency also subscribe Moody's KMV Credit Edge tool which provide advance alert if any counterparty credit standing deteriorates and default probability increases. Specific functions and goals under this category include:

- a. Timely evaluate counterparty credit worthiness, monitor market and credit events;
- b. Monitor counterparty credit events;
- c. Review, approve and recommend counterparty credit limits based on evaluations;
- d. Ensure proper credit support from counterparties;
- e. Negotiate and evaluate enabling (master) agreements with counterparties, ensuring compliance with NCPA credit risk management policy and regulations;
- f. Review deals and RFPs, conduct Value at Risk analysis and assess potential credit exposures by counterparties;
- g. Update and implement counterparty credit risk management policy and procedures, ensure compliance and report on exceptions.

Power Settlements Department Description

Department Goals:

The major goals of the Power Settlement department are to:

- Ensure data quality through validation and verification processes,
- Produce accurate and timely billings to members in a transparent manner;
- Perform contract administration requirements

Program Structure and Functional Responsibilities

The following three functional responsibilities describe the major settlement activities performed by the Power Settlements department in support of its major goals.

I. Billing, Balancing & Settlements

The Billing, Balancing & Settlements category is primarily composed of the following three settlement business activities: (1) Settlement Business Design and Management; (2) All Resources Bill (ARB) Administration; and, (3) Contract Administration.

1. Settlement Business Design and Management

The major responsibilities of this program provide ongoing settlement design and development of business artifacts (i.e. business process flow models, settlement procedures, state diagrams, and control activities) to achieve organizational efficiency, agility, and transparency. Responsibilities include the development of business rules, which form the basis for the development of NCPA settlement software requirements. Additionally, this function includes ongoing support for required modifications to settlements among NCPA members, as necessary, to ensure compliance with any modified agreements, new contracts, or settlement of members' bilateral contract arrangements. Work with Information Services staff to develop, test and accept software requirements pursuant to contract administration requirements.

2. All Resources Bill (ARB) Administration

The NCPA All Resources Bill (ARB) is a comprehensive, integrated monthly invoice related to the accounting and settlements for:

- jointly owned projects,
- budgeted NCPA Project debt costs,
- NCPA administrative costs;
- Western Area Power Administration CVP and Base Resource costs;
- NCPA and member Market Purchases and Sales;
- Natural Gas fuel costs;
- Pool Energy Exchange; and,
- Verified and approved CAISO amounts.

In addition, the ARB administration provides members with all necessary bill determinant detail support data and variance reports.

3. Contract Administration

This business activity provides for the support of new or modified NCPA contracts among its members, including:

- Maintain Appendix B of the Scheduling Coordinator Program Agreement (SCPA) with updated CAISO settlement charge codes,
- Monitor SCPA Balancing Account requirements,
- Maintain requirements related to terms of Pooling Agreement
- Monitor CAISO credit collateral requirements based on NCPA members' Unsecured Credit Limits and Estimated Aggregate Liability amounts.
- Perform accounting and settlements in conformance of bilateral agreements among NCPA members for energy and capacity transactions.

II. Deal Control Validation and Monitoring

As a standard control activity, NCPA's Power Settlements staff each month validates and reconciles all bilateral energy purchases and sales transactions with NCPA's counter parties at the conclusion of each month for contracted quantities, terms, and prices. In addition, Power Settlement staff accounts for the financial settlement of any energy layoffs and book-outs that may result from energy curtailments or derated transmission line capacity.

III. CAISO Data Validation and Monitoring

This business function provides two integrated business activities. The first activity ensures for the validation and verification of CAISO settlement bill determinants and settlement amounts received by the CAISO that are contained within daily CAISO settlement statements and invoices for each billing period.

Settlement verification is performed through comparison of CAISO settlement amounts and estimated NCPA amounts for each applicable settlement charge code. This validation activity further encompasses the business processes associated with the identification, research and resolution of disputed CAISO settlement amounts.

The second business activity provides for the allocation of CAISO Scheduling Coordinator charges and revenues to NCPA's Operating Entities, Energy Service Providers (ESP) and allocation to Pool Members in conformance of Appendix B of the SCPA.

Response to Data Request from Section 3 – Question 1

See response to Section 5 – Question 1: Staff can not reasonably estimate a step one allocation for the Deal Control Validation and Monitoring subprogram, and recommends consideration of only utilizing a step 2 allocation.

Response to Data Request from Section 3 – Question 2

While number of schedules seems to be an appropriate allocator for Schedule Coordination, as indicated in response to Data Request Section 1, Question 1, the Billing Balancing and Settlements subprogram is administrative in nature and relates primarily to consolidation of various data to prepare the All Resources Bill sent to every member and staff recommend this subprogram be considered a part of the separate Administrative and General cost allocation done by the Finance department.

