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The Secretary of Energy
Washington, DC 20585
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MEMORANDUM FOR THE POWER MARKETING ADMINISTRATORS
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FROM: STEVEN CHU Steven Chu

SUBJECT: Power Marketing Administrations' Role

BACKGROUND:

Our Nation has unprecedented opportunities to build a more secure and sustainable electric sector, one that:

- stimulates job creation along with local and regional economic development;
- accelerates introduction of new technologies ranging from cyber-security to alternative energy generation;
- takes greater advantage of our indigenous and inexhaustible resources;
- improves public health;
- reduces strategic vulnerabilities, price and supply risk, and environmental liabilities; and
- advances our competitiveness in international markets.

Taking greater advantage of energy efficiency, demand resources and clean energy – while at the same time reducing costs to consumers – requires a transition to a more flexible and resilient electric grid and much greater coordination among system operators. This can only be accomplished by upgrading our infrastructure to take advantage of modern communications and control technologies and bringing the benefits of increased connectivity to more Americans. As the Department of Energy's (DOE) own Power Marketing Administrations (PMAs) have historically played a valuable role in the electric sector, they can and should help lead this evolution.

As owners and operators of a significant portion of the infrastructure that is vital to this Nation's prosperity, the PMAs have the tools to take a leadership role in transforming our Nation's electric sector, to the extent allowable under their enabling statutes. In the weeks and months to come, I will be calling on the hard-working and dedicated employees of the PMAs. While the PMAs have been doing an admirable job in implementing the DOE's goals and are leaders in some areas, we can all do better. To that end, I will identify specific

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goals intended to strengthen each PMA's ability to modernize the grid through leadership roles in their regions. Because of their uniqueness, I will provide individualized direction to each of the PMAs. This memorandum is intended to describe my foundational goals for the PMAs, thereby establishing a framework on which subsequent memoranda will build.

THE FOUR POWER MARKETING ADMINISTRATIONS:

The DOE's four PMAs have been reliably delivering electricity from federal hydroelectric dams for over 75 years. The federal hydropower system produces prodigious amounts of carbon free, low-cost electricity. The PMAs' transmission systems overlay the transmission and distribution systems of utilities in 20 states, which represent about 42% of the continental United States.[1]

Over the years, the rights and responsibilities of three PMAs have expanded beyond simply selling energy from federal dams:

- BPA and WAPA purchase energy from non-federal generators on behalf of their customers;
- BPA has the authority to acquire the output of resources, including conservation, to meet load requirements;
- BPA, SWPA, and WAPA collectively own and operate 33,700 miles of transmission lines and 594 substations;
- BPA and WAPA have revolving loan funds for expanding this Nation's transmission grid;
- BPA is the primary transmission operator over two states; and
- SWPA and WAPA are empowered to facilitate private-sector development of transmission through use of the federal eminent domain authorities.

Each PMA has a different enabling statute. Within a PMA, each system of dams may have a different statute, and sometimes, even a single dam within the system has its own statute. All of this makes the administration of the PMAs extremely complex.

IMPROVING PMA EXISTING INFRASTRUCTURE:

The following summarizes the existing infrastructure owned and operated by the PMAs:

[1] The PMAs market power in 30 states, but only have transmission assets in 20 states.

FY 2011 PMA Statistics

	Transmission lines (miles)	Substations (all voltages)	Powerplants[1]	Installed capacity (MW)	Customers[2]	Total Power & Transmission Rev (millions of dollars)	Sales (billions of kWh)	Percent of sales in marketing area
Bonneville	15,215	283	31	22,363[3]	276	$3,285[4]	83.1[6]	30%[7]
Southeastern	N/A	N/A	22	3,392	489	$265	6.2	2%
Southwestern	1,380	25	24	2,174	103	$171[5]	4.1	9%[8]
Western	17,135	321	57[9]	10,508	687	$1,202	42.4	6%
Total	33,730	609	134	38,437	1,555	$4,923	135.8	N/A

1. Plants are primarily owned by the Federal government and operated primarily by the U.S. Army Corps of Engineers and the U.S. Bureau of Reclamation. Production is marketed by the power marketing administrations.
2. Includes firm and nonfirm power customers and project use customers.
3. Nameplate rating for federally owned generation from BPA's 2010 "White Book" on loads and resources.
4. Total operation revenue, as reflected on page 1 of BPA's 2011 Annual Report.
5. Not an audited number.
6. FY 2010 number from 2012 BPA Rate Case Wholesale Power Rate Final Proposal, Statements A-F, July 2011.
7. Approximate percentage from page 22 of BPA's 2011 Annual Report.
8. Calculated from 2010 data.
9. Includes 56 hydropower plants and 1 coal-fired plant

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As with much of the Nation's infrastructure, the PMAs' infrastructure is aging and some of it needs to be upgraded or replaced. The federal hydropower system needs investment just to maintain capability as well as capture additional incremental capability. As referenced above, the PMA's transmission lines overlap the transmission grid in more than 40% of the continental United States, the vast majority of which is alternating current (AC). Its AC nature means that the PMAs' equipment is integrally intertwined with the underlying system; therefore, the PMAs' equipment must be resilient.

