BEFORE THE
COUNCIL OF THE CITY OF NEW ORLEANS

APPLICATION OF ENTERGY NEW ORLEANS, INC. FOR APPROVAL TO CONSTRUCT NEW ORLEANS POWER STATION AND REQUEST FOR COST RECOVERY AND TIMELY RELIEF

DOCKET NO. UD-16-02

Direct Testimony and Exhibit of

James R. Dauphinais

On behalf of

Air Products and Chemicals, Inc.

January 6, 2017
BEFORE THE
COUNCIL OF THE CITY OF NEW ORLEANS

APPLICATION OF ENTERGY NEW ORLEANS, INC. FOR APPROVAL TO CONSTRUCT NEW ORLEANS POWER STATION AND REQUEST FOR COST RECOVERY AND TIMELY RELIEF

DOCKET NO. UD-16-02

STATE OF MISSOURI )
COUNTY OF ST. LOUIS )

Affidavit of James R. Dauphinais

James R. Dauphinais, being first duly sworn, on his oath states:

1. My name is James R. Dauphinais. I am a consultant with Brubaker & Associates, Inc., having its principal place of business at 16690 Swingley Ridge Road, Suite 140, Chesterfield, Missouri 63017. We have been retained by Air Products and Chemicals, Inc. in this proceeding on their behalf.

2. Attached hereto and made a part hereof for all purposes is my direct testimony and exhibit which were prepared in written form for introduction into evidence in the Council of the City of New Orleans Docket No. UD-16-02.

3. I hereby swear and affirm that the testimony and exhibit are true and correct and they show the matters and things that they purport to show.

James R. Dauphinais

Subscribed and sworn to before me this 5th day of January, 2017.

MARIA E. DECKER
Notary Public - Notary Seal
STATE OF MISSOURI
St. Louis City
My Commission Expires: May 5, 2017
Commission # 13708793

BRUBAKER & ASSOCIATES, INC.
BEFORE THE
COUNCIL OF THE CITY OF NEW ORLEANS

APPLICATION OF ENTERGY NEW ORLEANS, INC. FOR APPROVAL TO CONSTRUCT NEW ORLEANS POWER STATION AND REQUEST FOR COST RECOVERY AND TIMELY RELIEF

DOCKET NO. UD-16-02

Direct Testimony of James R. Dauphinais

1 I. INTRODUCTION AND SUMMARY OF CONCLUSIONS

2 Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

3 A James R. Dauphinais. My business address is 16690 Swingley Ridge Road, Suite 140, Chesterfield, MO 63017.

5 Q WHAT IS YOUR OCCUPATION?

6 A I am a consultant in the field of public utility regulation and a Managing Principal of Brubaker & Associates, Inc., energy, economic and regulatory consultants.

8 Q PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

10 A This information is included in Appendix A to my testimony.

11 Q ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?

12 A I am appearing on behalf of Air Products and Chemicals, Inc. (“Air Products”), a large industrial customer taking service from Entergy New Orleans, Inc. (“ENO”). Air Products has been a customer of ENO, and predecessor company New Orleans Public...
Service, Inc., since 1965. Its load is primarily interruptible, and it is the only customer taking service under the LIS rate.

The Air Products facility sustained significant damage as a result of Hurricane Katrina. Air Products spent in excess of $80 million to rebuild the facility and to maintain its presence in New Orleans.

**Q** HAVE YOU REVIEWED THE APPLICATION, TESTIMONY, EXHIBITS AND OTHER MATERIAL FILED IN THIS PROCEEDING?

**A** Yes. I have reviewed both the public and highly sensitive protected material (“HSPM”) from this proceeding related to the issues addressed by my direct testimony, including the application and the applicable, testimony, exhibits and responses to data requests. In addition, I have reviewed the MISO MTEP16 list of Appendices A and B transmission projects and MISO’s recent MTEP17 presentations.

**Q** WHAT SUBJECTS DO YOU ADDRESS IN YOUR TESTIMONY?

**A** My testimony addresses the question of what action the Council of the City of New Orleans (“Council”) should take with respect to the application of ENO for approval to construct the New Orleans Power Station (“NOPS”) with respect to the issue of the local reliability need for NOPS.
Q PLEASE EXPLAIN THE TERM “LOCAL RELIABILITY” AS YOU USE IT IN THIS TESTIMONY.

A When I use the term “Local Reliability” in this testimony, I am specifically referring to reliability issues in the Downstream of Gypsy (“DSG”) load pocket including the New Orleans area that are a consequence of the current limitations of the transmission facilities feeding DSG. These generally fall into the following three categories:

- Thermal transmission constraints which involve potential overloading of individual transmission facilities feeding, or located within, DSG;
- Voltage and reactive power constraints with respect to the delivery of power into DSG from sources located outside of DSG; and
- Resource Adequacy constraints within DSG related to either, or both, of the above.