Response to Data Request from Section 5 – Question 1

Power Settlements – Deal Control Validation and Monitoring

Updated hour summary for Settlements Division

		A & G	RISK MANAGEMENT		SETTLEMENTS			
		Administrative & General	Market Risk Management Program	Counterparty Credit Risk Management	Deal Control Validation & Monitoring	ISO Data Validation & Monitoring	Billing, Balancing & Settlements	
		920-000-000	557-042-007	557-042-008	557-045-100	557-045-200	557-045-300	
Organization	Position	XXX-010-00X	XXX-010-000	XXX-010-000	XXX-010-000	XXX-010-000	XXX-010-000	Total
Power Settlements		Hours						Hours
1	Caracristi, Bob Power Accounts Administrator	350	200	200	300	530	500	2,080
2	Odom, Doug Power Accounts Analyst	160	300	600	350	320	350	2,080
3	Godwin, Ruth Ann Accountant/Analyst I	160			420	1,000	500	2,080
4	Gracia, Sharon Accountant/Analyst I	160			710	500	710	2,080
5	Whitney, Michael Accountant/Analyst I	160			960	300	660	2,080
6	Shumaker, Miranda Accountant/Analyst III	160			640	640	640	2,080
Total Administrative Services Hours		1,150	500	800	3,380	3,290	3,360	12,480
Total in Person Years		0.55	0.24	0.38	1.63	1.58	1.62	6.00

Deal Control Validation and Monitoring

As a standard control activity prior to issuance of payment and/or invoices to counter parties, as the case may be, NCPA's Power Settlements staff each month validates and reconciles all bilateral energy purchases and sales transactions with NCPA's counter parties at the conclusion of each month for contracted quantities, terms, prices, and amounts. In addition, Power Settlement staff accounts for the financial settlement of any energy layoffs and book-outs that may result from energy curtailments or derated transmission line capacity.

Included in this function are the following additional cost components:

Staff labor is included to:

- perform multiple data queries each month based on data transactions from the NCPA database related to final schedule transactions originated in the Aces scheduling application;
- Prepare Deal Control Sheet reports that serve as a organizational control document;
- Confirm with NCPA counter parties, primarily via e-mail, of NCPA quantities and amounts by deal or account;
- Research and reconcile any differences identified between NCPA and counter party energy quantities and amounts;
- Finalize control sheet reports to accounting department for submittal of monthly payment and invoices to counter parties.
- maintain, oversee account usage, optimization, and identified enhancements to the TradeManager deal capture system

Software costs associated with Statistical Analysis Software (SAS) that is used to support query and analysis related to Deal Control Validation function;

Response:

Each portion of this sub-program relates to any power transaction that occurs during any given month. This includes all counterparty transactions settled for all NCPA and member transactions, as well as resource sales. Since the level of effort changes depending on the circumstances, staff does not recommend a step 1 allocation for this subprogram, but utilization of a step two allocation based on deal capture statistics for the prior fiscal year. This statistical allocator is recommended to be based on number of deals, weighted by number of members who participate in each deal recorded in the system that is checked out, validated and confirmed with the counterparty. As an example:

Coral	1 transaction for 6 members – each member is allocated a 1/6 point
LADWP	1 transaction for 1 member – one point
SMUD	1 transaction for 13 members 1/13 to each member.

Each “point” should be totaled by member and then percentage shares calculated from the member points over the total points for the month. The last fiscal year data should be used for the calcs.

Response to Data Request from Section 5 – Question 1

Risk Management – Counterparty Credit Risk Management program:

Updated hour summary

Estimated Labor Allocations for FYE June 30, 2011

Organization	Position	A & G	RISK MANAGEMENT		Market Purchase Program	SETTLEMENTS			Total
		Administrative & General	Market Risk Management Program	Counterparty Credit Risk Management		Deal Control Validation & Monitoring	ISO Data Validation & Monitoring	Billing, Balancing & Settlements	
		920-000-000	557-042-007	557-042-008		557-045-100	557-045-200	557-045-300	
		XXX-010-00X	XXX-010-000	XXX-010-000		XXX-010-000	XXX-010-000	XXX-010-000	
Power Settlements		Hours							Hours
1	Caracristi, Bob	Power Accounts Administrator	350	200	200	300	530	500	2,080
2	Odom, Doug	Power Accounts Analyst	160	300	600	350	320	350	2,080
3	Godwin, Ruth Ann	Accountant/Analyst I	160			420	1,000	500	2,080
4	Gracia, Sharon	Accountant/Analyst I	160			710	500	710	2,080
5	Whitney, Michael	Accountant/Analyst I	160			960	300	660	2,080
6	Shumaker, Miranda	Accountant/Analyst III	160			640	640	640	2,080
	Total Administrative Services Hours	1,150	500	800		3,380	3,290	3,360	12,480
	Total in Person Years	0.55	0.24	0.38		1.63	1.58	1.62	6.00
Energy Risk Management									
	Dai, Rui	Energy Risk Manager		1,250	570	260			2,080

