SOUTHERN INDIANA GAS AND ELECTRIC COMPANY
d/b/a VECTREN ENERGY DELIVERY OF INDIANA, INC.,
A CENTERPOINT ENERGY COMPANY
(VECTREN SOUTH)

IURC CAUSE NO. 38708-FAC129

DIRECT TESTIMONY

OF

WAYNE D. GAMES

VICE PRESIDENT POWER GENERATION OPERATIONS

ON

PURCHASED POWER AND COAL INVENTORY

(PUBLIC)

SPONSORING PETITIONER'S EXHIBIT NO. 1,
ATTACHMENT WDG-1

DIRECT TESTIMONY OF WAYNE D. GAMES

I. INTRODUCTION

Q. Please state your name and business address.

A. Wayne D. Games
One Vectren Square
Evansville, Indiana 47708

Q. What position do you hold with Petitioner Southern Indiana Gas and Electric Company d/b/a Vectren Energy Delivery of Indiana, Inc., a CenterPoint Energy Company ("Vectren South" or "the Company")?

A. I am Vice President – Power Generation Operations.

Q. Please describe your educational background.

A. I received a Bachelor of Arts in Industrial Technology from Ohio Northern University in 1980 and a Master of Arts in Management from Antioch University in 2002.

Q Please describe your professional experience.

A. I have over 29 years of varied experience in the utility industry. I started my career with The Dayton Power & Light Co. in 1991 where I held supervisory, manager, and regional manager titles on the energy delivery side of the business. Upon joining the Company in 2000, I served as Director of Construction and Service and Regional Manager in the Ohio service area. In 2003, I moved to Evansville, Indiana, and accepted responsibility as Director of Vectren South's AB Brown generating station. I was promoted to Vice President of Power Supply in April of 2011. I was named to my current position in February 2019.

Q. What are your present duties and responsibilities as Vectren South's Vice-President of Power Generation Operations?

A. I am responsible for the overall budgeting, operation, maintenance, and personnel decisions for the power generation fleet of Vectren South. In addition, I have responsibility for ensuring the demand of Vectren South's customers is met at the

lowest reasonable cost through the production and purchase of electric energy, including fuel purchases, necessary to meet the needs of Vectren South's jurisdictional customers. I am responsible for completing these functions while ensuring compliance with the environmental requirements of all applicable regulatory or governmental agencies.

Q. Have you previously testified before this Commission?

A. Yes, I have testified before this Commission in prior FAC proceedings under Cause No. 38708, Vectren South's Dense Pack filing in Cause No. 44067, in Cause No. 44446 and Cause No. 44909. I've testified most recently in Vectren South's generation filing, Cause No. 45052, and Vectren South's Brown Ash Pond Compliance Project, Cause No. 45280.

Q. What is the purpose of your testimony in this proceeding?

A. The purpose of my testimony is to provide information regarding Vectren South's power purchases and related costs as a participant in the Midcontinent Independent System Operator ("MISO") Energy Market, Vectren South's fuel supply, and to sponsor Petitioner's Exhibit No. 1, Attachment WDG-1, which consists of schedules that present the calculations of the MISO components included in fuel costs, the calculations of the daily benchmark prices applicable to purchased power for June 2020 through August 2020 (the "Reconciliation Period"), and information about over-benchmark purchased power costs that are reasonable and recoverable under the applicable settlement. I will also present an update to the 2020 / 2021 coal plan.

II. MISO

Q. Are you generally familiar with the operations of MISO, including MISO Day 2 Market Initiative and Day 3 Ancillary Services Market ("ASM")?

A. Yes, I am.

Q. Have you reviewed the Commission's June 1, 2005 Order in Cause No. 42685 ("June 1, 2005 Order") and June 30, 2009 Phase II Order in Cause No. 43426

("ASM Phase II Order")?

A. Yes.

Q. Is Vectren South's proposed recovery of costs for the reconciliation period consistent with your understanding of the Commission's June 1, 2005 Order and ASM Phase II Order?

A. Yes, Vectren South's FAC 129 filing is consistent with my understanding of those Commission Orders.

Q. Please summarize your understanding of the impact of MISO Day 2 on Vectren South's operations.

A. MISO's implementation of the Day 2 Market Initiative resulted in operational changes for Vectren South. MISO Day 2 features a wide-area security constrained centralized dispatch across a significant geographic footprint spanning 36 Local Balancing Authorities across fifteen states and Manitoba. Through centralized dispatch, this market brings about an integration of system operations and market operations unlike what existed in this region prior to the start of Day 2. This caused both changes to existing operating procedures and the creation of new operational infrastructure. These operational changes result in costs and cost structures that differ in form from those that previously existed.

As a result of the existence of the Day 2 market, the cost for Vectren South to serve its native load customers now includes both its own generation and MISO dispatched economic energy purchases.

Q. Briefly describe the MISO costs and revenues that Vectren South is seeking to include in this FAC proceeding.

A. Consistent with the June 1, 2005 Order, Vectren South is requesting that fuel related MISO costs and revenues track through its current FAC. Petitioner's Exhibit No. 1, Attachment WDG-1, Schedule 1 contains a summary of the determination of MISO Components of Fuel Costs, exclusive of purchased power costs, for the Reconciliation Period. In addition, Vectren South is requesting recovery of projected MISO costs for the period of February 2021 through April 2021. These projected costs include the

estimated level of the net effect of delta Locational Marginal Pricing ("LMPs"), Day Ahead and Reliability Assessment Commitment ("RAC") recovery of unit commitment costs, Financial Transmission Right ("FTR") revenue and expenses and Real Time Marginal Loss Surplus credits.

Q. Are costs associated with MISO's ASM included in the amounts for which you are seeking recovery in this FAC?

A. Yes. Consistent with the Commission's Phase I Order in Cause No. 43426 ("Phase I Order"), dated August 13, 2008, Vectren South has included for recovery in the FAC those costs for charge types identified as "modified" under the ASM and which were previously recovered in the FAC. Additionally, the Commission issued its ASM Phase II Order on June 30, 2009 that authorized Vectren South to include certain new MISO charges and credits as a cost of fuel for recovery in its FAC proceedings.

Q. Did the ASM Phase II Order contain any reporting requirements?

A. Yes. In compliance with the Phase II Order, Vectren South must report the monthly average ASM Cost Distribution amounts paid for Regulation, Spinning, and Supplemental Reserves. The amounts for June 2020 through August 2020 are as follows:

	$ Per MWh		
	Regulation	Spinning	Supplemental
June 2020	$0.0319	$0.0244	$0.0032
July 2020	$0.0304	$0.0258	$0.0024
August 2020	$0.0312	$0.0270	$0.0042

Q. Given the centralized MISO economic dispatch structure of the Day 2 market, how does Vectren South explicitly identify the quantity of purchased power and wholesale sales in a given hour?

A. If in a given hour Vectren South withdraws more MWh from the grid at its load zone than Vectren South generating units inject to the grid, those excess MWh withdrawn are purchased power amounts. Conversely, if in a given hour Vectren South generating units inject more MWh to the grid than Vectren South withdraws from the grid at its load zone, those excess MWh injected are allocated to wholesale sale amounts.

Q. Is the proposed pass through of Revenue Sufficiency Guarantee ("RSG") amounts in this Cause consistent with your understanding of the Commission's July 16, 2008 Order in Cause No. 43475?

