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February 1, 2021

The Board of Commissioners of Public Utilities
Prince Charles Building
120 Torbay Road, P.O. Box 21040
St. John's, NL A1A 5B2

Attention: Ms. Cheryl Blundon
Director Corporate Services & Board Secretary

Dear Ms. Blundon:

**Re: Accuracy of Nostradamus Load Forecasting at Newfoundland and Labrador Hydro – 2020 Annual Report**

Please find enclosed a copy of Newfoundland and Labrador Hydro's "Accuracy of Nostradamus Load Forecasting at Newfoundland and Labrador Hydro 2020 Annual Report." The analysis contained within the enclosed report encompasses data from the period of January 1, 2020 to December 31, 2020.

If you have any questions or comments please contact the undersigned.

Yours truly,

**NEWFOUNDLAND AND LABRADOR HYDRO**

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Senior Legal Counsel, Regulatory
SAW/sk

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# Accuracy of Nostradamus Load Forecasting at Newfoundland and Labrador Hydro
# 2020 Annual Report

**February 1, 2021**

**A report to the Board of Commissioners of Public Utilities**

newfoundland labrador hydro
a nalcor energy company

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# 1 Nostradamus Load Forecasting

## 1.1 Nostradamus

Newfoundland and Labrador Hydro ("Hydro") uses software called Nostradamus[1] for short-term load forecasting with a time frame of seven days. The Nostradamus user guide provides the following description of the software, stating:

> The Nostradamus Neural Network Forecasting system is a flexible neural network-based forecasting tool developed specifically for utility demand forecasting. Unlike conventional computing processes, which are programmed, neural networks use sophisticated mathematical techniques to train a network of inputs and outputs. Neural networks recognize and learn the joint relationships (linear or non-linear) between the ranges of variables considered. Once the network learns these intricate relationships, this knowledge can then easily be extended to produce accurate forecasts.[2]

The Nostradamus model is trained using a sequence of continuous historic periods of hourly weather and demand data. The model then forecasts system demand for a seven day horizon using predictions of weather parameters.

## 1.2 Short-Term Load Forecasting

Hydro uses its short-term load forecast to manage the power system and ensure adequate generating resources are available to meet customer demand.

### 1.2.1 Utility Load

Hydro has a contract with Wood PLC[3] ("Wood") to provide the weather parameters in the form of hourly weather forecasts that are provided twice daily for the proceeding seven days. At the same time as the weather forecast data are provided, Wood also provides recent observed data at the same locations as used in the forecasts.[4] The actual and forecast data are automatically retrieved from Wood and input to the Nostradamus database.

Nostradamus can use a variety of weather parameters for forecasting, provided a sufficient historical record is available for training. Hydro currently uses air temperature, wind speed, and cloud cover. Nostradamus can use each variable more than once, for example both the current and forecasted air

[1] The product is provided by Ventyx (an ABB Company).
[2] "Nostradamus User Guide," Ventyx (an ABB Company), Release 8.2, EMDDB-0170-1405-06, May 2014.
[3] Formerly Amec Foster Wheeler.
[4] St. John's, Gander, and Deer Lake.

temperatures are used in forecasting load. Wind chill is not explicitly used, as the neural network function of Nostradamus forms its own relationships between load, wind, and temperature.

Nostradamus uses weather data for St. John's, Gander, and Deer Lake as well as a parameter that indicates daily daylight hours. Training and verification[5] periods are selected to provide a sufficiently long period to ensure that a range of weather parameters are included (e.g., high and low temperatures) but short enough that the historic load is still representative of loads that can be expected in the future. Historically, data included in the training period has consisted of three years of training data compared to up to one year of verification data. However, following this methodology would have resulted in verifying data that includes the effects of the COVID-19 pandemic on the short-term load against a training time period pre-pandemic. This would have resulted in a forecast that was unable to properly map the inputs (i.e., the load affected by the pandemic) to the outputs (i.e., the new load forecast); thus not improving the short-term forecast. To properly account for the effects of the pandemic on system load[6] and to improve the short-term forecast, Hydro worked with Nostradamus software support to modify the defined period traditionally used in training. The result is a forecast that has been trained to create a strong relationship between inputs and outputs, thus improving the short-term forecast during the ongoing COVID-19 pandemic. The most recent training and validation exercises used data from October 16, 2019 to October 31, 2020.

Demand data for the Island Interconnected System[7] is automatically input to Nostradamus each hour. Newfoundland Power and Hydro's total utility load (conforming)[8] is input in the Nostradamus model. Industrial load (non-conforming),[9] which is not a function of weather, is forecast outside of the Nostradamus program and added to the forecasts provided by Nostradamus to derive the total load forecast.

[5] Nostradamus will automatically perform verification over a designated historical time period upon completion of training. The verification period is used to evaluate the accuracy of the forecast using data that the model has not trained on. This ensures that the model is not memorizing the correct answer.
[6] While the impacts of the pandemic on system load are not able to be fully quantified, the implementation of public health measures through the year may have contributed to increases in non-uniform customer behaviour that may have resulted in a small impact on the overall load and load shape.
[7] Load forecasts for the Avalon Peninsula are still generated but are no longer a focus since the in-service of the third transmission line from Bay d'Espoir (TL 267).
[8] Conforming load refers to load which changes consistently with the load pattern of an area.
[9] Non-conforming load refers to load which changes abnormally with respect to the load pattern of an area.

The Nostradamus model creates separate sub-models for weekdays, weekends, and holidays during the training process to account for the variation in customer use of electricity. Nostradamus has separate holiday groups for statutory holidays and for days that are known to have unusual loads, for instance, the days between Christmas and New Year's Day, and schools' Easter break.[10]

### 1.2.2 Industrial Load

Industrial load tends to be almost constant as industrial processes are independent of weather. Under the current procedure, the Power on Order for each industrial customer plus the expected owned generation from Corner Brook Pulp and Paper Limited ("CBPP") are used as the industrial load forecasts. Industrial customer loads can be modified based on some knowledge of customer loads, for instance, a decrease in requirements due to reduced oil refining production at the North Atlantic Refinery in Come by Chance[11] or a ramp up in the load expected at Vale Newfoundland and Labrador Limited. The expected load can be modified in any given hour of the seven day forecast, or the default value can be modified to be used indefinitely.[12]

### 1.2.3 Supply and Demand Status Reporting

Since December 2014, Hydro has submitted periodic reports on the accuracy of Nostradamus load forecasting in relation to the Board of Commissioners of Public Utilities ("Board") Investigation and Hearing into Supply Issues and Power Outages on the Island Interconnected System. Direction from the Board on January 18, 2018 indicated that the reporting frequency should change to annually commencing in November 2018.[13] The daily forecast peak, as of 7:20 a.m., is reported to the Board in the daily Supply and Demand Status Report.

The weather forecast for the next seven days and the observed weather data for the previous day are input into Nostradamus at approximately 5:00 a.m. and 2:00 p.m. Nostradamus is then run in every hour of the day, and the outputted forecast is made available for reference in monitoring and managing both

[10] Training the Nostradamus model is a process that is performed on an approximately annual basis. The goal is to improve the forecasting accuracy by providing Nostradamus with updated data and trends of recent loads and weather. This helps ensure that variables such as load growth and extreme weather are properly accounted for when predicting future load requirements.
[11] Approximately 28 MW was subtracted from the expected industrial customer load for April through December 2020 associated with the decrease in production at the North Atlantic refinery.
[12] In Hydro's Energy Management System, there is functionality to modify the industrial load value when the Newfoundland and Labrador System Operator is aware of circumstances where an industrial customer will be reducing load. For example, if an industrial customer is completing maintenance, the forecast load can be modified to provide a more accurate load forecast.
[13] On November 6, 2018, the Board accepted Hydro's request to change the annual filing date of this report to January 31 which allows the report to cover the previous calendar year.

available and spinning reserves. The within-day forecast updates are primarily used to manage operating reserve, in particular in advance of the forecast system peaks.

### 1.3 Potential Sources of Variance

As with any forecasting analysis, there will be discrepancies between the forecasted and actual values. Typical sources of variance in the load forecasting are as follows:

- Differences in the industrial load forecast due to unexpected changes in industrial customer loads. For example, if an industrial customer were to undergo maintenance or increase production to meet customer demand, the actual load would deviate from the scheduled load;
- Inaccuracies in the weather forecast, particularly temperature, wind speed, or cloud cover; and
- Non-uniform customer behaviour, which results in unpredictability. The impacts of the COVID-19 pandemic on the load in 2020 can be considered non-uniform behaviour.

Occasional exports over the Maritime Link have occurred prior to 2020; however, export activity materially increased this year. Decisions regarding exports during peak periods are carefully coordinated and include conservative consideration of Hydro's native load forecast and available supply. The forecast at peak as reported by 7:20 a.m. each day does not always account for exports as exports can be contracted at any time throughout the day. As such, comparing a peak forecast for the day early each morning against an actual peak that includes real-time exports has resulted in more days of high error as a result of export activity over the Maritime Link.

## 2 Forecast Accuracy Summary

### 2.1 Analysis

This report examines the accuracy of the Hydro forecasting process for January 2020 through December 2020. All tables and figures referenced throughout the report are contained in Appendix A. Table 1 presents the daily forecast total peak, the actual total peak, and the available Island supply, as included in Hydro's daily Supply and Demand Status Reports submitted to the Board. The data are also presented in Figure 1(a) and (b).

The total peak load during the period varied between 590 MW (August 8, 2020) and 1,656 MW (February 21, 2020). The available Island supply varied from 1,150 MW to 2,209 MW. Island Interconnected System reserves were sufficient throughout the period.

Table 2 presents error statistics for the total peak forecasts for the forecast period. Figure 2 (a) and (b) is a plot of the total forecast and actual total peaks, as shown in Figure 1, but with the addition of a bar chart showing the difference between the two data series, in MW. In both the tables and the figures, a positive error is an overestimate and a negative error is an underestimate.

Figure 2 reveals that the forecasting process consistently overestimates the peak of the total load. This is typically a result of an overestimate in industrial load forecast, and/or export activity over the Maritime Link.

Table 3 presents error statistics for the peak utility forecast (i.e., the portion of the forecast actually determined by the Nostradamus model). Neither the industrial forecast nor the Maritime Link export activity is included in the values presented in Table 3. Figure 3 (a) and (b) plots the data and error for the utility peak. Examination of the utility forecast provides more insight into the accuracy of Nostradamus, as error in the industrial forecast and export activity introduces error to the total forecast, making the total forecast appear worse or, at times, better than it is.

## 2.2 Data Adjustments and Forecast Issues

In analysing the data there are instances that require adjustments for a variety of reasons. In these instances, the data for affected hours is replaced using interpolation so that in the future, when the data for this period is used in training, Nostradamus will use a value not affected by the event.

At midnight on January 1, 2020, Nostradamus stopped importing actual load data until January 3, 2020 due to some scheduled tasks deleting at the start of the New Year, resulting in a system error in the executable file. The issue was corrected on January 3, 2020 and actual load data for that time period was imported, correcting the load forecast going forward.

From January 2020 to April 2020, Nostradamus would infrequently forecast either a large increase or decrease in load which was inconsistent with expectations based on system conditions. The error would persist through weather forecast updates, pushing the erroneous value out by one hour at a time. Meetings with Nostradamus support occurred on a number of occasions and the issue was permanently fixed by manually running a forecast within the program. Nostradamus support concluded that the issue was likely due to an error in the Nostradamus program and unrelated to Hydro's system or its usage of the program. Another training exercise was completed in October 2020. Since then, the issue has not occurred.

On January 6, 2020, Nostradamus stopped importing actual load data for eight hours due to a calculation problem in Hydro's database which caused an inaccurate load forecast. The calculation error was corrected and the erroneous data was replaced with the last accurate forecast values so that in the future, when the data during this period is used for training, Nostradamus will use a value that is not affected by the erroneous data.

Between 2:35 p.m. and 5:04 p.m. on September 9, 2020, the Upper Salmon unit was offline; however, the Supervisor Control and Data Acquisition ("SCADA") data indicated the unit output was -60 MW. This resulted in a reduction in Island load values by 60 MW for those hours. To correct the actual values, 60 MW was added to the Island load from 3:00 p.m. through 5:00 p.m. to offset the erroneous unit output data.

On October 20, 2020, a SCADA system upgrade took place and, as a result, erroneous and/or missing actual load values from October 20, 2020 to October 22, 2020 occurred in the development version of Nostradamus. Actual load data was taken from the production version to replace the incorrect values for the affected hours; however, small errors remained in the actual load data in the production system. This issue did not impact the production version of Nostradamus as severely; therefore, the impact to the load forecast used by the Newfoundland and Labrador System Operator ("NLSO") was minimal.

From October 27, 2020 to October 28, 2020 some actual load data was missing from the development version of Nostradamus for an unknown reason. Correct actual load data was taken from the production version to replace the missing data for the affected hours. This did not impact the production version; therefore, there was no impact to the load forecast as used by the NLSO. The correction was made for training purposes only.

On November 26, 2020, Bay d'Espoir Unit 7 was offline for a planned outage; however, for less than an hour, SCADA data indicated the unit was online at 134 MW. Therefore, 134 MW was removed from the Island load values to offset the erroneous unit output data.

On December 9, 2020, the Labrador-Island Link ("LIL") came online at 8:33 a.m. at 45 MW; however, the data point measured at Soldiers Pond did not update until 10:00 a.m. and appeared as a load loss on the system. Therefore, 45 MW was added to the island generation values to reflect the LIL deliveries.

## 2.3 Days of High Error[14]

The bolded dates in Tables 2 and 3 indicate the days of high error in the load forecast. The days with the highest error (up to three days per month) are selected for more detailed analysis, which includes the days of:

- January 2, 3, and 6, 2020;
- February 2, 15, and 26, 2020;
- March 9, 18, and 23, 2020;
- April 2, 14, and 19, 2020;
- May 1, 12, and 24, 2020;
- June 5, 12, and 29, 2020;
- July 8, 18, and 19, 2020;
- August 9, 10, and 27, 2020;
- September 8, 9, and 11, 2020;
- October 1, 18, and 21, 2020;
- November 14, 17, and 19, 2020; and
- December 10, 19, and 30, 2020.

### 2.3.1 January 2, 2020 and January 3, 2020

As noted in Section 2.2, on December 31, 2019 at midnight, Nostradamus stopped importing actual load data until January 3, 2020 due to some scheduled tasks deleting at the start of the New Year, resulting in a system error in the executable file. This error resulted in the forecast not updating properly during those days. The issue was corrected and actual load data for that time period was imported, correcting the load forecast going forward.

On January 2, 2020, the forecast peak at 7:20 a.m., as reported to the Board, was 1,135 MW; the actual reported peak was 1,282 MW. The absolute difference was 147 MW, 11.5% of the actual peak. Figure 4

[14] All plots showing the hourly distribution of the load forecast compared to the actual total load do not include Maritime Link export activity to aid in determining other sources of differences between actual and forecast loads.

includes an hourly plot of the load forecast and the actual load for January 2, 2020 to observe the differences between actual and forecast loads.

Figure 4(a) shows the hourly distribution of the load forecast compared to the actual load. The hourly forecast predicted a 6:00 p.m. peak of 1,134 MW; the actual peak was 1,279 MW[15] and it occurred at 5:00 p.m. The total load forecast at the time was 844 MW, resulting in an underestimation of 34.0%.

On January 3, 2020, the forecast peak at 7:20 a.m., as reported to the Board, was 1,165 MW; the actual reported peak was 1,295 MW. The absolute difference was 130 MW, 10.0% of the actual peak. Figure 5 includes an hourly plot of the load forecast and the actual load for January 3, 2020 to observe the differences between actual and forecast loads.

Figure 5(a) shows the hourly distribution of the load forecast compared to the actual load. The hourly forecast predicted a 6:00 p.m. peak of 1,165 MW; the actual peak was 1,289 MW and it occurred at 5:00 p.m. The total load forecast at the time was 813 MW, resulting in an underestimation of 36.9%.

Figures 4(b), (c), (d), and (e) and Figures 5(b), (c), (d), and (e) are provided for context; however, the discrepancy between actual and forecast load for January 2, 2020 and January 3, 2020 was due to the executable file not running, negatively impacting the program's ability to provide an accurate forecast. The forecast improved on January 3, 2020 at 10:20 a.m. after the scheduled tasks were corrected and the executable file ran.

### 2.3.2 January 6, 2020

On January 6, 2020, the forecast peak at 7:20 a.m., as reported to the Board, was 1,475 MW; the actual reported peak was 1,373 MW. The absolute difference was 102 MW, 7.4% of the actual peak. Figure 6 includes an hourly plot of the load forecast for January 6, 2020, as well as actual load chart to assist in determining the sources of the differences between actual and forecast loads.

Figure 6(a) shows the hourly distribution of the load forecast compared to the actual load. The hourly forecast predicted a 5:00 p.m. peak of 1,473 MW; the actual peak was 1,370 MW and occurred at 5:00 p.m.

[15] The actual total peak reported in the daily Supply and Demand Status Reports is based on a five minute time step; however, Nostradamus reports on an hourly time step, sometimes resulting in a different peak value.

Figure 6(b) shows the hourly distribution of the utility load forecast only (i.e., the load forecast with the industrial component removed). The error in the forecast of the utility load was significantly lower than the error in the forecast of total load, meaning that the error in the industrial load forecast contributed to the error in the total load forecast. The hourly forecast predicted a utility peak at 5:00 p.m. of 1,314 MW; the actual peak was 1,280 MW and occurred at 5:00 p.m.

Figures 6(c), (d), and (e) are provided for context; however, the discrepancy between actual and forecast load for January 6, 2020 was primarily a result of error in the industrial load forecast contributing to error in the total load forecast. An overestimation of the load results in more than enough reserve being available.

### 2.3.3 February 2, 2020

On February 2, 2020, the forecast peak at 7:20 a.m., as reported to the Board, was 1,420 MW; the actual reported peak was 1,498 MW. The absolute difference was 78 MW, 5.2% of the actual peak. Figure 7 includes an hourly plot of the load forecast for February 2, 2020, as well as actual load chart to assist in determining the sources of the differences between actual and forecast loads.

Figure 7(a) shows the hourly distribution of the load forecast compared to the actual load. The hourly forecast predicted a 10:00 a.m. peak of 1,418 MW; the actual peak was 1,495 MW and occurred at 12:00 p.m. The total load forecast at the time was 1,378 MW resulting in an underestimate of 7.8%.

Figure 7(b) shows the hourly distribution of the utility load forecast only (i.e., the load forecast with the industrial component removed). The error in the forecast of the utility load was higher than the error in the forecast of total load, meaning that error in the industrial load forecast did not contribute to the error in the total load forecast. The hourly forecast predicted a utility peak at 10:00 a.m. of 1,226 MW; the actual peak was 1,343 MW and occurred at 12:00 p.m.

Figure 7(c) shows the actual temperature in St. John's compared to the forecast. The forecast was fairly aligned with the actual temperature until 8:00 a.m., when it was approximately 1°C cooler than forecast for the remainder of the day. This variation could have contributed to the underestimation of load forecast at peak.

Figure 7(d) shows the actual wind speed in St. John's compared to the forecast. The forecast wind speed was underestimated during daylight hours until 2:00 p.m., when lower winds than forecast occurred.

This could have also contributed to the underestimation of load forecast at peak. Figure 7(e) shows the actual cloud cover in St. John's compared to the forecast. Cloud cover was accurate during daylight hours.

The discrepancy between actual and forecast load for February 2, 2020 was likely a result of error in the temperature, wind speed forecast, and non-uniform customer behaviour, as this day occurred during a weekend. The forecast improved by 6:00 p.m. for the remainder of the day.

