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September 3, 2010

Mr. Jeff Derouen
Executive Director
Kentucky Public Service Commission
Kentucky State Board on Electric Generation & Transmission Siting
211 Sower Boulevard
P.O. Box 615
Frankfort, KY 40602-0615

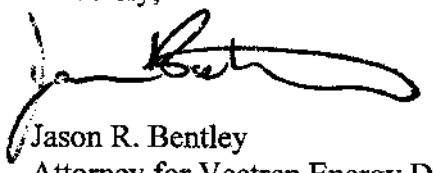
RE: Siting Board Case No. 2010-00223

Dear Mr. Derouen:

Please find enclosed an original and one copy of Vectren's response to data requests of Henderson Municipal Power and Light. A copy of this response was filed electronically on September 3, 2010.

Should you have any questions or concerns, please contact me at the number below.

Sincerely,



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COMMONWEALTH OF KENTUCKY

BEFORE THE KENTUCKY STATE BOARD ON ELECTRIC GENERATION AND TRANSMISSION SITING

In the Matter of:

APPLICATION OF SOUTHERN INDIANA GAS & ELECTRIC CO. D/B/A VECTREN ENERGY DELIVERY OF INDIANA, INC., FOR A CERTIFICATE TO CONSTRUCT AN ELECTRIC TRANSMISSION LINE FROM ITS AB BROWN PLANT TO THE BIG RIVERS REID EHV STATION	))))))	**CASE NO. 2010-00223**

SOUTHERN INDIANA GAS & ELECTRIC CO. D/B/A VECTREN ENERGY DELIVERY OF INDIANA, INC.'S RESPONSE TO HENDERSON MUNICIPAL POWER & LIGHT FIRST DATA REQUEST

1. Please provide any and all data, reports, or other information which has not been previously provided in the Application or to HMP&L which is associated with, is in any manner related to, or was prepared in connection with the Application filed herein and which impacts and/or effects the property and facilities of HMP&L. This request includes but is not limited to: data, reports, information, documents, files, drawings, charts, records, analyses, memoranda, diagrams, maps, calculations, letters, communications of all types, photographs, images, notes, recordings, correspondence, computer data including computerized electronic mail, videotapes, films, forms tests, test data, test methodologies, graphs, telephone reports, or any and all other information accumulations or data compilations from which information can be obtained or translated including all forms of computer storage and retrieval. Additionally, this request includes, but is not limited to, any and all information or data as described herein which has been redacted from the Application or any other filing in this matter by the Applicant.

RESPONSE:

Object. Request is overbroad.

Witness: Michael W. Chambliss

Vectren has provided to the Henderson Municipal Power & Light (HMP&L) all relevant documents within Vectren's possession, with the exception of maps which remain subject to certain protections and requirements for release set forth by the Kentucky Public Service Commission. Vectren understands that certain assurances must be provided to the Commission prior to release of such maps, and, upon demonstration by HMP&L's Counsel that such assurances have been provided, Vectren will provide said maps. Vectren has already provided, at the City of Henderson's request and/or at HMP&L's request, certain other maps and depictions, including, but not limited to, maps depicting the City's alternate route proposal and the HMP&L proposal, which the City and its municipal utilities as of this date appear to have declined to support in this proceeding. Emails and other correspondence relevant to these proposed alternate route segments occurred between the representatives of the city and/or its municipal utilities and Vectren, and HMP&L has the same access to those as does Vectren.

2. Please provide all plats and drawings, sketches, reports or calculations of any nature of the proposed location of the transmission line including but not limited to, the extent of the easements sought. These plats and drawings should be from the point where the proposed transmission line crosses the Ohio River to the point of its termination at the Reed EHV substation. These drawings of the transmission line and its easements should identify the current locations of all HMP&L existing transmission lines and poles including associated

easements and should further locate the lines of all properties currently owned by HMP&L which will be affected, crossed or adjacent to the proposed transmission line and its easement boundaries. Particularly, emphasis should be placed upon the locations where the proposed transmission line and its easement will cross over the parallel existing distribution and transmission lines and facilities owned or operated by HMP&L.