A. Yes.

Q. Are MISO fuel components also included in this FAC?

A. Yes. All the requested MISO components qualify for recovery in this FAC pursuant to the Commission's Orders in Cause Nos. 42685, 43475, 43426 and 38708-FAC 73. In addition, as a result of FERC Order 719 (issued on October 17, 2008) and FERC Order 745 (issued on March 15, 2011) additional charge types have been included for recovery. These charge types were effective June 12, 2012 and discussed in FAC96 and FAC97.

III. PURCHASED POWER RECOVERY

Q. Please describe the mechanism in place for recovery of the cost of energy purchased in MISO Energy Markets.

A. Pursuant to an approved settlement, the cost associated with each purchase is calculated for a given hour as the product of the number of megawatts purchased for that hour and the purchase price for that hour. To assist in the FAC review of the reasonableness of power purchases, the settlement provides that a benchmark price is applied to purchases and any purchases made in the course of MISO's economic dispatch regime to meet jurisdictional retail load are a cost of fuel and are fully recoverable in the FAC up to the benchmark.

Above-benchmark purchases are also recoverable, so long as the purchases can be shown to be reasonable based on an evaluation conducted with factors set forth in the settlement. As explained by the Commission in Cause No. 41363:

> Our March 10, 1999, Docket Entry was clear that we contemplated that a benchmark would merely be a triggering mechanism-that is, if a benchmark is exceeded the utility would have the opportunity to submit additional evidence

> demonstrating the reasonableness of its power purchases for cost recovery purposes. Every electric generating utility should have the opportunity to request recovery of and justify the reasonableness of purchased power costs above the benchmark. In the event a utility exceeds the benchmark, the standard to be used to review such purchases will be of the reasonableness of the decisions under the circumstances which were known (or which reasonably should have been known) at the time the purchases were made, not an after the fact focus using hindsight judgment. (Order, 8/18/99, p. 11).

Q. What is Vectren South's benchmark for purchased power costs?

A. In Cause No. 43414, the Commission approved the establishment of daily benchmarks. The daily benchmarks are established based upon a generic Gas Turbine ("GT"), using a generic GT heat rate of 12,500 btu/kWh, and using the NYMEX Henry Hub Gas Day Ahead price plus $0.60/mmbtu gas transport charge for a generic gas-fired GT. Changes were approved in Cause No. 43414 to the parameters used to determine amounts over the daily benchmarks.

Q. Is a Schedule showing the Daily Benchmarks for purchased power for the Reconciliation Period included in this Cause?

A. Yes. Petitioner's Exhibit No. 1, Attachment WDG-1, Schedule 2 presents the Daily Benchmark amounts for each day in the Reconciliation Period.

Q. What are the amounts of purchased power in excess of the Daily Benchmarks incurred by Vectren South during the Reconciliation Period?

A. As shown on Petitioner's Exhibit No. 1, Attachment WDG-1, Schedule 3, Pages 1-3, Vectren South determined that purchased power costs exceeded the Daily Benchmarks during the Reconciliation Period as follows: June 2020, $2,100.91; July 2020, $33,913.48; and August 2020, $5,065.56. These costs were incurred pursuant to MISO's security constrained economic dispatch across its footprint, because MISO elected to utilize other generation when Vectren South needed additional power.

Q. Are all over-benchmark purchases during the Reconciliation Period determined to be recoverable?

A. Yes. Applying the criteria established by the Benchmark Settlement Vectren South has determined that all the over benchmark purchases are recoverable (Petitioner's Exhibit No. 1, Attachment WDG-1, Schedule 3, Pages 1-3). The schedule provides the reason each purchase was made. As contemplated by the Commission in its Order in Cause No. 42770, all of these purchases were within "the utility's reasonably expected cost of purchased power under an economic dispatch regime". Vectren South acted appropriately in the operation of its generation and its participation in MISO to maintain safe, adequate, and reliable service to its retail customers. The beneficiaries of these purchases were Vectren South's retail customers. Without these purchases, Vectren South could not have met the demands of its retail customers while complying with MISO dispatch instructions. Recovery of these purchased power costs only makes Vectren South whole for costs incurred to meet the demand of retail customers.

Q. Why does the MISO at times choose to instruct Vectren South to purchase from the market rather than operate generation internal to its control area?

A. Since the Commission's June 1, 2005 Day 2 Order, MISO has dispatched generation. MISO first considers its security constrained economic dispatch model to determine what generation is necessary to meet the next day's system demand with the lowest total cost. If this evaluation shows that the total daily cost is predicted to be less using market purchases rather than calling for Vectren South's internal generation, then that is the MISO directive the Company will be given for the Day Ahead market. Additional consideration will be given to the potential impact to system congestion which is impacted by market purchases versus Vectren South peaking generation operation. The summation of these variables is that every day's evaluation has a different set of conditions and inputs which can only be evaluated by MISO on a regional basis. Thus, like any generator, Vectren South is sometimes required by MISO to make economic purchases at the lowest cost reasonably possible. With the influx of new generation sources such as wind, and the dramatic reduction in gas prices, other generation sources now are available in the market at competitive prices. Some of these sources, like wind, are so inexpensive in off peak hours that they are selected in the Day Ahead market. The reasonable purchase costs reflected in the FAC are the product of MISO's economic dispatch.

Q. Does Vectren South ever deviate from MISO dispatch in order to operate its gas peaking generation?

A. Generally, Vectren South follows instructions from MISO on when to operate gas peaking generation. The Company's on-duty system generation operators are provided plans from MISO and they follow those dispatch plans. Most often, MISO will call on peaking units in the Real Time (intra-day) market but will on occasion also call for a peaker through the Day Ahead market. The system generation operators will generally vary from these MISO plans only when notified by local transmission system operators that there is a local distribution or transmission constraint that would be eliminated by the use of peaking generation.

In terms of determining whether to operate the peaking units for purely economic reasons, Vectren South's system generation operator evaluates the Real Time Market price of power and compares it to the alternative of starting a natural gas peaking unit for a brief period. The operator monitors the five-minute price signals to determine if they believe the hourly market price will integrate high enough to justify starting a gas turbine. This determination is made knowing that the next five-minute price signal will likely change. A higher price often exists due to an event on the system that sends a price signal for generators to increase production. Once generation is increased, the price will drop; therefore, given these conditions the operator will almost always choose to follow the MISO dispatch signal rather than betting on a sustained higher price.

In addition, when evaluating the operation of a specific gas turbine, the operator must consider, among other things, (i) the time it takes to bring the unit on line, (ii) the actual cost of fuel consumed during the period of time from initial firing until the unit is synchronized to the system, as well as the cost of gas used during controlled unit shut down, and (iii) the likelihood that the unit will run at a reduced capacity factor, which increases the heat rate, adding to run costs. These must be spread over the total cost of the MWh produced by the machine. These are reasons why the cost of production during short periods often exceeds the price of power purchased from the economic marketplace.

Moreover, failure to comply with MISO's dispatch directive would result in assessment of uninstructed deviation charges of unknown amounts to Vectren South. Given these cost and price risks, absent unusual market conditions, it is unlikely Vectren South will ignore MISO dispatch and operate its peaking units for economic reasons.