### 2.3.4 February 15, 2020

On February 15, 2020, the forecast peak at 7:20 a.m., as reported to the Board, was 1,665 MW; the actual reported peak was 1,529 MW. The absolute difference was 136 MW, 8.9% of the actual peak. Figure 8 includes an hourly plot of the load forecast for February 15, 2020 as well as several plots to assist in determining the sources of the differences between actual and forecast loads.

Figure 8(a) shows the hourly distribution of the load forecast compared to the actual load. The hourly forecast predicted a 9:00 a.m. peak of 1,666 MW; the actual peak was 1,523 MW and occurred 8:00 a.m. The total load forecast at the time was 1,646 MW resulting in an overestimate of 8.1%.

Figure 8(b) shows the hourly distribution of the utility load forecast only (i.e., the load forecast with the industrial component removed). The error in the forecast of the utility load was significantly lower than the error in the forecast of total load, meaning that error in the industrial load forecast contributed to the error in the total load forecast. The hourly forecast predicted a utility peak at 9:00 a.m. of 1,474 MW; the actual peak was 1,437 MW and occurred at 8:00 a.m.

Figures 8(c), (d), and (e) are provided for context; however, the discrepancy between actual and forecast load for February 15, 2020 was primarily a result of error in industrial load forecast contributing to error in the total load forecast as well as non uniform customer behaviour, as this day occurred during a weekend. An overestimate of the load results in more than enough reserve being available. The forecast improved by 2:00 p.m.

### 2.3.5 February 26, 2020

On February 26, 2020, the forecast peak at 7:20 a.m., as reported to the Board, was 1,330 MW; the actual reported peak was 1,246 MW. The absolute difference was 84 MW, 6.7% of the actual peak.

Figure 9 includes an hourly plot of the load forecast for February 26, 2020 as well as actual load chart to assist in determining the sources of the differences between actual and forecast loads.

Figure 9(a) shows the hourly distribution of the load forecast compared to the actual load. The hourly forecast predicted a 10:00 a.m. peak of 1,328 MW; the actual peak was 1,246 MW and occurred at 8:00 a.m. The total load forecast at the time was 1,291 MW, resulting in an overestimate of 3.6%. After the morning peak occurred at 8:00 a.m., there was a discrepancy between actual and forecast utility load due to an error in the Nostradamus program.[16] A manual forecast was run and the forecast was corrected in advance of the evening peak.

Figure 9(b) shows the hourly distribution of the utility load forecast only (i.e., the load forecast with the industrial component removed). The error in the forecast of the utility load was lower than the error in the forecast of total load, meaning that error in the industrial load forecast contributed to the error in the total load forecast. The hourly forecast predicted a utility peak at 10:00 a.m. of 1,142 MW; the actual peak was 1,092 MW and occurred at 8:00 a.m.

Figures 9(c), (d), and (e) are provided for context; however, the discrepancy between actual and forecast load for February 26, 2020 was primarily a result of error in the Nostradamus program as well as error in industrial load forecast contributing to error in the total load forecast. An overestimate of the load results in more than enough reserve being available. The forecast improved by 6:00 p.m.

### 2.3.6 March 9, 2020

On March 9, 2020, the forecast peak at 7:20 a.m., as reported to the Board, was 1,590 MW; the actual reported peak was 1,465 MW. The absolute difference was 125 MW, 8.5% of the actual peak. Figure 10 includes an hourly plot of the load forecast for March 9, 2020, as well as several plots to assist in determining the sources of the differences between actual and forecast loads.

Figure 10(a) shows the hourly distribution of the load forecast compared to the actual load. The hourly forecast predicted a 12:00 p.m. peak of 1,589 MW; the actual peak was 1,462 MW and it occurred at 9:00 p.m. The total load forecast at the time was 1,571 MW, resulting in an overestimate of 7.5%.

[16] This error was discussed in detail in Section 2.2 Data Adjustments and Forecast Issues.

Figure 10(b) shows the hourly distribution of the utility load forecast only (i.e., the load forecast with the industrial component removed). The error in the forecast of the utility load was slightly lower than the error in the forecast of total load, meaning that error in the industrial load forecast contributed to the error in the total load forecast. The hourly forecast predicted a utility peak at 12:00 p.m. of 1,402 MW; the actual peak was 1,311 MW and occurred at 9:00 p.m.

Figures 10(c), (d), and (e) are provided for context; however, the discrepancy between actual and forecast load for March 9, 2020 was primarily a result of Nostradamus incorrectly forecasting a large increase in load. The issue was corrected within Nostradamus by manually running a new forecast. The new forecast predicted an overestimation of the utility load at peak by only 14.6 MW. The total load forecast at peak was overestimated by 50.3 MW, indicating that error in industrial load forecast contributing to error in the total load forecast. An overestimate of the load results in more than enough reserve being available.

### 2.3.7 March 18, 2020

On March 18, 2020, the forecast peak at 7:20 a.m., as reported to the Board, was 1,375 MW; the actual reported peak was 1,302 MW. The absolute difference was 73 MW, 5.6% of the actual peak. Figure 11 includes an hourly plot of the load forecast for March 18, 2020, as well as actual load chart to assist in determining the sources of the differences between actual and forecast loads.

Figure 11(a) shows the hourly distribution of the load forecast compared to the actual load. The hourly forecast predicted a 10:00 a.m. peak of 1,374 MW; the actual peak was 1,298 MW and it occurred at 9:00 a.m. The total load forecast at the time was 1,372 MW, resulting in an overestimate of 5.7%. The forecast improved in the afternoon, but deviated again in the evening.

Figure 11(b) shows the hourly distribution of the utility load forecast only (i.e., the load forecast with the industrial component removed). The error in the forecast of the utility load was significantly lower than the error in the forecast of total load, meaning that error in the industrial load forecast contributed to the error in the total load forecast. The hourly forecast predicted a utility peak at 10:00 a.m. of 1,188 MW; the actual peak was 1,155 MW and occurred at 9:00 a.m.

Figures 11(c), (d), and (e) are provided for context; however, the discrepancy between actual and forecast load for March 18, 2020 was primarily a result of error in industrial load forecast contributing to

error in the total load forecast. An overestimate of the load results in more than enough reserve being available.

### 2.3.8 March 23, 2020

On March 23, 2020, the forecast peak at 6:20 a.m.,[17] as reported to the Board, was 1,515 MW; the actual reported peak was 1,437 MW. The absolute difference was 78 MW, 5.4% of the actual peak. Figure 12 includes an hourly plot of the load forecast for March 23, 2020, as well as actual load chart to assist in determining the sources of the differences between actual and forecast loads.

Figure 12(a) shows the hourly distribution of the load forecast compared to the actual load. The hourly forecast predicted an 8:00 a.m. peak of 1,468 MW; the actual peak of 1,436 MW occurred at 8:00 a.m.

Figure 12(b) shows the hourly distribution of the utility load forecast only (i.e., the load forecast with the industrial component removed). The error in the forecast of the utility load was lower than the error in the forecast of total load, meaning that error in the industrial load forecast contributed to the error in the total load forecast. The hourly forecast predicted a utility peak at 8:00 a.m. of 1,281 MW; the actual peak was 1,270 MW.

Figures 12(c), (d), and (e) are provided for context; however, the discrepancy between actual and forecast load for March 23, 2020 was primarily a result of the load forecast not updating between 6:20 a.m. and 9:44 a.m. Once the forecast was corrected and updated, the load forecast for the remainder of the day was accurate.

### 2.3.9 April 2, 2020

On April 2, 2020, the forecast peak at 7:20 a.m., as reported to the Board, was 1,115 MW; the actual reported peak was 1,032 MW. The absolute difference was 83 MW, 8.0% of the actual peak. Figure 13 includes an hourly plot of the load forecast for April 2, 2020, as well as actual load chart to assist in determining the sources of the differences between actual and forecast loads.

Figure 13(a) shows the hourly distribution of the load forecast compared to the actual load. The hourly forecast predicted a 9:00 a.m. peak of 1,116 MW; the actual peak of 1,031 MW occurred at 8:00 a.m.

[17] The forecast wasn't available between 6:20 a.m. and 9:44 a.m.; therefore, the forecast peak at 7:20 a.m. could not be provided.

Figure 13(b) shows the hourly distribution of the utility load forecast only (i.e., the load forecast with the industrial component removed). The error in the forecast of the utility load was negligible. The hourly forecast predicted a utility peak at 8:00 a.m. of 954 MW; the actual peak was 946 MW and occurred at 8:00 a.m.

Figures 13(c), (d), and (e) are provided for context; however, the discrepancy between actual and forecast load for April 2, 2020 was primarily a result of error in industrial load forecast contributing to error in the total load forecast. An overestimate of the load results in more than enough reserve being available. The forecast did not improve throughout the day.

### 2.3.10 April 14, 2020

On April 14, 2020, the forecast peak at 7:20 a.m., as reported to the Board, was 1,130 MW; the actual reported peak was 1,018 MW. The absolute difference was 112 MW, 11.0% of the actual peak. Figure 14 includes an hourly plot of the load forecast for April 14, 2020, as well as actual load chart to assist in determining the sources of the differences between actual and forecast loads.

Figure 14(a) shows the hourly distribution of the load forecast compared to the actual load. The hourly forecast predicted an 11:00 a.m. peak of 1,131 MW; the actual peak was 1,017 MW and occurred at 12:00 p.m. The total load forecast at the time was 1,129 MW, resulting in an overestimate of 11.0%.

Figure 14(b) shows the hourly distribution of the utility load forecast only (i.e., the load forecast with the industrial component removed). The error in the forecast of the utility load was lower than the error in the forecast of total load at peak, suggesting that industrial load forecast contributed to the error in the total load forecast. The hourly forecast predicted a utility peak at 11:00 a.m. of 968 MW; the actual peak was 889 MW and occurred at 12:00 p.m.

Figure 14(c) shows the actual temperature in St. John's compared to the forecast. The temperature forecast was underestimated during daylight hours, being 4 °C warmer than forecast at peak. This could have contributed to the load forecast error at peak.

Figure 14(d) shows the actual wind speed in St. John's compared to the forecast. The actual wind speed was relatively consistent with the forecast wind speed for the entire day. Figure 14(e) shows the actual cloud cover in St. John's compared to the forecast. During daylight hours the forecast was accurate.

The discrepancy between actual and forecast load for April 14, 2020 was likely a combination of error in industrial load forecast contributing to error in the total load forecast and error in the temperature forecast resulting in the overestimation of the load forecast. In addition, non-uniform customer behaviour could have contributed to the error as this day occurred during the week of Easter break. An overestimate of the load results in more than enough reserve being available. Updates improved the forecast by 5:00 p.m.

### 2.3.11 April 19, 2020

On April 19, 2020, the forecast peak at 7:20 a.m., as reported to the Board, was 1,220 MW; the actual reported peak was 1,317 MW. The absolute difference was 97 MW, 7.4% of the actual peak. Figure 15 includes an hourly plot of the load forecast for April 19, 2020, as well as actual load chart to assist in determining the sources of the differences between actual and forecast loads.

Figure 15(a) shows the hourly distribution of the load forecast compared to the actual load. The hourly forecast predicted a 12:00 p.m. peak of 1,221 MW; the actual peak was 1,300 MW and occurred at 5:00 p.m. The total load forecast at the time was 1,216 MW, resulting in an underestimate of 6.5%.

Figure 15(b) shows the hourly distribution of the utility load forecast only (i.e., the load forecast with the industrial component removed). The error in the forecast of the utility load was slightly higher than the error in the forecast of total load, suggesting that industrial load forecast did not contribute to the error in the total load forecast. The hourly forecast predicted a utility peak at 12:00 p.m. of 1,058 MW; the actual peak was 1,161 MW and occurred at 5:00 p.m.

Figure 15(c) shows the actual temperature in St. John's compared to the forecast. The temperature was relatively accurate during daylight hours. This would not have contributed to the load forecast error.

Figure 15(d) shows the actual wind speed in St. John's compared to the forecast. Through the entire day the actual wind speed was slightly lower than forecast, but this would not contribute to the forecast error. Figure 15(e) shows the actual cloud cover in St. John's compared to the forecast. Cloud cover was accurate during daylight hours.

The discrepancy between actual and forecast load for April 19, 2020 was likely due to non-uniform customer behaviour as this day occurred during the week of Easter break, as well as on a weekend, which resulted in the underestimated load forecast at peak. Updates improved the forecast by 8:00 p.m.

### 2.3.12 May 1, 2020

On May 1, 2020, the forecast peak at 7:20 a.m., as reported to the Board, was 960 MW; the actual reported peak was 871 MW. The absolute difference was 89 MW, 10.2% of the actual peak. Figure 16 includes an hourly plot of the load forecast for May 1, 2020, as well as several plots to assist in determining the sources of the differences between actual and forecast loads.

Figure 16(a) shows the hourly distribution of the load forecast compared to the actual load. The hourly forecast predicted a 9:00 a.m. peak of 962 MW; the actual peak was 862 MW and occurred at 8:00 a.m. The total load forecast at the time was 952 MW, resulting in an overestimate of 10.4%.

Figure 16(b) shows the hourly distribution of the utility load forecast only (i.e., the load forecast with the industrial component removed). The error in the forecast of the utility load was negligible compared to the error in the forecast of total load, meaning that error in the industrial load forecast contributed to the error in the total load forecast. The hourly forecast predicted a utility peak at 9:00 a.m. of 800 MW; the actual peak was 781 MW and occurred at 8:00 a.m.

Figures 16(c), (d), and (e) are provided for context; however, the discrepancy between actual and forecast load for May 1, 2020 was primarily a result of error in industrial load forecast contributing to error in the total load forecast. An overestimate of the load results in more than enough reserve being available. The forecast did not improve throughout the day.

### 2.3.13 May 12, 2020

On May 12, 2020, the forecast peak at 7:20 a.m., as reported to the Board, was 1000 MW; the actual reported peak was 1070 MW. The peak of 1070 MW, as reported to the Board, includes a Maritime Link export of approximately 53 MW, which occurred from 3:00 p.m. until 6:00 p.m. The absolute difference, inclusive of export, was 70 MW, 6.5% of the actual peak. Figure 17 includes an hourly plot of the load forecast for May 12, 2020, as well as several plots to assist in determining the sources of the differences between actual and forecast loads.

Figure 17(a) shows the hourly distribution of the load forecast compared to the actual load, exclusive of export activity. The hourly forecast predicted a 9:00 a.m. peak of 1,000 MW; the actual peak was 1,013 MW and occurred at 5:00 p.m. At approximately 10:00 a.m. a discrepancy between actual and forecast

utility load occurred due to an error in the Nostradamus program.[18] A manual forecast was run and the forecast was corrected in advance of the evening peak.

Figure 17(b) shows the hourly distribution of the utility load forecast only (i.e., the load forecast with the industrial and export components removed). The error in the forecast of the utility load was higher than the error in the forecast of total load, meaning that error in the industrial load forecast did not contribute to the error in the total load forecast. The hourly forecast predicted a utility peak at 9:00 a.m. of 838 MW; the actual peak was 906 MW and occurred at 5:00 p.m.

Figures 17(c), (d), and (e) are provided for context; however, the discrepancy between actual and forecast load was primarily attributable to error in the Nostradamus program as well as export activity over the Maritime Link.

### 2.3.14 May 24, 2020

On May 24, 2020, the forecast peak at 7:20 a.m., as reported to the Board, was 965 MW; the actual reported peak was 854 MW. The absolute difference was 111 MW, 13.0% of the actual peak. Figure 18 includes an hourly plot of the load forecast for May 24, 2020, as well as several plots to assist in determining the sources of the differences between actual and forecast loads.

Figure 18(a) shows the hourly distribution of the load forecast compared to the actual load. The hourly forecast predicted a 12:00 p.m. peak of 964 MW; the actual peak was 848 MW and occurred at 11:00 a.m. The total load forecast at the time was 960 MW, resulting in an overestimate of 13.2%.

Figure 18(b) shows the hourly distribution of the utility load forecast only (i.e., the load forecast with the industrial component removed). The error in the forecast of the utility load was lower than the error in the forecast of total load, meaning that error in the industrial load forecast contributed to the error in the total load forecast. The hourly forecast predicted a utility peak at 12:00 p.m. of 801 MW; the actual peak was 727 MW and occurred at 10:00 a.m.

Figures 18(c), (d), and (e) are provided for context; however, the discrepancy between actual and forecast load was primarily attributable to a combination of error in industrial load forecast contributing to error in the total load forecast as well as non-uniform customer behaviour as this day occurred on a

[18] This error was discussed in detail in Section 2.2 Data Adjustments and Forecast Issues.

weekend before the Victoria Day holiday. An overestimate of the load results in more than enough reserve being available. The accuracy of the forecast did not improve through the day.

### 2.3.15 June 5, 2020

On June 5, 2020, the forecast peak at 7:20 a.m., as reported to the Board, was 820 MW; the actual reported peak was 767 MW. The peak of 767 MW, as reported to the Board, includes a Maritime Link export of approximately 42 MW. Exports occurred through the day, with a maximum export of 54 MW. The absolute difference, inclusive of export, was 53 MW, 6.9% of the actual peak. Figure 19 includes an hourly plot of the load forecast for June 5, 2020, as well as several plots to assist in determining the sources of the differences between actual and forecast loads.

Figure 19(a) shows the hourly distribution of the load forecast compared to the actual load, exclusive of export activity. The hourly forecast predicted a 12:00 p.m. peak of 778 MW; the actual peak was 723 MW and occurred at 10:00 a.m. The total load forecast at the time was 769 MW, resulting in an overestimate of 6.4%.

Figure 19(b) shows the hourly distribution of the utility load forecast only (i.e., the load forecast with the industrial and export components removed). The error in the forecast of the utility load was negligible compared to the error in the forecast of total load, meaning that error in the industrial load forecast contributed significantly to the error in the total load forecast in addition to export activity. The hourly forecast predicted a utility peak at 12:00 p.m. of 616 MW; the actual peak was 608 MW and occurred at 10:00 a.m.

Figures 19(c), (d), and (e) are provided for context; however, the discrepancy between actual and forecast load was primarily attributable to export activity over the Maritime Link and error in the industrial load forecast. An overestimation of the load results in more than enough reserve being available.

### 2.3.16 June 12, 2020

On June 12, 2020, the forecast peak at 7:20 a.m., as reported to the Board, was 840 MW; the actual reported peak was 726 MW. The peak of 726 MW, as reported to the Board, includes a Maritime Link export of 22 MW. Exports occurred from 8:00 a.m. until midnight, with a maximum export of 48 MW. The absolute difference, inclusive of exports, was 114 MW, 15.7% of the actual peak. Figure 20 includes

an hourly plot of the load forecast for June 12, 2020, as well as several plots to assist in determining the sources of the differences between actual and forecast loads.

Figure 20(a) shows the hourly distribution of the load forecast compared to the actual load, exclusive of export activity. The hourly forecast predicted a 10:00 a.m. peak of 817 MW; the actual peak was 692 MW and occurred at 10:00 a.m.

Figure 20(b) shows the hourly distribution of the utility load forecast only (i.e., the load forecast with the industrial and export components removed). Excluding export activity during peak, the error in the forecast of the utility load was significantly lower than the error in the forecast of total load, meaning that error in the industrial load forecast contributed to the error in the total load forecast in addition to export activity. The hourly forecast predicted a utility peak at 10:00 a.m. of 655 MW; the actual peak was 627 MW and occurred at 10:00 a.m.

