

RESUME OF PHILIP HAYET, VICE PRESIDENT

EDUCATION/CERTIFICATION

M.S., Electrical Engineering, Georgia Institute of Technology, 1980
B.S., Electrical Engineering, Purdue University, 1979
Cooperative Education Certificate, Purdue University, 1979

PROFESSIONAL AFFILIATIONS

National Society of Professional Engineers
Georgia Society of Professional Engineers
Institute of Electrical and Electronic Engineers

EXPERIENCE

Since completing his Master's program, Mr. Hayet worked for fifteen years at Energy Management Associates, now Ventyx, providing consulting services and client service support to electric utility companies for the widely used planning models, PROMOD IV and STRATEGIST. Mr. Hayet had an instrumental role in designing some of the modeling features of those tools including the competitive market modeling logic in STRATEGIST.

In 1995, Mr. Hayet began his own utility consulting firm, Hayet Power Systems Consulting ("HPSC"), and has worked for customers in the United States, and internationally in Australia, Japan, Singapore, Malaysia, the United Kingdom, and Vietnam. Over his more than 30-year career, Mr. Hayet has provided consulting services to Public Utility Commissions, Regional Power Pools, State Energy Offices, Consumer Advocate Offices, Electric Utilities, Global Power Developers, and Industrial Companies. Mr. Hayet's expertise covers a number of areas including utility system planning and operations, RTO analysis, market price forecasting, Integrated Resource Planning, renewable resource evaluation, transmission planning, demand-side analysis, and economic analysis.

Though he continues to work for HPSC, in 2000 Mr. Hayet also joined the consulting firm of J. Kennedy & Associates, Inc. ("Kennedy and Associates"). Since joining, Mr. Hayet worked on Kennedy and Associates' projects that required utility resource planning, analysis, and software modeling expertise. Mr. Hayet became a Vice-President and Principal of Kennedy and Associates in January 2015.

Mr. Hayet has conducted numerous consulting studies in the areas of RTO Cost/Benefit Analysis, Renewable Resource Evaluation, Renewable Portfolio Standards Evaluation, Electric Market Price Forecasting, Generating Unit Cost/Benefit Analysis, Integrated Resource Planning, Demand-Side Management, Load Forecasting, Rate Case Analysis and Regulatory Support.

2000 to J. Kennedy and Associates, Inc.

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Present: Vice President and Principal

- Initially began as Director of Consulting, became Vice President and Principal in 2015
- Managed electric related consulting projects.
- Responsible for business development.
- Clients include Staffs of Public Utility Commissions and other State Agencies, State Energy Offices, Global Power Developers, and Industrial Groups, and large energy users.

**1996 to Present: Hayet Power Systems Consulting
President and Principal**

- Managed electric utility related consulting projects
- Clients include Staffs of Public Utility Commissions and other State Agencies, State Energy Offices, Global Power Developers, and Industrial Groups, and large energy users.

**1991 to 1996: EDS Utilities Division, Atlanta, GA (Now Ventyx)
Lead Consultant, PROSCREEN (Now STRATEGIST) Department**

- Managed a client services software team that supported approximately 75 users of the STRATEGIST electric utility strategic planning software.
- Participated in the development of STRATEGIST's competitive market modeling features and the Network Economy Interchange Module
- Provided client management direction and support, and developed new consulting business opportunities.
- Performed system planning consulting studies including integrated resource planning, DSM analysis, marketing profitability studies, optimal reserve margin analyses, etc.
- Based on experience with PROMOD IV, converted numerous PROMOD IV databases to STRATEGIST, and performed benchmark analyses of the two models.

**1988 to 1991: Energy Management Associates (EMA), Atlanta, GA
Manager, Production Analysis Department**

- Served as Project Manager of a database modeling effort to create an integrated utility operations and generation planning database. Database items were automatically fed into PROMOD IV.

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- Supervised and directed a staff of five software developers working with a 4GL database programming language.
- Interfaced with clients to determine system software specifications, and provide ongoing client training and support

1980 to **Energy Management Associates (EMA), Atlanta, GA**
1988: **Senior Consultant, PROMOD IV Department**

- Provided client service support to EMA's base of over 70 electric utility customers using the PROMOD IV probabilistic production cost simulation software.
- Provided consulting services in a number of areas including generation resource planning, regulatory support, and benchmarking.

