**VERIFICATION**

**STATE OF OHIO** )
) **SS:**
**COUNTY OF HAMILTON** )

The undersigned, Theodore H. Czupik, Jr., Rates & Regulatory Strategy Manager, being duly sworn, deposes and says that he has personal knowledge of the matters set forth in the foregoing Post-Hearing data requests, and that the answers contained therein are true and correct to the best of his knowledge, information and belief.

Theodore H. Czupik Jr.
Theodore H. Czupik, Jr., Affiant

Subscribed and sworn to before me by Theodore H. Czupik, Jr., on this 9TH day of MAY, 2019.


ADELE M. FRISCH
Notary Public, State of Ohio
My Commission Expires 01-05-2024

Adele M. Frisch
NOTARY PUBLIC

My Commission Expires: 1/5/2024

**VERIFICATION**

**STATE OF NORTH CAROLINA** )
) **SS:**
**COUNTY OF MECKLENBURG** )

The undersigned, John D. Swez, Director of General Dispatch & Operations, Power Trading and Dispatch, being duly sworn, deposes and says that he has personal knowledge of the matters set forth in the foregoing Post-Hearing data requests, and that the answers contained therein are true and correct to the best of his knowledge, information and belief.

John D. Swez, Affiant

Subscribed and sworn to before me by John D. Swez on this 8 day of May, 2019.

Mary B Vicknair
NOTARY PUBLIC

My Commission Expires:

MARY B VICKNAIR
NOTARY PUBLIC
Davie County
North Carolina
My Commission Expires Sept. 21, 2022

**KyPSC Case No. 2019-00006**
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**Duke Energy Kentucky**
**Case No. 2019-00006**
**Staff Post Hearing Data Requests**
**Date Received: May 7, 2019**

**STAFF-POST HEARING-DR-01-001**

**REQUEST:**

Provide the budget model or evaluation formula that Duke Kentucky utilizes to project fuel prices and power purchases in Excel spreadsheet format with all formulas intact and unprotected, and with all columns and rows accessible.

**RESPONSE**:

Duke Energy Kentucky uses the licensed software GenTrader model to forecast the fuel and purchase power expense used in its FAC. Due to the fact that the model is written in a code other than Excel, it contains highly sensitive data, not to mention is licensed and of a proprietary nature, it is not possible to provide the entire working model. However, the Company can make its personnel available to the Commission or Staff's request to provide an in-person demonstration of the model.

Certain inputs and outputs of the model are included as a response to this data request as Attachments Staff Post Hearing DR-01-001 A (inputs) and B (outputs), (due to the size of Attachment A it's being provided on CD):

Attachment A - DEK_Model_Inputs_COB20181002.xlsx (inputs)

- Coal, natural gas, oil price forecast
- Duke Energy Kentucky customer load forecast
- AEP-DAYTON.HUB LMP market forecast
- Basis forecast (difference between AEP-DAYTON.HUB LMP and Duke Energy Kentucky load/generator LMP forecast)
- $NO_x$ and $SO_2$ emissions allowance price forecast

Attachment B - DEK_UIPlanner_12936 (outputs)

- Generation amount forecast
- Purchase power amount and cost forecast
- Fuel amount and cost forecast
- Lime cost forecast
- $CO_2$, Hg, $NO_x$ and $SO_2$ Emissions Forecast

**PERSON RESPONSIBLE:** John Swez

# POST-HEARING STAFF-DR-01-001
# ATTACHMENT A

# FILED ELECTRONICALLY AND
# BEING PROVIDED ON CD DUE TO THE SIZE

## Energy_Generation

| RUNID | Plant Unit Short Name | Long Name | Resource Type | UOM | 2018_10 | 2018_11 | 2018_12 |
|---|---|---|---|---|---|---|---|
| 12936 | EABD_UN02 | EABD_UN02 | COAL | GWH | 277 | 292 | 314 |
| 12936 | WOOD_CT01 | WOOD_CT01 | CT | GWH | 0 | 0 | 0 |
| 12936 | WOOD_CT02 | WOOD_CT02 | CT | GWH | 0 | 0 | 0 |
| 12936 | WOOD_CT03 | WOOD_CT03 | CT | GWH | 0 | 0 | 0 |
| 12936 | WOOD_CT04 | WOOD_CT04 | CT | GWH | 0 | 0 | 0 |
| 12936 | WOOD_CT05 | WOOD_CT05 | CT | GWH | 0 | 0 | 0 |
| 12936 | WOOD_CT06 | WOOD_CT06 | CT | GWH | 0 | 0 | 0 |
| 12936 | DEK [B] | Duke Energy Kentucky Purchases | PURCHASE | GWH | 10 | 25 | 47 |
| 12936 | DEK Solar | DEK Solar | RENEW | GWH | 1 | 1 | 1 |

| 2019_01 | 2019_02 | 2019_03 | 2019_04 | 2019_05 | 2019_06 | 2019_07 |
|---|---|---|---|---|---|---|
| 344 | 319 | 311 | 278 | 202 | 300 | 329 |
| 4 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1 | 0 | 0 | 0 | 0 | 0 | 2 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 23 | 32 | 3 | 24 | 116 | 70 | 68 |
| 1 | 1 | 1 | 1 | 1 | 2 | 2 |

| 2019_08 | 2019_09 | 2019_10 | 2019_11 | 2019_12 | 2020_01 | 2020_02 |
|---|---|---|---|---|---|---|
| 348 | 301 | 296 | 277 | 340 | 341 | 331 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 52 | 49 | 12 | 41 | 18 | 30 | 29 |
| 2 | 1 | 1 | 1 | 1 | 1 | 1 |

| 2020_03 | 2020_04 | 2020_05 | 2020_06 | 2020_07 | 2020_08 | 2020_09 |
|---|---|---|---|---|---|---|
| 276 | 0 | 126 | 277 | 335 | 315 | 307 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 0 | 0 | 0 | 0 | 2 | 0 | 1 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| 39 | 304 | 193 | 95 | 64 | 86 | 44 |
| 1 | 1 | 1 | 2 | 2 | 2 | 1 |

| 2020_10 | 2020_11 | 2020_12 | 2021_01 | 2021_02 | 2021_03 | 2021_04 |
|---|---|---|---|---|---|---|
| 288 | 276 | 309 | 342 | 319 | 307 | 264 |
| 0 | 0 | 0 | 2 | 1 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 | 43 | 50 | 27 | 34 | 9 | 40 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 |

| 2021_05 | 2021_06 | 2021_07 | 2021_08 | 2021_09 | 2021_10 | 2021_11 |
|---|---|---|---|---|---|---|
| 211 | 275 | 314 | 327 | 276 | 271 | 252 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 108 | 99 | 94 | 82 | 76 | 38 | 67 |
| 1 | 2 | 2 | 2 | 1 | 1 | 1 |

| 2021_12 | 2022_01 | 2022_02 | 2022_03 | 2022_04 | 2022_05 | 2022_06 |
|---|---|---|---|---|---|---|
| 299 | 331 | 319 | 44 | 249 | 246 | 269 |
| 0 | 2 | 2 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2 | 1 | 1 | 0 | 0 | 0 |
| 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 61 | 40 | 34 | 270 | 56 | 74 | 106 |
| 1 | 1 | 1 | 1 | 1 | 1 | 2 |

| 2022_07 | 2022_08 | 2022_09 | 2022_10 | 2022_11 | 2022_12 | 2023_01 |
|---|---|---|---|---|---|---|
| 295 | 303 | 278 | 249 | 259 | 268 | 327 |
| 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 | 0 | 0 | 3 |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 115 | 109 | 76 | 61 | 61 | 93 | 43 |
| 2 | 2 | 1 | 1 | 1 | 1 | 1 |

