Workshop on Competitive Bidding

Docket No. 03-0372
Presentation of
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Merrimack Energy Group, Inc.

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Outline of Presentation

I. Experience of Merrimack Energy
II. Competitive Bidding Overview and Background
III. Characteristics of Mainland and Hawaii Systems
IV. Competitive Bidding and IRP
V. Process for Developing and Implementing an Effective Competitive Bidding Process
VI. Recent Trends/Issues in Competitive Bidding
VII. Lessons Learned

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I. Competitive Bidding Experience of Merrimack Energy --- Services Provided

- Supply-side and Renewable RFP design
- Supply-side and Renewable bid evaluation
- Option RFP design and evaluation
- DSM/Interruptible Resources RFP design and evaluation
- Management/organization of the bid evaluation process
- Independent Evaluator/Observer
- Technical Support
  - Model development and evaluation
  - Fuel supply evaluation
  - Contract design/negotiation
  - Financial modeling/evaluation

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I. Competitive Bidding Experience

➢ Hydro-Quebec Distribution ➢ 2001-2004	➢ Outside advisor for wind, biomass, short-term, cogeneration and long-term call for tenders
➢ Portland General Electric ➢ 2003-2004	➢ Independent Observer
➢ BC Hydro – 2003-2004	➢ Independent Reviewer
➢ Utah Division of Public Utilities –2004	➢ Evaluation of PacifiCorp's RFP evaluation and selection process
➢ Massachusetts Technology Collaborative - 2003	➢ Renewable RFP design and evaluation

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I. Competitive Bidding Experience

➢ Wisconsin Power & Light – 2000	➢ Long-term supply-side RFP
➢ Houston Light & Power	➢ Short-term capacity products
➢ Central & Southwest Services ➢ 1996-1999	➢ All-source RFPs for all four operating companies; wind-only RFP
➢ Carolina Power & Light	➢ 1996 & 1997 supply RFPs
➢ General Public Utilities – 1998	➢ Options RFP
➢ Duke Power 1995-1996	➢ Long-term and options RFPs
➢ Boston Edison Company	➢ All-source RFP
➢ Lower Colorado River Authority	➢ RFP for Turnkey Contract
➢ Commonwealth Edison	➢ All-source RFP
➢ Baltimore Gas & Electric	➢ Independent Evaluator
➢ Delmarva Power & Light	➢ Independent Evaluator

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Competitive Bidding Overview and Background

History of Competitive Bidding

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II. Competitive Bidding Overview/Background

- **Stages of Competitive Bidding**

1. Infancy of competitive bidding (1984-1989)
2. Initiation of Integrated Analysis (1990-1994)
3. Pre-Restructuring Period (1995-1999)
4. Restructuring Period (2000-present)

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II. Overview and Background of Competitive Bidding

- Competitive bidding emerged as a means of procuring power supplies beginning in the mid-1980's
- Response to PURPA
  - Purpose was to enter some order into the power procurement process
  - Procure power based on need
- Central Maine Power was the first utility to use competitive bidding in 1984
- From 1984 to 1995 there were over 160 solicitations in the US in 37 states for a total request for nearly 43,000 MW
- Bidding programs have evolved with changes in the power market

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II. Stage 1: Infancy of bidding (1984-1989)

- Initial bidding processes were largely self-scoring, transparent processes
- Bids selected based on a combination of price and non-price factors
  - E.g. 50% price and 50% non-price
- Bid prices generally compared to the utility's projected avoided cost
- Eligibility limited to PURPA qualifying facilities
- Site control generally not a requirement
- Long-term contracts were the norm supported by unit contingent contracts
- Early processes were marked by significant litigation
- Simplified point systems were vulnerable to gaming
- Many projects failed during Stage 1

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II. Stage 2: Initiation of Integrated Analysis (1990-1994)

- Process began to evolve to a more integrated system approach
  - Close link with the Integrated Resource Plan
    - IRP established need and timing and RFP was used to identify available resources
- Simplified bid evaluation and scoring systems vulnerable to gaming were replaced with more sophisticated production cost and generation expansion models for conducting the price analysis
- More detailed threshold and non-price criteria were developed
  - Site control, dispatchability, fuel supply security
- Eligibility standards were broadened
- Other system costs included in the analysis
- Market competition increased significantly

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II. Stage 2: Initiation of Integrated System Analysis (1990-1994) cont.

