Proposal for AISA Transmission Auctions

[Draft #2~~1~~ - November 9, 1999]

This is a hastily-written rough outline of the transmission auction concept. It needs refinement in certain areas, but before doing that, the question is: are their questions or concerns with the approach outlined below?

The purpose of the monthly ARNT auctions is to replace the monthly ARNT initial allocation mechanism that is described in Section 4.3 of the AISA Protocols (i.e., the allocation that takes place on the 15th day of each month). Once the monthly auctions take place, all of features of ARNT remain unchanged. I.e., ARNT may be used only for service to retail loads within the TO's control area, etc.[1]

For each transmission path for which ARNT will be released:

1. By the 15th day of each month: as in Section 4.3.2 of the AISA Protocols, the AISA will forecast each SC's daily peak Retail Network Load for the following month. Each SC's daily peaks for the following month will be summed and divided by the number of days in the month to yield the SC's monthly average.

    The AISA will assign to each SC a percentage of the auction proceeds that the AISA will receive for each path in the auctions that will be conducted in step 3 below. The SC's share of the proceeds will be the SC's monthly average divided by the sum of all SCs' monthly averages.

2. By the 15th day of each month, the AISA will also determine the total amount of ARNT capacity for each hour i of the following month, as in Sections 4.3.1 and 4.3.3. (Call this hourly amount n_i.) Note that n_i will vary from hour to hour, from some minimum number to a maximum number (n_{Max}).

    For simplicity's sake, the AISA will <u>not</u> conduct 730 individual hourly auctions for each path for each month. Instead, the AISA will auction n_{Max} rights. The purchaser of one right will receive a bundled, sequential block of hourly rights for the month, where the quantity of rights received for hour i will equal $[(n_i)/(n_{Max})]$.

3. On the 17th day of the month, the AISA (or more likely, the AISA's vendor, since outsourcing this entire task will result in lower AISA staffing requirements) will auction the n_{Max} monthly blocks of rights.

    Eligible bidders in the auction are the SCs who have retail load on the TO's system (both competitive SCs and the Standard Offer SC). [We don't want bidders to be awarded an amount of transmission capacity greater than their retail load. How do we accomplish this? An SC may have a preference for a path from Palo Verde and will bid a fairly high price for it, but may want to also bid on another path or two as an alternate in case they aren't awarded the path from PV. How do we make sure SC's aren't awarded more than they need? Should we have a series of auctions, one path at a time? This would take quite a bit of time, but it seems necessary given the fact that if your bid isn't successful on one path, you'll want to bid on another.]

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[1] Suggest that "ARNT" should be renamed "RNT", since the word "allocated" would be something of a misnomer.

The auction will be a "clearing price" auction, in which the bidders submit their bids (i.e., quantities and prices) to the AISA, the AISA stacks the bids from lowest price to highest price, accepts the highest bids by moving down the bid stack until the quantity of accepted bids equals n_{Max}, and then charges all of the winning SCs the price associated with the last-accepted bid. (This is the "clearing price" for the rights on that ARNT path.)

[Note: The auction mechanism would be developed by a vendor in response to an AISA RFP. The RFP would include developing and operating the monthly auction, <u>and</u> operating a system to allow for the resale/trading of ARNT, including a mechanism to track the initial purchases of ARNT and subsequent trades of ARNT, so the CAOs can be assured that an SC's claim of rights to use an ARNT path are valid. The system provided must allow for real-time verification, so when an SC desires to exchange ARNT for ATC, the CAO can immediately determine that the request is valid.]

4. Each winning SC will pay the AISA:

    (i) The sum, for each of the ARNT paths, of the clearing price for the path multiplied by the number of ARNT rights on the path that the SC has won in the auction;

    <u>minus</u>

    (ii) The sum of the credits assigned to the SC in step 1 above.

    Note that, for each SC, this number can be positive or negative. But the sum of all of the payments due to the AISA from the auctions will equal the sum of the credits, so the AISA will be left with a net balance of zero. Each SC's net payment in effect represents payments to/from other SCs due to the SC's acquiring more than its pro rata share of rights or retaining less than its pro rata share of rights on the paths.

5. SCs are permitted to trade their ARNT rights (in hourly increments) to other SCs that have retail load on the TO's system until two days ahead of real-time, as in Section 4.4. They may also swap ARNT for an equivalent amount of ATC, as in Section 4.4.

[Another issue to think about: How will an auction affect SC's rights to must-run generation? For instance, if an SC is successful in securing enough transmission capacity to serve its load, it should not have a right to must-run generation. The must-run generation that would have been allocated to this SC under the allocation methodology should then be somehow assigned to SC's that were not successful bidders (or didn't get enough transmission capacity to serve their entire load). This will obviously require revisions to the must-run generation protocol.]