| 2023_02 | 2023_03 | 2023_04 | 2023_05 | 2023_06 | 2023_07 | 2023_08 |
|---|---|---|---|---|---|---|
| 292 | 291 | 234 | 192 | 261 | 305 | 303 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 63 | 26 | 71 | 129 | 116 | 108 | 110 |
| 1 | 1 | 1 | 1 | 2 | 2 | 2 |

| 2023_09 | 2023_10 | 2023_11 | 2023_12 | | | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|---|
| 251 | 256 | 237 | 278 | | | 883 | 3,646 | 3,182 |
| 0 | 0 | 0 | 0 | | | 0 | 5 | 1 |
| 0 | 0 | 0 | 0 | | | 0 | 1 | 1 |
| 0 | 0 | 0 | 0 | | | 0 | 4 | 5 |
| 0 | 0 | 0 | 0 | | | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | | | 0 | 2 | 2 |
| 0 | 0 | 0 | 0 | | | 0 | 2 | 2 |
| 105 | 54 | 83 | 84 | | | 82 | 508 | 998 |
| 1 | 1 | 1 | 1 | | | 2 | 14 | 14 |

| 2021 | 2022 | 2023 |
|---|---|---|
| 3,457 | 3,109 | 3,230 |
| 3 | 4 | 3 |
| 1 | 2 | 0 |
| 5 | 6 | 5 |
| 1 | 1 | 1 |
| 1 | 2 | 1 |
| 2 | 3 | 2 |
| 735 | 1,094 | 993 |
| | | |
| 14 | 14 | 14 |

| RUNID | Plant Unit Short Name | Long Name | Resource Type | UOM | 2018_10 | 2018_11 | 2018_12 |
|---|---|---|---|---|---|---|---|
| 12936 | EABD_UN02 | EABD_UN02 | COAL | KTON | 134,316 | 130,745 | 153,763 |

| 2019_01 | 2019_02 | 2019_03 | 2019_04 | 2019_05 | 2019_06 | 2019_07 |
|---|---|---|---|---|---|---|
| 164,953 | 153,165 | 149,507 | 135,739 | 98,606 | 146,810 | 159,668 |

| 2019_08 | 2019_09 | 2019_10 | 2019_11 | 2019_12 | 2020_01 | 2020_02 |
|---|---|---|---|---|---|---|
| 169,349 | 147,444 | 144,307 | 135,573 | 164,578 | 163,468 | 158,868 |

| 2020_03 | 2020_04 | 2020_05 | 2020_06 | 2020_07 | 2020_08 | 2020_09 |
|---|---|---|---|---|---|---|
| 133,437 | 0 | 61,723 | 135,963 | 163,182 | 154,212 | 150,940 |

| 2020_10 | 2020_11 | 2020_12 | 2021_01 | 2021_02 | 2021_03 | 2021_04 |
|---|---|---|---|---|---|---|
| 141,961 | 125,100 | 139,126 | 151,062 | 140,782 | 137,677 | 119,075 |

| 2021_05 | 2021_06 | 2021_07 | 2021_08 | 2021_09 | 2021_10 | 2021_11 |
|---|---|---|---|---|---|---|
| 95,590 | 124,940 | 141,862 | 148,241 | 125,842 | 123,698 | 115,166 |

| 2021_12 | 2022_01 | 2022_02 | 2022_03 | 2022_04 | 2022_05 | 2022_06 |
|---|---|---|---|---|---|---|
| 135,804 | 150,734 | 145,620 | 20,134 | 117,067 | 116,194 | 127,013 |

| 2022_07 | 2022_08 | 2022_09 | 2022_10 | 2022_11 | 2022_12 | 2023_01 |
|---|---|---|---|---|---|---|
| 137,938 | 141,975 | 131,549 | 117,707 | 122,720 | 126,343 | 149,409 |

| 2023_02 | 2023_03 | 2023_04 | 2023_05 | 2023_06 | 2023_07 | 2023_08 |
|---|---|---|---|---|---|---|
| 134,835 | 136,128 | 110,721 | 91,016 | 123,582 | 142,791 | 142,373 |

| 2023_09 | 2023_10 | 2023_11 | 2023_12 | | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|
| 118,765 | 121,750 | 112,616 | 131,834 | | 418,824 | 1,769,698 | 1,527,979 |

| 2021 | 2022 | 2023 |
|---|---|---|
| 1,559,738 | 1,454,993 | 1,515,820 |

| RUNID | Plant Unit Short Name | Long Name | Resource Type | UOM | 2018_10 | 2018_11 | 2018_12 |
|---|---|---|---|---|---|---|---|
| 12936 | EABD_UN02 | EABD_UN02 | COAL | MBTU | 3,022,469 | 3,190,609 | 3,450,738 |
| 12936 | WOOD_CT01 | WOOD_CT01 | CT | MBTU | 0 | 0 | 0 |
| 12936 | WOOD_CT02 | WOOD_CT02 | CT | MBTU | 0 | 0 | 0 |
| 12936 | WOOD_CT03 | WOOD_CT03 | CT | MBTU | 0 | 0 | 0 |
| 12936 | WOOD_CT04 | WOOD_CT04 | CT | MBTU | 0 | 0 | 0 |
| 12936 | WOOD_CT05 | WOOD_CT05 | CT | MBTU | 0 | 0 | 0 |
| 12936 | WOOD_CT06 | WOOD_CT06 | CT | MBTU | 0 | 0 | 0 |

| 2019_01 | 2019_02 | 2019_03 | 2019_04 | 2019_05 | 2019_06 | 2019_07 |
|---|---|---|---|---|---|---|
| 3,709,506 | 3,440,471 | 3,352,493 | 3,051,960 | 2,218,425 | 3,296,293 | 3,586,778 |
| 53,668 | 725 | 0 | 0 | 0 | 0 | 13,277 |
| 339 | 0 | 0 | 0 | 0 | 726 | 15,692 |
| 11,913 | 0 | 0 | 0 | 0 | 4,836 | 27,147 |
| 339 | 0 | 0 | 0 | 0 | 0 | 1,670 |
| 339 | 0 | 0 | 0 | 0 | 4,807 | 20,326 |
| 339 | 0 | 0 | 0 | 0 | 4,836 | 27,987 |

| 2019_08 | 2019_09 | 2019_10 | 2019_11 | 2019_12 | 2020_01 | 2020_02 |
|---|---|---|---|---|---|---|
| 3,797,902 | 3,310,418 | 3,240,268 | 3,045,780 | 3,693,203 | 3,677,602 | 3,567,377 |
| 0 | 0 | 0 | 0 | 0 | 1,255 | 5,516 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 9,013 | 0 | 0 | 0 | 20,493 | 1,763 |
| 0 | 0 | 0 | 0 | 0 | 4,643 | 0 |
| 0 | 296 | 0 | 0 | 0 | 0 | 0 |
| 0 | 4,792 | 0 | 0 | 0 | 0 | 0 |

| 2020_03 | 2020_04 | 2020_05 | 2020_06 | 2020_07 | 2020_08 | 2020_09 |
|---|---|---|---|---|---|---|
| 2,992,420 | 0 | 1,391,626 | 3,058,361 | 3,661,721 | 3,462,035 | 3,384,871 |
| 1,941 | 0 | 0 | 0 | 5,263 | 0 | 0 |
| 0 | 0 | 0 | 4,817 | 14,599 | 0 | 98 |
| 0 | 0 | 0 | 4,836 | 31,383 | 0 | 9,557 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 4,836 | 24,407 | 0 | 3,491 |
| 0 | 0 | 0 | 785 | 31,110 | 0 | 1,274 |