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TESTIMONY AND EXPERT WITNESS APPEARANCES

| Date | Case | Jurisdiction | Party | Utility | Subject |
|---------------|------------------------|---------------------|---|-------------------------------------|---|
| 09/98 | 97-035-01 | UT | Utah Committee for Consumer Services | PacifiCorp | Utah jurisdictional Net Power Costs, PacifiCorp Rate Case Proceeding |
| 07/01 | 01-035-01 | UT | Utah Committee for Consumer Services | PacifiCorp | Utah Jurisdictional Net Power costs in General Rate Case |
| 2001 | ER00-2854-000 | FERC | Louisiana Public Service Commission | Entergy | Proposed System Agreement Modifications |
| 07/02 | 02-035-002 | UT | Utah Committee for Consumer Services | PacifiCorp | Special contract for industrial consumer |
| 2002/ 2003 | U-25888 | LA | Louisiana Public Service Commission | Entergy | Investigation of retail issues related to the System Agreement |
| 2003 | U-27136 Subdocket A | LA | Louisiana Public Service Commission Staff | Entergy | Aging gas steam-fired retirement study |
| 07/03 | EL01-88-000 | FERC | Louisiana Public Service Commission | Entergy | Rough production cost equalization proceeding |
| 05/04 | 03-035-14 | UT | Utah Committee for Consumer Services | PacifiCorp | Development of a large QF avoided cost methodology |
| 06/04 | 17687-U 17688-U | GA | Georgia Public Service Commission Staff | Georgia Power and Savannah Electric | 2004 Integrated Resource Planning Studies |
| 08/04 | ER03-583-000 | FERC | Louisiana Public Service Commission | Entergy | Affiliate power purchase agreements |
| 11/04 | 03-035-19 | UT | Utah Committee for Consumer Services | PacifiCorp | Industrial customer's request for a special economic development tariff |
| 11/04 | 03-035-38 | UT | Utah Committee for Consumer Services | PacifiCorp | Large QF proceeding. |

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| Date | Case | Jurisdiction | Party | Utility | Subject |
|-------------|-------------|---------------------|---|-------------------------------------|---|
| 03/05 | 03-035-14 | UT | Utah Committee for Consumer Services | PacifiCorp | Concerning PacifiCorp's Schedule 38 avoided cost tariff and remaining unsubscribed capacity |
| 07/05 | 03-035-14 | UT | Utah Committee for Consumer Services | PacifiCorp | Concerning PacifiCorp's Schedule 38 avoided cost proceeding |
| 12/05 | 04-035-42 | UT | Utah Committee for Consumer Services | PacifiCorp | Net power costs in General Rate Case |
| 04/06 | 05-035-54 | UT | Utah Committee for Consumer Services | PacifiCorp | Certification request to expand Blundell Geothermal Power Station. Related to Mid-American Energy Holding's Acquisition of PacifiCorp |
| 05/06 | 22403-U | GA | Georgia Public Service Commission Staff | Georgia Power and Savannah Electric | March 2006 fuel cost recovery filing |
| 2006 | 06-35-01 | UT | Utah Committee for Consumer Services | PacifiCorp | 2006 rate case, net power costs |
| 08/06 | U-21453 | LA | Louisiana Public Service Commission Staff | Entergy Gulf States | Jurisdictional separation. |
| 11/06 | U-25116 | LA | Louisiana Public Service Commission Staff | Entergy Louisiana | Fuel adjustment clause filings |
| 01/07 | 23540-U | GA | Georgia Public Service Commission Staff | Georgia Power | November 2005 fuel cost recovery filing |
| 04/07 | 07-035-93 | UT | Utah Committee for Consumer Services | PacifiCorp | General Rate Case |
| 06/07 | 24505-U | GA | Georgia Public Service Commission Staff | Georgia Power | 2007 Integrated Resource Planning |
| 10/07 | U-30334 | LA | Louisiana Public Service Commission Staff | Cleco Power | 2008 Short-Term RFP |

