

REGULATING GENERATION: WHEN DO WHOLESALE AND RETAIL GENERATION BECOME PART OF THE SAME WHOLE?- HOW VERY ZEN

By Jan Smutny-Jones, CEO, Independent Energy Producers

Harvard Electricity Policy Group

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ELECTRICITY MARKETS ARE TRANSFORMING

- ✘ Solar Technology costs are rapidly dropping resulting in significant market penetrations.
- ✘ These intermittent technologies create new operational opportunities and challenges for the Distribution and Transmission Grid.
- ✘ Who is responsible for addressing these operational challenges?
- ✘ Is the Traditional Split between FERC Wholesale Jurisdiction and State Retail Jurisdiction still relevant?

SOLAR IS A MAJOR ELECTRIC RESOURCE

- ✘ State Policy Promoting RPS and Distributed Generation is Expanding Solar Generation which has Impacts on System Operations.
- ✘ Ca. RPS= Over 4300 MWs of Solar Wholesale Generation tied into the CAISO.
- ✘ Ca. Distributed Generation = 2242 MWs (239,549 projects)of Solar on-line Trending to 5000 MWs by 2017, Governor Brown has goal of 12,000 MWs.

SOLAR AS AN RPS RESOURCE

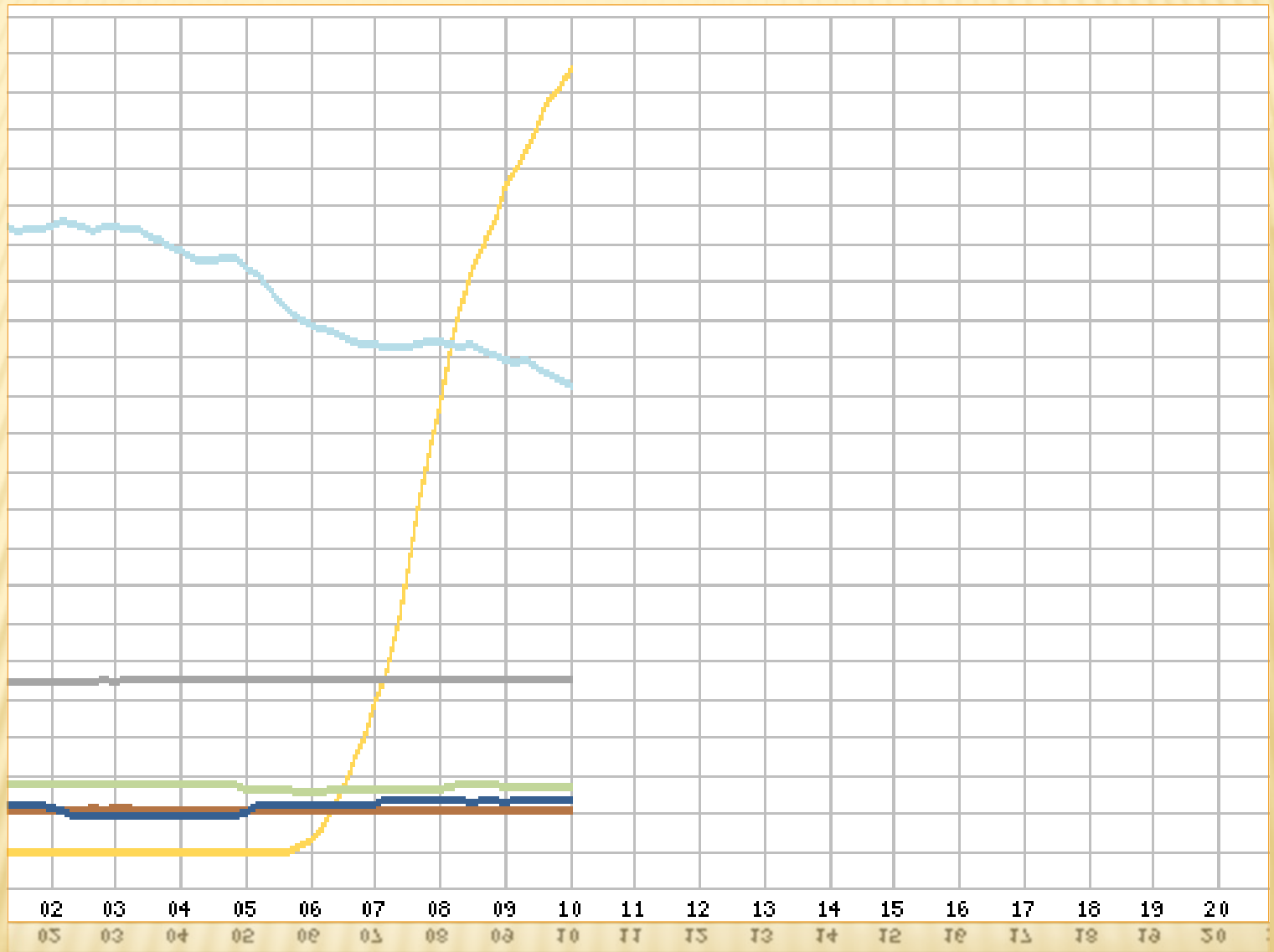
- ✘ Wholesale Solar Facilities are Competitively Bid into Utility RFOs and are selected under “Least Cost- Best Fit”.
- ✘ Recent Bids are around 6 cent kWh
- ✘ Interconnected to the Transmission System under a CAISO Tariff.
- ✘ Contracts with Utilities have Curtailment Provisions.
- ✘ Presumed to be a Wholesale Transaction (FERC)

