Comments of the American Public Power Association In Response to the Department of Energy's and the Western Area Power Administration's Joint Outreach Team (JOT) Workshops

August 17, 2012

I. Introduction—APPA's Interest in Changes to the PMAs

The American Public Power Association (APPA), based in Washington, D.C., is the not-for-profit service organization for the nation's more than 2,000 community-owned electric utilities. Collectively, these utilities serve more than 46 million Americans in 49 states (all but Hawaii).

APPA was created in 1940 as a not-for-profit, non-partisan organization to advance the public policy interests of its members and their customers. Today, our members provide reliable electricity at a reasonable price consistent with the proper protection of the environment. Since two-thirds of public power utilities do not generate their own electricity and instead buy it on the wholesale market for distribution to customers, securing low-cost and reliable wholesale power is a priority for public power. Most public power utilities are owned by municipalities, with others owned by counties, public utility districts, and states. APPA members also include joint action agencies (state and regional consortia of public power utilities) and state, regional, and local associations that have purposes similar to APPA.

APPA participates on behalf of its members in a wide range of legislative and regulatory forums. It advocates for policies that:

- ensure reliable electricity service at competitive costs;
- promote effective competition in the wholesale electricity marketplace;
- protect the environment and the health and safety of electricity consumers; and
- safeguard the ability of communities to provide infrastructure services that their consumers require at a cost they can afford.

Approximately 600 of APPA's members in 33 states purchase hydropower from the four federal Power Marketing Administrations (PMAs). The PMAs market the hydropower produced at large federally-owned dams operated by the U.S. Army Corps of Engineers (Corps) and the Bureau of Reclamation (BOR). Each of these dams is part of a multi-purpose project serving many uses. Each of these public power utilities has a unique contractual arrangement with the PMA from which it receives power. Some of these utilities get all of their wholesale power needs met through a PMA, while others only get a portion – augmenting the federal hydropower with their own generation sources, which include natural gas, coal, nuclear, other hydropower facilities and non-hydro renewable sources such as wind, solar, geothermal and biomass. What they have in common is that the rates they pay for the PMA-marketed hydropower cover all of the costs of generating and transmitting that power, interest on the federal investment in the project, a proportionate share of the joint costs, and ongoing operation and maintenance. In some cases, the power customers also subsidize other purposes of the dams, such as irrigation and recreation.

For the public power utilities that purchase hydropower marketed by the PMAs, this system of repayment of the federal investment (through rates charged to electricity customers) has worked well for decades. As modifications and updates are made to federal dams, the power customers that receive the benefits of these upgrades repay the government for them. This principle, long-referred to as "beneficiary pays," is a core underpinning of the PMAs' operations. Another principle is that of "preference," which is essentially a "right of first refusal" to access PMA power that has been granted under federal law to not-for-profit utilities – public power and rural electric cooperatives – and a few other not-for-profit entities, such as military installations and publicly-owned universities. The preference principle is set out explicitly in the statutes that govern the PMAs' operations and marketing activities. This clear public policy principle is based on the concept that our nation's river systems, and many of the dams that have been built on them, are public goods and thus the benefits of these facilities must flow broadly to consumers on a cost-based, not-for-profit basis. This concept has had bipartisan support since the inception of federal hydropower in the early 1900s.

APPA members, as purchasers of significant quantities of wholesale power marketed by the PMAs, are directly impacted by changes to the federal power program. The PMAs' cost recovery, as described above, is based on a system of cost pass-throughs, whereby federal investment is repaid, plus interest, through electricity rates. As the costs to the federal government to provide these essential hydropower services increase, wholesale and retail electricity rates are raised correspondingly. APPA has consistently opposed proposed changes to the structure and mission of the PMAs that would have resulted in higher electricity rates for its members and their customers. These proposed changes have often been attempts to either privatize the PMAs, or to raise the federal wholesale rates to market-based rates, as opposed to the cost-based rate methodology under which the PMAs have operated so effectively for so long. Today, however, PMA customers face a more subtle, yet equally problematic, challenge.

II. Background

On March 16, 2012, Department of Energy (DOE) Secretary Steven Chu released a six-page memorandum outlining several proposed changes to the PMAs ("March 16 Memorandum").[1] Portions of the March 16 Memorandum contain admirable goals, at least in the abstract. But these proposals, which promise to impose unnecessary and inappropriate cost increases on federal hydropower customers, and therefore on millions of retail electricity customers, were crafted without any consultation with the very customers they would most directly affect. Customer consultation at the regional level has consistently been a core principle of PMA operations. A good example of this coordination is the Integrated System built by customers and federal agencies to deliver federal power to the Pick-Sloan region. In all PMA projects, customers have paid for improvements to the systems that provide them with hydropower for decades and will continue to do so, as required by the various PMA authorizing statutes. The lack of coordination by DOE with PMA customers, the group that will be primarily impacted, in crafting these proposed changes was therefore startling. When coupled with the secretive process by which the March 16 Memorandum was created, and the lack of specific directives, the entire effort was, and continues to be, quite troubling indeed.

Included in the changes proposed by Secretary Chu in this March 16 Memorandum were concepts such as construction of new transmission through third-party financing mechanisms and new borrowing authorities; "improvement" of the PMAs' rate designs; the institution of an energy imbalance market for the West; the creation of revolving funds for transmission improvements; and other changes described in the sections below.