Figures 20(c), (d), and (e) are provided for context; however, the discrepancy between actual and forecast load was a combination of error in industrial load forecast contributing to error in the total load forecast as well as export activity over the Maritime Link. An overestimation of the load results in more than enough reserve being available.

### 2.3.17 June 29, 2020

On June 29, 2020, the forecast peak at 7:20 a.m., as reported to the Board, was 835 MW; the actual reported peak was 750 MW. The peak of 750 MW, as reported to the Board, includes a Maritime Link export of 54 MW, which occurred from 8:00 a.m. until 11:00 p.m. The absolute difference, inclusive of the export, was 85 MW, 11.3% of the actual peak. Figure 21 includes an hourly plot of the load forecast for June 29, 2020, as well as several plots to assist in determining the sources of the differences between actual and forecast loads.

Figure 21(a) shows the hourly distribution of the load forecast compared to the actual load, exclusive of export activity. The hourly forecast predicted a 5:00 p.m. peak of 751 MW; the actual peak was 694 MW and occurred at 5:00 p.m.

Figure 21(b) shows the hourly distribution of the utility load forecast only (i.e., the load forecast with the industrial and export components removed). Excluding export activity at peak, the error in the forecast of the utility load was negligible, meaning that error in the industrial load forecast contributed to the

error in the total load forecast in addition to export activity. The hourly forecast predicted a utility peak at 5:00 p.m. of 589 MW; the actual peak was 592 MW and occurred at 12:00 p.m.

Figures 21(c), (d), and (e) are provided for context; however, the discrepancy between actual and forecast load was a combination of error in industrial load forecast contributing to error in the total load forecast as well as export activity over the Maritime Link. An overestimation of the load results in more than enough reserve being available.

### 2.3.18 July 8, 2020

On July 8, 2020, the forecast peak at 7:20 a.m., as reported to the Board, was 745 MW; the actual reported peak was 669 MW. The absolute difference was 76 MW, 11.4% of the actual peak. Figure 22 includes an hourly plot of the load forecast for July 8, 2020, as well as several plots to assist in determining the sources of the differences between actual and forecast loads.

Figure 22(a) shows the hourly distribution of the load forecast compared to the actual load. The hourly forecast predicted a 12:00 p.m. peak of 744 MW; the actual peak was 668 MW and occurred at 12:00 p.m.

Figure 22(b) shows the hourly distribution of the utility load forecast only (i.e., the load forecast with the industrial component removed). The error in the forecast of the utility load was negligible, meaning that error in the industrial load forecast materially contributed to the error in the total load forecast. The hourly forecast predicted a utility peak at 12:00 p.m. of 582 MW; the actual peak was 573 MW and occurred at 12:00 p.m.

Figures 22(c), (d), and (e) are provided for context; however, the discrepancy between actual and forecast utility load for July 8, 2020 was primarily due to the errors in industrial load forecast. Discrepancy in weather is not expected to have impacted the total actual load during the summer season. The forecast did not improve through the day. An overestimate of the load results in more than enough reserve being available.

### 2.3.19 July 18, 2020 and July 19, 2020

On July 18, 2020, the forecast peak at 6:20 a.m.,[19] as reported to the Board, was 740 MW; the actual reported peak was 677 MW. The absolute difference was 63 MW, 9.3% of the actual peak. Figure 23 includes an hourly plot of the load forecast for July 18, 2020, as well as several plots to assist in determining the sources of the differences between actual and forecast loads.

Figure 23(a) shows the hourly distribution of the load forecast compared to the actual load. The hourly forecast predicted a 12:00 p.m. peak of 739 MW; the actual peak was 677 MW and occurred at 10:00 a.m. The total load forecast at the time was 717 MW, resulting in an overestimate of 5.9%.

On July 19, 2020, the forecast peak at 7:20 a.m.,[20] as reported to the Board, was 730 MW; the actual reported peak was 651 MW. The absolute difference was 79 MW, 12.1% of the actual peak. Figure 24 includes an hourly plot of the load forecast for July 19, 2020, as well as several plots to assist in determining the sources of the differences between actual and forecast loads.

Figure 24(a) shows the hourly distribution of the load forecast compared to the actual load. The hourly forecast predicted a 12:00 p.m. peak of 728 MW; the actual peak was 642 MW and occurred at 5:00 p.m. The total load forecast at the time was 688 MW, resulting in an overestimate of 7.0%.

Figures 23(b), (c), (d), and (e) and Figures 24(b), (c), (d), and (e) are provided for context; however, the discrepancy between actual and forecast utility load for both July 18, 2020 and July 19, 2020 was primarily a result of the load forecast not updating after 6:20 a.m. on July 18, 2020. Discrepancy in weather against forecast is not expected to have impacted the total actual load during the summer season. The forecast improved on July 20, 2020 at 8:40 a.m. after the forecast was corrected.

### 2.3.20 August 9, 2020

On August 9, 2020, the forecast peak at 7:20 a.m., as reported to the Board, was 700 MW; the actual reported peak was 606 MW. The absolute difference was 94 MW, 15.5% of the actual peak. Figure 25 includes an hourly plot of the load forecast for August 9, 2020, as well as several plots to assist in determining the sources of the differences between actual and forecast loads.

[19] The forecast wasn't available after 6:20 a.m. for the remainder of the day, therefore the forecast peak at 7:20 a.m. could not be provided.
[20] The last forecast update had occurred on July 18, 2020 at 6:20 a.m.

Figure 25(a) shows the hourly distribution of the load forecast compared to the actual load. The hourly forecast predicted a 12:00 p.m. peak of 698 MW; the actual peak was 605 MW and occurred at 12:00 p.m.

Figure 25(b) shows the hourly distribution of the utility load forecast only (i.e., the load forecast with the industrial component removed). The error in the forecast of the utility load was negligible, meaning that error in the industrial load forecast materially contributed to the error in the total load forecast. The hourly forecast predicted a utility peak at 12:00 p.m. of 536 MW; the actual peak was 548 MW and occurred at 12:00 p.m.

Figures 25(c), (d), and (e) are provided for context; however, the discrepancy between actual and forecast utility load for August 9, 2020 was primarily due to error in the industrial load forecast. Discrepancy in weather is not expected to have impacted the total actual load during the summer season. The forecast remained poor through the day. An overestimate of the load results in more than enough reserve being available.

### 2.3.21 August 10, 2020

On August 10, 2020, the forecast peak at 7:20 a.m., as reported to the Board, was 755 MW; the actual reported peak was 669 MW. The absolute difference was 86 MW, 12.9% of the actual peak. Figure 26 includes an hourly plot of the load forecast for August 10, 2020, as well as several plots to assist in determining the sources of the differences between actual and forecast loads.

Figure 26(a) shows the hourly distribution of the load forecast compared to the actual load. The hourly forecast predicted a 12:00 p.m. peak of 753 MW; the actual peak was 665 MW and occurred at 5:00 p.m. The total load forecast at the time was 737 MW, resulting in an overestimate of 10.8%.

Figure 26(b) shows the hourly distribution of the utility load forecast only (i.e., the load forecast with the industrial component removed). The error in the forecast of the utility load was negligible. This suggests the error in the industrial load forecast materially contributed to the error in the total load forecast. The hourly forecast predicted a utility peak at 12:00 p.m. of 591 MW; the actual peak was 582 MW and occurred at 5:00 p.m.

Figures 26(c), (d), and (e) are provided for context; however, the discrepancy between actual and forecast utility load for August 10, 2020 was primarily due to error in the industrial load forecast.

Discrepancy in weather is not expected to have impacted the total actual load during the summer season. The forecast improved slightly after peak. An overestimate of the load results in more than enough reserve being available.

### 2.3.22 August 27, 2020

On August 27, 2020, the forecast peak at 7:20 a.m., as reported to the Board, was 740 MW; the actual reported peak was 673 MW. The absolute difference was 67 MW, 10.0% of the actual peak. Figure 27 includes an hourly plot of the load forecast for August 27, 2020, as well as several plots to assist in determining the sources of the differences between actual and forecast loads.

Figure 27(a) shows the hourly distribution of the load forecast compared to the actual load. The hourly forecast predicted a 5:00 p.m. peak of 740 MW; the actual peak was 667 MW and occurred at 9:00 p.m. The total load forecast at the time was 707 MW, resulting in an overestimate of 6.0%.

Figure 27(b) shows the hourly distribution of the utility load forecast only (i.e., the load forecast with the industrial component removed). The error in the forecast of the utility load was negligible. This suggests the error in the industrial load forecast materially contributed to the error in the total load forecast. The hourly forecast predicted a utility peak at 5:00 p.m. of 578 MW; the actual peak was 572 MW and occurred at 5:00 p.m.

Figures 27(c), (d), and (e) are provided for context; however, the discrepancy between actual and forecast utility load for August 27, 2020 was primarily due to error in the industrial load forecast. Discrepancy in weather is not expected to have impacted the total actual load during the summer season. The forecast remained poor through the day. An overestimate of the load results in more than enough reserve being available.

### 2.3.23 September 8, 2020

On September 8, 2020, the forecast peak at 7:20 a.m., as reported to the Board, was 715 MW; the actual reported peak was 773 MW. The peak of 773 MW, as reported to the Board, includes a Maritime Link export of 52 MW, which occurred from 4:00 p.m. until midnight. The absolute difference, inclusive of the export, was 58 MW, 7.5% of the actual peak. Figure 28 includes an hourly plot of the load forecast for September 8, 2020, as well as several plots to assist in determining the sources of the differences between actual and forecast loads.

Figure 28(a) shows the hourly distribution of the load forecast compared to the actual load, exclusive of export activity. The hourly forecast predicted a 5:00 p.m. peak of 713 MW; the actual peak was 617 MW and occurred at 8:00 p.m. The total load forecast at the time was 693 MW, resulting in an underestimate of 3.3%.

Figure 28(b) shows the hourly distribution of the utility load forecast only (i.e., the load forecast with the industrial and export components removed). The hourly forecast predicted a utility peak at 5:00 p.m. of 551 MW; the actual peak was 573 MW and occurred at 5:00 p.m., resulting in an underestimate of 3.8%.

Figures 28(c), (d), and (e) are provided for context; however, the discrepancy between actual and forecast load was primarily the result of export activity over the Maritime Link since error in both the total load forecast, exclusive of exports, and the utility load forecast was low.

### 2.3.24 September 9, 2020

On September 9, 2020, the forecast peak at 7:20 a.m., as reported to the Board, was 690 MW; the actual reported peak was 794 MW. The peak of 794 MW, as reported to the Board, includes a Maritime Link export of 53 MW, which occurred from 5:00 p.m. until 11:00 p.m. The absolute difference, inclusive of the export, was 104 MW, 13.1% of the actual peak. Figure 29 includes an hourly plot of the load forecast for September 9, 2020, as well as several plots to assist in determining the sources of the differences between actual and forecast loads.

Figure 29(a) shows the hourly distribution of the load forecast compared to the actual load, exclusive of export activity. The hourly forecast predicted a 12:00 p.m. peak of 688 MW; the actual peak was 743 MW and occurred at 5:00 p.m. The total load forecast at the time was 685 MW, resulting in an underestimate of 7.8%.

Figure 29(b) shows the hourly distribution of the utility load forecast only (i.e., the load forecast with the industrial and export components removed). Excluding export activity during peak, the error in the forecast of the utility load was slightly lower than the error in the forecast of total load, meaning that error in the industrial load forecast likely did not contribute significantly to the error in the total load forecast in addition to export activity. The hourly forecast predicted a utility peak at 12:00 p.m. of 554 MW; the actual peak was 591 MW and occurred at 5:00 p.m. The utility load forecast at the time was 551 MW, resulting in an underestimate of 6.8%.

Figures 29(c), (d), and (e) are provided for context; however, the discrepancy between actual and forecast load was primarily the result of SCADA data incorrectly reporting the Upper Salmon unit output of -60 MW between 2:35 p.m. and 5:04 p.m., as noted in Section 2.2. The hours prior to peak incorporated actual load that was 60 MW lower than it should have been, thus influencing the hourly forecast updates to underestimate the load leading up to peak. It is not believed that export activity over the Maritime Link was the source of error at peak as the addition of 53 MW to the load at time of peak would have helped to compensate for the incorrect reduction in load at that hour.

### 2.3.25 September 11, 2020

On September 11, 2020, the forecast peak at 7:20 a.m., as reported to the Board, was 795 MW; the actual reported peak was 713 MW. The absolute difference was 82 MW, 11.5% of the actual peak. Figure 30 includes an hourly plot of the load forecast for September 11, 2020, as well as several plots to assist in determining the sources of the differences between actual and forecast loads.

Figure 30(a) shows the hourly distribution of the load forecast compared to the actual load. The hourly forecast predicted a 5:00 p.m. peak of 786 MW; the actual peak was 691 MW and occurred at 8:00 p.m. The total load forecast at the time was 761 MW, resulting in an overestimate of 10.1%.

Figure 30(b) shows the hourly distribution of the utility load forecast only (i.e., the load forecast with the industrial component removed). The error in the forecast of the utility load was higher than the error in the forecast of total load, suggesting that industrial load forecast contributed to the error in the total load forecast. The hourly forecast predicted a utility peak at 5:00 p.m. of 623 MW; the actual peak was 599 MW and occurred at 5:00 p.m.

Figures 30(c), (d), and (e) are provided for context; however, the discrepancy between actual and forecast load for September 11, 2020 was primarily a result of error in industrial load forecast contributing to error in the total load forecast. An overestimate of the load results in more than enough reserve being available. The forecast did not improve throughout the day.

### 2.3.26 October 1, 2020

On October 1, 2020, the forecast peak at 7:20 a.m., as reported to the Board, was 730 MW; the actual reported peak was 664 MW. The absolute difference was 66 MW, 9.9% of the actual peak. Figure 31 includes an hourly plot of the load forecast for October 1, 2020, as well as several plots to assist in determining the sources of the differences between actual and forecast loads.

Figure 31(a) shows the hourly distribution of the load forecast compared to the actual load. The hourly forecast predicted a 12:00 p.m. peak of 729 MW; the actual peak was 651 MW and occurred at 8:00 p.m. The total load forecast at the time was 720 MW, resulting in an overestimate of 9.6%.

Figure 31(b) shows the hourly distribution of the utility load forecast only (i.e., the load forecast with the industrial component removed). The error in the forecast of the utility load was negligible. This suggests the error in the industrial load forecast materially contributed to the error in the total load forecast. The hourly forecast predicted a utility peak at 12:00 p.m. of 567 MW; the actual peak was 582 MW and occurred at 5:00 p.m.

Figures 31(c), (d), and (e) are provided for context; however, the discrepancy between actual and forecast utility load for October 1, 2020 was primarily a result of error in industrial load forecast. An overestimate of the load results in more than enough reserve being available. The forecast did not improve through the day.

### 2.3.27 October 18, 2020

On October 18, 2020, the forecast peak at 7:20 a.m., as reported to the Board, was 817 MW; the actual reported peak was 730 MW. The peak of 730 MW, as reported to the Board, includes a Maritime Link export of approximately 53 MW, which occurred from 12:00 p.m. until midnight. The absolute difference, inclusive of export, was 87 MW, 10.6% of the actual peak. Figure 32 includes an hourly plot of the load forecast for October 18, 2020, as well as several plots to assist in determining the sources of the differences between actual and forecast loads.

Figure 32(a) shows the hourly distribution of the load forecast compared to the actual load, exclusive of export activity. The hourly forecast predicted a 10:00 a.m. peak of 775 MW; the actual peak was 760 MW and occurred at 7:00 p.m. The total load forecast at the time was 771 MW, resulting in an overestimate of 1.4%.

Figure 32(b) shows the hourly distribution of the utility load forecast only (i.e., the load forecast with the industrial and export components removed). The hourly forecast predicted a utility peak at 10:00 a.m. of 613 MW; the actual peak was 635 MW and occurred at 7:00 p.m. The forecast at time of peak was 609 MW, resulting in an underestimate of 4.1%.

Figures 32(c), (d), and (e) are provided for context; however, the discrepancy between actual and forecast load was primarily attributable to export activity over the Maritime Link since error in both the total load forecast, exclusive of exports, and the utility load forecast was low. An overestimation of the load results in more than enough reserve being available. Hourly updates improved the load forecast as the day progressed.

### 2.3.28 October 21, 2020

On October 21, 2020, the forecast peak at 7:20 a.m., as reported to the Board, was 850 MW; the actual reported peak was 786 MW. The absolute difference was 64 MW, 8.1% of the actual peak. Figure 33 includes an hourly plot of the load forecast for October 21, 2020, as well as several plots to assist in determining the sources of the differences between actual and forecast loads.

Figure 33(a) shows the hourly distribution of the load forecast compared to the actual load. The hourly forecast predicted a 7:00 p.m. peak of 848 MW; the actual peak was 779 MW and occurred at 7:00 p.m.

Figure 33(b) shows the hourly distribution of the utility load forecast only (i.e., the load forecast with the industrial component removed). The error in the forecast of the utility load at time of peak was negligible. This suggests the error in the industrial load forecast materially contributed to the error in the total load forecast. The hourly forecast predicted a utility peak at 7:00 p.m. of 686 MW; the actual peak was 712 MW and occurred at 5:00 p.m.

Figures 33(c), (d), and (e) are provided for context; however, the discrepancy between actual and forecast utility load for October 21, 2020 is primarily a result of error in industrial load forecast. An overestimate of the load results in more than enough reserve being available. The forecast did not improve through the day. Note that the utility load actuals included in Figure 33(c) have been influenced by the SCADA system upgrade discussed in Section 2.2. Following the system upgrade, erroneous and/or missing actual load values resulted in unusable forecasts in the Nostradamus development system. Load data was taken from the production version to replace the missing values; however, small errors remained in the actual load data in the production system, resulting in an abnormal load shape.

### 2.3.29 November 14, 2020

On November 14, 2020, the forecast peak at 7:20 a.m., as reported to the Board, was 1,170 MW; the actual reported peak was 1,242 MW. The absolute difference was 72 MW, 5.8% of the actual peak.

Figure 34 includes an hourly plot of the load forecast for November 14, 2020, as well as several plots to assist in determining the sources of the differences between actual and forecast loads.

Figure 34(a) shows the hourly distribution of the load forecast compared to the actual load. The hourly forecast predicted a 5:00 p.m. peak of 1,171 MW; the actual peak was 1,240 MW and occurred at 5:00 p.m.

Figure 34(b) shows the hourly distribution of the utility load forecast only (i.e., the load forecast with the industrial component removed). The error in the forecast of the utility load was higher than the error in the forecast of total load, meaning that error in the industrial load forecast did not contribute to the error in the total load forecast. The hourly forecast predicted a utility peak at 5:00 p.m. of 1,009 MW; the actual peak was 1,089 MW and occurred at 5:00 p.m.

Figure 34(c) shows the actual temperature in St. John's compared to the forecast. The temperature was overestimated by 1°C to 2°C from 10:00 a.m. onwards. The cooler than forecast temperatures likely contributed to the load forecast error.

Figure 34(d) shows the actual wind speed in St. John's compared to the forecast. The actual wind speed was slightly lower than forecast until 2:00 p.m. The actual wind speed then varied from the forecast wind speed and was slightly higher than forecast at time of peak. The slightly higher forecast wind speed at peak likely would not have contributed to the load forecast error. Figure 34(e) shows the forecast and actual cloud cover. The forecast was relatively accurate during daylight hours.

The discrepancy between actual and forecast utility load for November 14, 2020 was likely a result of non-uniform customer behaviour, as this day occurred on a weekend, and error in the temperature forecast. The forecast improved after peak.

