COST ALLOCATION REVIEW GROUP

The NCPA Commission formed a group to review the Power Management and Administrative cost allocation methodologies. This “Review Group” is comprised of 5 volunteers representing 5 NCPA Members, and it has convened multiple meetings and explored 7 topics. This white paper presents the Review Group’s finding and recommendations on “Issue 7” which addresses how to allocate revenues produced by the expansion of Power Management services. With certain caveats, the Review Group recommends the use of the Nexant cost allocation model to allocate revenues.

Findings and Recommendations for “Issue 7” – The allocation of Power Management revenues

Issue #7: Allocating Revenue Associated with New Services

The following material is a detailed discussion of the Review Group's analyses and recommendations on the allocation of revenue from marketing Power Management services to third parties. The "Introduction" section captures this issue in brief, capturing all major concepts and recommendations. All subsequent sections, starting with "Broad Recommendations" on page 2, captures the discussion of each point in detail and offer greater insight in how the Review Group reached its recommendations.

Introduction

Successful marketing of Power Management services to new customers will create need for NCPA to allocate the associated revenues. The Review Group discussed this topic over several meetings[1] and has examined a number of ways NCPA could allocate revenues associated with new services. The Review Group ultimately recommends NCPA use the Nexant cost allocation model for this purpose, on a short-term basis. The rational for using the Nexant model is strong, including its many strengths in advancing several principles the Review Group formed to help guide its analysis and recommendations. The Review Group has developed two threshold tests it recommends to determine eligibility to receive new revenues, and the group recommends a way to address transition issues when NCPA's Membership changes. The Review Group explored several detailed cases that test its recommendations. These include applying new revenue (a) to unfunded liabilities (personnel-related costs), (b) to NCPA Administrative and General (A&G) expenses, and (c) to facilities that have non-Member participants.

The Review Group reached unanimous positions on each of the following points and provided the following recommendations:

Recommendation	Rationale, in Brief
Use the Nexant cost allocation model to allocate revenues, on a short term basis	The model maps revenues to the functions that are producing that revenue; it is objective, repeatable, auditable; there is relatively low incremental cost to implement; it uses same drivers in allocating costs and revenues
Use membership status as a threshold test, reserving revenues for Members only, with some limited exceptions, under the discretion of the NCPA Commission	It is a bright-line test, it represents a clear value proposition for existing and prospective Members, and it recognizes Members' investments that have built NCPA technology and staff development.
Use Members' pricing structure as a threshold test, reserving revenues to Members that take NCPA Power Management services under a variable-rate price structure (i.e. can change from year-to-year), or portion thereof	This concept matches revenues with the type of price-risk Members take on under Power Management service contracts. Under fixed-rate price structures, Members would be shielded from price increases. Allocating revenues toward these portions of Members' portfolios create asymmetric risk/reward and does not balance equity with Members under a variable-rate structure (i.e. can change year-to-year).

[1] The Review Group met on May 5, and on October 3, 12, and 25.

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Recommendation	Rationale, in Brief
Support use of revenues toward unfunded liabilities (personnel-related costs), provided that revenues and costs are accounted for separately and use of funds are directed by Members	Separate accounting of costs and revenues, to the Member level, best promotes an equitable allocation of both. Allowing Members to direct use of funds recognizes some may have alternative means to satisfying their share of obligations.
Support an allocation of revenues toward Agency A&G expenses (beyond what is already allocated to Power Management, provided that (a) the policy is applied broadly, and (b) the proportion allocated is representative of the time, effort and duration the A&G group expends in advancing business development	Other NCPA programs may generate revenue, and allocation processes should be applied consistently throughout the organization. The proportion and duration of revenues allocated to A&G should recognize (and be based on) effort expended by the group in business development.

The Review Group did not reach a unanimous position on how to address revenues toward NCPA Projects (i.e. assets owned and operated by NCPA, not power supply acquired through contract) that have non-Member participants. Discussions focused on the LEC, since it is a large payer of NCPA Power Management and Administrative Costs and its non-Member Participants represent about half of the Project. However, the matter affects the Geothermal facility since it has one non-Member Participant. At question is whether the portion of the facility represented by non-Members should be eligible for an allocation of revenue. The majority of the group (4 of 5) supports a full allocation of revenue to the facility, including to non-Members.

The discussion that follows describes the Review Group's broad recommendations, applications in specific cases, and conclusions.

Broad Recommendations

This section discusses three broad recommendations of the Review Group: (1) use the existing Nexant cost allocation model to allocate revenues, (2) implement two threshold tests to determine eligibility for revenue allocations, and (3) address transition issues with changes in Membership status by using lagged data for revenue allocation.