Witness: Michael W. Chambliss

RESPONSE:

See response to Data Request 1, above, related to process to request access to maps submitted by Vectren as part of its Application to the Kentucky Siting Board. All initial plans for the route of the proposed transmission line from the Ohio River to Big Rivers' Reid EHV substation are included in Vectren's Application. Vectren's plans anticipate an easement 150' in width, which will be non-exclusive, and which is expected to abut existing easements. Vectren has completed its preliminary engineering and design work, including pole placements. Detailed design work, including field work and certain other investigatory work, will be completed after Vectren receives an Order on its Application to the Kentucky Siting Board. That detailed design work will include profiles for these associated plans.

A list of affected parcel owners was included in Vectren's Application at Tab 4.

Each of the maps submitted by Vectren as part of its Application shows the corresponding parcel owners as well as road ROW and any recorded HMP&L easements. Specifically, submittal map sheet 23 of 45 shows the HMP&L substation and associated 69 and 161kV easements that were recorded at the time of Vectren's filing.

Although profiles have yet to be created, clearances will meet or exceed those required by the NESC and all other applicable standards.

The detailed design will consider all existing physical facilities and include aerial surveys as well as vertical and horizontal distances and clearances. Ground surveys will include locating legal boundaries for property lines and ROW and for jurisdictional limits such as for the US Army Corps of Engineers, on the Ohio River and other navigable waterways. This data will be checked again in further detail on the individual plats with each parcel owner during the easement acquisition process.

3. Please provide all plan and profile sheets, including but not limited to, those diagrams and designs , plats or maps or calculations which show side elevations, and/or aerial views of the proposed poles and lines and an elevation of the proposed transmission line upon existing HMP&L easements and properties. Please provide this information from a point where the proposed line crosses the Ohio River to the point of its termination at Reid EHV substation.

Witness: Michael W. Chambliss

RESPONSE:

See Responses to Questions 1 and 2, above. Plan and profile sheets are not yet available and will be completed in the detailed design. The initial plans are available and included in the Application. Vectren's initial plans include aerial views overlaid with the roads, parcel boundaries, the proposed line, and known HMP&L easements. Additionally, structure details are included at Tab 5 of Vectren's Application.

4. Please provide a detailed analysis including appropriate diagrams, maps, plats, sketches and calculations of how the existing HMP&L 69 kV and 161 kV distribution and transmission lines which operate closed between BREC Henderson County substation and the Reid plant 69 kV and 161 kV substations may be affected by the proposed line. Please include an analysis of how any

power flow between the Brown and Reid plants may result in and/or flows through the HMP&L transmission system.

Witness: Larry Rogers

RESPONSE:

Based on power flow studies by Vectren and the Midwest ISO and available NERC models, there are no overloads or under voltages for the region due to the proposed line. The HMP&L 161 kV system is included in these studies. The HMP&L 69 kV system is presently included in these models as equivalent loads on the 161 kV buses. In informal meetings with staff from HMP&L Vectren has already requested that HMP&L provide the 69 kV facility details in PTI PSS/E format, so that Vectren can include that data in updated studies. To date, that requested information has not been provided by HMP&L. As that requested information is not otherwise available to Vectren, Vectren can conduct no further studies related to it.

Please see the attachment at TAB 1 Output diagrams for the HMP&L and Big Rivers Electric's Reid Substation. The voltages are color coded, and a legend is provided. Each diagram shows the MW and MVAR for each line. Separate diagrams are included for the flows prior to the line (pre) and after line (post) under normal summer peak conditions as well as pre and post proposed line flows for AB Brown generation and Green Generation outages.

