

Delmarva Power Integrated Resource Planning Process

Scenario Workgroup Meeting

Delmarva Power Conference
Center

Newark, DE

November 5, 2009

Purpose of Workshop

- Review Relevant IRP Regulations
- Delmarva's IRP Model Structure
- Objective of Scenario Analyses
- Delmarva's Recommended Scenarios
 - Reference Case (1)
 - Green Scenarios (2)
 - Generation Scenario (1)
- Discuss Next Steps

IRP Regulations

“**Scenario Analysis**” means a component of integrated resource planning that analyzes and assigns probabilities to a variety of possible future conditions and the **options** available to deal with them. Its primary purpose is to facilitate better resource planning decisions by assessing and quantifying the economic and other risks related to a particular decision.

3.2.4 An Integrated Resource Evaluation which shall include a listing of all the **options** considered to meet the load forecast, identification of those chosen for further evaluation and possible inclusion in the IRP, and a discussion of the rationale for such selections including any key assumptions. This planning information shall include a 10-year planning horizon, starting with the year immediately following the filing year (i.e. filing year of 2010 shall include planning information for years 2011 through 2020).

3.2.5 A **Scenario Analysis** used to integrate the **options** into a single resource plan or individual scenario for further review and analysis, to include a listing of the various scenarios considered and any key assumptions.

IRP Regulations (cont)

3.2.7 An analysis of the risk and sensitivity of the proposed IRP in comparison to other **options** also considered and a contingency plan to meet the Plan Objectives should one of the supply, demand or transmission options be either delayed or not realized.

6.1 The Company shall conduct an Integrated Resource Evaluation in formulating its potential plans for supply and demand-side resource scenarios. The Company shall describe the mechanism or process by which the Load Forecast and **options** have been blended into the various IRP **scenarios**. In integrating its supply and demand-side resources, the Company shall:

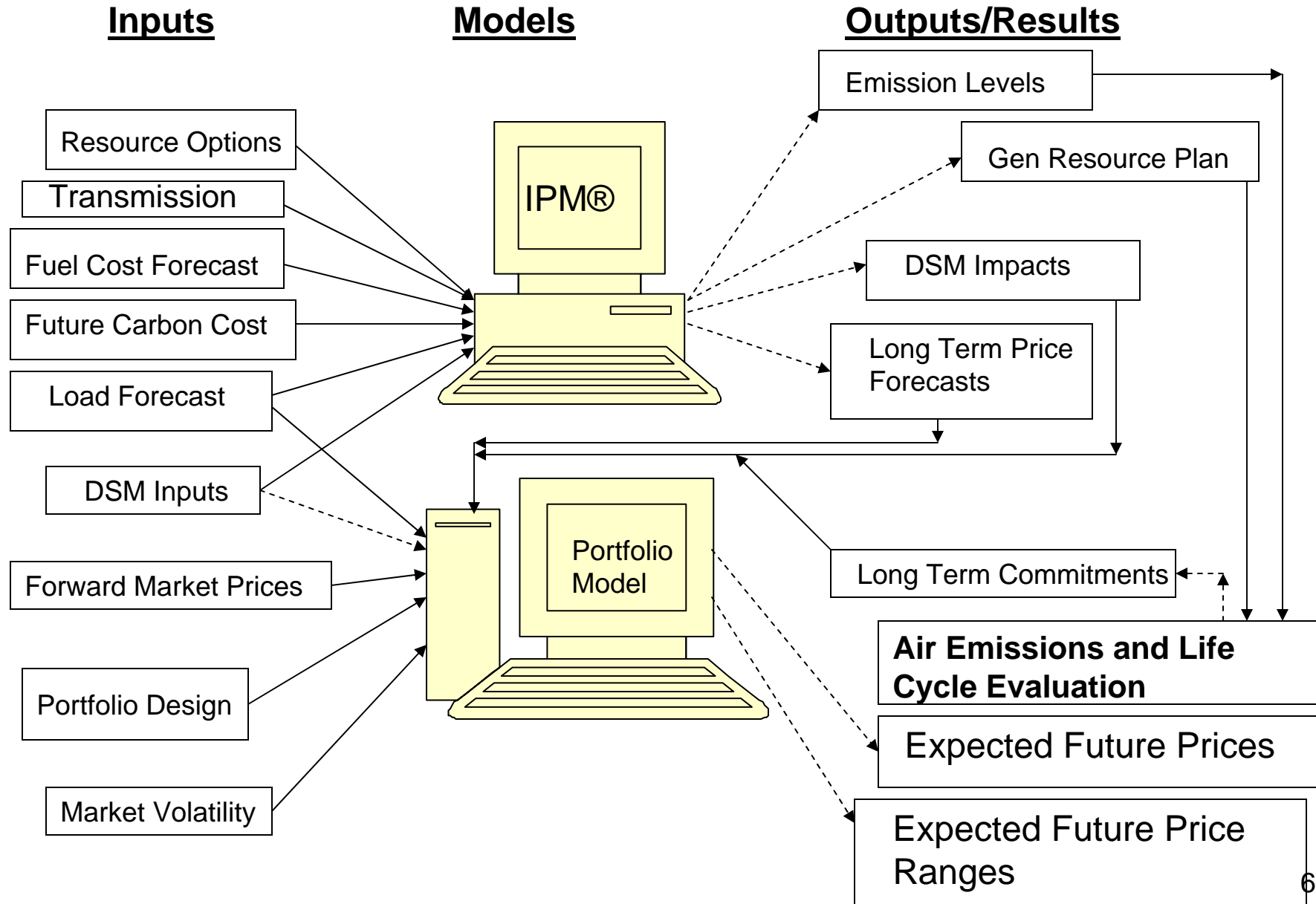
6.1.6 Evaluate the financial, competitive, reliability, and operational risks associated with the **options** recommended by the IRP and how these risks may be mitigated over the 10 year planning period. Each candidate plan shall include a discussion of the likelihood of the occurrence of such risks.