Counterparty Credit Risk Management Program Functions & Goals (Counter-party Credit Review & Analysis)

Counterparty credit exposure changes as contract mark to market position changes resulting from energy market price volatility. NCPA energy risk management program actively manages counterparty credit exposure via timely credit evaluation & update and on-going event monitoring. The agency also subscribes to Moody's KMV Credit Edge tool which provides advance alert if any counterparty credit standing deteriorates and default probability increases. Specific functions and goals under this category include:

- h. Timely evaluate counterparty credit worthiness, monitor market and credit events;
- i. Monitor counterparty credit events;
- j. Review, approve and recommend counterparty credit limits based on evaluations;
- k. Ensure proper credit support from counterparties;
- l. Negotiate and evaluate enabling (master) agreements with counterparties, ensuring compliance with NCPA credit risk management policy and regulations;
- m. Review deals and RFPs, conduct Value at Risk analysis and assess potential credit exposures by counterparties; (direct charged to MPP) Need to consider BART situation.

Included in this function are the following additional cost components:

Subscription costs to Moody's KMV analysis software (net of cost sharing revenues);
 Staff labor to independently evaluate counter party credit worthiness incorporating identified industry 'best practices' methods;
 Attend one industry conference/seminar on the subject per year

Response:

Each portion of this sub-program relates to any power transaction that occurs during any given month that is in NCPA's name. This includes all counterparty transactions for all NCPA transactions, as well as resource sales. Since the level of effort is not directly related to only the pool or resources, staff does not recommend a step 1 allocation for this subprogram, but utilization of a step two allocation based on deal capture statistics for the prior fiscal year. This statistical allocator is recommended to be based on number of NCPA only deals, including sales from the plants weighted by number of members who participate in each deal recorded in the system.

As an example:

Coral	1 purchase transaction for 6 members – each member is allocated a 1/6 point
LADWP	1 sales transaction for a project – one point per project participant
SMUD	1 purchase transaction for 10 members 1/10 to each member.

Each “point” should be totaled by member and then percentage shares calculated from the member points over the total points for the month. The last fiscal year data should be used for the calcs.

Risk Management – Market Risk Management program:

Updated hour summary

Estimated Labor Allocations for FYE June 30, 2011

		A & G	RISK MANAGEMENT			SETTLEMENTS			
		Administrative & General	Market Risk Management Program	Counterparty Credit Risk Management	Market Purchase Program	Deal Control Validation & Monitoring	ISO Data Validation & Monitoring	Billing, Balancing & Settlements	
		920-000-000	557-042-007	557-042-008		557-045-100	557-045-200	557-045-300	
Organization	Position	XXX-010-00X	XXX-010-000	XXX-010-000		XXX-010-000	XXX-010-000	XXX-010-000	Total
Power Settlements		Hours							
1	Caracristi, Bob Power Accounts Administrator	350	200	200		300	530	500	2,080
2	Odom, Doug Power Accounts Analyst	160	300	600		350	320	350	2,080
3	Godwin, Ruth Ann Accountant/Analyst I	160				420	1,000	500	2,080
4	Gracia, Sharon Accountant/Analyst I	160				710	500	710	2,080
5	Whitney, Michael Accountant/Analyst I	160				960	300	660	2,080
6	Shumaker, Miranda Accountant/Analyst III	160				640	640	640	2,080
Total Administrative Services Hours		1,150	500	800		3,380	3,290	3,360	12,480
Total in Person Years		0.55	0.24	0.38		1.63	1.58	1.62	6.00
Energy Risk Management									
Dai, Rui	Energy Risk Manager		1,250	570	260				2,080

Market Risk Management Program Functions & Goals (ROC, IROC Meetings & Activities)

1. Assess and manage NCPA portfolio market exposure

Develop, update and maintain models and tools, gather and process market data, and conduct quantitative, financial and statistical analyses on:

- Portfolio risk exposures (cost Value at Risk) due to market price volatilities of the underlying commodities (gas and power);
- Mark to market position of term transactions and assess and monitor counterparty credit risk exposures;
- Gas and power price movements, distribution, and volatilities, support front office energy procurement activities.

