Public Service Commission

3010 Integrated Resource Planning for the Provision of Standard Offer Service by Delmarva Power & Light Company

1.0 General

1.1 The reliability of electric service and the security of energy supply are of great importance to the Delaware Public Service Commission ("Commission"), because they are essential services to the citizens of Delaware. This regulation, in support of 26 Del.C. §1007, sets forth the minimum Delmarva Power and Light ("DP&L" or "Company") Integrated Resource Plan ("IRP" or "the Plan") requirements needed to ensure a cost effective, price stable, reliable, efficient and environmentally sound energy supply for all Standard Offer Service ("SOS") customers.

1.2 Nothing in this regulation relieves DP&L from compliance with any requirement set forth under any other regulation, statute, or order. Compliance with this regulation meets the minimum IRP requirements. Compliance with this regulation does not imply IRP approval or automatic cost recovery.

1.3 In accord with 26 Del.C. §1007, DP&L, as the Standard Offer Service Supplier, shall file an IRP on December 1st, 2006 and on the anniversary date of the first filing date every other year thereafter (i.e. 2008, 2010 et seq.). The Company may request and the Commission may change the filing date for good cause shown. These regulations shall apply to all IRPs filed pursuant to 26 Del.C. §1007. These regulations shall not apply to an IRP docket opened prior to the effective date of these regulations.

1.4 The IRP shall be filed in compliance with normal Commission policies and practices.

1.5 The IRP shall identify the year of the filing, the individuals responsible for its preparation and those individuals who shall be available to respond to inquires during the Commission's review of the plan.

1.6 Because an IRP may contain trade secrets and commercial or financial information, the Company may request that information, required under this Regulation, be classified as confidential, proprietary and/ or privileged material. The Company must explain how the material deemed confidential, if disclosed, will cause substantial harm to the competitive position of the Company or other party. The Company must attest that such information is not subject to inspection by the public or other parties without execution of an appropriate proprietary agreement. In requesting such treatment of information the Company is also obligated to file an additional copy of the information, excluding the confidential or proprietary information. The Commission, in accordance with Rule 11, Rules of Practice and Procedure of the Delaware Public Service Commission, effective May 10, 1999, shall treat such information as "confidential, not for public release" upon receipt of a properly filed request. Any dispute over the confidential treatment of information shall be resolved by the Commission, designated Presiding Officer or Hearing Examiner. Confidential utility documents shall be presented under separate seal.

1.7 Commission Recognition of a filed IRP implies only that the IRP is in compliance with the administrative requirements of this regulation and the Electric Utility Retail Customer Supply Act of 2006 ("Act"), 26 Del.C. §1001-1012. The recognition or ratification of an IRP does not confer or imply Commission approval unless so stated by an Order of the Commission. Approval or disapproval of an IRP must be made by the Commission after, at a minimum, Staff's analysis of and public comment on the proposed IRP. Any specific ratemaking treatment for the IRP or any portions thereof is neither directly nor indirectly guaranteed by virtue of the recognition or ratification.

1.8 The utility shall provide whatever detail and commentary necessary to demonstrate that it has met or exceeded the planning requirements as set forth in this regulation. An effort shall be made to ensure that the IRP is clearly stated and can be readily comprehended by the Commission, State Agencies, and other interested parties. The IRP shall include an Executive Summary.

1.9 Compliance with this regulation is a minimum standard for IRPs. The Company needs to exercise its professional judgment based on its systems and customer needs. The Company shall include all information that assists the reader to fully understand the IRP concept and the Company's IRP to meet SOS energy needs.

1.10 This regulation requires the maintenance and retention of supply resource planning data and the reporting of IRP achievements on an annual basis starting in 2009 to the Commission, Governor and General Assembly. The Company shall retain such data, consistent with Federal data retention guidelines and make it available for further review as necessary.

