Hoover Value Delivery Concepts
Responses to Issues Raised at the Dec 15, 2015 APA Commission Meeting

This discussion refers to the Hoover Value Delivery Concepts presentation that was delivered to the APA Commission on December 15, 2015.

1. What does the term "value" mean as used in the presentation? Slides 3, 5, 7, 8, 10 and 11.

The term "value" as used in the Dec 15, 2015 Hoover Value Delivery Concepts presentation refers to economic merit, or economic worth.

The following provides additional context regarding the concept of value as used in the presentation material.

Slide 3 provides a visual representation of Hoover value components, and slide 5 provides a definition associated with each of Hoover's generation components, categorized in this portrayal as six distinct elements. The following table provides further information regarding Hoover value components.

	Value Component	Economic Impact To Recipient	Value Component Can Be Directly Used To	Value Component Can Be Directly Used By
1	Scheduled Energy	Benefit	Meet load	Each individual APA Hoover allocation recipient
2	Spinning Reserves	Benefit	Meet Balancing Area ancillary service requirements	Those entities that provide Balancing Area services to APA Hoover allocation recipients
3	Regulation	Benefit		
4	Ramping	Benefit		
5	Losses	Cost		
6	Non Spinning Reserves	Benefit		

Scheduled Energy, or just energy, is perhaps the more readily understood Hoover value component. The homes and businesses served by each Hoover allocation recipient use energy, some of which is met by generation that occurs at Hoover Dam. Scheduling, billing and economic relationships associated with energy are probably more visible and familiar than Hoover's other value components.

Spinning reserves, regulation, ramping, losses and non-spinning reserves are perhaps the less well understood Hoover value components. These generation components can be accessed and utilized only by entities that have the capability to provide Balancing Area services for Hoover allocation recipients. Scheduling, billing and economic relationships associated with these Hoover value components may be less visible, less familiar and less well understood than energy.

Banking is not a Hoover generation component. Banking is a service that has been (and in the future may be) provided to Hoover allocation recipients by an APA Scheduling Entity. The economic cost and benefit of banking service is factored into economic value assessments associated with a) a payment that a Scheduling Entity makes to the APA (slide 10) and b) decisions by individual Hoover allocation recipients regarding a preference for direct delivery or agent delivery of Hoover generation components (slide 11).

"The dynamic signal" is neither a Hoover value/generation component nor a service that has been / may be provided to Hoover allocation recipients by the APA or an APA Scheduling Entity. As defined on slide 9, "the dynamic signal" is the communications / telemetry system or systems whereby Hoover generation can be managed in a programmatic, automated, real-time manner by a NERC Balancing Authority.

In effect, the dynamic signal is the mechanism, or vehicle, by which Hoover value components are delivered to Hoover allocation recipients and/or those entities that can directly access Hoover value components.

Specifically with respect to regulation, present day system operations require the use of a dynamic signal to convey regulation capability and value from Hoover to a recipient Balancing Area.

While at the present time spinning reserve, ramping and non-spinning reserve capability could be managed without the use of a dynamic signal, AEPCO, CAWCD, IEDA and SRP believe that present day system operations associated with these generation components are facilitated by dynamic signal automation, and that future system operations associated with these generation components (especially formal electric markets) will increasingly benefit from, if not require, dynamic signal automation.

While many Hoover allocation recipients cannot directly utilize a dynamic signal, having the associated dynamic signal that accompanies their respective portions of Hoover has value because it can be turned over to their host Balancing Area, Metered Subsystem, or to a scheduling entity in return for some form of compensation. Without the dynamic signal, the value of Hoover beyond energy (i.e. regulation, ramping and reserves) is minimized since it cannot be readily accessed in a real-time manner.

Finally, the commercial value of a post-2017 Hoover allocation without direct access to generation for regulation, ramping and spinning reserve purposes is less than the commercial value of a post-2017 Hoover allocation with direct access to generation for regulation, ramping and spinning reserve purposes. As described by CAWCD at the Dec 15 meeting, for some Hoover allocation recipients, "virtually all" of the value of Hoover resides in the regulation, ramping and spinning reserve capability

presently conveyed directly to them. Representatives of AEPCO, CAWCD, IEDA and SRP think that a "devalued" Hoover resource product may be a game changer for some Hoover allocation recipients.

