May 6, 2022

Florida Public Service Commission
Office of Commission Clerk
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

Re: Docket No. 20220000-OT
GRU's Response to TYSP Supplemental Data Request #1

Dear Sir/Madam,

Gainesville Regional Utilities hereby submits its electronic version of the Public Service Commission's Ten-Year Site Plan Supplemental Data Request #1. The Excel tables and other documents requested were emailed to Donald Phillips.

Please let me know if you have any questions regarding this document.

Sincerely,

/s/Eric Neihaus, P.E.
Power Planning Engineer
Gainesville Regional Utilities

Instructions: Accompanying this data request is a Microsoft Excel (Excel) document titled "Data Request #1.Excel Tables," (Excel Tables File). For each question below that references the Excel Tables File, please complete the table and provide, in Excel Format, all data requested for those sheet(s)/tab(s) identified in parenthesis.

General Items

1. Please provide an electronic copy of the Company's Ten-Year Site Plan (TYSP) for the period 2022-2031 (current planning period) in PDF format.

   The TYSP was provided via email.

2. Please provide an electronic copy of all schedules and tables in the Company's current planning period TYSP in Excel format.

   Spreadsheet versions of the Ten-Year Site Plan Schedules were provided via email.

3. Please refer to the Excel Tables File (Financial Assumptions, Financial Escalation). Complete the tables by providing information on the financial assumptions and financial escalation assumptions used in developing the Company's TYSP. If any of the requested data is already included in the Company's current planning period TYSP, state so on the appropriate form.

   This data was provided in the attached Microsoft Excel file.

Load & Demand Forecasting

4. **[Investor-Owned Utilities Only]** Please refer to the Excel Tables File (Hourly System Load). Complete the table by providing, on a system-wide basis, the hourly system load in megawatts (MW) for the period January 1 through December 31 of the year prior to the current planning period. For leap years, please include load values for February 29. Otherwise, leave that row blank.
   a. Please also describe how loads are calculated for those hours just prior to and following Daylight Savings Time (March 14, 2021, and November 7, 2021).

   GRU is not an Investor-Owned Utility.

5. Please refer to the Excel Tables File (Historic Peak Demand). Complete the table by providing information on the monthly peak demand experienced during the three-year period prior to the current planning period, including the actual peak demand experienced, the amount of demand response activated during the peak, and the estimated total peak if demand response had not been activated. Please also provide the day, hour, and system-average temperature at the time of each monthly peak.

   This data is provided in the attached Microsoft Excel file.

6. Please identify the weather station(s) used for calculation of the system-wide temperature for the Company's service territory. If more than one weather station is utilized, please describe how a system-wide average is calculated.

GRU utilizes climatological data from the weather station located at the Flight Service Station at the Gainesville Regional Airport. The National Weather Service call ID is GNV, and the WBAN number is 12816.

7. Please explain, to the extent not addressed in the Company's current planning period TYSP, how the reported forecasts of the number of customers, demand, and total retail energy sales were developed. In your response, please include the following information:
    - Methodology.
    - Assumptions.
    - Data sources.
    - Third-party consultant(s) involved.
    - Anticipated forecast accuracy.
    - Any difference/improvement(s) made compared with those forecasts used in the Company's most recent prior TYSP.

The methodology, assumptions and data sources used in the development of GRU's customer, sales, and demand forecasts are described in detail on pages 11-20 of the TYSP. The forecast was done in-house without the use of any outside consultants. GRU assesses historical forecast accuracy but does not make prospective claims around its forecast accuracy. GRU has used the same forecast methodology for more than 20 years.

8. Please identify all closed and open Florida Public Service Commission (FPSC) dockets and all non-docketed FPSC matters which were/are based on the same load forecast used in the Company's current planning period TYSP.

There are no matters before the FPSC that reference this forecast.

9. Please explain if your Company evaluates the accuracy of its forecasts of customer growth and annual retail energy sales presented in its past TYSPs by comparing the actual data for a given year to the data forecasted one, two, three, four, five, or six years prior.

GRU evaluates historical forecast accuracy over the past 20, 10, and 5 years. The average forecast error in number of customers from 2012-2021 was 0.0%. The average forecast error in retail net energy for this same period was –1.6%, meaning that GRU over-forecast energy by an average of 1.6% during this period.

a. If your response is affirmative, please explain the method used in your evaluation, and provide the corresponding results, including work papers, in Excel format for the analysis of each forecast presented in the TYSPs filed with the Commission during the 20-year period prior to the current planning period. If your Company limits its analysis to a period shorter than 20 years prior to the current planning period, please provide what analysis you have and a narrative explaining why your Company limits its analysis period.

GRU constructed what can be described as an error fan (using a spreadsheet) for analyzing historical forecast error for number of customers, retail energy, and retail summer peak demand. The error fan worksheet includes historical forecasts made for the above mentioned three components, dating from 2002 through 2021. These were the same forecasts included in GRU's Ten Year Site Plans from those years. Projections made in those forecasts were compared against actual data, and assessments of average forecast error and standard deviation were calculated for historical periods of 20, 10, and 5 years. Results from the 10-year analyses are discussed below.

b. If your response is negative, please explain why.

10. Please explain if your Company evaluates the accuracy of its forecasts of Summer/Winter Peak Energy Demand presented in its past TYSPs by comparing the actual data for a given year to the data forecasted one, two, three, four, five, or six years prior.

GRU evaluates historical forecast accuracy over the past 20, 10, and 5 years. The average forecast error in retail summer peak demand from 2012-2021 was –2.9%, meaning that GRU over-forecast summer demand by an average of 2.9% during this period. GRU has not evaluated historical forecast error for winter demand. GRU is a summer peaking system. Winter peak exceeded summer peak once since 1980. GRU's summer peak was 17% greater than its winter peak on average, from 1980-2021.

a. If your response is affirmative, please explain the method used in your evaluation, and provide the corresponding results, including work papers, in Excel format for the analysis of each forecast presented in the TYSPs filed with the Commission during the 20-year period prior to the current planning period. If your Company limits its analysis to a period shorter than 20 years prior to the current planning period, please provide what analysis you have and a narrative explaining why your Company limits its analysis period.

GRU utilized the same error fan analysis described in 9.a. above for making assessments around summer peak demand historical forecast error.

b. If your response is negative, please explain why.

11. Please explain any historic and forecasted trends in each of the following:

a. Growth of customers, by customer type (residential, commercial, industrial) as well as Total Customers, and identify the major factors (historically, currently, and in the forecasted period) that contribute to the growth/decline of the trends.

GRU forecasts number of customers separately for residential and three non-residential customer groups. In consideration of rate migration between non-residential customer groups, the three non-residential customer groups are discussed collectively here. The primary explanatory variable for determining projected number of customers are estimates of Alachua County population, and corresponding population projections published by the Bureau of Economic and Business Research at the University of Florida. From 2012-2021 residential customer growth averaged 0.99% per year. For the period 2022-2031, residential customer growth is projected to average 0.49% per year. From 2012-2021 non-residential customer growth averaged 0.95% per year. For the period 2022-2031, non-residential customer growth is projected to average 0.71%.

b. Average KWh consumption per customer, by customer type (residential, commercial, industrial), and identify the major factors (historically, currently, and in the forecasted period) that contribute to the growth/decline of the trends.

Residential consumption per customer increased 0.15% per year over the past 10 years. Over the first 10 years of our forecast, residential consumption per customer is projected to be constant at approximately 790 kWh/month/customer. Non-residential consumption per customer declined 0.84% per year over the past 10 years. From 2022-2031, non-residential consumption per customer is projected to be constant at approximately 7,000 kWh/customer/month. Some of the factors believed to effect consumption per customer include the 2008 Recession; (increasing) prices for electricity; improved building envelopes; energy efficiency standards (regulatory); and utility sponsored conservation measures. Each of these factors has contributed to generally decreasing usage per customer historically. In general, the Covid pandemic resulted in increased residential usage and reduced non-residential usage. In future years, loads associated with electric vehicle charging are anticipated to support modest increases in usage per customer for all customer classes.

c. Total Sales (GWh) to Ultimate Customers, identify the major factors (historically, currently, and in the forecasted period) that contribute to the growth/decline of the trends. Please include a detailed discussion of how the Company's demand management program(s) and conservation/energy-efficiency program(s) impact the growth/decline of the trends.

Retail energy sales increased at the modest rate of 0.37% per year growth over the past 10 years. GRU forecasts retail energy sales to increase at a rate of 0.59% per year over the next 10 years. Both historical and future energy sales growth is positively influenced by increasing number of customers and offset negatively by flat or declining usage per customer. As mentioned above, loads associated with electric vehicle charging are anticipated to support energy sales more in this forecast than past forecasts.

12. Please explain any historic and forecasted trends in each of the following components of Summer/Winter Peak Demand:

    a. Demand Reduction due to Conservation and Self Service, by customer type (residential, commercial, industrial) as well as Total Customers, and identify the major factors (historically, currently, and in the forecasted period) that contribute to the growth/decline in the trends.

    Over the past 20 years, demand per customer has decreased slightly more than one percent per year, and over the past 10 years, that decline has fallen to less than half of one percent per year. GRU was heavily involved in utility sponsored conservation measures from 1980-2013. Since 2013, GRU's direct involvement has been more focused on energy surveys, the Low-Income Energy Efficiency Program, and natural gas rebates. Global factors that have contributed to reduced demand and energy requirements include appliance efficiency improvements, improved building envelopes, enhancements to codes and standards, and to a lesser extent solar net metering. These trends are expected to continue, however the adoption of electric vehicles will in some form likely become a positive influence on demand per customer.

    b. Demand Reduction due to Demand Response, by customer type (residential, commercial, industrial), and identify the major factors (historically, currently, and in the forecasted period) that contribute to the growth/decline of the trends.

