

Table of Contents

Duke.....	2
Entergy.....	4
FPL	6
IESO	8
ISO New England	10
JEA	12
MAPP	13
MEAG.....	14
MISO	16
NYISO	18
PJM	20
PowerSouth Energy Cooperative	22
SCEG	24
SOCO.....	26
SPP.....	27
TVA	28

Duke

EIPC 2010 STUDY

DUKE ENERGY CAROLINAS

DOCUMENTATION OF ASSUMPTIONS

Load forecast growth rate

Duke Energy Carolinas (DEC) expects an average growth rate of 1.6% through 2020 summer for a control area load of approximately 22,800 MW.

Impact of energy efficiency and DSM on modeled load

Energy efficiency efforts as required to meet state requirements has been incorporated into the load in the model. For 2020 summer, efficiency efforts constitute an approximate reduction of 450 MW of load modeled. Impact of the application of DSM was not included in modeled load.

Major transmission facilities (text or text w/accompanying table – for this study > 230 kV)

DEC has included three new > 230 kV transmission projects in the 2020 model. DEC has a project to upgrade the conductor on its 230 kV line from Pisgah Tie to Shiloh Switching Station by 2013 in order to accommodate additional transmission service into CPLW. A new 230 kV tie line to CPLE will be completed by 2013 between DEC's Pleasant Garden Tie and CPLE's Asheboro Station to enhance reliability in the western CPLE area. A new station for generation interconnection (Cliffside 6) is planned to be in service by 2012 on the Jocassee Switching Station to McGuire Nuclear Station 500 kV line. No other > 230 kV projects are expected to be in service by 2020.

Generation additions/retirements (text or text w/accompanying table – for this study > 100 MW)

DEC has included several new generation projects in model. These are projects that Duke Energy is committed to building and has state approval for, or IPP's with a signed IA.

Interchange/firm transmission modeled

DEC includes confirmed annual firm transmission service requests that are in accordance with resource projections provided by LSE's or executed contracts for the sale of firm energy.

Generation dispatch (text description)

The DEC system generation dispatch is modeled according to economic dispatch in accordance with the priorities identified in the resource projections provided by LSE's and according to executed contracts for the sale of firm energy.

Entergy

EIPC 2010 STUDY

Entergy

DOCUMENTATION OF ASSUMPTIONS

Load forecast growth rate

Modeling for the 2020 summer time frame will be adjusted to reflect the latest forecast of EES control area load of The Entergy Electric System (EES) of 28,801 MW. This represents an average growth rate of approximately 1.3%.

Impact of energy efficiency and DSM on modeled load

Load projections take into consideration energy efficiency impacts currently required by the states. The modeled loads do not reflect a reduction associated with Interruptible contracts signed with large industrial customers in the area.

Major transmission facilities (text or text w/accompanying table – for this study > 230 kV)

Entergy will be including in the 2020 model transmission projects identified in Entergy's 2010 – 2012 Final Construction Plan Update 1 posted on OASIS. This includes projects identified as either Approved, Proposed and In Target, or listed in the Identified Target Areas. An Approved project is a project that is committed to being completed by the projected in-service date. A project shown as Proposed and In Target is a project that is currently funded for scoping and preliminary engineering with an expected construction commencement date within the three-year Construction Plan horizon. Projects shown as in the Identified Target tend to be more uncertain due to the uncertainty of the future but are identified to help address the area reliability concerns beyond the three-year construction plan period. For some areas, specific potential projects have been identified. However, the construction start dates of the potential projects or possible solution sets are beyond the 3-year Construction Plan horizon. The Construction Plan projects can be found at the following link to the Entergy OASIS: http://www.oatiaoasis.com/EES/EESDocs/2010-12_ETR_Final_Construction_Plan_Update_1.pdf. The projects shown in the Identified Target Areas can be found on pages 14 to 18 at the following link: <http://www.oatiaoasis.com/EES/EESDocs/2010-12ETRFinalConstructionPlan.pdf>.

Generation additions/retirements (text or text w/accompanying table – for this study > 100 MW)

Entergy generation modeled in the case includes all in-service units and any planned units that have firm transmission service scheduled from them after their completion. To meet the area requirements, firm generation is dispatched, followed by non-firm network resources, generation owned by the LSEs and then non-firm energy-only resources.

The model includes Plum Point unit 2 with an expected in-service of summer 2012.