- Well financed and more experienced project developers were entering the market forcing out the smaller developer
- Natural gas-fired combined cycle plants began to dominate the market
  - Cheaper gas prices
  - Lower equipment capital cost
  - Higher efficiency
  - Environmentally friendly
- Flexible operating characteristics of units valued highly in the evaluation and selection process
- Longer term contracts still the norm but transition to shorter term arrangements.
- Less litigation at this stage

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II. Stage 3: Pre-restructuring Period (1995-1999)

- Utilities still had the obligation to serve but the risk customers may leave the system with retail access a concern
- Flexibility in resource selection/commitment became the key factor
- Contract terms shortened
- Utilities began to solicit bids for options contracts
  - Minimize fixed cost exposure
- Power marketers began to enter the market, creating a new class of competitors and new products
- Pricing methodologies became more sophisticated
  - Use of option pricing techniques to evaluate bids

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II. Stage 4: Restructuring Period (2000 to Present)

- Recent competitive bidding processes reflect financial crisis in the power generation industry
  - Merchant generation extracted toll on the industry
  - "Credit is King"
  - Increased levels of security and collateral required
- Utility projects have become more competitive relative to independent generators
  - Revised capital structure for IPPs with more equity
  - IPPs have higher debt costs due to credit quality
- New bidding initiatives in Oregon, Utah, Florida, Arizona, Louisiana, Quebec, and British Columbia
- Utilities seeking more reliable firm power supplies
- Inferred debt/debt equivalence is becoming a major issue.

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II. Phase 4: Restructuring Period (2000 to Present)

- Longer term contracts are reemerging
- Transmission access and costs influencing project selection
- Tolling has become prevalent in recent RFPs
  - Purchasing utility supplies the fuel and bidder guarantees heat rate and availability
- Utilities seeking a more diverse array of options
  - Turnkey arrangements
  - Acquire existing projects or projects under development
  - Short vs long-term resources in portfolio
- Portfolio evaluation serves to identify preferred bids
- Fuel diversity is becoming a more important criteria
- Renewed involvement by regulatory commissions
- Reemergence of IRP and longer-term planning

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II. Status of the Power Generation Industry and its Influence on Resource Procurement

- Patchwork of regulations throughout the US
  - 18 states have implemented retail access
  - 32 states have not implemented restructuring plans
- In regions without retail access, integrated resource planning programs and competitive bidding reemerging
- Several different market models in existence
  - Wholesale power exchange/ISO structure
  - Bilateral market
- Current generation market is creating financial strain for many power generators
  - Higher equity requirements
  - Higher cost of debt
  - Higher fuel costs
  - Lower revenues

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II. Status of the Power Generation Industry and its Influence on Resource Procurement

- Most proposed projects are gas-fired
  - Gas supply and transportation worries mounting
    - Gas supply availability is a major concern
    - Price pressure
    - Gas pipeline access
- Many recent RFPs for renewable resources, particularly wind
- Merchant generators "walking away" from projects being developed
  - Depressed spark spreads
  - Banks hold plant obligations
- Some utilities are bringing plants held by unregulated affiliates back into the rate base or acquiring depressed assets from merchants.

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Hawaii vs Mainland Systems

Implications for Developing a Competitive Bidding Process

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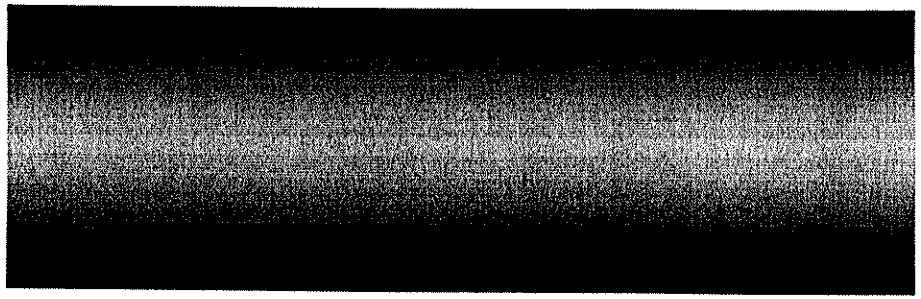