Unlike for the more global overall resource adequacy reliability needs of a utility, local reliability needs can be addressed by a utility through transmission solutions in addition to generation and demand response solutions. Furthermore, it is important to note local reliability needs and the overall need for resource adequacy are fairly exclusive of one another. A utility could have all of the capacity it needs to meet its overall resource adequacy needs, but it may still need yet additional generation, demand response or transmission solutions to address local reliability. Similarly, a utility may have fully addressed its local reliability needs, but may still need additional generation or demand response to meet its more global overall resource adequacy need.
Q  PLEASE SUMMARIZE YOUR CONCLUSIONS.

A  I conclude the following:

1. ENO has identified certain transmission upgrades within DSG it believes it will need to pursue if NOPS is not constructed. However, the cost of those upgrades, including any avoidance of the cost of those upgrades that might be realized through other resource alternatives located within DSG, should be included in the overall present value economic analysis of NOPS versus alternatives to NOPS; and

2. ENO has not reasonably demonstrated there is a local thermal, voltage, reactive power or resource adequacy need for NOPS.

II. AVOIDED TRANSMISSION UPGRADES

Q  HAS ENO IDENTIFIED ANY LOCAL TRANSMISSION UPGRADES THAT IT BELIEVES IT COULD AVOID BY CONSTRUCTING NOPS?

A  Yes. ENO witness Charles Long indicated that ENO believes tens of millions of dollars of transmission upgrades necessary for local reliability could be avoided through the construction of NOPS (Long Direct at 6-10). In the non-Critical Energy Infrastructure Information (“CEII”) portion of the response to Advisors’ Data Request 1-19, ENO provided a list of, and cost estimates for, the transmission upgrades it believes would likely be needed if NOPS were not constructed. I have provided a copy of the non-CEII portion of this response as Exhibit JRD-1 to my direct testimony. The estimated cost of the upgrades identified by ENO total to approximately $66 million.

Q  HAS ENO IDENTIFIED WHEN IN THE FUTURE THESE TRANSMISSION UPGRADES WILL BE NECESSARY?

A  No.
Q HAVE ANY OF THE UPGRADES IDENTIFIED BY ENO BEEN IDENTIFIED BY THE MIDCONTINENT INDEPENDENT SYSTEM OPERATOR, INC. (“MISO”) AS PART OF MISO’S MTEP TRANSMISSION PLANNING PROCESS?

A No. The projects do not appear in either Appendices A or B of MISO’s final MTEP16 report. Nor do they appear in MISO’s presentation on the Entergy Louisiana and Entergy New Orleans MTEP17 project review during the December 8, 2016 1st South Sub-Regional Planning Meeting.

Q IN ITS MTEP STUDIES, DOES MISO ASSUME CONSTRUCTION OF NOPS BY 2019?

A No. MISO does not include any new generation in its MTEP reliability studies besides those generation facilities that have an executed generation interconnection agreement with MISO. ENO does not currently have an executed generation interconnection agreement with MISO for NOPS.

Q WHAT IS THE RELEVANCE OF THE FACT THE PROJECTS IDENTIFIED BY ENO AS BEING LIKELY NEEDED WITHOUT NOPS HAVE NOT BEEN IDENTIFIED IN THE MISO MTEP PROCESS?

A The fact that the projects have not been identified in the MISO MTEP process suggests they may not be needed until several years from now, and the final list of projects may be much shorter and/or of lower cost once an effort is made to refine them.
Q HAS ENO STUDIED WHETHER OTHER RESOURCE ALTERNATIVES TO NOPS, IF LOCATED WITHIN DSG, COULD REDUCE OR ELIMINATE THE NEED FOR THE TRANSMISSION UPGRADES THAT ENO HAS IDENTIFIED THAT IT BELIEVES WILL LIKELY BE NEEDED IF NOPS IS NOT CONSTRUCTED?

A No.

Q IN YOUR OPINION, WOULD OTHER RESOURCE ALTERNATIVES REDUCE THE NUMBER AND COST OF THE TRANSMISSION UPGRADES THAT MAY BE NECESSARY IF NOPS IS NOT CONSTRUCTED?

A Yes. While a study would be necessary for each specific resource, in general, the addition of a new resource into DSG should reduce some or all of the need for the transmission upgrades that ENO has identified that it believes will likely be necessary if NOPS is not constructed.

Q HOW SHOULD THE QUESTION OF TRANSMISSION UPGRADES BE CONSIDERED IN THE ECONOMIC EVALUATION OF NOPS VERSUS ALTERNATIVES TO NOPS?

