



PURCHASE POWER AGREEMENT

EXAMPLE
RFP

Illustration of Issues

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PRODUCTS

- Capacity
- Energy
- Unit Sales
- System Sales



RESOURCES

- Generation
- Renewable
- Demand-Side-Management
- Distributed Generation
- Portfolio Mix
- And more...



RESOURCES

- Demonstration of ability to provide the product
- Proof of deliverability



CODE OF CONDUCT

- Evaluation and accountability of all bids to be equal, including affiliates
- ANY hint of misconduct before or during solicitation by utility or the affiliate resulting in unfair advantage, leads to disqualification of affiliates



LENGTH OF CONTRACTS

RFP should solicit a range of contract terms

- ❑ Diversified, healthy portfolio mix
- ❑ Customer protection

Utility should file term preferences for approval – public information for process

Promote customer risk protection

- ❑ Incentive system for load serving entities
- ❑ Better manage price and volatility risk



STRUCTURE OF PRICE BID

All bids shall include:

1. CAPACITY PRICE
 - Stated in \$/kW year for each year or
 - Initial year stated with inflation index
 - Capacity price tied to availability guarantee



STRUCTURE OF PRICE BID

2. AVAILABILITY GUARANTEE

- Protection against poor performance
- Capacity price paid in full only if facility available for ___% of the time over ___ time period
- Payment reduced (proportionally?) for non performance
- Responsibility for replacement power



STRUCTURE OF PRICE BID

- If performance below ___% availability, no payments made
- If performance greater than ___%, proportional bonus
- Guaranteed megawatt output stated



STRUCTURE OF PRICE BID

3. ENERGY PRICE

- Fixed price for each year (\$/mWH) or
- Guaranteed heat rate/fuel price tied to fuel price index
- Gas tolling offers acceptable?
- For portfolio mix or system sales, single fixed price or heat rate for all sales



STRUCTURE OF PRICE BID

4. FIXED OPERATION & MAINTENANCE COST
 - Fixed cost of \$/kW year for each year of contract length or
 - Initial year price with inflation index
 - Tied to availability guarantee



STRUCTURE OF PRICE BID

5. VARIABLE OPERATION & MAINTENANCE COST
 - Fixed price in terms of \$/mWh for each year or
 - Initial year price with inflation index
 - Initial price tied to an index



MODEL PPA

- An RFP should include a model PPA for template
- Detail all required/preferred terms, price and non-price
- Efficiency in evaluation process
- Provides for more equal comparisons



MODEL PPA

Specific Features to include in model PPA:

1. DISPATCHABILITY

Generation units based on energy price plus variable O&M plus transmission losses

- Minimum load level
- Ramp rates
- Minimum run times
- Start-up times



MODEL PPA

2. NO REGULATORY OUT CLAUSE
 - RFP Process is prudence review
 - No risk of disallowance

3. FORCE MAJEURE – use of industry standard for events outside of the control of the participants



MODEL PPA

4. SECURITY DEPOSIT
 - Construction Period Security Deposit
 - Letter of credit (\$/MW)
 - Applicable from date of signature until in-service date
 - Operation Period Security Deposit
 - Letter of credit (\$/MW)
 - Entire term of contract
 - Lien on asset in event of default



MODEL PPA

5. CONSTRUCTION MILESTONES
 - Permitting/Certification
 - Financial Close
 - Equipment Delivery
 - Construction Commencement
 - And more



MODEL PPA

6. LIQUIDATED DAMAGES
 - Bidder liable for replacement power cost
 - Early contract termination
 - Under performance
 - Failure to meet in-service date
 - Other non-performance measures
 - Construction and Operation Period Security Deposits -- source of payment and set limit for replacement costs



MODEL PPA

7. CREDITWORTHINESS

State that bid may be submitted only if some of the following is provided:

- Bond rating is investment grade
- Asset is financed
- Asset has investment grade guarantor
- Construction and/or Operation Security deposits increased to \$/MW



BID EVALUATION

TWO STAGES

- ❖ Assessment of Generation Costs
- ❖ Possible transmission system upgrade costs



BID EVALUATION

Generation Cost Assessment

- Range of uniform capacity factors selected
- Each bid will yield a price at each capacity factor
- Specify all other assumptions
 - Fuel costs
 - Inflation
 - Etc.



BID EVALUATION

- Costs represent annuity cost per mwh
 - Annual cost for each component
 - Capacity
 - Energy
 - Variable O&M
 - Fixed O&M
 - Projected over term of offer
 - At each uniform capacity factor



BID EVALUATION

- Determine present value of projected costs using utility's after-tax weighted cost of capital as the discount rate
- Don't forget annuity method
- For unequal bid sizes, annuities divided by the mWh of the bid
- Rank annuities and choose lowest-cost bid sufficient to meet megawatt level solicited



BID EVALUATION

Transmission System Upgrade Cost Assessment

- Transmission modeling now used to determine upgrade costs associated with the generation cost “winning bidders”
- Assure system reliability
- Cost determination must be done in comparable manner



BID EVALUATION

- Costs of winning bidders now reassessed taking in to consideration transmission system upgrade.
- If still “lowest cost”, then this is the winning portfolio. If not lowest cost, a new portfolio of generation bids created (second-best).
- Transmission cost upgrades expected to be lower for higher generation costs



BID EVALUATION

- Rerun transmission modeling with second best
- Compare cost of “winning bidders” to “second-best”
- Lower portfolio wins



OTHER ISSUES

- Clarity on value of non-price factors
- Confidentiality
- Dispute Resolution
- Bid Fees