## WEC2 Air Emission Summary - 2022

### Fuel Use

| Month | Generation GW-Hours | Operational Hours | Diesel Fuel Used Gallons per month | Coal used Tons per month |
|---|---|---|---|---|
| January | 132.903 | 730.00 | 17,155.00 | 76,139.80 |
| February | 85.752 | 495.00 | 28,568.00 | 47,989.24 |
| March | 79.853 | 462.00 | 5,621.00 | 44,668.52 |
| April | 0.000 | 0.00 | 0.00 | 0.00 |
| May | 82.838 | 467.00 | 29,802.00 | 48,091.00 |
| June | 147.842 | 720.00 | 2,423.00 | 80,593.96 |
| July | 170.823 | 744.00 | 6,572.00 | 94,092.44 |
| August | 170.715 | 744.00 | 19,458.00 | 92,605.37 |
| September | 151.107 | 720.00 | 6,852.00 | 82,785.27 |
| October | 35.760 | 173.0 | 5,495.0 | 17,941.56 |
| November | 49.454 | 417.0 | 18,167.0 | 28,845.73 |
| December | 143.065 | 744.0 | 11,196.0 | 82,374.21 |
| **Total** | **1,250.112** | **6,416.00** | **151,309.00** | **696,127.09** |

**Note: WEC2 Diesel Fuel Use is for Flame Stabilization and Startup only**

**Note: No coal burned in May**

## WEC2 Emission Summary - RY2023

### Fuel Use

| Month | Generation GW-Hours | Operational Hours | Diesel Fuel Used Gallons per month | Coal used Tons per month |
|---|---|---|---|---|
| January | 53.638 | 278.0 | 5,096.0 | 30,842.60 |
| February | 41.277 | 241.0 | 21,867.0 | 24,797.60 |
| March | 0.000 | 0.0 | 1.0 | 0.00 |
| April | 34.21 | 216.0 | 20,894.0 | 0.00 |
| May | 33.81 | 226.0 | 30,299.0 | 18,792.90 |
| June | 140.07 | 708.0 | 24,421.0 | 77,170.47 |
| July | 157.220 | 744.0 | 17,762.0 | 85,875.27 |
| August | 151.633 | 744.0 | 6,149.0 | 83,808.89 |
| September | 131.492 | 720.0 | 13,987.0 | 72,368.73 |
| October | 21.883 | 147.0 | 4,929.0 | 12,432.55 |
| November | 0.000 | 1.0 | 0.0 | 0.00 |
| December | 65.517 | 564.0 | 20,790.0 | 37,011.52 |
| Total | **830.744** | **4,589.00** | **166,195.00** | **443,100.52** |