These plans, as introduced, were very short on specificity. They were described by Ms. Lauren Azar, the DOE Senior Advisor working on these issues, in written testimony to the House Natural Resources Committee as "foundational goals." APPA and its PMA-customer members had hoped that more specificity would soon be forthcoming. However, the March 16 Memorandum's rollout was only the first step in a confusing and secretive process that could be described as, at best, poorly organized, and, at worst, misleading and misinformed. DOE has consistently shifted its rationale for its proposed changes to the PMAs. While DOE has used words such as "collaboration" and "transparency" to describe its

[1] Memorandum from Steven Chu, Secretary, DOE, on Power Marketing Administrations' Role, March 16, 2012, http://energy.gov/sites/prod/files/3-16-12%20Memorandum%20from%20Secretary%20Chu.pdf.

intentions for the PMA-change process, APPA believes this process has been full of changing justifications and opaque processes. For example, below is a short timeline outlining DOE's shifting public justifications for undertaking this effort:

> Initial justification – March 16, 2012: The March 16 Memorandum from Secretary Chu is released, having been crafted with no customer input. As primary justification for these proposals, Secretary Chu cites a need for greater integration of renewable resources (wind and solar power) and a need to upgrade the nation's transmission grid.
>
> Second justification – May 31, 2012: At a meeting of PMA customers in Denver, Colorado, Ms. Azar reads aloud from a May 30 blog posting by Secretary Chu. This statement cites "global competitiveness" and enhancing transmission to avoid repetition of the September 2011 blackouts in the Southwestern United States (see below) as further justification for the proposed PMA changes.[2]
>
> Third justification – July 9, 2012: In response to a letter to Secretary Chu signed by 166 Members of Congress expressing concerns about his plans for the PMAs, Secretary Chu cites blackouts that occurred as part of a "derecho" weather pattern in Washington, D.C. as further evidence of the need for an upgrade of the PMAs' transmission systems.[3]
>
> Fourth justification – July 24 – August 2, 2012 (during the regional WAPA workshops – see below): Inappropriately characterizing her conversations with the CEOs of APPA and the National Rural Electric Cooperative Association (NRECA), Ms. Azar cites her attendance (she appeared unannounced) at a meeting of electric and nuclear utility CEOs who were discussing emergency preparedness with the Secretaries of the Department of Homeland Security and the DOE as an indication that these CEOs, including APPA's and NRECA's, fully supported the objectives of the March 16 Memorandum.[4] She publicly cites her involvement in this meeting, which was organized after 18 months of effort to discuss coordinated processes in the event of a national disaster, as justification of the need for the proposed PMA changes.

In a hearing held by the House Natural Resources Committee, congressional supporters of the PMA customers (and of the PMAs themselves) sought to better understand the specific plans and rationales for the effort announced in the March 16 Memorandum. And, as mentioned above, so did 166 members of the House and Senate, as well as PMA customer representatives from public power utilities and co-ops at a meeting in Denver. These three processes— the hearing, a broadly-bipartisan letter, and direct questions from PMA customer representatives to DOE and PMA staff—did little to enhance APPA's PMA-customer members' understanding of DOE's specific plans for the PMAs. We did learn, however, that the first PMA to be overhauled would be the Western Area Power Administration (Western or WAPA).

III. WAPA Workshops

WAPA markets wholesale power to approximately 287 public power systems in Arizona, California, Colorado, Iowa, Kansas (part), Minnesota, Montana (part), North Dakota, Nebraska, New Mexico,

[2] Secretary Chu's Blog: "America's Competitiveness Depends on a 21st Century Grid," May 30, 2012, http://energy.gov/articles/america-s-competitiveness-depends-21st-century-grid.

[3] Letter from Steven Chu, Secretary of Energy, to the Honorable Paul Gosar, U.S. House of Representatives, July 9, 2012, http://www.publicpower.org/files/PDFs/SecretaryChuResponseToCongressPMA.pdf.

[4] See Letter from Mark Crisson, President and CEO, APPA, to Steven Chu, Secretary, DOE, August 9, 2012, http://www.publicpower.org/files/spdfs/APPA--%20Letter-to%20Secretary%20Chu%20--%208-9-2012.pdf.

Nevada, South Dakota, Texas (part), Utah, Wisconsin, and Wyoming. WAPA serves over 5.5 million electricity end-users in the public power communities in these states.

Six regional listening sessions/workshops were announced as part of DOE's processes for overhauling WAPA. APPA was immediately concerned when hearing of this announcement because these workshops were cast as including all PMA "stakeholders," a term Ms. Azar had described as meaning any person or group with a past, current, or future/potential interest in changes to the PMAs. For decades, PMA customers have paid for PMA operations and would bear the most direct impact of any cost increases caused by these changes. Hence, the customers regard themselves as more than mere "stakeholders" of the PMAs. DOE's lack of understanding that PMA customers are in effect the founding partners of the PMAs was apparent in its release of the March 16 Memorandum. This ignorance was further highlighted as DOE announced it would allow anyone with any interest whatsoever to attend workshops designed to discuss its vague PMA plans. Without first confirming its plans with the very PMA customers that agreed, decades ago, to enter into a partnership to create the PMAs, DOE effectively demonstrated its intention to move forward with or without PMA customer cooperation. This left the strong impression with the PMA customers that these regional meetings were more form than substance, intended as a "check the box" exercise.

In similar fashion to the (lack of) introduction of the March 16 Memorandum, DOE's webinar explaining the details for the upcoming workshops did little to inspire confidence that these meetings would be useful. In fact, it contained slides that had incorrect information about the PMAs' operations. The sign-up process for these workshops was confusing and was highlighted by changed registration dates, conflicting guidelines, and an overall lack of organization. So many questions were left unanswered that workshop attendees were forced to ask direct questions of the meeting organizers. It was only through these questions that customers learned that their contributed funds—$100,000 or more—were being used to fund the very workshops they had been given so little information about and from which they had largely been excluded from the planning. To learn this at the beginning of the three-week workshop process was a further insult to PMA customers.