| 2020_10 | 2020_11 | 2020_12 | 2021_01 | 2021_02 | 2021_03 | 2021_04 |
|---|---|---|---|---|---|---|
| 3,186,732 | 3,050,766 | 3,391,873 | 3,688,947 | 3,433,299 | 3,353,566 | 2,909,305 |
| 0 | 0 | 0 | 25,164 | 18,567 | 0 | 0 |
| 0 | 0 | 0 | 2,052 | 0 | 0 | 0 |
| 0 | 0 | 0 | 35,281 | 829 | 0 | 0 |
| 0 | 0 | 0 | 11,917 | 244 | 0 | 0 |
| 0 | 0 | 0 | 2,759 | 0 | 0 | 0 |
| 0 | 0 | 0 | 1,733 | 0 | 0 | 0 |

| 2021_05 | 2021_06 | 2021_07 | 2021_08 | 2021_09 | 2021_10 | 2021_11 |
|---|---|---|---|---|---|---|
| 2,334,785 | 3,046,853 | 3,457,796 | 3,609,034 | 3,068,144 | 3,015,136 | 2,811,564 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 9,023 | 0 | 0 | 0 | 0 |
| 0 | 4,836 | 32,587 | 0 | 3,621 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 19,839 | 0 | 0 | 0 | 0 |
| 0 | 3,281 | 30,731 | 0 | 50 | 0 | 0 |

| 2021_12 | 2022_01 | 2022_02 | 2022_03 | 2022_04 | 2022_05 | 2022_06 |
|---|---|---|---|---|---|---|
| 3,309,093 | 3,575,044 | 3,445,524 | 475,814 | 2,773,038 | 2,755,644 | 3,003,928 |
| 0 | 32,167 | 22,570 | 0 | 0 | 0 | 0 |
| 0 | 305 | 610 | 0 | 0 | 0 | 0 |
| 0 | 28,844 | 13,988 | 12,406 | 0 | 0 | 4,836 |
| 0 | 7,085 | 1,881 | 11,717 | 0 | 0 | 0 |
| 0 | 305 | 610 | 11,854 | 0 | 0 | 0 |
| 0 | 339 | 678 | 12,406 | 0 | 0 | 3,363 |

| 2022_07 | 2022_08 | 2022_09 | 2022_10 | 2022_11 | 2022_12 | 2023_01 |
|---|---|---|---|---|---|---|
| 3,263,015 | 3,356,378 | 3,107,097 | 2,788,338 | 2,902,539 | 2,991,921 | 3,544,037 |
| 4,844 | 0 | 0 | 0 | 0 | 0 | 44,002 |
| 22,631 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30,180 | 0 | 0 | 0 | 0 | 0 | 37,873 |
| 0 | 0 | 0 | 0 | 0 | 0 | 7,506 |
| 23,641 | 0 | 0 | 0 | 0 | 0 | 0 |
| 29,455 | 0 | 0 | 0 | 0 | 0 | 0 |

| 2023_02 | 2023_03 | 2023_04 | 2023_05 | 2023_06 | 2023_07 | 2023_08 |
|---|---|---|---|---|---|---|
| 3,192,239 | 3,217,920 | 2,626,994 | 2,158,230 | 2,923,591 | 3,376,270 | 3,365,112 |
| 1,063 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 3,099 | 0 | 0 | 0 | 30,180 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 13,099 | 0 |
| 0 | 0 | 0 | 0 | 0 | 29,108 | 0 |

| 2023_09 | 2023_10 | 2023_11 | 2023_12 | | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|
| 2,810,509 | 2,879,679 | 2,669,251 | 3,116,401 | | 9,663,817 | 39,743,498 | 34,825,386 |
| 0 | 0 | 0 | 0 | | 0 | 67,671 | 13,975 |
| 0 | 0 | 0 | 0 | | 0 | 16,756 | 19,514 |
| 0 | 0 | 0 | 0 | | 0 | 52,909 | 68,033 |
| 0 | 0 | 0 | 0 | | 0 | 2,009 | 4,643 |
| 0 | 0 | 0 | 0 | | 0 | 25,768 | 32,734 |
| 0 | 0 | 0 | 0 | | 0 | 37,955 | 33,169 |

| 2021 | 2022 | 2023 |
|---|---|---|
| 38,037,522 | 34,438,279 | 35,880,232 |
| 43,731 | 59,582 | 45,066 |
| 11,075 | 23,546 | 0 |
| 77,154 | 90,253 | 71,151 |
| 12,161 | 20,683 | 7,506 |
| 22,598 | 36,410 | 13,099 |
| 35,795 | 46,241 | 29,108 |

| RUNID | Plant Unit Short Name | Long Name | Resource Type | UOM | 2018_10 | 2018_11 | 2018_12 |
|---|---|---|---|---|---|---|---|
| 12936 | EABD_UN02 | EABD_UN02 | COAL | DOLLARS | 5,903,616 | 5,793,538 | 6,767,840 |
| 12936 | WOOD_CT01 | WOOD_CT01 | CT | DOLLARS | 0 | 0 | 0 |
| 12936 | WOOD_CT02 | WOOD_CT02 | CT | DOLLARS | 0 | 0 | 0 |
| 12936 | WOOD_CT03 | WOOD_CT03 | CT | DOLLARS | 0 | 0 | 0 |
| 12936 | WOOD_CT04 | WOOD_CT04 | CT | DOLLARS | 0 | 0 | 0 |
| 12936 | WOOD_CT05 | WOOD_CT05 | CT | DOLLARS | 0 | 0 | 0 |
| 12936 | WOOD_CT06 | WOOD_CT06 | CT | DOLLARS | 0 | 0 | 0 |

| 2019_01 | 2019_02 | 2019_03 | 2019_04 | 2019_05 | 2019_06 | 2019_07 |
|---|---|---|---|---|---|---|
| 7,348,969 | 6,776,435 | 6,507,188 | 6,027,134 | 4,374,251 | 6,369,225 | 6,941,277 |
| 211,490 | 2,767 | 0 | 0 | 0 | 0 | 43,645 |
| 1,336 | 0 | 0 | 0 | 0 | 2,369 | 51,584 |
| 46,945 | 0 | 0 | 0 | 0 | 15,791 | 89,242 |
| 1,336 | 0 | 0 | 0 | 0 | 0 | 5,491 |
| 1,336 | 0 | 0 | 0 | 0 | 15,695 | 66,819 |
| 1,336 | 0 | 0 | 0 | 0 | 15,791 | 92,004 |

| 2019_08 | 2019_09 | 2019_10 | 2019_11 | 2019_12 | 2020_01 | 2020_02 |
|---|---|---|---|---|---|---|
| 7,246,055 | 6,361,320 | 6,227,229 | 5,869,926 | 7,078,088 | 7,260,761 | 6,983,909 |
| 0 | 0 | 0 | 0 | 0 | 4,497 | 19,459 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 29,451 | 0 | 0 | 0 | 73,411 | 6,220 |
| 0 | 0 | 0 | 0 | 0 | 16,633 | 0 |
| 0 | 967 | 0 | 0 | 0 | 0 | 0 |
| 0 | 15,660 | 0 | 0 | 0 | 0 | 0 |

| 2020_03 | 2020_05 | 2020_06 | 2020_07 | 2020_08 | 2020_09 | 2020_10 |
|---|---|---|---|---|---|---|
| 5,797,916 | 2,787,525 | 6,043,363 | 7,134,168 | 6,786,736 | 6,628,283 | 6,317,631 |
| 6,521 | 0 | 0 | 16,440 | 0 | 0 | 0 |
| 0 | 0 | 14,942 | 45,607 | 0 | 305 | 0 |
| 0 | 0 | 15,003 | 98,039 | 0 | 29,682 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 15,003 | 76,245 | 0 | 10,842 | 0 |
| 0 | 0 | 2,434 | 97,185 | 0 | 3,959 | 0 |