Interchange/firm transmission modeled

The interchange for Entergy includes all firm long-term transactions that have service through the model year or qualify for rollover rights per Entergy's policy on granting such rights. No parital path transactions are included in the model.

Generation dispatch (text description)

Entergy dispatches generation representing firm energy contracts and economically dispatches firm network resources for load. Additional generation is dispatched on a pro-rata basis by pReserve in the following order: non-firm network resources, LSE-owned non-firm energy-only generation, then non-firm, energy-only resources within the BA that are owned by others.

FPL

EIPC 2010 STUDY

Florida Power & Light

Documentation of Assumptions

Load forecast growth rate

Florida Power & Light (FPL) expects an average growth rate of 1.92% through 2020

Impact of energy efficiency and DSM on modeled load

Energy efficiency efforts as required to meet state requirements has been incorporated into the load forecast. Impact of the application of DSM was not included in modeled load.

Major transmission facilities (text or text w/accompanying table – for this study > 230 kV)

FPL has included twelve new transmission line projects in the 2020 model that will amount to an estimated total of 200 miles of new 230 kV and 86 miles of 500 kV transmission lines. These projects are planned in all four regions of FPL's service territory and are associated with load growth and/or generating plant expansion. The project names are as follows: Turkey Point-Princeton 230, Indiantown-Riviera 230 loop into Ranch, Cedar-Corbett 230 loop into Riviera, Convert Corbett-Ranch 230 into Corbett-Lauderdale, Gaco-Magnolia 230, Duval-Kingsland 230 loop into Oneil, Alico-Ft. Myers 230, Bobwhite-Manatee 230, Clear Sky-Levee 500 #1 & #2, Clear Sky-Pennsuco 230, and Clear Sky-Davis-Miami 230.

Generation additions/retirements (text or text w/accompanying table – for this study > 100 MW)

FPL has included several new generation projects in model. All of these projects have gone through the FPL System Impact Study process and are part of FPL's official resource plan. The new generating capacity projects (> 100 MW) are as follows:

West County #3 combined cycle	1218 MW
Riviera conversion to combined cycle	655 MW (net gain)
Cape Canaveral conversion to combined cycle	414 MW (net gain)
Clear Sky (Turkey Point) nuclear	2600 MW

Interchange/firm transmission modeled

The FPL planning horizon model for 2020 includes confirmed annual firm transmission service requests that are in accordance with executed contracts for the sale of firm energy and are coordinated with the FRCC firm interchange data base.

Generation dispatch (text description)

The FPL system generation dispatch is modeled according to economic dispatch.

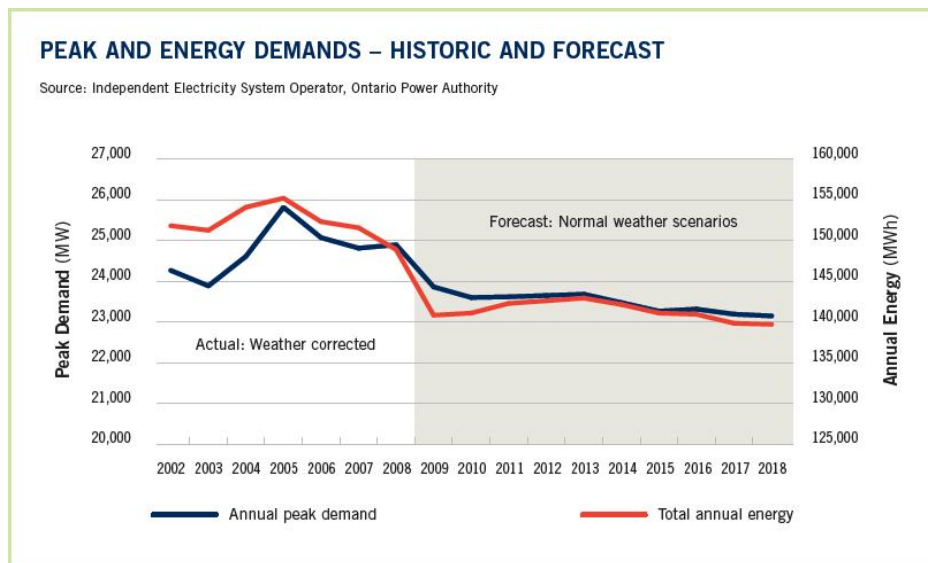
EIPC 2010 STUDY

Ontario IESO

DOCUMENTATION OF ASSUMPTIONS for summer 2020 Base Case

Load forecast growth rate

The forecast annual peak demand under normal weather conditions is approximately 23,195 MW in summer 2020. This represents a net annualized 10-yr growth rate of -0.09%, illustrated in the chart below from the Ontario Reliability Outlook, published by the IESO in December 2009, http://www.ieso.ca/imoweb/pubs/marketReports/ORO_Report-Dec2009.pdf