1.11 The Company shall submit a total of 14 copies of its IRP - eight (8) copies to the Commission, two (2) copies to the Controller General's office, two (2) copies to the Office of Management and Budget; two (2) copies to the Division of the Public Advocate and two (2) copies to the Energy Office/DNREC. The Commission may request up to six (6) additional copies of combined and common filings as may be necessary for review.

1.12 These Integrated Resource Planning Regulations shall be effective for IRP dockets opened after the effective date of these regulations and may be reviewed, revised, or extended as necessary to ensure continued compliance with 26 Del.C. §1001-1012 and to ensure adequate SOS energy supply.

1.13 Failure of the Company to file an IRP or to provide progress reports as required may subject the Company to the penalty and remedial provisions of the Delaware statute (26 Del.C. §1019).

1.14 The Company shall make the full IRP, including any appendices or other supporting materials, available to the general public on its web site and shall update these materials on the Company's web site to remain current with all subsequent updates, revisions or other changes made to the IRP by the Company.

2.0 Definitions

The following words and terms, as used in these regulations, shall have the following meanings, unless the context clearly indicates otherwise.

"Brownfield" means any vacant, abandoned, or underutilized real property the development or redevelopment of which may be hindered by the reasonably held belief that the real property may be environmentally contaminated.[1]

"Capacity" means the maximum power capability of a piece of equipment. For example, a generating unit might have a rated capacity of 50 megawatts.

"Commission" means the Delaware Public Service Commission.

"Commission Approval" means that if the Company requests and the Commission approves specific policies, contracts or guidelines that are attached to the IRP for rate making purposes. Certain policies, contracts, or guidelines previously approved by the Commission will not need additional Commission approval in the IRP unless materially changed.

"Commission Recognition" means that within 45 days after the Company has filed its IRP the Commission finds that the plan is administratively complete in fulfilling the requirements of the rules and regulations.

"Commission Ratification" means that after the completion of the regulatory process, including analysis by Staff and input from the public and other parties, the Commission finds that the IRP is not unreasonable and appears to be in the best interest of the ratepayers. Any specific ratemaking treatment for the plan or any portions thereof is neither directly nor indirectly guaranteed by virtue of the ratification.

"Conservation" means any reduction in electric power consumption that results from improved efficiency, avoidance of waste, reduced consumption, or other energy usage reductions that may result from installing new equipment, modifying existing equipment to improve efficiency, adding insulation or changing behavior patterns.

"Customer-Sited Generation" means a generation unit that is interconnected on the end-use customer's side of the retail electricity meter in such a manner that it displaces all or part of the metered consumption of the end-use customer.

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1. 7 **Del.C.** §9103

"Demand Response ("DR")" means programs that are designed specifically to reduce electricity demand during periods of supply constraint. These programs do not necessarily reduce total annual energy consumption.

"Demand-Side Management ("DSM")" means cost effective energy efficiency programs that are designed to reduce customers' electricity consumption, especially during peak periods.[2]

"DNREC" means the Delaware Department of Natural Resources and Environmental Control

"DP&L" or **"Company"** means Delmarva Power & Light Company, Inc. or its successor organizations.

"Energy" means electrical energy. In this sense, energy is a measure of the quantity of units of electricity used in a given time period, measured in megawatt- hours.

"Environmental Benefit" means the positive environmental impact minus the negative environmental impact attained by specific actions including, but not limited to, energy generation and distribution, transmission service, conservation, customer-sited generation, DR, or DSM.

"Environmental Impact" means the result of an action, outcome or activity related to the IRP, on natural and physical resources including, but not limited to, wetlands, sea levels, fisheries, air quality, water quality and quantity, public health, climate impacts, land masses, and ground water.

"Externalities" means the social, health, environmental and/or welfare costs or benefits of energy which result from the production, delivery or reduction in use through efficiency improvements, and which are external to the transaction between the supplier (including the supplier of efficiency improvements) and the wholesale or retail customer. Externalities should be quantified and expressed in monetary terms where possible. Those externalities that cannot be quantified or expressed in monetary terms shall nonetheless be qualitatively considered.