Use the Existing Nexant Cost Allocation Model to Allocate Revenues

Multiple members have expressed several concerns with the model, both in general and in the context of allocating revenues. This includes, but is not limited to, the age of the Nexant study and time in motion study that is used to translate NCPA budgeted costs into Members' allocated costs, that some Power Management activities may not be accurately captured by the Nexant model design (e.g. setup costs when adding new customers and/or resources), and the inherent challenges with allocating large fixed costs of shared resources using activity-based cost drivers.

Despite these concerns, the Review Group recommends the Nexant cost allocation model be used to allocate revenues associated with the provision of Power Management services to new customers, at least on a short term basis. This recommendation is based on the analysis of the Nexant cost allocation

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model mechanics and an analysis of cost allocation principles for revenue allocation, below. The Review Group plans to hold additional meetings to develop recommendations for long-term application.

ANALYSIS OF NEXANT COST ALLOCATION MODEL MECHANICS

The purpose of this analysis is to determine if the model's design is suitable for allocating revenue. The model was explicitly designed to allocate Power Management and Administrative costs to Members who subscribe to power management services. It was not explicitly designed to allocate costs to third parties, nor was it explicitly designed to allocate revenues.

The Nexant cost allocation model uses a multi-step process to allocate all Power Management and Administrative Services overhead costs to all Power Management service takers, specific to services provide[2]. This model first maps budgeted costs to specific service areas (e.g. schedule coordination, real-time dispatch). Costs are then allocated to members who take services in a service area, in proportion to appropriate cost allocation factors[3].

The Nexant cost allocation model currently allocates revenue from additional services implicitly, using the same logic and methodologies used to allocate budgeted costs. To date, providing additional services to members and third parties has not changed NCPA's cost levels. However, the level of service, or the activity represented by model inputs, has increased as services are expanded. The model is allocating the same amount of costs to a larger number of customers. This results in an allocation of costs to the new customer/service and a decrease in allocated costs to incumbents (i.e. existing members). The allocation of revenue is implicit within the Nexant model, since revenues materialize in the form of reduced allocation of costs. It is important to highlight that the allocation of cost and revenue are using the same logic and allocation factors. This means that revenues for a particular service are allocated to those who take the same service. Furthermore, it means revenues are allocated to this sub-group of Members in proportion to their cost allocation factors, a proxy for how much of that service area they draw upon.

For example, when Palo Alto and SVP brought new generation facilities to NCPA for scheduling services, the Nexant cost allocation model was used to determine the cost of all associated Power Management services. Each took a different level of service from NCPA for their respective facilities. SVP introduced the Tri-Dams facilities and are allocated costs for SCALD[4] (scheduling coordination and load dispatch), only. SVP was allocated costs for these resources, which decreased the allocated costs to all other Members who paid SCALD, which is nearly all of them. In a slightly different example, Palo Alto introduced solar PV facilities and are allocated costs for SCALD; Forecasting; Resource Planning, Optimization & Risk Analysis; Industry Restructuring and Regulatory Affairs; Contract Maintenance,

[2] Some costs are allocated to Members via a direct assignment.

[3] As determined by the Nexant study and as reviewed and approved by NCPA, Members, and/or the NCPA Commission

[4] SCALD includes costs associated with dispatch & real time resource management, scheduling coordination and real time portfolio balancing, system control and data acquisition, and NERC/WECC compliance.

Negotiation and Administration and Litigation Support[5]. Palo Alto's allocation of costs increased in all of these areas, which decreased costs for all other Members who took services in these same areas.

When services are expanded to third parties[6], the model will allocate revenues in this same manner. Suppose a new customer is added and it takes services under SCALD only. Its costs are based on the Nexant cost allocation model, and all Members who take services in SCALD will be allocated their share of revenues in proportion to the cost allocation factors associated with SCALD. Since Palo Alto and SVP contribute a substantial amount towards SCALD costs (nearly 60% combined), they would receive the most benefit to a new customer who subscribes to SCALD services.

This analysis examined the Nexant cost allocation model structure to assess if there were any major flaws if used to allocate revenues. The Review Group finds no major flaws. In fact, the Nexant model allocates revenue today. Thus, the Review Group finds the Nexant cost allocation model could be used to allocate revenues. To help determine if the Nexant model should be used for this purpose, the Review Group expanded upon this analysis to assess whether the Nexant model promotes any of the Review Group's cost allocation principles, which is discussed next.

ASSESSING THE NEXANT MODEL BASED ON COST ALLOCATION PRINCIPLES

The Review Group invested substantial time in developing cost allocation principles, which serve as guideposts in assessing the numerous proposals and ideas deliberated by this group. These principles represent the overarching goals and values this Review Group seeks to promote with its recommendations. In this analysis, the Review Group finds that the use of the Nexant cost allocation model promotes most of its cost allocation principles, specifically: (i) Causation, (ii) Equitable Allocation of Fixed and Variable, (iii) Transparency, (iv) Simplicity, (v) Durability, and (vi) Comparable Treatment. Each are be discussed below.