    GRU does not currently utilize any demand response measures.

    c. Total Demand, and identify the major factors (historically, currently, and in the forecasted period) that contribute to the growth/decline in the trends.

    Total Demand and Net Firm Demand are currently the same for GRU, so please see a collective response in 12.d. below.

    d. Net Firm Demand, by the sources of peak demand appearing in Schedule 3.1 and Schedule 3.2 of the current planning period TYSP, and identify the major factors (historically, currently, and in the forecasted period) that contribute to the growth/decline in the trends.

In addition to factors outlined in 12.a. above, GRU's net firm demand has been influenced by a series of reductions in wholesale loads. One long-standing wholesale load matured at the end of 2012. Another firm wholesale load spanned 2015-2018. A third and final wholesale customer elected not to renew its contract with GRU at the end of March 2022. Currently, GRU has no firm wholesale loads and is only serving retail customers. There are no new wholesale agreements included in GRU's 2022 TYSP. The phasing out of three wholesale customer loads over the past decade has offset most of the retail load growth over the past 10 years, keeping energy and demand requirements relatively constant.

13. Please explain any anomalies caused by non-weather events with regard to annual historical data points for the period 10 years prior to the current planning period that have contributed to the following, respectively:

Three primary non-weather events impacting peak demands and retail energy include:
1) Recovery from the 2008 recession, in which strong economic conditions beginning 2013 supported customer and sales growth through 2019;
2) The changes to wholesale loads described in 12.d. above; and
3) Impacts from the Covid pandemic described in 16.a. below.

a. Summer Peak Demand.

b. Winter Peak Demand.

c. Annual Retail Energy Sales.

14. Please provide responses to the following questions regarding the weather factors considered in the Company's retail energy sales and peak demand forecasts:

a. Please identify, with corresponding explanations, all the weather-related input variables that were used in the respective Retail Energy Sales, Winter Peak Demand, and Summer Peak Demand models.

GRU analyzes, and includes where appropriate, heating degree day data and cooling degree day data in its equations for determining usage per customer, for each customer segment.

b. Please specify the source(s) of the weather data used in the aforementioned forecasting models.

The source for all climate data used in GRU's forecasting work is the Gainesville Regional Airport weather station described in question 6 above.

c. Please explain in detail the process/procedure/method, if any, the Company utilized to convert the raw weather data into the values of the model input variables.

Data from the GNV weather station was used as-is, with no processing applied. For example, GRU's forecast utilized degree day data calculated from a 65-degree base temperature.

d. Please specify with corresponding explanations:

e. How many years' historical weather data was used in developing each retail energy sales and peak demand model.

Each forecast equation utilized historical weather data from each year included in the modeling. In this year's forecasting work, the period of study was 1997-2021 for each customer class, so 25 years' historical weather data was analyzed.

f. How many years' historical weather data was used in the process of these models' calibration and/or validation.

The response for this question is the same as for 14.e. above. GRU maintains what it believes to be a clean data history for the GNV weather station dating back to 1984. Models developed for GRU's 2022 TYSP forecasts included historical data from 1997-2021.

g. Please explain how the projected values of the input weather variables (that were used to forecast the future sales or demand outputs for each planning years 2022 – 2031) were derived/obtained for the respective retail sales and peak demand models.

GRU assumes average weather conditions in its projections. For reasons not completely understood, cooling degree days have been higher in recent years but have also tested to be statistically significant with average usage, even when it has not been higher. Degree days are calculated based on average daily temperature, defined as daily maximum temperature minus daily minimum temperature, divided by two. It appears that higher daily minimum temperatures are influencing this trend more than any changes to daily maximum temperatures. The best calibration connecting historical usage levels with projected usage levels was obtained by assigning the average of the most recent 10 years' degree day values as the average weather conditions upon which to base the forecast.

15. **[Investor-Owned Utilities Only]** If not included in the Company's current planning period TYSP, please provide load forecast sensitivities (high band, low band) to account for the

uncertainty inherent in the base case forecasts in the following TYSP schedules, as well as the methodology used to prepare each forecast:

GRU is not an Investor-Owned Utility.

a. Schedule 2.1 – History and Forecast of Energy Consumption and Number of Customers by Customer Class.

b. Schedule 2.2 - History and Forecast of Energy Consumption and Number of Customers by Customer Class.

c. Schedule 2.3 - History and Forecast of Energy Consumption and Number of Customers by Customer Class.

d. Schedule 3.1 - History and Forecast of Summer Peak Demand.

e. Schedule 3.2 - History and Forecast of Winter Peak Demand.

f. Schedule 3.3 - History and Forecast of Annual Net Energy for Load.

g. Schedule 4 - Previous Year and 2-Year Forecast of Peak Demand and Net Energy for Load by Month.

16. Please provide responses to the following questions regarding the possible impacts of COVID-19 Pandemic (Pandemic) on the utility load forecast:

a. Please briefly summarize the impacts due to the Pandemic, if any, to the accuracy of the Company's respective forecast of annual retail energy sales and peak demands for 2020 and 2021.

Residential energy sales slightly exceeded levels originally forecasted prior to the pandemic, on the order of five percent during 2020, and to a lesser extent during 2021. Energy sales to non-residential customers were below levels originally forecasted, on the order of ten percent during 2020 and less in 2021. The net effect was total sales slightly below original projections. The magnitude of the departure did not materially affect GRU's operations.

b. Have any of your 2022 TYSP retail energy sales and peak demand forecasts incorporated the potential impacts of the Pandemic? Please explain your response.

Residential customer growth has been strong in recent years with the addition of several large multiple family complexes. The more notable impacts to the forecast have been on the non-residential side. Overall number of non-residential customers is lower than projected in prior forecasts due to some customer fallout during the pandemic. Some of GRU's general service demand customers also experienced decline in business activity to the extent that they

migrated to the general service non-demand billing class generally used for customers with smaller loads. Number of non-residential customers is lower in the 2022 forecast compared with forecasts prepared in 2020 and 2021.

17. Please address the following questions regarding the impact of all customer-owned/leased renewable generation (solar and otherwise) on the Utility's forecasts.

    a. Please explain in detail how the Utility's load forecast accounts for the impact of customer owned/leased renewable generation (solar and otherwise).

    A forecast of solar net metering installations was made, based on historical installations through 2021 and future installations anticipated through the 20-year forecast horizon. This forecast included impacts within each billing class. The energy projected to be added back to GRU's grid was included in the load forecast within each customer segment and treated as a load reduction.

    b. Please provide the annual impact, if any, of customer-owned/leased renewable generation (solar and otherwise) on the Utility's retail demand and energy forecasts, by class and in total, for 2022 through 2031.

    GRU estimates that residential energy sales will be reduced by 16,600 MWh in 2031. GRU also estimates that non-residential energy sales will be reduced by approximately 17,200 MWh in 2031. The impact of solar net metering to GRU's seasonal demands was implicitly accounted for through reduced energy levels and the development of seasonal demands using load factors as described in the TYSP.

    c. If the Utility maintains a forecast for the planning horizon (2022-2031) of the number of customers with customer-owned/leased renewable generation (solar and otherwise), by customer class, please provide.

    GRU estimates that approximately 2,500 residential customers will have solar rooftop grid-connected systems by 2031, and that there will be an additional 300 non-residential customers participating in solar net metering by 2031.

18. Please discuss whether the Company included plug-in electric vehicle (PEV) loads in its demand and energy forecasts for its current planning period TYSP. If so, how were these impacts accounted for in the modeling and forecasting process?

    Similar to solar net metering, GRU prepared a separate forecast of number of electric vehicles that would conduct charging within each billing rate category. Energy required for EV charging was added to GRU's load forecast (within each customer segment) and treated as an addition to energy sales.

19. Please discuss the methodology and the assumptions (or, if applicable, the source(s) of the data) used to estimate the number of PEVs operating in the Company's service territory and

the methodology used to estimate the cumulative impact on system demand and energy consumption.

The source for estimating the current number of electric vehicles within GRU's service area was the Atlas EV Hub website. This source indicated that there are approximately 1,000 EVs within Alachua County. GRU assumed that 75% of these would require charging on its grid. Charging location was further apportioned among customer segments, with the majority expected to occur behind residential meters (at-home charging). A staff focus group made subjective assumptions regarding future adoption of EVs locally and GRU assumed that each vehicle would require approximately 300 kWh/month for charging. Rapid adoption was assumed, and electric energy sales associated with EV charging are expected to increase from 2,700 MWh in 2021 to 52,700 MWh in 2031.

20. Please refer to the Excel Tables File (Electric Vehicle Charging). Complete the table by providing estimates of the requested information within the Company's service territory for the current planning period. Direct current fast charger (DCFC) PEV charging stations are those that require a service drop greater than 240 volts and/or use three-phase power.

This information is provided in the attached Microsoft Excel file.

21. Please describe any Company programs or tariffs currently offered to customers relating to PEVs and describe whether any new or additional programs or tariffs relating to PEVs will be offered to customers within the current planning period.