Impact of energy efficiency and DSM on modeled load

Demand side programs included in the load forecast: 4,491 MW. These include: energy conservation, fuel switching and changes in electricity consumption patterns due to the introduction of time of use rates at the residential level.

Major transmission facilities (text or text w/accompanying table – for this study > 230 kV)

Transmission system reinforcements in various parts of the province are planned during the horizon of the EIPC 2010 studies, including a new double circuit 500 kV line between Bruce and Milton, the reinforcement of the Windsor area transmission and a new 230 kV corridor between Milton and Claireville. In addition, to accommodate new renewable energy generating facilities under the Ontario Feed-in-tariff (FIT) program, several new transmission projects have been proposed at 230 and 500 kV. See attached table for additional details.

Generation additions/retirements (text or text w/accompanying table – for this study > 100 MW)

The Green Energy Act (GEA) in Ontario has attracted many applications for new generating facilities using renewable resources, mainly wind and solar. It is expected that up to 3,000 MW of new GEA facilities will be connected in the next few years. At later GEA stages, Ontario will be capable of accommodating more renewable energy after new transmission reinforcements and facilities come into service.

In addition to the GEA applications, additional renewable generation facilities with a total capacity of about 2000 MW are committed to come into service by 2015 in various regions of the province.

Gas-fired peaking generation with a capacity of 900 MW in the Oakville Area is planned to come into service by 2014. Gas-fired peaking generation with a capacity of 393 MW in the Northern York Region is planned to come into service by 2012.

All of the coal-fired generation facilities in Ontario are planned to be retired by 2014. See attached table for additional details.

Interchange/firm transmission modeled

Transmission service is not sold in Ontario; transactions at the interties are scheduled based on economic merit.

Generation dispatch (text description)

The dispatch of generation resources in the IESO system for a specific base case is heuristic, based on past performance and adjusted in accordance with the demand to be served and the resource projections for the scenario under study.

ISO New England

EIPC 2010 STUDY

ISO New England

DOCUMENTATION OF ASSUMPTIONS

Load forecast growth rate

ISO New England (ISO-NE) expects an average growth rate of 0.99%¹ through 2020 summer for a control area load of approximately 31,033 MW under 50/50 weather conditions. With the addition of 1,969 MW of Demand Resource load reduction the ISO-NE control area load will be 29,064 MW under 50/50 weather conditions.

Impact of energy efficiency and DSM on modeled load

Energy efficiency efforts as cleared in our most recent Forward Capacity Auction² have been incorporated into the load in the model. For 2020 summer, a total of 1,073 MW of Passive Demand Resources (On-Peak and Seasonal-Peak) and 1,194 MW of Active Demand Resources (Real Time Demand Resource). Active Demand Resources are considered only 75% available reducing their amount to 896 MW of Active DR for a total 1,969MW of load reduction.

Major transmission facilities (text or text w/accompanying table – for this study > 230 kV)

ISO-NE has included 35 new > 230 kV transmission projects in the 2020 model. The bulk of these projects are part of either the Maine Power Reliability Project (MPRP) or the New England East-West Solution (NEEWS), two major 345 kV projects being built by 2020 in New England.

Generation additions/retirements (text or text w/accompanying table – for this study > 100 MW)

ISO-NE has included several new generation projects in model. These are projects that have ISO Tariff Section I.3.9 Approval. Projects over 100 MW include uprates to a number of hydroelectric and steam turbine plants, as well as one new wind farm, three natural gas combined cycle plants, and four different gas combustion turbine projects.

Interchange/firm transmission modeled

¹ Based on load growth percentage from 2018 to 2019 since the ISO-NE 2010 Load Forecast is 2010-2019.

² 2009 Forward Capacity Auction #3 for Commitment Period June 1, 2012 to May 31, 2013.

ISO-NE Interchange/firm transmission modeled are as described in the MMWG Master Interchange Spreadsheet for the 2009 MMWG Library.