Note: WEC2 Diesel Fuel Use is the total of Flame Stabilization / Startup

## Appendix E-1: 2024 Modeled Facilities Report – Whelan Energy Center Data

| WEC2 Air Emission Summary - 2022 | | | | | | | |
|---|---|---|---|---|---|---|---|
| SO2 30-Day Rolling Average | | | | SO2 Limit 0.122 lbs/mmbtu | | | |
| MAS | | 1/10/2023 | | | | | |
| Begin Date and | | End Date and | | Deviations Listed | SO2 | Cause of Deviation | Corrective Action or Repair |
| Time mm/dd/ | hh:mm | Time mm/dd/ | hh:mm | | lb/mmBtu | | |
| 1st Qtr | | | | Deviations Listed | | | |
| 01/01/2022 | 22:00 | 01/02/2022 | 04:59 | Invalid Data | NA | Boiler Startup | Normal Operation once CEM could be calibrated and passed |
| 01/06/2022 | 05:00 | 01/06/2022 | 06:59 | Invalid Data | NA | Failed Daily Cal | Reran Daily Cal and passed |
| 02/22/2022 | 23:00 | 02/23/2022 | 04:59 | Invalid Data | NA | Boiler Startup | Normal Operation once CEM could be calibrated and passed |
| 02/24/2022 | 10:00 | 02/24/2022 | 10:59 | Invalid Data | NA | Linearity | Returned to normal operations after passing linearity |
| 03/01/2022 | 05:00 | 03/01/2022 | 09:59 | Invalid Data | NA | Failed Daily Cal | Reran Daily Cal and passed |
| 01/01/2022 | 00:00 | 01/07/22 | 23:59 | Excess Emission | 0.136 to 0.149 | Care over from higher SO2 due to bag filter change out | Ran lower SO2 Control to recover from bag filter change out |
| | | | | | | | |
| 2nd Qtr | | | | | | | |
| 05/06/2022 | 08:00 | 05/06/2022 | 08:59 | Invalid Data | NA | Boiler Startup - ID Fan on prior to startup | Normal pre-check of equipment. The ID Fan is what triggers unit on. |
| 05/12/2022 | 15:00 | 05/12/2022 | 04:59 | Invalid Data | NA | Boiler Startup - ID Fan on prior to startup | Normal pre-check of equipment. The ID Fan is what triggers unit on. |
| 05/13/2022 | 06:00 | 05/13/2022 | 07:59 | Invalid Data | NA | Boiler Startup - CEM not certified | Daily Cal ran once unit is operational and stack temperature allows for CEM Calibration |
| 06/04/2022 | 12:00 | 06/04/2022 | 12:59 | Invalid Data | NA | Failed Daily Cal | Reran Daily Cal and passed |
| | | | | | | | |
| 3rd Qtr | | | | | | | |
| 07/11/2022 | 05:00 | 07/11/2022 | 07:59 | Invalid Data | NA | Failed Daily Cal | Reran Daily Cal and passed |
| 08/01/2022 | 05:00 | 08/01/2022 | 07:59 | Invalid Data | NA | Failed Daily Cal | Reran Daily Cal and passed |
| 08/03/2022 | 05:00 | 08/03/2022 | 07:59 | Invalid Data | NA | Failed Daily Cal | Reran Daily Cal and passed |
| 08/03/2022 | 09:00 | 08/03/2022 | 14:59 | Invalid Data | NA | Linearity | Returned to normal oerations after passing linearity |
| 08/04/2022 | 5:00 | 08/04/2022 | 08:59 | Invalid Data | NA | Failed Daily Cal | Reran Daily Cal and passed |
| 08/05/2022 | 11:00 | 08/06/2022 | 04:59 | Invalid Data | NA | Boiler Trip - C Mill | Short duration trip left ID Fan on which indicates exhausting of gas - Fuel Oil used to keep boiler hot |
| 09/05/2022 | 5:00 | 09/28/2022 | 10.59 | Invalid Data | NA | Failed Daily Cal | Reran Daily Cal and passed |
| 09/7/2022 | 5:00 | 09/07/2022 | 11:59 | Invalid Data | NA | Failed Daily Cal | Reran Daily Cal and passed |
| 09/10/2022 | 5:00 | 09/10/2022 | 05:59 | Invalid Data | NA | Failed Daily Cal | Reran Daily Cal and passed |
| 09/17/2022 | 5:00 | 09/18/2022 | 04:59 | Invalid Data | NA | Failed Daily Cal | Reran Daily Cal and passed |
| 09/22/2022 | 5:00 | 09/22/2022 | 07:59 | Invalid Data | NA | Failed Daily Cal | Reran Daily Cal and passed |
| 09/25/2022 | 6:00 | 09/26/2022 | 09:59 | Invalid Data | NA | Failed Daily Cal | Daily Cal Failed on Sunday and did not get fixed until Monday - Reran Daily Cal and passed |
| 09/28/2022 | 5:00 | 09/28/2022 | 08:59 | Invalid Data | NA | Failed Daily Cal | Reran Daily Cal and passed |
| | | | | | | | |
| 4th Qtr | | | | | | | |
| 10/12/2022 | 7:00 | 10/12/2022 | 07:59 | Invalid Data | NA | During outage a unit on signal was sent to DAHS | The unit status erorr is typically due to FD Fan being run for maintenance, testing of oil guns or clearing air in equipment |
| 11/13/2022 | 15:00 | 11/14/2022 | 08:59 | Invalid Data | NA | Boiler Startup - CEM not certified | Daily Cal ran once unit is operational and stack temperature allows for CEM Calibration |
| 12/06/2022 | 13:00 | 12/06/2022 | 13:59 | Invalid Data | NA | Linearity Failed - Adjusted Regression Values | Completed Linearity the following day and passed |
| 12/07/2022 | 8:00 | 12/07/2022 | 09:59 | Invalid Data | NA | Linearity | Returned to normal operations after passing linearity |
| | | | | | | | |