III. Characteristics of Mainland Utility Systems

- Interconnected nature of many utilities allows for greater resource diversity
- Both short and long-term backstops to a failed project exist
- Natural gas still the fuel of choice for most proposals
- Utilities generally seeking a portfolio of resource options and product structures
- Economies of scale in project development prevalent
  - Multiple buyers and multiple markets
- Tolling options are prevalent given the liquidity of the fuel markets
- More opportunities to meet operational requirements of utility
  - Flexible products and contracts

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III. Characteristics of Hawaii's Utility System

- Small projects and only one buyer
  - Potentially less competition
- Island systems are not integrated
- Stand-alone utility means project reliability is critical given the isolated nature of the market.
- Contract provisions need to reflect the above concern
  - Higher security and bidder threshold requirements
- Fuel options and flexibility is limited on Hawaii
- The nature of the power system may require parallel planning in case of project failure
- Long-term contracts only viable option for non-utility suppliers
- The unique operational characteristics of the electrical system needs to be accounted for in a competitive bidding process
- Lead times required to complete a competitive bidding process would likely be longer due to permitting requirements and investor due diligence.

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III. Options for Meeting Reliability Objectives

- Higher security (cash collateral provided by bidders which the utility holds) to "encourage" bidders to perform under the contract
  - Development security tied to project milestones
  - Operating security to ensure project reliability
- Build and transfer option
- Contract provision for "Step-in" rights for HECO should a project fail
- Second lien provision
- Higher bidder threshold requirements
- More stringent requirements to meet reliability objectives may discourage number of competitors

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Competitive Bidding and IRP

Implementation Issues

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IV. IRP in resource acquisition

- Most utilities use IRP to provide the strategic direction to the long-term resource acquisition process
- IRP determines the following:
  - Portfolio Strategy (more renewables, fuel diversity, balanced approach, etc.)
  - Capacity needs (timing and amount)
  - Preferred technologies or resources
- Findings are used to construct an RFP for competitive bidding
  - Linkage between the IRP and RFP

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IV. General Methods for Conducting IRP with a Bidding Process

1. Perform competitive bidding after the IRP process
   - Use IRP to define capacity and energy requirements, timing and preferred technologies
   - Configure RFP to solicit bids for a block of resources or the next required resource

2. Perform competitive bidding within the IRP process
   - Determine needs and solicit proposals for evaluation through IRP process
   - This approach is not typical of recent approaches

3. Perform competitive bidding independent of the IRP process
   - Typically performed when there is a eminent need or a regulatory initiative (such as RPS)