Q. Are any purchases from the Benton County Wind Farm ("BCWF") and Fowler Ridge II ("FRII") included in this FAC?

A. Yes. Pursuant to the approval received in Cause No. 43259, Vectren South began receiving power from BCWF on May 7, 2008, when the facility began commercial operation. Vectren South's Renewable Energy Purchase Agreement ("REPA") with FRII was approved in Cause No. 43635 on June 17, 2009 and FRII began commercial operation on December 16, 2009. Consistent with the order in Cause No. 43635 Vectren South has included in this FAC those charges or credits related to the REPA that are treated by the Commission as components of fuel.

Q. Are there any amounts shown as purchased power from BCWF and FRII included in the monthly work papers?

A. Yes. The details of power purchased from BCWF and FRII are included in the confidential work papers provided to the OUCC.

Q. How has Vectren South estimated the generation received from Benton County Wind Farm in this FAC?

A. In response to the fluctuations in Vectren South's share of generation of BCWF, Vectren South's projections reflect recent historical output from BCWF. Vectren South has created an output profile for BCWF that is based on Vectren South's monthly average actual share of generation received from BCWF since March 2013 when BCWF was designated a Dispatchable Intermittent Resource ("DIR"). Vectren South will update this output profile and its estimates for BCWF in each future FAC based on recent historical data.

Q. Have negative LMPs from BCWF or FRII been experienced?

A. Yes. LMPs can be negative whenever there is congestion on a node. MISO uses

negative pricing to rein in a bottleneck, which can occur with wind energy. For the FAC period there were 92 hours when the LMP was negative at BCWF and 16 hours when the LMP was negative at FRII. This resulted in total charges of $6,290.87.

Q. Please describe how Vectren South uses the Dispatchable Intermittent Resources designation.

A. MISO has attempted to address the operational challenges associated with the variable nature of wind power by allowing these resources to participate fully in MISO's economic dispatch under a resource designation called Dispatchable Intermittent Resources ("DIR"). After consulting with MISO regarding requirements and stipulations around registering wind farms, Vectren South was notified that it was required to register BCWF as a DIR. The registration was completed in December 2012 and BCWF became a DIR on March 1, 2013. Vectren South is not required to register FRII as a DIR because it meets an exception through its firm transmission into MISO.

Q. How has DIR impacted Vectren South and its customers?

A. Generally, since BCWF was registered as a DIR in March of 2013, generation output for Vectren South customers has been reduced.

IV. SALES OF RENEWABLE ENERGY CERTIFICATES

Q. Did Vectren South include sales of Renewable Energy Certificates ("RECs") in this FAC?

A. Yes. Sales of RECs were recorded in the Reconciliation Period. The net amounts of those sales are included, as reductions to the cost of purchased power, in the calculation of purchased power costs for the respective months. For the Reconciliation Period, purchased power costs have been reduced by the net REC sales proceeds of $(597,357.63).

V. FUEL FOR GENERATION

Q. What sources of fuel does Vectren South use for generating purposes and what costs are incurred?

A. Vectren South utilizes coal and natural gas for electric generation and incurs the costs of purchasing those fuels, including fuel-related transportation and storage costs.

Q. Please describe the Company's coal purchasing practices.

A. Vectren South utilizes Indiana coal as its primary fuel source for electric generation. Coal is purchased primarily under multi-year contracts to maintain a reliable source of coal.

Q. Does Vectren South have a portfolio of supply contracts with staggered pricing terms in place to mitigate potential coal market volatility?

A. Yes. A portfolio of contracts is in place that supports re-pricing opportunities for portions of the Company's supply in each upcoming year, and given volume flexibility provided for under these contracts, also leaves opportunities for spot purchases as needed. The contracts also provide coal with specifications that support Vectren South's emissions compliance strategy.

Q. Has Vectren South made every reasonable effort to provide power as economically as possible?

A. Yes. Vectren South's generating units are offered into the MISO Day Ahead ("DA") and Real Time ("RT") markets and are dispatched by the MISO on an economic basis. Vectren South has contracted through competitive processes to purchase its coal requirements from nearby mines at reasonable market prices. Purchasing from mines in close proximity to Vectren South's generating stations helps minimize transportation costs while providing a reliable, reasonably priced fuel supply.

VI. COAL INVENTORY

Q. What is the status of the Company's coal inventory?

A. As of September 30, 2020, coal inventory at Vectren South's coal-fired generating plants stood at approximately 664,437 tons, with an additional [redacted] tons in off-site storage, for a total of 837,696 tons. This is an decrease of 20,566 tons from the inventory level reported in FAC 128.

Q. Does Vectren South have an inventory target to assure reliability?

A. Yes. Vectren South's target inventory is driven in part by the risk Vectren South is willing to take regarding deliveries being suspended due to a mine issue (safety, MSHA, strike, etc.) or rail or truck transportation issues (equipment issues or employee strikes), and how long these supply interruptions might reasonably be expected to last. The target inventory also attempts to account for the carrying costs for holding the inventory. Considering these various factors of mine risks, transportation risks, and carrying costs, Vectren South generally targets a reserve inventory of about 45 – 60 days. The level of burn can vary, and therefore, target inventory should fall within a range. For Vectren South's operating purposes, inventory of approximately 350,000 - 550,000 tons is a good target.

VII. COAL SUPPLY PLAN

Q. Please provide an updated coal burn projection for 2020.

A. Vectren South currently projects a coal burn of [redacted] tons in 2020 while maintaining the coal decrement to avoid the expense associated with placing in and later removing additional coal from storage. This is a decrease of [redacted] tons from the projected coal burn reported in FAC 128

Q. Please provide an update to Vectren South's 2020 coal supply plan.

A. Vectren South entered 2020 with 663,752 tons of coal in plant inventory. For 2020, Vectren South currently has in place coal deliveries priced under three separate contracts previously reviewed by the Commission. Because Vectren South negotiated the ability to adjust the contract amount in any given year, Vectren South can reduce the total specified contract volumes for 2020 of [redacted] tons to a firm commitment for 2020 of [redacted] tons or increase the firm commitment to [redacted] tons. The

table below shows the individual contracts and the [redacted] and [redacted] optionality associated with each.

2020 Contracts	Contracted Volume	[redacted] Option	[redacted] Option
[redacted] Contract #1	[redacted]	[redacted]	[redacted]
[redacted] Contract #2	[redacted]	[redacted]	[redacted]
[redacted] Contract #3	[redacted]	[redacted]	[redacted]
Total Contracted	[redacted]		

The following table represents the minimum and maximum volumes that can be purchased from these contracts.

2020 Contracts	Contracted Volume	Minimum Volume	Maximum Volume
[redacted] Contract #1	[redacted]	[redacted]	[redacted]
[redacted] Contract #2	[redacted]	[redacted]	[redacted]
[redacted] Contract #3	[redacted]	[redacted]	[redacted]
Total Contracted	[redacted]	[redacted]	[redacted]

In mid-2019 when 2020 coal burn was projected to be [redacted] tons Vectren South elected to increase the 2020 annual volume of the two lowest price contracts by [redacted] and decrease the highest price contract by [redacted]. As coal burn projection gradually decreased towards the end of 2019 Vectren South exercised the option to reduce the [redacted] option by [redacted] for all three contracts and later notified [redacted] of the intent to reduce the [redacted] options by [redacted] on all three contracts as well. As explained in FAC 126 the following table shows the status of the 3 major coal contract deliveries for 2020.

2020 Contracts	Contract Volumes	[redacted] Option	Volume after [redacted] Option	[redacted] Option	Volume to be Received
[redacted] Contract 1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted] Contract 2	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted] Contract 3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total	[redacted]		[redacted]		[redacted]
2019 Early Take	[redacted]		[redacted]		[redacted]
Total	[redacted]		[redacted]		[redacted]

The following table shows the starting inventory, committed deliveries, total available coal inventory, projected burn and projected year-end inventory.