Generation dispatch (text description)

The ISO-NE system generation dispatch is modeled according to economic dispatch based upon relative cost of different fuel types. The output of wind and hydroelectric generation will be modeled consistent with historical generation data for these units at summer peak load conditions.

JEA

EIPC 2010 STUDY

JEA

DOCUMENTATION OF ASSUMPTIONS

Load forecast growth rate

JEA expects an annual growth rate of 2.46% (summer) and 2.50% (winter) through 2020. It is the net growth rate (firm growth); after the energy efficiency and DSM efforts have been accounted for.

Impact of energy efficiency and DSM on modeled load

Energy efficiency and DSM efforts as required by the State and further promoted by JEA have been incorporated into the above load forecast.

Major transmission facilities (text or text w/accompanying table – for this study > 230 kV)

JEA does not have any plan to add more transmission above 230 kV through 2020. At 230 kV, JEA is projecting (planned, not committed) to add 11.5 mi. in 2012 summer (Duval ~ Jax Heights) and 4.5 mi. in 2014 fall (GEC ~ Nocatee).

Generation additions/retirements (text or text w/accompanying table – for this study > 100 MW)

JEA is adding two CTs at green-field site GEC, each of 177 MW summer / 191 MW winter rating. The project is currently underway and both of the machines will be online from summer 2011. Currently, there are no plans to retire any of the existing generation fleet, and there are no fictitious generators in the loadflow model to meet the load forecast or generation reserve margin.

Interchange/firm transmission modeled

JEA includes all contractual transmission service requests, interchanges and LSE resource projections in its loadflow model.

Generation dispatch (text description)

JEA uses PROSYM to model its generation dispatch. The machines are dispatched according to economics, availability and requirement (e.g. voltage support) etc.

MAPP

EIPC 2010 STUDY

MAPP

DOCUMENTATION OF ASSUMPTIONS

Load forecast growth rate

Mid-Continent Area Power Pool (MAPP) expects an average growth rate of 1.5% through 2020 summer for a control area load of approximately 9,352 MW.

Impact of energy efficiency and DSM on modeled load

Energy efficiency efforts as required to meet state requirements has been incorporated into the load in the model. Impact of the application of DSM was not included in modeled load.

Major transmission facilities (text or text w/accompanying table – for this study > 230 kV)

See the accompanying table.

Generation additions/retirements (text or text w/accompanying table – for this study > 100 MW)

MAPP has included several new generation projects in model. The projects are listed the accompanying table.

Interchange/firm transmission modeled

MAPP includes confirmed annual firm transmission service requests that are in accordance with resource projections provided by LSE's or executed contracts for the sale of firm energy.

Generation dispatch (text description)

The MAPP system generation dispatch is modeled according to economic dispatch in accordance with the priorities identified in the resource projections provided by LSE's and according to executed contracts for the sale of firm energy.

MEAG

EIPC 2010 STUDY

Municipal Electric Authority of Georgia (MEAG Power)

DOCUMENTATION OF ASSUMPTIONS

Load forecast growth rate

The forecasted, compound load growth rate is 1.82% through 2020.

Impact of energy efficiency and DSM on modeled load

MEAG Power does not model any energy efficiency or DSM.

Major transmission facilities (text or text w/accompanying table – for this study > 230 kV)

MEAG Power has 2 projects in this category.

The first is the Jacks Creek 230kV switching station, which is part of a larger Georgia Integrated Transmission System (“GA ITS”) project entitled “East Walton 500/230kV,” and is set currently for completion in 2015.

The second project is to replace the 230kV termination and protection equipment at the Lawrenceville 230/115/46kV substation, the “Lawrenceville – Winder 230kV line project,” in order to achieve a minimum rating of 2000A at the substation. The project is set for completion in 2016.

Generation additions/retirements (text or text w/accompanying table – for this study > 100 MW)

New Nuclear – Vogtle Units 3 and 4

MEAG Power owns 22.7% of Vogtle Units 3 and 4, which are nominally rated at 1102 MW each and expected to come on-line in 2016 and 2017, respectively. For the first 20 years of commercial operation MEAG has sold approximately 41.175% (representing approximately 206 MW) and 24.955% (representing approximately 125 MW) of its ownership share to JEA and Powersouth, respectively. The remainder of MEAG Power’s ownership share (approximately 33.871% representing approximately 169 MW) will be new Network Resources that serve MEAG Power’s native load.

There are no retirements expected prior to 2034.