No specific tariffs are offered at this time. GRU is considering tariffs that would encourage charging of electric vehicles during off-peak (nighttime) hours.

a. Of these programs or tariffs, are any designed for or do they include educating customers on electricity as a transportation fuel?

The intent of a future tariff that encourages EV charging during off-peak hours would be to save customers on their electric bills and reduce late afternoon peak loads on GRU's system. GRU will provide customer education if such a tariff is introduced.

b. Does the Company have any programs where customers can express their interest or expectations for electric vehicle infrastructure as provided for by the Utility, and if so, please describe in detail.

GRU currently does not have any programs of this nature.

22. Please describe how the Company monitors the installation of PEV public charging stations in its service area.

GRU monitors PEV public charging station with a revenue meter.

23. Please describe any instances since January 1 of the year prior to the current planning period in which upgrades to the distribution system were made where PEVs were a contributing factor.

There have been no known instances where an upgrade to GRU's distribution system was required resulting from the use of electric vehicles, other than the installation of the transformer to provide the electric service. In all new revenue project GRU install additional UG primary to be able to loop feed the transformer.

24. Has the Company conducted or contracted any research to determine demographic and regional factors that influence the adoption of PEVs applicable to its service territory? If so, please describe in detail the methodology and findings.

GRU is a member of Drive Electric Florida (DEF), a coalition of companies interested in supporting and accelerating the adoption of plug-in vehicles in Florida. DEF fosters collaboration and sharing demographics and developments in the electric vehicle adoption.

25. What processes or technologies, if any, are in place that allow the Company to be notified when a customer has installed a PEV charging station in their home?

When a customer requests a new electric service for a charging station, GRU is made aware of the installation. If an existing customer adds a charging station behind an existing electric service, it is unlikely GRU will be made aware of the work.

26. What are the major drivers of the Company's PEV growth?

Electric vehicles steadily increasing market share, automobile manufacturers providing customers with more options. EVs with larger ranges.

27. Please describe if and how Section 339.287, Florida Statutes, (Electric Vehicle Charging Stations; Infrastructure Plan Development) has impacted the Company's projection of PEV growth and related demand and energy growth.

GRU is evaluating the viability of company owned EV fast chargers along designated state evacuation routes as lay out in 339.287 " Having adequate, reliable charging stations along the State Highway System will also help with evacuations during hurricanes or other disasters."

28. What has the Company learned about the impact of PEV ownership on the Company's actual and forecasted peak demand?

GRU believes that most residential home vehicle charging begins late in the afternoon and early evening when GRU is near the time of day of its peak loads. And GRU knows that one vehicle can add 7 kW or more to short term load. There are two commercial fast charging stations in GRU's service area. The larger one has 10 charging stations and its billing demand is approximately 650 kW. Load factor for these installations is 20% or less. From the perspective

of billing demand, one charging station is an equivalent load to a large retail establishment or a medium/large school.

29. If applicable, please describe any key findings and metrics of the Company's EV pilot program(s) which reveal the PEV impact to the demand and energy requirements of the Company.

N/A

30. **[FEECA Utilities Only]** Please refer to the Excel Tables File (DR Participation). Complete the table by providing for each source of demand response annual customer participation information for 10 years prior to the current planning period. Please also provide a summary of all sources of demand response using the table.

GRU is not a FEECA utility.

31. **[FEECA Utilities Only]** Please refer to the Excel Tables File (DR Annual Use). Complete the table by providing for each source of demand response annual usage information for 10 years prior to the current planning period. Please also provide a summary of all demand response using the table.

GRU is not a FEECA utility.

32. **[FEECA Utilities Only]** Please refer to the Excel Tables File (DR Peak Activation). Complete the table by providing for each source of demand response annual seasonal peak activation information for 10 years prior to the current planning period. Please also provide a summary of all demand response using the table.

GRU is not a FEECA utility.

33. Please refer to the Excel Tables File (LOLP). Complete the table by providing the loss of load probability, reserve margin, and expected unserved energy for each year of the planning period.

This data is provided in the attached Microsoft Excel file.

Generation & Transmission

34. Please refer to the Excel Tables File (Unit Performance). Complete the table by providing information on each utility-owned generating resources' outage factors, availability factors, and average net operating heat rate (if applicable). For historical averages, use the past three years and for projected factors, use an average of the next ten-year period.

This data is provided in the attached Microsoft Excel file.

35. Please refer to the Excel Tables File (Utility Existing Traditional). Complete the table by providing information on each utility-owned traditional generation resource in service as of

December 31 of the year prior to the current planning period. For multiple small (<250 kW per installation) distributed resources of the same type and fuel source, please include a single combined entry. For capacity factor, use the net capacity as a basis.

This data is provided in the attached Microsoft Excel file.

36. Please refer to the Excel Tables File (Utility Planned Traditional). Complete the table by providing information on each utility-owned traditional generation resource planned for in-service within the current planning period. For multiple small (<250 kW per installation) distributed resources of the same type and fuel source, please include a single combined entry. For projected capacity factor, use the net capacity as a basis.
    a. For each planned utility-owned traditional generation resource in the table, provide a narrative response discussing the current status of the project.

This data is provided in the attached Microsoft Excel file.

37. Please refer to the Excel Tables File (Utility Existing Renewable). Complete the table by providing information on each utility-owned renewable generation resource in service as of December 31 of the year prior to the current planning period. For multiple small (<250 kW per installation) distributed resources of the same type and fuel source, please include a single combined entry. For capacity factor, use the net capacity as a basis.

This data is provided in the attached Microsoft Excel file.

38. Please refer to the Excel Tables File (Utility Planned Renewable). Complete the table by providing information on each utility-owned renewable generation resource planned for in-service within the current planning period. For multiple small (<250 kW per installation) distributed resources of the same type and fuel source, please include a single combined entry. For projected capacity factor, use the net capacity as a basis.
    a. For each planned utility-owned renewable resource in the table, provide a narrative response discussing the current status of the project.

This data is provided in the attached Microsoft Excel file.

39. Please list and discuss any planned utility-owned renewable resources that have, within the past year, been cancelled, delayed, or reduced in scope. What was the primary reason for the changes? What, if any, were the secondary reasons?

GRU does not have any planned utility-owned renewable resources within the current planning horizon.

40. Please refer to the Excel Tables File (Firm Purchases). Complete the table by providing information on the Utility's firm capacity and energy purchases.

This data is provided in the attached Microsoft Excel file.

41. Please refer to the Excel Tables File (PPA Existing Traditional). Complete the table by providing information on each purchased power agreement with a traditional generator still in effect by December 31 of the year prior to the current planning period pursuant to which energy was delivered to the Company during said year.

This data is provided in the attached Microsoft Excel file.

42. Please refer to the Excel Tables File (PPA Planned Traditional). Complete the table by providing information on each purchased power agreement with a traditional generator pursuant to which energy will begin to be delivered to the Company during the current planning period.
    a. For each purchased power agreement in the table, provide a narrative response discussing the current status of the project.

This data is provided in the attached Microsoft Excel file.

43. Please refer to the Excel Tables File (PPA Existing Renewable). Complete the table by providing information on each purchased power agreement with a renewable generator still in effect by December 31 of the year prior to the current planning period pursuant to which energy was delivered to the Company during said year.

This data is provided in the attached Microsoft Excel file.

44. Please refer to the Excel Tables File (PPA Planned Renewable). Complete the table by providing information on each purchased power agreement with a renewable generator pursuant to which energy will begin to be delivered to the Company during the current planning period.

This data is provided in the attached Microsoft Excel file.

    a. For each purchased power agreement in the table, provide a narrative response discussing the current status of the project.

The 50 MW solar PPA was delayed by approximately one year. The original location for the project was rejected by the Alachua County commission, so an alternate location is being established.

45. Please list and discuss any purchased power agreements with a renewable generator that have, within the past year, been cancelled, delayed, or reduced in scope. What was the primary reason for the change? What, if any, were the secondary reasons?

The 50 MW solar PPA was delayed by approximately one year. The original location for the project was rejected by the Alachua County commission, so an alternate location is being established.

46. Please refer to the Excel Tables File (PSA Existing). Complete the table by providing information on each power sale agreement still in effect by December 31 of the year prior to

the current planning period pursuant to which energy was delivered from the Company to a third-party during said year.

This data is provided in the attached Microsoft Excel file.

47. Please refer to the Excel Tables File (PSA Planned). Complete the table by providing information on each power sale agreement pursuant to which energy will begin to be delivered from the Company to a third-party during the current planning period.

This data is provided in the attached Microsoft Excel file.

a. For each power sale agreement in the table, provide a narrative response discussing the current status of the agreement.

GRU has no power sale agreements planned within this planning period.

48. Please list and discuss any long-term power sale agreements within the past year that were cancelled, expired, or modified.

GRU's power sale contract with the City Alachua expired on 3/31/2022.

49. Please refer to the Excel Tables File (Annual Renewable Generation). Complete the table by providing the actual and projected annual energy output of all renewable resources on the Company's system, by source, for the 11-year period beginning one year prior to the current planning period.

This information is provided in the attached Microsoft Excel file.

50. **[Investor-Owned Utilities Only]** Please refer to the Excel Tables File (Potential Solar Sites). Complete the table by providing information on all of the Company's plant sites that are potential candidates for utility-scale (>2 MW) solar installations.

GRU is not an Investor-Owned Utility.

51. Please describe any actions the Company engages in to encourage production of renewable energy within its service territory.