2020 Beginning Inventory	663,752
2020 Planned Deliveries	[redacted]
2020 Total Inventory	[redacted]
2020 Projected Burn	[redacted]
2020 Projected Year End Inventory	1,043,931

Q. Does Vectren South have the ability to safely store 1,043,931 tons of coal at its coal plants?

A. No. Holding too high of an inventory level at each facility presents a safety risk to employees who operate heavy equipment on and around the coal piles. It also presents safety risk to truck drivers who climb to the top of the pile to maneuver and unload coal trucks.

Q. How does Vectren South plan to deal with the excess inventory?

A. As described in FAC 127 Vectren South and [redacted] established a coal storage agreement that would allow up to [redacted] tons of excess coal to be stored at the [redacted] mine where it is produced. In April - June Vectren South placed [redacted] tons of coal in storage.

Q. Has Vectren South taken any action to avoid placing coal in off-site storage?

A. Yes. Vectren South converted the [redacted]/ton storage fee to an avoided cost per Megawatt-hour. Starting on March 17, 2020 Vectren South reduced the offer price to MISO on all coal-fired generators by this avoided cost value in order to increase the probability that MISO would clear those generators in the Day Ahead and Real Time market and avoid coal storage expense. Vectren South later negotiated a [redacted]/ton reduction of the storage price and, on September 9, 2020, converted a [redacted]/ton storage fee to an avoided cost per Megawatt-hour, thus changing the energy offer to reflect the new storage cost. This practice is not uncommon in the industry.

Q. Please explain in more detail how the coal decrement works?

A. Vectren South uses the cost to store coal at the [redacted] mine to determine the impact this cost has on the added cost per Megawatt hour to produce electric energy at each

facility. The energy offer price is then adjusted by this amount to increase the opportunity for the plant to operate and avoid paying storage cost for coal. Example: if the cost to store coal increases the cost to produce a megawatt hour of electric energy by 10% then the offer price for electric energy is reduced by 10%. This avoids the expense of placing coal in storage.

Q. Does this mean that MISO will always pay at the reduced price to avoid storage expense?

A. No. Units will still receive the market price set by the highest cost unit MISO determines is needed each hour of the day. This simply places a floor on the amount Vectren South units will receive for energy produced. For the majority of the time a unit is taken it will receive a price above the floor which actually is a lower cost impact than placing and removing coal from storage.

Q. Are there any other customer benefits to the coal decrement?

A. Yes. Improving the plants competitiveness keeps the plants operating longer, which helps prevent wear and tear on equipment associated with frequent cycling on and off. This maintenance and capital investment cost to replace worn equipment is eventually passed on to customers through normal rates.

Q. Has Vectren South used a coal decrement in the past?

A. Yes. The coal decrement strategy was used one other time to my knowledge in 2016 as described in FAC 111.

Q. Was the coal decrement strategy approved by the Indiana Utility Regulatory Commission (IURC)?

A. Yes. As the coal decrement strategy decreased the amount of coal placed in storage, it did not eliminate the need to store coal off-site.

Q. Has Vectren South placed any coal in off-site storage?

A. Yes. As mentioned earlier Vectren South placed [redacted] tons in off-site storage at the [redacted] mine during the April-June timeframe.

Q. Does Vectren South plan to place additional tons of coal into off-site storage in 2020?

A. Yes. Vectren South has the capacity to safely store approximately 800,000 tons of coal on site. With the coal decrement remaining in place and coal burn occurs as projected ([redacted] tons) and the current [redacted] tons of coal remain in storage Vectren South would be left with 870,672 tons to store on site. This will result in in a minimum of an additional [redacted] additional tons of coal being placed in storage.

Q. Are there any other factors beyond the actual coal burn that could impact the volume of coal placed in storage?

A. Yes. During the Thanksgiving and Christmas holidays, it's not uncommon to have issues with scheduling rail and truck deliveries due to employees taking time off. The recent rise in COVID-19 cases could also impact the ability to receive scheduled deliveries, increasing the amount of coal that could be placed in storage by year end. Vectren South has recently been notified that [redacted] is having challenges filling crews due to COVID-19 issues.

Q. It there a time limit that the coal can kept in storage without additional cost?

A. Yes. Coal can be kept in storage until [redacted]

Q. Please provide an update to the 2021 coal plan

A. Vectren South currently plans to reduce the annual and monthly volumes of all three coal contracts to minimum levels. The table below shows the projected starting inventory, minimum contractual deliveries, projected coal burn, total available inventory and projected ending inventory.

2020 Projected Ending Inventory	1,043,931
2021 Minimum Contractual Deliveries	[redacted]

2021 Total Available Inventory	[redacted]
2021 Projected Coal Burn	[redacted]
2021 Year-End Inventory	674,152

Q Has Vectren South re-priced any of its current coal contracts in 2020?

A. Yes. Vectren South has three coal contracts. Each is re-priced to market every three (3) years with one being re-priced each year. This staggered pricing helps ensure that all coal is not re-priced when the market is at an extreme high or low. In years two and three after re-pricing to market the contract calls for the price to increase by [redacted]. Vectren South completed negotiations with [redacted] to establish a new market price for one of the [redacted]-ton contracts on August 27, 2020 with the new pricing to begin on January 1, 2021.

Q. What is the new price negotiated for the contract that begins 2021?

A The [redacted]-ton contract that was due to be re-priced beginning January 1, 2021 was re-priced at [redacted] per ton.

Q. How was market price determined?

A. As in the past Vectren South employed an outside consultant to assist with establishing a fair market price for [redacted] coal. This was accomplished by reviewing publicly available data and taking into account coal quality and volume optionality of the current contract.

Q. What was the market price established by the consultant?

A. Market price for [redacted] coal, with the current quality specifications and optionality, beginning in January 2021 was in the range of [redacted] - [redacted] /ton.

Q. Were there any other changes made to this contract?

A. Yes. The contract calls for an annual escalation from the re-priced base for year two to increase by [redacted] then year three to increase from the year two price by another [redacted]. Vectren South negotiated a [redacted] increase in year two beginning January 1, 2022 from the base [redacted] to [redacted] and another [redacted] increase in year three beginning on January 1, 2023 to [redacted].

Q. Were there any changes to other coal supply agreements or coal storage agreements made during this negotiation process?

A. Yes. Vectren South negotiated a change to the other [redacted]-ton contract as well as the three storage agreements (one for each contract) discussed in FAC 128.

Q. Please describe these changes in more detail.

A. The following explains the other changes negotiated:

- [redacted]
  - [redacted]
  - [redacted]
  - [redacted]
- [redacted]
- [redacted]

Q. Are there any other coal related contracts that Vectren South will be renegotiating in 2020?

A. Yes. The rail transportation agreement with [redacted] to transport coal to the AB Brown station as well as the agreement with [redacted] to transport coal to the Warrick site will both expire at the end of 2020. Negotiations are currently in process and will be completed by year end with results reported in FAC 130.

VIII. TROY SOLAR PROJECT

Q. Please provide an update on the 50MW Troy Solar project.

A. The installation contractor has made substantial progress during the last few months, and the most recent schedule supplied shows the majority of the project installed with testing to begin in mid-December. Installation will continue on the remaining portion of the solar field along with further testing through January and February.