The workshops and listening sessions did allow PMA customers and other stakeholders to discuss their views on several specific topics, as elaborated on below. Prior to providing detailed comments, however, APPA would first like to clarify WAPA's mission. DOE describes WAPA's historic mission as "to market and deliver reliable, renewable, cost-based hydroelectric power and related services to its customers."[5] Secretary Chu earlier stated in his May 30 blog post that "the fundamental mission of the PMAs to provide electricity at cost-based rates – equal to the cost of generation and transmission – will not change."[6]

The mission of the PMAs is not simply to provide wholesale electricity from hydropower at cost-based rates. Instead, any new actions taken by the PMAs must be in accordance with the standard established in Section 5 of the Flood Control Act of 1944,[7] which provides that sales of wholesale electric power to PMA customers are to be made "at the lowest possible rates to consumers consistent with sound business practices." The distinction between this language and the broader "cost-based rates" is critical. Without a standard specifying that rates are to be the "lowest possible," the concept of cost-based rates allows for boundless, and potentially duplicative, mandates from DOE to the PMAs that would drive up the costs

[5] DOE/Western Joint Outreach Team: Defining the Future Workshop, Pre-Read Materials, p. 2.
[6] Secretary Chu's Blog: "America's Competitiveness Depends on a 21st Century Grid," May 30, 2012, http://energy.gov/articles/america-s-competitiveness-depends-21st-century-grid.
[7] Flood Control Act of 1944, Pub. L. No. 78-534, 58 Stat. 887 (codified as amended at 16 U.S.C. §§ 460d, *et seq.*, and in scattered sections of 33 and 43 U.S.C.).

included in the rates. Therefore, any new initiative undertaken by WAPA must have an objective consistent with the obligations of WAPA to its customers, and must represent the lowest-cost means to achieve that objective.

Each of the five regional workshops featured three break-out sessions with specific Working Groups. In these comments, APPA will discuss each breakout and the topics covered in it separately.

A. Working Group No. 1: Transmission Planning and Operations

This Working Group addressed the following two topic areas of the March 16 Memorandum: "Improving PMA Existing Infrastructure" and "Improving Collaboration with Other Owners and Operators of the Grid." The comments below focus on each of these issue areas.

1. Improving PMA Infrastructure

DOE statements made at the workshops and listening sessions with regard to the WAPA transmission system imply that the transmission system is in a greater state of disrepair than other parts of the national grid. Such a portrayal has served as a distraction from any actual evaluation of transmission improvements that might in fact be needed, and raises questions about DOE's understanding of WAPA's infrastructure.

Examples of statements made by DOE on the state of the PMA infrastructure include Secretary Chu's statement in his May 30 blog, with regard to the PMAs, that "[m]ost of the transmission lines and power transformers we depend upon are decades old and in many cases nearing or exceeding their expected lifespan." The Secretary's blog post further states that "the PMAs will need *to make many of the same types of investments that other privately held electric utilities will need to make, and in some cases are already making*, if the United States is to remain economically competitive." (Emphasis added.)

There is no evidence that WAPA and other PMAs are out of step with other utilities or somehow not in compliance with federal policy regarding transmission investments. These statements ignore the large number of transmission upgrades WAPA has constructed, as detailed on its web site and in annual or quarterly reports.[8] WestConnect, a transmission planning organization which includes WAPA along with a number of public power and cooperative customers among its members, regularly releases detailed ten-year transmission plans. According to WestConnect's 2012 Ten-Year Transmission Plan, there are almost a billion dollars of upgrades and new facilities planned for WAPA's system between 2012 and 2020.[9] It is questionable whether DOE took into account in its statement these documented, planned upgrades.

As discussed in Section II above, the rationale for the Secretary's PMA directives has shifted from the integration of renewable energy to the prevention of power outages. In his July 9 response to the June 5 letter from 166 Members of Congress, Secretary Chu stated:

[8] For example, WAPA's 2011 Annual Report lists 47 transmission upgrade projects on p. 13, and p. 17 describes three Transmission Infrastructure Program (TIP) projects totaling over 1,000 miles, http://ww2.wapa.gov/sites/western/newsroom/Documents/pdf/annrep11.pdf.

[9] 2012 WestConnect Annual Ten-Year Transmission Plan, February 16, 2012, 2012 WestConnect Transmission Projects, Appendices EE – GG. The total of the estimated cost of planned projects for WAPA is $985 million. Projects labeled as in the "conceptual" stage were not included, http://www.westconnect.com/filestorage/final_2012_wc_annual_ten_year_transmission_plan_appendices_021612.pdf.

> As of July 6, 400,000 customers remained without power in sweltering heat due to the June 29, 2012 *derecho* storm that swept through the mid-Atlantic and East Coast. Blackouts not only cause significant economic losses, they are also a threat to human health, especially when they occur during extreme weather events.

The Secretary further points to the San Diego blackout as "a good example of what can happen when our Nation's electric sector is slow to respond to needed reforms."

APPA agrees that blackouts, regardless of the causes, impose an immense burden on the public, whether these originate at the bulk power level or are the result of the effects of extreme weather on local distribution systems. However, conflating the June 29, 2012 *derecho* storm outages that brought down thousands of trees and the September 2011 blackout is not helpful in enhancing either public or congressional understanding of recent power outages or the measures that can and should be taken in response. Moreover, the storm outages that took place in the Midwest and Mid-Atlantic states beginning on June 29, 2012, were *distribution system* events that took place over a wide area. WAPA and the other PMAs do not own or operate significant distribution facilities (nor is there any PMA located in those regions).

With regard to the September 2011 outages, the Federal Energy Regulatory Commission (FERC) and the North American Electric Reliability Corporation (NERC) investigation into the outage concluded that this bulk electric system outage stemmed primarily from weaknesses in two broad areas – operations planning and real-time situational awareness, which are both essential to ensure reliable system operation. FERC and NERC specifically recommended, among other items, improved data sharing and communications between neighboring balancing authorities and transmission operators, improving real-time tools to constantly monitor internal and external contingencies, better identifying and planning for external contingencies, and accounting for the impact of facilities below 100 kV on reliability.[10] Secretary Chu in his May 30 Blog post notes that DOE will be investigating "the exchange of real time data with neighbors for situational awareness and the exchange of scenarios and models for operational planning." While this is a commendable effort and should be pursued, simply restating the FERC/NERC recommendations in the blog post does not, however, mean that a broad array of DOE directives to the PMAs will improve reliability. Also, broad institutional "reforms" are not needed to respond to these events. Rather, existing system operators, particularly entities with responsibility for wide-area coordination and system operations, such as the Western Electricity Coordinating Council (WECC) Reliability Coordinator and California Independent System Operator, need to improve the execution of their responsibilities and keep local area system operators (such as WAPA) fully informed when extreme events take place.