### 2.3.30 November 17, 2020

On November 17, 2020, the forecast peak at 7:20 a.m., as reported to the Board, was 1,095 MW; the actual reported peak was 1,029 MW. The absolute difference was 66 MW, 6.4% of the actual peak. Figure 35 includes an hourly plot of the load forecast for November 17, 2020, as well as several plots to assist in determining the sources of the differences between actual and forecast loads.

Figure 35(a) shows the hourly distribution of the load forecast compared to the actual load. The hourly forecast predicted a 6:00 p.m. peak of 1,096 MW; the actual peak was 1,023 MW and occurred at 5:00 p.m. The total load forecast at the time was 1,085 MW, resulting in an overestimate of 6.1%.

Figure 35(b) shows the hourly distribution of the utility load forecast only (i.e., the load forecast with the industrial component removed). The error in the forecast of the utility load was lower than the error in the forecast of total load, suggesting that industrial load forecast contributed to the error in the total load forecast. The hourly forecast predicted a utility peak at 6:00 p.m. of 934 MW; the actual peak was 886 MW and occurred at 5:00 p.m.

Figure 35(c) shows the actual temperature in St. John's compared to the forecast. The temperature forecast was accurate at peak, and therefore likely did not contribute to the error in the total load forecast.

Figure 35(d) shows the actual wind speed in St. John's compared to the forecast. The forecast wind speed was overestimated for the majority of the day which likely contributed to the error in the total load forecast. Figure 35(e) shows the actual cloud cover in St. John's compared to the forecast. The forecast cloud cover was slightly underestimated during daylight hours; however, this would likely not counteract the reduction in actual wind speed.

The discrepancy between actual and forecast utility load for November 17, 2020 was primarily a result of error in the industrial load forecast and was further influenced by error in the wind speed forecast. The forecast did not improve after peak for the remainder of the day.

### 2.3.31 November 19, 2020

On November 19, 2020, the forecast peak at 7:20 a.m., as reported to the Board, was 1,245 MW; the actual reported peak was 1,346 MW. The peak of 1,346 MW, as reported to the Board, includes a Maritime Link export of approximately 53 MW, which occurred from 8:00 a.m. until 7:00 p.m. The absolute difference, inclusive of export, was 101 MW, 7.5% of the actual peak. Figure 36 includes an hourly plot of the load forecast for November 19, 2020, as well as several plots to assist in determining the sources of the differences between actual and forecast loads.

Figure 36(a) shows the hourly distribution of the load forecast compared to the actual load, exclusive of exports. The hourly forecast predicted a 6:00 p.m. peak of 1,247 MW; the actual peak was 1,288 MW

and occurred at 5:00 p.m. The total load forecast at the time was 1,246 MW, resulting in an underestimate of 3.2%.

Figure 36(b) shows the hourly distribution of the utility load forecast only (i.e., the load forecast with the industrial and export components removed). The hourly forecast predicted a utility peak at 6:00 p.m. of 1,084 MW; the actual peak was 1,152 MW and occurred at 5:00 p.m., resulting in an underestimate of 5.9%.

Figure 36(c) shows the actual temperature in St. John's compared to the forecast. The temperature forecast was underestimated until 2:00 p.m. when it was overestimated for the remainder of the day. Colder than forecast temperatures in the afternoon could have contributed to the load forecast error leading up to peak.

Figure 36(d) shows the actual wind speed in St. John's compared to the forecast. Through the entire day the actual wind speed was slightly lower than forecast, however not likely enough to contribute to the forecast error. Figure 36(e) shows the actual cloud cover in St. John's compared to the forecast. Cloud cover was underestimated for the entire day. More cloud cover than forecast combined with colder temperatures than forecast in the afternoon could have contributed to the load forecast underestimate at peak.

The discrepancy between actual and forecast load for November 19, 2020 was primarily a result of export activity over the Maritime Link, and further influenced by error in the temperature and cloud cover forecast. The forecast improved after peak.

### 2.3.32 December 10, 2020

On December 10, 2020, the forecast peak at 7:20 a.m., as reported to the Board, was 1,210 MW; the actual reported peak was 1,128 MW. The absolute difference was 82 MW, 7.3% of the actual peak. Figure 37 includes an hourly plot of the load forecast for December 10, 2020, as well as several plots to assist in determining the sources of the differences between actual and forecast loads.

Figure 37(a) shows the hourly distribution of the load forecast compared to the actual load. The hourly forecast predicted a 5:00 p.m. peak of 1,248 MW; the actual peak was 1,169 MW and occurred at 5:00 p.m.

Figure 37(b) shows the hourly distribution of the utility load forecast only (i.e., the load forecast with the industrial component removed). The error in the forecast of the utility load was materially lower than the error in the forecast of total load. This suggests the error in the industrial load forecast materially contributed to the error in the total load forecast. The hourly forecast predicted a utility peak at 5:00 p.m. of 1,086 MW; the actual peak of 1,067 MW occurred at 5:00 p.m.

Figures 37(c), (d), and (e) are provided for context; however, the discrepancy between actual and forecast utility load for December 10, 2020 was primarily a result of errors in industrial load forecast. The forecast did not improve as the day went on. An overestimate of the load results in more than enough reserve being available.

### 2.3.33 December 19, 2020

On December 19, 2020, the forecast peak at 7:20 a.m., as reported to the Board, was 1,510 MW; the actual reported peak was 1,398 MW. The peak of 1,398 MW, as reported to the Board, includes a Maritime Link export of approximately 27 MW, which occurred from 5:00 p.m. until 8:00 p.m., reaching up to 52 MW. The absolute difference, inclusive of export, was 112 MW, 8.0% of the actual peak. Figure 38 includes an hourly plot of the load forecast for December 19, 2020, as well as several plots to assist in determining the sources of the differences between actual and forecast loads.

Figure 38(a) shows the hourly distribution of the load forecast compared to the actual load, exclusive of export activity. The hourly forecast predicted a 5:00 p.m. peak of 1,345 MW; the actual peak was 1,294 MW and occurred at 5:00 p.m., resulting in an overestimate of 3.9%.

Figure 38(b) shows the hourly distribution of the utility load forecast only (i.e., the load forecast with the industrial and export components removed). The error in the forecast of the utility load was materially lower than the error in the forecast of total load. This suggests the error in the industrial load forecast materially contributed to the error in the total load forecast. The hourly forecast predicted a utility peak at 5:00 p.m. of 1,184 MW; the actual peak of 1,174 MW occurred at 5:00 p.m.

Figures 38(c), (d), and (e) are provided for context; however, the discrepancy between actual and forecast load is primarily the result of export activity over the Maritime Link. An overestimation of the load results in more than enough reserve being available. The forecast did not improve for the remainder of the day.

### 2.3.34 December 30, 2020

On December 30, 2020, the forecast peak at 7:20 a.m., as reported to the Board, was 1,425 MW; the actual reported peak was 1,352 MW. The absolute difference was 73 MW, 5.4% of the actual peak. Figure 39 includes an hourly plot of the load forecast for December 30, 2020, as well as several plots to assist in determining the sources of the differences between actual and forecast loads.

Figure 39(a) shows the hourly distribution of the load forecast compared to the actual load. The hourly forecast predicted a 5:00 p.m. peak of 1,429 MW; the actual peak was 1,371 MW and occurred at 5:00 p.m.

Figure 39(b) shows the hourly distribution of the utility load forecast only (i.e., the load forecast with the industrial component removed). The error in the forecast of the utility load was lower than the error in the forecast of total load, meaning that error in the industrial load forecast contributed to the error in the total load forecast. The hourly forecast predicted a utility peak at 5:00 p.m. of 1,268 MW; the actual peak of 1,227 MW occurred at 5:00 p.m.

Figures 39(c), (d), and (e) are provided for context; however, the discrepancy between actual and forecast utility load for December 30, 2020 was primarily a result of error in industrial load. As the day occurred during Christmas break, non-uniform customer behaviour could also have been a contributor. An overestimate of the load results in more than enough reserve being available. The forecast did not improve through the day.

# 3 Forecast Accuracy Review

Table 4 summarizes the average error in the peak of the utility load forecast by month in 2020. The absolute percent error at peak each month varied between 1.6% (February 2020) and 3.5% (December 2020) with an average of 2.5%. For reference, Hydro considers error below 4.95% to be within acceptable forecasting limits. Comparing absolute percent error, there does not appear to be any seasonal correlation. The average error was negative in eight months of the year and positive in four months of the year. On average, the forecast typically underestimates the load though the average understatement is -0.6% of actual peak. The average absolute error in 2020 was 23 MW, which compares to the average absolute error in 2019 of 20 MW. The slight increase in average error at peak is likely due to an increase in non-uniform customer behaviour as a result of the COVID-19 pandemic.

Table 5 summarizes the maximum error in the peak of the utility load forecast by month in 2020. The maximum absolute error varied between 4.2% (August 2020) and 13.4% (July 2020). Comparing absolute percent error, there does not appear to be any seasonal correlation. The maximum errors were positive in all 12 months. For monthly maximum errors, the forecast typically overestimates (rather than underestimates) the load. The largest absolute error at peak in 2020 was 158 MW and occurred on January 2, 2020 when an external technology error impacted the program's ability to provide an accurate forecast. As previously noted, this error was not a result of the Nostradamus program. Therefore, the largest absolute error at peak was 116 MW and occurred in February 2020. This was an improvement compared to the largest error at peak in 2019 of 121 MW which occurred in January.

Table 6 summarizes the error at the ten highest utility loads during the reporting period. The highest loads in this reporting period occurred in January (four instances), February (five instances), and March (one instance). Four of the ten highest loads were overestimated and six were underestimated. The percent error varied from -3.7% to 2.6%; the overall average was -0.4%. The absolute percent error varied from 0.8% to 3.7%, with an average of 1.7%. These statistics confirm that there is no correlation between high load and high error in the load forecast and that Nostradamus is forecasting high load at peak well within the acceptable forecasting limit of less than 4.95% error.

Table 7 summarizes the result of the investigations into instances of high forecast error. Most errors occur as a result of errors in the industrial forecast and error due to export activity over the Maritime Link. Less frequently, errors occur due to the weather forecast, largely driven by errors in temperature and wind speed forecasting. Some errors remain unexplained; they result from unpredictable customer behavior that can occur on a weekend or during a statutory holiday that is not modelled by Nostradamus. An additional source of non-conforming error is the impact the COVID-19 pandemic had on the load beginning March 2020 through year end. While the impacts are not able to be fully quantified, the implementation of public health measures through the year may have contributed to increases in non-uniform customer behaviour that may have resulted in a small impact on the overall load and load shape. Of the 36 included instances of high forecast error, 10 occurred on a weekend, and 26 occurred on a weekday.

# Appendix A

## Tables and Figures

newfoundland labrador hydro
a nalcor energy company

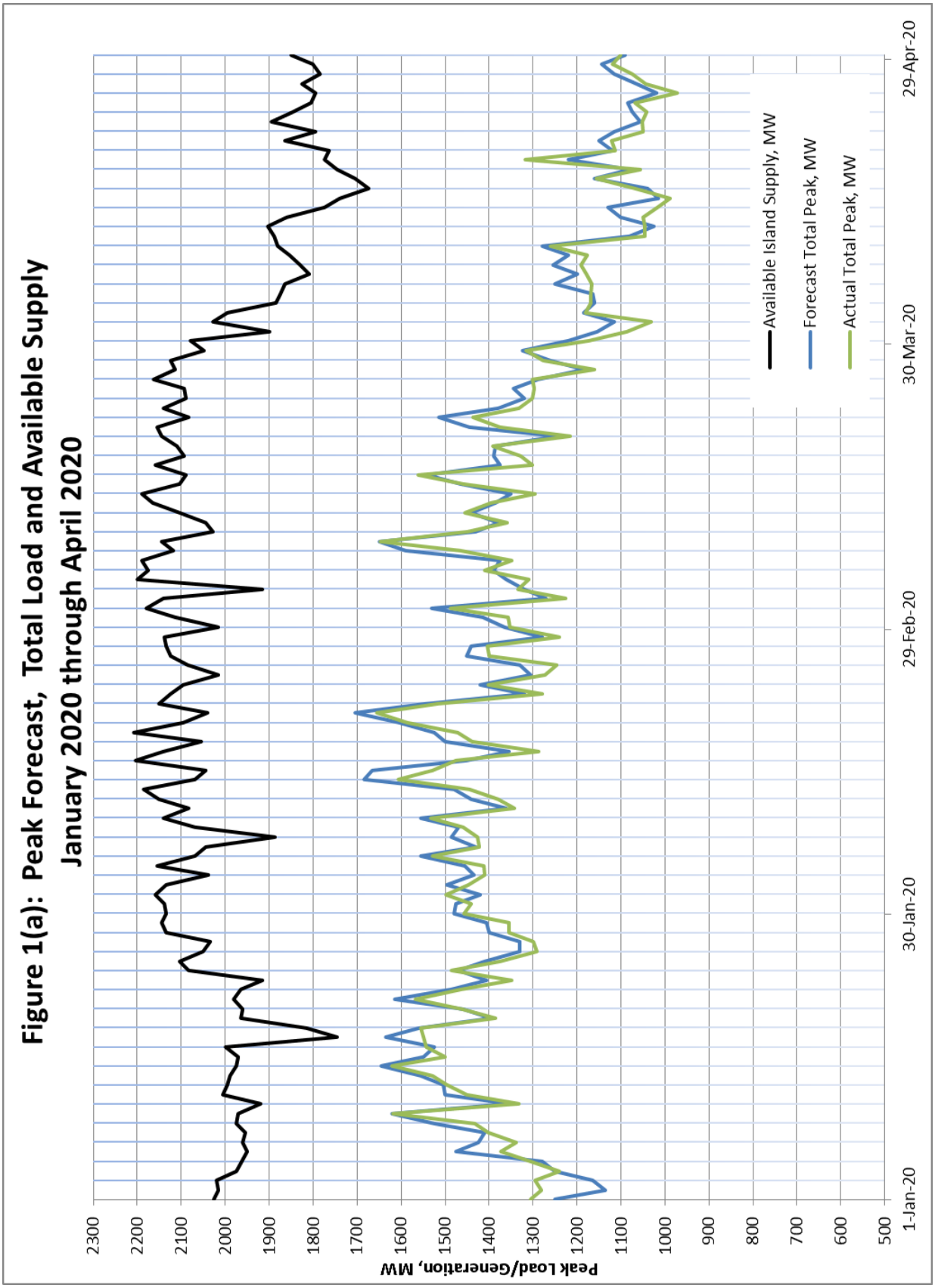
Figure 1(a): Peak Forecast, Total Load and Available Supply
January 2020 through April 2020
Peak Load/Generation, MW
2300
2200
2100
2000
1900
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
1-Jan-20
30-Jan-20
29-Feb-20
30-Mar-20
29-Apr-20
Available Island Supply, MW
Forecast Total Peak, MW
Actual Total Peak, MW

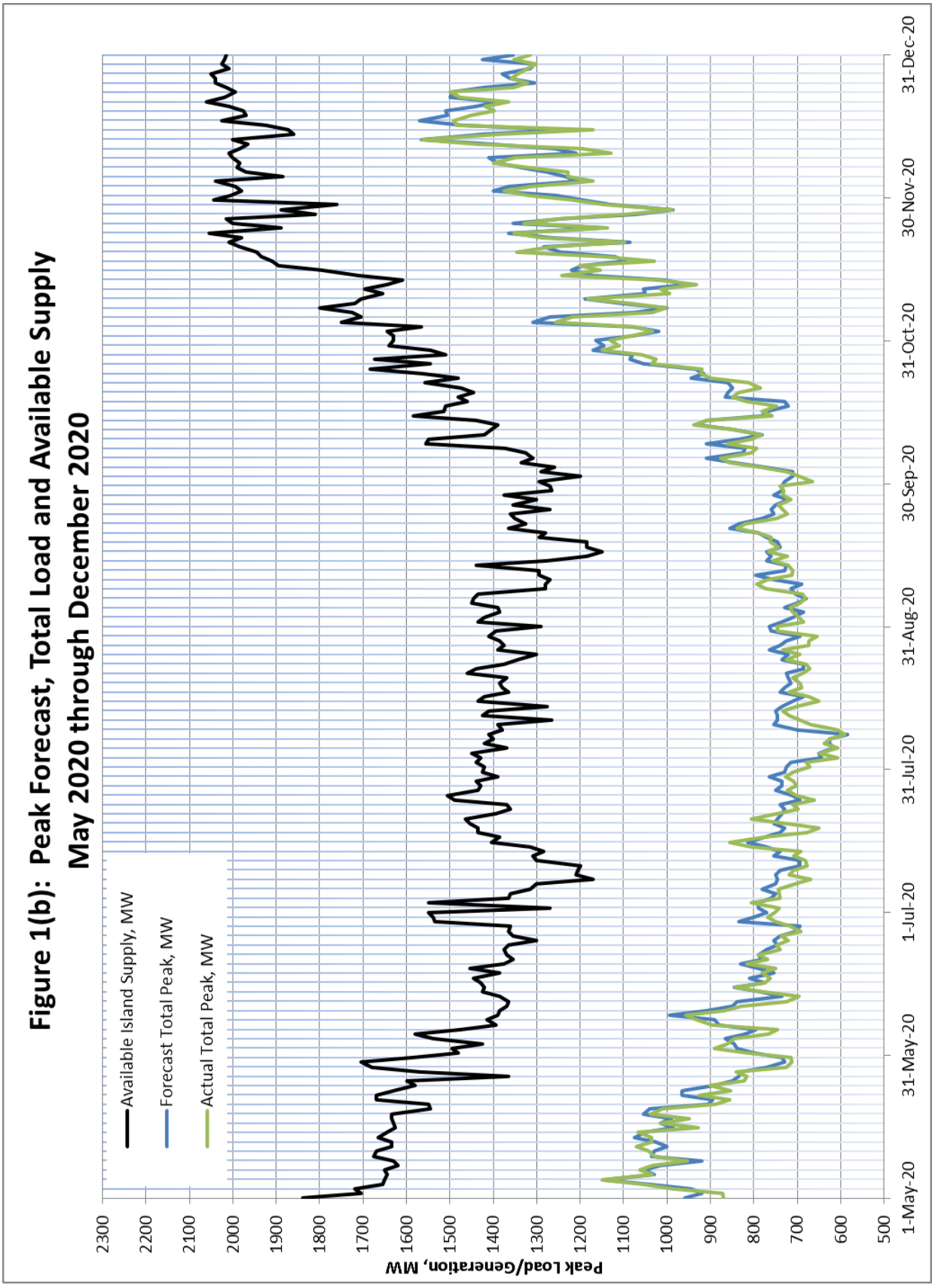
Figure 1(b): Peak Forecast, Total Load and Available Supply
May 2020 through December 2020
Available Island Supply, MW
Forecast Total Peak, MW
Actual Total Peak, MW
Peak Load/Generation, MW
2300
2200
2100
2000
1900
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
1-May-20
31-May-20
1-Jul-20
31-Jul-20
31-Aug-20
30-Sep-20
31-Oct-20
30-Nov-20
31-Dec-20