City of Gainesville Ordinances establishes Net Metering for solar photovoltaic systems. Under this provision, GRU agrees to credit the account of both residential and non-residential customers, who install distributed photovoltaic generation, for the excess energy produced and exported to the city's electric distribution system.

City of Gainesville ordinances establishes Gainesville's solar Feed-In Tariff. Under this program, GRU agrees to purchase 100% of the solar power produced from any private generator at a fixed rate for a contract term of 20 years. The 20-year fixed rate is based on the year the project was approved and the type of installation. GRU is no longer accepting new projects or adding capacity.

52. **[Investor-Owned Utilities Only]** Please discuss whether the Company has been approached by renewable energy generators during the year prior to the current planning period regarding constructing new renewable energy resources. If so, please provide the number and a description of the type of renewable generation represented.

GRU is not an Investor-Owned Utility.

53. Does the Company consider solar PV to contribute to one or both seasonal peaks for reliability purposes? If so, please provide the percentage contribution and explain how the Company developed the value.

GRU does not consider solar PV to contribute to the summer or winter peaks.

54. Please identify whether a declining trend in costs of energy storage technologies has been observed by the Company.

GRU subscribes to the quarterly "Wood Mackenzie Power & Renewables / U.S. Energy Storage Association" (ESA) report. This report tracks the cost of energy storage technologies. Prior to the outbreak of war in Ukraine, there was a declining trend in the costs of energy storage technologies. However, since the start of the war, the costs have started to trend higher.

55. Briefly discuss any progress in the development and commercialization of non-lithium battery storage technology the Company has observed in recent years.

GRU has been in communication with several non-lithium battery storage manufacturers. Each of these three companies appear to be making progress in the development and commercialization of their respective product offerings (technologies).

56. Briefly discuss any considerations reviewed in determining the optimal positioning of energy storage technology in the Company's system (e.g., Closer to/further from sources of load, generation, or transmission/distribution capabilities).

GRU's intent is to locate any energy storage project as near as possible to the source of load. To this end, GRU has utilized GIS technology to evaluate available real estate adjacent to our substations. Our first project would be less than 10 MW, so the battery storage system would be connected to one of the distribution busses inside one of these substations. Thus far, no consideration has been made for connecting an energy storage battery system to one of the transmission lines.

57. Please explain whether ratepayers have expressed interest in energy storage technologies. If so, how have their interests been addressed?

GRU customers continue to express interest in investing energy storage. 320 kWh of energy storage capacity was jointed sited with PV installations in CY21. The number of energy storage projects increases with each year. CY22 is on track to have a record number of energy storage projects. GRU does not incentivize energy storage installation. GRU has a true net metering program, so the primary benefit of energy storage to a GRU customer is emergency backup in

case of a power outage. GRU continues to examine energy storage opportunities in an effort to develop a more efficient and resilient distribution system.

58. Please refer to the Excel Tables File (Existing Energy Storage). Complete the table by providing information on all energy storage technologies that are currently either part of the Company's system portfolio or are part of a pilot program sponsored by the Company.

This information is provided in the attached Microsoft Excel file.

59. Please refer to the Excel Tables File (Planned Energy Storage). Complete the table by providing information on all energy storage technologies planned for in-service during the current planning period either as part of the Company's system portfolio or as part of a pilot program sponsored by the Company.

This information is provided in the attached Microsoft Excel file.

60. Please identify and describe the objectives and methodologies of all energy storage pilot programs currently running or in development with an anticipated launch date within the current planning period. If the Company is not currently participating in or developing energy storage pilot programs, has it considered doing so? If not, please explain.

GRU is aware of a potential Notice of Funding Opportunity (NOFO) that is anticipated to be released in 3Q2022 by the Department of Energy (DOE). This project was not funded in the current fiscal year, so GRU has not committed funds for this project. Additionally, the project would likely be a two-to-three-year endeavor by GRU. Therefore, commissioning of any system would likely fall into 2024 or 2025.

The primary intent of the project is to commission a long-duration energy storage system of five MW or less. The system would be interconnected to one of our distribution busses at one of our substations and utilized for serving peak load.

a. Please discuss any pilot program results, addressing all anticipated benefits, risks, and operational limitations when such energy storage technology is applied on a utility scale (> 2 MW) to provide for either firm or non-firm capacity and energy.

At this point in time, GRU see a need to serve our afternoon peak. Our afternoon peak can last 8 hours, so GRU would specify that any energy storage system be able to supply energy for a minimum of 8 hours.

b. Please provide a brief assessment of how these benefits, risks, and operational limitations may change over the current planning period.

GRU might decide to wait a few more years before pursuing an energy storage system. If GRU does not receive any grant money from the DOE, then our pilot project could get delayed or cancelled.

c. Please identify and describe any plans to periodically update the Commission on the status of your energy storage pilot programs.

GRU has not developed a plan to communicate with the Commission. This pilot project is unfunded, and our budget request for fiscal year 2023 has already been submitted, so the pilot project could very well not even happen before 2024.

61. If the Company utilizes non-firm generation sources in its system portfolio, please detail whether it currently utilizes or has considered utilizing energy storage technologies to provide firm capacity from such generation sources. If not, please explain.

GRU has found the current cost of utility-scale energy storage to outweigh the benefits to the System.

a. Based on the Company's operational experience, please discuss to what extent energy storage technologies can be used to provide firm capacity from non-firm generation sources. As part of your response, please discuss any operational challenges faced and potential solutions to these challenges.

GRU has found the current cost of utility-scale energy storage to outweigh the benefits to the System.

62. Please identify and describe any programs the Company offers that allows its customers to contribute towards the funding of specific renewable projects, such as community solar programs.

GRU does not currently have any programs to allow customers to contribute towards the funding of renewable energy projects.

a. Please describe any such programs in development with an anticipated launch date within the current planning period.

GRU does not currently developing any programs that would allow customers to contribute towards the funding of renewable energy projects.

63. Please identify and discuss the Company's role in the research and development of utility power technologies. As part of this response, please describe any plans to implement the results of research and development into the Company's system portfolio and discuss how any anticipated benefits will affect your customers.

GRU does not conduct research and development (R&D) of utility power technologies. Last year, GRU formed a Power Planning group, and a member of this group is tasked with staying abreast of utility power technologies. This employee attends seminars, communicates with vendors, and monitors the R&D activities of outside utilities that do conduct R&D work.

64. **[Investor-Owned Utilities Only]** Please refer to the Excel Tables File (As-Available Energy Rate). Complete the table by providing, on a system-wide basis, the historical annual average

as-available energy rate in the Company's service territory for the 10-year period prior to the current planning period. Also, provide the projected annual average as-available energy rate in the Company's service territory for the current planning period. If the Company uses multiple areas for as-available energy rates, please provide a system-average rate as well.

GRU is not an Investor-Owned Utility.

65. Please refer to the Excel Tables File (Planned PPSA Units). Complete the table by providing information on all planned traditional units with an in-service date within the current planning period. For each planned unit, provide the date of the Commission's Determination of Need and Power Plant Siting Act certification, if applicable.

This data is provided in the attached Microsoft Excel file.

66. For each of the planned generating units, both traditional and renewable, contained in the Company's current planning period TYSP, please discuss the "drop dead" date for a decision on whether or not to construct each unit. Provide a timeline for the construction of each unit, including regulatory approval, and final decision point.

GRU has no planned generating units (either traditional or renewable) to come online within the current planning period.

67. Please refer to the Excel Tables File (Capacity Factors). Complete the table by providing the actual and projected capacity factors for each existing and planned unit on the Company's system for the 11-year period beginning one year prior to the current planning period.

68. **[Investor-Owned Utilities Only]** For each existing unit on the Company's system, please provide the planned retirement date. If the Company does not have a planned retirement date for a unit, please provide an estimated lifespan for units of that type and a non-binding estimate of the retirement date for the unit.

GRU is not an Investor-Owned Utility.

69. Please refer to the Excel Tables File (Steam Unit CC Conversion). Complete the table by providing information on all of the Company's steam units that are potential candidates for repowering to operation as Combined Cycle units.

This information is provided in the attached Microsoft Excel file.

70. Please refer to the Excel Tables File (Steam Unit Fuel Switching). Complete the table by providing information on all of the Company's steam units that are potential candidates for fuel-switching.

This information is provided in the attached Microsoft Excel file.

71. Please refer to the Excel Tables File (Transmission Lines). Complete the table by providing a list of all proposed transmission lines for the current planning period that require certification

under the Transmission Line Siting Act. Please also include in the table transmission lines that have already been approved but are not yet in-service.

This information is provided in the attached Microsoft Excel file.

Environmental

72. Please explain if the Company assumes carbon dioxide (CO_2) compliance costs in the resource planning process used to generate the resource plan presented in the Company's current planning period TYSP. If the response is affirmative, answer the following questions:

    a. Please identify the year during the current planning period in which CO_2 compliance costs are first assumed to have a non-zero value.

        GRU does not have non-zero values for CO2 compliance costs within the planning horizon.

    b. **[Investor-Owned Utilities Only]** Please explain if the exclusion of CO_2 compliance costs would result in a different resource plan than that presented in the Company's current planning period TYSP.

        GRU is not an Investor-Owned Utility.

    c. **[Investor-Owned Utilities Only]** Please provide a revised resource plan assuming no CO_2 compliance costs.

        GRU is not an Investor-Owned Utility.