2. Conduct ROC, IROC meetings and activities

Prepare and present risk management reports to Risk Oversight Committee, upper management and member cities. Reporting package includes:

- Open position for the Pool and by individual member, on peak and off peak;
- Portfolio exposure to market price volatility (open position Cost Value at Risk);
- Mark to Market position of term contracts/transactions;
- Counterparty credit exposure, limits, and margin call status;
- Market analytics and update on gas & power price trends, distribution and volatilities;
- Compliance review and exception (if any) reports.

3. Monitor economy and energy market development

- Research and analyze macro and sector market events and development, including global and geopolitical events and development;
- analyze trends and driving factors of the energy commodity market movements;

4. Update policy/procedures and ensure compliance

- a. Develop, update, and implement energy risk management policies, procedures, and communications;
- b. Ensure compliance - provide independent oversight on wholesale energy operations, review deals and RFPs, ensure compliance with NCPA adopted policy & procedures and report on exceptions.

Included in this function are the following additional cost components:

Attend one industry conference/seminar on the subject per year

Response:

Overall Portfolio monitoring, meetings, etc. are included in this activity as described above. This activity benefits the entire organization and it is not feasible to allocate the activity to specific members. The oversight committee is made up of pool, MPP, non-pool and others who all have a vested interest in overseeing the risks involved in a energy business and to also monitor the financial stability of partners in power projects to insure ongoing financial viability of all participants. One could argue that all of this activity is administrative in nature and should all be part of the Agency's administrative and general activity. However, an alternative view would be that absent a power pool or power procurement activity this function would not be necessary. Therefore, because the bulk of the risk exposure comes from power purchases versus sales, staff would recommend a compromise of sorts: allocate 50% to regular NCPA A & G expenses and 50% to the power pool. This assumes that a portion of the Energy Risk Manager's time is allocated to those entities that NCPA purchases power on a term basis directly, i.e. the MPP and BART. If direct allocations to these beneficiaries are not done, a methodology for allocation should be developed that fairly provides for these services.

Response to Data Request from Section 6 – Question 1

See response above in Section 5 regarding suggested allocation methodology.

Response to Data Request from Section 6 – Question 2

While the Risk Management - Counterparty Credit Risk Management program does support Resources via monitoring counterparties and only selling to creditworthy counterparties, the amounts sold to a counterparty are not directly traceable to an individual resource due to the economic stacking utilized in the scheduling process. Staff is not able to accurately recommend an allocation factor among the various resources and recommends an alternative as indicated above.

