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The Public Utility Regulatory Policies Act of 1978 (PURPA)

- PURPA was passed as part of a package of legislation known as the National Energy Act that was intended to address the on-going "energy crisis" of the time
- Among other goals, PURPA was intended to encourage conservation, reliability, and efficiency in the delivery and generation of electricity, and do so with "equitable retail rates for electric consumers"
- The primary concerns at the time was the increasing amounts of imported oil and the national security risks that imposes

PURPA Qualifying Facilities

- PURPA Qualifying Facilities (QFs) are defined as qualifying cogeneration facilities or qualifying small power production facilities that have a right to be served by, and sell to, their host electric utilities at the utility's "avoided cost"
- Cogeneration facilities are those which produce electric energy and steam or forms of useful energy (such as heat) which are used for industrial, commercial, or cooling purposes (aka, CHP)
  - no maximum size limitation for PURPA qualification
  - EPAct 2005 prohibits PURPA machines, emphasizing that useful energy must be produced
- Small power production facilities are facilities which use biomass, waste, or renewable resources including wind, solar energy and hydro, to produce electric power; which, together with other facilities at the same site, have a capacity equal to or less than 80 MW

Original PURPA "Must Purchase" Obligation

- The "Must Purchase Obligation" applies to all electric utilities (not transmission service area, but utility territory), including IOUs, municipals, rural cooperatives, PUDs, water districts, the TVA, and each federal power marketing authority, unless FERC grants a waiver
- FERC requires that host utilities must purchase at rates equal to the host utility's full avoided cost: "*the incremental cost to the electric utility of electric energy or capacity or both which, BUT FOR the purchase from the QF or QFs, such utility would generate itself or purchase from another source*" (CFR sec. 292.101(b)(6))

EPAct 2005 Changes the "Must Purchase" Obligation

- EPAct 2005 provided a new section (210(m)) that requires FERC to excuse host utilities from entering into new purchase or contract obligations *if* there is access to a sufficiently competitive market for a QF to sell its power
- Specifically, there is no utility must purchase obligation if FERC finds that the QF has nondiscriminatory access to:
  - (1) independently administered, auction-based day ahead and real time wholesale markets and wholesale markets for long-term sales of capacity and energy (e.g., MISO, PJM, ISO-NE, NYISO), or
  - (2) an RTO with competitive wholesale markets, or
  - (3) wholesale markets that are comparable to (1) or (2).

EPAct 2005 Changes the "Must Purchase" Obligation

- FERC by rulemaking in Order 688 determined that MISO, PJM, ISO-NE, and the NY-ISO provide wholesale markets which meet the statutory criteria for member utilities to qualify for relief from the mandatory "must purchase" obligation
- Order 688 also created a rebuttable presumption that **QFs of more than 20MW** have non-discriminatory access to at least one of these competitive markets
- *FERC did not terminate the must purchase obligation*
  - electric *utilities must file applications for relief* and QFs in the above markets may, under the rule, rebut the presumption of access because of operational characteristics or transmission constraints

QFs of 20 MW or below

- FERC Order No. 688 created the rebuttable presumption that QFs with a net capacity of ***20 MW or below*** do not have nondiscriminatory access to markets sufficient to warrant termination of the mandatory purchase obligation
- The Commission found that some QFs may not have nondiscriminatory access to markets due to their small size
- To overcome this rebuttable presumption that smaller QFs lack nondiscriminatory access to markets, an electric utility must demonstrate on a QF by QF basis that each small QF has in fact nondiscriminatory access to the relevant wholesale markets
- Order No. 688 placed the burden of proof on the electric utility to demonstrate that a small QF has nondiscriminatory access to the markets of which the electric utility is a member (MISO or PJM, for Michigan)

How is “Avoided Cost” defined?

- Not the same as incremental system cost of the utility—that is, utility’s system lambda or energy component of a specific LMP
  - that would be short term energy only
- Should reflect the incremental cost of the utility to generate or purchase itself without the QF or QFs – over the relevant utility planning horizon
  - that is, long term that takes into account capital expenditures

Avoided Cost determination methods

- Prior to EPAct 2005, states and non-regulated utilities always determined avoided cost, either through administratively-determining them or through market-based methods
- Pre-EPAct 2005 methods of calculating administratively determined/market-based avoided costs (still used in regulated states):
  - Proxy plant method
  - Peaker method
  - Partial displacement differential revenue requirement method
  - Fuel index rates
  - Auction/RFP Rates

Avoided Cost *(continued)*

- Proxy Resource Method: the cost of the host utility's next planned addition, typically a CCGT
- Peaker Method: the value of the QF operated as a peaker
- Partial Displacement Differential Revenue Requirement: System Revenue Requirement w/o QF – System Revenue Requirement w/ QF
- Fuel Index Rates: Uses a variable monthly gas index price plus on-peak peaker capacity cost adder

Avoided Cost *(continued)*

- Auction/RFP Rates: The utility issues an RFP; plants are selected according to price and other explicit factors; successful bidders receive capacity contracts; unsuccessful QF bidders may sell energy, but not capacity
- The avoided costs paid for purchases from QFs can be based upon estimates of avoided costs over the specified term of a contract or legally enforceable obligation – therefore, the rates for purchase can differ from the avoided cost at the time of delivery
  - alternatively, rates for “as available” power can be based on the time of delivery

Standard Offer Rates for Purchases from QFs

- FERC relies heavily on state commissions and non-regulated utilities to assure that the host utility pays a QF its full avoided costs or a negotiated rate for purchased power
- FERC regulations require that states and non-regulated utilities have standard offer rates for purchases from QFs with design capacity of 100 kW or less
- State commissions and non-regulated utilities may also have standard offer rates for purchases from QFs with a design capacity of over 100 kW
- While nothing in FERC's regulations requires any electric utility to pay more than its avoided costs for purchases, standard offer rates may differentiate among QFs using various technologies on the basis of the supply characteristics of the different technologies