73. Provide a narrative explaining the impact of any existing environmental regulations relating to air emissions and water quality or waste issues on the Company's system during the previous year. As part of your narrative, please discuss the potential for existing environmental regulations to impact unit dispatch, curtailments, or retirements during the current planning period.

    Deerhaven Unit #2 has an Air Quality Control System, consisting of a selective catalytic reduction system (currently not in service); low NOx burners to reduce NOx; a dry recirculating flue gas desulfurization unit to reduce acid gases, sulfur dioxide (SO2) and mercury; and a fabric filter baghouse to reduce particulates. The Deerhaven Renewable (biomass) unit uses a fabric filter baghouse to reduce particulates; an SCR to reduce NOx; and wood fly ash augmented with a dry sorbent injection system (used when necessary) to reduce SO2, acid gases, and mercury. Both the Deerhaven and Deerhaven Renewable Plant Sites operate with zero liquid discharge to surface waters.

    Existing environmental regulations are not forecasted to impact unit dispatch, curtailments, or retirements during the current planning period.

74. For the U.S. EPA's Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units Rule:
    a. Will your Company be materially affected by the rule?

       GRU will not be materially affected by this rule.

    b. What compliance strategy does the Company anticipate employing for the rule?

       GRU will not be materially affected by this rule.

    c. If the strategy has not been completed, what is the Company's timeline for completing the compliance strategy?

       GRU will not be materially affected by this rule.

    d. Will there be any regulatory approvals needed for implementing this compliance strategy? How will this affect the timeline?

       GRU will not be materially affected by this rule.

    e. Does the Company anticipate asking for cost recovery for any expenses related to this rule? Refer to the Excel Tables File (Emissions Cost). Complete the table by providing information on the costs for the current planning period.

       This information is provided in the attached Microsoft Excel file.

    f. If the answer to any of the above questions is not available, please explain why.

75. Explain any expected reliability impacts resulting from each of the EPA rules listed below. As part of your explanation, please discuss the impacts of transmission constraints and changes to units not modified by the rule that may be required to maintain reliability.

    a. Mercury and Air Toxics Standards (MATS) Rule.

       None expected

    b. Cross-State Air Pollution Rule (CSAPR).

       N/A

    c. Cooling Water Intake Structures (CWIS) Rule.

       N/A

d. Coal Combustion Residuals (CCR) Rule.

Unknown as a CCR Impoundment closure Initiation Deadline Extension Request was submitted to EPA by GRU in 2020 November. The request has not been approved or denied.

e. Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units.

N/A

f. Affordable Clean Energy Rule or its replacement.

Unknown, no replacement Rule

g. Effluent Limitations Guidelines and Standards (ELGS) from the Steam Electric Power Generating Point Source Category.

N/A

76. Please refer to the Excel Tables File (EPA Operational Effects). Complete the table by identifying, for each unit affected by one or more of EPA's rules, what the impact is for each rule, including unit retirement, curtailment, installation of additional emissions controls, fuel switching, or other impacts identified by the Company.

This information is provided in the attached Microsoft Excel file.

77. Please refer to the Excel Tables File (EPA Cost Effects). Complete the table by identifying, for each unit impacted by one or more of the EPA's rules, what the estimated cost is for implementing each rule over the course of the planning period.

This information is provided in the attached Microsoft Excel file.

78. Please refer to the Excel Tables File (EPA Unit Availability). Complete the table by identifying, for each unit impacted by one or more of EPA's rules, when and for what duration units would be required to be offline due to retirements, curtailments, installation of additional controls, or additional maintenance related to emission controls. Include important dates relating to each rule.

This information is provided in the attached Microsoft Excel file.

79. If applicable, identify any currently approved costs for environmental compliance investments made by your Company, including but not limited to renewable energy or energy efficiency measures, which would mitigate the need for future investments to comply with recently finalized or proposed EPA regulations. Briefly describe the nature of these investments and identify which rule(s) they are intended to address.

GRU does not have any currently approved costs for environmental compliance investments to comply with recently finalized or proposed EPA regulations.

Fuel Supply & Transportation

80. Please refer to the Excel Tables File (Fuel Usage & Price). Complete the table by providing, on a system-wide basis, the actual annual fuel usage (in GWh) and average fuel price (in nominal $/MMBTU) for each fuel type utilized by the Company in the 10-year period prior to the current planning period. Also, provide the forecasted annual fuel usage (in GWh) and forecasted annual average fuel price (in nominal $/MMBTU) for each fuel type forecasted to be used by the Company in the current planning period.

This data is provided in the attached Microsoft Excel file.

81. Please discuss how the Company compares its fuel price forecasts to recognized, authoritative independent forecasts.

GRU fuel price forecasts are a hybrid of internal contract pricing terms and independent projections available from private and governmental agency sources. GRU constructs short term (1-5 years) pricing models with price/cost factors that are extracted from existing contracts. The historical price performance, escalation factors, and the historical delivered quality are used to project delivered cost for natural gas, coal, biomass and environmental commodities. Existing contracts for natural gas pipeline and rail transportation are also modelled using contract and tariff terms.

The short-term forecast is then converted to long term forecasts by using escalation factors that are available from recognized, independent sources such as PIRA and the Energy Information Administration. This approach which accounts for the specific contract factors that affect GRU in the short term coupled with recognition of broad industry escalation factors over the long-term yield what GRU believes to be a conservative, realistic platform for long term planning.

82. Please identify and discuss expected industry trends and factors for each fuel type listed below that may affect the Company during the current planning period.
    a. Coal

GRU has historically supplied most of its requirements using high quality bituminous coal from Central Appalachia. The transport distances and rail rates for moving Eastern coal into Florida have previously made this producing region the most competitive source for GRU. Prior to 2021, decline in the price of natural gas and reduced coal demand due to coal plant closures have pushed eastern coal prices to historical lows. Those low prices, resulted in producer bankruptcies, mine closures and liquidation of smaller miners. The result of this environment in Central and Northern Appalachia have led to reduced supply, reduction of certain qualities in the market and increased

supply risk for utilities. With the recent rise of natural gas prices, due to poor storage numbers, increasing LNG exports and unrest in Europe, coal prices have risen again to record levels but with the any production response. GRU expect coal supply to remain limited for the foreseeable future as available coal supply moves to the export market and no increase in production due to lack of investment in a dying industry. GRU does not project any significant use of coal for base load generation. A minimal volume will be maintained in inventory as emergency or backup fuel.

GRU expects that in the near and long term, GRU will have to continue to diversify its sourcing with less reliance on Central Appalachia. While GRU will maintain some presence in Central Appalachia, GRU will explore purchases in Northern Appalachia, Illinois Basin and offshore. In addition, the risk will also be mitigated by increased use of gas, biomass and purchased power.

b. Natural Gas

The primary factors that will impact the price of natural gas for generation during the 2022-2031 timeframe are (1) shale gas production and supply (2) market perception of the adequacy of supply and level of demand (3) regulatory impact from legislation regarding fracking (4) regulatory impact of environmental legislation on generation from coal plants and (5) the impact of LNG exports on US supply and demand.

c. Nuclear

N/A

d. Fuel Oil

GRU does not project any significant use of heavy or light fuel oils for base load generation. Heavy and light fuels oils are maintained in inventory as emergency or backup fuels.

e. Other (please specify each, if any)

Biomass --- In November 2017, GRU purchased the biomass plant from the company with which it held a 30-year PPA. GRU is currently contracted with the same subcontractor to procure fuel as under the PPA to assure a continuity of service and supply. The subcontractor historically contracts for short and long-term contracts of varying lengths to balance reliability of supply and to take advantage of favorable market prices. Academic studies from the University of Florida's College of Forestry, have determined that there is adequate supply of fuel for continuous operation of the plant.

83. Please provide a comparison of the Utility's 2021 fuel price forecast and the actual 2021 delivered fuel prices.

Fuel Type	Forecasted Price from 2020	Actual Price from 2021
Biomass	$2.67 / MMBTU	$2.89 / MMBTU
Coal	$3.59 / MMBTU	$3.70 / MMBTU
Natural Gas	$3.43 / MMBTU	$4.58 / MMBTU

84. Please explain any notable changes in the Utility's forecast of fuel prices used to prepare the Utility's 2022 TYSP compared to the fuel process used to prepare the Utility's 2021 TYSP.

The process used to forecast fuel prices was very similar to the 2021 TYSP.

85. Please identify and discuss steps that the Company has taken to ensure natural gas supply availability and transportation over the current planning period.

GRU has long-term existing contracts with Florida Gas Transmission for FTS-1 & FTS-2 pipeline transport capacity and has recently secured additional capacity to serve it's retrofitted coal unit for dual fuel. Given projected system requirements for natural gas, GRU is confident that adequate firm pipeline capacity service is under contract in volumes sufficient to meet requirements during the 2022-2031 planning period.

86. Please identify and discuss any existing or planned natural gas pipeline expansion project(s), including new pipelines and those occurring or planned to occur outside of Florida that would affect the Company during the current planning period.

GRU has long-term existing contracts with Florida Gas Transmission for FTS-1 & FTS-2 pipeline transport capacity and has recently secured additional capacity to serve it's retrofitted coal unit for dual fuel. Given projected system requirements for natural gas, GRU is confident that adequate firm pipeline capacity service is under contract in volumes sufficient to meet requirements during the 2022-2031 planning period.

87. Please identify and discuss expected liquefied natural gas (LNG) industry factors and trends that will impact the Company, including the potential impact on the price and availability of natural gas, during the current planning period.