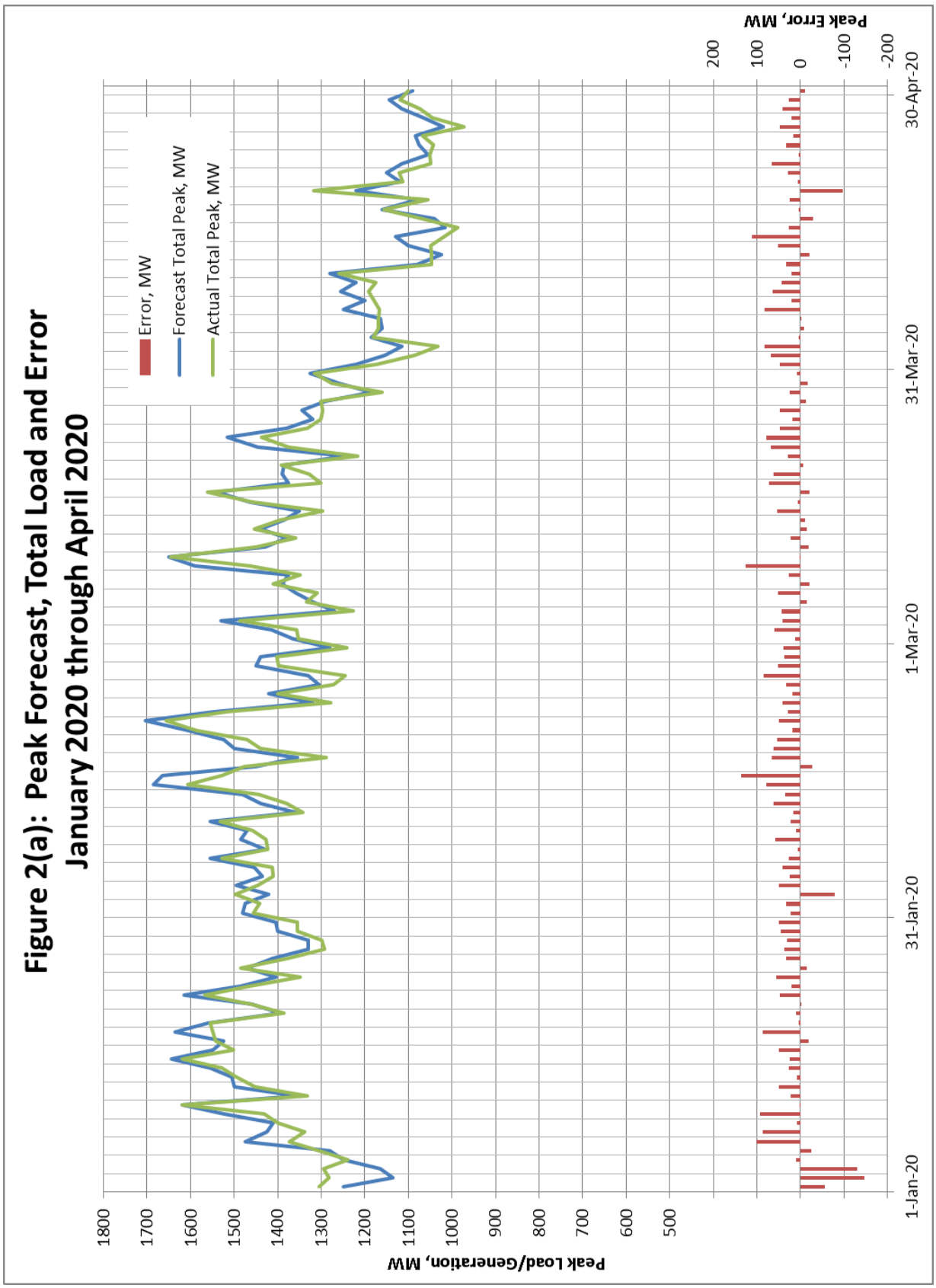
Figure 2(a): Peak Forecast, Total Load and Error
January 2020 through April 2020
Error, MW
Forecast Total Peak, MW
Actual Total Peak, MW
Peak Load/Generation, MW
Peak Error, MW
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
200
100
0
-100
-200
1-Jan-20
31-Jan-20
1-Mar-20
31-Mar-20
30-Apr-20

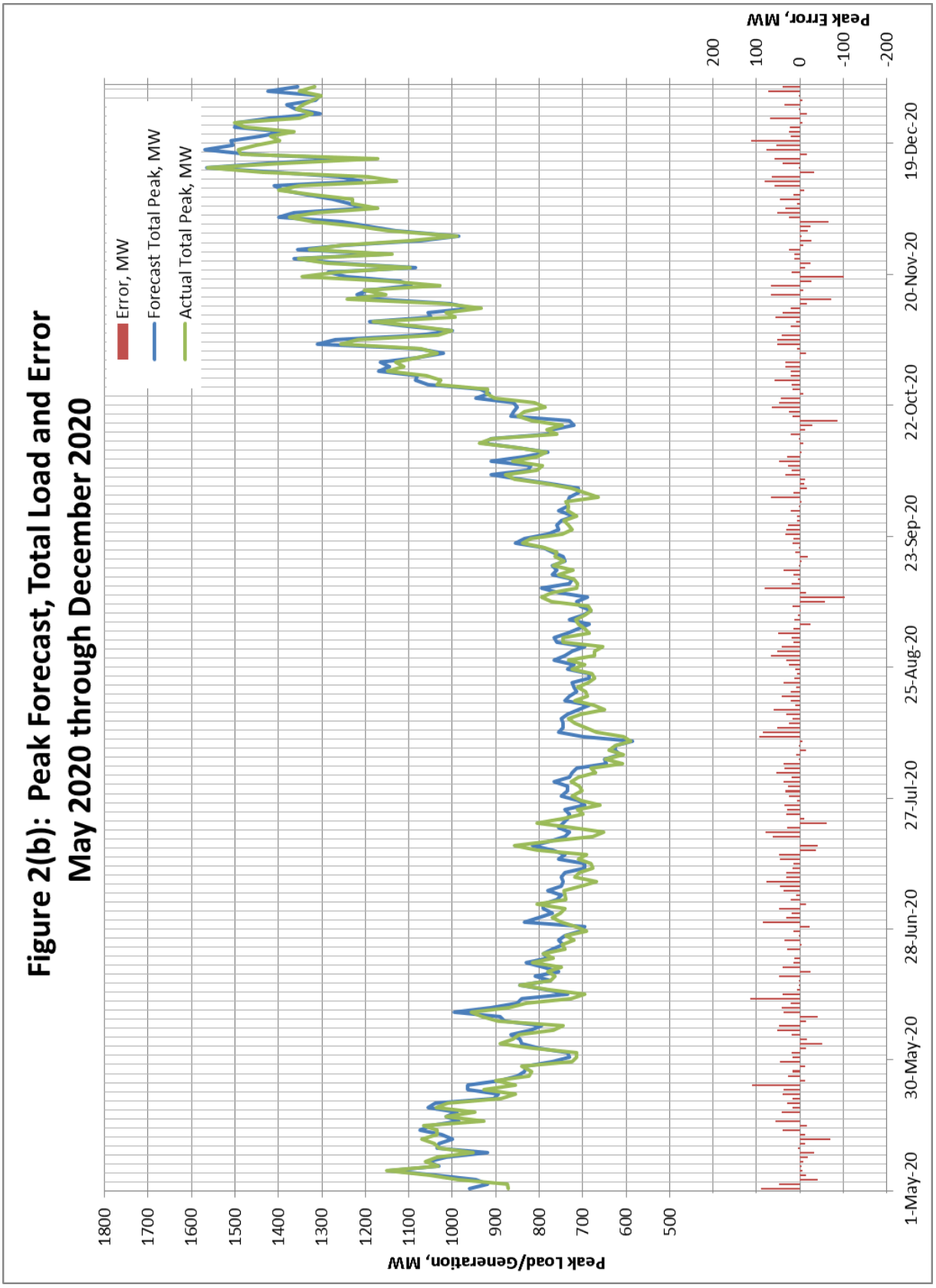
Figure 2(b): Peak Forecast, Total Load and Error
May 2020 through December 2020
Error, MW
Forecast Total Peak, MW
Actual Total Peak, MW
Peak Load/Generation, MW
Peak Error, MW
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
200
100
0
-100
-200
1-May-20
30-May-20
28-Jun-20
27-Jul-20
25-Aug-20
23-Sep-20
22-Oct-20
20-Nov-20
19-Dec-20

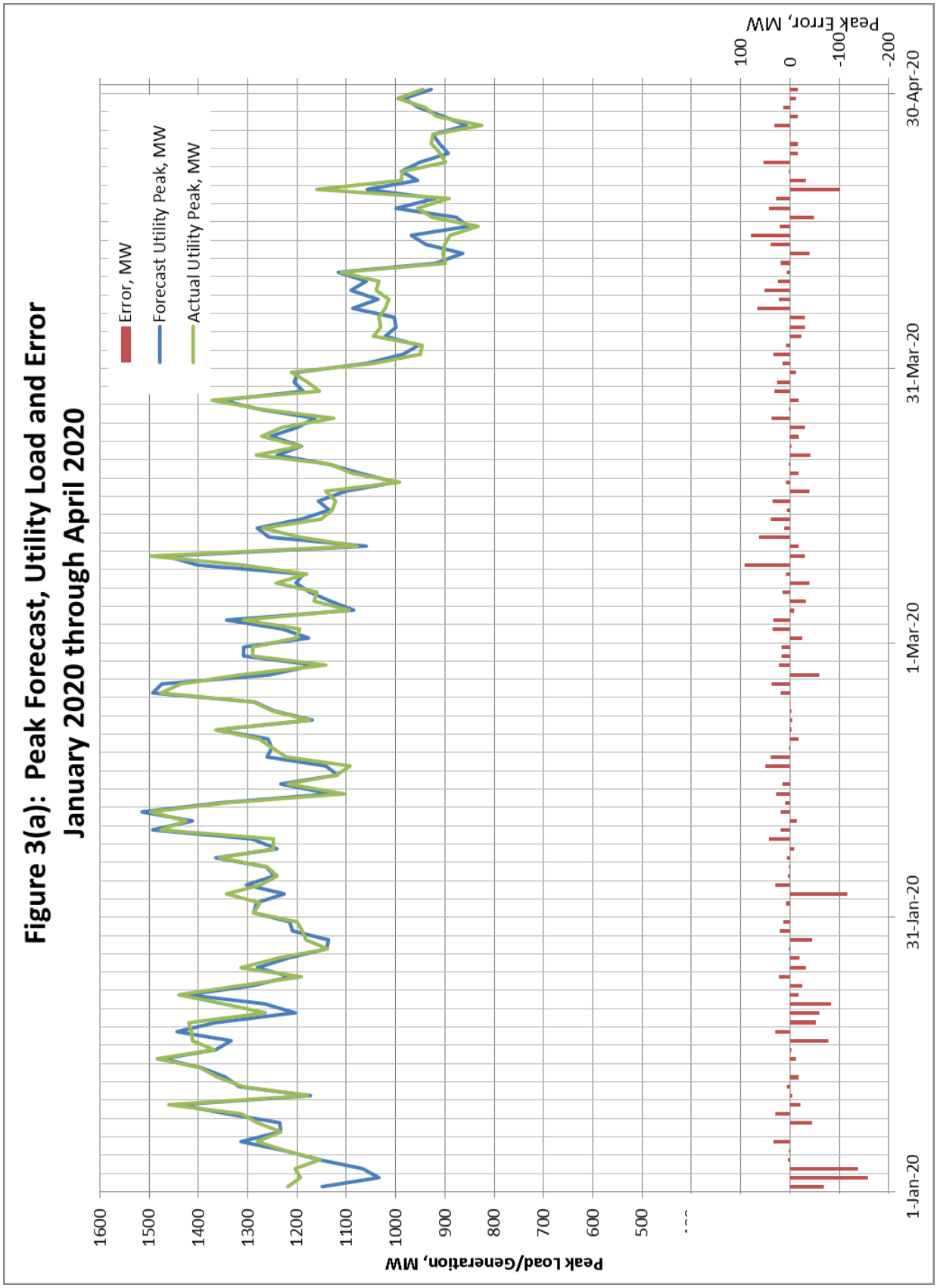
Figure 3(a): Peak Forecast, Utility Load and Error
January 2020 through April 2020
Error, MW
Forecast Utility Peak, MW
Actual Utility Peak, MW
Peak Load/Generation, MW
Peak Error, MW
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
100
0
-100
-200
1-Jan-20
31-Jan-20
1-Mar-20
31-Mar-20
30-Apr-20

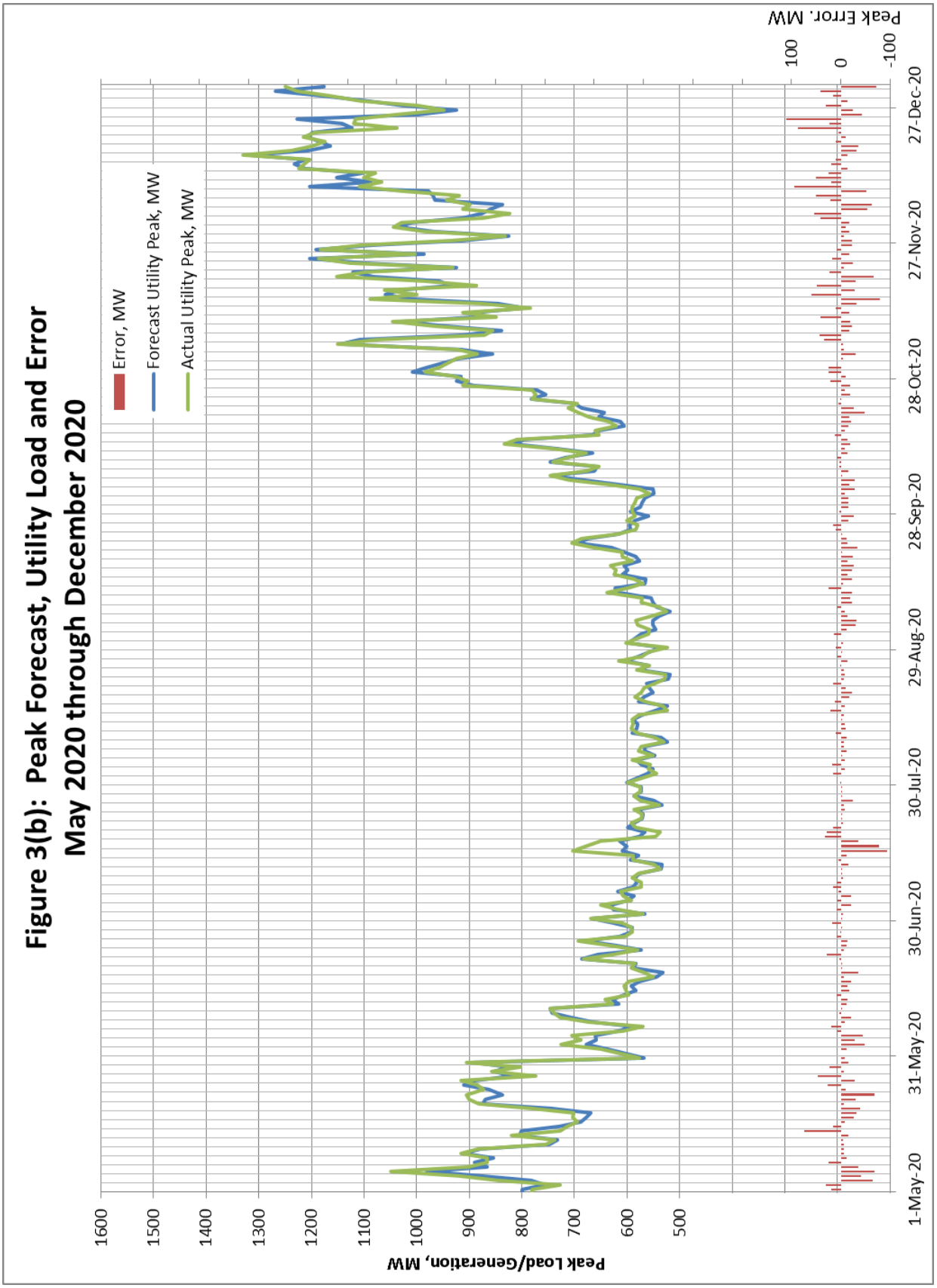
Figure 3(b): Peak Forecast, Utility Load and Error
May 2020 through December 2020
Error, MW
Forecast Utility Peak, MW
Actual Utility Peak, MW
Peak Load/Generation, MW
Peak Error, MW
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
100
0
-100
1-May-20
31-May-20
30-Jun-20
30-Jul-20
29-Aug-20
28-Sep-20
28-Oct-20
27-Nov-20
27-Dec-20