Q. Can a firm date be provided regarding when testing will be completed and the Troy solar project coming on-line and in full production?

A. No. We are entering the time of year when weather can play a big factor in the number of productive workdays. There have also been COVID-19 cases that have impacted the workforce. Given the potential impact of weather and COVID cases and the uncertainty regarding the number of issues that will be discovered during equipment checks and test runs its difficult to say when the solar field will be placed in service, however, it should be sometime in the first quarter of 2021. Production estimates for this FAC period are included on Petitioner's Exhibit No. 2, Attachment KJT-2, Schedule 1, Line 4, under "Other Generation".

IX. NATURAL GAS PROCUREMENT FOR WINTER OPERATIONS OF PEAKING UNITS

Q. Please describe Vectren South's procurement strategy for natural gas used for electric generating units.

A. In late summer or early fall, Vectren South develops its natural gas procurement plan for the gas peaking generators and coal-fired generator igniters for the upcoming winter season (December through March). Historical monthly maximum daily natural gas requirements of the peaking units and igniters over the past three winters are taken into consideration, as well as the peak daily usages over the same period. The results provide a basis for the volume of natural gas that we anticipate may be required on a monthly basis during the upcoming winter season.

Vectren South's plan considers three distinct products: 1) the volume of firm natural gas needed on a daily basis each month (this is typically igniter usage); 2) the amount of firm pipeline capacity we expect to need on a monthly basis; and, 3) the amount of Day Ahead callable natural gas that may be required for system emergencies and/or extreme weather events.

Vectren South solicited quotes from the four (4) gas marketers with whom we have purchase agreements. Of those that responded, the proposal(s) with the most favorable terms were accepted.

Q. **Please identify the suppliers and final products for ensuring adequate gas supply through the upcoming winter season.**

A. 1.) Daily Natural Gas Volume – four offers were received for 2,000 MMbtu per day for December 2020 - March 2021. Symmetry Energy Solutions was the low bidder at [redacted]. Offers were also received from Exelon/Constellation,EcoEnergy, and CIMA at [redacted]. Vectren South intends to purchase the daily supply from Symmetry Energy Solution.

2.) Monthly Firm Pipeline Capacity – one offer was received for 7,000 MMbtu/day for the month of March 2021, and 12,000 MMbtu/day for December 2020 through February 2021. Exelon/Constellation had the low offer at [redacted] for the four-month period. Symmetry Energy Solutions also supplied an offer of [redacted]. Vectren South intends to purchase firm pipeline capacity from Exelon/Constellation.

3.) Call Option - offers were received from EcoEnergy, and Exelon/Constellation. Vectren was seeking one call option that would allow for up to 12,000 MMbtu/day of pipeline capacity and natural gas supply, with up to 5 strikes during the December 2020 - March 2021 period. Exelon/Constellation had the lowest offer at [redacted]. Eco-Energy was next lowest at [redacted]. Vectren intends to purchase the call option from Exelon/Constellation.

With the suspension of BAGS 2, the three hedging products outlined above will allow Vectren South to cover its estimated peak requirement and exceed the peak experienced during the 2014 Polar Vortex. While Vectren experienced a 42,000 DKTh peak during the Polar Vortex, the peak usage of the peaking units, currently available, was 24,300 DKTh.

Q. What portions of this testimony is Vectren South requesting to be treated as confidential information?

A. Vectren South's confidentiality request relates to the [redacted] and [redacted] optionality with some coal supply contracts, re-pricing of coal contracts and other concessions as well as tonnage figures calculated using such optionality ("Confidential Provisions") and details related to costs, responsibilities and volumes associated with the coal storage agreements. Confidentiality also relates to the bids and final prices for natural gas supplies for peaking units to serve customers in the upcoming winter months.

Q. Why has Vectren South requested that such information be treated as confidential?

A. These Confidential Provisions of the testimony contain [redacted] and [redacted] optionality and other confidential terms related to the natural gas prices and agreements and coal storage agreements that were negotiated between Vectren South and its coal supplier. If the optionality and coal storage provisions became generally known or readily ascertainable to the other parties with whom Vectren South is negotiating or to other utilities with whom Vectren South would compete, this knowledge would provide considerable economic value to such parties. In effect, knowledge of these optionality and coal storage provisions by other suppliers would establish a ceiling in future negotiations, thereby limiting the potential terms and benefits that could accrue to ratepayers, shareholders, and Vectren South. Knowledge of the optionality and coal storage provisions by potential coal suppliers could enable them to gain unfair advantage in future competitive situations and negotiate a lower optionality or coal storage provision than would otherwise be possible. The lower optionality or details of the coal storage provisions would diminish the flexibility available to Applicant's operations to the disadvantage of Applicant and its customers. Further, disclosure of the coal suppliers' optionality and coal storage provisions would be of significant value

to the coal suppliers' competitors, which could prove harmful to the coal suppliers. In addition, Vectren South requests natural gas bids and final agreed upon prices and terms remain confidential to protect suppliers confidential bid information as well as the economic value competitive parties could gain from this information in an open energy market. Vectren South is requesting that, pursuant to Indiana Code § 5-14-3-4(a)(4), the Commission find that the Confidential Provisions of the Contract contain "trade secrets" as that term is defined in Indiana Code § 24-2-3-2 and are thereby excepted from the access to public records provisions contained in Indiana Code §§ 5-14-3-3 and -3.5 and 8-1-2-29.

Q. Has Vectren South taken any steps to maintain the confidentiality of this information?

A. Yes, in accordance with Indiana Code § 24-2-3-2, the information contained in the Confidential Provisions of the testimony has been the subject of efforts that are reasonable under the circumstances to maintain its secrecy. Within Vectren South, this information will be disclosed only to those persons directly involved with negotiating coal supply contracts. Outside of Vectren South, this information will be disclosed only to individuals who have signed a confidentiality agreement.

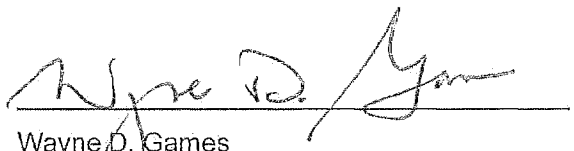
X. CONCLUSION

Q. Does this conclude your direct testimony?

A. Yes, at the present time.

STATE OF INDIANA)
) SS:
COUNTY OF VANDERBURGH)

The undersigned, Wayne D. Games, being duly sworn, under penalty of perjury affirms that the foregoing Direct Testimony in Cause No. 38708-FAC129 is true to the best of his knowledge, information and belief.