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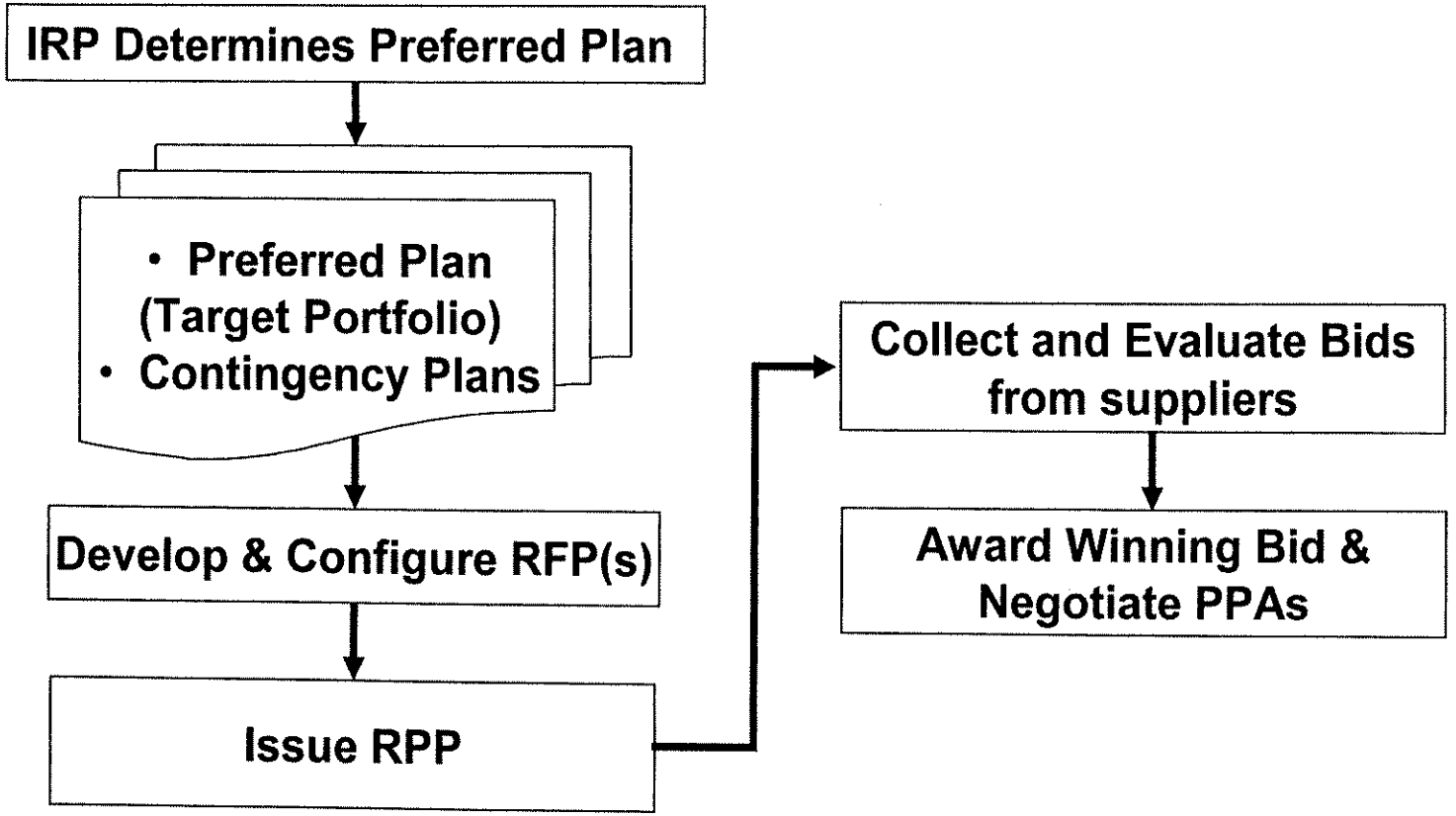
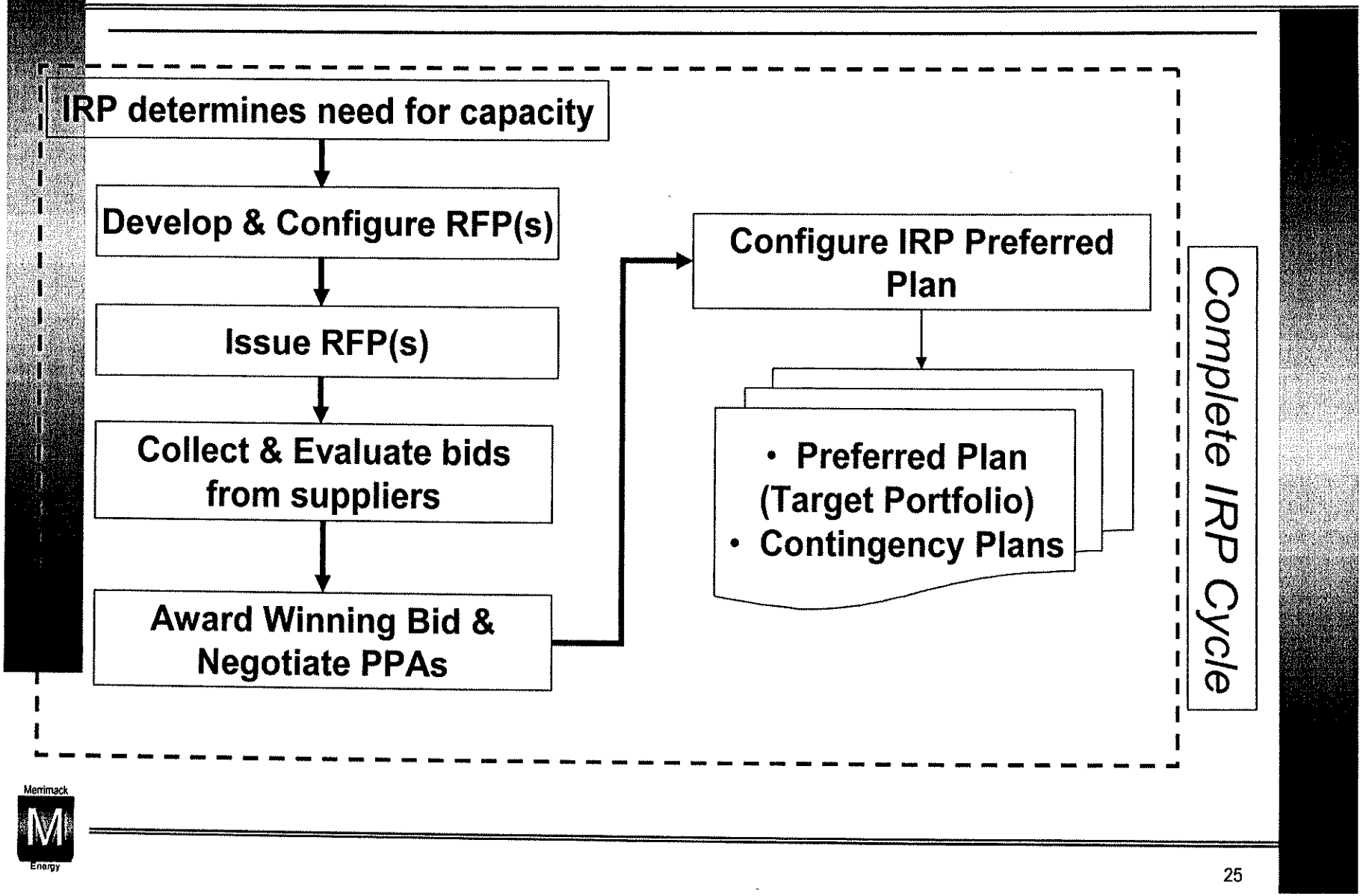
Option 1 – RFP follows IRP