As John DiStasio, general manager and CEO of the Sacramento Municipal Utility District, stated in *The Sacramento Bee*:[11]

> The directives in the DOE memo would lessen reliability, all in the name of efficiency. It's akin to increasing the number of airplanes that can land on a runway in a given hour in the name of efficiency, without taking into consideration unintended side effects such as a reduction in safety.

---

[10] Arizona-Southern California Outages on September 8, 2011, Causes and Recommendations, Prepared by the Staffs of the Federal Energy Regulatory Commission and the North American Electric Reliability Corporation, April 2012, http://www.nerc.com/files/AZOutage_Report_01MAY12.pdf.

[11] Viewpoints: Proposed DOE power policy ignores goals of SMUD, others, The Sacramento Bee, Sunday, Jul. 29, 2012, http://www.sacbee.com/2012/07/29/v-print/4668357/proposed-doe-power-policy-ignores.html .

Ms. Azar, Secretary Chu's Senior Advisor, added to this unrealistic portrayal of the PMA infrastructure at the workshops by repeatedly citing irrelevant statistics on the age of the wood poles on WAPA's transmission system. Ms. Azar's data is based in part on the age of the line and not the poles themselves. If a line is 50 years old, it does not mean that all of the poles are 50 years old. Poles are replaced as necessary. Moreover, there is a fundamental distinction between the economic and useful age of equipment. It would be cost-prohibitive to replace poles and equipment due to only age. What is important is how the system is performing. Like most utilities, WAPA has a program that, on a regular basis, inspects each and every pole on a given line. All poles that fail the inspection are replaced, and the reliability of the line is maintained at the high level that is expected. Also, a pole that is in a dry and hot desert region will have a longer life-span than one located where there is greater humidity that degrades a pole more quickly. This standard utility practice implemented by WAPA ensures its system remains at a high level of reliability, with just one or two temporary trips on each line per year. Such trips are typically either momentary in nature (less than one second) or quickly returned back to service (a couple of minutes). WAPA reported just 27 accountable outages on its entire system in 2011, most lasting less than 35 minutes.[12]

Not all miles of a transmission system can be new all the time. Prudent management of the system entails replacing the parts that are in the worst shape or the most overloaded, which are not necessarily the oldest. WAPA has continually replaced the equipment and wood poles that require replacement due to performance-related issues, while balancing the impacts on rates to keep the system reliable and affordable. Detailed data is available in WestConnect's Ten-Year Transmission Plan on a number of projects involving replacement of wood structures with steel 230 K monopoles.[13] This Plan was released in February 2012, one month prior to the March 16 Memorandum.

For transformers, the manufacturer plans for a 40-year life *at full load*. The life expectancy is directly related to the heavy continuous loading which causes the transformer to run at its maximum rated temperature. At that temperature, the heat eventually deteriorates the insulation, causing a failure. But most transformers idle along at far less than their full load rating and are only fully loaded during extremely high loading or during outages. Transformers that have regular oil testing and monitoring, along with other testing, have provided reliable service for decades after the 40 year "expected" life. Any formulation of new policies needs to be based on an accurate understanding of the *status quo*. The use of selected statistics to mischaracterize the current reality regarding WAPA's transmission system does not contribute positively to the debate. Rather, it raises additional concerns that the intent of DOE is to drive to predetermined policy outcomes, regardless of the facts "on the ground." This is a flawed basis for determining optimal policies to provide electric power at the lowest possible rates to consumers consistent with sound business practices, as the statute requires. Formulating policies for the PMAs based on this incorrect assessment of WAPA's infrastructure raises a significant risk of layering additional costs on WAPA's customers without any establishment of the need to incur them.

2. Improving Collaboration with Other Owners and Operators of the Grid

Secretary Chu's March 16 Memorandum directs "the PMAs to capture economies through partnering with others in planning, building, and operating the grid," including the implementation of an Energy Imbalance Market (EIM). The Secretary claims an EIM will "capture many of the potential efficiencies that remain untapped in the Western Interconnection."

Although later communications from Secretary Chu do not mention the EIM, this concept was a topic at all of the workshops, and is actively being discussed by the PUC EIM, a taskforce established by the

[12] WAPA Annual Report 2011, p. 12.
[13] See 2012 WestConnect Annual Ten-Year Transmission Plan, Appendix EE for a number of such projects.

Western Governors' Association and comprised of state public utility commissioners. In contrast to Secretary Chu's foregone conclusion that an EIM will capture untapped efficiencies, there are significant uncertainties regarding the benefits and costs of an EIM. Such uncertainties indicate the need to proceed very cautiously on this measure, and to carefully evaluate other alternative methods to integrate variable energy resources.

Thus far, the only fully completed analysis of the costs and benefits of an EIM in WECC was commissioned by the WECC staff and finalized last October. The results of this analysis presented a range of the present value of net benefits over a 10-year period, with a high of a net benefit of $941 million and a low of a *net cost* of $1.25 billion.[14] Not only was the ability of an EIM to produce net benefits not proven, but there were a number of flaws in the analysis that could have reduced the projected benefits or raised the costs. The benefit analysis, performed by Energy and Environmental Economics, Inc. (E3), found the largest category of benefits to be the reduction in the need for "flexibility reserves," which are generation resources standing by to come on line quickly when wind or solar resources drop off sharply, as often occurs. The reduction in flexibility reserves needs was assumed to result from access to a larger geographic array of renewable energy resources and a corresponding reduction in the overall variability of such resources. For example, if the wind or sunlight is low in one region of the EIM it might be greater in another area, thus reducing the total variability. But this benefit can only be fully achieved if there is adequate transmission capacity throughout the entire region, a highly unrealistic assumption. An April 2012 analysis by Argonne National Laboratory noted that the presence of transmission congestion could negate this benefit.[15] Hence, the cost of the transmission facilities needed to reduce/eliminate such congestion would have to be assessed and included in the cost/benefit analysis.