"Fuel Diversity" means the utilization of resources to supply energy to SOS customers that are procured in such a way as to diminish the risk of adverse changes in fuel prices for electric generation, either through a mix of electric generating resources that utilize a variety of fuel sources, fuel hedges, Customer-Sited Generation resources, both renewable and nonrenewable, application of appropriate risk management practices, DSM or a combination of these activities and assets.

"Generation Attributes" means non-price characteristics of the electrical energy output of a generation unit including, but not limited to, the units fuel type, geographical location, emissions, vintage and Renewable Energy Portfolio Standards (26 Del.C. §351-363) eligibility.

"**Implementation Plan"** means an action plan which outlines the short and long term planned actions and contingency plan of the Company to secure necessary energy, capacity, transmission and other appropriate resources as further described in the Integrated Resource Plan.

"Integrated Resource Planning" means the planning process of an Electric Distribution Company that systematically evaluates all available options, including but not limited to: generation, Supply Contracts, transmission and Demand-Side Management programs during the planning period to ensure that the electric distribution Company acquires sufficient and reliable resources over time that meet their customers' needs at a minimal cost.[3]

"Integrated Resource Evaluation" means a process within the IRP that considers and compares supply- and demand-side resources to select a final resource mix.

"Integrated Resource Plan (IRP)" means the plan derived from the integrated resource planning process.

"Load Forecast" means the estimated future annual electricity usage that is used to help electric utilities make resource allocation decisions.

"New or Innovative Baseload Technologies" means energy resources using new technologies to generate electricity on a typical round- the- clock basis.

"**Nominal Price**" means the price paid for a product or service at the time of the transaction that has not been adjusted to reflect the effects of inflation.

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2. 26 **Del.C.** §1001 (5).
3. 26 **Del.C.** §§ 1001(13), 1007 (b)(1).

"PJM Interconnection, L.L.C. ('PJM')" means the Regional Transmission Organization or successor organization that is responsible for wholesale electricity markets and the interstate transmission of electricity throughout a multi-state operating area that includes Delaware.

"Portfolio" or **"Resource Portfolio"** means the combination of physical assets (e.g. electric generating, self generating, and transmission assets), financial products (e.g. Supply Contracts for energy and related services), market resources (e.g. spot market energy purchases), DSM and DR programs, and Customer-Sited Generation resources, both renewable and non renewable, that the Electric Distribution Company uses to satisfy current and future energy procurement requirements for SOS customers, which is designed to manage the risk of adverse price changes to SOS customers.

"Plan Objectives" means the targets or goals of an IRP needed to measure the impact and/or success of the plan's actions. Such goals or targets must be definitive, measurable and verifiable. Refer to 1.1 for IRP objectives.

"Price Stability" means the lack of significant variation in either the real price or nominal price paid by SOS customers over the planning period.

"Real Price" means the value after adjusting for inflation. Real price is expressed in constant dollars reflecting buying power relative to a base year**.**

"Reliability" means the degree of performance of the elements of the bulk electric system that results in electricity being delivered to customers within accepted standards and in the amount desired. Reliability may be measured by the frequency, duration, and magnitude of adverse effects on the electric supply. Electric system Reliability can be addressed by considering two basic and functional aspects of the electric system – Adequacy and Security.

- Adequacy is the ability of the electric system to supply the aggregate electrical demand and energy requirements of customers at all times, taking into account scheduled and reasonably expected unscheduled outages of system elements.
- Security is the ability of the electric system to withstand sudden disturbances such as electric short circuits or unanticipated loss of system elements.[4]
- As applied to distribution facilities, Reliability is further described as the degree to which safe, proper and adequate electric service is supplied to customers without interruption.

"Resource Portfolio" means "**Portfolio**."

"Retail Competition" means the right of a customer to purchase electricity from a certified electric supplier.

"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.

