**Making an EIA-860 Case**

**Data Releases**

* Final data from previous year: End of September of current year
* Monthly supplement: Usually the last week of the month (but only generator form)

I will make the latest full case and then add monthly supplements to it for each quarter. For example, with the first quarter (beginning of January to the end of March) of 2024, the supplement will be released near the end of April. I will put that on the 2022 full case since 2023 hasn’t been released yet. For the third quarter of 2024 (beginning of April to end of June), the supplement will be released near the end of October. I will put that on the 2023 full case since it was just released in September.

**Making a Basic Full Case**

1. Get the Data
   1. Go to <https://www.eia.gov/electricity/data/eia860/> or just google “EIA 860”
   2. Download the latest year
      1. It will be in a zip file
   3. Extract the data to your folder
      1. I place mine into a folder labeled “Raw Data” and simply name it by the year. This will make the code easier to run.
2. Run the code titled “Whole Case Automation Code”
   1. First thing you need to do is change the year EVERYWHERE. Simply do this with a Control+F -> old year in code (2022 for example) -> replace all with current year (2023 for example)
   2. Change the folders that you are using on your machine in 3 PLACES.
      1. The one at the start will be where you are storing the raw EIA data
      2. There are two at the end. The “source\_directory” will be the folder that you store the code you’re currently writing. The “folder path” will be where you want to store the edited data. I just create a new folder with the year in that folder.
   3. Once you have the year changed and these folders edited, you should be good to run the code.
      1. EIA is always updating so there might be changes. Be on the lookout of data updates in the future!
3. Open Power World (PW)
   1. Make sure to use the latest edition!
   2. Save the case after EVERY STEP!
4. File -> New Case -> Model Explorer
5. Adding Areas to the Case
   1. Open the file that you create in Python called “Area” in Excel.
   2. Selected all (control+A -> control+C)
   3. Back in PW, go to **Areas** -> right click -> Copy/Paste/Send -> Paste -> “Yes to all”
   4. Go to **Super Areas** -> right click -> “Insert” -> Rename -> Name: “FullCase” -> In “New Area #’s”, enter “1-99999” and click “Add New Areas by Number” -> Click OK
   5. To insert the slack area, right click -> “Insert” -> Rename -> Name: “SlackArea” -> In “New Area #’s”, enter “999999 -> Click OK
6. Adding Substations to the Case
   1. Open the file that you create in Python called “Substations” in Excel.
   2. Selected all (control+A -> control+C)
   3. Back in PW, go to **Substations** -> right click -> Copy/Paste/Send -> Paste -> “Yes to all”
   4. To insert the slack substation, right click -> “Insert” -> 999999 -> Click OK. Then go find that substation and rename it to “SlackSub”.
7. Adding Zones to the Case
   1. Open the file that you create in Python called “Zones” in Excel.
   2. Selected all (control+A -> control+C)
   3. Back in PW, go to **Zones** -> right click -> Copy/Paste/Send -> Paste -> “Yes to all”
   4. To insert the slack zone, right click -> “Insert” -> 999999 -> Click OK. Then go find that substation and rename it to “SlackSub”.
8. Adding Buses to the Case
   1. Open the file that you create in Python called “Buses” in Excel.
   2. Selected all (control+A -> control+C)
   3. Back in PW, go to **Buses** -> right click -> Copy/Paste/Send -> Paste -> “Yes to all”
   4. To insert the slack bus, right click -> “Insert” -> Bus Number: 999999 -> Bus Name: SlackBus -> Substation Number: 999999 -> Check “System Slack Bus” -> Click OK.
      1. Make sure the Zone Num is 999
9. Adding Generators to the Case
   1. Open the file that you create in Python called “Gens” in Excel.
   2. Selected all (control+A -> control+C)
   3. Back in PW, go to **Generators** -> right click -> Copy/Paste/Send -> Paste -> “Yes to all”
      1. To insert the slack generator, right click -> “Insert” -> Bus Number: 999999 -> Click OK.
10. Adding Lines to the Case
    1. Open the file that you create in Python called “Lines” in Excel.
    2. Selected all (control+A -> control+C)
    3. Back in PW, go to **Branches** -> right click -> Copy/Paste/Send -> Paste -> “Yes to all”
11. To make sure you got all the puzzle pieces in, **Solve Power Flow Newton** really quick, it shouldn’t throw any errors and will say “Successful Power Flow Solution” in the log
12. Adding PFW Models
    1. Click on “Tools” in the top ribbon -> Click on “Weather” -> Click on “Weather Models & Information” -> Click on the “Generators PFW Models” tab
    2. A screenshot of a computer