IRP Regulations (cont)

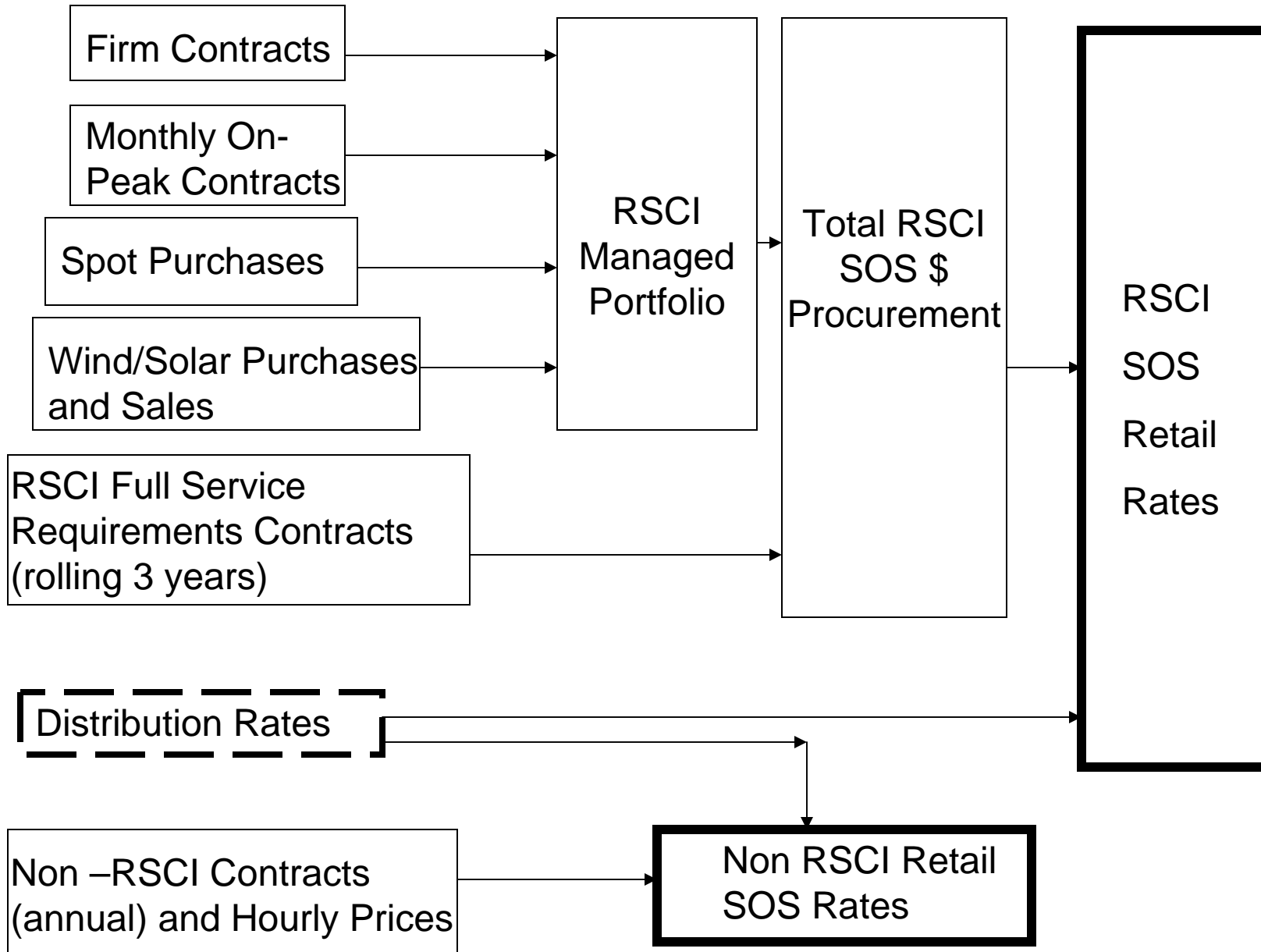
6.1.7 For the **options** included in the proposed plan identified in the IRP, the IRP shall include an analysis of the fuel risk associated with the proposed Resource Portfolio and how such fuel risk will be mitigated when the proposed IRP is implemented.