2. What is the basis for the claim made by AEPCO, CAWCD, IEDA and SRP that each Hoover allocation recipient has a right to the dynamic signal? Slides 13-16.

The belief shared by AEPCO, CAWCD, IEDA and SRP is founded upon the following observations.

Contractual Basis. In the existing APA – Hoover allocation recipient contract, section 5(e) states that each contractor "shall have the right to use previously scheduled Synchronized Generation for regulation, ramping and spinning reserves upon the terms and conditions provided in the Boulder Canyon Project Agreement". AEPCO, CAWCD, IEDA and SRP expect and want this right continued in the post 2017 agreement.

Precedential Basis. Beginning in 2011, separate dynamic signals for portions of Hoover generation managed by SRP and AEPCO (on behalf of CAWCD) began to be utilized in day-to-day operation. AEPCO, CAWCD, IEDA and SRP believe that a precedent has been established with respect to a Hoover allocation recipient's right to request and receive an independent dynamic signal associated with its share of Hoover generation.

Equality Basis. It is the understanding of representatives of AEPCO, CAWCD, IEDA and SRP that in the post-2017 era Hoover allocation recipients in California and Nevada will continue to directly receive generation for regulation, ramping and spinning reserve purposes. Hoover allocation recipients in Arizona want the same rights that Hoover allocation recipients in other states are receiving.

Capacity & Energy Allocation Basis. In the Dec 15 presentation and in this paper, AEPCO, CAWCD, IEDA and SRP have contended that Hoover's value components include energy, spinning reserves, regulation, ramping, losses and non-spinning reserves, and that the dynamic signal is a delivery mechanism for these value components. Nevertheless, with respect to the view that the dynamic signal itself is a Hoover value component, the following seems applicable. A Hoover dynamic signal with associated capacity and energy has value. A Hoover dynamic signal without associated capacity and energy has no value. For the post-2017 era, the APA has already allocated all Hoover capacity and energy to Hoover allocation recipients. Consequently, Hoover allocation recipients perceive that all dynamic signal value has already been allocated to them.

3. What areas of law should the APA consider in developing policies associated with Hoover value delivery concepts?
Slide 12.

The APA may wish to consider constraints and permissions associated with the Boulder Canyon Act, federal preference law and state law, if any, pertaining to:

- Establishment and/or selection of a scheduling entity
- Title to the energy when a scheduling entity arrangement exists
- A prospective resale of federal hydropower
- APA's decisions with respect to Hoover allocation recipients relative to WAPA's decisions with respect to Hoover D1 allocation recipients

The following areas of federal law may be relevant to APA policy development associated with Hoover value delivery concepts.

1928 Boulder Canyon Project Act

- 46 Stat. 1057, 1060, 43 U.S.C. Section 617, 617d
- Section 5 of the act states the federal Hoover preference law

1939 Reclamation Project Act

- 53 Stat. 1187, 1194, 43 U.S.C. 485, 485h (c)
- Requires the government, when selling surplus power from its reclamation projects, to give preference to municipalities and other governmental organizations, and to cooperatives and other nonprofit organizations financed in whole or in part by loans from the Rural Electrification Administration.

1984 Hoover Power Plant Act

- Pub. L. 98-381, 98 Stat. 1333, 1335, 43 U.S.C. 619a
- Gives preference power to municipalities, an investor-owned utility, and others for power generated at the Hoover Power Plant.

4. Are there any elements of Arizona's Hoover value that are not captured and secured in the currently proposed APA – WAPA post-2017 agreement?
Slide 12.

Through whatever processes and mechanisms the APA affords Arizona's Hoover allocation recipients an opportunity to provide questions and comments on the WAPA – APA agreement that is being developed, AEPCO, CAWCD, IEDA and SRP will participate on an individual basis to the extent possible as determined by each organization.

Regarding the topic that was mentioned as an example at the Dec 15 meeting, AEPCO, CAWCD, IEDA and SRP believe that with respect to the subject of clarity regarding non-spinning reserves, the currently proposed WAPA – APA agreement could be improved.

At the present time, the proposed agreement includes the following defined terms:

- Synchronized Generation
- Loaded Synchronized Generation
- Unloaded Synchronized Generation

By adding another companion term to this family (Unloaded Unsynchronized Generation) along with appropriate, associated terms and conditions, SRP believes that the subject of non-spinning reserves could be addressed in a much more straight forward manner relative to the existing contract language.