Option 2 - Competitive bidding encompassed within IRP cycle



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IV. IRP and Competitive Bidding - Implementation Issues

- Time and resource requirements
  - RFP development, evaluation, selection and negotiation significantly lengthens the acquisition process
  - Many other company resources would be needed
- Advisory Groups' Role in Competitive Bidding
  - Potential bidders would have to be excluded
  - Bidders' confidentiality concerns
- Regulatory issues
  - Required PUC approvals and timeliness of orders
  - PUC resource requirements
  - IRP Framework revisions
- Utilities' filings with the PUC
  - Utilities' cost estimates would need to be filed under protective order
  - Disclosure would disadvantage negotiations

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Process for Developing and Implementing a Competitive Bidding Program

A Timeline by Task

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V. Options for Developing a Competitive Bidding Process

- Rulemaking/Generic Framework
  - Time consuming process
  - Establishing the appropriate rules benefits all parties
  - Significant regulatory involvement
- Open Docket Framework
  - Docket addresses specific RFP
  - No linkage with other regulatory processes
  - Establish rules of the game "on the fly"
- Unilateral RFP
  - Can be completed quickly
  - Could be subject to complaints by bidders who feel they were not fairly treated

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V. Process for Developing and Implementing a Competitive Bidding Process After the Competitive Bidding Rules are in Place

- Stage 1: Develop the RFP (4-6 months)
- Stage 2: Issue RFP/Bid Preparation (3-4 months)
- Stage 3: Evaluation of Bids (3-4 months)
- Stage 4: Contract Negotiations (3-12 months)
- Stage 5: Regulatory Approval of Contract (3-9 months)
- Total Timeline: 16 to 35 months

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V. Stage 1: Develop RFP (4-6 months)

A. Address Key Issues

1. Role of bidding in the IRP process
   a. Amount of capacity to solicit
   b. Timing of need

2. Type of bidding process
   a. Multi-stage evaluation

3. Bidder eligibility
   a. Supply only
   b. All source

4. Price Evaluation Methodology
   a. Models/methodologies
   b. Data requirements
   c. Term of the evaluation

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V. Stage 1: Develop RFP

A. Address Key Issues (cont.)

5. Role of price and non-price factors/weights

6. Utility role in the RFP process
   a. Development of the RFP
   b. Evaluation and selection of short-listed candidates
   c. Develop and prepare utility build and own option