**Figure 4 Accuracy Analysis - Jan 02, 2020**

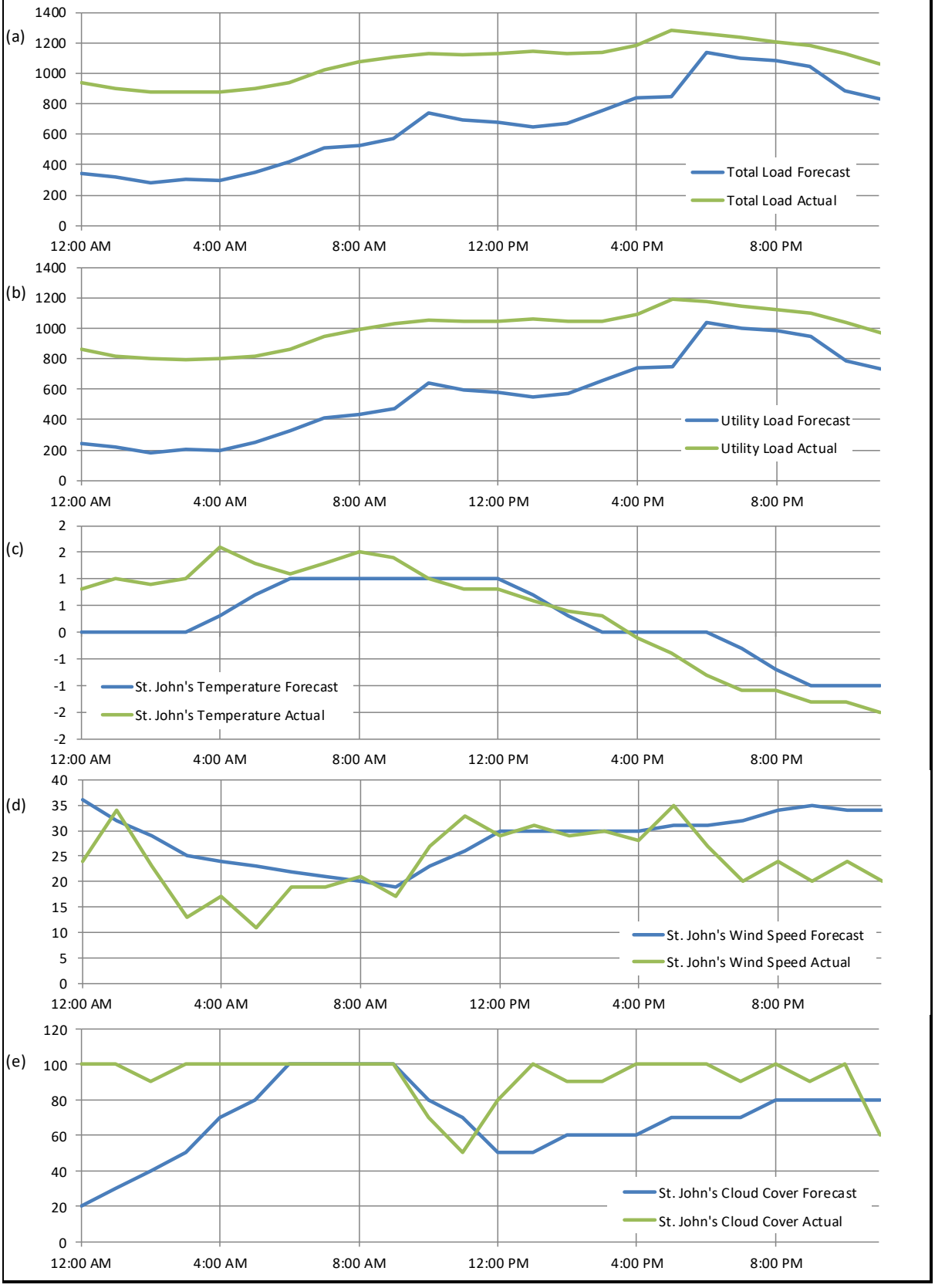

**Figure 5 Accuracy Analysis - Jan 03, 2020**

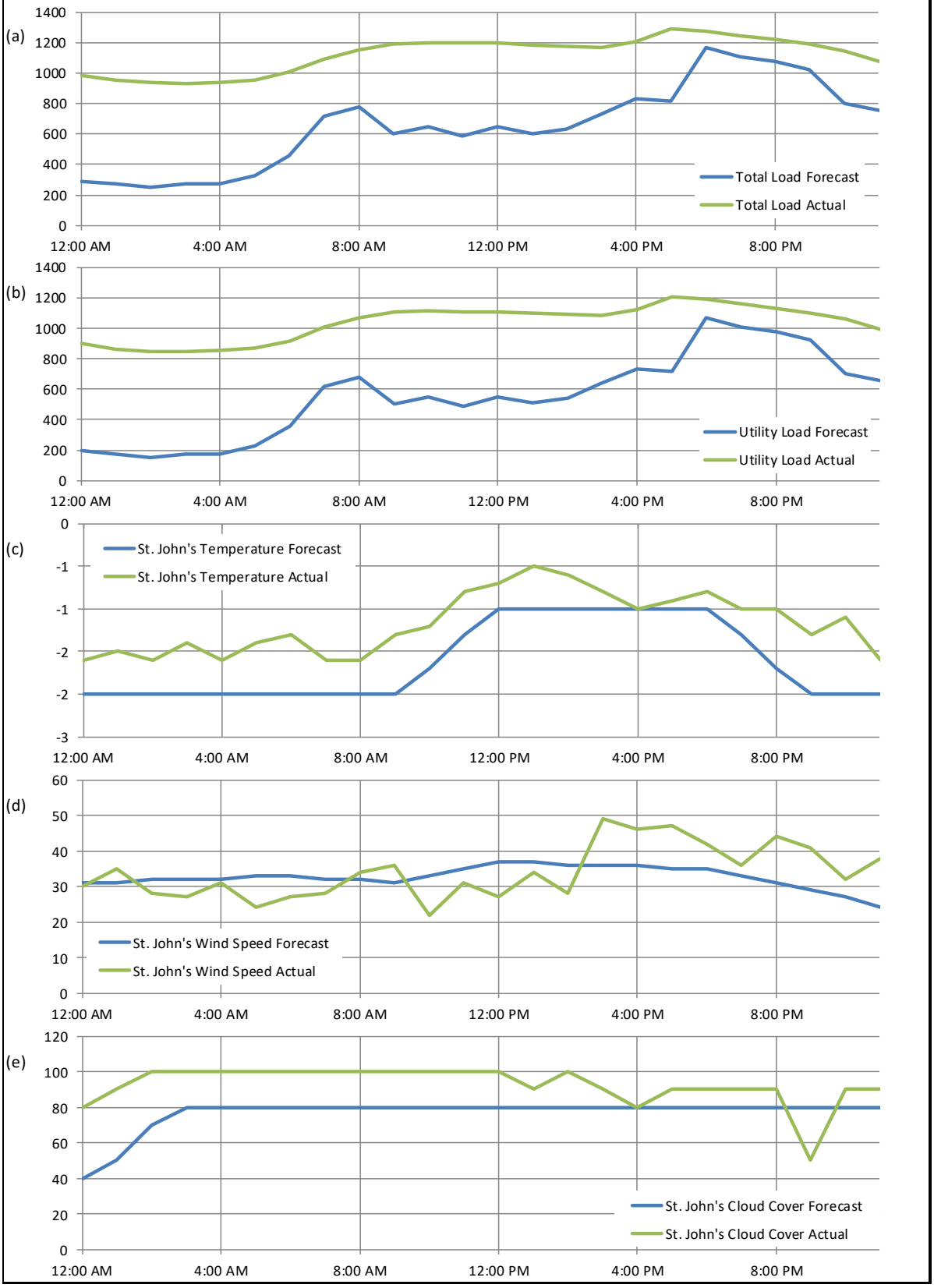

**Figure 6 Accuracy Analysis - Jan 06, 2020**

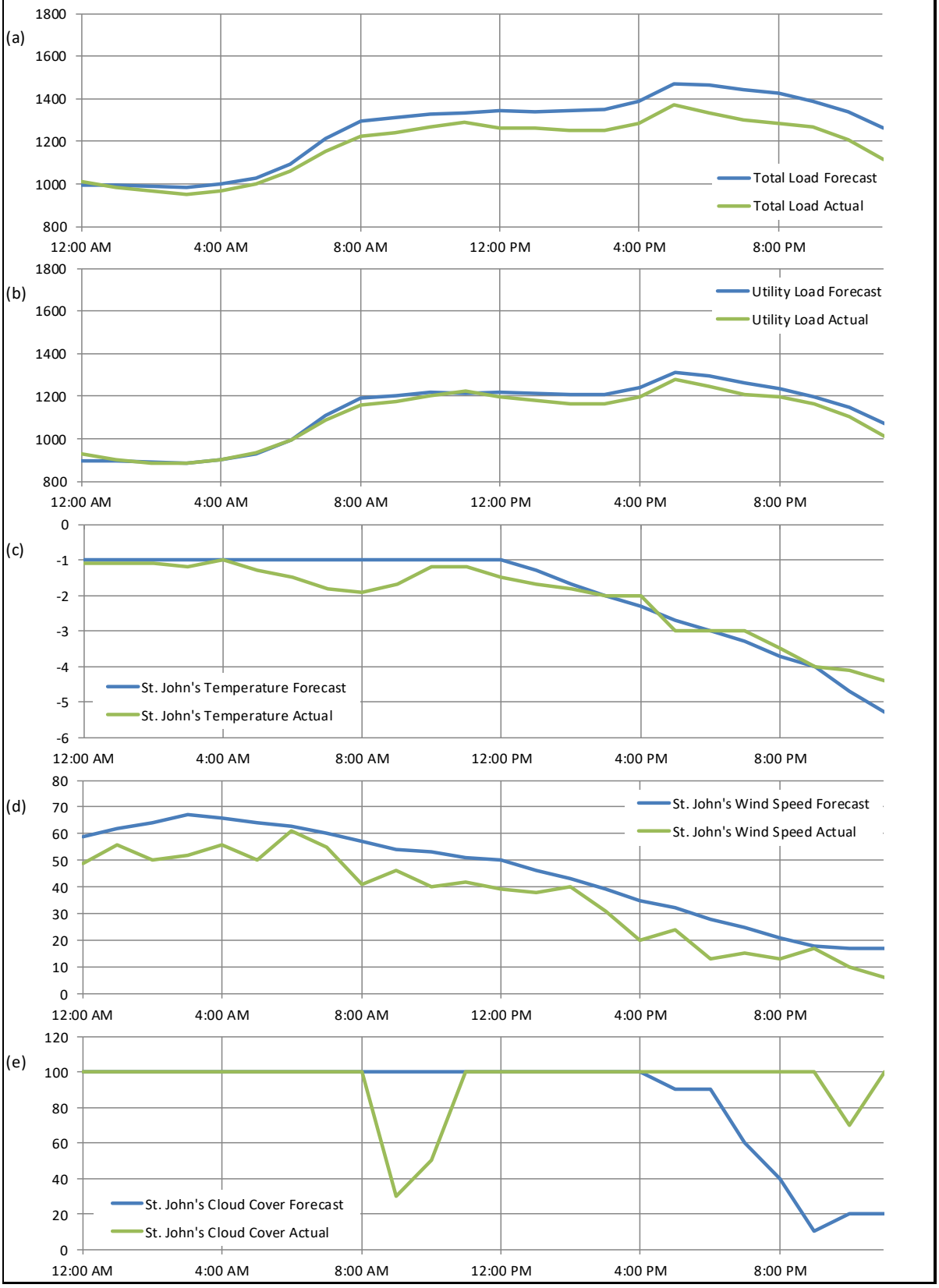

**Figure 7 Accuracy Analysis - Feb 02, 2020**

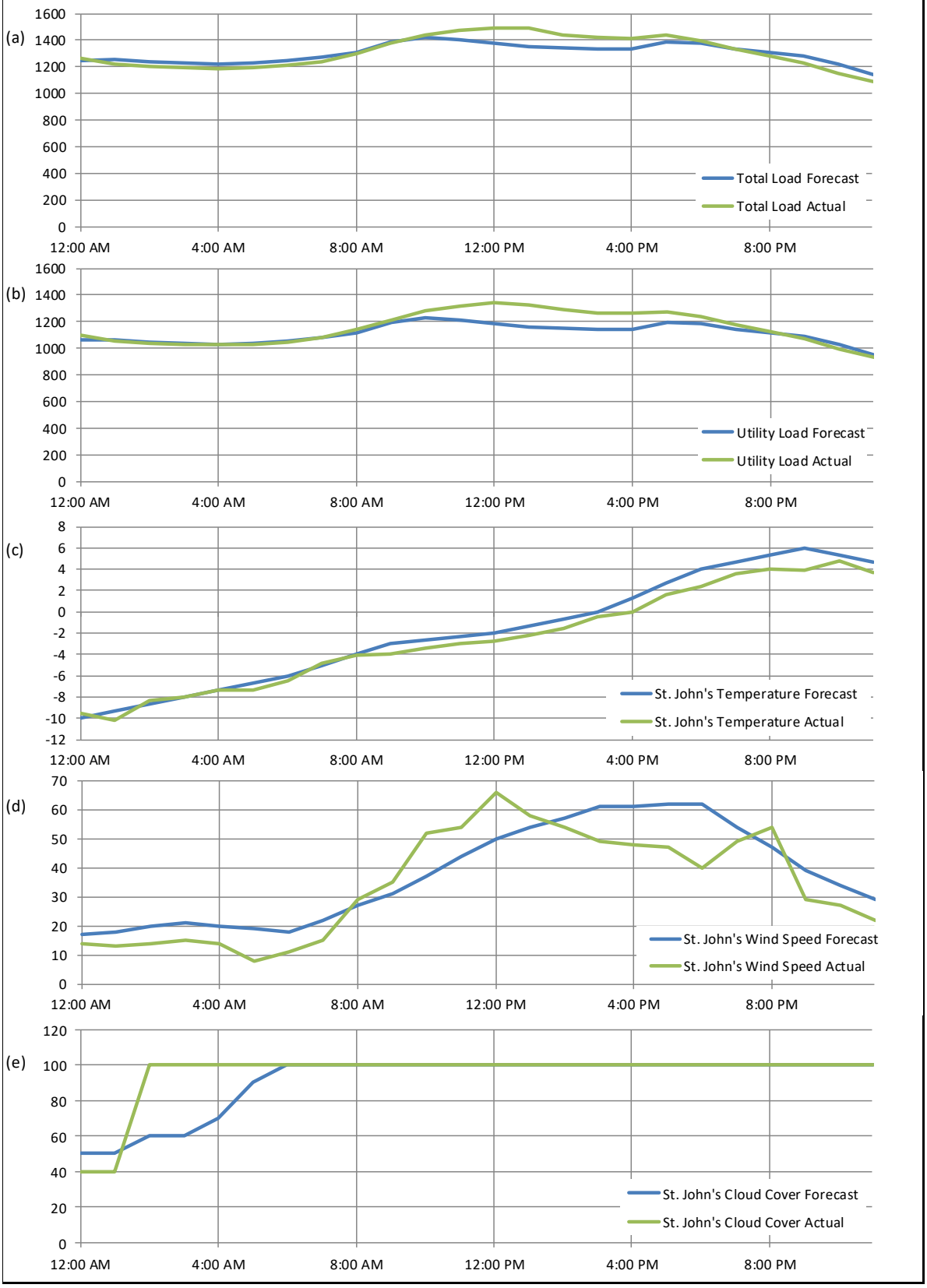

**Figure 8 Accuracy Analysis - Feb 15, 2020**

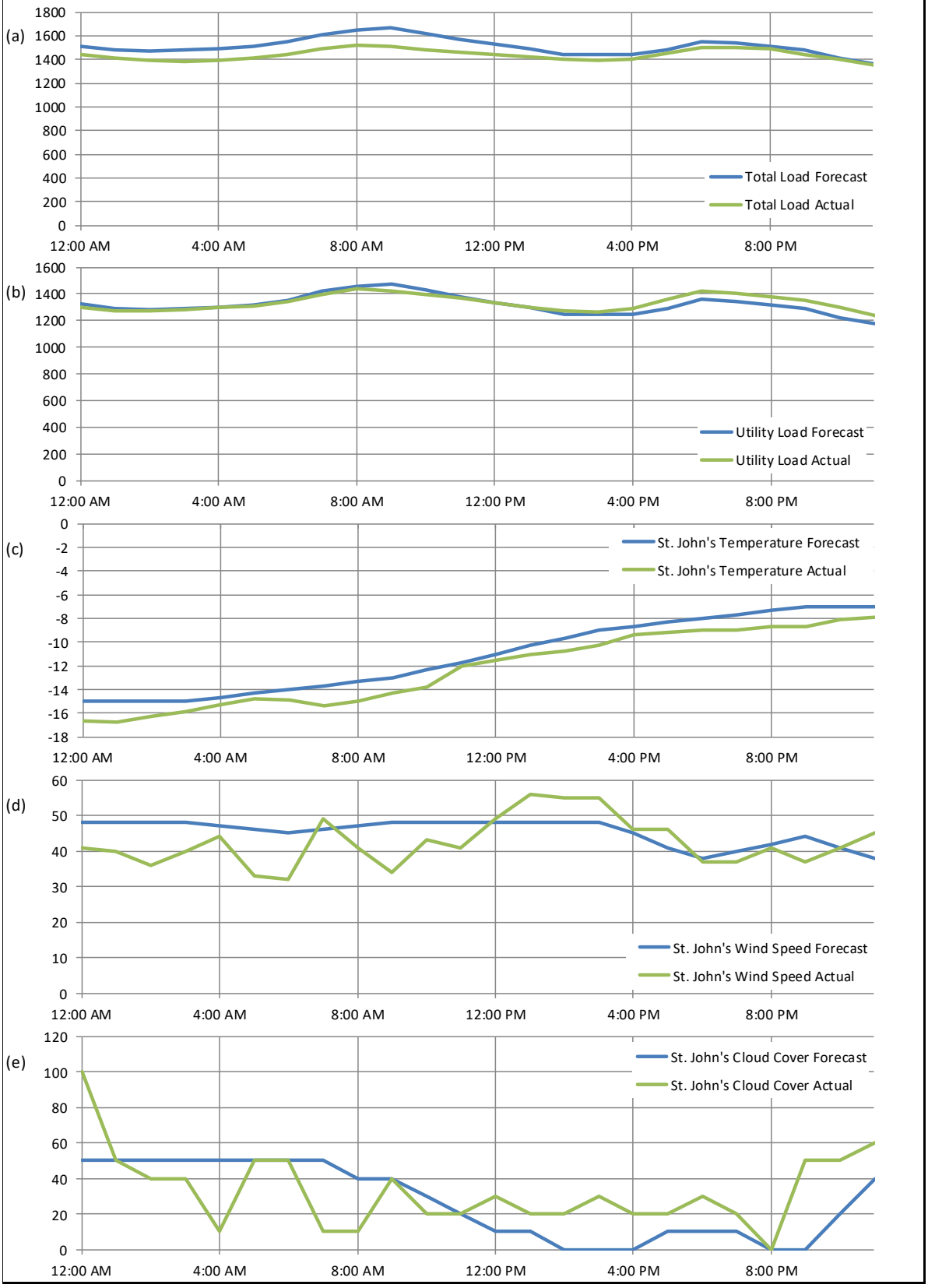

**Figure 9 Accuracy Analysis - Feb 26, 2020**

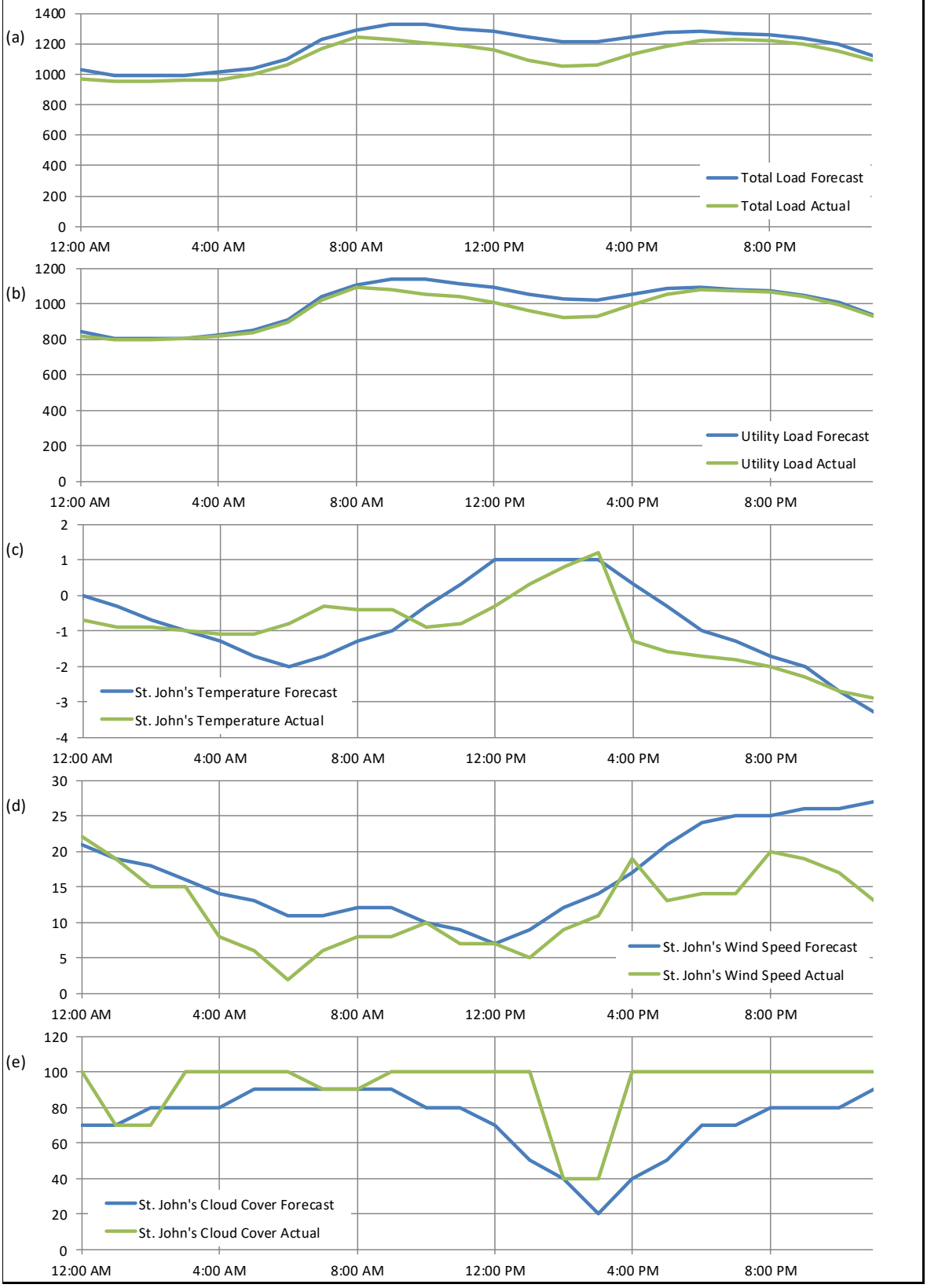