Using the Existing Model Support the Principle of "Causation"

The principle of "Causation" focuses on the underlying factors as to why costs (or revenues) are incurred and finding the most appropriate way to allocate them. New revenue manifests when a service is marketed successfully. Since the specific service is the cause of the revenue, the Review Group believes it should be allocated to those Members who also subscribe to the service. Moreover, the allocation should be made in proportion to Members' allocation of cost in that service.

To illustrate that point, we return to the previous example where SVP was allocated costs for SCALD services when it introduced the Tri-dam facilities. SVP was allocated additional costs in this area for this addition. Would it have made sense for a portion of monies paid by SVP to be allocated to "Western Representation and Advocacy" or "Pooling Committee"? This Review Group does not believe so. The revenues are associated with the services provided in a specific service area and should be allocated to the Members who subscribe to that same area. This raises a second issue: in what proportion should

[5] Provision of services is determined by the customer, members, and contracts with NCPA.

[6] NCPA has used the Nexant cost allocation model when preparing quotes for prospective customers. The proposed scope of services is modeled as if for a Member, and the results are subject to review and revision through NCPA's established approval process. The final contract rate may differ from the Nexant model output.

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revenues be allocated within a service area? The Review Group finds the best allocator is the proportion of costs paid by Members who subscribe to that service area.

The Nexant model allocates costs and revenues in the manner identified by the Review Group. It contains logic that isolates proportions of budgeted costs to specific services. Furthermore, the model contains model inputs specific to each member that can serve as a means to allocate revenue for a given service to those who also take that service. Therefore, the Review Group finds that using the existing Nexant cost allocation model to allocate revenues promotes the principle of "Causation."

Using the Existing Model Support the Principle of "Equitable Allocation of Fixed and Variable Costs"

The principle of "Equitable Allocation of Fixed and Variable Costs" acknowledges that most of the costs allocated by the Nexant cost allocation model are fixed in nature, and many of the staffing and infrastructure of Power Management are shared resources (across multiple service areas and to several service takers within a service area). Finding cost (or revenue) allocation factors can be challenging, subjective, and open for prolonged debate. NCPA and its members suffered through such a prolonged debate that eventually produced the Nexant cost allocation model.

Despite the many concerns Members have expressed with the current Nexant cost allocation model, the Review Group finds that using the existing Nexant model to allocate both costs and revenues from new services would promote the principle of "Equitable Allocation of Fixed and Variable Costs." The Review Group evaluates "equitable" as (a) consistent treatment of cost and revenue from case to case, and (b) an objective means of executing an allocation. The Nexant cost allocation model promotes both. As described above, the Nexant cost allocation model allocates both costs and revenues simultaneously each time a new service is added, whether that is for a Member or a third party. These allocations are based on defined inputs identified in the Nexant study, are reviewed by NCPA and Members, and are ultimately approved by the NCPA Commission each budget cycle and with each proposal for new service. The process follows the same general process each time new services are rendered.

Using the Existing Model Support the Principle of "Transparency"

The principle of "Transparency" addresses the ease in which one can review the allocation methods, the repeatability and predictability in the relationship between inputs vs. outcomes, and the openness of the review process when the model is updated. The Review Group believes using the existing Nexant cost allocation model to allocate revenues promotes this goal, albeit with the caveat that the model may need updating and restructuring in some areas. Despite these concerns, the model can be used to generate simulations, outcomes can be repeated, and the methodology is laid out in a spreadsheet all Members have access to.

The process under which the Nexant model is updated and implemented each year is open and collaborative. The model inputs are provided to Members each year and all parties have an opportunity to review and comment before materials are sent to the Commission for final review and approval. There are a number of examples where this review process has identified issues and led to corrections

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or changes to methodologies.

For these reasons, the Review Group finds that using the existing Nexant cost allocation model to allocate revenues supports the principle of "Transparency." Model inputs are provided to and reviewed by Members each budget cycle, its formulae are visible and available in spreadsheet form, it can be used for simulation modelling and results are repeatable.

Using the Existing Model Support the Principle of "Simplicity"

The principle of "Simplicity" addresses the Review Group's general preference to avoid cumbersome algorithms unless greater complexity adds measurable value. The Review Group discussed a number of different ways in which NCPA could allocate revenues from new service, some that are hybrids of others, and concepts that move beyond revenue allocation and into designating use of funds.

(a) Use the existing Nexant cost allocation model
(b) Equally dividing revenue to each Member (i.e. 1/n)
(c) Using other allocation metrics, such as JPA percentages (i.e. load)
(d) Peak demand for a defined time period
(e) Proportionate share of a fiscal year budget
(f) Allocating a portion of revenue broadly (e.g. 1/n) and allocating the balance of revenues using the Nexant model
(g) Reserving a portion of revenue for a designated use, such as business development or new infrastructure.