Resource Name	CAISO Resource ID	Predispatch/Scheduling Services	CAISO Scheduling Services	Dispatched by NCPA ²	CAISO Settlement	NCPA Settlement	Outage Coordination	Tagging	Contract Administration ³	Forecasting	Resource Planning	Fac Admin	Ind Restr	Preschedule
ALAMEDA GT UNIT 1	ALMEGT_1_UNIT 1	X	X	X	X	X	X	--	X	X	X	X	X	X
ALAMEDA GT UNIT 2	ALMEGT_1_UNIT 2	X	X	X	X	X	X	--	X	X	X	X	X	X
BAY ENVIRONMENTAL (NOVE POWER)	RICHMN_7_BAYENV	X	X	X	X	X	X	--	X	X	X	--	X	X
BLACK BUTTE HYDRO	BLCKBT_2_STONEY	X	X	X	X	X	--	--	--	--	--	--	--	X
COLLIERVILLE HYDRO UNIT 1 @ AGGREGATE	COLVIL_7_PL1X2	X	X	X	X	X	X	--	X	X	X	X	X	X
CONTAINER CORP. OF AMERICA	CONTAN_1_UNIT	--	X	--	X	X	--	--	--	--	--	--	--	X
COOPERATIVELY OWNED BACK UP GENERATOR	PALALT_7_COBUG	X	X	X	X	X	X	--	X	X	X	--	X	X
DON VON RAESFELD POWER PROJECT	DUANE_1_PL1X3	X	X	X	X	X	--	--	--	--	--	--	--	X
GIANERA PEAKER UNIT 1	CSCGNR_1_UNIT 1	X	X	X	X	X	--	--	--	--	--	--	--	X
GIANERA PEAKER UNIT 2	CSCGNR_1_UNIT 2	X	X	X	X	X	--	--	--	--	--	--	--	X
KELLER CANYON LANDFILL GEN FACILITY	KIRKER_7_KELCYN	X	X	X	X	X	X	--	X	X	X	--	X	X
LODI GAS TURBINE	LODI25_2_UNIT 1	X	X	X	X	X	X	--	X	X	X	X	X	X
LODI STIG UNIT	STIGCT_2_LODI	X	X	X	X	X	X	--	X	X	X	X	X	X
NCPA GEO PLANT 1 UNIT 1	NCPA_7_GP1UN1	X	X	X	X	X	X	--	X	X	X	X	X	X
NCPA GEO PLANT 1 UNIT 2	NCPA_7_GP1UN2	X	X	X	X	X	X	--	X	X	X	X	X	X
NCPA GEO PLANT 2 UNIT 3	NCPA_7_GP2UN3	X	X	X	X	X	X	--	X	X	X	X	X	X
NCPA GEO PLANT 2 UNIT 4	NCPA_7_GP2UN4	X	X	X	X	X	X	--	X	X	X	X	X	X
OX MOUNTAIN LANDFILL GENERATING PLANT	OXMTN_6_LNDFIL	X	X	X	X	X	X	--	X	X	X	--	X	X
ROSEVILLE GT UNIT 1	N/A	--	--	--	--	X	--	--	--	--	--	--	--	X
ROSEVILLE GT UNIT 2	N/A	--	--	--	--	X	--	--	--	--	--	--	--	X
SANTA CLARA CO-GEN	CSCCOG_1_UNIT 1	--	X	X	X	X	--	--	--	--	--	--	--	X
SANTA CRUZ LANDFILL GENERATING PLANT	GRNVLY_7_SCLAND	X	X	X	X	X	X	--	X	X	X	--	X	X
SPICER HYDRO UNITS 1-3 AGGREGATE	SPICER_1_UNITS	X	X	X	X	X	X	--	X	X	X	X	X	X
STONEY GORGE HYDRO AGGREGATE	ELKCRK_6_STONYG	--	X	X	X	X	--	--	--	--	--	--	--	X
UKIAH LAKE MENDOCINO HYDRO	UKIAH_7_LAKEMN	X	X	X	X	X	X	--	X	X	X	--	X	X
SCL EXCHANGE CONTRACT	N/A	X	X	--	X	X	--	X	X	X	X	--	X	X
WESTERN BASE RESOURCE	N/A	X	X	--	X	X	--	X	--	X	X	--	--	X
MEMBER & NCPA BILATERAL CONTRACTS ¹	N/A	X	X	--	X	X	--	X	X	X	X	--	--	X
BART CONTRACTS	N/A	X	--	--	--	X	--	--	--	X	X	--	--	X

Foot Note 1: Member and NCPA Bilateral Contracts require various levels of management.

- Import and Export Contracts require tagging that is performed by NCPA as Scheduling Coordinator
- Contracts, such as the High Winds Contract, require scheduling adjustments after prescheduling activities based on contract provisions
- Some Import and Export contracts are dispatched through ADS, which NCPA manages.
- Contracts can be delivered via Aggregated Pricing Node IST, Generator Specific IST or other
- Some Member contracts are managed by NCPA and some Member contracts are not managed by NCPA

Foot Note 2: Dispatched by NCPA is limited to those resources which NCPA operates directly via the Real-Time dispatch center.

- All CAISO scheduled units may be dispatch by CAISO via ADS communication, which NCPA manages and provides unit specific orders to operators
- Under certain circumstances, the direct operational control of the DUANE_1_PL1X3 unit is transferred to NCPA
- If this is intended to represent which resources receive and respond to dispatch instructions from CAISO, which are managed by NCPA, the number of units would increase

Foot Note 3: Contract Administration is limited to contracts between NCPA and the resource; does not include contracts between NCPA and Member

- For example, the landfill units are contracted directly by the Members, but NCPA schedules these facility under an agreement with the Members; therefore marked as -- rather than >