7. Credit Issues/Security Requirements

8. Contract Issues
   a. Terminal cost at end of contract
   b. Asset transfer provision
   c. Flexibility provisions
   d. Liquidated damages (cost of replacing power in case of a default)

9. Accounting Considerations – Hidden cost of purchased power
   a. Debt equivalence
   b. Balance Sheet impacts

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V. Develop RFP

A. Address Key Issues (cont)

11. Operational Requirements
    a. Cost and constraints of operating the utilities' resources to accommodate the new resource
    b. Use IPP similar to the way the utility could operate its own unit

12. Transmission considerations
    a. Costs and practicality of obtaining right-of-way corridors, constructing new lines, or upgrading existing lines would need to be factored into each bid
    b. Completion of interconnection studies for each bid

13. Flexibility requirements
    a. Require unit enhancements for new technologies or fuels
    b. Contract flexibility to delay, buyout or accelerate in-service date

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V. Stage 1: Develop the RFP

B. **Identification of Tasks/Schedule for Implementation**

C. **Develop Evaluation Criteria and Weighting System**

1. Threshold or minimum criteria
   a. Lenient vs stringent threshold criteria
   b. Price/non-price weights

D. **Develop Procedures Manual**

1. Organizational Structure
2. Documentation
3. Communications
4. Reporting
5. Project Teams

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V. Stage 1: Develop RFP

E. **Develop Power Contracts**

F. **Prepare Draft of the RFP**
   1. **RFP document**
   2. **Response Package**

G. **Develop Database for Documenting Bid Evaluation**

H. **Develop website for bidder communications**

I. **Test the Evaluation System**
   1. Prepare and evaluate test bids

J. **Revisions to the RFP**

K. **RFP Approval (if required could be 2-6 months)**

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V. Stage 2: Issue RFP/Bid Preparation (3-4 months)

- Issue RFP
- Organize and hold Bidders Conference
- Notice of Intent to bid form submitted
- Respond to bidders questions

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Stage 3: Evaluation of Bids (3-4 months)

- Receipt of proposals
- Initial review of proposals
  - Completeness check
  - Clarification questions for bidders
- Threshold/Minimum requirements evaluation (Stage 1)
- Price screen/non-price assessment
- Selection of the short-list
- Portfolio evaluation
- Select award group/winning bids for contract negotiations
- Board presentation

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Stage 4: Contract Negotiations (3-12 months)

- Review exceptions to power contracts
- Organize contract negotiations team
- Negotiate commercial terms
- Negotiate credit terms
- Finalize contracts

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Stage 5: Regulatory Approvals (3-9 months)

- Application for contract approval
- Cost recovery issues
- Final approval

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Recent Trends/Issues in Competitive Bidding Programs

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VI. Recent Trends in Competitive Bidding Processes

- Credit quality of the counter party is now one of the most important evaluation criteria
- Recent credit problems of independent generators has generally led to higher equity ratios and higher cost of debt for IPPs
- Recent bidding programs have recognized the value of utility generation projects as options in the RFP process
- Utilities are taking on the fuel supply function for IPPs through tolling arrangements
- Transmission costs are having an important impact in distinguishing projects
- The issue of Inferred debt is being recognized by a number of Commissions and utilities as an important factor in evaluating generation resource options

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VI. Recent Trends in Competitive Bidding Processes

- Integrated evaluation systems using sophisticated production cost and generation planning models for bid evaluation are the norm in the industry
- Price-related criteria are the predominant selection criteria
  - Non-price used to ensure projects are viable
- RFPs are designed to encourage a broader range of supply options
- Supply-side and DSM RFPs generally separate processes

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Lessons Learned

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VII. Lessons Learned

- It is important to establish the rules of the game before undertaking a competitive bidding process
  - Poorer processes result from the development and implementation of the RFP process "on-the-fly"
  - Preparation up-front is necessary
- Open and transparent evaluation systems can lead to gaming of bids and limit true competition
- It is important in undertaking a competitive bidding process that the RFP, Contract, and information required of bidders are integrated
- Not all projects awarded a contract will succeed
- Power contracting has been much more complex and time consuming
- All costs (bid prices and utility system costs) should be included in the evaluation process
- The time, cost and resource commitment to the utility in carrying out a competitive bidding process can be significant

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