"Standard Offer Service ("SOS")" means the provision of electric supply service by a Standard Offer Service Supplier to customers who do not otherwise receive electric supply service from a certified electric supplier.

"Standard Offer Service Supplier" means the electric distribution company serving within its certificated service territory.

"Supply Contracts" means short or long term power procurement contracts as may be negotiated and agreed upon to meet defined requirements, more specifically for Delaware's Standard Offer Service customers.

"Transmission Service" means the delivery of electricity from supply sources through transmission facilities to distribution system interconnection points.

"Wholesale Electricity Market" means the various PJM markets in which the purchase and sale of electric energy, capacity, and ancillary services from generators to resellers/wholesale suppliers (who sell to retail customers) takes place at the transmission level.

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4. NERC definition - NERC's Reliability Assessment 2001–2010, dated October 16, 2001.

3.0 General Requirements

3.1 Consistent with the requirements of 26 Del.C. §1007 and this regulation, the Company shall file a new and complete IRP every two years, starting on December 1, 2010 (first even-numbered year after the effective date of these regulations), that meets the following requirements:

3.1.1 The IRP shall provide a framework for comparing a comprehensive resource mix of supply- and demand-side and Transmission Service resource costs and attributes.

3.1.2 The IRP shall utilize a Resource Portfolio in achieving the objectives of the IRP, shall incorporate a Portfolio approach to securing resources and incorporating an analysis of risk versus certainty into the planning process, or absent such a Portfolio approach, the rationale supporting the exclusion.

3.1.3 The IRP process shall provide for regulatory, stakeholder and public input into the development of the IRP in accordance with normal Commission policies and practices.

3.1.4 The IRP shall include provisions for the IRP to be modified from time to time, as may be necessary to conform with any subsequent legislative or regulatory directives.

3.2 The IRP shall at the minimum include the following requirements:

3.2.1 An executive summary with a short description of the utility, its customers, service territory, current facilities, planning objectives, notable areas of departure in the new IRP from the old, citing specific location within the IRP where the new aspects shall be found, Load Forecast, proposed IRP and Implementation Plan.

3.2.2 Established Plan Objectives in quantitative and qualitative terms by which the IRP achievements may be measured and shall not be biased against any particular option. Measures must be ascribed to each objective. The Company must include a summary of the overall process, and models used in developing the IRP.

3.2.3 A description of the load forecast, the assumptions used or implicit in creating the forecast, the range of forecast examined, and the forecast selected for the filing period and a detailed rationale for such selection.

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.

3.2.6 A description of the process used to develop the proposed IRP, including the assumptions and analysis leading up to the decision and the application of the valuation criteria as specified in section 5.0.

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.

3.2.8 Plans for implementation of the IRP, for no less than five (5) years, starting with the year immediately following the filing year.

4.0 Load Forecast

4.1 The Company shall consider a range of load growth forecasts that include:

4.1.1 Both historical data and future estimates.

4.1.2 Both winter and summer peak demand for total Delmarva Delaware load and Delmarva Delaware SOS load by customer class.

4.1.3 Weather adjustments, including consideration of climate change potential.

4.1.4 Five (5) year historical loads, current year-end estimate and ten (10) year weather adjusted forecast showing individually and aggregated Delmarva Delaware and Delmarva Delaware SOS load, and both Delmarva Delaware and Delmarva Delaware SOS load disaggregated by customer classes, including both capacity (MW) and energy requirements (MWh).

4.1.5 Analyses of how existing and forecast Conservation, DR, DSM, Customer-Sited Generation, various economic and demographic factors, including the price of electricity, will affect the consumption of electric services, and how customer choice under Retail Competition of utility service may affect future loads.

4.1.6 Description of the process the Company used to develop these forecasts. Forecasts shall include the probability of occurrence. Within the forecasting modeling descriptions the Company shall demonstrate how well its model predicted past load data for the prior five (5) years.