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|-------------|--------------------------|---------------------|---|---------------------------|--|
| 04/08 | 26794-U (FCR-20) | GA | Georgia Public Service Commission Staff | Georgia Power | Fuel cost recovery filing |
| 2008 | 6630-CE-299 | WI | Wisconsin Industrial Energy Group, Inc. | WEPCO | Certification Proceeding for environmental upgrades at Oak Creek power plant |
| 07/08 | ER07-956 | FERC | Louisiana Public Service Commission | Entergy | 2006 rough production cost equalization compliance filing in the System Agreement case |
| 09/08 | 6680-CE-170 | WI | Wisconsin Industrial Energy Group, Inc. | Wisconsin Power and Light | Certification proceeding concerning Nelson-Dewey coal-fired generating unit |
| 11/08 | 08-1511-E-GI | WV | West Virginia Energy Users Group | Allegheny Power | Fuel cost recovery filing |
| 12/08 | 27800-U | GA | Georgia Public Service Commission Staff | Georgia Power | Vogtle 3 and 4 nuclear unit certification proceeding |
| 2008 | 08-035-35 | UT | Utah Committee for Consumer Services | PacifiCorp | Chehalis Combine Cycle Power Plant based on a waiver of the RFP solicitation process certification proceeding |
| 07/09 | ER08-1056 | FERC | Louisiana Public Service Commission | Entergy | 2007 rough production cost equalization compliance filing in the System Agreement case |
| 07/09 | U-30975 | LA | Louisiana Public Service Commission Staff | SWEPCO and Cleco | Application to acquire the Oxbow Mine to supply Dolet Hills Power Station certification proceeding |
| 09/09 | E015/PA-09-526 | MN | Large Power Intervenors | Minnesota Power | Request for approval to purchase Square Butte's 500 kV DC transmission line, restructure a coal based power purchase agreement |
| 09/09 | 09-035-23 Direct | UT | Utah Office of Consumer Services | PacifiCorp | 2009 rate case, net power costs |
| 10/09 | 09A-415E | CO | Public Utilities Commission of Colorado | Black Hills/Colorado | CPCN application to construct two LMS 100 natural gas combustion turbine units |
| 10/09 | 09-035-23 Surrebuttal | UT | Utah Office of Consumer Services | PacifiCorp | 2009 rate case, net power costs |

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|-------------|------------------------------|---------------------|---|----------------|---|
| 12/09 | 29849-U | GA | Georgia Public Service Commission Staff | Georgia Power | First Semi-Annual Vogtle Construction Monitoring Report |
| 12/09 | ER08-1224 | FERC | Louisiana Public Service Commission | Entergy | 2008 production costs used to develop bandwidth payments |
| 2009 | 09-2035-01 | UT | Utah Office of Consumer Services | PacifiCorp | 2008 IRP |
| 01/10 | 28945-U | GA | Georgia Public Service Commission Staff | Georgia Power | Fuel cost recovery filing |
| 2010 | EL09-61 | FERC | Louisiana Public Service Commission | Entergy | System Agreement, individual operating company sales |
| 06/10 | 29849-U | GA | Georgia Public Service Commission Staff | Georgia Power | Second Semi-Annual Vogtle Construction Monitoring Report |
| 12/10 | 29849-U | GA | Georgia Public Service Commission Staff | Georgia Power | Third Semi-Annual Vogtle Construction Monitoring Report |
| 01/11 | ER09-1350 Direct | FERC | Louisiana Public Service Commission | Entergy | 2008 production costs used to develop bandwidth payments |
| 02/11 | ER09-1350 Cross-Answering | FERC | Louisiana Public Service Commission | Entergy | 2008 production costs used to develop bandwidth payments |
| 04/11 | 33302-U (FCR-22) | GA | Georgia Public Service Commission Staff | Georgia Power | Fuel cost recovery filing |
| 06/11 | 29849-U | GA | Georgia Public Service Commission Staff | Georgia Power | Fourth Semi-Annual Vogtle Construction Monitoring Report |
| 09/11 | U-31792 | LA | Louisiana Public Service Commission Staff | Cleco Power | Settlement agreement, CCPN to upgrade Madison 3 coal unit to accommodate biomass fuel |
| 11/11 | 26550-U | GA | Georgia Public Service Commission Staff | Georgia Power | Reacquisition of wholesale block capacity |

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|-------------|--------------------|---------------------|---|-----------------------------------|---|
| 11/11 | 34218-U | GA | Georgia Public Service Commission Staff | Georgia Power | Decertification of two aging coal units, acquire PPA resources, approve IRP update |
| 12/11 | 29849-U | GA | Georgia Public Service Commission Staff | Georgia Power | Fifth Semi-Annual Vogtle Construction Monitoring Report |
| 03/12 | U-32148 | LA | Louisiana Public Service Commission Staff | Entergy | Change of Control Proceeding to move to Midwest ISO |
| 2012 | 20000-EA-400-11 | WY | Wyoming Industrial Energy Consumers | Rocky Mountain Power | Certification of environmental upgrades at Naughton 3 |
| 05/12 | 35277-U (FCR-23) | GA | Georgia Public Service Commission Staff | Georgia Power | Fuel cost recovery filing |
| 05/12 | 29849-U | GA | Georgia Public Service Commission Staff | Georgia Power | Sixth Semi-Annual Vogtle Construction Monitoring Report |
| 07/12 | 2012-00063 | KY | Kentucky Industrial Utility Customers, Inc. | Big Rivers | Environmental upgrades in compliance with MATS and CSAPR |
| 09/12 | U-32275 | LA | Louisiana Public Service Commission Staff | Dixie Electric Member Cooperative | Ten year power supply acquisition certification proceeding |
| 12/12 | EL09-61-002 Direct | FERC | Louisiana Public Service Commission | Entergy | Harm calculation, violation of System Agreement |
| 12/12 | U-32557 | LA | Louisiana Public Service Commission Staff | Entergy | Certification of 28 MW PPA for renewable energy capacity (RAIN waste heat) in accordance with LPSC's Renewable Energy Pilot |
| 12/12 | U-29764 | LA | Louisiana Public Service Commission Staff | Entergy | Retail proceeding regarding termination of cross-PPAs |
| 12/12 | 29849-U | GA | Georgia Public Service Commission Staff | Georgia Power | Seventh Semi-Annual Vogtle Construction Monitoring Report |