**Figure 10 Accuracy Analysis - Mar 09, 2020**

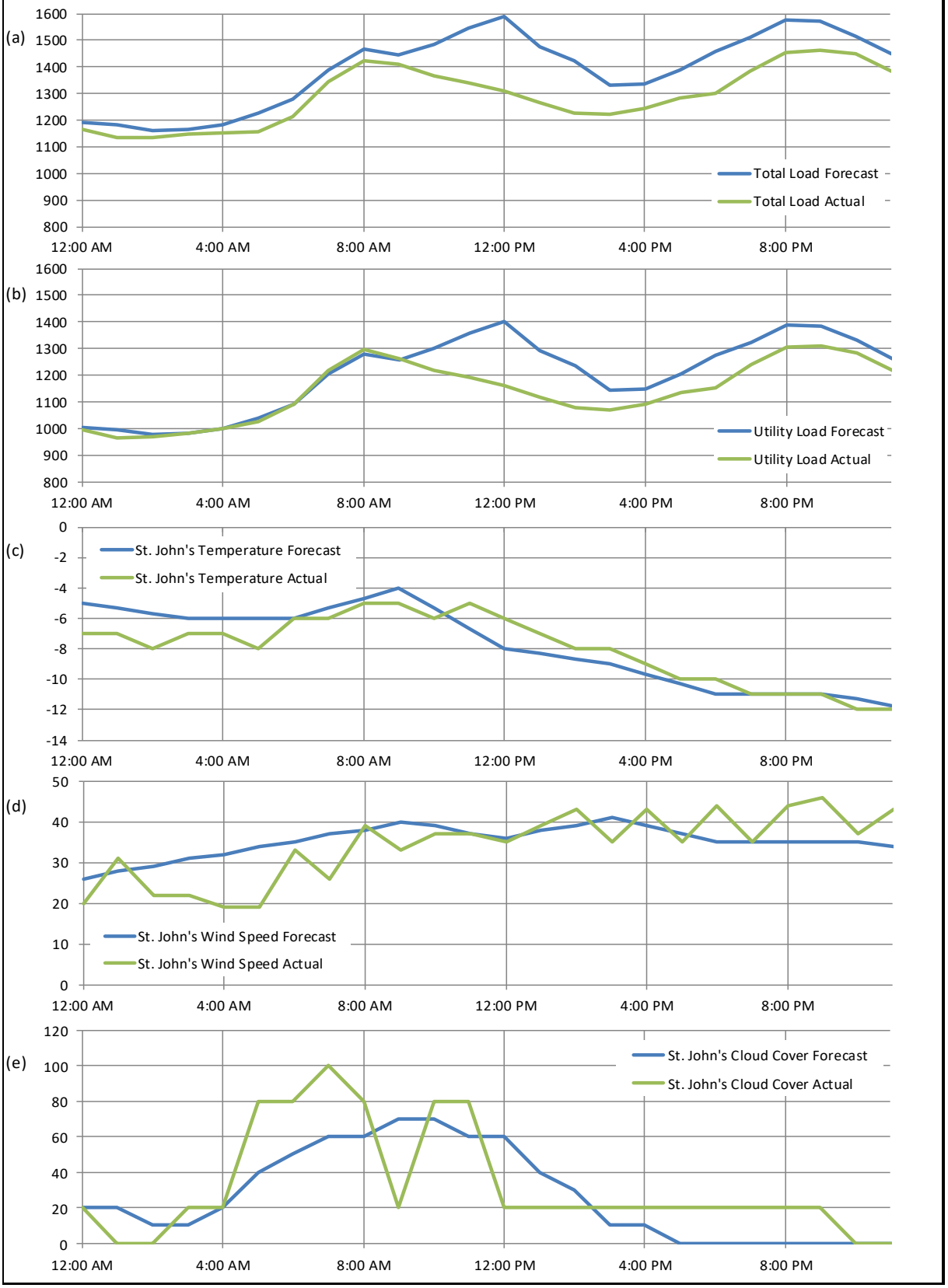

**Figure 11 Accuracy Analysis - Mar 18, 2020**

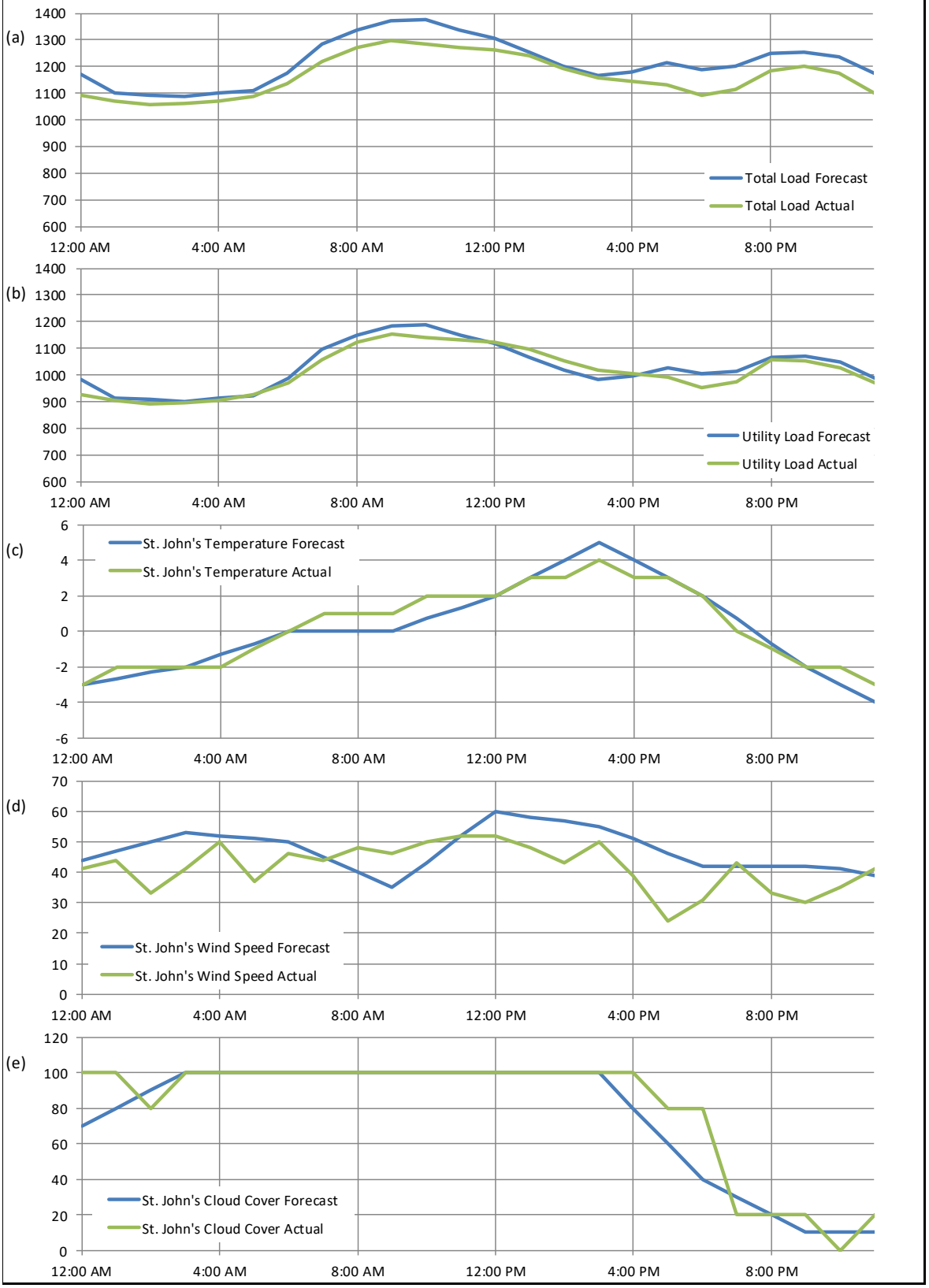

**Figure 12 Accuracy Analysis - Mar 23, 2020**

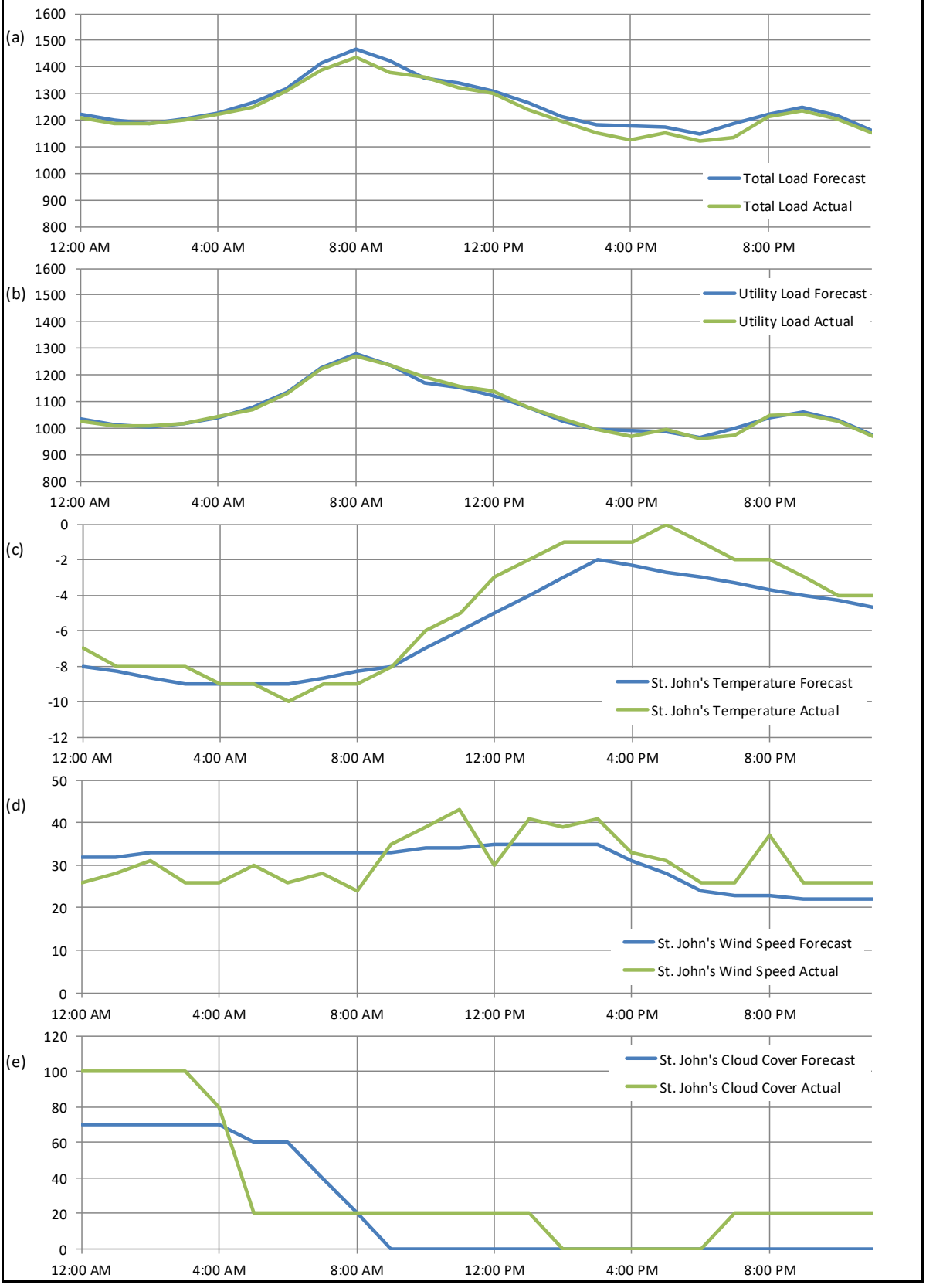

**Figure 13 Accuracy Analysis - Apr 02, 2020**

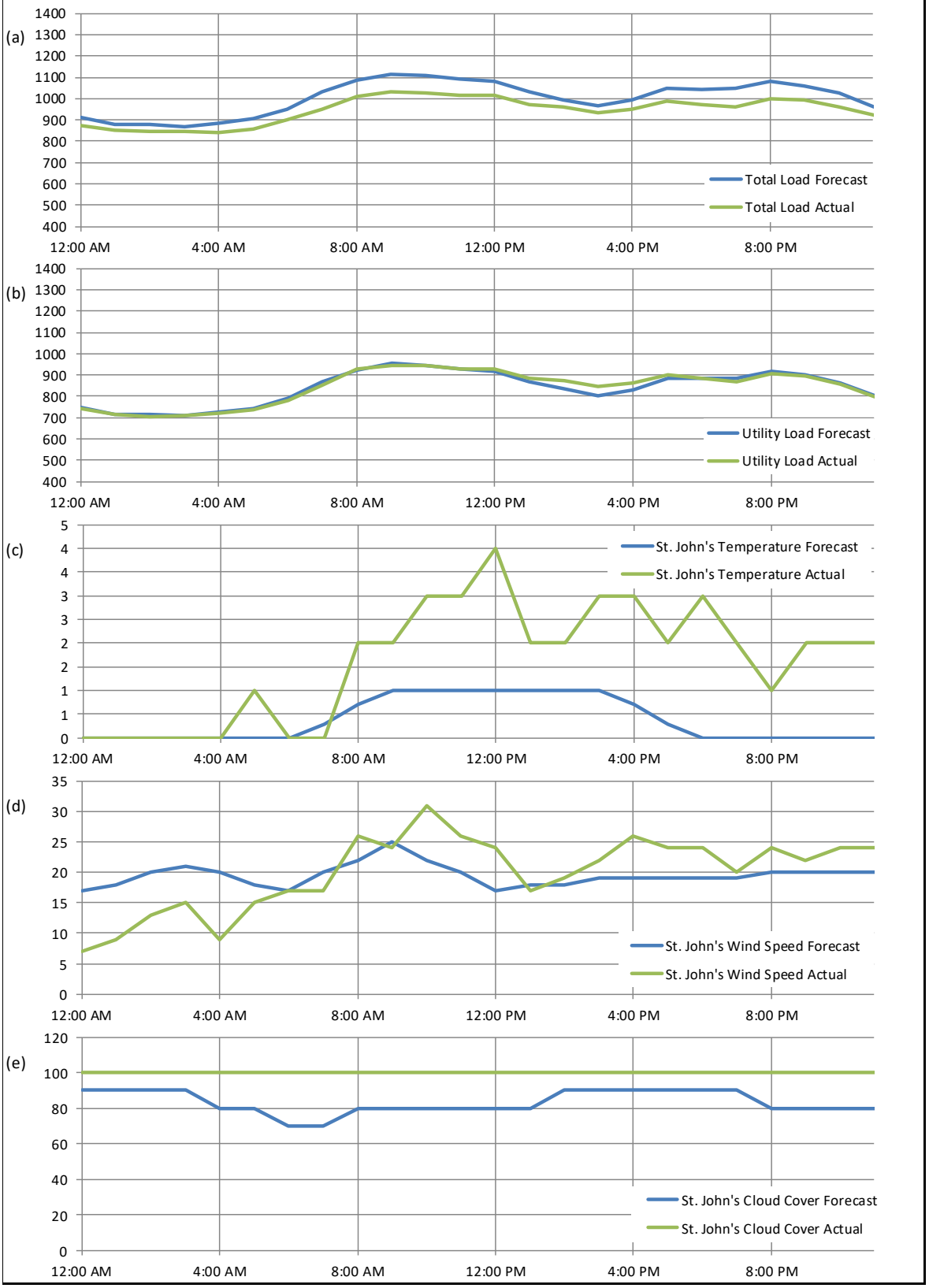

**Figure 14 Accuracy Analysis - Apr 14, 2020**

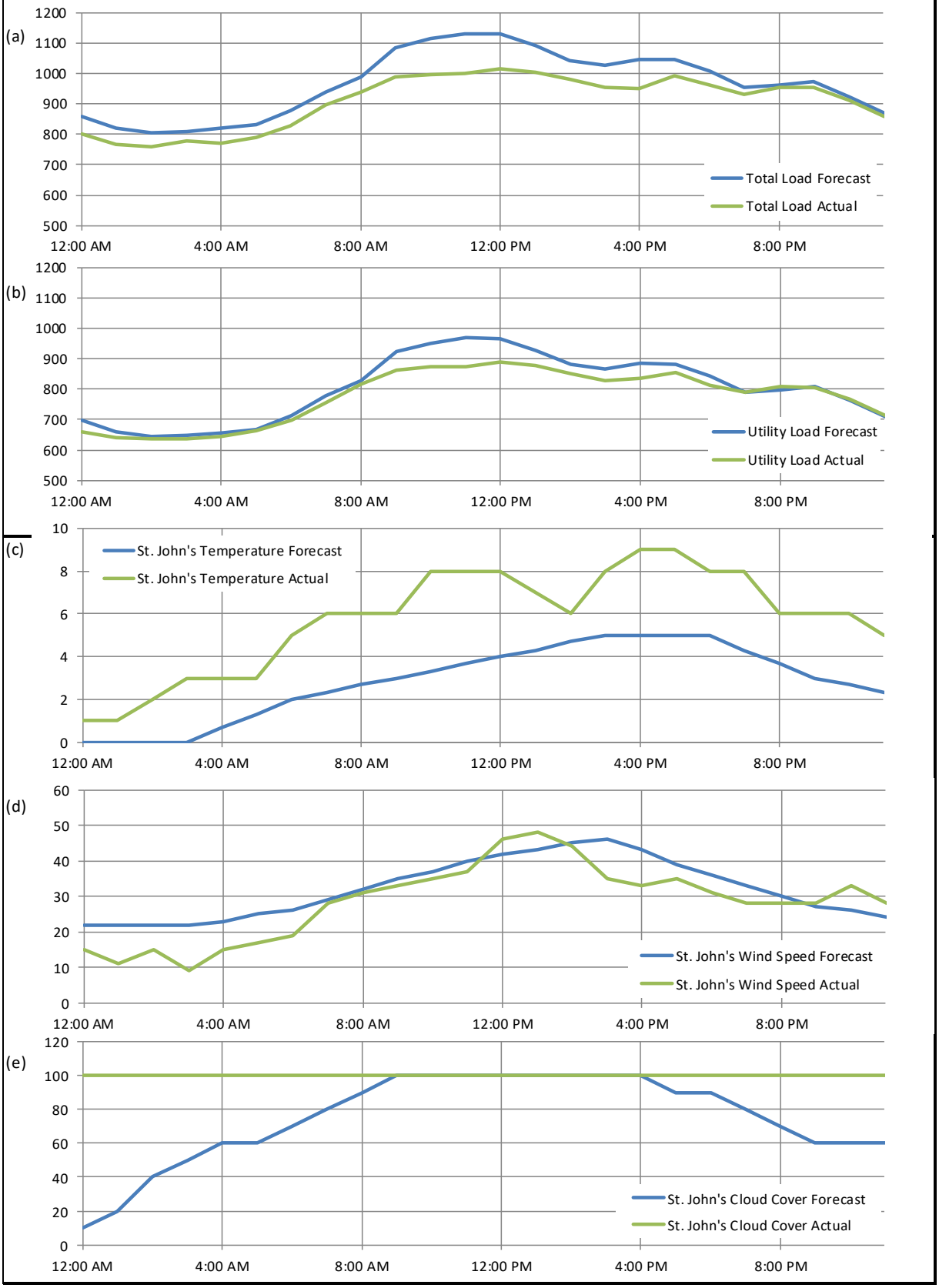