5.0 Resource Portfolio Options

5.1 The Company shall include a description of the overall process and the analytical techniques it used to identify its proposed options. The Company shall not rely exclusively on any particular resource or purchase procurement process.

5.2 The Company shall identify and evaluate all reasonable resource options including generation and transmission service, Supply Contracts, both short- and long-term procurement DSM, DR and customer sited generation, even if a particular strategy is ultimately not recommended by the Company. The IRP must show an investigation of all reasonable opportunities for a more diverse supply at the lowest reasonable cost, including consideration of environmental benefits and externalities. The Company shall also provide any hedging guidelines and shall identify any changes from any existing hedging policy. Cost evaluations shall contain a description of each option and an evaluation that considers the economic and environmental value of the following:

5.2.1 Resources that utilize New or Innovative Baseload Technologies;

5.2.2 Resources that provide short or long term Environmental Benefits to the citizens of this State;

5.2.3 Facilities that have existing fuel and transmission infrastructure;

5.2.4 Facilities that utilize existing brownfield or industrial sites;

5.2.5 Resources that promote Fuel Diversity;

5.2.6 Resources or facilities that support or improve Reliability; or

5.2.7 Resources that encourage Price Stability.

5.3 Where Transmission Service is identified as a planning option, the Company shall describe the transmission enhancement, the location, and provide PJM's assessment of the impact of the proposed transmission asset when available. The IRP shall reflect the current projects included in PJM's Regional Transmission Expansion Plan ("RTEP"). The Company shall file with the Commission any PJM revisions or updates to the RTEP immediately after receipt.

5.4 At least 30 percent of the resource mix shall be acquired through the regional Wholesale Electricity Market via a bid procurement or auction process held by DP&L. (Docket No. 04-391.)

5.5 The Company shall also include discussion of known plans to reduce existing physical, contractual or service related Portfolio resources during the IRP planning period.

5.6 The Company shall include a detailed description of its energy efficiency activities in accordance with 26 Del.C. §1020. The Company shall first consider electricity DR and DSM strategies for meeting base load and load growth needs and cost-effective renewable energy resources before considering traditional fossil fuel-based electric supply services to meet their retail electricity supplier obligations as defined in 26 Del.C. §352.

5.7 The Company shall evaluate all technically feasible and cost effective DR improvements. Where non-Company evaluations of DSM and Conservation are available through the Sustainable Energy Utility ("SEU") (or other organization as requested by the Commission), the Company shall summarize the results and actions taken. The Company shall collaborate and may contract with the SEU to provide services to accomplish the SEU's Demand Side management plans. The Company, using its independent best judgment, may recommend in the IRP any DSM program first offered to the SEU but

rejected by the SEU. Where DR programs are new, the Company shall summarize the anticipated benefits with respect to load reductions and provide supporting material to justify the new program.

5.8 The Company shall collaborate with the SEU and appropriate State Agencies in its evaluation of Customer-Sited Generation resource options. The Company may enter into a contractual relationship with the SEU or other energy service providers to implement a Customer-Sited Generation resource option strategy.

5.9 The Company shall assess the Resource Portfolio options against the set of Plan Objectives and criteria.

6.0 Plan Development

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:

6.1.1 Prepare an evaluation that takes into consideration the life expectancy of the resource, if the resource provides capacity and/or energy, any improvements to system Reliability, the dispatchability of the source, any lead time requirements, the flexibility of the resource, the Generation Attributes of the resource, the efficiency of the resource, and the opportunities for customers' participation. The valuation shall assess the probability of securing the options according to modeling information used, including any key assumptions. The Company shall provide the estimated energy and capacity impacts for each option and the rationale behind the estimate.

6.1.2 Prepare a contingency plan that shall include a discussion of how the Company might alter the proposed IRP in the future if the key planning assumptions used to develop the proposed IRP in the future turn out to be different than what was assumed in preparing the proposed IRP.