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| Date | Case | Jurisdiction | Party | Utility | Subject |
|-------------|-----------------------------|---------------------|---|------------------------|--|
| 03/13 | EL09-61-002 Cross-Answering | FERC | Louisiana Public Service Commission | Entergy | Harm calculation, violation of System Agreement |
| 04/13 | 2012-00578 | KY | Kentucky Industrial Utility Customers, Inc. | Kentucky Power Company | Mitchell Certificate of Public Convenience and Necessity |
| 05/13 | 36498-U | GA | Georgia Public Service Commission Staff | Georgia Power | 2013 IRP and request to decertify over 2,000 MW of coal-fired capacity |
| 07/13 | U-32785 | LA | Louisiana Public Service Commission Staff | Energy | 8.5 MW PPA for renewable energy capacity (Agrilectric rice hull)in accordance with LPSC's Renewable Energy Pilot |
| 08/13 | 29849-U | GA | Georgia Public Service Commission Staff | Georgia Power | Eighth Semi-Annual Vogtle Construction Monitoring Report |
| 10/13 | 2013-00199 | KY | Kentucky Industrial Utility Customers, Inc. | Big Rivers | Base rate case |
| 05/14 | 13-035-184 | UT | Utah Office of Consumer Services | PacifiCorp | 2014 General Rate Case, net power cost |
| 06/14 | 29849-U | GA | Georgia Public Service Commission Staff | Georgia Power | Ninth/Tenth Semi-Annual Vogtle Construction Monitoring Report |
| 07/14 | 20000-446-EA-14 | WY | Wyoming Industrial Energy Consumers | PacifiCorp | 2014 General Rate Case, net power cost |
| 08/14 | 2000-447-EA-14 | WY | Wyoming Industrial Energy Consumers | PacifiCorp | 2014 Energy Cost Adjustment Mechanism application |
| 08/14 | 14-035-31 | UT | Utah Office of Consumer Services | PacifiCorp | 2014 Energy Balancing Adjustment application |
| 09/14 | ER13-432 | FERC | Louisiana Public Service Commission | Entergy | Allocation of Union Pacific Settlement Agreement benefits |
| 10/14 | 2014-00225 | KY | Kentucky Industrial Utility Customers, Inc. | Kentucky Power | Kentucky Power Company's Fuel Adjustment Clause |

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| Date | Case | Jurisdiction | Party | Utility | Subject |
|-------------|-------------|---------------------|---|----------------|---|
| 12/14 | 29849-U | GA | Georgia Public Service Commission Staff | Georgia Power | Eleventh Semi-Annual Vogtle Construction Monitoring Report |