Given the substantial increase in the resource base and production growth for the Lower 48 States as a result of shale gas fracking, GRU does not anticipate that the development and growth of LNG exports will significantly affect availability of natural gas. The primary potential effects that GRU expects to see in the market will be potential increases in the pricing of natural gas at the wellhead and the volatility of that price.

Various energy consulting firms and government agencies have modelled economic scenarios with assumptions on natural gas production, different levels of permitting and construction of LNG facilities in the US, production and retirement of coal capacity, growth of renewable

fueled capacity, US economic activity and global demand for LNG to predict the impact on domestic natural gas prices. While there is a range of projected prices, the bulk of such studies agree that there will be modest increased prices for gas users. The remaining question is the magnitude of price increases and the volatility of pricing.

88. Please identify and discuss the Company's plans for the use of firm natural gas storage during the current planning period.

While GRU continually evaluates available storage facilities, pipeline interconnection logistics and storage costs, GRU does not currently project the use of firm natural gas storage during the period. GRU does not exclude the possibility that firm natural gas storage may become economically and logistically feasible for GRU in the future.

89. Please identify and discuss expected coal transportation industry trends and factors, for transportation by both rail and water that will impact the Company during the current planning period. Please include a discussion of actions taken by the Company to promote competition among coal transportation modes, as well as expected changes to terminals and port facilities that could affect coal transportation.

The expiration of the long-term transportation contract resulted in substantial escalation from the contract rates to current market rates. However, the availability of alternative generation to coal, including the retrofit of the coal unit to dual fuel, and purchased power will also be factors that limit the cost impact of rail transportation. GRU does not project any significant use of coal for base load generation. A minimal volume will be maintained in inventory as emergency or backup fuel.

90. Please identify and discuss any expected changes in coal handling, blending, unloading, and storage at coal generating units during the current planning period. Please discuss any planned construction projects that may be related to these changes.

Since the addition of the Air Quality Control System for Deerhaven Unit 2 in 2009, GRU has been able to blend coals of different types and still meet all environmental requirements.

91. Please identify and discuss the Company's plans for the storage and disposal of spent nuclear fuel during the current planning period. As part of this discussion, please include the Company's expectation regarding short-term and long-term storage, dry cask storage, litigation involving spent nuclear fuel, and any relevant legislation.

N/A

92. Please identify and discuss expected uranium production industry trends and factors that will affect the Company during the current planning period.

N/A

Extreme Weather

93. Please identify and discuss steps, if any, that the Company has taken to ensure continued energy generation in case of a severe cold weather event.

GRU has procedures that have checklists for preparation for out plants to ensure GRU has winterized items that are subject to adverse performance in cold weather, this includes items such as heat lamps on instrumentation, blanketing around air compressed systems, running water in stagnant pipes. GRU tests run peaking equipment to identify any issues for starting. GRU has several units with dual fuel capability, so GRU ensures the backup fuel systems are fully operational. Any events that cause a loss of generation or derate is considered an incident and those are fully investigated, and root causes addressed which could include updating the checklist procedures.

94. Please identify any future winterization plans, if any, the Company intends to implement over the current planning period.

GRU does not have any changes to our winterization plans, GRU plans to execute the plans that currently have been working for us.

95. Please explain the Company's planning process for flood mitigation for current and proposed power plant sites and transmission/distribution substations.

Flood mitigation is minimized by the location of our plants. None of our plants are located by the coast or active rivers, so GRU doesn't have any large bodies of water that would flow onto site. GRU maintains sumps and plant drain systems on a routine basis to ensure they are clear and working properly to move water. The ponds on site are maintained at operating levels that would provide adequate storage for excessive water events. The ponds are remote to the main site so an overflow of a pond would not flow water towards a generating unit disrupting its operability.

During reviews of proposed developments around substation sites, GRU ensures that proposed drainage and water/wastewater facilities do not adversely impact GRU's transmission right of ways or GRU's substation real estate properties. If necessary, GRU will request redesign of plans to force water away from GRU-owned facilities.
If any third Party seeks to utilize or cross GRU's Right of Ways in any way, the Party must submit a permit application to GRU's Real Estate Department, which triggers an internal Engineering review process to ensure the proposed use will not adversely impact GRU's transmission/distribution substation facilities.

GRU's substations were sited in areas with well-draining soil, with substation equipment installed on concrete pads. Distribution transformers and switchgear are also installed on concrete pads, helping mitigate the risk of water intrusion. If necessary, GRU has access to vacuum trucks, portable pumps, and backup generators through the utility's wastewater department to assist in flood mitigation.

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TYSP Year	2022
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Financial Assumptions
Base Case

AFUDC RATE		3.8	%
CAPITALIZATION RATIOS:			
	DEBT	43	%
	PREFERRED		%
	EQUITY	57	%
RATE OF RETURN			
	DEBT	3.75	%
	PREFERRED		%
	EQUITY		%
INCOME TAX RATE:			
	STATE		%
	FEDERAL		%
	EFFECTIVE		%
OTHER TAX RATE:			%
DISCOUNT RATE:			%
TAX			
DEPRECIATION RATE:			%

TYSP Year 2022
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Financial Escalation Assumptions

Year	General Inflation %	Plant Construction Cost %	Fixed O&M Cost %	Variable O&M Cost %
2022	6.00%	6.00%	6.00%	6.00%
2023	4.50%	4.50%	4.50%	4.50%
2024	3.00%	3.00%	3.00%	3.00%
2025	2.25%	2.25%	2.25%	2.25%
2026	2.25%	2.25%	2.25%	2.25%
2027	2.25%	2.25%	2.25%	2.25%
2028	2.25%	2.25%	2.25%	2.25%
2029	2.25%	2.25%	2.25%	2.25%
2030	2.25%	2.25%	2.25%	2.25%
2031	2.25%	2.25%	2.25%	2.25%

TYSP Year 2022
Staff's Data Request # 1
Question No. 5

Year	Month	Actual Peak Demand (MW)	Demand Response Activated (MW)	Estimated Peak Demand (MW)	Day	Hour	System-Average Temperature (Degrees F)
2022	1	307	0	307	19	9	31
	2	348	0	348	4	8	26
	3	307	0	307	27	18	90
	4	328	0	328	30	17	88
	5	377	0	377	27	18	94
	6	390	0	390	15	17	93
	7	400	0	400	22	18	92
	8	422	0	422	18	18	94
	9	363	0	363	14	16	91
	10	339	0	339	14	18	90
	11	253	0	253	30	9	34
	12	248	0	248	16	19	81
2021	1	338	0	338	22	8	31
	2	284	0	284	28	8	31
	3	329	0	329	29	18	90
	4	329	0	329	9	18	90
	5	384	0	384	22	18	94
	6	415	0	415	24	18	94
	7	422	0	422	14	18	94
	8	425	0	425	26	18	95
	9	407	0	407	4	18	94
	10	353	0	353	8	17	89
	11	288	0	288	10	15	84
	12	312	0	312	26	9	24
2020	1	333	0	333	31	8	32
	2	276	0	276	21	19	89
	3	280	0	280	7	8	33
	4	328	0	328	30	18	91
	5	420	0	420	28	17	101
	6	422	0	422	25	17	95
	7	429	0	429	2	17	96
	8	418	0	418	22	18	91
	9	416	0	416	9	18	95
	10	364	0	364	1	17	92
	11	286	0	286	7	18	86
	12	283	0	283	19	8	34
Notes							

TYSP Year 2022
Staff's Data Request # 1
Question No. 19

Year	Number of PEVs	Number of Public PEV Charging Stations	Number of Public DCFC PEV Charging Stations.	Cumulative Impact of PEVs		
				Summer Demand	Winter Demand	Annual Energy
				(MW)	(MW)	(GWh)
0	1,065	85	19	2.7	4.0	3.834
1	1,331	94	23	3.3	5.0	4.793
2	1,664	103	27	4.2	6.2	5.991
3	2,080	113	33	5.2	7.8	7.488
4	2,600	124	39	6.5	9.8	9.360
5	3,250	137	47	8.1	12.2	11.700
6	4,063	151	57	10.2	15.2	14.626
7	5,078	166	68	12.7	19.0	18.282
8	6,348	182	82	15.9	23.8	22.852
9	7,935	200	98	19.8	29.8	28.566
Notes						

TYSP Year	2022
Staff's Data Request #	1
Question No.	30

[Demand Response Source or All Demand Response Sources]

Year	Beginning '	Available Capacity (M'		New Custo	Added Capacity (MW)		Customers	Lost Capacity (MW)	
		Sum	Win		Sum	Win		Sum	Win
2012									
2013									
2014									
2015									
2016									
2017									
2018									
2019									
2020									
2021									

Notes

GRU is not a FEECA utility

TYSP Year	2022
Staff's Data Request #	1
Question No.	31

[Demand Response Source or All Demand Response Sources]

Year	Summer				Winter			
	Number of	Average Event Size		Maximum Event Size	Number of	Average Event Size		Maximum Event Size
		MW	Number of	MW Number of Customers		MW	Number of	MW Number of Customers
2012								
2013								
2014								
2015								
2016								
2017								
2018								
2019								
2020								
2021								

Notes

GRU is not a FEECA utility

TYSP Year	2022
Staff's Data Request #	1
Question No.	32

[Demand Response Source or All Demand Response Sources]