I will be directing[2] that each of the PMA's strategic plans and capital improvement plans recognize the changing nature of the electric sector, including but not limited to complying with NERC reliability standards, integrating variable resources, scheduling on an intra-hour basis, centralizing dispatch, responding to solar flares and minimizing cyber-security vulnerabilities. As the grid becomes smarter, it is also imperative to address its vulnerabilities and to protect critical infrastructure. The PMAs are uniquely positioned to serve as test beds for innovative cyber-security technologies, and we should take advantage of that opportunity.

[2] I recognize that, in some cases, one or more of the PMAs may already be accomplishing the directive.

I recognize that the current economic environment is creating pressure on many of the PMAs' customers. Capital improvements, therefore, must be staged to ensure the costs are appropriately managed.

1. IMPLEMENTING THE PMA's NEW TRANSMISSION AUTHORITIES:

In the 2005 Energy Policy Act (EPAct 05) and in the 2009 American Reinvestment and Recovery Act (ARRA), Congress gave new powers to two of the PMAs. These PMAs have been administering and must continue to administer their new authorities distinctly from their historic mission of delivering power from federal hydro dams.

a. Section § 1222:
While EPAct 05 enabled both WAPA and SWPA to partner with third parties to develop needed transmission, the §1222 Program has not yet been used. Both WAPA and SWPA are actively evaluating applications under this authority.

DOE will continue to work with WAPA and SWPA to evaluate these applications, with a critical eye toward achieving the transmission development goals that Congress intended.

b. Borrowing Authority Program:
The Deputy Secretary has been working and will continue to work with WAPA and other Department entities to implement reforms necessary to ensure the borrowing authority programs are building the infrastructure this Nation needs while protecting and providing value to the taxpayer. Subsequent memoranda will provide specific directives on the borrowing authority program.

2. IMPROVING THE PMAs' RATE DESIGNS:

With the changing needs for and uses of the electric grid, rate design will also change. While continuing to market and deliver federal hydropower at cost-based rates, to the extent allowed by their enabling statutes and existing contractual arrangements, I am directing the PMAs to create rate structures that incentivize the following:

- energy efficiency programs,
- demand response programs,
- integration of variable resources, and
- preparation for electric-vehicle deployment.

I am also directing the PMAs, if applicable, to take actions that will minimize rate pancaking in their service territories.[3] Further instructions will be provided by subsequent memoranda to implement the partnership between DOE headquarters and the PMAs to achieve this end.

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[3] Rate pancaking inhibits the transport of electricity over large distances. Advocating for the elimination of rate pancaking should not be viewed as a call for the creation of a regional transmission organization. My goal is to make the transport of electricity more economic.

3. IMPROVING COLLABORATION WITH OTHER OWNERS AND OPERATORS OF THE GRID:

The reliability of the grid depends on cooperation and collaboration among all owners and operators of the grid. I direct the PMAs to continue to look for ways to strengthen relations with other owners and operators of the grid and grid components, which should include, but not be limited to, the following:

- coordinating operations with neighboring balancing authorities;
- increasing cooperation between public and private power; and
- participating more effectively in regional planning.

I am also directing the PMAs to capture economies through partnering with others in planning, building, and operating the grid. I have been informed that WAPA is working with the WECC and other critical stakeholders, including the Public Utility Commission driven Energy Imbalance Market (PUCeim), National Renewable Energy Lab (NREL), and its customers, on the Energy Imbalance Market (EIM) proposal. WAPA has made a decision to assume that the EIM will go forward and that it will be a market participant. I applaud this decision, as it will capture many of the potential efficiencies that remain untapped in the Western Interconnection. While WAPA may incur costs during the initial transition to an EIM, ultimately the move should reduce the overall costs for WAPA's customers.

4. WORKING WITH CONGRESS TO MODERNIZE OVERSIGHT OF THE PMAS:

As discussed above, the statutes governing the PMAs are extremely complex. There are hundreds of different statutes--the earliest dating back to 1902--that affect how and to whom the PMAs market Federal power. Of course, there are also a plethora of statutes that apply to all entities in the electric sector including the PMAs, such as reliability standards and environmental laws. The maze of statutes can divert the PMAs' attention away from building and maintaining the infrastructure needed to compete in the global economy.

One of the PMAs, BPA, has a revolving fund that allows it to fund capital improvements. However, two PMAs--WAPA and SWPA[4]--must obtain Congressional approval to invest in even modest capital improvement, which could inadvertently limit the PMA's ability to maintain the reliability of the transmission grid.[5] The PMAs should be given the financial rights and responsibilities to go along with their existing responsibilities for keeping the lights on.

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[4] While SEPA must also get Congressional approval for capital improvements, it does not own or operate transmission lines. Therefore, its ability to finance capital improvements does not directly affect grid reliability.

[5] Historically, the PMA customers have recognized the difficulties created by this model and have worked with the PMAs either to fund directly capital projects or to pre-pay some of their utility bills allowing the PMA to use these customer advances towards capital improvements.

DOE will be asking Congress to provide both WAPA and SWPA with a revolving fund similar to BPA.

CONCLUSION:

The PMAs have done an admirable job delivering federal hydropower over the last century. However, while continuing a commitment to cost-based rates, the PMAs must now rise to the challenges of the 21st century. Just as DOE is calling on the private sector to help our Nation win the future, DOE and the PMAs must do the same. The federal government should be leading the way for a modern, secure and reliable electric transmission grid.