| 2020_11 | 2020_12 | 2021_01 | 2021_02 | 2021_03 | 2021_04 | 2021_05 |
|---|---|---|---|---|---|---|
| 5,730,243 | 6,497,328 | 7,353,583 | 6,896,297 | 6,759,581 | 6,035,036 | 4,853,273 |
| 0 | 0 | 86,731 | 63,235 | 0 | 0 | 0 |
| 0 | 0 | 7,071 | 0 | 0 | 0 | 0 |
| 0 | 0 | 121,601 | 2,823 | 0 | 0 | 0 |
| 0 | 0 | 41,073 | 831 | 0 | 0 | 0 |
| 0 | 0 | 9,509 | 0 | 0 | 0 | 0 |
| 0 | 0 | 5,972 | 0 | 0 | 0 | 0 |

| 2021_06 | 2021_07 | 2021_08 | 2021_09 | 2021_10 | 2021_11 | 2021_12 |
|---|---|---|---|---|---|---|
| 6,290,034 | 7,136,548 | 7,406,165 | 6,368,173 | 6,254,662 | 5,898,355 | 6,913,616 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 27,914 | 0 | 0 | 0 | 0 | 0 |
| 14,819 | 100,811 | 0 | 11,205 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 61,373 | 0 | 0 | 0 | 0 | 0 |
| 10,053 | 95,068 | 0 | 156 | 0 | 0 | 0 |

| 2022_01 | 2022_02 | 2022_03 | 2022_04 | 2022_05 | 2022_06 | 2022_07 |
|---|---|---|---|---|---|---|
| 7,925,617 | 7,574,130 | 1,038,761 | 6,166,350 | 6,188,670 | 6,645,586 | 7,240,612 |
| 111,319 | 77,408 | 0 | 0 | 0 | 0 | 14,796 |
| 1,056 | 2,092 | 0 | 0 | 0 | 0 | 69,126 |
| 99,818 | 47,975 | 41,468 | 0 | 0 | 14,641 | 92,184 |
| 24,519 | 6,452 | 39,165 | 0 | 0 | 0 | 0 |
| 1,056 | 2,092 | 39,624 | 0 | 0 | 0 | 72,210 |
| 1,173 | 2,325 | 41,468 | 0 | 0 | 10,182 | 89,971 |

| 2022_08 | 2022_09 | 2022_10 | 2022_11 | 2022_12 | 2023_01 | 2023_02 |
|---|---|---|---|---|---|---|
| 7,427,244 | 6,842,776 | 6,258,909 | 6,455,052 | 6,757,341 | 8,137,791 | 7,274,711 |
| 0 | 0 | 0 | 0 | 0 | 153,512 | 3,681 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 132,128 | 0 |
| 0 | 0 | 0 | 0 | 0 | 26,187 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| 2023_03 | 2023_04 | 2023_05 | 2023_06 | 2023_07 | 2023_08 | 2023_09 |
|---|---|---|---|---|---|---|
| 7,286,330 | 6,094,301 | 4,995,200 | 6,678,786 | 7,696,397 | 7,659,135 | 6,448,054 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10,516 | 0 | 0 | 0 | 94,200 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 40,887 | 0 | 0 |
| 0 | 0 | 0 | 0 | 90,854 | 0 | 0 |

| 2023_10 | 2023_11 | 2023_12 | | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|---|
| 6,588,943 | 6,189,077 | 7,169,246 | | 18,464,994 | 77,127,096 | 67,967,863 | 78,165,323 |
| 0 | 0 | 0 | | 0 | 257,901 | 46,917 | 149,966 |
| 0 | 0 | 0 | | 0 | 55,289 | 60,854 | 34,985 |
| 0 | 0 | 0 | | 0 | 181,428 | 222,356 | 251,260 |
| 0 | 0 | 0 | | 0 | 6,827 | 16,633 | 41,904 |
| 0 | 0 | 0 | | 0 | -84,816 | 102,090 | 70,883 |
| 0 | 0 | 0 | | 0 | 124,790 | 103,577 | 111,249 |

| 2022 | 2023 |
|---|---|
| 76,521,047 | 82,217,971 |
| 203,524 | 157,193 |
| 72,273 | 0 |
| 296,085 | 236,844 |
| 70,136 | 26,187 |
| 114,982 | 40,887 |
| 145,119 | 90,854 |

| RUNID | Plant Unit Short Name | Long Name | Resource Type | UOM | 2018_10 | 2018_11 | 2018_12 |
|---|---|---|---|---|---|---|---|
| 12936 | DEK [B] | Duke Energy Kentucky Purchases | PURCHASE | DOLLARS | 389,365 | 748,447 | 1,651,734 |

| 2019_01 | 2019_02 | 2019_03 | 2019_04 | 2019_05 | 2019_06 | 2019_07 |
|---|---|---|---|---|---|---|
| 1,075,082 | 1,331,047 | 100,845 | 715,630 | 3,429,391 | 2,099,287 | 2,318,509 |

| 2019_08 | 2019_09 | 2019_10 | 2019_11 | 2019_12 | 2020_01 | 2020_02 |
|---|---|---|---|---|---|---|
| 1,624,855 | 1,484,434 | 361,801 | 1,145,109 | 560,187 | 1,281,278 | 1,081,585 |

| 2020_03 | 2020_04 | 2020_05 | 2020_06 | 2020_07 | 2020_08 | 2020_09 |
|---|---|---|---|---|---|---|
| 1,250,766 | 9,001,449 | 5,392,835 | 2,714,565 | 2,168,399 | 2,632,697 | 1,280,007 |

| 2020_10 | 2020_11 | 2020_12 | 2021_01 | 2021_02 | 2021_03 | 2021_04 |
|---|---|---|---|---|---|---|
| 532,963 | 1,114,366 | 1,450,506 | 1,080,380 | 1,247,989 | 276,313 | 1,058,093 |

| 2021_05 | 2021_06 | 2021_07 | 2021_08 | 2021_09 | 2021_10 | 2021_11 |
|---|---|---|---|---|---|---|
| 2,818,031 | 2,708,360 | 2,951,582 | 2,337,309 | 2,081,562 | 1,023,367 | 1,733,967 |

| 2021_12 | 2022_01 | 2022_02 | 2022_03 | 2022_04 | 2022_05 | 2022_06 |
|---|---|---|---|---|---|---|
| 1,734,926 | 1,544,760 | 1,199,011 | 8,225,024 | 1,416,416 | 1,949,845 | 2,800,172 |

| 2022_07 | 2022_08 | 2022_09 | 2022_10 | 2022_11 | 2022_12 | 2023_01 |
|---|---|---|---|---|---|---|
| 3,351,809 | 3,017,719 | 1,979,555 | 1,594,377 | 1,526,984 | 2,541,076 | 1,639,315 |

| 2023_02 | 2023_03 | 2023_04 | 2023_05 | 2023_06 | 2023_07 | 2023_08 |
|---|---|---|---|---|---|---|
| 2,142,202 | 834,152 | 1,927,833 | 3,275,747 | 3,083,937 | 3,168,137 | 3,106,014 |

| 2023_09 | 2023_10 | 2023_11 | 2023_12 | | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|
| 2,723,443 | 1,470,374 | 2,111,630 | 2,300,402 | | 2,789,546 | 16,246,177 | 29,901,416 |

| 2021 | 2022 | 2023 |
|---|---|---|
| 21,051,880 | 31,146,748 | 27,783,186 |

| RUNID | Plant Unit Short Name | Long Name | Resource Type | UOM | 2018_10 | 2018_11 | 2018_12 |
|---|---|---|---|---|---|---|---|
| 12936 | DEK [B] | Duke Energy Kentucky Purchases | PURCHASE | GWH | 10 | 25 | 47 |

| 2019_01 | 2019_02 | 2019_03 | 2019_04 | 2019_05 | 2019_06 | 2019_07 |
|---|---|---|---|---|---|---|
| 23 | 32 | 3 | 24 | 116 | 70 | 68 |