Year	Average N	Summer Peak			Winter Peak		
		Activated During Peak? (Y/N)	Number of Customers Activated	Capacity Activated (MW)	Activated During Peak? (Y/N)	Number of Customers Activated	Capacity Activated (MW)
2012							
2013							
2014							
2015							
2016							
2017							
2018							
2019							
2020							
2021							

Notes

GRU is not a FEECA utility

TYSP Year 2022
Staff's Data Request # #REF!
Question No. 33

Loss of Load Probability, Reserve Margin, and Expected Unserved Energy
Base Case Load Forecast

Year	Loss of Load Probability (Days/Yr)	Annual Isolated Reserve Margin (%) (Including Firm Purchases)	Expected Unserved Energy (MWh)	Loss of Load Probability (Days/Yr)	Annual Assisted Reserve Margin (%) (Including Firm Purchases)	Expected Unserved Energy (MWh)
2022		60.7%			60.7%	
2023		60.3%			60.3%	
2024		65.0%			65.0%	
2025		64.2%			64.2%	
2026		63.0%			63.0%	
2027		53.6%			53.6%	
2028		34.0%			34.0%	
2029		33.0%			33.0%	
2030		32.1%			32.1%	
2031		31.4%			31.4%	

TYSP Year 2022
Staff's Data Request # 1
Question No. 34

Existing Generating Unit Operating Performance

Plant Name	Unit No.	Planned Outage Factor (POF)		Forced Outage Factor (FOF)		Equivalent Availability Factor (EAF)		Average Net Operating Heat Rate (ANOHR)	
		Historical	Projected	Historical	Projected	Historical	Projected	Historical	Projected
Deerhaven	2	13.74	13.50	1.03	3.11	83.78	80.13	12,575	12,575
Deerhaven	1	2.50	8.95	0.10	0.97	94.43	88.01	13,479	13,479
Deerhaven	GT1	1.55	1.21	1.03	1.32	97.20	94.94	283,632	283,632
Deerhaven	GT2	1.78	1.60	1.98	2.72	96.10	94.16	186,313	186,313
Deerhaven	GT3	0.25	5.74	2.62	1.46	96.91	91.46	16,935	16,935
Deerhaven	Renewable	8.47	7.50	0.52	1.26	86.90	85.28	13,238	13,238
John R. Kelly	CC1	15.57	13.80	4.23	3.24	77.70	80.79	8,949	8,949

NOTE: Historical - average of past three years
Projected - average of ten years, excluding DHR, excluding ANOHR

TYSP Year 2022
Staff's Data Request # #REF!
Question No. 35

Facility Name	Unit No.	County Location	Unit Type	Primary Fuel	Commercial In-Service		Gross Capacity (MW)		Net Capacity (MW)		Firm Capacity (MW)		Capacity Factor
					Mo	Yr	Sum	Win	Sum	Win	Sum	Win	(%)
DEERHAVEN	FS01	ALACHUA	ST	NG	8	1972	81	81	76	76	76	76	35.2%
DEERHAVEN	FS02	ALACHUA	ST	BIT	10	1981	251	251	228	228	228	228	31.5%
DEERHAVEN	GT01	ALACHUA	GT	NG	7	1976	18	23	17.5	22	17.5	22	0.0%
DEERHAVEN	GT02	ALACHUA	GT	NG	8	1976	18	23	17.5	22	17.5	22	0.0%
DEERHAVEN	GT03	ALACHUA	GT	NG	1	1996	71.5	82	71	81	71	81	1.8%
J. R. KELLY	FS08	ALACHUA	CA	WH	5	2001	39.5	40.5	39	40	39	40	72.8%
J. R. KELLY	GT04	ALACHUA	CT	NG	5	2001	72.5	83.5	71	82	71	82	
SOUTH ENERGY CENTER	1	ALACHUA	GT	NG	5	2009	4.5	4.5	3.8	4.1	3.8	4.1	15.8%
SOUTH ENERGY CENTER	2	ALACHUA	IC	NG	12	2017	7.4	7.4	7.4	7.4	7.4	7.4	59.8%

Notes

FS08 and GT04 are ran together as a combined-cycle unit, so the capacity factor of 72.8% is for the combined-cycle unit (J. R. Kelly CC1)

TYSP Year 2022
Staff's Data Request # #REF!
Question No. 36

Facility Name	Unit No.	County Location	Unit Type	Primary Fuel	Commercial In-Service		Gross Capacity (MW)		Net Capacity (MW)		Firm Capacity (MW)		Projected Capacity Factor
					Mo	Yr	Sum	Win	Sum	Win	Sum	Win	(%)
Notes													
GRU has no traditional generation planned to come online within the current planning period.													

TYSP Year 2022
Staff's Data Request # #REF!
Question No. 37

Facility Name	Unit No.	County Location	Unit Type	Primary Fuel	Commercial In-Service		Gross Capacity (MW)		Net Capacity (MW)		Firm Capacity (MW)		Capacity Factor
					Mo	Yr	Sum	Win	Sum	Win	Sum	Win	(%)
ACPS Solar	N/A	ALACHUA	PV	SUN	varies	varies	0.008	0.008	0.003	0.003	0.003	0.003	14%
DEERHAVEN RENEWABLE	1	ALACHUA	ST	WDS	12	2013	116	116	103	103	103	103	66%
Notes													

TYSP Ye: 2022
Staff's Da #REF!
Question 38

Facility Name	Unit No.	County Location	Unit Type	Primary Fuel	Commercial In-Service		Gross Capacity (MW)		Net Capacity (MW)		Firm Capacity (MW)		Projected Capacity Factor
					Mo	Yr	Sum	Win	Sum	Win	Sum	Win	(%)
Notes													
GRU has no utility-owned renewable generation resource planned for in-service within the current planning period													

TYSP Year	2022
Staff's Data Request #	####
Question No.	40

Nominal, Firm Purchases

Year	Firm Purchases $/MWh	Escalation %
HISTORY:		
2019		
2020		
2021		
FORECAST:		
2022		
2023		
2024		
2025		
2026		
2027		
2028		
2029		
2030		
2031		

GRU has no contracted purchases in its planning horizon, apart from renewable energy PPAs listed in other tabs.

Notes:

GRU has no contracted purchases in its planning horizon, apart from renewable energy PPAs listed in other tabs.

TYSP Ye: 2022
Staff's Da #REF!
Question 41

Seller Name	Facility Name	Unit No.	County Location	Unit Type	Primary Fuel	Gross Capacity (MW)		Net Capacity (MW)		Contracted Firm Capacity (MW)		Contract Term Dates (MM/YY)	
						Sum	Win	Sum	Win	Sum	Win	Start	End
Notes													
GRU had no traditional PPAs as of December 31st.													

TYSP Ye: 2022
Staff's Da #REF!
Question 42

Seller Name	Facility Name	Unit No.	County Location	Unit Type	Primary Fuel	Gross Capacity (MW)		Net Capacity (MW)		Contracted Firm Capacity (MW)		Contract Term Dates (MM/YY)	
						Sum	Win	Sum	Win	Sum	Win	Start	End
Notes													
GRU does not have any existing or planned power purchase agreements for traditional generation.													

TYSP Year 2022
Staff's Data Request # #REF!
Question No. 43

Seller Name	Facility Name	Unit No.	County Location	Unit Type	Primary Fuel	Gross Capacity (MW)		Net Capacity (MW)		Contracted Firm Capacity (MW)		Contract Term Dates (MM/YY)	
						Sum	Win	Sum	Win	Sum	Win	Start	End
G2 Energy	Baseline Landfill	N/A	Marion	IC	LFG	3.8	3.8	3.8	3.8	0	0	01/01/09	12/31/23
Solar FIT	various installations	N/A	Alachua	PV	SUN	18.6	18.6	6.5	6.5	0	0	03/01/09	12/31/32
Notes													

TYSP Year 2022
Staff's Data Request # #REF!
Question No. 44

Seller Name	Facility Name	Unit No.	County Location	Unit Type	Primary Fuel	Gross Capacity (MW)		Net Capacity (MW)		Contracted Firm Capacity (MW)		Contract Term Dates (MM/YY)	
						Sum	Win	Sum	Win	Sum	Win	Start	End
Origis	Sand Bluff	TBD	Alachua	PV	SUN	50	50	27.5	4.5	0	0	1/1/2024	12/31/2043
Notes													

TYSP Year 2022
Staff's Data Request # #REF!
Question No. 46

Buyer Name	Facility Name	Unit No.	County Location	Unit Type	Primary Fuel	Gross Capacity (MW)		Net Capacity (MW)		Contracted Firm Capacity (MW)		Contract Term Dates (MM/YY)	
						Sum	Win	Sum	Win	Sum	Win	Start	End
City of Alachua	N/A	N/A	Alachua	N/A	Varies	N/A	N/A	N/A	N/A	N/A	N/A	4/1/2016	3/31/2022
Notes													
All requirements contract with the City of Alachua, which peaks around 30 MW.													

TYSP Year 2022
Staff's Data Request # #REF!
Question No. 47

Buyer Name	Facility Name	Unit No.	County Location	Unit Type	Primary Fuel	Gross Capacity (MW)		Net Capacity (MW)		Contracted Firm Capacity (MW)		Contract Term Dates (MM/YY)	
						Sum	Win	Sum	Win	Sum	Win	Start	End
Notes													
There are no power sale agreements that will begin within the planning period.													

