APC Calculation

This document details the fields and formulas used in the 2015 ITP10 APC calculation. The bolded parameters below are PROMOD output reporting parameters, with filters applied as indicated.

Adjusted Production Cost (APC) = Production Cost $ + Purchases $ - Sales $

- Production Cost $ = **Unit Cost ($)** + **Billing Cost ($)**, by hour, by zone
    - Remove "PowerBase Tariffs" from Billing Cost ($)
- Sales $ = Sales (MW) * GLMP, by hour, by zone
    - Sales (MW) = **Unit Gen (MW)** + **Contract Participation Energy1 (MW)** + **Emergency Energy (MW)** – **Area Native Load (MW)** – **Pumping Energy (MW)** – **Dump Energy (MW)**
        - Remove "PowerBase Tariffs" from Contract Participation Energy1 (MW)
        - If negative, set Sales (MW) to zero for that hour (net purchases).
    - GLMP = (**Unit Revenue ($)** + **Transaction Market Value ($)**) / (**Unit Gen (MW)** + **Contract Participation Energy2 (MW)**)
        - For Transaction Market Value ($), remove "PowerBase Tariffs", and include only "Purchases", exclude "Sales" (PurchSale is the name of the field in Report Agent)
        - For Contract Participation Energy2 (MW), remove "PowerBase Tariffs", and include only "Purchases", exclude "Sales" (PurchSale is the name of the field in Report Agent). *Note that this is different than the Contract Participation Energy1 from Sales MW calculation, though same query from PROMOD output files.*

- Purchases $ = Purchases (MW) * LLMP, by hour, by zone
    - Purchases (MW) = **Area Native Load (MW)** + **Pumping Energy (MW)** + **Dump Energy (MW)** – **Unit Gen (MW)** – **Contract Participation Energy1 (MW)** – **Emergency Energy (MW)**
        - Remove "PowerBase Tariffs" from Contract Participation Energy1 (MW)
        - If negative, set Purchases (MW) to zero for that hour (net sales).
    - LLMP is automatically calculated by PROMOD. The LLMP for each hub will be named LS + zone name. For example, "LSWAPA".