<u>Resource Name</u>	<u>CAISO Resource ID</u>	Real Time Dispatch - Pmax	Forecasting - Pmax	Resource Planning - Pmax	Fac Admin - Nameplate	Contract Administration - Nameplate	Industry Restructuring - Pmax
ALAMEDA GT UNIT 1	ALMEGT_1_UNIT 1	23.8	23.8	23.8	24.8	24.8	23.8
ALAMEDA GT UNIT 2	ALMEGT_1_UNIT 2	25.4	25.4	25.4	24.8	24.8	25.4
BAY ENVIRONMENTAL (NOVE POWER)	RICHMN_7_BAYENV	2.5	2.5	2.5	--	2.5	2.5
BLACK BUTTE HYDRO	BLCKBT_2_STONEY	6.2	--	--	--	--	--
COLLIERVILLE HYDRO UNIT 1 @ AGGREGATE	COLVIL_7_PL1X2	246.86	246.86	246.86	258.7	258.7	246.86
CONTAINER CORP. OF AMERICA	CONTAN_1_UNIT	--	--	--	--	--	--
COOPERATIVELY OWNED BACK UP GENERATOR	PALALT_7_COBUG	4.5	4.5	4.5	--	4.5	4.5
DON VON RAESFELD POWER PROJECT	DUANE_1_PL1X3	147.8	--	--	--	--	--
GIANERA PEAKER UNIT 1	CSCGNR_1_UNIT 1	24.75	--	--	--	--	--
GIANERA PEAKER UNIT 2	CSCGNR_1_UNIT 2	24.75	--	--	--	--	--
KELLER CANYON LANDFILL GEN FACILITY	KIRKER_7_KELCYN	3.56	3.56	3.56	--	3.56	3.56
LODI GAS TURBINE	LODI25_2_UNIT 1	25.3	25.3	25.3	24.8	24.8	24.8
LODI STIG UNIT	STIGCT_2_LODI	49.9	49.9	49.9	49.9	49.9	49.9
NCPA GEO PLANT 1 UNIT 1	NCPA_7_GP1UN1	38.85	38.85	38.85	55	55	38.85
NCPA GEO PLANT 1 UNIT 2	NCPA_7_GP1UN2	34	34	34	55	55	34
NCPA GEO PLANT 2 UNIT 3	NCPA_7_GP2UN3	42.42	42.42	42.42	55	55	42.42
NCPA GEO PLANT 2 UNIT 4	NCPA_7_GP2UN4	46.03	46.03	46.03	55	55	46.03
OX MOUNTAIN LANDFILL GENERATING PLANT	OXMTN_6_LNDFIL	10.62	10.62	10.62	--	13.4	10.62
ROSEVILLE GT UNIT 1	N/A	--	--	--	--	--	--
ROSEVILLE GT UNIT 2	N/A	--	--	--	--	--	--
SANTA CLARA CO-GEN	CSCCOG_1_UNIT 1	7	--	--	--	--	--
SANTA CRUZ LANDFILL GENERATING PLANT	GRNVLY_7_SCLAND	3.04	3.04	3.04	--	--	3.04
SPICER HYDRO UNITS 1-3 AGGREGATE	SPICER_1_UNITS	6	6	6	6	6	6
STONEY GORGE HYDRO AGGREGATE	ELKCRK_6_STONYG	4.9	--	--	--	--	--
UKIAH LAKE MENDOCINO HYDRO	UKIAH_7_LAKEMN	3.5	3.5	3.5	--	3.5	--
SCL EXCHANGE CONTRACT	N/A	48	48	48	--	48	--
WESTERN BASE RESOURCE	N/A	--	203.22	203.22	--	--	--
MEMBER & NCPA BILATERAL CONTRACTS ¹	N/A	--	--	--	--	--	--
BART CONTRACTS	N/A	--	--	--	--	--	--

Refer to the spreadsheet “12142009 NCPA FY09 Contract Cost Allocations.xlsx” for a complete description of the contract and deal based allocation methodologies and calculations.

Step 2 Allocators

Schedule Coordination

Schedule calculations are from the spreadsheet “CY 2009 SC-RT Schedule Counts 121609.xls”.

All SC costs are allocated based on 100% Schedules. Where counted schedules are from the NCPA database using Appendix A3 of NCPA’s Power Schedule Guide. The NCPA Power Schedule Guide contains the detailed description of how, what and when to submit schedules from the NCPA Operating Entities to the NCPA Schedule Coordinator (NCPA SC). Appendix A3 identifies the following:

- Schedule Names utilized for scheduling
- When the schedules are submitted and processed
 - DA = Day Ahead
 - HA = Hour Ahead which includes CAISO Hour Ahead Scheduling Process (HASP) schedules, and Non-CAISO schedules during the active day but prior to the active hour.
 - RT = Real-Time which includes CAISO schedules processed after the close of HASP for CAISO schedules, and during the active hour for Non-CAISO schedules.
- CAISO Schedule – Identifies if the schedule is processed with the CAISO.

DA Schedules – Each type of DA schedule identified will receive a count of one irrespective of the number of hours scheduled for the given day.

HA Schedules – HA schedules receive a count of one whenever the HA schedule for a given hour is different from the DA schedule for the corresponding hour (HA change).

RT Schedules – Any RT schedule receives a count of one for each hour of the schedule (RT change).

Total Schedule Count – This is the sum of DA, HA, and RT schedules for each entity that is scheduled by NCPA SC.