As noted above, the principle of "Simplicity" encourages the use of straight forward methods unless there is value to adding complexity. Several possible methods contemplated above are simpler than using the Nexant cost allocation model, since few would characterize the existing Nexant model as simple.

Nonetheless, the Review Group discussed the merits of using the Nexant model to allocate revenue and finds it would promote the principle of "Simplicity." First, the Nexant cost allocation model is used to allocate revenues today. Continuing to apply the model in this way adds no additional cost or effort to NCPA or Members staff. Second, the additional complexity introduced by the model, compared to the other allocation drivers listed directly above, add greater precision to the allocation of cost and revenue. Third, it is highly likely that the Nexant cost allocation model will continue to be used to allocate costs, even if a separate method is adopted to allocate revenue. Adopting an alternative method to allocate revenues would introduce a second allocation model/method to operate and maintain.

Using the Existing Model Support the Principle of "Durability"

The principle of "Durability" addresses the Review Group's general preference toward algorithms that are robust and can withstand changes in the industry, NCPA membership, etc. The Review Group does not believe using the existing Nexant cost allocation model is a long-term solution. However, it is a strong solution until Members' concerns can be addressed. The Nexant cost allocation model has proven to be the most durable cost allocation method used in NCPA's history. It is an objective means to

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allocate cost and revenues, it has proven to be sufficiently flexible and adaptable to cope with significant industry changes, it is has become an integral part of NCPA's budget approval process, and it serves as the basis for NCPA's responses to RFPs for power management services. Also, the Nexant cost allocation model currently allocates revenue for services. No changes would be required to use the Nexant model to allocate revenues. To the extent the NCPA Commission approves changes to the Nexant model as has occurred from time to time, changes could be limited to one set of allocation algorithms (i.e. same algorithms used to allocate cost and revenue), increasing durability.

Using the Existing Model Support the Principle of "Comparable Treatment"

The principle of "Comparable Treatment" addresses the Review Group's general preference for consistency. Members should be treated like other Members, generation resources should be treated like similar generation resources, etc.

The Nexant cost allocation model has been used to allocate revenues from Member services and the Review Group believes these same methodologies should be applied to revenues associated with revenues from third parties, in the short term. Members have changed their portfolios numerous times since the Nexant cost allocation model was implemented. In each case, new inputs were added according to the model structure, the Nexant study, NCPA contracts with Members, etc. In each case additional costs were allocated to the Member(s) who introduced the new workload and cost allocations were reduced for other Members who (a) participated in the same service area, and (b) were not adding new work. The Nexant cost allocation model was used to generate new revenue from Members who introduced new work to NCPA. The Review Group finds revenue from third parties should be allocated using a comparable method, or the Nexant cost allocation model, in accordance with the principle of "Comparable Treatment."

ANALYSIS OF ALTERNATIVES

In contrast to using the model, the Review Group examined a number of alternatives, listed below. The Review Group finds the existing Nexant model best promotes the group's principles.

<table>
<tr><th>Method</th><th>Strengths</th><th>Weaknesses</th></tr>
<tr><td>Existing Nexant Model (recommended)</td><td colspan="2">See above</td></tr>
<tr><td>Uniform allocation (1/n)</td><td rowspan="3">- Relatively simple and easy to implement
- Predictable, replicable</td><td rowspan="3">- Fails to meet several cost allocation principles; particularly causation, equity, transparency, and comparable treatment</td></tr>
<tr><td>JPA percentages</td></tr>
<tr><td>Peak Demand for defined time period</td></tr>
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Method	Strengths	Weaknesses
Contribution toward Budgeted Costs	- Same as above - In proportion to contribution toward cost - Stronger relationship to activity-based allocation of Nexant model	- Mapping to specific programs and activities is weaker than using the model directly - Small incremental effort to use the model for greater precision since it's already in production
Hybrid 1: - **Uniform allocation** - **Nexant Model**	- Ensures recipients receive some base amount of revenues	- Portion allocated between the two methods is subjective
Hybrid 2: - **Business development fund** - **Nexant Model**	- Recognizes the current budget and Nexant model do not address BD functions	- NCPA prefers actions such as business development come from Commission policy and actions with funding considerations held in those forums.

Threshold Tests to Determine Eligibility for Revenue Allocations

The second broad recommendation is to implement two threshold tests to determine whether an entity is eligible to receive revenue and to what extent. The first test is based on Membership status, while the second is based on the pricing structure under which the Member is receiving Power Management services (i.e. variable or fixed rate pricing structure).

MEMBERSHIP STATUS

The Review Group generally recommends the first threshold test to be based on Membership status, reserving revenues to NCPA Members. This creates a clear criterion when revenues are applied to members and non-members, it is a clear and measurable benefit to NCPA Membership when marketing to potential new Members, and it reflects the investments and commitments that today's Membership has made in forming and continuing to fund NCPA.