| 2019_08 | 2019_09 | 2019_10 | 2019_11 | 2019_12 | 2020_01 | 2020_02 |
|---|---|---|---|---|---|---|
| 52 | 49 | 12 | 41 | 18 | 30 | 29 |

| 2020_03 | 2020_04 | 2020_05 | 2020_06 | 2020_07 | 2020_08 | 2020_09 |
|---|---|---|---|---|---|---|
| 39 | 304 | 193 | 95 | 64 | 86 | 44 |

| 2020_10 | 2020_11 | 2020_12 | 2021_01 | 2021_02 | 2021_03 | 2021_04 |
|---|---|---|---|---|---|---|
| 20 | 43 | 50 | 27 | 34 | - 9 | 40 |

| 2021_05 | 2021_06 | 2021_07 | 2021_08 | 2021_09 | 2021_10 | 2021_11 |
|---|---|---|---|---|---|---|
| 108 | 99 | 94 | 82 | 76 | 38 | 67 |

| 2021_12 | 2022_01 | 2022_02 | 2022_03 | 2022_04 | 2022_05 | 2022_06 |
|---|---|---|---|---|---|---|
| 61 | 40 | 34 | 270 | 56 | 74 | 106 |

| 2022_07 | 2022_08 | 2022_09 | 2022_10 | 2022_11 | 2022_12 | 2023_01 |
|---|---|---|---|---|---|---|
| 115 | 109 | 76 | 61 | 61 | 93 | 43 |

| 2023_02 | 2023_03 | 2023_04 | 2023_05 | 2023_06 | 2023_07 | 2023_08 |
|---|---|---|---|---|---|---|
| 63 | 26 | 71 | 129 | 116 | 108 | 110 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2023_09 | 2023_10 | 2023_11 | 2023_12 | | | 2018 | 2019 | 2020 |
| 105 | 54 | 83 | 84 | | | 82 | 508 | 998 |

| 2021 | 2022 | 2023 |
|---|---|---|
| 735 | 1,094 | 993 |

| RUNID | Plant Unit Short Name | Long Name | Resource Type | UOM | 2018_10 | 2018_11 | 2018_12 |
|---|---|---|---|---|---|---|---|
| 12936 | EABD_UN02 | EABD_UN02 | COAL | DOLLARS | 878,964 | 948,741 | 1,039,697 |

| 2019_01 | 2019_02 | 2019_03 | 2019_04 | 2019_05 | 2019_06 | 2019_07 | 2019_08 |
|---|---|---|---|---|---|---|---|
| 1,172,690 | 1,120,363 | 1,118,235 | 1,025,380 | 746,990 | 1,119,152 | 1,223,531 | 1,303,267 |

| 2019_09 | 2019_10 | 2019_11 | 2019_12 | 2020_01 | 2020_02 | 2020_03 | 2020_04 |
|---|---|---|---|---|---|---|---|
| 1,136,438 | 1,114,169 | 1,046,995 | 1,273,415 | 1,316,888 | 1,285,202 | 1,064,131 | 0 |

| 2020_05 | 2020_06 | 2020_07 | 2020_08 | 2020_09 | 2020_10 | 2020_11 | 2020_12 |
|---|---|---|---|---|---|---|---|
| 490,163 | 1,071,480 | 1,277,713 | 1,202,435 | 1,193,414 | 1,132,800 | 1,090,148 | 1,218,273 |

| 2021_01 | 2021_02 | 2021_03 | 2021_04 | 2021_05 | 2021_06 | 2021_07 | 2021_08 |
|---|---|---|---|---|---|---|---|
| 1,377,641 | 1,289,382 | 1,264,645 | 1,095,672 | 880,504 | 1,151,951 | 1,308,955 | 1,368,540 |

| 2021_09 | 2021_10 | 2021_11 | 2021_12 | 2022_01 | 2022_02 | 2022_03 | 2022_04 |
|---|---|---|---|---|---|---|---|
| 1,162,140 | 1,142,613 | 1,063,969 | 1,254,807 | 1,284,789 | 1,169,561 | 160,440 | 900,802 |

| 2022_05 | 2022_06 | 2022_07 | 2022_08 | 2022_09 | 2022_10 | 2022_11 | 2022_12 |
|---|---|---|---|---|---|---|---|
| 871,693 | 933,769 | 998,203 | 1,015,638 | 933,715 | 831,103 | 863,091 | 885,996 |

| 2023_01 | 2023_02 | 2023_03 | 2023_04 | 2023_05 | 2023_06 | 2023_07 | 2023_08 |
|---|---|---|---|---|---|---|---|
| 1,045,218 | 941,832 | 949,796 | 772,020 | 634,359 | 860,984 | 994,479 | 991,336 |

| 2023_09 | 2023_10 | 2023_11 | 2023_12 | | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|
| 826,838 | 847,529 | 783,888 | 917,600 | | 2,867,401 | 13,400,625 | 12,342,647 |

| 2021 | 2022 | 2023 |
|---|---|---|
| 14,360,818 | 10,848,799 | 10,565,882 |

| RUNID | Plant Unit Short Name | Long Name | Resource Type | UOM | 2018_10 | 2018_11 | 2018_12 |
|---|---|---|---|---|---|---|---|
| 12936 | EABD_UN02 | EABD_UN02 | COAL | TONS | 254 | 274 | 300 |

| 2019_01 | 2019_02 | 2019_03 | 2019_04 | 2019_05 | 2019_06 | 2019_07 |
|---|---|---|---|---|---|---|
| 327 | 312 | 312 | 286 | 208 | 312 | 341 |

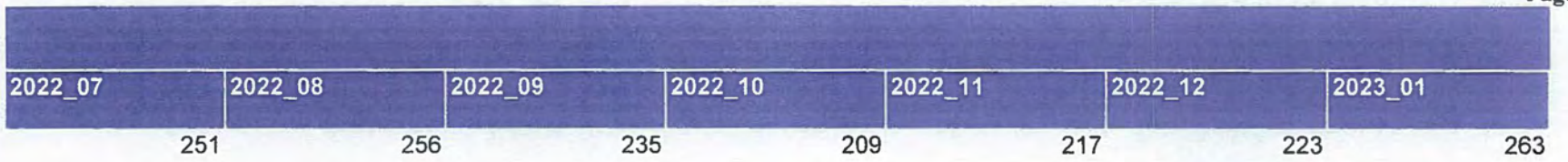
| 2019_08 | 2019_09 | 2019_10 | 2019_11 | 2019_12 | 2020_01 | 2020_02 |
|---|---|---|---|---|---|---|
| 363 | 317 | 311 | 292 | 355 | 355 | 346 |

| 2020_03 | 2020_04 | 2020_05 | 2020_06 | 2020_07 | 2020_08 | 2020_09 |
|---|---|---|---|---|---|---|
| 287 | 0 | 132 | 289 | 344 | 324 | 322 |

| 2020_10 | 2020_11 | 2020_12 | 2021_01 | 2021_02 | 2021_03 | 2021_04 |
|---|---|---|---|---|---|---|
| 305 | 294 | 328 | 359 | 336 | 329 | 285 |

| 2021_05 | 2021_06 | 2021_07 | 2021_08 | 2021_09 | 2021_10 | 2021_11 |
|---|---|---|---|---|---|---|
| 229 | 300 | 341 | 357 | 303 | 298 | 277 |

| 2021_12 | 2022_01 | 2022_02 | 2022_03 | 2022_04 | 2022_05 | 2022_06 |
|---|---|---|---|---|---|---|
| 327 | 324 | 294 | 40 | 227 | 219 | 235 |