The other source of benefits estimated by E3 was the savings resulting from the dispatch of lower cost generation pursuant to a centralized dispatch of all resources to meet energy imbalances. But this would result from an increase in power supplied by lower-cost coal generation and a decrease in power supplies produced using natural gas, an unlikely scenario given the pending retirements of coal plants. (Such an increase might also raise concerns among environmental advocates and could possibly violate some state laws requiring renewable portfolio standards.) Moreover, this production cost benefit assumed that if lower cost resources were used, these owners would submit bids based on their costs, thus passing through the savings to consumers. APPA's experience is that in centrally-operated, bid-based electricity markets, prices almost always exceed costs, and it cannot be assumed that suppliers will in fact bid their marginal costs. Argonne's review found that the analysis incorrectly assumed a "perfect" market and ignored the likelihood that there would be insufficient market competition to keep prices in check, especially in regions where there is transmission congestion.[16] The E3 study did not attempt to calculate the prices that would be produced by an EIM and paid for ultimately by consumers. Given these flaws, the implicit assumption in the March 16 Memorandum that an EIM would reap benefits for the West cannot in fact be assumed.

The measurement of the costs of an EIM, also commissioned by WECC and performed by Utilicast, LLC, was limited to the infrastructure (*i.e.*, software, hardware, facilities, and equipment), rent, supplies, travel, and staff costs incurred by the market operator and market participants, which include local utilities,

---

[14] White Paper, WECC Efficient Dispatch Toolkit Cost-Benefit Analysis (Revised), WECC Staff, October 2011, Table 4, http://www.wecc.biz/committees/EDT/Documents/EDT%20Cost%20Benefit%20Analysis%20Report%20-%20REVISED.pdf.

[15] Review of the WECC EDT Phase 2 EIM Benefits Analysis and Results Report, by T.D. Veselka, L.A. Poch, and A. Botterud Decision and Information Sciences Division, Argonne National Laboratory, April 2012, p. 49, http://www.ipd.anl.gov/anlpubs/2012/04/73032.pdf.

[16] Ibid, p. 73.

balancing authorities, generation owners and transmission providers.[17] These costs, however, ignore the likelihood for an EIM eventually to evolve into a full Regional Transmission Organization (RTO). The complexities of the constantly changing market rules, lengthy stakeholder meetings, FERC proceedings, and settlement talks that are an inevitable part of an RTO would produce much greater infrastructure, labor and time costs than estimated by Utilicast.[18] Consumers would also bear the additional cost of potential price increases from an EIM or eventual RTO. An APPA analysis of retail price data provided by DOE's Energy Information Administration found that in 2011 deregulated states located within RTOs had average retail electric rates that exceeded that of the remaining states by 42 percent.[19]

Under the auspices of the PUC EIM, DOE's National Renewable Energy Laboratory (NREL) released two iterations of a revised benefits analysis; a preliminary estimate of the benefits, followed by a refined version of the preliminary estimate that allocated the benefits to individual balancing authorities (BAs).[20] The methodology used by NREL contains the same flaws as the E3 study described above, and produced an annual benefit of $148 million, not much greater than the E3 estimate of $141 million. NREL therefore created an entirely new "alternative" baseline case that assumes BAs dispatch generation on an hourly basis, which NREL acknowledged may not be realistic by 2020, the year of the analysis. This alternative baseline produced a dramatically higher estimated benefit of $1.47 billion. The confusing methodology used by NREL in its studies has thus far generated over 130 questions submitted to the PUC EIM, and six hours of webinar time, simply to explain what NREL in fact did, and what assumptions it made in doing so. On August 17, the date of the filing of these comments, the PUC EIM announced that NREL "had discovered a problem with the transmission assumptions used in the EIM analysis. Simply put, there are more lines in service in the model than should be."[21] Such an error would likely inflate the estimated benefits of an EIM by overstating the amount of transmission available to deliver the power centrally dispatched under the EIM.

There are several reasons why the assumption of hourly dispatch in the alternative baseline case is a fundamental flaw in the alternative baseline benefits estimate. First, WAPA implemented intra-hourly scheduling in July 2011.[22] Second, on June 22, 2012, FERC issued Order No. 764 on the Integration of Variable Energy Resources, in which the Commission required public utility transmission providers to offer intra-hourly transmission scheduling.[23] Fundamentally, the large benefits differential between the 10-minute and hourly dispatch scenarios demonstrates that the bulk of the benefits of an EIM can be obtained from implementation of intra-hourly scheduling and dispatch at less cost and risk than full EIM implementation. As FERC stated in Order No. 764, Paragraph 98:

[17] Op cit., WECC Staff, October 2011.

[18] *See* An Economist's Viewpoint: What Should be Included in a Comparative Analysis of Costs and Benefits of an EIM, WECC Board of Directors Meeting, March 15, 2012, Kenneth Rose, Ph.D., Independent Consultant, http://www.wecc.biz/committees/BOD/03142012/Lists/Presentations/1/2012%20March%20Tech%20Session%20Dr.%20Rose.pdf.

[19] Retail Electric Rates in Deregulated and Regulated States: 2011 Update, April 2012, http://publicpower.org/files/PDFs/RKW_Final_-_2011_update.pdf.

[20] NREL/PLEXOS Analysis of the Proposed EIM in the Western Interconnection: Results, May 10, 2012, http://www.westgov.org/PUCeim/webinars/05-10-12/EIMresults.pdf; NREL/PLEXOS Analysis of the Proposed EIM in the Western Interconnection: Individual BA Results, July 24, 2012, http://www.westgov.org/PUCeim/webinars/07-24-12/EIMallocation.pdf.

[21] E-mail from Victoria Ravenscroft, Western Interstate Energy Board, to the PUC EIM distribution list, August 17, 2012.

[22] "WAPA implements intra-hourly transmission scheduling," http://blog.wapa.gov/wordpress/?p=485.

[23] Final Rule, Integration of Variable Energy Resources, Docket No. RM10-11-000, Order No. 764, Federal Energy Regulatory Commission, 139 FERC ¶ 61,246 (June 22, 2012).