6.1.3 Evaluate the cost-effectiveness of the options from the perspectives of the utility and the different classes of ratepayers. Any cost evaluation should be based on real prices, the Company, should it so choose also may provide a cost evaluation using nominal prices.

6.1.4 Include a current evaluation, detailing and giving consideration to environmental benefits and externalities associated with the utilization of specific methods of energy production. This evaluation need not be based on original research by the Company and may rely on published research and peer reviewed scientific and/or medical studies commonly available. To the extent that any reliable, relevant peer reviewed published research and scientific and/or medical studies commonly available include life cycle analyses encompassing energy extraction, transport, generation and/or use, the Company shall include such research and studies in its evaluation.

6.1.5 The IRP shall not include any assumptions that externalities are adequately addressed by either the fact that the IRP meets the Renewable Energy Portfolio Standards, satisfies the Energy Efficiency Resources Standards, or that the generating units to be utilized comply with existing environmental regulations. This rule does not, however, preclude a potential conclusion that the Renewable Energy Portfolio Standards or Energy Efficiency Resources Standards in effect at the time adequately address externalities.

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.

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.

6.2 The Company shall forward a copy of the IRP to DNREC and seek input into externalities, including but not limited to, health effects.

6.3 In developing candidate plans, special attention shall be given to ensuring consistency between the IRP and typical rate- making processes. While the ultimate consumer price associated with the plan is important, the stability of rates and other factors as described in Section 5.2 need to be considered in any candidate plan selection.

7.0 Proposed Plan Selection.

7.1 The Company shall select and file the proposed IRP that is the most consistent with the criteria set forth in 26 Del.C. §§1007, 1020 and this Regulation. The Company shall provide a description of the options recommended for inclusion in the proposed IRP, including a description of the mechanism or process used for valuing each option. The Company shall describe the rationale behind its selection, including any modeling or methodology used as the basis for selection of the proposed IRP.

7.2 In filing the proposed IRP, the Company shall provide at a minimum a five (5) year forecast of supply rates by customer class that would be anticipated based on the IRP planning assumptions and recommended procurement strategy.

8.0 Implementation Plan

8.1 As part of the IRP, the Company shall file a plan needed to implement the IRP. Such Implementation Plan shall be a five (5) year action plan outlining the resource decisions intended to implement the IRP. The Implementation Plan shall include:

8.1.1 All actions to be taken in the first two (2) years and outline actions anticipated in the last three (3) years.

8.1.2 For IRPs filed on or after December 1, 2010, a status report of the specific actions contained in the previous Implementation Plan, including what risk assumptions were made and what actually occurred.

8.1.3 Schedule of key activities related to the IRP implementation.

9.0 Review and Comment

9.1 As part of the process commencing in 2009 and continuing on an annual basis, the Company shall submit a report to the Commission, the Governor and the General Assembly detailing their progress in implementing their IRPs.

9.2 The Commission, interested State Agencies, interested parties and the general public shall be provided an opportunity for review and comment on the Company's IRP filings. The Commission shall seek input from DNREC on the issue of externalities and environmental benefits due to emissions, as the result of the proposed IRP.

9.3 Subsequent to the IRP recognition and after input from the public, and other parties, the Commission may ratify the filing of the Company's IRP and its compliance with these regulations. Ratification that the IRP complies with the statute shall not guarantee a particular ratemaking treatment of future resource acquisitions. To the extent that the Commission determines that the IRP is not compliant with the statute or is unlikely to meet the goals of the statute, the Company shall revise its IRP to meet these requirements. Rate treatment shall be addressed in rate or other proceedings as filed by the utility or as initiated by the Commission.

9.4 The Integrated Resource Plan may be used as a factor in rate cases to evaluate the performance of the utility. Reports provided under this Regulation are subject to annual review and audit by the Commission and interested State Agencies. The Company must maintain sufficient records to permit a review and confirmation of material contained in all required reports.

13 DE Reg. 953 (01/01/10)