A These costs should be incorporated into the present value economic analysis of NOPS versus alternatives to NOPS based on the expected date of need of the upgrades and the estimated revenue requirement for the upgrades. This includes the reduction in the number and cost for such upgrades for those resource alternatives to NOPS that would also be located within DSG.
III. OTHER RELIABILITY PROBLEMS

Q HAS ENO DEMONSTRATED ANY OTHER LOCAL RELIABILITY ISSUES THAT WOULD NEED TO BE ADDRESSED IF NOPS WERE NOT CONSTRUCTED?

A No. While ENO witness Mr. Long discusses the likelihood of NOPS qualifying as a MISO DSG Voltage and Local Reliability (“VLR”) resource, NOPS potentially providing several other local reliability benefits (Long Direct at 4-7 and 11-15) and NOPS potentially providing local real and reactive power benefits, ENO has not demonstrated an actual need at this time for any of these. In particular, there has been no demonstration by ENO of a need for such incremental improvements of reliability in DSG or whether the most cost effective way to provide such an incremental improvement would be through the construction of NOPS.

Q DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A Yes, it does.
Qualifications of James R. Dauphinais

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.
A James R. Dauphinais. My business address is 16690 Swingley Ridge Road, Suite 140, Chesterfield, MO 63017, USA.

Q PLEASE STATE YOUR OCCUPATION.
A I am a consultant in the field of public utility regulation and a Managing Principal with the firm of Brubaker & Associates, Inc. (“BAI”), energy, economic and regulatory consultants.

Q PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.
A I graduated from Hartford State Technical College in 1983 with an Associate's Degree in Electrical Engineering Technology. Subsequent to graduation I was employed by the Transmission Planning Department of the Northeast Utilities Service Company¹ as an Engineering Technician. While employed as an Engineering Technician, I completed undergraduate studies at the University of Hartford. I graduated in 1990 with a Bachelor's Degree in Electrical Engineering. Subsequent to graduation, I was promoted to the position of Associate Engineer. Between 1993 and 1994, I completed graduate level courses in the study of power system transients and power system protection through the

¹In 2015, Northeast Utilities changed its name to Eversource Energy.
Engineering Outreach Program of the University of Idaho. By 1996 I had been promoted to the position of Senior Engineer.

In the employment of the Northeast Utilities Service Company, I was responsible for conducting thermal, voltage and stability analyses of the Northeast Utilities' transmission system to support planning and operating decisions. This involved the use of load flow, power system stability and production cost computer simulations. It also involved examination of potential solutions to operational and planning problems including, but not limited to, transmission line solutions and the routes that might be utilized by such transmission line solutions. Among the most notable achievements I had in this area include the solution of a transient stability problem near Millstone Nuclear Power Station, and the solution of a small signal (or dynamic) stability problem near Seabrook Nuclear Power Station. In 1993 I was awarded the Chairman's Award, Northeast Utilities’ highest employee award, for my work involving stability analysis in the vicinity of Millstone Nuclear Power Station.

From 1990 to 1995, I also acted as an internal consultant to the Nuclear Electrical Engineering Department of Northeast Utilities. This included interactions with the electrical engineering personnel of the Connecticut Yankee, Millstone and Seabrook nuclear generation stations and inspectors from the Nuclear Regulatory Commission (“NRC”).

In addition to my technical responsibilities, from 1995 to 1997, I was also responsible for oversight of the day-to-day administration of Northeast Utilities' Open Access Transmission Tariff. This included the creation of Northeast Utilities' pre-FERC Order No. 889 transmission electronic bulletin board and the coordination of Northeast Utilities' transmission tariff filings prior to and after the issuance of Federal Energy Regulatory Commission (“FERC” or “Commission”) FERC Order No. 888. I was also responsible for spearheading the implementation of Northeast Utilities' Open Access Same-Time Information System and Northeast Utilities’ Standard of Conduct under FERC Order No. 889. During this time I represented Northeast Utilities on the Federal Energy Regulatory Commission's "What" Working Group on Real-Time Information Networks. Later I served as Vice Chairman of the NEPOOL OASIS Working Group and Co-Chair of the Joint Transmission Services Information Network Functional Process Committee. I also served for a brief time on the Electric Power Research Institute facilitated "How" Working Group on OASIS and the North American Electric Reliability Council facilitated Commercial Practices Working Group.

In 1997 I joined the firm of Brubaker & Associates, Inc. The firm includes consultants with backgrounds in accounting, engineering, economics, mathematics,
Legislature. This testimony has been given regarding a wide variety of issues including, but not limited to, ancillary service rates, avoided cost calculations, certification of public convenience and necessity, cost allocation, fuel adjustment clauses, fuel costs, generation interconnection, interruptible rates, market power, market structure, off-system sales, prudence, purchased power costs, resource planning, rate design, retail open access, standby rates, transmission losses, transmission planning and transmission line routing.