The pre line power flow diagrams show that under normal conditions the 161 kV line from HMP&L to Big Rivers Electric Henderson is flowing MWs north to south into the HMP&L substation, with almost no flow on the HMP&L to Big Rivers Electric Reid substation line. This leaves the Henderson line closer to its limit and reduces utilization of the other line. The new line has minimal impact on the south to north MVar flows due to the fact that Reid, as a generation station, normally has a higher voltage,

and voltage from this station has a much higher impact to MVars. This information has previously been provided to HMP&L in a series of informal discussions during the month of August, 2010.

The post line power flow diagrams show the north to south MW cross flow is greatly reduced allowing both of the 161 kV lines to participate more evenly to serve HMP&L load.

5. Please describe in detail, using appropriate diagrams, maps, plats and supporting calculations, how the fault current increase due to the 345 kV line may impact the HMP&L generation properties as well as its transmission and distribution lines. Please include an analysis of HMP&L substation fault values for all fault types with the 345kV line included. Please further provide all fault values through the HMP&L lines and substation 4 due to the 345 kV line ground fault at its closest point to substation 3 (345 kV) angels structure at substation for entry road).

Witness: Larry Rogers

RESPONSE:

Vectren has requested information related to this request and not available to Vectren otherwise, from HMP&L staff in informal discussions. HMP&L has not yet provided the requested information, and, consequently, Vectren lacks the necessary information to formulate a response to this request.

Based on the information currently available to Vectren, the values for the fault types requested are in the table below:

	Pre X17 (Brown to Reid 345kV line)		Post X17 (Brown to Reid 345kV line)	
	3 Phase Fault	SLG Fault	3 Phase Fault	SLG Fault
Brown 345kV Bus	10,699A	9,462A	15,285A	13,243A
Brown 138kV Bus	31,921A	37,476A	33,597A	39,387A

BREC Henderson 161kV Bus	Not Available	Not Available	Not Available	Not Available
BREC HMPL4 161kV Bus	Not Available	Not Available	Not Available	Not Available
BREC Reid 161kV Bus	Not Available	Not Available	Not Available	Not Available
BREC Reid 345kV Bus	7,144A	7,593A	12,996A	12,392A

The detailed engineering and design will include fault information for structures. See Response to Data Request 2, above.

6. Please further provide an analysis of whether the mutual fault flow will require change of HMP&L 161 kV line relaying due to the parallel route which we currently understand is proposed by the Applicant.

Witness: Larry Rogers

RESPONSE:

The detailed engineering and design will include mutual fault flow information. See Response to Data Request 2, above.

7. Please provide in detail an analysis of the load flow change due to the operation of the 345 kV line. Please include in the analysis all maps, diagrams, drawings, reports and calculations including HMP&L 69 kV and 161 kV line flows for normal operating conditions, HMP&L line flows 9a) with the 345 kV line in service, and (b) with the 345 kV line open. Please further provide an analysis of the HMP&L 69 kV and 161 kV line flows for power transfer due to the loss of generation of the Brown plant (two units) (a) with the 345 kV line in service, and (b) with the 345 kV line open. Please describe the situation with the generation lost replaced by BREC and generation to the south of BREC. Further provide an analysis of the affect of the HMP&L 69 kV and 161 kV line flows for power transfer due to the loss of generation of Henderson Station Two (two units), Reid Station (one unit), or Green Station (two units) (a) with the 345 kV

line in service, and (b) with the 345 kV line open. Explain if this generation loss will be replaced by Vectren or generation to the north of Vectren.

Witness: Larry Rogers

RESPONSE:

See the information in Response to Data Request 4, above. That is the base case for the study results presented in this response. In the scenario where generation is outaged at AB Brown, the replacement power was imported from TVA. Separately, when the Green units were outaged as requested, the power was imported from the MISO Market, which includes Duke, IPL, Vectren and Hoosier Energy.