Interchange/firm transmission modeled

MEAG Power is operated under the Southern Balancing Authority. All confirmed annual Firm Transmission Reservations are included in Southern Company's base case models.

Generation dispatch (text description)

The dispatch program, used in GA ITS load flow models, commits sufficient resources to satisfy the load and reserve requirements for each company (Georgia Power, Georgia Transmission, MEAG Power, and Dalton) and then adjusts the output level for each generator in the most economical manner.

MISO

Midwest ISO

2020

NERC Reliability - Committed Generation Model

DOCUMENTATION OF ASSUMPTIONS

The following assumptions represent the basic technical modeling assumptions applied in developing the 10-year reliability planning models used in the annual MTEP NERC reliability analysis. They do not represent the policy-driven assumptions that are applied in Midwest ISO planning studies aimed at identifying the long-range infrastructure needs associated with future generation scenario studies.

The MTEP reliability analysis base cases are applied in determining reliability and other requirements in the 10 year horizon (2020 for MTEP 10) under existing tariff provisions supporting cost allocation. These existing provisions only require reliability driven upgrades that are based on existing and committed new generation in order to establish cost responsibility between Baseline Reliability Projects and Generator Interconnection Projects. As such, the 10 year reliability model does not necessarily represent transmission upgrades that may be required in order to meet current or projected state and federal energy policy objectives or mandates. The Midwest ISO engages in other parallel planning processes in collaboration with the Organization of Midwest ISO States and other stakeholders in order to establish additional expansions and supporting tariff provisions that may be needed to address energy policy requirements. The policy driven assumptions underpinning those energy policy-based models ("Futures") are available upon request.

Load forecast growth rate

Statement of average growth rate through 2020

MTEP reliability model load is aggregated from member load forecasts. The calculated annual growth rate for the combined Midwest ISO member systems for the period 2010 through 2020 0.92%.

Impact of energy efficiency and DSM on modeled load

Explain whether energy efficiency efforts or application of DSM was included in modeled load and whether these are utility sponsored or state mandated or funded by other state agencies.

Load projections for planning horizon power flow models are provided by the member systems that perform their own load forecasting. Demand side adjustments are provided consistent with the local transmission planning practices of each member system.

Major transmission facilities (text or text w/accompanying table – for this study > 230 kV)

Text explaining rationale for projects in model (i.e. only those approved by RTEP or budgeted) along with table showing new EHV facilities in model. May be appropriate to limit to above 345 kV or even 500 kV only. Could reference a website if the information is available there.

MTEP annual reliability assessment is performed using base models that include all planned and proposed projects. Planned projects include past approved projects and those that are expected to be approved within the current planning cycle. Proposed projects are those that have demonstrated to relieve a reliability need and are expected to be approved (or an equivalent) in a future planning cycle.

Generation additions/retirements (text or text w/accompanying table – for this study > 100 MW)

Text explaining rationale for generation projects in model, including (i.e. only those with signed IA or based on information from interconnection studies) along with table showing new generation in model > 100 MW (aggregate) at a site. Are generics used to maintain target reserve margins?

For tariff based reliability planning models, only existing generators and generators with signed interconnection agreements are included in the Midwest ISO models. This ensures ability to distinguish cost responsibility between Baseline Reliability Projects and Generator Interconnection Projects under the present terms of the tariff.

Interchange/firm transmission modeled

Text explaining rationale for interchange & firm transmission in model (i.e. only those with confirmed transmission service request or based on LSE resource projections). Will develop interchange table as part of study.

Internal interchange is based on the market dispatch. Inter-market interchange is determined based on currently known net firm drive-in and drive-out transactions between Midwest ISO member control areas and external control areas.

Generation dispatch (text description)

Text explaining rationale for dispatch of generation in model (i.e. historical market data, Promod forecast based, economic)

Regional planning models employ a market-wide economic dispatch

NYISO

EIPC 2010 STUDY

New York Independent System Operator

DOCUMENTATION OF ASSUMPTIONS

Load forecast growth rate

The New York Independent System Operator (NYISO) is forecasting a base 2020 summer peak load for the New York Control Area (NYCA) of approximately 35,300 MW which represents an average annual growth rate of 0.78% through 2020.