Step 2 SC Allocator

<u>Total Schedules - SC Step 2</u>							
<u>1/1/2009 - 12/13/2009</u>	<u>Pool</u>	<u>SVP</u>	<u>RSVL</u>	<u>BART</u>	<u>TDPU</u>	<u>TID</u>	<u>Total</u>
DA	18,398	11,326	3,935	2,187	534	1,384	37,764
HA	13,047	15,592	850	-	21	402	29,912
RT	5,470	9,861	2,343	-	-	56	17,730
Total	36,915	36,779	7,128	2,187	555	1,842	85,406
% of Total	43.22%	43.06%	8.35%	2.56%	0.65%	2.16%	100.00%

Note: Data is from April 1 through December 13, 2009.

Real-Time Dispatch

Two of the Real-Time function allocators are:

- Active Day Inter-tie Schedules
- Scheduled Energy

Active Day Inter-tie Schedules

	<u>ISO Schedules - RT Step 2 (Limit counts to Active Day Inter-tie schedules)</u>						
<u>4/1 - 8/31/2009</u>	<u>Pool</u>	<u>SVP</u>	<u>RSVL</u>	<u>BART</u>	<u>TDPU</u>	<u>TID</u>	<u>Total</u>
HA	177	1,271					1,448
RT	78	752					830
Total	255	2,023					2,278
% of Total	11.19%	88.81%	0.00%	0.00%	0.00%	0.00%	100.00%

Scheduled Energy Allocator

Scheduled Energy is summed for each entity that is scheduled and/or dispatched by NCPA.

Step 2 RT Allocator –Scheduled Energy

	<u>Scheduled Energy (MWh) - RT Step 2</u>						
	<u>Pool</u>	<u>SVP</u>	<u>RSVL</u>	<u>BART</u>	<u>TDPUD</u>	<u>TID</u>	<u>Total</u>
1/1/2009-12/13/2009	2,455,272	3,025,537	125,007	364,907	-	53,765	6,024,489
% of Total	40.75%	50.22%	2.07%	6.06%	0.00%	0.89%	100.00%

Settlements- CAISO Data Validation

Total CAISO schedules are the sum of DA, HA, and RT CAISO schedules, identified in Appendix A3 of the NCPA Power Schedule Guide, for each entity that is scheduled by NCPA SC with the CAISO.

Step 2 Settlements Allocator – CAISO Data Validation - CAISO Schedules

	<u>NCPA Pool</u>	<u>SVP</u>	<u>Roseville</u>	<u>TID</u>	<u>TDPUD</u>	<u>BART</u>	<u>Total</u>
No. of CAISO Schedules	11,844	10,546	1,965	1,024	0	937	26,316
% of Total Schedules	45.01%	40.07%	7.47%	3.89%	0.00%	3.56%	100.00%

Note: Data is from April 1 through August 31, 2009. This coincides with the start of MRTU to reflect changes in scheduling processes.



Commission Staff Report

COMMISSION MEETING DATE:

SUBJECT: Approval of Northern California Power Agency's Casualty Insurance Program
Renewal for March 2023 to March 2024

AGENDA CATEGORY: Consent

FROM: Monty Hanks
Assistant General
Manager/CFO

METHOD OF SELECTION:

N/A

Division: Administrative Services

If other, please describe:

Department: Risk Management

IMPACTED MEMBERS:

All Members ☒

City of Lodi ☐

City of Shasta Lake ☐

Alameda Municipal Power ☐

City of Lompoc ☐

City of Ukiah ☐

**San Francisco Bay Area
Rapid Transit** ☐

City of Palo Alto ☐

Plumas-Sierra REC ☐

City of Biggs ☐

City of Redding ☐

Port of Oakland ☐

City of Gridley ☐

City of Roseville ☐

Truckee Donner PUD ☐

City of Healdsburg ☐

City of Santa Clara ☐

Other ☐

If other, please specify

RECOMMENDATION:

Approve Resolution 23-XX authorizing the General Manager or his designee to negotiate and bind the Casualty Insurance program for the term starting March 1, 2023, and ending March 1, 2024, at a not-to-exceed premium of \$2,210,000 for the Northern California Power Agency and Lodi Energy Center.

BACKGROUND:

Alliant Insurance Services has aggressively marketed the primary liability program to ensure best-in-class pricing, terms, and conditions. Staff is happy to report that AEGIS has agreed to keep the Wild Fire Surcharge flat for the 2023 renewal at \$500,000. Ironshore, who provides \$15M of the \$75M total liability coverage, has decided to discontinue writing policies for this book of business. Alliant is currently marketing that portion of the Excess Tower but is anticipating a 40% increase in premium driven by only a few firms underwriting liability policies. While Alliant estimates an increase of 10-15% for the remaining lines of the program (resulting in a new premium of approximately \$1.8 million), staff recommends establishing a not-to-exceed of \$2.0 million to provide sufficient headroom for the General Manager to bind coverage.