Types of Non-Members

The Review Group classified non-Members into 3 distinct groups based on their types of interactions with NCPA. First, there are service contracts with non-Member entities that individually subscribe to Power Management services. This includes entities like PCWA (Placer County Water Agency) and MEID (Merced Irrigation District), each of whom recently signed an agreement to take PM services on a contract basis. Second, there are non-Members who are part of a multi-party power purchase agreement that also includes NCPA Members. This is a hypothetical case since none exist in the NCPA portfolio. However, this case may materialize as Members increase purchase activity for RPS compliance. Third, there generation asset owned and operated by NCPA that include Non-Member Project Participants, which may represent an exception to this threshold test and will be addressed under "NCPA Projects with Non-Member Project Participants".

<u>Service Contracts with Non-Members</u>. The Review Group finds no reason to systematically allocate any

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portion of revenue to Non-Members that have Power Management service agreements. The relationship between NCPA and these third parties is finite. It is defined by contract and risks, benefits, compensation, and service rates are defined. These parties negotiate with NCPA for services under a defined price structure for a define period of time, and these contract terms should be adhered to for the applicable term of the contract.

Multi-Party Contracts with Members and Non-Members. The Review Group discussed the scenario where (a) NCPA Members work with non-Members to jointly purchase RPS-eligible products, and (b) NCPA wins contracts to provide Power Management services for some of these resources. The Review Group deliberated to assess how these types of resources and purchasing arrangements may affect revenue allocations. A key assumption to this analysis is that the resource is owned by a third party and the Members and Non-members purchase the output of the resource via a Power Purchase Agreement (i.e. the resource is not owned and operated by NCPA).

Under this construct, the Review Group finds no reason why the Non-member entity should systematically be allocated revenue that NCPA may produce by expanding Power Management services. Said differently, the service rates that NCPA charges to these Non-Members should not be affected by additional revenues that offset costs of the Power Management program. The Non-Members' investment in NCPA is finite and defined under the terms of the contract that facilitates scheduling services. For all intents and purposes, these Non-Members' relationship with NCPA is similar to those Non-Members that contract for Power Management services on an individual basis.

The complicating factor for this situation is the presence of NCPA Members. The Review Group finds that it may be appropriate to use these resources' model input factors in allocating revenues. Recall that this Review Group's overarching finding is to use the Nexant cost allocation model to allocate revenues. Thus, any resources added to the Nexant cost allocation model will impact the allocation of both costs and revenues. The Review Group finds that it is appropriate to use the resource's operating characteristics (i.e. Nexant model inputs) associated with the Member-controlled portions of these jointly-owned facilities to allocate revenues to NCPA Members, with one caveat. The Review Group believes that the type of pricing arrangement that the resource, Member participants, and Non-Member participants use when contracting for Power Management services should also be used to determine eligibility for revenue allocation, which is discussed

PRICING STRUCTURE FOR POWER MANAGEMENT SERVICES

The Review Group recommends that the second threshold test consider the pricing structure under which Power Management services are provided. Today, all services provided by NCPA Power Management are priced under a variable-rate structure that allows each Member's and/or Participant's allocation of cost to increase or decrease from year-to-year. Members have sought Power Management services under a fixed-price structure to avoid risk of increasing costs. The Review Group's analysis and recommendations focus on the symmetry of risk Members face under these two broad categories of pricing structure.

This discussion is intended to recognize the type of risks Members take on when contracting for Power

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Management services with NCPA. Those that take services under a variable-rate structure are exposed to increases and decreases in costs between budget years. Those that take services under a fixed rate structure are not exposed to the same fluctuations, by design. The Review Group finds that the asymmetric risks that service-takers bear under these different pricing structures should influence revenue allocation. The chief argument is that revenue is a cause our source for cost allocations to Members/Participants to decrease and should be reserved for those that take on risks of cost allocation increases. No such risk of increase exists for those under a fixed-rate structure.

This exclusion would be applied by excluding any Nexant model inputs that are associated with the fixed-rate services. For example, suppose a Member purchases output from a resource and contracts for Power Management services under a fixed-rate service agreement for that resource. Any model inputs used to include and/or create the price for that specific resource would not be used in allocating revenues using the Nexant model. The Review Group understands this creates an implementation issue for NCPA staff. To date, no such functionality exists to include or exclude certain model inputs in allocating costs or revenues. NCPA staff will explore how this concept may be implemented.

Allocation of Revenues to New Members

The third broad recommendation of the Review Group is to considered how revenue allocation may be impacted if the NCPA membership level is changed. Under current policy, it is generally understood that new Members that also take Power Management services would receive an allocation of cost and revenues like any other Member, effective upon Membership. The Review Group believes this creates a small transition issue. The current Members have provided the commitment and investments to build the capabilities that are being marketed today. The Review Group recommends that these historic investments receive some consideration when allocating revenues to Members that join NCPA from this point forward. This could be as simple as using a previous year's Nexant model run to allocate revenues. The use of historic data is intended to capture legacy investments. While imperfect, it helps to address this transition issue.