TYSP Year	2022
Staff's Data Request #	2
Question No.	49

Renewable Source	Annual Renewable Generation (GWh)										
	Actual	Projected									
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Utility - Firm	597	526	517	474	535	469	507	499	481	530	462
Utility - Non-Firm	0	0	0	0	0	0	0	0	0	0	0
Utility - Co-Firing	0	0	0	0	0	0	0	0	0	0	0
Purchase - Firm	0	0	0	0	0	0	0	0	0	0	0
Purchase - Non-Firm	15	18	18	124	124	124	124	124	124	124	124
Purchase - Co-Firing	0	0	0	0	0	0	0	0	0	0	0
Customer - Owned	2.4	2.7	3	3.36	3.68	4	4.32	4.64	4.96	5.28	5.6
Total	614.4	546.7	538	601.36	662.68	597	635.32	627.64	609.96	659.28	591.6
Notes											

TYSP Year	2022
Staff's Data Request #	1
Question No.	50

Plant Name	Land Available (Acres)	Potential Installed Net Capacity (MW)	Potential Obstacles to Installation

Note
GRU is not an investor owned utility

TYSP Year 2022
Staff's Data Request # #REF!
Question No. 58

Project Name	Pilot Program (Y/N)	In-Service/ Pilot Start Date (MM/YY)	Max Capacity Output (MW)	Max Energy Stored (MHh)	Conversion Efficiency (%)

Notes

GRU does not have energy storage projects.

TYSP Year 2022
Staff's Data Request # #REF!
Question No. 59

Project Name	Pilot Program (Y/N)	In-Service/ Pilot Start Date (MM/YY)	Projected Max Capacity Output (MW)	Projected Max Energy Stored (MHh)	Projected Conversion Efficiency (%)
Solar Bluff	N	1/1/2024	12	24	85

Notes

TYSP Year	2022	
Staff's Data Request #	1	
Question No.	64	

Year		As-Available Energy ($/MWh)	On-Peak Average ($/MWh)	Off-Peak Average ($/MWh)
Actual	2012			
	2013			
	2014			
	2015			
	2016			
	2017			
	2018			
	2019			
	2020			
	2021			
Projected	2022			
	2023			
	2024			
	2025			
	2026			
	2027			
	2028			
	2029			
	2030			
	2031			

Notes

GRU is not an investor owned utility

TYSP Year 2022
Staff's Data Request # #REF!
Question No. 65

Generating Unit Name	Summer Capacity (MW)	Certification Dates (if Applicable)		In-Service Date (MM/YY)
		Need Approved (Commission)	PPSA Certified	
Nuclear Unit Additions				
Combustion Turbine Unit Additions				
Combined Cycle Unit Additions				
Steam Turbine Unit Additions				
Notes				
GRU does not have any planned conventional generation units.				

TYSP Year 2022
Staff's Data Request # 1
Question No. 67

Plant	Unit No.	Unit Type	Fuel Type	Capacity Factor (%)										
				Actual	Projected									
				2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
DEERHAVEN	FS01	ST	NG	35%	9%	12%	11%	10%	9%	7%	0%	0%	0%	0%
DEERHAVEN	FS02	ST	BIT	32%	18%	14%	18%	19%	19%	26%	24%	20%	28%	24%
DEERHAVEN	GT01	GT	NG	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
DEERHAVEN	GT02	GT	NG	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
DEERHAVEN	GT03	GT	NG	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
J. R. KELLY	FS08	CA	WH	73%	88%	92%	83%	75%	85%	72%	83%	93%	74%	91%
J. R. KELLY	GT04	CT	NG		88%	92%	83%	75%	85%	72%	83%	93%	74%	91%
SOUTH ENERGY CENTER	1	GT	NG	16%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
SOUTH ENERGY CENTER	2	IC	NG	60%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%
DEERHAVEN RENEWABLE	1	ST	WDS	66%	58%	57%	53%	59%	52%	56%	55%	53%	59%	51%
SOLAR FIT	Varies	PV	SUN	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%
ORIGIS SOLAR	TBD	PV	SUN	0%	0%	0%	28%	28%	28%	28%	28%	28%	28%	28%
G2 MARION	N/A	IC	LFG	42%	50%	50%	0%	0%	0%	0%	0%	0%	0%	0%

Notes

FS08 and GT04 are ran together as a combined-cycle unit, so the capacity factor of 72.8% is for the combined-cycle unit (J. R. Kelly CC1)

TYSP Year 2022
Staff's Data Request # #REF!
Question No. 69

Plant Name	Fuel Type	Summer Capacity (MW)	In-Service Date (MM/YYY)	Potential Conversion	Potential Issues
Notes					
GRU has no potential candidates for repowering.					

TYSP Year 2022
Staff's Data Request # #REF!
Question No. 70

Plant Name	Fuel Type	Summer Capacity (MW)	In-Service Date (MM/YYY)	Potential Conversion	Potential Issues
Notes					
Last year, GRU completed the project to enable dual-fuel capability for Deerhaven Unit #2.					

TYSP Year	2022
Staff's Data Request #	1
Question No.	71

Transmission Line	Line Length (Miles)	Nominal Voltage (kV)	Date Need Approved	Date TLSA Certified	In-Service Date
	0		**0**	**0**	
Notes					
There are no planned transmission projects.					

TYSP Year 2022
Staff's Data Request # #REF!
Question No. 74 e

Year	Estimated Cost of Standards of Performance for Greenhouse Gas Emissions Rule for New Sources Impacts (Present-Year $ millions)			
	Capital Costs	O&M Costs	Fuel Costs	Total Costs
2022	0	0	0	0
2023	0	0	0	0
2024	0	0	0	0
2025	0	0	0	0
2026	0	0	0	0
2027	0	0	0	0
2028	0	0	0	0
2029	0	0	0	0
2030	0	0	0	0
2031	0	0	0	0
Notes				
No costs are anticipated at this time.				

TYSP Year 2022
Staff's Data Request # #REF!
Question No. 76

Unit	Unit Type	Fuel Type	Net Summer Capacity (MW)	Estimated EPA Rule Impacts: Operational Effects						
				ELGS	ACE or replacement	MATS	CSAPR/ CAIR	CWIS	CCR	
									Non-Hazardous Waste	Special Waste
Notes										
No operational impacts are anticipated at this time for any of GRU's generating units.										

TYSP Year 2022
Staff's Data Request # #REF!
Question No. 77

Unit	Unit Type	Fuel Type	Net Summer Capacity (MW)	Estimated EPA Rule Impacts: Cost Effects (CPVRR $ millions)						
				ELGS	ACE or replacement	MATS	CSAPR/ CAIR	CWIS	CCR	
									Non-Hazardous Waste	Special Waste
DH2	Steam	Coal	228	N/A	N/A	1.5	N/A	N/A	2	0
Notes										

TYSP Year 2022
Staff's Data Request # #REF!
Question No. 78

Unit	Unit Type	Fuel Type	Net Summer Capacity (MW)	Estimated EPA Rule Impacts: Unit Availability (Month/Year - Duration)						
				ELGS	ACE or replacement	MATS	CSAPR/ CAIR	CWIS	CCR	
									Non-Hazardous Waste	Special Waste
Notes										
No impacts to unit availabilty are anticipated for any of GRU's generating units.										

TYSP Year 2022
Staff's Data Request # 1
Question No. 80

	Year	Uranium		Biomass		Coal		Natural Gas		Residual Oil		Distillate Oil	
		GWh	$/MMBTU	GWh	$/MMBTU	GWh	$/MMBTU	GWh	$/MMBTU	GWh	$/MMBTU	GWh	$/MMBTU
Actual	2012	0	0	0	0	696	4.02	849	4.13	0	23	0	22.97
	2013	0	0	0	0	626	3.97	696	4.15	0	0	0	21.25
	2014	0	0	0	0	797	3.41	352	5.05	1	6.3	0	8.35
	2015	0	0	0	0	663	3.3	770	3.39	1	5.57	0	7.28
	2016	0	0	0	0	413	3.2	1143.61	3.21	0	4.85	0	8.97
	2017	0	0	102	2.78	401	3.25	900.91	3.7	1	4.32	1	9.86
	2018	0	0	570	2.92	460	3.41	1002	3.67	0	6.18	1	10.7
	2019	0	0	594	2.72	449	3.47	854	3	0.5	6.18	0	10.7
	2020	0	0	375	2.85	215	3.47	1276	2.38	0	6.18	0	10.7
	2021	0	0	597	2.89	320	3.70	992	4.58	0.33	6.18	0	10.67
Projected	2022	0	0	526	3.14	0	3.70	1298	4.22	0	6.18	0	10.67
	2023	0	0	517	2.88	0	3.70	1285	3.55	0	6.18	0	10.67
	2024	0	0	474	2.72	0	3.70	1282	3.19	0	6.18	0	10.67
	2025	0	0	535	2.61	0	3.70	1216	3.37	0	6.18	0	10.67
	2026	0	0	469	2.58	0	3.70	1299	3.33	0	6.18	0	10.67
	2027	0	0	507	2.54	0	3.70	1305	3.31	0	6.18	0	10.67
	2028	0	0	499	2.58	0	3.70	1319	3.31	0	6.18	0	10.67
	2029	0	0	481	2.62	0	3.70	1329	3.31	0	6.18	0	10.67
	2030	0	0	530	2.67	0	3.70	1312	3.31	0	6.18	0	10.67
	2031	0	0	462	2.72	0	3.70	1389	3.31	0	6.18	0	10.67

Notes