I have also participated on behalf of clients in the Southwest Power Pool Congestion Management System Working Group, the Alliance Market Development Advisory Group and several committees and working groups of the Midcontinent Independent System Operator, Inc. (“MISO”), including the Congestion Management Working Group, Economic Planning Users Group, Loss of Load Expectation Working Group, Regional Expansion, Criteria and Benefits Working Group and Resource Adequacy Subcommittee (formerly the Supply Adequacy Working Group). I am currently a member of the MISO Advisory Committee in the end-use customer sector on behalf of a group of industrial end-use customers in Illinois and a group of industrial end-use customers in Texas. I am also the past Chairman of the Issues/Solutions Subgroup of the MISO Revenue Sufficiency Guarantee (“RSG”) Task Force.

In 2009, I completed the University of Wisconsin-Madison High Voltage Direct Current (“HVDC”) Transmission course for Planners that was sponsored by MISO. I am a member of the Power and Energy Society (“PES”) of the Institute of Electrical and Electronics Engineers (“IEEE”).
In addition to our main office in St. Louis, the firm also has branch offices in Phoenix, Arizona and Corpus Christi, Texas.
Response of: Entergy New Orleans, Inc.
to the First Set of Data Requests
of Requesting Party: Advisors to the Council
of the City of New Orleans

Question No.: Advisors 1-19 Part No.: Addendum:

Question:

Please refer to the Direct Testimony of Charles W. Long, the answer to Question Q9 at page 7, which says “the exclusion of NOPS would likely involve the construction of multiple new transmission facilities into the greater New Orleans area, each of which would be difficult and costly to construct . . .”

a. Please clarify what Mr. Long means by “difficult”.

b. Please clarify what Mr. Long means by “costly”.

c. Please provide copies of all Documents related to Mr. Long’s above referenced statement, including network planning documents, capital budgets, and operating budgets.

d. Please identify the “likely” transmission facility construction projects, the combination of which would most likely satisfy NERC Standard TPL-001-4 in the most economical manner to ENO ratepayers.

e. For each “likely” transmission facility Mr. Long references above, and identified in the answer to subpart “d”, please provide:

   i. A description of the facility construction project, including points of network interconnection, line voltage, power rating, etc.

   ii. An estimate of the total cost to construct the facility, including AFUDC.

   iii. The expected effect upon system reliability if constructed.

   iv. An estimate of the facility’s revenue requirement by year of operation, including a rate base estimate, an O&M estimate, and a depreciation schedule.
v. An estimate of the facility’s estimated revenues earned by ENO by year (i.e., payments by other parties and ultimately paid to ENO through MISO tariffs).

Response:

a. It is generally difficult to construct new transmission facilities in the DSG/New Orleans area for multiple reasons including poor soil conditions, high-wind design standards, land availability, and concentrated industrial, commercial, and residential development in the region.

b. It is generally more costly, on a per-facility basis, to construct new transmission facilities in the DSG/New Orleans area for multiple reasons including poor soil conditions, high-wind design standards, land availability, and concentrated industrial, commercial, and residential development in the region.

c. Information responsive to this request has been designated as Critical Energy Infrastructure Information (CEII) and will be produced only to the appropriate Reviewing Representatives in accordance with the CEII Confidentiality Agreement in effect in this docket.

The study files related to the network planning analysis that the Company used to identify the transmission upgrades that would be needed to meet the NERC TPL 001-4 reliability standard, should the NOPS not be constructed are provided in the attached CEII files. However, the Company has not yet performed detailed engineering assessments, including design and scoping work and constructability analyses, for the transmission projects that the Company expects would likely be needed to meet the NERC TPL 001-4 reliability standard, should the NOPS not be constructed. Mr. Long’s statement referenced in the question was a general statement about the nature of the challenges associated with the construction of transmission facilities in the DSG/New Orleans region based on knowledge of the conditions that exist in that region and on transmission projects that have been constructed in the past in that region.

d. The list of likely transmission upgrades that would be needed to meet the NERC TPL 001-4 reliability standard, should the NOPS not be constructed is provided in the attached.

e. 
   i. See the response to subpart (d).
   ii. See the response to subpart (d).
   iii. Each of the transmission projects listed in the spreadsheet referenced in the response to subpart (d) is needed to meet the
NERC TPL 001-4 reliability standard, should the NOPS not be constructed.

iv. See the response to subpart (c); the requested calculations have not been performed.

v. See the response to subpart (c); the requested calculations have not been performed.
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<th>Existing rating (A)</th>
<th>Desired rating (A)</th>
<th>Upgrade Line Length (miles)</th>
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