> The Commission appreciates that implementation of other reforms, such as intra-hour imbalance settlement, an intra-hour transmission product, increasing the frequency of resource commitment through sub-hourly dispatch, or the formation of intra-hour imbalance markets, could yield additional benefits for public utility transmission providers and their customers. *However, these additional reforms can have significant costs. The Commission's review of the record in this proceeding suggests that a more measured approach is appropriate to take at this time*. (Emphasis added.)

In addition to the above shortcomings, total estimated benefits using the alternative baseline include $670 million that are allocated to non-participants in EIM (almost half of the total benefits), including the California investor-owned utilities, the Alberta Electric System Operator and the Mexican state-owned electric utility (Comisión Federal de Electricidad).

In the midst of the attention given to the conflicting and dubious benefits estimates, little attention has been paid to the costs. The only data collected by the PUC EIM on costs consists of the incremental market operator costs that would be incurred if one of two existing RTOs, the Southwest Power Pool or the California ISO, were to operate the EIM.[24] These estimates ignore individual utility infrastructure and labor costs, not to mention the additional eventual likely cost of moving to a full RTO. APPA is greatly concerned that these underestimated costs will be paired with the overestimated benefits to justify implementation of an EIM.

Although APPA agrees that FERC is unlikely to unilaterally impose an RTO on the West, the history of existing RTOs reveals a step-by-step gradual, evolution into more complex and problematic markets, rather than a "grand design" from the outset. For example, locational prices imply congestion costs, which can lead to some form of financial transmission rights. Financial entities will likely propose that they be permitted to participate in any market through virtual bidding, to increase "liquidity." Generators may complain about "missing money" and propose a forward capacity market. Such proposals for new markets are frequently approved by FERC. In recent years, FERC has even overturned carefully negotiated settlements regarding the rules applicable to such markets, to the detriment of load-side interests and consumers (*i.e.*, the exemption for load-serving entities wishing to self-supply their own resources from the Minimum Offer Price Rule that was an integral part of negotiated settlements in the PJM and ISO New England capacity markets[25]).

In response to the concern that an EIM will evolve into an RTO, a paper prepared by Wright & Talisman, PC for the Western Systems Power Pool (WSPP) proposes possible measures to guard against an unwanted RTO or RTO-like markets or characteristics.[26] Although APPA greatly appreciates Wright & Talisman's efforts in this area, APPA remains concerned that an EIM will move forward based on an overreliance on such illusory safeguards. Two measures are proposed in the WSPP Paper. First, the paper proposes that the structure of the EIM would assure that the Market Administrator would not assume control of any entity's transmission facilities, meaning that the EIM would not meet the definition of an RTO; it would, however, be administering a wholesale power market, which would presumably be subject to FERC's jurisdiction over sales for resale of electric power in interstate commerce. Second, the

---

[24] EIM Estimate for Western Interconnection, Southwest Power Pool, March 30, 2012, http://www.westgov.org/PUCeim/documents/fnl-SPPEIMce.pdf; CAISO Response to Request from PUC-EIM Task Force , March 29, 2012; http://www.westgov.org/PUCeim/documents/CAISOcewa.pdf.

[25] For a more detailed discussion, see *RTO Capacity Markets and Their Impacts on Consumers and Public Power*, APPA Fact Sheet, February 2012, http://www.publicpower.org/files/PDFs/RTOCapacityFactsFeb2012FS.pdf.

[26] *Corporate Structure and Governance of Western Energy Imbalance Market*, March 2012, prepared by Wright & Talisman, PC for WSPP, http://www.westgov.org/PUCeim/documents/03-28-12EIMgvnc.pdf.

membership agreement would include a provision protecting against "mission creep" and the evolution of an EIM. This second tier safeguard is crucial, but unlikely to hold up.

The Wright & Talisman paper offers only the following description of this secondary safeguard:

> It is feasible to address this matter in the Members Agreement, either by including restrictive provisions or by establishing voting levels to allow mission expansion. If participants favor restrictions, such restrictions could be at the heart of providing assurance that the EIM will be only an EIM, until and unless there is broad consensus for change. Until and unless such expansion of the organizational role is approved, the scope and services of the EIM in Western markets would remain unchanged.

This language is hardly an assurance that the region would be adequately protected from the development of an RTO. First, there would need to be an agreement among all of the prospective members to include such language in the Members Agreement upon formation of an EIM, hardly a certainty. Second, the paper acknowledges that there could be an undefined "broad consensus for change." How would such a consensus be defined? Would consumer-owned load-serving entities have adequate representation in the decision-making? Would the consumer and load-side interests have sufficient staff and other resources to participate in the lengthy proceedings leading up to the determination of such a consensus? The past experience of APPA and its members in RTO regions, as well as other load-side interests, is that what happens in one RTO does not stay in that RTO; rather, "innovations" jump from one to another. Moreover the lop-sided resources that generators and their allies bring to RTO stakeholder processes mean that consumers and those who serve them often are steam-rolled, and they bear the consequences in the form of increased rates and decreased supply options. Hence, while the measures set out in the WSPP Paper are no doubt well-intentioned, they should not be "taken to the bank."

There are also factors specific to WAPA that may impede the development of an EIM, and that are not being explored by DOE or the PUC EIM. First, transmission constraints and the absence of adequate interconnections with some regions, such as WAPA's Sierra Nevada region, may limit the ability to dispatch resources across the region. Second, there are statutory and other constraints on the availability of hydropower for dispatch under an EIM. Water delivery and maintaining water quality have priority over the generation of electricity from hydropower, and electricity from the hydropower must then be made available first to preference customers. Moreover, the BOR role is critical, as it operates and maintains the hydropower projects, and it, therefore must agree to the participation of these facilities in an EIM. To APPA's knowledge, DOE has not reached out to the BOR (or to the Corps) to ascertain their views about participation by hydropower in an EIM, and possible issues that could arise, such as the impact of ramping on hydropower equipment.