Impact of energy efficiency and DSM on modeled load

Energy efficiency efforts as required to meet state requirements have not been fully incorporated into the load forecast as the programs are just beginning and a level of conservatism in the base case was desired. For 2020 summer, if the full targets of statewide required efficiency efforts were assumed to be fully met (15% by 2015), an additional reduction in the forecast peak of approximately 2,500 MW would occur. Impacts of demand side programs such as EDRP are not included in the forecasted load. Interruptible load, and distributed generation resources of approximately 2,250 MWs (referred to as Special Case Resources in New York) are not included.

Major transmission facilities (text or text w/accompanying table – for this study > 230 kV)

NYISO has included one new DC tie to New Jersey of approximately 660 MW, a new 345 kV controllable AC transmission project into New York City, 230 kV circuits, and various upgrades to existing 345 kV circuits in the 2020 power flow model. Please refer to the accompanying table for more details.

Generation additions/retirements (text or text w/accompanying table – for this study > 100 MW)

The NYISO has included several new generation projects in its 2020 power flow model. These are projects that have passed certain milestones to be included in the NYISO planning databases utilized in its Comprehensive System Planning Process. They are shown in the accompanying table. Additionally, the model will represent the New York State Renewable Portfolio Standard of 30% by 2015, which will require approximately 3600 MW of installed nameplate wind turbine capability. Presently, there is approximately 1300 MW of wind turbine power installed in New York. To meet the RPS goal, the model will also include approximately 1000 MW of wind projects that have gone through the interconnection process and accepted their class year cost allocation, along with an additional 1300 MW of wind projects from the NYISO Interconnection Queue

Interchange/firm transmission modeled

The NYISO coordinates its interchange schedule with its neighbors and represents firm transactions and the expected continuance of current external ICAP providers.

Generation dispatch (text description)

The NYCA system generation dispatch includes only the impact of firm external transactions.

PJM

EIPC 2020 STUDY

PJM

ASSUMPTIONS

Load forecast growth rate

PJM prepares a detailed, independent load forecast for PJM and each of its zones and sub-regions. The complete underlying assumptions and process for the development of this forecast are found at <http://www.pjm.com/planning/resource-adequacy-planning/load-forecast-dev-process.aspx> . Summer peak load growth for PJM RTO is projected to average 1.7% per year over the next 10 years. The PJM RTO summer peak is forecasted to be 174,724 MW in 2020, a 10-year increase of 26,933 MW. Annualized 10-year growth rates for individual zones range from 1.0% to 2.5%³.

Impact of energy efficiency and DSM on modeled load

Load management and energy efficiency (LM and EE) resources have been incorporated into the load forecast report based on amounts cleared in PJM markets. PJM planning power flow models appropriately modify the loads and/or generation models for these resources depending on the type of planning analysis being performed. The loads in the 2020 rollup power flow case are based on unrestricted peaks. For 2020 summer, LM and EE constitute an approximate equivalent reduction of 7372 MW of load modeled.

Major transmission facilities (text or text w/accompanying table – for this study > 230 kV)

A complete list of all approved RTEP upgrades, as well as a brief description of the facility, upgrade driver and current status can be found on PJM's Web site via the following URL link: <http://www.pjm.com/planning/rtep-upgrades-status/construct-status.aspx>

Generation additions/retirements (text or text w/accompanying table – for this study > 100 MW)

In addition to existing in-service generation, the 2020 power flow case incorporates the impacts of various generation status changes including the following: generation with signed In-Service agreement (ISAs), generation with signed facility study agreements (FSA), and generation deactivations (e.g., retirement).

- Mid-Atlantic PJM included 500 MW of new generation with a signed ISA and 3,500 MW of projects with a signed facility study agreement.

³ This forecast includes the load of American Transmission Systems, Inc (ATSI), which is scheduled to be integrated into the PJM RTO on June 1, 2011

- Western PJM included 1,000 MW of new generation with a signed ISA and 900 MW of projects with a signed facility study agreement. In addition, Catoctin generation was not modeled.
- Southern PJM included 500 MW of new generation with a signed ISA and 650 MW of projects with a signed facility study agreement.

PJM's power flow case transmission model includes the upgrades necessary to accommodate the interconnection of new generation for which an ISA has been signed and generation with signed facility study agreements (FSA).

A listing of all generation and merchant transmission interconnection requests in PJM's queues can be obtained from the following links:

Generation: <http://www.pjm.com/planning/generation-interconnection.aspx>

Merchant Transmission: <http://www.pjm.com/planning/merchant-transmission.aspx>

Interchange/firm transmission modeled

PJM includes confirmed annual firm transmission service requests that are in accordance with resource projections provided by LSE's or executed contracts for the sale of firm energy.