6.1.8 Perform sensitivity analyses on each of the candidate plans to include variations in key assumptions and to assess the likelihood of planned outcomes. The sensitivity analyses shall include among other analyses the impact of proposed or existing rules and regulations on a local, regional or national level related to climate change.

Delmarva IRP Modeling Structure



Delmarva SOS Customer Rate Development



Major Planning Model Assumptions

- **Level of Renewables**
- **New Fossil Generation in Delaware**
- DSM
- Load Forecast
- Carbon Regime / Environmental Constraints (RGGI, etc.)
- Transmission (MAPP)
- Fuel Cost (natural gas for PJM)
- Capital Cost of Resource Options

Proposed IRP Scenario Matrix

	Renewable Resources	New Fossil Generation	DSM	Load Forecast	Carbon & enviro	Transmission	Fuel Cost	Capital Cost
I. Reference Case	Meet RPS	No	Meet EE Act Targets	DPL Reference	ICF Reference	MAPP	ICF Reference	ICF Reference
II. Off Shore Case	More Off Shore Than Reference Case	No	Meet EE Act Targets	DPL Reference	ICF Reference	MAPP	ICF Reference	ICF Reference
III. Land Based Case	More LBW Than Reference Case	No	Meet EE Act Targets	DPL Reference	ICF Reference	MAPP	ICF Reference	ICF Reference
IV. Generation Case	Meet RPS	Add New Gas Fired Generation Resource	Meet EE Act Targets	DPL Reference	ICF Reference	MAPP	ICF Reference	ICF Reference

Proposed Scenarios

- More Off-shore Wind: Secure 50% more RECs and mwh than RPS standard with off-shore resources.
- More Land based wind: Secure 50% more RECs and mwh than RPS standard with Land based resources
- Reliability Case: Add new gas fired MW generation resource in Delaware in 2014.

Proposed Sensitivities in Portfolio Model

- Market Price of Renewable Contracts
- Capital Costs of New Resources
- Fuel Costs
- Load Forecast
- Level of DSM