Finally, one of the difficulties with implementing any type of centralized market as a means to integrate increasing amounts of variable energy resources is the potential for distortion of pricing. In centrally dispatched markets, wind generators will often submit negative price offers as a means to ensure dispatch and hence their receipt of the production tax credit. Such offers cause price distortions and can raise difficult operational issues, as the Bonneville Power Administration has already found.

B. Working Group No. 2: Design of Transmission Services

1. Integration of Variable Energy Resources

It should first be noted that the development of wind and solar power is not part of WAPA's historical mission. Nevertheless, WAPA has made substantial efforts to integrate renewable energy. As discussed previously, WAPA has implemented intra-hourly scheduling. WAPA and a number of balancing authorities in the region are also developing and implementing: (1) the Intra-Hour Transaction Accelerator Platform to facilitate intra-hourly transactions; (2) "Dynamic Scheduling Systems" to allow participants to trade capacity and energy on a dynamic basis; (3) ACE Diversity Interchange and Balancing Authority Reliability-based Controls to reduce the system control burden associated with maintaining the balance between load and generation; (4) greater use of balancing reserves to back-up variable resources; and (5) improved forecasting of wind and solar availability. Many of these projects are being implemented by the Joint Initiative, formed in 2008 by the Northern Tier Transmission Group, ColumbiaGrid and WestConnect to pursue projects that would: "1) benefit from the groups' broad reach of expertise and geography, and 2) provide opportunities for extracting more efficiency and capacity out of the existing electric system."[27]

WAPA's customers are taking significant steps to expand their use of electricity generated from renewable sources. In 2011, WAPA customers provided 13.8 million megawatt-hours of renewable power, almost one million megawatt-hours more than in 2010.[28] These efforts appear not to be acknowledged by Secretary Chu or Ms. Azar, outside of the following statement made by the Secretary in a footnote to his Memorandum: "I recognize that, in some cases, one or more of the PMAs may already be accomplishing the directive." No further details are included with this vague acknowledgement.

2. Energy Efficiency and Demand Response

Secretary Chu's March 16 Memorandum directs the PMAs to create rate structures that incentivize programs for energy efficiency and demand response, the integration of variable resources, and preparation for electric vehicle deployment.[29]

APPA is concerned that these "incentives" and any restructuring of the PMA rates to incorporate them will artificially and inappropriately raise the cost of providing federal hydropower to preference customers, resulting in wholesale and retail rate increases. This proposal could well mean that PMA customers would be subsidizing wind development and energy efficiency and demand response programs, whether or not they receive any benefits from these programs.

Furthermore, energy efficiency, demand response, and electric vehicle integration are primarily retail issues, not wholesale issues. The PMAs provide power at wholesale, while retail decisions are made at the local and state levels. Secretary Chu's proposal would thus substantially encroach on the jurisdiction of state and local decision-making bodies, including public utility districts, municipalities, and cooperative boards of directors. Moreover, there is no evidence that such encroachment is warranted given the increasing levels of customer activities in this area. As with renewable energy, WAPA's annual report provides summary data on the achievements of its customers in the area of demand-side management, which includes both energy efficiency and load-management. In 2011, WAPA customers reported a savings of 2.7 million megawatt-hours from demand-side management, an increase of one million megawatt-hours from 2010.[30]

[27] Additional information and materials are available at http://www.columbiagrid.org/ji-nttg-wc-overview.cfm.

[28] WAPA Annual Report 2011, FY 2011 Customer IRP Accomplishments, p. 25 reports 13,807,885,203 kilowatt-hours of renewable energy generation; WAPA Annual Report 2010, FY 2010 Customer IRP Accomplishments, p. 25 reports 12,848,176,826 kilowatt-hours, http://ww2.wapa.gov/sites/western/newsroom/Documents/annrep10.pdf.

[29] *See* Section 2, p.4 of the March 16 Memorandum.

[30] WAPA Annual Report 2011, FY 2011 Customer IRP Accomplishments, p. 25 reports 2,666,158,891 kilowatt-hours saved; WAPA Annual Report 2010, FY 2010 Customer IRP Accomplishments, p. 25 reports 1,670,722,325 kilowatt-hours saved.

C. Working Group No. 3: Transmission Authorities

Section 1222 of Energy Policy Act of 2005 (EPAct05) authorizes WAPA and the Southwestern Power Administration (SWPA), and the Transmission Infrastructure Program (TIP) created in the 2009 American Reinvestment and Recovery Act (ARRA) authorizes WAPA, to partner with non-customer groups to develop transmission on their systems.

The Section 1222 authority has rarely been used (although WAPA and SWPA are currently evaluating applications for its use). However, initial experiences with these applications reveal that even the administration of Section 1222 can impose significant burdens on the PMAs. For example, APPA understands that the processing of the Clean Line application by SWPA has consumed a significant portion of budget and staff time, which must come out of SWPA's own budget. This diversion of staff time and resources has greatly constrained SWPA staff's availability to review proposals for new power contracts, leading SWPA staff to simply renew preference customers' existing contracts coming up for renewal for one-year time frames. Finally, there appear to be conflicting interpretations as to whether the 2015 sunset provision applies merely to the cap on funding or applies more broadly to the ability to take contributed funds or to the program itself. APPA's position is that Congress intended the sunset of the cap at the end of 2015 to require DOE to obtain congressional approval before accepting any third-party funds contributed after that date.

There are also reasons for concern with the TIP, the implementation of which was criticized in a DOE Inspector General report released in November 2011.[31] That report cited instances of mismanagement and inefficiency within the program, including a lack of timely, integrated cost and schedule information that would allow WAPA to adequately monitor progress of the first project funded (the Montana Alberta Tie Line) and the absence of a risk-based management reserve to fund unanticipated cost overruns.