Generation dispatch

PJM dispatches the power flow with generation projected to be available for the study year. The PJM planning process incorporates thousands of alternate dispatch scenarios during the study process. The starting dispatch provided for the 2020 case is a manual dispatch developed by PJM staff from available generation that approximates an appropriate starting point market dispatch.

PowerSouth Energy Cooperative

EIPC 2010 STUDY

PowerSouth Energy Cooperative

DOCUMENTATION OF ASSUMPTIONS

Load forecast growth rate

PowerSouth Energy Cooperative (PS) expects an average growth rate of 1.58% through 2020

Impact of energy efficiency and DSM on modeled load

Energy efficiency efforts as required to meet state requirements has been incorporated into the load forecast. Impact of the application of DSM was included in modeled load.

Major transmission facilities (text or text w/accompanying table – for this study > 230 kV)

No > 230 kV projects are expected to be in service by 2020 for PowerSouth.

Generation additions/retirements (text or text w/accompanying table – for this study > 100 MW)

PS has included one new generation project in the model. This project consists of adding a combined cycle unit at the McIntosh site. This will provide an additional 187 MW beginning summer 2019. This is a project that PowerSouth is committed to building and has approval for. Some additional fictitious generation (no actual commitment by any party to construct) is included based on information from inter-connection studies. These generators have been added to meet system load during the assessment of the impact of major generation outages in accordance with PS's planning practices. Fictitious generation is not added for the purpose of meeting operating reserve margins.

Interchange/firm transmission modeled

PS includes confirmed annual firm transmission service requests that are in accordance with resource projections.

Generation dispatch (text description)

The PS system generation dispatch is modeled according to economic dispatch in accordance with the priorities identified in the resource projections.

SCEG

EIPC 2010 STUDY

South Carolina Electric and Gas

DOCUMENTATION OF ASSUMPTIONS

Load forecast growth rate

South Carolina Electric and Gas (SCEG) expects an average growth rate of 2.2%

Impact of energy efficiency and DSM on modeled load

South Carolina Electric and Gas does not adjust our modeled load for energy efficiency or DSM. Our transmission expansion is based on serving all customer loads.

Major transmission facilities (text or text w/accompanying table – for this study > 230 kV)

South Carolina Electric and Gas models all future expansion plans that are in our 10 year budget.

Terminals		Year	kV	ckt	Facility Rating (MVA)		C/U	Project Description
					Summer	Winter		
Denny Terrace	Pineland	5/2011	230	1	237	237	C	New Circuit
Lake Murray Sub		5/2011	230/115	2	336	336	C	Transformer
Yemassee Sub		5/2012	230/115	3	336	336	C	Transformer
Pepperhill	Summerville	5/2013	230	1	237	237	C	New Circuit
Edenwood	Lake Murray	5/2013	230	1	474	474	C	Rebuild
Lake Murray Sub		12/2015	230/115	3	336	336	C	Transformer
VCS Sub 2		12/2015	230				C	Substation
VCS Sub 2	Lake Murray	12/2015	230	2	237	237	C	New Circuit
VCS Sub 2	Killian	12/2015	230	1	237	237	C	New Circuit
Urquhart	Graiteville	5/2016	230	2	237	237	C	New Circuit
Cainhoy	A.M. Williams	5/2017	230	2	237	237	C	New Circuit
South Columbia Sub		12/2018	230/115				C	Substation
South Lexington Sub		12/2018	230/115				C	Substation
St. George SS		12/2018	230				C	Switching Station
St. George	Canadys	12/2018	230	1	237	237	C	Rebuild
St. George	Summerville	12/2018	230	1	237	237	C	Rebuild
VCS Sub 2	St. George	12/2018	230	1	474	474	C	New Circuit

Generation additions/retirements (text or text w/accompanying table – for this study > 100 MW)

South Carolina Electric and Gas has modeled two new generation projects. These additions are planned, approved and committed projects.

Unit Name	Date	Transmission kV	MW	%SCEG	C/U	Type
V.C. Summer #2	6/2015	230	1117	55%	C	Nuclear
V.C. Summer #3	1/2019	230	1117	55%	C	Nuclear

Interchange/firm transmission modeled

South Carolina Electric and Gas includes confirmed annual firm transmission service request based on LSE projections.