This proposal introduces other issues. Lagged data are used elsewhere in the Nexant cost allocation methods and have come under scrutiny in recent years (e.g. schedule counts and contract counts). Historic data may not reflect current or future conditions particularly in changing conditions. The transition issue identified above is by definition a "changing condition." However, absent better data, the Review Group finds this to be a suitable concept that offers a small recognition toward legacy investments.

Alternatively, the Review Group briefly discussed other means of recognizing legacy investments made by the current membership. This included concepts along the lines of buy-in fees. However, the Review Group does not believe these to be appropriate at this time. Introducing additional barriers to expanding services would not promote NCPA's current strategic objective, especially if those costs are in no way tied to the proposed services to be provided.

The Review Group also discussed how the allocation of revenue to new members would make less revenue available to the existing member base. Discussions included limited (assumed) cases where the

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allocation of revenue could result in an increase in the allocation of net costs to current members, giving the appearance of a cost increase. The Review Group does not believe these are a source of major concern that warrants specific action. One can assume that if a new Member joins (and takes Power Management services), their contribution toward Agency costs will be sufficient to offset any impact to the allocation of revenue.

Specific Application of the Review Groups Recommendations

The Review Group applied its broad recommendations to three specific cases, which follow:

1. Applying new revenues toward unfunded liabilities related to personnel costs;
2. Applying new revenues toward NCPA's Administrative & General costs, beyond what is allocated to the Power Management program; and
3. Applying new revenues to NCPA Projects that have Non-Member Participants

Unfunded Liabilities Related to Personnel Costs

On March 31, 2016, the NCPA Commission approved a formal Long Term Funding Plan for the Long-Term (NCPA) Retiree Medical Plan[7]. A component of that plan was to "consider [the use of] revenue [from new members or new services] to reduce the additional funding requirements [pending] a policy about allocation of revenue…by the Commission"[8].

The Review Group agrees it is prudent to consider using new revenues to help prevent additional costs billed to Members. The Review Group believes this concept should be refined to allow each Member to direct how it may use its allocated portion of new revenue toward their allocated obligations contemplated under the long-term funding plan. In doing so, individual Members control their exposure to increased costs associated with this set of costs.

The Review Group shared a number of concerns over concepts that would direct new revenues to offset these costs without proper Member-by-Member accounting. These concerns stem from several inconsistencies with the Cost Allocation Principles that guide Review Group analyses. These concerns can be found in this Issue 7 paper, above, in section titled, "Analysis of Cost Allocation Principles, for Revenue Allocation."

In summary, the Review Group believes an accurate accounting of both the costs and new revenues are paramount to ensure equity within the NCPA membership. To help build upon the work of the Finance Committee, this Review Group offers additional criteria for the Commission's consideration when developing a policy that determines how new revenue will be allocated. The Review Group's contributions are as follows:

1. Revenues and costs should be accounted for on a Member-by-Member basis and in ways discussed in other areas of this paper,

[7] Please see NCPA Staff Report 132:16.
[8] Ibid, at 3.

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2. Each Member be given control over its allocated share of new revenue, including the ability to direct any (or none) of its portion of new revenue to offset the Member's allocated share of obligations contemplated under the Long-Term Funding Plan.

NCPA Administrative and General Costs

In evaluating these concepts, the Review Group relied upon its principles of "Comparable Treatment" and "Causation."

Principle of Comparable Treatment. This principle was originally crafted with the Nexant model's algorithms in mind, but the Review Group finds this principle can be applied to the policy of allocating revenues. This principle is intended to create consistent actions across different situations. The policy that is being tested is: whether a portion of revenues produced by the expansion of Power Management services should be allocated to offset a broader set of A&G costs (i.e. outside of the Power Management program). The application of the Principle of Comparable Treatment is fairly straight-forward: if a portion of Power Management revenues are to be allocated outside of the Power Management program, then revenues generated by other NCPA Programs should be subject to the same treatment. Tying back to this policy test, if revenue is created by any program at NCPA, say expanded services in the Legislative & Regulatory division, then a portion of those revenues would be allocated to offset the broader A&G costs.

Principle of Causation. This principle drives the Review Group's global recommendation to rely upon the Nexant model to allocate revenues. In short, Causation drives the allocation costs and revenues based on the underlying sources of those costs and revenues. In general, NCPA's ability to expand its customer base in Power Management program activities is based on the Power Management department's capabilities and expertise (e.g. market expertise, staff capabilities, IS infrastructure, available capacity, etc.). The bulk of the staff time and expertise needed to expand Power Management's service base, including interactions with prospective clients/members is provided by Power Management staff. Therefore, it appears the allocation of revenue should flow predominately back to the Power Management program functions that provide these outreach, implementation, and operational services.