2022_07
251
2022_08
256
2022_09
235
2022_10
209
2022_11
217
2022_12
223
2023_01
263

| 2023_02 | 2023_03 | 2023_04 | 2023_05 | 2023_06 | 2023_07 | 2023_08 |
|---|---|---|---|---|---|---|
| 237 | 239 | 194 | 160 | 217 | 250 | 250 |

| 2023_09 | 2023_10 | 2023_11 | 2023_12 | | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|
| 208 | 213 | 197 | 231 | | 827 | 3,736 | 3,326 |

| 2021 | 2022 | 2023 |
|---|---|---|
| 3,741 | 2,732 | 2,660 |

## NOX Tons

| RUNID | Plant Unit Short Name | Long Name | Resource Type | UOM | 2018_10 | 2018_11 | 2018_12 |
|---|---|---|---|---|---|---|---|
| 12936 | EABD_UN02 | EABD_UN02 | COAL | TONS | 226 | 238 | 258 |
| 12936 | WOOD_CT01 | WOOD_CT01 | CT | TONS | 0 | 0 | 0 |
| 12936 | WOOD_CT02 | WOOD_CT02 | CT | TONS | 0 | 0 | 0 |
| 12936 | WOOD_CT03 | WOOD_CT03 | CT | TONS | 0 | 0 | 0 |
| 12936 | WOOD_CT04 | WOOD_CT04 | CT | TONS | 0 | 0 | 0 |
| 12936 | WOOD_CT05 | WOOD_CT05 | CT | TONS | 0 | 0 | 0 |
| 12936 | WOOD_CT06 | WOOD_CT06 | CT | TONS | 0 | 0 | 0 |

| 2019_01 | 2019_02 | 2019_03 | 2019_04 | 2019_05 | 2019_06 | 2019_07 | 2019_08 |
|---|---|---|---|---|---|---|---|
| 277 | 257 | 251 | 228 | 123 | 183 | 199 | 211 |
| 3 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |

| 2019_09 | 2019_10 | 2019_11 | 2019_12 | 2020_01 | 2020_02 | 2020_03 | 2020_04 |
|---|---|---|---|---|---|---|---|
| 184 | 242 | 228 | 276 | 275 | 267 | 224 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| 2020_05 | 2020_06 | 2020_07 | 2020_08 | 2020_09 | 2020_10 | 2020_11 | 2020_12 |
|---|---|---|---|---|---|---|---|
| 77 | 169 | 203 | 192 | 188 | 238 | 228 | 254 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |

| 2021_01 | 2021_02 | 2021_03 | 2021_04 | 2021_05 | 2021_06 | 2021_07 | 2021_08 |
|---|---|---|---|---|---|---|---|
| 276 | 257 | 251 | 217 | 129 | 169 | 192 | 200 |
| 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |

| 2021_09 | 2021_10 | 2021_11 | 2021_12 | 2022_01 | 2022_02 | 2022_03 | 2022_04 |
|---|---|---|---|---|---|---|---|
| 170 | 226 | 210 | 248 | 267 | 258 | 36 | 207 |
| 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |

| 2022_05 | 2022_06 | 2022_07 | 2022_08 | 2022_09 | 2022_10 | 2022_11 | 2022_12 |
|---|---|---|---|---|---|---|---|
| 153 | 167 | 181 | 186 | 173 | 208 | 217 | 224 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |

| 2023_01 | 2023_02 | 2023_03 | 2023_04 | 2023_05 | 2023_06 | 2023_07 | 2023_08 |
|---|---|---|---|---|---|---|---|
| 264 | 239 | 241 | 196 | 120 | 162 | 187 | 187 |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |

| 2023_09 | 2023_10 | 2023_11 | 2023_12 | | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|
| 156 | 215 | 199 | 233 | | 722 | 2,659 | 2,315 |
| 0 | 0 | 0 | 0 | | 0 | 3 | 1 |
| 0 | 0 | 0 | 0 | | 0 | 1 | 1 |
| 0 | 0 | 0 | 0 | | 0 | 3 | 3 |
| 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | | 0 | 1 | 2 |
| 0 | 0 | 0 | 0 | | 0 | 2 | 2 |

| 2021 | 2022 | 2023 |
|---|---|---|
| 2,545 | 2,276 | 2,401 |
| 2 | 3 | 2 |
| 1 | 1 | 0 |
| 4 | 4 | 3 |
| 1 | 1 | 0 |
| 1 | 2 | 1 |
| 2 | 2 | 1 |

| RUNID | Plant Unit Short Name | Long Name | Resource Type | UOM | 2018_10 | 2018_11 | 2018_12 |
|---|---|---|---|---|---|---|---|
| 12936 | EABD_UN02 | EABD_UN02 | COAL | LB | 28.3664 | 29.9788 | 32.4733 |

| 2019_01 | 2019_02 | 2019_03 | 2019_04 | 2019_05 | 2019_06 | 2019_07 | 2019_08 |
|---|---|---|---|---|---|---|---|
| 34.8364 | 32.3471 | 31.5745 | 28.6667 | 20.8247 | 31.0049 | 33.7202 | 35.7650 |

| 2019_09 | 2019_10 | 2019_11 | 2019_12 | 2020_01 | 2020_02 | 2020_03 | 2020_04 |
|---|---|---|---|---|---|---|---|
| 31.1388 | 30.4764 | 28.6319 | 34.7575 | 34.5228 | 33.5515 | 28.1806 | 0.0000 |

| 2020_05 | 2020_06 | 2020_07 | 2020_08 | 2020_09 | 2020_10 | 2020_11 | 2020_12 |
|---|---|---|---|---|---|---|---|
| 13.0352 | 28.7142 | 34.4624 | 32.5682 | 31.8771 | 29.9809 | 28.6844 | 31.9006 |

| 2021_01 | 2021_02 | 2021_03 | 2021_04 | 2021_05 | 2021_06 | 2021_07 | 2021_08 |
|---|---|---|---|---|---|---|---|
| 34.6374 | 32.2803 | 31.5685 | 27.3029 | 21.9181 | 28.6478 | 32.5279 | 33.9905 |

| 2021_09 | 2021_10 | 2021_11 | 2021_12 | 2022_01 | 2022_02 | 2022_03 | 2022_04 |
|---|---|---|---|---|---|---|---|
| 28.8547 | 28.3630 | 26.4066 | 31.1390 | 33.5388 | 32.4010 | 4.4800 | 26.0478 |

| 2022_05 | 2022_06 | 2022_07 | 2022_08 | 2022_09 | 2022_10 | 2022_11 | 2022_12 |
|---|---|---|---|---|---|---|---|
| 25.8538 | 28.2610 | 30.6918 | 31.5901 | 29.2702 | 26.1904 | 27.3058 | 28.1118 |

| 2023_01 | 2023_02 | 2023_03 | 2023_04 | 2023_05 | 2023_06 | 2023_07 | 2023_08 |
|---|---|---|---|---|---|---|---|
| 33.2441 | 30.0014 | 30.2890 | 24.6358 | 20.2515 | 27.4976 | 31.7716 | 31.6785 |

| 2023_09 | 2023_10 | 2023_11 | 2023_12 | | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|
| 26.4257 | 27.0900 | 25.0576 | 29.3337 | | 90.8185 | 373.7441 | 327.4779 |

| 2021 | 2022 | 2023 |
|---|---|---|
| 357.6367 | 323.7425 | 337.2765 |

| RUNID | Plant Unit Short Name | Long Name | Resource Type | UOM | 2018_10 | 2018_11 | 2018_12 |
|---|---|---|---|---|---|---|---|
| 12936 | EABD_UN02 | EABD_UN02 | COAL | TONS | 309,954 | 327,277 | 354,077 |
| 12936 | WOOD_CT01 | WOOD_CT01 | CT | TONS | 0 | 0 | 0 |
| 12936 | WOOD_CT02 | WOOD_CT02 | CT | TONS | 0 | 0 | 0 |
| 12936 | WOOD_CT03 | WOOD_CT03 | CT | TONS | 0 | 0 | 0 |
| 12936 | WOOD_CT04 | WOOD_CT04 | CT | TONS | 0 | 0 | 0 |
| 12936 | WOOD_CT05 | WOOD_CT05 | CT | TONS | 0 | 0 | 0 |
| 12936 | WOOD_CT06 | WOOD_CT06 | CT | TONS | 0 | 0 | 0 |