From the power flow diagrams, the maximum change in MW flow on each of the existing 161 kV lines for the AB Brown generation outage compared to the Green generation outage changes from +23 to -23 MWs on the Reid substation line for a difference of 46 MWs. It changes from -32 to -79 MWs on the Henderson line for a difference of 47 MWs. With the proposed line in service, the flow changes from -44 to -14 MWs or a difference of 30 MWs for the Reid substation line and -10 to -40 for a difference of 30 MWs for the Henderson line. The proposed line therefore reduces the impact of cross flows by 65% and results in approximately 35% more capacity for the future utilization by HMP&L. No negative results were identified in the simulations.

8. Please provide a complete analysis, including all maps, sketches, designs, reports, and calculations, to support the analysis of the affect that the 345 kV line which is proposed to parallel in close proximity to the existing HMP&L lines and substation 4, will have on (a) the 900 megahertz SCADA radios; (b) on the power line carrier on HMP&L 161 kV line; (c) and on the fiber optic circuit on HMP&L 161 kV line.

Witness: Michael W. Chambliss

RESPONSE:

Vectren has previously met with HMP&L to discuss these issues several times during the month of August, 2010. Vectren's project is in the preliminary design phase, and consequently, a complete analysis has not yet been preformed.

Vectren Energy Delivery ("Vectren") uses SCADA in many of Vectren's substations and uses all three of the communications methods HMP&L references. Specifically, Vectren uses 900Mhz licensed and unlicensed spread-spectrum radio, microwave, single mode fiber, and dial-up wire communication networks in its own SCADA systems at its transmission and distribution electric substations. Vectren operates lines that use both Power Line Carrier (PLC) and Optical Ground Wire (OPWG-Fiber) within our substations without any issues. Vectren does not anticipate any negative affects on any substation facilities based on preliminary analysis and previous experiences.

9. Please describe in detail whether there will be an unbalanced power flow if single pole tripping is utilized and further the affects of such an unbalanced power flow on the current HMP&L system. Please include any and all diagrams, maps, charts, plats, analysis and calculations in support of your response.

Witness: Larry Rogers

RESPONSE:

Vectren will not use single pole tripping, therefore there will not be any impact for unbalance at the HMP&L facilities for single pole operation.

10. Please provide a complete analysis of the affect of the NESC horizontal line clearance with maximum crosswind, including all data, maps, diagrams, designs, plats and reports in support of your response. Please evaluate the worst case scenario which would exist in each scenario, i.e. when the HMP&L structure is located at the point of the md/maximum span of the proposed 345 kV transmission line.

Witness: Larry Rogers

RESPONSE:

The detailed engineering and design will include the requested information. See Response to Data Request 2, above.

Vectren will prepare the detail design such that all NESC minimum clearances are met or exceeded in all situations. Final analysis will include both the horizontal and vertical requirements for all cases such as NESC Heavy, NESC Extreme wind, NESC Ice w/Concurrent wind, and test for galloping and other conditions.

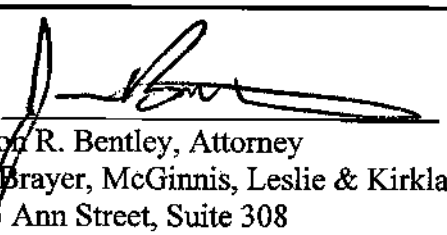
CERTIFICATE

I certify that the responses set out above are true and accurate to the best of my knowledge, information and belief, formed after reasonable inquiry.

William S. Doty, President
Southern Indiana Gas & Electric Co.
d/b/a Vectren Energy Delivery of
Indiana, Inc.

Respectfully submitted,

SOUTHERN INDIANA GAS & ELECTRIC CO.,
D/B/A VECTREN ENERGY DELIVERY OF INDIANA, INC.

By: 

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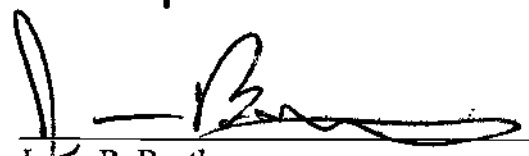
CERTIFICATE OF SERVICE

I certify a copy of the foregoing was served via US Postal Service First Class Mail, postage prepaid, on the following this 3rd day of September, 2010



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