The "Causation" principle can be applied to determine if some proportion of new revenue should be allocated outside of the Power Management program. The Review Group recognizes that some of the technical capabilities and outreach efforts are provided by personnel in other divisions. What is not clear, and what is likely difficult to estimate, is the amount of time spent by other divisions and the duration of their efforts in business development.

- How much of A&G staff time and effort are used to expand Power Management services? If it is substantial, the "Causation" principle would support the notion of having some proportion of revenue allocated to A&G. Understanding the amount of time an effort other departments are spending on these efforts can help inform recommendations for the magnitude of the allocation of revenue.
- Is the effort short-term or persistent in nature? Is A&G's effort during marketing and implementation phases or does it carry over into operations (and not part of the normal

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allocation of A&G)? Understanding this relationship help form recommendations for the duration in which PM revenues are allocated broadly to A&G functions. Example, this could be X% for Y fiscal years.

Combining the Principles of Comparable Treatment and Causation. The Review Group strongly believes it is important to apply a revenue allocation policy in a consistent manner and in a manner that relates back to the cause or source of that revenue. This group generally believes (1) policies for revenue allocation ought to be applied consistently—a portion of new revenue should be allocated to broader A&G in all cases or in no cases (Comparable Treatment); and (2) revenues should be allocated within the programs that are responsible for generating the revenue (Causation). As it relates to revenues generated by the expansion of Power Management services, this Review Group does not recommend allocating any portion outside the Power Management program, unless (a) there is a demonstrated and material amount of time and effort exercised by A&G in business development, and (b) a revenue allocation policy affords comparable treatment for revenues produced by other divisions and programs.

NCPA Projects with Non-Member Project Participants

While the Review Group recommends a threshold test that is based on Membership status, the Review Group discussed two possible exceptions: Lodi Energy Center and the NCPA Geothermal Project. Both Projects have one or more Project Participants that are not Members of NCPA. The Review Group explored whether the general notion of Members having exclusive rights to revenues is appropriate for these facilities. The Review Group focused its discussions on the LEC because of its large proportionate size in both cost and potential revenue allocation[9].

The LEC is owned and operated by NCPA, it has a total of 13 Project Participants, 4 of which are not Members of NCPA, and the participation share[10] between NCPA Members and non-Members is nearly 50/50[11]. The LEC is not a traditional "NCPA Project" as defined in the Facilities Agreement. Membership status is a prerequisite in NCPA's standard contracts. Thus, the LEC was established using different governing contracts[12].

LEC GOVERNING CONTRACTS

The LEC is allocated costs using the Nexant cost allocation model using the same methodologies applied to any other resources in the NCPA scheduling portfolio. Section 7.2 of the PSA notes, "NCPA shall use the same allocation method for allocating each category of NCPA Administrative Costs[13] to the [LEC] as for other NCPA projects and programs." NCPA General Counsel was asked to review the PMOA and PSA and to opine if NCPA is contractually obligated to allocate revenue to the LEC. General Counsel has concluded that the contract language does not obligate NCPA to allocate revenues to LEC. The contract

[9] LEC contributed more than 10% of the Power Management & Administrative costs in FY 2016 and 2017. LEC would be allocated over 10% of revenues if the Nexant model is used to derive those figures.
[10] The LEC governing documents use a defined term "Generation Entitlement Share" or "GES" to assess allocation of any and all liability, costs, and benefits.
[11] NCPA Members' combined GES is 50.332% and non-Members combined GES is 49.668%.
[12] The "Project Management and Operations Agreement" or "PMOA" and the "Power Sales Agreement" or "PSA."
[13] The Section 6.1 of the PMOA refers to Section 7.2 of the PSA for the purposes of cost allocations and includes reference to Power Management costs.

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contemplates project costs extensively but does not contemplate revenues. Thus, the question of whether to allocate revenues to LEC using the Nexant cost allocation model methodologies is a policy and business matter.

ALLOCATING COSTS TO LEC

The language in the PSA exposes the LEC Participants to a variable rate structure for Power Management services and is a direct function of Power Management's total budged costs. One specific example was raised in the Review Group's discussions: How would it affect LEC's costs if NCPA increases its staffing levels in the scheduling functions in response to the expansion of Power Management services? In this case, total costs have increased in areas where the LEC receives Power Management services, so the allocation of cost to LEC would increase. This point highlights how the pricing structure applied to LEC can result in an increased allocation of cost without a commensurate increase in work performed on behalf of LEC. It should be noted that the same mechanism applies in reverse: if the Power Management costs were to decrease, the allocation of costs to LEC would also decrease, presuming the decreases occur in areas where the LEC receives services.