Wayne D. Games

VECTREN SOUTH
Determination of MISO Components of Fuel Cost
June, July and August 2020

		Actual June 2020	Actual July 2020	Actual August 2020
	Energy Market & ASM FAC Adjustment Components			
1	Delta LMP	$ 171,266.39	$ 93,848.94	$ 82,066.59
2	DA Virtuals Bids and Offers for Load	-	-	-
3	DA RSG 1st Pass Distribution Amount	5,945.31	8,829.75	8,193.37
4	DA RSG Make Whole Payment	(6,709.18)	(1,070.95)	(6,381.12)
5	DA Regulation Amount	(506.87)	-	(3,212.76)
6	DA Spinning Reserve Amount	(31,878.33)	(28,535.36)	(24,382.23)
7	DA Supplemental Reserve Amount	-	-	-
8	DA Ramp Capability Amount	(1,902.09)	(1,011.97)	(159.77)
9	RT Marg. Loss Surplus Credit	(48,126.71)	(60,585.00)	(54,786.30)
10	RT Virtuals Bids and Offers for Load	-	-	-
11	RT RSG 1st Pass Distribution Amount	2,167.97	25,342.06	7,245.87
12	RT RSG Make Whole Payment Amount	(9,788.09)	(34,010.47)	(66,402.31)
13	RT Price Volatility Make Whole Payment Amount	(52,893.55)	(90,031.35)	(62,326.67)
14	RT Net Inadvertent Energy	6,399.38	41,391.75	(1,501.70)
15	RT Revenue from Uninstructed Deviation	-	-	-
16	RT Uninstructed Deviation	-	-	-
17	RT Demand Response Allocation Uplift Charge	3,249.97	7,878.29	5,970.01
18	RT Regulation Amount	124.60	(1,926.72)	1,022.78
19	RT Spinning Reserve Amount	(12,667.62)	(529.28)	(3,811.50)
20	RT Supplemental Reserve Amount	(40.46)	(706.18)	(250.45)
21	RT Regulation Cost Distribution Amount	14,049.02	15,809.23	14,708.74
22	RT Spinning Reserve Cost Distribution Amount	10,778.65	13,414.18	12,717.22
23	RT Supplemental Reserve Cost Distribution Amount	1,407.54	1,224.80	1,978.45
24	RT Excessive Deficient Energy Deployment Charge Amount	1,053.11	853.14	1,942.34
25	RT Contingency Reserve Deployment Failure Charge Amount	-	-	-
26	RT Net Regulation Adjustment Amount	(436.41)	31.78	10.20
27	RT Ramp Capability Amount	231.64	(82.00)	(396.96)
28	FTR (Revenue) / Expenses	108.55	1,317.25	(4,507.39)
29	ARR (Revenue) / Expenses	(27,719.26)	(27,718.51)	(27,721.12)
30	Subtotal	24,113.56	(36,266.62)	(119,984.71)
31	Plus: Residual Load Adjustment Volume Changes			
32	Plus: MISO Charges (above) on sales billed to IMPA	-	-	-
33	Total (To Sch 5, line 19)	$ 24,113.56	$ (36,266.62)	$ (119,984.71)

Negative amount is a credit to expense (**payment from MISO**)
Positive amount is a debit to expense (**payment to MISO**)

VECTREN SOUTH
Calculation of Daily Benchmark
Based on NYMEX Henry Hub Day Ahead Natural Gas Price

June 2020						July 2020						August 2020					
Date	Day Ahead Cost $/MMBtu	Transport $/MMBtu	Allowed Gas Price $/MMBtu	Heat Rate Btu/kWh	Daily Benchmark $/MWh	Date	Day Ahead Cost $/MMBtu	Transport $/MMBtu	Allowed Gas Price $/MMBtu	Heat Rate Btu/kWh	Daily Benchmark $/MWh	Date	Day Ahead Cost $/MMBtu	Transport $/MMBtu	Allowed Gas Price $/MMBtu	Heat Rate Btu/kWh	Daily Benchmark $/MWh
06/01/20	1.595	0.60	2.20	12,500	27.44	07/01/20	1.690	0.60	2.29 2	12,500	28.63	08/01/20	1.750	0.60	2.35 2	12,500	29.38
06/02/20	1.530	0.60	2.13	12,500	26.63	07/02/20	1.600	0.60	2.20	12,500	27.50	08/02/20	1.750	0.60	2.35	12,500	29.38
06/03/20	1.560	0.60	2.16	12,500	27.00	07/03/20	1.530	0.60	2.13	12,500	26.63	08/03/20	1.750	0.60	2.35	12,500	29.38
06/04/20	1.765	0.60	2.37	12,500	29.56	07/04/20	1.530	0.60	2.13	12,500	26.63	08/04/20	1.920	0.60	2.52	12,500	31.50
06/05/20	1.695	0.60	2.30	12,500	28.69	07/05/20	1.530	0.60	2.13	12,500	26.63	08/05/20	2.015	0.60	2.62	12,500	32.69
06/06/20	1.695	0.60	2.30	12,500	28.69	07/06/20	1.530	0.60	2.13	12,500	26.63	08/06/20	2.180	0.60	2.78	12,500	34.75
06/07/20	1.695	0.60	2.30	12,500	28.69	07/07/20	1.700	0.60	2.30	12,500	28.75	08/07/20	2.200	0.60	2.80	12,500	35.00
06/08/20	1.695	0.60	2.30	12,500	28.69	07/08/20	1.740	0.60	2.34	12,500	29.25	08/08/20	2.140	0.60	2.74	12,500	34.25
06/09/20	1.665	0.60	2.27	12,500	28.31	07/09/20	1.790	0.60	2.39	12,500	29.88	08/09/20	2.140	0.60	2.74	12,500	34.25
06/10/20	1.675	0.60	2.28	12,500	28.44	07/10/20	1.815	0.60	2.42	12,500	30.19	08/10/20	2.140	0.60	2.74	12,500	34.25
06/11/20	1.700	0.60	2.30	12,500	28.75	07/11/20	1.745	0.60	2.35	12,500	29.31	08/11/20	2.150	0.60	2.75	12,500	34.38
06/12/20	1.680	0.60	2.28	12,500	28.50	07/12/20	1.745	0.60	2.35	12,500	29.31	08/12/20	2.140	0.60	2.74	12,500	34.25
06/13/20	1.605	0.60	2.21	12,500	27.56	07/13/20	1.745	0.60	2.35	12,500	29.31	08/13/20	2.055	0.60	2.66	12,500	33.19
06/14/20	1.605	0.60	2.21	12,500	27.56	07/14/20	1.715	0.60	2.32	12,500	28.94	08/14/20	2.120	0.60	2.72	12,500	34.00
06/15/20	1.605	0.60	2.21	12,500	27.56	07/15/20	1.695	0.60	2.30	12,500	28.69	08/15/20	2.210	0.60	2.81	12,500	35.13
06/16/20	1.460	0.60	2.06	12,500	25.75	07/16/20	1.710	0.60	2.31	12,500	28.88	08/16/20	2.210	0.60	2.81	12,500	35.13
06/17/20	1.380	0.60	1.98	12,500	24.75	07/17/20	1.740	0.60	2.34	12,500	29.25	08/17/20	2.210	0.60	2.81	12,500	35.13
06/18/20	1.475	0.60	2.08	12,500	25.94	07/18/20	1.725	0.60	2.33	12,500	29.06	08/18/20	2.320	0.60	2.92	12,500	36.50
06/19/20	1.445	0.60	2.05	12,500	25.56	07/19/20	1.725	0.60	2.33	12,500	29.06	08/19/20	2.365	0.60	2.97	12,500	37.06
06/20/20	1.465	0.60	2.07	12,500	25.81	07/20/20	1.725	0.60	2.33	12,500	29.06	08/20/20	2.355	0.60	2.96	12,500	36.94
06/21/20	1.465	0.60	2.07	12,500	25.81	07/21/20	1.665	0.60	2.27	12,500	28.31	08/21/20	2.345	0.60	2.95	12,500	36.81
06/22/20	1.465	0.60	2.07	12,500	25.81	07/22/20	1.630	0.60	2.23	12,500	27.88	08/22/20	2.330	0.60	2.93	12,500	36.63
06/23/20	1.600	0.60	2.20	12,500	27.50	07/23/20	1.635	0.60	2.24	12,500	27.94	08/23/20	2.330	0.60	2.93	12,500	36.63
06/24/20	1.565	0.60	2.17	12,500	27.06	07/24/20	1.685	0.60	2.29	12,500	28.56	08/24/20	2.330	0.60	2.93	12,500	36.63
06/25/20	1.575	0.60	2.18	12,500	27.19	07/25/20	1.685	0.60	2.29	12,500	28.56	08/25/20	2.520	0.60	3.12	12,500	39.00
06/26/20	1.490	0.60	2.09	12,500	26.13	07/26/20	1.685	0.60	2.29	12,500	28.56	08/26/20	2.515	0.60	3.12	12,500	38.94
06/27/20	1.400	0.60	2.00	12,500	25.00	07/27/20	1.685	0.60	2.29	12,500	28.56	08/27/20	2.505	0.60	3.11	12,500	38.81
06/28/20	1.400	0.60	2.00	12,500	25.00	07/28/20	1.685	0.60	2.29	12,500	28.56	08/28/20	2.505	0.60	3.11	12,500	38.81
06/29/20	1.400	0.60	2.00	12,500	25.00	07/29/20	1.685	0.60	2.29	12,500	28.56	08/29/20	2.460	0.60	3.06	12,500	38.25
06/30/20	1.660	0.60	2.26	12,500	28.25	07/30/20	1.685	0.60	2.29	12,500	28.56	08/30/20	2.460	0.60	3.06	12,500	38.25
						07/31/20	1.685	0.60	2.29	12,500	28.56	08/31/20	2.460	0.60	3.06	12,500	38.25

