Power Contracting for Legacy Small Hydro Facilities in PGandE's Service Territory

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New Contracts Required in the PGandE Territory

- In the 1980s a number of small hydro projects, “Qualifying Facilities”, were developed in California in response to federal law and encouragement by the State of California
  - It is still the policy of the state to encourage electrical generation from small distributed generation that qualifies as "eligible renewable energy resources”
- These small hydro projects
  - have all been subject to very rigorous environmental review and controls
  - have generated pollution-free renewable energy for many years and can do so for many more years
  - are an eligible renewable energy resource meeting RPS standards, and produce the Category 1 renewable energy credits most sought after by the state
- Most projects had 30 year contracts that are now expiring
- Between now and Sept 2020 50 projects <= 3 MW in size, totaling 41.2 MW need new contracts
  - Based on analysis of “*PG&E Cogen and Small Power Production Semi-Annual Report, January 2013*”

Power Contract Options with PGandE are Limited

- “Legacy QF” style contacts are available
  - Energy prices are tied to spot natural gas prices, currently yielding electric energy prices which are:
    - 67% of average nominal price 1980-1985
    - 34%, in 1980 $, of the 1980 – 1985 price
      - Based on PGandE published SRAC and Producer Price Index-Commodities, SWUSOP3000
      - see chart on slide 8
  - Plus a small adder, approximately 10% of the energy price, for capacity
    - HAI analysis of our actual contractual performance and published rates for legacy contract capacity prices
- FiT (Feed in Tariff) contract, when available
- Interconnect with PGandE and access the ISO market

Legacy contract

- Contractual mechanism may be workable
  - Except for exorbitant scheduling fees that should not be required in many cases
  - And a massive $10 million insurance requirement for all projects including FiT eligible under 3 MW projects - over three times that required of RAM contracts for projects up to 20 MW
- Price levels (Short-run Avoided Cost) are very low and afford little opportunity for ongoing viable operation
  - SRAC is tied to “market prices” for wholesale spot energy, which in the western US is generated with natural gas fired combined-cycle power plants virtually 100% of the time
  - Currently around 4.0 c/kWh including an allowance for Greenhouse Gas costs
- Spot prices are not an effective mechanism to encourage long run operation of generation facilities and discourages needed maintenance investment

FiT Contract has issues

- This contract is not available now and won't, in our estimation, be available until late 2013 or early 2014
- The starting price, 8.9 c/kWh, is just 74%, in 1980 $, of the average price in 1980 – 1985.
  - This is a flat price, unchanging for 20 years, which provides no protection from underlying inflationary increases in project costs
  - The price does reflect, however, the contract price for new generation from larger RAM projects
- Costs to producers under the FiT contract are increasing due to a host of new requirements
- Access to the FiT contract is limited by MW allocated by the PUC/Legislature and by the auction mechanism set by the PUC
- We estimate 36.8 aggregate MW will be available to hydro and wind and spread out over 2 years
  - this means there will be more existing capacity (hydro 41.2 MW and wind 7.4 MW) seeking contracts than made available for multiple rounds of auction
  - With a resulting potential for drastic reductions in prices below the cost of producing new power from other sources – in contradiction to §399.20 of the Public Utilities Code

The FiT contract has other potential cost issues due to new requirements proposed by Utilities

- 5 fold increase in insurance limits over current QF contract requirements
- Permanent collateral requirements
- Price penalties for over/under generation
- ISO jurisdiction costs for 500 – 999 kW projects
- QRE costs
- Telemetering costs
- Metering costs
- Bill preparation costs
- Forecasting costs

The ISO market buyers

- Projects in excess of 500 kW can access the California ISO and hence a larger market.
- This entails additional CAISO costs, additional metering and telemetering equipment, and associated operating requirements
- The market for power with entities other than the California IOUs is highly uncertain and limited
  - That's why the IOU RAM auction is vastly oversubscribed – it is a better choice than other buyers accessible via the ISO
- Because of the market uncertainty this is a market of last resort – if any market at all.

Proposed solution

- The CPUC should recognize these small hydro projects, which have no emissions and minimal environmental impacts, should continue in operation
  - These projects are currently included in RPS compliance calculations
  - The legislature's intent is to still encourage the operation of these projects which provide jobs, property taxes, CO2 offsets, and water rights fees to the State of California

- Make the FiT contract available as a viable option by:
  - Utilizing PG&E's existing FiT contract form until a new contract is approved by the CPUC
  - Allowing legacy small hydro to execute the contract at the time of contract eligibility i.e. 18 months prior to operating under the FiT contract
  - Initially use the Commission's starting price of the FiT contract for expiring contracts and adjust this price using the ReMat mechanism applied to new projects only.

PGandE Short Run Avoided Cost (SRAC)
- declining in real terms -