| 2019_01 | 2019_02 | 2019_03 | 2019_04 | 2019_05 | 2019_06 | 2019_07 | 2019_08 |
|---|---|---|---|---|---|---|---|
| 380,461 | 352,954 | 344,056 | 313,033 | 227,509 | 338,194 | 367,958 | 389,756 |
| 3,142 | 42 | 0 | 0 | 0 | 0 | 777 | 0 |
| 20 | 0 | 0 | 0 | 0 | 42 | 919 | 0 |
| 697 | 0 | 0 | 0 | 0 | 283 | 1,589 | 0 |
| 20 | 0 | 0 | 0 | 0 | 0 | 98 | 0 |
| 20 | 0 | 0 | 0 | 0 | 281 | 1,190 | 0 |
| 20 | 0 | 0 | 0 | 0 | 283 | 1,638 | 0 |

| 2019_09 | 2019_10 | 2019_11 | 2019_12 | 2020_01 | 2020_02 | 2020_03 | 2020_05 |
|---|---|---|---|---|---|---|---|
| 339,646 | 332,443 | 312,453 | 378,961 | 377,156 | 366,000 | 307,096 | 142,652 |
| 0 | 0 | 0 | 0 | 73 | 323 | 114 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 528 | 0 | 0 | 0 | 1,200 | 103 | 0 | 0 |
| 0 | 0 | 0 | 0 | 272 | 0 | 0 | 0 |
| 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 281 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| 2020_06 | 2020_07 | 2020_08 | 2020_09 | 2020_10 | 2020_11 | 2020_12 | 2021_01 |
|---|---|---|---|---|---|---|---|
| 313,660 | 375,734 | 355,209 | 347,373 | 326,969 | 312,978 | 347,993 | 378,338 |
| 0 | 308 | 0 | 0 | 0 | 0 | 0 | 1,473 |
| 282 | 855 | 0 | 6 | 0 | 0 | 0 | 120 |
| 283 | 1,837 | 0 | 559 | 0 | 0 | 0 | 2,065 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 698 |
| 283 | 1,429 | 0 | 204 | 0 | 0 | 0 | 162 |
| 46 | 1,821 | 0 | 75 | 0 | 0 | 0 | 101 |

| 2021_02 | 2021_03 | 2021_04 | 2021_05 | 2021_06 | 2021_07 | 2021_08 | 2021_09 |
|---|---|---|---|---|---|---|---|
| 352,220 | 344,128 | 298,346 | 239,445 | 312,577 | 354,774 | 370,383 | 314,777 |
| 1,087 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 528 | 0 | 0 |
| 49 | 0 | 0 | 0 | 283 | 1,908 | 0 | 212 |
| 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 1,161 | 0 | 0 |
| 0 | 0 | 0 | 0 | 192 | 1,799 | 0 | 3 |

| 2021_10 | 2021_11 | 2021_12 | 2022_01 | 2022_02 | 2022_03 | 2022_04 | 2022_05 |
|---|---|---|---|---|---|---|---|
| 309,354 | 288,371 | 339,539 | 366,589 | 353,488 | 48,828 | 284,427 | 282,571 |
| 0 | 0 | 0 | 1,883 | 1,321 | 0 | 0 | 0 |
| 0 | 0 | 0 | 18 | 36 | 0 | 0 | 0 |
| 0 | 0 | 0 | 1,689 | 819 | 726 | 0 | 0 |
| 0 | 0 | 0 | 415 | 110 | 686 | 0 | 0 |
| 0 | 0 | 0 | 18 | 36 | 694 | 0 | 0 |
| 0 | 0 | 0 | 20 | 40 | 726 | 0 | 0 |

| 2022_06 | 2022_07 | 2022_08 | 2022_09 | 2022_10 | 2022_11 | 2022_12 | 2023_01 |
|---|---|---|---|---|---|---|---|
| 308,212 | 334,780 | 344,406 | 318,887 | 285,994 | 297,806 | 306,896 | 363,401 |
| 0 | 284 | 0 | 0 | 0 | 0 | 0 | 2,576 |
| 0 | 1,325 | 0 | 0 | 0 | 0 | 0 | 0 |
| 283 | 1,767 | 0 | 0 | 0 | 0 | 0 | 2,217 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 439 |
| 0 | 1,384 | 0 | 0 | 0 | 0 | 0 | 0 |
| 197 | 1,724 | 0 | 0 | 0 | 0 | 0 | 0 |

| 2023_02 | 2023_03 | 2023_04 | 2023_05 | 2023_06 | 2023_07 | 2023_08 | 2023_09 |
|---|---|---|---|---|---|---|---|
| 327,461 | 330,203 | 269,354 | 221,317 | 299,952 | 346,434 | 345,316 | 288,331 |
| 62 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 181 | 0 | 0 | 0 | 1,767 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 767 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 1,704 | 0 | 0 |

| 2023_10 | 2023_11 | 2023_12 | | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|---|
| 295,459 | 273,746 | 319,786 | | 991,307 | 4,077,425 | 3,572,820 | 3,902,253 |
| 0 | 0 | 0 | | 0 | 3,961 | 818 | 2,560 |
| 0 | 0 | 0 | | 0 | 981 | 1,142 | 648 |
| 0 | 0 | 0 | | 0 | 3,097 | 3,983 | 4,517 |
| 0 | 0 | 0 | | 0 | 118 | 272 | 712 |
| 0 | 0 | 0 | | 0 | 1,508 | 1,916 | 1,323 |
| 0 | 0 | 0 | | 0 | 2,222 | 1,942 | 2,095 |

| 2022 | 2023 |
|---|---|
| 3,532,884 | 3,680,759 |
| 3,488 | 2,638 |
| 1,378 | 0 |
| 5,283 | 4,165 |
| 1,211 | 439 |
| 2,131 | 767 |
| 2,707 | 1,704 |

**Duke Energy Kentucky**
**Case No. 2019-00006**
**Staff Post Hearing Data Requests**
**Date Received: May 7, 2019**

**STAFF-POST HEARING-DR-01-002**

**REQUEST:**

Identify the Commission decision in which the Commission approved Duke Kentucky's use of the Fuel Adjustment Clause (FAC) to pass through the costs of Financial Transmission Rights (FTR) incurred from PJM.

**RESPONSE:**

The Commission approved Duke Kentucky's use of the Fuel Adjustment Clause (FAC) to pass through the revenue and costs of Financial Transmission Rights (FTR) as well as charges and credits related to FTR's such as transmission congestion incurred from PJM in its April 13, 2018, Order in Case No. 2017-00321. The Commission stated in its Order on page 50:

Rider FAC, Fuel Adjustment Clause. Duke Kentucky is proposing to include additional PJM Interconnection, LLC ("PJM") Billing Line Items for recovery through its FAC. Duke Kentucky's proposal is the same. with respect to the PJM billing line items, as was made by Kentucky Power in its recent base-rate proceeding and approved by the Commission. There were no objections to this tariff change from the intervenors. The Commission will approve Duke Kentucky's proposal with the requirement that Duke Kentucky list each of the PJM billing line items that will flow through the FAC in its compliance tariff.