The same mechanics can be seen in the application of the Nexant cost allocation model today. As noted above, SVP and Palo Alto have brought additional resources to NCPA for Power Management services (among other Members). Once these resources were added to the Nexant model, all costs were reallocated. SVP and Palo Alto, respectively, would be allocated a larger share of costs because of the increased level of the various activities that drive the allocation of cost. As a result, the allocation of cost to LEC decreased in direct proportion to the relative activities that drive the allocation of costs. The same will be true if Members remove resources from NCPA's portfolio. Assuming other things constant, all remaining service takers' costs, including LEC, would increase.

LEC's non-Member Participants also pay a JPA assessment in an amount they would otherwise pay if they were NCPA Members.

THE THRESHOLD TEST OF MEMBERSHIP STATUS

The Review Group examined the LEC with its principles toward membership status in mind. To reiterate, the Review Group generally believes revenues should be reserved for NCPA Members. Membership should have its privileges. During these discussions, the Review Group tested this principle as it relates to the LEC non-Member Participants to identify what differentiates Members and non-Members with respect to the plant. NCPA Members take on substantial operational, environmental, labor, general liability, etc. risks when investing in NCPA Projects. In these respects, the non-Member LEC Participants have taken on a commensurate level of risk as NCPA Members. The governing documents have the same force and effect as NCPA Third Phase agreements on other NCPA-owned facilities. It is a significant commitment and investment in the facility and NCPA.

REVIEW GROUP FINDINGS FOR LEC

The Review Group did not arrive at a unanimous position with respect to LEC. Alameda, Plumas, SVP, and Roseville favor a position that would allocate revenues to the LEC, and subsequently to non-Member participants of LEC. Palo Alto favors a position that would allocate revenues to the Members

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that participate in LEC, but not the non-Member participants of LEC.

The main arguments in support of allocating revenues to LEC, including to non-Member Participants, are as follows:

1. LEC Participants have taken on a substantial level of risk and liability, for the life of the project, through the LEC governance contracts. The liabilities are commensurate with NCPA owned and operated facilities, including the CT1, CT2, Geothermal, and Calaveras Projects. In this sense, non-Member LEC Participants differ very little compared to Members. The level of risk exceeds that of other resources contracted for by Members through bilateral arrangements (i.e. owned and operated by third parties, purchased though a PPA).
2. LEC Participants are subject to an allocation of cost that can change from year to year. The change in cost can be independent of any service provision of activity level caused directly by LEC (e.g. increase staffing levels because of the expansion of services).
3. Current customs and practices allow LEC's allocated costs to increase or decrease when service levels are changed elsewhere in the NCPA portfolio (e.g. when Palo Alto and SVP introduced solar projects and the Tri-dams facilities, respectively).
4. The project economics of LEC were attractive, but participation levels from NCPA Members were insufficient to build to the proper scale to achieve those economics. Thus, NCPA expanded its participation base to include non-Members to increase participation levels.

The main arguments in support of limiting the allocating revenues to LEC, to Members only, are as follows:

1. Membership should have a clear benefit in order to promote the Agency. Allocation of revenues can serve that purpose.
2. NCPA General Counsel has opined that NCPA is under no contractual obligation to allocate revenue to the LEC. Also, to this Review Group's knowledge, there was no expectation that revenues would be allocated to LEC Participants at the time contracts were executed.
3. Scope creep: The same logic applied above (i.e. for allocating revenues to non-Member participants) can be applied to other NCPA Projects (i.e. Geothermal and TID) and future projects organized in similar fashion.
4. Causality: Members are ultimately responsible for directing and funding Agency activities, including building Power Management programs and developing staff capabilities. These activities are the services being marketed to non-Member agencies and any returns from the successful marketing should be returned to Members.

Summary & Conclusions

The Review Group identified the issue of revenue allocation as one of its seven areas of discussion. The group identified three broad recommendations:

1. The Nexant Cost Allocation model to be used to allocate revenues, on a short term basis.
2. Implement two threshold tests to determine eligibility for revenues and to what extent. The

tests are based on membership status and the pricing structure under which Power Management Services are provided (i.e. variable vs. fixed rate structures).

3. Address certain transition issues related to changes in Membership levels by using lagged data when allocating revenue.

The group applied its broad recommendations to three specific cases, reaching unanimous agreement on the first two issues listed below, and a 4-to-1 vote on the final issue.

4. Continue to consider the use of new revenue toward unfunded liabilities, but allowing each Member to direct its allocated share of revenue toward its allocated share of costs.
5. Consider allocating a portion of new revenues outside of the Power Management program (A&G expenses), provided that both the same allocation principle is used throughout NCPA and the amount of the allocation is representative to the amount of time and the duration of effort provided by those outside the primary NCPA program that is generating the new revenue.
6. Allocate revenues to NCPA Projects in total, including Project Participation shares represented by Non-Member Participants, with the understanding that revenues would flow to these Non-Member Participants.

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