Vectren Energy Delivery of Southern Indiana
Market Settlements Group
Purchased Power Over Benchmark Explanations - June - Cause No. 38708 FAC 129

S55's through 6/30

Jun Benchmark Costs	Trade Date	HE	Cost of Purchased Power	Purchases Volume	Price	Purchases Volume @ Benchmark $	Amount Over Benchmark $	Reason for Purchasing Power	Available Capacity of Units Not Selected	MISO Economic Dispatch / Purchased MWs above Capacity	Purchase Power Costs at Risk	Test for Outages and Derates: MWs Out of Service	Test for Outages and Derates: 11% of Summer Rated Capacity 1197	Test for Outages and Derates: Are Unit MWs Out of Service > 11% Summer Capacity?	Test for Outages and Derates: Recoverable @ 0%, 85%, or 100%	MWs Subject to 85%-15%	Over Benchmark Price	Total Unrecoverable Dollars
28.69	Jun 8	12	$ 116.08	3.970	$ 29.24	$ 113.89	$ 2.19	*Culley 2 was on Reserve Shutdown*	250	-	$ -	250	131.67	YES	100	-	$ 0.55	$ -
24.75	Jun 17	21	$ 114.46	2.960	$ 38.67	$ 73.26	$ 41.20	*Culley 2 was on Reserve Shutdown*	250	-	$ -	250	131.67	YES	100	-	$ 13.92	$ -
25.94	Jun 18	9	$ 357.98	11.600	$ 30.86	$ 300.88	$ 57.10	*Culley 2 was on Reserve Shutdown*	250	-	$ -	250	131.67	YES	100	-	$ 4.92	$ -
27.50	Jun 23	21	$ 2,489.41	77.790	$ 32.00	$ 2,139.23	$ 350.18	*Culley 2 was on Reserve Shutdown*	250	-	$ -	250	131.67	YES	100	-	$ 4.50	$ -
26.13	Jun 26	10	$ 2,015.11	73.870	$ 27.28	$ 1,929.85	$ 85.26	*Culley 2 was on Reserve Shutdown*	250	-	$ -	250	131.67	YES	100	-	$ 1.15	$ -
26.13		12	$ 2,208.20	70.590	$ 31.28	$ 1,844.16	$ 364.04		250	-	$ -	250	131.67	YES	100	-	$ 5.16	$ -
25.00	Jun 29	10	$ 1,582.19	15.250	$ 103.75	$ 381.25	$ 1,200.94	*All coal units online, load greater than generation*	160	-	$ -	160	131.67	YES	100	-	$ 78.75	$ -
Total			$ 8,883.43	256.030		$ 6,782.52	$ 2,100.91		1,660.000	-	$ -	1,660.000				-		$ -

Vectren Energy Delivery of Southern Indiana
Market Settlements Group
Purchased Power Over Benchmark Explanations - July - Cause No. 38708 FAC 129