## Appendix E-1: 2024 Modeled Facilities Report – Whelan Energy Center Data

| WEC2 Emission Summary - RY2023 | | | | | | | |
|---|---|---|---|---|---|---|---|
| SO2 3-Hour Rolling Average | | | | SO2 Limit 0.12 lbs/mmbtu | | | |
| RMA | | 1/19/2024 | | | | | |
| Begin Date and Time mm/dd/ | hh:mm | End Date and Time mm/dd/ | hh:mm | Deviations Listed | SO2 lb/mmBtu | Cause of Deviation | Corrective Action or Repair |
| 1st Qtr | | | | Deviations Listed | | | |
| 01/10/2023 | 05:00 | 01/10/2023 | 07:59 | Invalid Data | NA | Daily Cal Error | Reran Daily Cal and Passed |
| 01/12/2023 | 05:00 | 01/12/2023 | 08:59 | Invalid Data | NA | Daily Cal Error | Reran Daily Cal and Passed |
| 02/15/2023 | 15:00 | 02/16/2023 | 04:59 | Invalid Data | NA | Boiler Startup | Normal startup ran daily cal when at operating temperature |
| 02/20/2023 | 13:00 | 02/20/2023 | 13:59 | Invalid Data | NA | Linearity | Returned to normal operation once linearity completed |
| 02/20/2023 | 15:00 | 02/20/2023 | 15:59 | Invalid Data | NA | Maintenance of CEM Equipment | Conducted testing and maintenance inspection |
| 02/21/2023 | 08:00 | 02/21/2023 | 08:59 | Invalid Data | NA | Maintenance of CEM Equipment | Conducted testing and maintenance inspection |
| 02/23/2023 | 05:00 | 02/23/2023 | 10:59 | Invalid Data | NA | Daily Cal Error | Reran Daily Cal and Passed |
| 02/24/2023 | 12:00 | 02/24/2023 | 12:59 | Invalid Data | NA | Maintenance of CEM Equipment | Adjusted and aligned optics and passed daily cal |
| 02/25/2023 | 05:00 | 02/25/2023 | 08:59 | Invalid Data | NA | Daily Cal Error | Reran Daily Cal and Passed |
| 01/01/2022 | 22:00 | 01/02/2022 | 04:59 | Invalid Data | NA | Boiler Startup | Normal Operation once CEM could be calibrated and passed |
| | | | | | | | |
| 2nd Qtr | | | | | | | |
| 04/22/2023 | 05:00 | 04/23/2023 | 09:59 | Invalid Data | NA | Failed Daily Cal - Bottles not on | Turned bottles on and reran Daily Cal and Passed |
| 04/25/2023 | 09:00 | 04/25/2023 | 10:59 | Invalid Data | NA | Maintenance of CEM Equipment | Adjusted and aligned optics |
| 05/25/2023 | 14:00 | 05/25/2023 | 17:59 | Invalid Data | NA | Boiler Startup | Normal startup ran daily cal when at operating temperature |
| 05/25/2023 | 22:00 | 05/26/2023 | 16:59 | Invalid Data | NA | Boiler Startup | Normal startup ran daily cal when at operating temperature |
| 05/27/2023 | 05:00 | 05/27/2023 | 10:59 | Invalid Data | NA | Daily Cal Error | Reran Daily Cal and Passed |
| 06/05/2023 | 09:00 | 06/05/2023 | 10:59 | Invalid Data | NA | Boiler Startup | Normal startup ran daily cal when at operating temperature |
| 06/09/2023 | 09:00 | 06/05/2023 | 7:59 | Invalid Data | NA | Daily Cal Error | Reran Daily Cal and Passed |
| 06/14/2023 | 08:00 | 06/14/2023 | 09:59 | Invalid Data | NA | Maintenance of CEM Equipment | Conducted testing and maintenance inspection |
| 06/14/2023 | 13:00 | 06/14/2023 | 17:59 | Invalid Data | NA | Maintenance of CEM Equipment | Conducted testing and maintenance inspection |
| 06/15/2023 | 05:00 | 06/15/2023 | 10:59 | Invalid Data | NA | Daily Cal Error | Reran Daily Cal and Passed |
| 06/16/2023 | 08:00 | 06/25/2023 | 23:59 | Invalid Data | NA | Out of Service | Unit Sent to Germany for Repairs |
| 06/26/2023 | 02:00 | 06/26/2023 | 08:59 | Invalid Data | NA | Out of Service | Unit Sent to Germany for Repairs |
| 06/26/2023 | 19:00 | 06/30/2023 | 23:59 | Invalid Data | NA | Out of Service | Unit Sent to Germany for Repairs |
| | | | | | | | |
| 3rd Qtr | | | | | | | |
| 07/01/2023 | 00:00 | 07/11/2023 | 13:59 | Invalid Data | NA | Out of Service | Unit Sent to Germany for Repairs |
| 07/11/2023 | 17:00 | 07/11/2023 | 17:59 | Invalid Data | NA | Inlet GM32 (SO2 Only) moved to stack | Ran Cal and Passed |
| 07/14/2023 | 07:00 | 07/14/2023 | 07:59 | Invalid Data | NA | Daily Cal Error | Reran Daily Cal and Passed |
| 07/16/2023 | 07:00 | 07/17/2023 | 04:59 | Invalid Data | NA | Daily Cal Error | Reran Daily Cal and Passed |
| 07/18/2023 | 10:00 | 07/18/2023 | 10:59 | Invalid Data | NA | In Stack Zero | Reran Daily Cal and Passed |
| 07/26/2023 | 21:00 | 07/27/2023 | 07:59 | Invalid Data | NA | Fatal Fault GM32 | Reran Daily Cal and Passed |
| 09/13/2023 | 09:00 | 09/13/2023 | 14:59 | Invalid Data | NA | Out of Service | Installing New GM32 Analyzer |
| 09/14/2023 | 13:00 | 09/14/2023 | 14:59 | Invalid Data | NA | Installing New Analyzer | Ran Daily Cal and Passed |
| | | | | | | | |
| 4th Qtr | | | | | | | |
| 11/07/2023 | 14:00 | 11/07/2023 | 14:59 | Invalid Data | NA | ID Fan on during outage | Bad Unit On data as boiler was shut down |
| 12/14/2023 | 16:00 | 12/15/2023 | 04:59 | Invalid Data | NA | Boiler Startup | Normal startup ran daily cal when at operating temperature |
| | | | | | | | |