Since LEC has no transmission lines and is not located in one of the CPUC's wildfire threat zones, Liability insurance is much easier and more cost-effective on a separate policy. While Alliant estimates an increase of 15% to the program (resulting in a new premium of approximately \$190,000), the LEC PPC recommends establishing a not-to-exceed of \$210,000 to provide sufficient headroom for the General Manager to bind coverage.

Excess Tower	2022 Actuals	2023 Estimates
Business Automobile (Incl. Mobile Equipment)	\$ 60,185	\$ 59,959
WC	\$ 220,365	\$ 227,043
WC Surcharges & Assessments	\$ 13,072	\$ 13,293
\$35M- AEGIS	\$ 575,000	\$ 646,875
AEGIS- WF Surcharge	\$ 500,000	\$ 500,000
AEGIS- TRIA	\$ 7,500	\$ 7,500
\$25M x \$35M- EIM	\$ 171,884	\$ 206,261
EIM- \$25M TRIA	\$ 1,928	\$ 2,000
\$15M x \$60M- TBD	\$ 75,250	\$ 127,500
TBD- \$15M TRIA	\$ 750	\$ 2,550
TOTAL:	\$ 1,625,934	\$ 1,792,981

FISCAL IMPACT:

The total cost to renew the Casualty Insurance program is estimated not-to-exceed \$2,210,000. This amount is already included in the Risk Management budget, and no budget augmentation is required.

ENVIRONMENTAL ANALYSIS:

This activity would not result in a direct or reasonably foreseeable indirect change in the physical environment and is, therefore, not a "project" for purposes of Section 21065, the California Environmental Quality Act. No environmental review is necessary.

COMMITTEE REVIEW:

Pending.

Respectfully submitted,

RANDY S. HOWARD
General Manager

Attachments:

- Resolution 23-XX

RESOLUTION 23-XXX

**RESOLUTION OF THE NORTHERN CALIFORNIA POWER AGENCY
APPROVING THE CASUALTY INSURANCE PROGRAM RENEWAL FOR MARCH 2023 TO
MARCH 2024**

(reference Staff Report #XXX:23)

WHEREAS, the Agency utilizes the insurance brokerage services of Alliant Insurance Services, Inc. to market and place the Agency's insurance programs. Each insurance policy and the related insurance market conditions are reviewed and marketed as required to qualified insurers experienced in underwriting the applicable insurance risk; and

WHEREAS, the Agency's Casualty Liability Program is comprised of Excess liability Insurance, including Wild Fire coverage, Business Automobile Insurance for the Agency's fleet, and Worker's Compensation Insurance; and

WHEREAS, underwriters have provided premium indications for the Casualty Insurance program; and

WHEREAS, to negotiate coverage of the policies, this action grants the authority to the General Manager to bind coverages with a not-to-exceed premium of \$2,210,000 for the March 2023 to March 2024 policy year; and

WHEREAS, LEC PPC reviewed and approved on February 6, 2023, and the Facilities Committee reviewed and recommended on February 1, 2023; and

WHEREAS, this activity would not result in a direct or reasonably foreseeable indirect change in the physical environment and is therefore not a "project" for purposes of Section 21065 of the California Environmental Quality Act. No environmental review is necessary; and

NOW, THEREFORE BE IT RESOLVED that the Commission of the Northern California Power Agency approves granting the authority to the General Manager to bind coverages at the proposed not-to-exceed premium of \$2,210,000 for the March 2023 to March 2024 policy year.

PASSED, ADOPTED, and APPROVED this ____ day of _____, 2023,
by the following vote on roll call:

	<u>Vote</u>	<u>Abstained</u>	<u>Absent</u>
Alameda	_____	_____	_____
San Francisco BART	_____	_____	_____
Biggs	_____	_____	_____
Gridley	_____	_____	_____
Healdsburg	_____	_____	_____
Lodi	_____	_____	_____
Lompoc	_____	_____	_____
Palo Alto	_____	_____	_____
Port of Oakland	_____	_____	_____
Redding	_____	_____	_____
Roseville	_____	_____	_____
Santa Clara	_____	_____	_____
Shasta Lake	_____	_____	_____
Truckee Donner	_____	_____	_____
Ukiah	_____	_____	_____
Plumas-Sierra	_____	_____	_____

JERRY SERVENTI
CHAIR

ATTEST: TRISHA ZIMMER
INTERIM ASSISTANT SECRETARY