QUALIFICATIONS OF PHILIP HAYET, VICE PRESIDENT

ADDITIONAL PROJECT INFORMATION

- 1995 – 2000 - Modeled the Singapore Power Electricity System and analyzed the benefits of dispatching a new oil-fired unit within the system, BHP Power
- 1995 – 2000 - Modeled the Australian National Energy Market to develop market based energy price forecasts on behalf of an Independent Power Producer in Australia, BHP Power
- 1995 – 2000 - Analyzed the benefit of purchasing existing gas-fired steam turbine units within the Australian market, BHP Power
- 1995 – 2000 Developed market price forecasts for South Australia as part of the evaluation of a new gas fired combined cycle unit, BHP Power
- 1995 – 2000 - Modeled the Vietnam Electricity System as part of a project to develop Least Cost Expansion plans for Vietnam, EVN State Utility
- 1995 – 2000 - Assisted in the evaluation of Phu My in Vietnam
- August, 2002 – Expert Report, Civil Action No. 1:00-cv-1262 in the United States District Court for the Middle District of North Carolina, United States v. Duke Energy Corporation
- 2002 - Worked on behalf of the Utah Committee of Consumer Services to provide guidance and assist in the analysis of PacifiCorp's 2002 Integrated Resource Plan.
- July 2003 - Worked on behalf of the Oregon Public Utility Commission to Audit PacifiCorp's Net Power Costs per a Settlement Agreement accepted by the Public Utility Commission of Oregon in its Order No. 01-787. Audit report in Docket No. UE-116 filed July 2003.
- 2003 - Regulatory support to the Utah Committee of Consumer Services regarding PacifiCorp's 2003 Utah General Rate Case Docket # 03-2035-02.
- 2004 – Assistance to the Utah Committee of Consumer Services to analyze a series of power purchase agreements and special contracts between PacifiCorp and several of its industrial customers.
- April, 2011 – Initial Expert Report, Civil Action No. 2:10-cv-13101-BAF-RSW, on behalf of the Department of Justice in US District Court, Detroit Edison
- June, 2011 – Rebuttal Expert Report, Civil Action No. 2:10-cv-13101-BAF-RSW, on behalf of the Department of Justice in US District Court, Detroit Edison
- 2005 - Worked on behalf of the Utah Committee of Consumer Services to help analyze PacifiCorp's restructuring proposals.

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- Assisted in the development of Market Price Forecasts in several regions of the US. These forecasts were used as the basis for stranded cost estimates, which were filed in testimony in a number of jurisdictions across the country.
- Helped to analyze the rate structure and develop an electricity price forecast for the Metropolitan Atlanta Rapid Transit Authority (MARTA) in Atlanta, Georgia
- Testified regarding the reasonableness of PacifiCorp's determination of Net Power Cost as part of a rate case proceeding in Utah
- Provided rate case support opposing PacifiCorp's rate increases in both Oregon and Washington State. Performed alternative power cost modeling using software simulations
- Critiqued the IRP filings of 5 utilities in South Carolina on behalf of the South Carolina State Energy Office
- Conducted research regarding ISO Tariffs and Operations for the PJM Power Pool, the California ISO, and the Midwest ISO on behalf of a Japanese Research.
- Performed research on numerous electric utility issues for 3 Japanese research organizations. This was primarily related to deregulation issues in the US in anticipation of deregulation being introduced in Japan.
- Assisted the Utah Committee of Consumer Services by evaluating PacifiCorp's 2005 IRP and assisted in writing comments that were filed with the Commission.
- Assisted the Utah Committee of Consumer Services by participating in a collaborative process to develop an avoided cost tariff for large QFs.
- Assisted the Utah Committee of Consumer Services to evaluate PacifiCorp's 2007 IRP.
- Conducted an investigation of the Southern Company interchange accounting and fuel accounting practices on behalf of the Georgia Public Service Commission Staff (Docket 21162-U).
- Assisted the Georgia Public Service Commission Staff to investigate the acquisition of additional coal and combustion turbine capacity currently wholesale capacity (Docket 26550).
- Assisted the Louisiana Public Service Commission Staff with the review and evaluation of Cleco Power's 2008 Short Term RFP and its 2010 Long-Term RFP.
- Assisted the Louisiana Public Service Commission Staff with a rulemaking for the opportunity to implement a Renewable Portfolio Standard in Louisiana. (Docket No. R-28271 Sub-Docket B)
- Assisted the Louisiana Public Service Commission Staff with a rulemaking to design Integrated Resource Planning ("IRP") rules. (Docket No. R-30021)

QUALIFICATIONS OF PHILIP HAYET, VICE PRESIDENT

PUBLICATIONS AND PRESENTATIONS

Co-authored “Review of EPA’s Section 111(d) CO₂ Emission Rate Goals for the State of Montana, on behalf of the Montana Large Customer Group, October 2014.

Authored “Singapore’s Developing Power Market”, which appeared in the July/August 1999 edition of Power Value Magazine

Co-authored “The New Energy Services Industry – Part 1”, which appeared in the January/February 1999 edition of Power Value Magazine.

Co-authored and Presented “Evaluation of a Large Number of Demand-Side Measures in the IRP Process: Florida Power Corporation’s Experience”, Presented at the 3rd International Energy and DSM Conference, Vancouver British Columbia, November 1994

Co-authored “Impact of DSM Program on Delmarva’s Integrated Resource Plan”, Published in the 4th International Energy and DSM Conference Proceedings, held in Berlin, Germany, 1995

Presentation – Law Seminars International, Electric Utility Rate Cases, Case Study of the Louisiana Public Service Commission’s Quick Start Energy Efficiency Program, March 2015