Generation dispatch (text description)

South Carolina Electric and Gas generation is modeled as an economic dispatch on the latest heat rates and fuel costs.

SOCO

EIPC 2010 STUDY

Southern Company

DOCUMENTATION OF ASSUMPTIONS

Load forecast growth rate

For the Southern Company (SOCO) model, the projected growth rate is approximately 2.13% through 2020.

Impact of energy efficiency and DSM on modeled load

To be provided shortly.

Major transmission facilities (text or text w/accompanying table – for this study > 230 kV)

SOCO has included several new > 230 kV transmission projects in the 2020 model. There are a total of three new substations, three new switching stations, two new transformers, and five new transmission lines that have been included as part of the 2020 model.

Generation additions/retirements (text or text w/accompanying table – for this study > 100 MW)

Generation resources that begin service (having been through the appropriate state-approval processes) in or after 2011 have been included in the “Proposed Generation” table of the attached file. In addition, any generation resources supplied by the LSE, for the purpose of serving projected native load growth, have also been included. These generators have been dispatched in accordance with resource assumptions from the LSE responsible for serving their respective loads.

Interchange/firm transmission modeled

SOCO includes confirmed, long-term firm transmission reservations that are in accordance with resource projections provided by LSE’s or executed contracts for the sale of firm energy.

Generation dispatch (text description)

The SOCO system generation dispatch is modeled in accordance with the priorities identified in the resource projections provided by LSE’s and according to executed contracts for the sale of firm energy.

SPP

EIPC 2010 STUDY

Southwest Power Pool

DOCUMENTATION OF ASSUMPTIONS

Load forecast growth rate

Southwest Power Pool (SPP) expects a regional compound load growth rate of 1.4% per year through 2020.

Impact of energy efficiency and DSM on modeled load

There are no state requirements for energy efficiency projects; however, individual SPP members may include energy efficient projects as part of its load forecast. Minimal DSM was included in the modeled loads.

Major transmission facilities (text or text w/accompanying table – for this study > 230 kV)

SPP includes reliability projects, as well as other projects deemed necessary due to either customer request or those for economic reasons. These projects typically have an NTC (Notice to construct) or an ATP (Authorization to Plan).

Generation additions/retirements (text or text w/accompanying table – for this study > 100 MW)

SPP includes generation interconnection request projects that have an approved IA (Interconnection Agreement). GI projects without an IA are not added to the models until the IA is executed.

Interchange/firm transmission modeled

MMWG Base Model: SPP includes transmission service request projects that have an approved NTC (Notice to Construct).

Generation dispatch

Each SPP member dispatches its generation in the model to cover its own projected load and any long term transactions.

TVA

EIPC 2010 STUDY

TENNESSEE VALLEY AUTHORITY

DOCUMENTATION OF ASSUMPTIONS

Load forecast growth rate

Tennessee Valley Authority (TVA) expects an average growth rate of 1.93% through 2020 summer for a control area load of approximately 40588 MW.

Impact of energy efficiency and DSM on modeled load

Impact of the application of DSM and energy efficiency was not included in modeled load. TVA is currently evaluating several possible levels of impact. When one is chosen, it will be treated as a supply resource rather than a demand reduction.

Major transmission facilities (text or text w/accompanying table – for this study > 230 kV)

TVA has included nine new > 230 kV transmission projects in the 2020 model. TVA has a project to uprate six 500kV transmission lines: Watts Bar Nuclear Plant to Bull Run Steam Plant, Limestone Substation to Madison Substation, Pinhook Substation to Wilson Substation, Cordova Substation to Freeport Substation, Choctaw Substation to French Camp Substation and Davidson Substation to Pinhook Substation. Two 500kV substations will have a second transformer added: Jackson and Montgomery Substations. A new 500 kV Clay Substation will be added to the TVA system. No other > 230 kV projects are expected to be in service by 2020 at this time.

Generation additions/retirements (text or text w/accompanying table – for this study > 100 MW)

TVA has included three new generation projects in model. Two are projects that TVA is committed to building and has approval for, and a third has not been approved.

Interchange/firm transmission modeled

TVA includes full-path confirmed annual firm transmission service requests that are in accordance with resource projections or executed contracts for the sale of firm energy.

Generation dispatch (text description)

TVA generation dispatch is modeled according to economic dispatch based on the priorities identified in the latest TVA resource plan and according to executed contracts for the sale of firm energy.