SOLAR AS DISTRIBUTED GENERATION (DG)

- ✘ Ca. Solar Initiative, Self-Gen Incentive Program and Ca. Solar Incentive Program are direct incentives for Behind The Meter installations.
- ✘ Net Energy Metering (NEM)=Customer gets a retail bill credit (based on bundled rate)for energy generated and exported to grid based on Tier and Time-of Use. Separate payment for net surplus energy.
- ✘ Interconnected at Distribution Level.
- ✘ CAISO observes Behind the Meter as load, not dispatchable generation.
- ✘ Presumed to be Retail Transaction (State).

OPERATIONAL CHALLENGES

- ✘ Solar, both wholesale and distributed is an effective diurnal resource, however, it is weather sensitive, unavailable at night and sometimes Peak.
- ✘ CAISO observes significant Ramping Needs (13,000MWs >) seasonally by 2020.
- ✘ Distributed solar is not centrally metered to CAISO and not dispatchable or curtailable.
- ✘ Daytime Energy Prices drop, gas fleet operates only at Ramps, Peak and at night.
- ✘ No clear mechanism to keep gas fleet or other technologies available for integrating these resources.
- ✘ Over-generation on distribution circuits may affect Transmission grid.



LEGAL/JURISDICTIONAL CHALLENGES

- ✘ Is NEM “A Sale for Resale” under the Federal Power Act? (Raskin)
- ✘ Does PURPA limit NEM Pricing only to the “avoided costs” of energy and not the full Bundled Retail Rate?
- ✘ How is the non-use of energy by the Customer under NEM any different than Energy Efficiency?
- ✘ There is no “Sale” under NEM, rather only a netting out of electrical services.
- ✘ There is no Federal Jurisdiction because the transaction occurs on and never leaves the Distribution System as an Intrastate Transaction under State Jurisdiction. (Lindh)

VIEW 1: NEM INCONSISTENT WITH FEDERAL LAW (D. RASKIN)

- ✘ Grid connected renewables are paid at a lower wholesale rate than Distributed Generation under NEM.
- ✘ Retail service is based on energy usage; NEM as a bundled retail rate shifts costs to other customers.
- ✘ PURPA allows for “net metering services” is limited to offsetting “energy” not a Bundled Retail Rate.
- ✘ Absent PURPA, no requirement for Utility to purchase from distributed generation under the Federal Power Act.
- ✘ PURPA limits price to a utility’s “Avoided Costs”.
- ✘ The FERC’s theory limiting a “sale” to net supplier over a month no longer valid because of court decisions invalidating “netting” in determining whether a “sale” has occurred.