       Description automatically generatedUnder “Fuel Type”, right click on a generator that has “WND (Wind)” and select “Quick Filter”
    3. Click on the Display/Column Options (shown above) and add Custom -> Integer 2
    4. Open the file that you create in Python called “Wind” in Excel.
    5. Selected all (control+A -> control+C)
    6. Back in PW, paste this information in the **Generator PFW Models** (with the filter)
       1. You should see Cust Int 2 populated with values from 1-4
    7. Under “Cust Int 2”, right click and filter on ‘1’
    8. Select all generators -> right click under “Active PFW Models” -> select “Insert New PFW Models” -> select “Wind Class 1”
    9. Change the filter on “Cust Int 2” to ‘2’, ‘3’, and ‘4’ and repeat adding the wind class
    10. Repeat this process for “Fuel Type” with the “SUN (Solar) and choose “SolarPVBasic2” for all solar
13. Editing Wind Parameters
    1. Click on the “PFW Model Summary” tab -> right click on “WindClass1” under the Object Type -> click “Show Dialog”
    2. Open the file that you create in Python called “Wind1” in Excel.
    3. Selected all (control+A -> control+C)
    4. Back in PW, paste this information in the dialog box
       1. Confirm that this information was pasted in by checking to see if the “HubHeightM” is changed from the default of 80
    5. Repeat this for wind 2-4
14. Editing Solar Parameters
    1. In the same tab, right click on “SolarPVBasic2” under the Object Type -> click “Show Dialog”
    2. Open the file that you create in Python called “Solar” in Excel.
    3. Selected all (control+A -> control+C)
    4. Back in PW, paste this information in the dialog box
       1. Confirm that this information was pasted in by checking to see if some of the “AzimuthDeg” entries are changed from the default of 180
15. Add weather stations
    1. You could do this either by copying and pasting from another case, or by loading in an .aux file or PWW file
16. If you haven’t been saving incrementally, save now.
17. You now have a completed case!

**Making a Planning Full Case**

1. There is a sheet in the EIA data that contains the generators that are going to be put into service in the coming years. Open the “Planning Case Automation Code” and change the dates like in 2a of the Full Case instructions.
2. Run the code as normal.
3. Follow the instructions above, this file simply replaces the “Gens” file in step 9. It can also just be added onto the base case.

**Adding a Monthly Supplement to a Full Base Case**

1. Get the Monthly Supplement Data
   1. Go to <https://www.eia.gov/electricity/data/eia860m/> or google “EIA 860m”
   2. Download the latest month
      1. It will be in a single Excel sheet
      2. Put it in the supplement folder, no need to change any names or dates
2. Run the code titled “Supplemental Automation Code”
   1. Change the month and year at the very top, no need to do it anywhere else.
   2. Change the folders.
      1. I have the code written so that it’s saved in a folder called “Supplements – PW Ready”.
   3. Run the code!
      1. EIA is always updating so there might be changes. Be on the lookout of data updates in the future!
3. There are two options you can choose from. If the data has changed a lot from the base case, choose **option a**. If the data is mostly similar, choose **option b**. One way to tell is by the number of units or spot checks. Just use your best judgment, and if not sure, **option a** is more thorough, and therefore safer.
   1. First delete all generators. Repeat steps 9, 11-14 and treat this new file as your “Gens”.
      1. No need to add lines again.
   2. Simply copy and paste the edited supplement on top of the generators already in the case.