Definitions of Transmission Services (TS)
Cost of Service Segments
for May 23 Rates Workshop

Generation Integration Segment

The Generation Integration segment consists of facilities that connect Federal generating plants or resources to the integrated transmission network. This segment includes:

- Transmission lines and equipment between the generator and the first Transmission Services (TS) substation at which the power enters the BPA transmission system;
- Substation terminal equipment integrating the Federal generation such as disconnect switches, circuit breakers, lightning arresters, and a proportionate share of station general equipment; and
- Generator step-up transformers, which transform the Federal generation from the voltage at which it is generated to the voltage at which it is integrated into the BPA transmission system.

Federal generating plants are owned and operated by the U.S. Army Corps of Engineers (USACE) or U.S. Bureau of Reclamation (USBR). The Columbia Generating Station (CGS) is owned by Energy Northwest (ENW). The costs allocated in the Revenue Requirement Study to the Generation Integration segment are wholly assigned to BPA's Power Services and recovered through power rates.

Facilities that integrate non-federal generation are directly assigned to those generators and are not included in BPA's plant investment.

Integrated Network Segment

The Integrated Network segment consists of TS facilities that transfer bulk power between utility service areas in the Pacific Northwest and between the other transmission segments. The redundant transmission pathways of the Integrated Network segment also provide voltage regulation and reliability. The Integrated Network segment consists of lines and substation equipment at voltages ranging from 34.5 kV to 500 kV including a proportionate share of station general equipment.
In addition, the costs for USACE and USBR facilities that function as part of the Integrated Network segment are included in TS's revenue requirement (though not in the segmented plant investment), even though these facilities do not belong to BPA.

Pacific Northwest-Southwest (Southern) Intertie Segment

The Southern Intertie segment consists of all or part of transmission lines and substations that enable power to flow between the Pacific Northwest and California. This segment consists primarily of:

- A 1,000 kV direct-current (DC) line originating near The Dalles, Oregon, and extending to the Los Angeles area, along with the Celilo Converter Station, and
- Three parallel 500 kV alternating-current (AC) lines that originate near John Day Dam in North Central Oregon and extends to Northern California.

TS operates the intertie facilities north of the California-Oregon and Nevada-Oregon borders. TS does not own the following major intertie facilities:

- One of the 500 kV AC lines from Grizzly substation to Malin substation in central Oregon and associated terminals, which are owned by Portland General Electric Company (PGE); and
- The Meridian-Captain Jack-Malin line and Summer Lake-Malin line, which are owned by PacifiCorp.

Also, some equipment at various intertie substations are jointly owned or wholly owned by others. Contractual relationships for the identified transmission capacity determine which BPA facilities are considered part of this segment.

Eastern Intertie Segment

The Eastern Intertie segment consists of the double circuit Garrison-Townsend 500 kV line and the associated substation facilities at Garrison. These facilities connect near Townsend, Montana, with a double circuit 500 kV line owned by Avista, NorthWestern Energy, PacifiCorp, PGE, and Puget Sound Energy and extends to the BPA Integrated Network at Garrison substation.

Utility Delivery Segment

The Utility Delivery segment consists primarily of substation facilities required to "step down" (reduce) transmission voltages (typically 115 kV) to delivery voltages below 34.5 kV for distribution to utility customers. Step-down transformers and associated switching and protection equipment constitute the majority of facilities included in this segment. In addition to substation equipment, two short transmission lines at 12.5 kV are included in this segment. Facilities that deliver power to utility customers at voltages of 34.5 kV and above are considered part of the Integrated Network.

Direct Service Industry (DSI) Segment

This segment consists of facilities required to deliver power to BPA's Direct-Service Industrial (DSI) customers. The facilities consist of step-down transformers and associated switching and protection equipment that step down transmission voltages to delivery voltages 34.5 kV and below. Only facilities associated with actively operating customers are included. Facilities associated with customers no longer operating are considered general overhead (stranded costs).

Ancillary Services Segment

This segment consists of the control and communication equipment necessary for TS to control and operate the entire BPA transmission system. The equipment that comprises this segment does not transmit power. TS allocates all of the costs associated with this segment to the Scheduling, System Control, and Dispatch ancillary service.