VIEW 2: INTRASTATE WHOLESALE ON DISTRIBUTION FACILITIES IS STATE JURISDICTIONAL (F. LINDH)

- ✘ The States retain jurisdiction over Distribution Facilities under the FPA
- ✘ State's "organic police powers" allows complete authority to regulate rates, terms and interconnections on the Distribution System.
- ✘ This power extends to "feed-in tariffs and the development of "micro-grids".
- ✘ Sales on the Distribution System rarely migrate to the Transmission Grid because impedance repels any commingling of generation, except when over-generation exceeds demand on a distribution circuit.
- ✘ "Sales of electric energy occurring solely upon the distribution circuits, isolated both physically and transactionally in intrastate commerce, fall to state jurisdiction, not federal jurisdiction".
- ✘ Federal jurisdiction is limited to Interstate Commerce.

“YES WE HAVE NO BANANAS”

- ✘ EPSA v. FERC – Court of Appeals (D.C.) vacates FERC Order 745: “demand response is not a wholesale sale of electricity; in fact, it is not a sale at all”.
- ✘ While demand response may affect wholesale markets FERC’s jurisdiction is not unbounded.
- ✘ FERC’s jurisdiction “...extends only to those matters which are not subject to regulation by the States” (FPA 201).
- ✘ Absent “clear and specific grant of jurisdiction “ FERC cannot regulate areas left to the states.
- ✘ “A buyer is a buyer, but a reduction in consumption cannot be a ‘wholesale sale’ “.
- ✘ What is are the implications on NEM? Is it a sale for resale? Or is it more similar to a retail non-use of the wholesale market?

WHEATIES: THE COMMERCE CLAUSE BREAKFAST OF CHAMPIONS

- ✘ Wickard v. Filburn (1942) – Broad Federal power to regulate interstate commerce.
- ✘ Federal program limiting the amount of wheat that could be grown in order to stabilize wheat market.
- ✘ Farmer Filburn was growing wheat for his own on-farm use. No sale. He claimed no interstate market.
- ✘ Supremes reject, reasoning that by home growing his own wheat and not buying in the open market he was effecting interstate commerce.
- ✘ Does a NEM customers self generation affect pricing in the wholesale markets or is it more akin to a non-sale retail transaction limited by the FPA?
- ✘ If the Federal Government can regulate home grown wheat why can't it regulate home grown electrons ?

A REGULATORY PENUMBRA

- ✘ New technologies, new products and participants, have blurred traditional distinctions between wholesale and retail jurisdiction.
- ✘ This is accelerating and will result in significant future disputes because it involves a lot of money.
- ✘ The nature of electricity technologies, markets and their regulation have always been in flux and subject to evolutionary change.
- ✘ The FERC and State Regulators will need to refine the distinctions between wholesale and retail activity.
- ✘ The Federal Power Act will need to be updated.
- ✘ The Sun expands and destroys the earth in 1 Billion years.
- ✘ There is plenty of time for Congress to act.

FUN READING MATERIAL

- ✘ David B Raskin, “The Regulatory Challenge of Distributed Generation’, Harvard Business Law Review Online, Vol. 4, pg.38, December 2, 2013.
- ✘ Frank R. Lindh & Thomas W. Bone Jr., “State Jurisdiction Over Distributed Generation”, Energy Law Journal, Vol.34, No.2, pg. 499 December 2013.
- ✘ Note: The comments in this presentation are mine, for the moment, and not that of IEP or its member companies.