> As explained in the direct testimony of John D. Swez in Case No. 2017-00321:
>
> The cost to serve native load is comprised of the fuel consumed in the generating unit run to serve native load, plus the cost to purchase energy for native load from PJM, offset with revenue received from PJM for running this generator. Since the amount of the load buy charge and generator revenue changes every hour in the Day-Ahead and Real-Time markets, the entire amount necessary to serve native load is proposed to be included in the FAC. Since these costs will include the congestion and loss component of load and generation, any BLI that is associated

with congestion or losses such as financial transmission rights must be included as well since they tend to be revenues that offset these costs.[1]

See also, Attachment JDS-4, in Case No. 2017-00321, which lists the BLI's proposed to be recovered through the FAC. Financial Transmission Rights, PJM BLI's 1500 and 2500, were proposed to be recovered in the Company's Rider FAC and Rider PSM, as well as the native portion of other PJM BLI's related to transmission congestion including BLI's 1210, 1215, 1218, 1410, 2210, 2211, 2215, 2217, 2218, 2415, and 2510. The list of PJM BLI's included in the FAC are the fuel-related BLIs listed on the Company's Fuel Adjustment Clause tariff on file with the Commission, Sheet No. 80. Per the tariff, these BLIs include *but are "not limited to"*: 1210, 2210, 1215, 1218, 2217, 2218, 1230, 1250, 1260, 2260, 1370, 2370, 1375, 2375, 1400, 1410,1420, 1430, 1478, 1340, 2340, 1460, 1350, 2350, 1360, 2360, 1470, 1377, 2377, 1480,1378, 2378, 1490, 1500, 2420, 2220, 1200, 1205, 1220, 1225, 2500, 2510, 1930, 2211, 2215, 2415 and 2930.

As noted in the tariff, this list may be amended from time to time by PJM Interconnection LLC to include new or modified fuel-related BLI's.

https://psc.ky.gov/tariffs/Electric/Duke%20Energy%20Kentucky/Tariff.pdf

**PERSON RESPONSIBLE:** John Swez / Ted Czupik

[1] *In re. Electronic Application of Duke Energy Kentucky, Inc. for: 1) An Adjustment of the Electric Rates; 2) Approval of an Environmental Compliance Plan and Surcharge Mechanism; 3) Approval of New Tariffs; 4) Approval of Accounting Practices to Establish Regulatory Assets and Liabilities; and 5) All Other Required Approvals and Relief*, Case No. 2017-321 Direct Testimony of John D. Swez pp. 21 and 22 (September 1, 2017).

**Duke Energy Kentucky**
**Case No. 2019-00006**
**Staff Post Hearing Data Requests**
**Date Received: May 7, 2019**

**STAFF-POST HEARING-DR-01-003**

**REQUEST:**

Refer to FORM B Schedule 9. Identify the PJM billing code that Duke Kentucky uses to pass the FTR costs through the FAC.

**RESPONSE:**

Financial Transmission Rights (FTR's) are included in the Company's FAC on Schedule 2, Schedule 4 and Schedule 6 and are in the line identified as "Net Fuel Related RTO Billing Line Items". In responding to this data request the Company is making the assumption that FORM B, Schedule 9, refers to the Company's supplemental schedules filed monthly with the Commission. FTR costs and revenues included in the FAC are PJM billing line items (PJM BLI) 1500 and 2500, Financial Transmission Rights Auction, and are shown below outlined in red for the month of March 2019.

| Duke Energy Kentucky<br>Net Fuel Related RTO Billing Line Items<br>March 31, 2019 | | |
|---|---|---|
| **PJM Statement** | | **Native FAC** |
| 1230-Inad Inter | $ | (1,086.30) |
| 1250-Meter Err Cor | $ | 81.87 |
| 1340-Regulation | $ | (39,912.39) |
| 1360 PJM Synch Reserve | $ | (18,083.75) |
| 1370-Operating Resrv | $ | (11,771.71) |
| 1375-Bal Opr Rsrv | $ | (11,132.63) |
| 1500-FTR Shortfall | $ | (0.40) |
| 1500-Mthly FTR Prem | $ | (0.60) |
| 2215-Bal Trns Cng Cr | $ | (61,432.80) |
| 2220-Tran Loss | $ | 111,861.41 |
| 2360 PJM Synch Reserve | $ | 977.32 |
| 2375-Bal Opr Rsrv Cr | $ | 794.84 |
| 2510-ARR | $ | (0.31) |
| FTR | $ | 16,805.89 |
| PJM Annual FTR Prem | $ | (558,584.68) |
| PJM ARR | $ | 608,545.81 |
| PJM Mthly FTR Prem | $ | (36,324.56) |
| | $ | 737.01 |
| Congestion & Losses | $ | 215,110.97 |
| Net Fuel Related RTO Billing Line Items | $ | (214,373.96) |

PJM Statement item "FTR" is PJM BLI 2211, PJM Day-ahead Transmission Congestion. PJM Statement items "PJM Annual FTR Prem" and "PJM Mthly FTR Prem" are PJM BLI 1500, Financial Transmission Rights Auction.

Congestion & Losses are the native portion of other PJM BLI's that are closely interrelated to the FTR BLI's 1500 and 2500. Congestion on the transmission system is a component of the Location Marginal Price (LMP) that determines the cost of the demand bid for the Duke Energy Kentucky load, a component of the LMP from the revenue that is received for operation of the Company's generating facilities serving native load, and also a component of purchase power cost. Auction Revenue Rights funds are used to purchase FTR's that provide a hedge to the customer for congestion costs.

Because FTR's are interrelated to many other PJM BLI customer costs or credits they need to be viewed as a whole to see an accurate depiction of the value they represent for the customer. The Company discussed why it is appropriate to include FTR's and transmission congestion costs or revenues in the FAC, in the direct testimony of John D. Swez as part of its most recent electric base rate case, Case No. 2017-00321.

**PERSON RESPONSIBLE:** Ted Czupik / John Swez

**Duke Energy Kentucky**
**Case No. 2019-00006**
**Staff Post Hearing Data Requests**
**Date Received: May 7, 2019**

**STAFF-POST HEARING-DR-01-004**

**REQUEST:**

Provide the charges associated with the GreenHat default that Duke Kentucky passed through the FAC for each expense month to the present.

**RESPONSE**:

To date, the Company has included the following GreenHat default charges, PJM BLI 1999, PJM Customer Payment Default, in FAC filings:

| Expense Month | Invoice Date | Amount |
|---|---|---|
| November 2018 | July 2018 | $ 37,400.21 |
| December 2018 | August 2018 | 58,070.33 |
| February 2019 | October 2018 | 15,768.98 |
| February 2019 | November 2018 | 20,018.01 |
| March 2019 | December 2018 | 26,873.23 |
| April 2019 | January 2019 | 15,132.85 |
| | Total | $ 173,263.61 |

The native portion of transmission congestion and FTR related PJM costs and revenues were determined to be fuel related and appropriate for recovery in the Fuel Adjustment Clause (FAC) in Order in Case No. 2017-00321. Customers receive the benefit of the FTR, but also pay the costs related to FTR's. Since the expense related to the GreenHat default is FTR and thus fuel related, as are other FTR charges and credits, the Company believes that recovery in the FAC is appropriate like other FTR and congestion charges or credits. In addition, note that the GreenHat default cannot be isolated to the one PJM Billing Line Item. GreenHat's participation in the PJM forward looking FTR auctions has impacted other PJM billing line items that have already been charged or credited to

the customer. For example, among other charges and credits, the cost to purchase Financial Transmission Rights (FTR's or PJM BLI 1500) and the amount of revenue received from Auction Revenue Rights (ARR's or PJM BLI 2510) in the PJM FTR auctions and the credit or charge from owning the FTR (the FTR payout amount or PJM BLI 2211) were all impacted by GreenHat's participation in these auctions. Thus, said in another way, had GreenHat not participated in the PJM FTR auctions, other charges and credits besides BLI 1999 related to FTR's that have already been charged or credited to the customer in the FAC would have been impacted.

**PERSON RESPONSIBLE:** Ted Czupik