Despite both the explicit flexibility in Section 1222 for the relevant PMAs to exercise discretion regarding the use of this authority and the problems identified with the TIP program, Secretary Chu apparently seeks to mandate the use of these programs by administrative fiat. EPAct05 and the ARRA authorized, but did not mandate, third-party financing mechanisms, clearly allowing the PMAs, in collaboration with their customers, to balance the interests of the statutory preference customers with other interests in developing third-party financing proposals. In a new centralized mandatory regime directed from DOE headquarters, however, PMA customers could potentially be required to take on the costs of system-wide transmission upgrades not needed to serve them. Any benefit they would receive from these improvements would certainly not be commensurate with the costs they would be forced to pay. This would be a blatant violation of the "beneficiary pays" principle, which has consistently governed enhancements to PMA operations.

IV. PMA Customers Expect and Deserve Transparency Throughout This Process

As noted above, the development and release of the March 16 Memorandum and the subsequent workshops and listening sessions have not allayed the concerns of APPA and the PMA customers. Given the course of the proceedings up until now, we find it hard to believe that DOE is genuinely seeking customer input, or that it does not have a predetermined policy agenda it wishes to pursue, regardless of the views of the customers or the actual facts on the ground. To change this dynamic, APPA urges DOE to be transparent throughout the remainder of this process. To that end, the public should be provided and

[31] Management Alert: Western Area Power Administration's Control and Administration of American Recovery and Reinvestment Act Borrowing Authority, U.S. Department of Energy, Office of Inspector General, Office of Audits and Inspections, November 2011, http://energy.gov/sites/prod/files/OAS-RA-12-01.pdf.

allowed to comment on both the draft and final versions of the recommendations of DOE and WAPA staff to the Secretary. DOE's failure to grant this request would not be in keeping with the Obama Administration's commitment to work towards new levels of openness and transparency in government.

In the pre-read materials,[32] DOE stated that, at the conclusion of the WAPA workshops, it would use the feedback received when developing draft recommendations to Secretary Chu regarding the application of the March 16 Memorandum to WAPA. DOE states further that, "[a]fter developing draft recommendations, the JOT will again seek stakeholder input on the draft recommendations before finalizing and submitting its recommendations to Secretary Chu sometime in the fall."[33] DOE has made clear in the pre-read materials that it will make public its staff's draft recommendations for comment. At the final workshop in Sioux Falls, DOE staff said that customers would have "between two and four weeks" after publication in the Federal Register to comment on the draft recommendations. APPA believes that a comment period of 60 days is the minimum that due process would require, given the significant number of hours the customers devoted to the listening sessions and workshops, and the extensive record.

DOE staff has not, however, made clear in the pre-read materials or in communications with WAPA workshop attendees (including in an exchange with an APPA staff representative in attendance at the Sioux Falls workshop) that it will make public the final recommendations submitted to Secretary Chu. Asking the PMA customers and others to participate in this time-consuming and resource-intensive process and then not sharing the final recommendations publicly would represent a grave disregard for those who took the time to participate, and would further bolster the view that the entire series of meetings and comment process were mere "check the box" exercises. If these final recommendations are expected to be the precursor to any proposed changes to WAPA's operations or rates, DOE staff should make public the final recommendations submitted to Secretary Chu.

Finally, any recommendations from DOE staff to Secretary Chu, in and of themselves, cannot result in any changes to WAPA's operations or rates. WAPA and DOE must operate within the statutes applicable to the PMAs. DOE cannot propose to make any changes affecting the operations of the PMAs without complying with the relevant legal and rulemaking processes, including those required by the DOE Reorganization Act[34] and the Administrative Procedure Act.[35] Depending on the actual recommendations, congressional action may well be required.

V. Conclusion and Recommendations

The PMAs are an ideal example of a successful public/private partnership. They were created in coordination with the customers they still serve today, which in turn repay the federal investment in these projects. They are subject to many congressional authorities and must help their customers meet many obligations, all while keeping costs at the "lowest possible" level. For decades, WAPA has been successfully accomplishing its congressionally-set mission of providing wholesale electric power to PMA customers "at the lowest possible rates to consumers consistent with sound business practices."[36] It

[32] *DOE/Western Joint Outreach Team: Defining the Future Workshop pre-read Materials*, (*available at* http://ww2.wapa.gov/sites/western/about/Documents/Defining%20the%20future/Public%20Meeting%20PreRead.pdf) (July 10, 2012) ("pre-read materials").
[33] Pre-read materials at 4.
[34] Department of Energy Organization Act, 42 U.S.C. §§ 7101, *et seq*.
[35] Administrative Procedure Act, 5 U.S.C. §§ 551, *et seq*.
[36] Flood Control Act of 1944, Pub. L. No. 78-534, 58 Stat. 887 (codified as amended at 16 U.S.C. §§ 460d, *et seq.*, and in scattered sections of 33 and 43 U.S.C.).

continues to do so today. Rather than demonstrating a problematic performance record, WAPA is an example of a government project successfully accomplishing its statutory requirements. Instead of targeting a specific and necessary fix, DOE's proposals for WAPA and the other PMAs are simply solutions in search of problems. And, instead coordinating with PMA customers to improve PMA operations within the congressionally mandated framework outlined above, DOE seeks to institute a new regime for WAPA, and all PMAs, outside the scope of their original purposes altogether.

Some broad goals laid out in the March 16 Memorandum for the PMAs, from modernizing and increasing the efficiency of the grid to integrating renewable power to preventing future blackouts in all regions of the country, are admirable. This process by which they have been announced and initiated, however, has been characterized by DOE's apparent unwillingness even to acknowledge, much less evaluate and incorporate, the accomplishments of WAPA and other PMAs in these areas. Similarly, DOE seems to have paid little more than lip service to the PMAs' statutory obligations to their customers, and the costs and need for these directives.

APPA therefore recommends that the DOE step back and start this process anew. First, DOE should examine, in conjunction with WAPA and its customers, where needs exists within the WAPA system. Then, it should allow WAPA to work with its customers to articulate clear goals and plans to address these needs. These steps should build upon WAPA's ongoing activities, without saddling WAPA customers with excess costs. This process should be led by WAPA and engage the primary "stakeholders"— PMA customers. Only through steps such as these can DOE hope to foster meaningful change in this area.