S55's through 7/31

Jul Benchmark Costs	Trade Date	HE	Cost of Purchased Power	Purchases Volume	Price	Purchases Volume @ Benchmark $	Amount Over Benchmark $	Reason for Purchasing Power	Available Capacity of Units Not Selected	MISO Economic Dispatch / Purchased MWs above Capacity	Purchase Power Costs at Risk	Test for Outages and Derates: MWs Out of Service	11% of Summer Rated Capacity 1197	Are Unit MWs Out of Service > 11% Summer Capacity?	Recoverable @ 0%, 85%, or 100%	MWs Subject to 85%-15%	Over Benchmark Price	Total Unrecoverable Dollars
26.63		10	$ 2,452.79	41,700	$ 58.82	$ 1,110.26	$ 1,342.53		405	-	$ -	405	131.67	YES	100	-	$ 32.19	$ -
26.63		11	$ 1,247.12	26,200	$ 47.60	$ 697.58	$ 549.55		405	-	$ -	405	131.67	YES	100	-	$ 20.98	$ -
26.63		12	$ 2,184.00	70,000	$ 31.20	$ 1,863.75	$ 320.25		405	-	$ -	405	131.67	YES	100	-	$ 4.58	$ -
26.63		13	$ 1,159.05	29,100	$ 39.83	$ 774.79	$ 384.26		245	-	$ -	245	131.67	YES	100	-	$ 13.20	$ -
26.63	Jul 6	15	$ 1,464.52	30,600	$ 47.86	$ 814.73	$ 649.80	*Brown 2 was offline due to a water leak*	245	-	$ -	245	131.67	YES	100	-	$ 21.24	$ -
26.63		16	$ 2,396.06	36,260	$ 66.08	$ 965.42	$ 1,430.64		245	-	$ -	245	131.67	YES	100	-	$ 39.45	$ -
26.63		17	$ 1,793.53	33,860	$ 52.97	$ 901.52	$ 892.01		245	-	$ -	245	131.67	YES	100	-	$ 26.34	$ -
26.63		18	$ 7,861.25	159,300	$ 49.35	$ 4,241.36	$ 3,619.89		245	-	$ -	245	131.67	YES	100	-	$ 22.72	$ -
26.63		19	$ 6,656.83	149,000	$ 44.68	$ 3,967.13	$ 2,689.71		405	-	$ -	405	131.67	YES	100	-	$ 18.05	$ -
26.63		23	$ 1,128.84	41,410	$ 27.26	$ 1,102.54	$ 26.30		405	-	$ -	405	131.67	YES	100	-	$ 0.64	$ -
28.75	Jul 7	10	$ 3,444.95	103,000	$ 33.45	$ 2,961.25	$ 483.70		160	-	$ -	160	131.67	YES	100	-	$ 4.70	$ -
28.94	Jul 14	16	$ 1,436.63	46,750	$ 30.73	$ 1,352.85	$ 83.78	*Culley 2 was on Reserve Shutdown*	250	-	$ -	250	131.67	YES	100	-	$ 1.79	$ -
28.94		17	$ 235.12	8,030	$ 29.28	$ 232.37	$ 2.75		250	-	$ -	250	131.67	YES	100	-	$ 0.34	$ -
29.25	Jul 17	16	$ 71.64	2,400	$ 29.85	$ 70.20	$ 1.44	*Culley 2 was on Reserve Shutdown*	250	-	$ -	250	131.67	YES	100	-	$ 0.60	$ -
29.25		17	$ 40.83	0.770	$ 53.03	$ 22.52	$ 18.31		250	-	$ -	250	131.67	YES	100	-	$ 23.78	$ -
					$ -	$ -	$ -		-	-	$ -	-	131.67	N/A	N/A	-	$ -	$ -
28.31	Jul 21	21	$ 1,392.56	21,570	$ 64.56	$ 610.71	$ 781.85	*All coal units online, load greater than generation*	160	-	$ -	160	131.67	YES	100	-	$ 36.25	$ -
27.88		11	$ 468.18	14,300	$ 32.74	$ 398.61	$ 69.57		250	-	$ -	250	131.67	YES	100	-	$ 4.86	$ -
27.88	Jul 22	13	$ 485.14	9,190	$ 52.79	$ 256.17	$ 228.97	*Culley 2 was on Reserve Shutdown*	250	-	$ -	250	131.67	YES	100	-	$ 24.91	$ -
27.88		21	$ 70.54	2,190	$ 32.21	$ 61.05	$ 9.49		250	-	$ -	250	131.67	YES	100	-	$ 4.34	$ -
27.94		7	$ 896.31	20,160	$ 44.46	$ 563.23	$ 333.08		250	-	$ -	250	131.67	YES	100	-	$ 16.52	$ -
27.94	Jul 23	10	$ 1,729.14	46,300	$ 35.80	$ 1,349.41	$ 379.73	*Culley 2 was on Reserve Shutdown*	250	-	$ -	250	131.67	YES	100	-	$ 7.86	$ -
27.94		16	$ 118.39	1,580	$ 74.93	$ 44.14	$ 74.25		250	-	$ -	250	131.67	YES	100	-	$ 46.99	$ -
28.56		14	$ 660.76	21,800	$ 30.31	$ 622.67	$ 38.09		250	-	$ -	250	131.67	YES	100	-	$ 1.75	$ -
28.56		15	$ 645.05	20,400	$ 31.62	$ 582.69	$ 62.36		250	-	$ -	250	131.67	YES	100	-	$ 3.06	$ -
28.56	Jul 24	16	$ 1,173.82	27,400	$ 42.84	$ 782.63	$ 391.19	*Culley 2 was on Reserve Shutdown*	250	-	$ -	250	131.67	YES	100	-	$ 14.28	$ -
28.56		17	$ 745.20	18,700	$ 39.85	$ 534.13	$ 211.07		250	-	$ -	250	131.67	YES	100	-	$ 11.29	$ -
28.56		18	$ 427.00	12,500	$ 34.16	$ 357.04	$ 69.96		250	-	$ -	250	131.67	YES	100	-	$ 5.60	$ -
28.56	Jul 26	9	$ 1,827.50	14,330	$ 127.53	$ 409.31	$ 1,418.19	*Culley 2 was on Reserve Shutdown*	250	-	$ -	250	131.67	YES	100	-	$ 98.97	$ -
28.56	Jul 28	23	$ 18,798.62	65,820	$ 285.61	$ 1,880.02	$ 16,918.60	*Culley 2 was on Reserve Shutdown*	250	-	$ -	250	131.67	YES	100	-	$ 257.04	$ -
28.56	Jul 30	8	$ 1,354.76	32,300	$ 41.94	$ 922.58	$ 432.18	*All coal units online, load greater than generation*	160	-	$ -	160	131.67	YES	100	-	$ 13.38	$ -
Total			$ 64,366.13	1,108,920		$ 30,452.65	$ 33,913.48		7,980,000	-	$ -	7,980,000				-		$ -

Vectren Energy Delivery of Southern Indiana
Market Settlements Group
Purchased Power Over Benchmark Explanations - August - Cause No. 38708 FAC 129

S55's through 8/31

Aug Benchmark Costs	Trade Date	HE	Cost of Purchased Power	Purchases Volume	Price	Purchases Volume @ Benchmark $	Amount Over Benchmark $	Reason for Purchasing Power	Available Capacity of Units Not Selected	MISO Economic Dispatch / Purchased MWs above Capacity	Purchase Power Costs at Risk	Test for Outages and Derates: MWs Out of Service	Test for Outages and Derates: 11% of Summer Rated Capacity 1197	Test for Outages and Derates: Are Unit MWs Out of Service > 11% Summer Capacity?	Test for Outages and Derates: Recoverable @ 0%, 85%, or 100%	MWs Subject to 85%-15%	Over Benchmark Price	Total Unrecoverable Dollars
29.38	Aug 2	17	$ 612.52	15,390	$ 39.80	$ 452.08	$ 160.44	*Culley 2 was on Reserve Shutdown, Warrick 4 was offline due to a tube leak*	400	-	$ -	400	131.67	YES	100	-	$ 10.42	$ -
29.38	Aug 3	10	$ 224.60	6,800	$ 33.03	$ 199.75	$ 24.85	*Culley 2 was on Reserve Shutdown, Warrick 4 was offline due to a tube leak*	400	-	$ -	400	131.67	YES	100	-	$ 3.65	$ -
					$ -	$ -	$ -		-	-	$ -	-	131.67	N/A	N/A	-	$ -	$ -
35.00		10	$ 8,471.31	140,300	$ 60.38	$ 4,910.50	$ 3,560.81		495	-	$ -	495	131.67	YES	100	-	$ 25.38	$ -
35.00		11	$ 2,734.62	74,400	$ 36.75	$ 2,604.00	$ 130.62		495	-	$ -	495	131.67	YES	100	-	$ 1.76	$ -
35.00	Aug 7	15	$ 143.75	2,600	$ 55.29	$ 91.00	$ 52.75	*Brown 1 was out outage, Culley 2 was on Reserve Shutdown*	495	-	$ -	495	131.67	YES	100	-	$ 20.29	$ -
35.00		16	$ 2,979.64	81,500	$ 36.56	$ 2,852.50	$ 127.14		495	-	$ -	495	131.67	YES	100	-	$ 1.56	$ -
35.00		17	$ 3,940.18	97,100	$ 40.58	$ 3,398.50	$ 541.68		495	-	$ -	495	131.67	YES	100	-	$ 5.58	$ -
34.25		16	$ 1,691.68	44,600	$ 37.93	$ 1,527.55	$ 164.13		495	-	$ -	495	131.67	YES	100	-	$ 3.68	$ -
34.25	Aug 8	17	$ 1,876.20	47,200	$ 39.75	$ 1,616.60	$ 259.60	*Brown 1 was out outage, Culley 2 was on Reserve Shutdown*	495	-	$ -	495	131.67	YES	100	-	$ 5.50	$ -
34.25		18	$ 1,437.52	40,700	$ 35.32	$ 1,393.98	$ 43.54		495	-	$ -	495	131.67	YES	100	-	$ 1.07	$ -
Total			$ 24,112.02	550,590		$ 19,046.46	$ 5,065.56		4,760.000	-	$ -	4,760.000				-		$ -