**Figure 15 Accuracy Analysis - Apr 19, 2020**

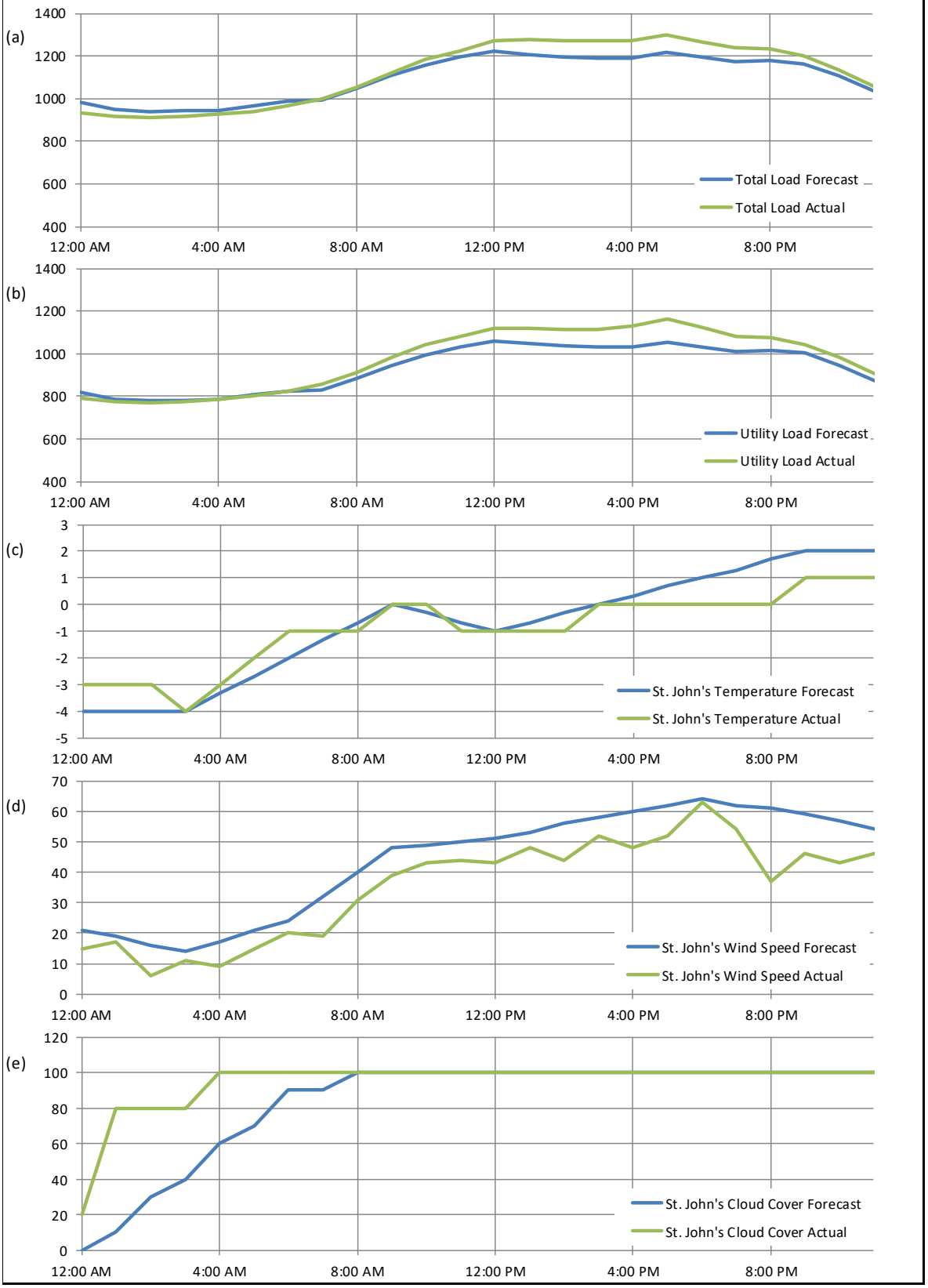

**Figure 16 Accuracy Analysis - May 01, 2020**

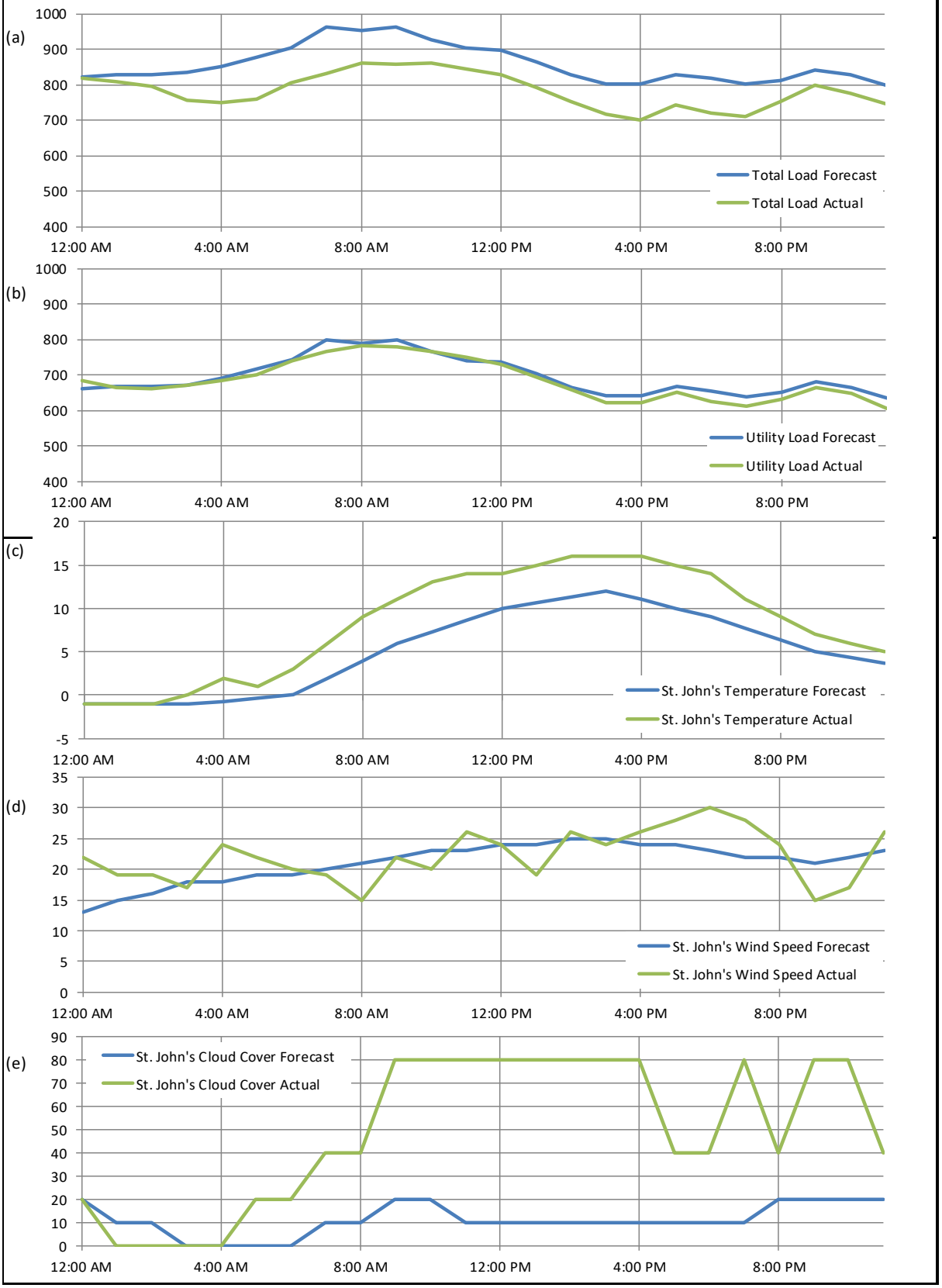

**Figure 17 Accuracy Analysis - May 12, 2020**

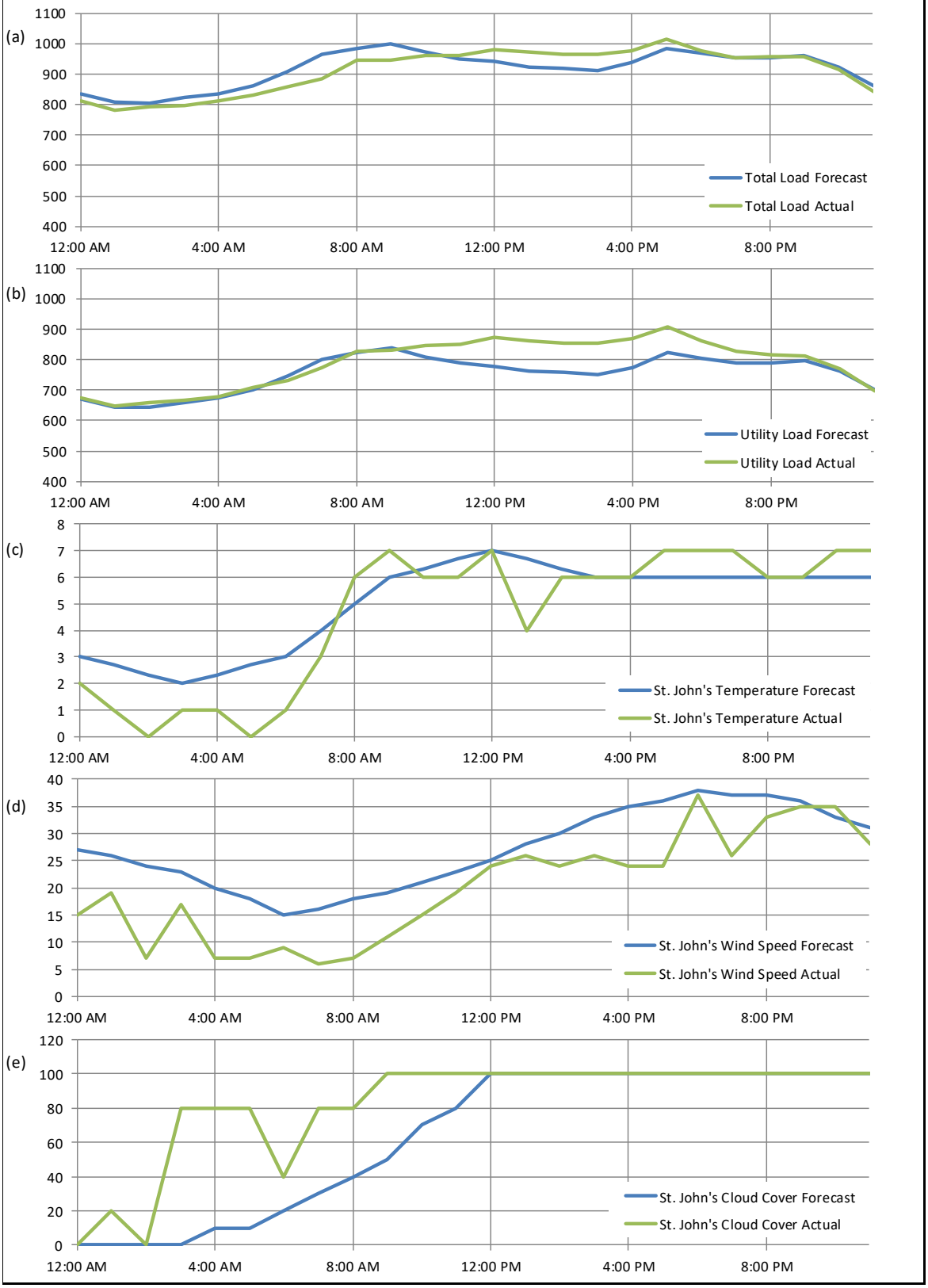

**Figure 18 Accuracy Analysis - May 24, 2020**

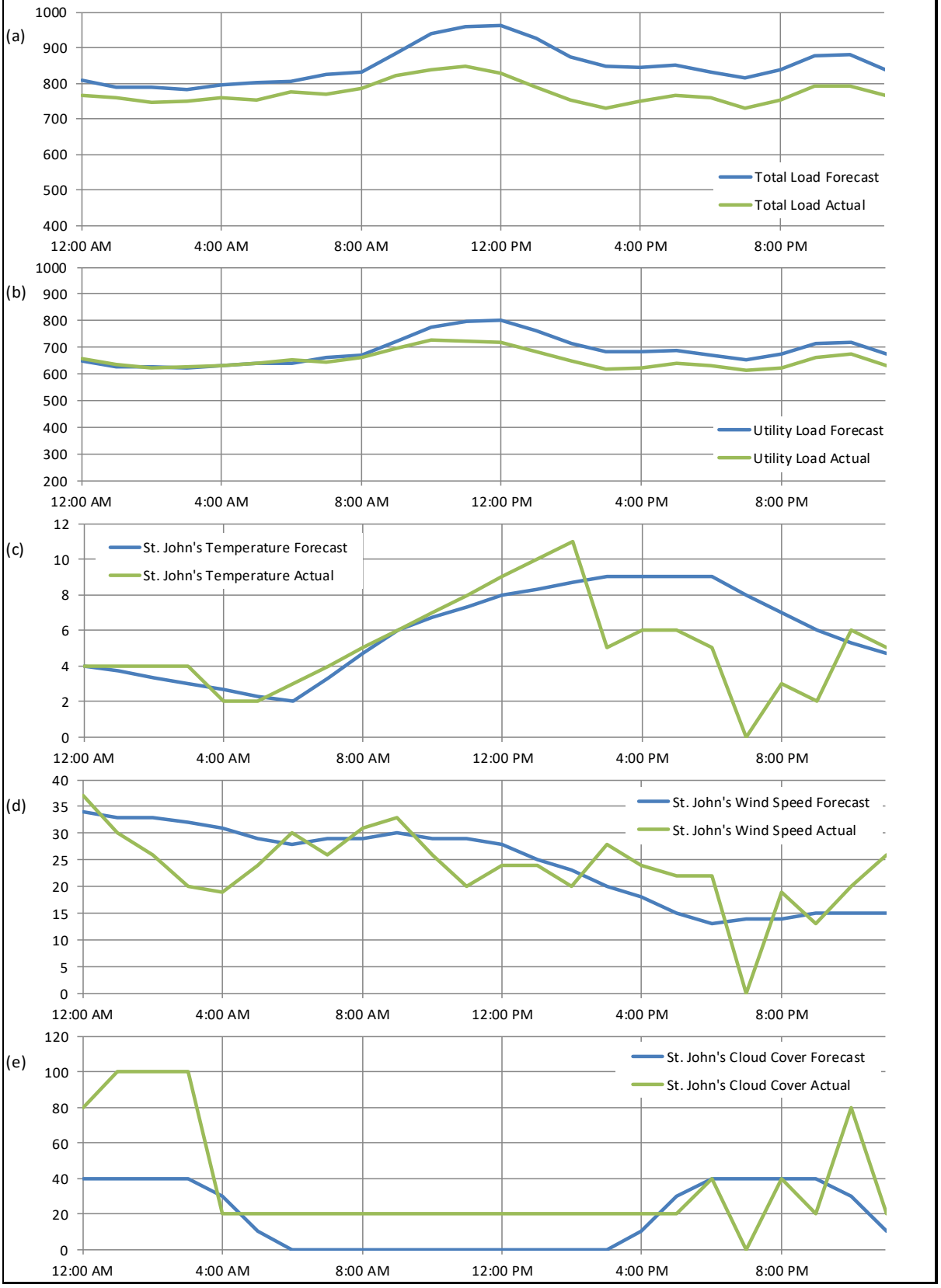

**Figure 19 Accuracy Analysis - Jun 05, 2020**

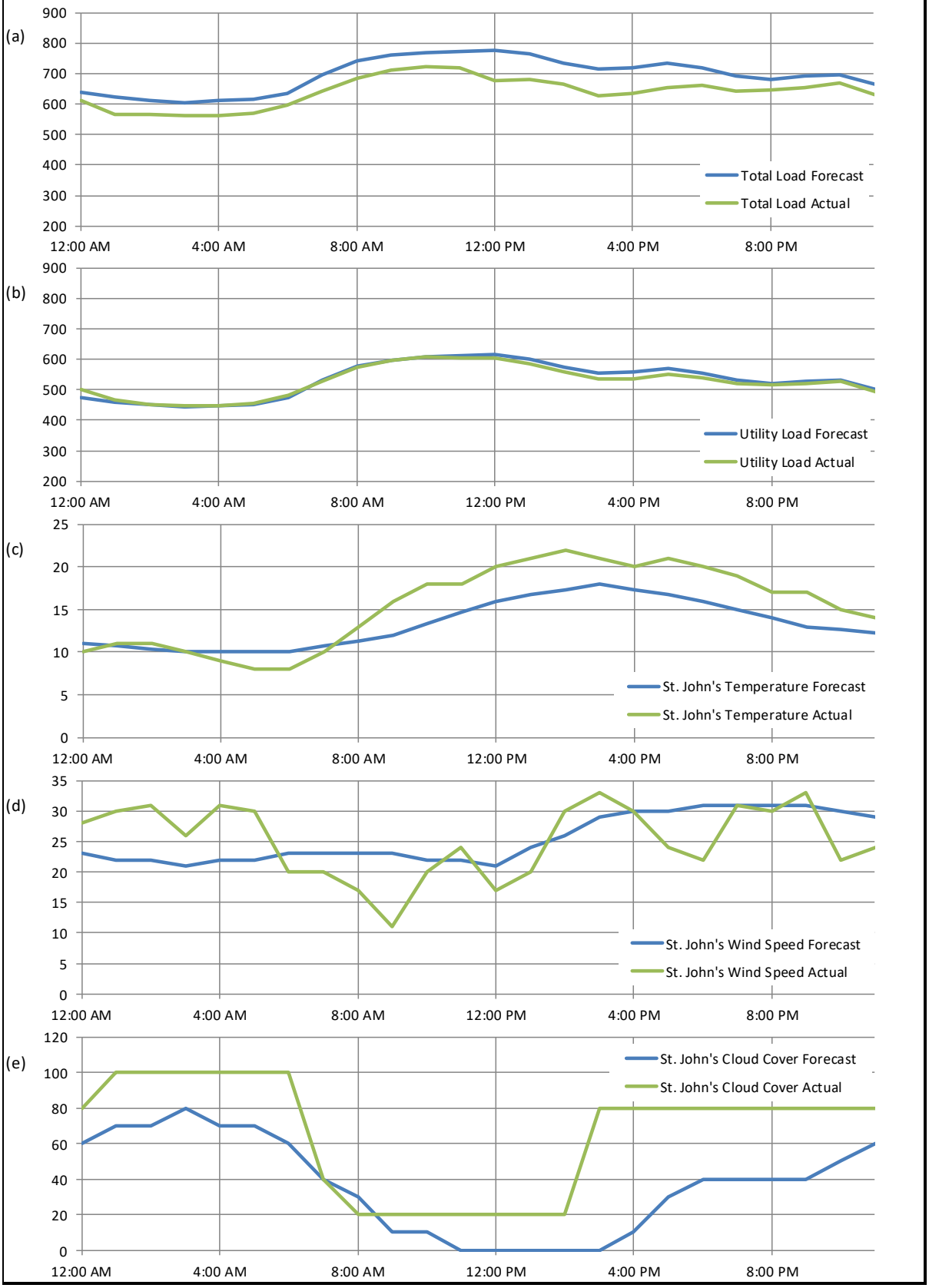

**Figure 20 Accuracy Analysis - Jun 12, 2020**

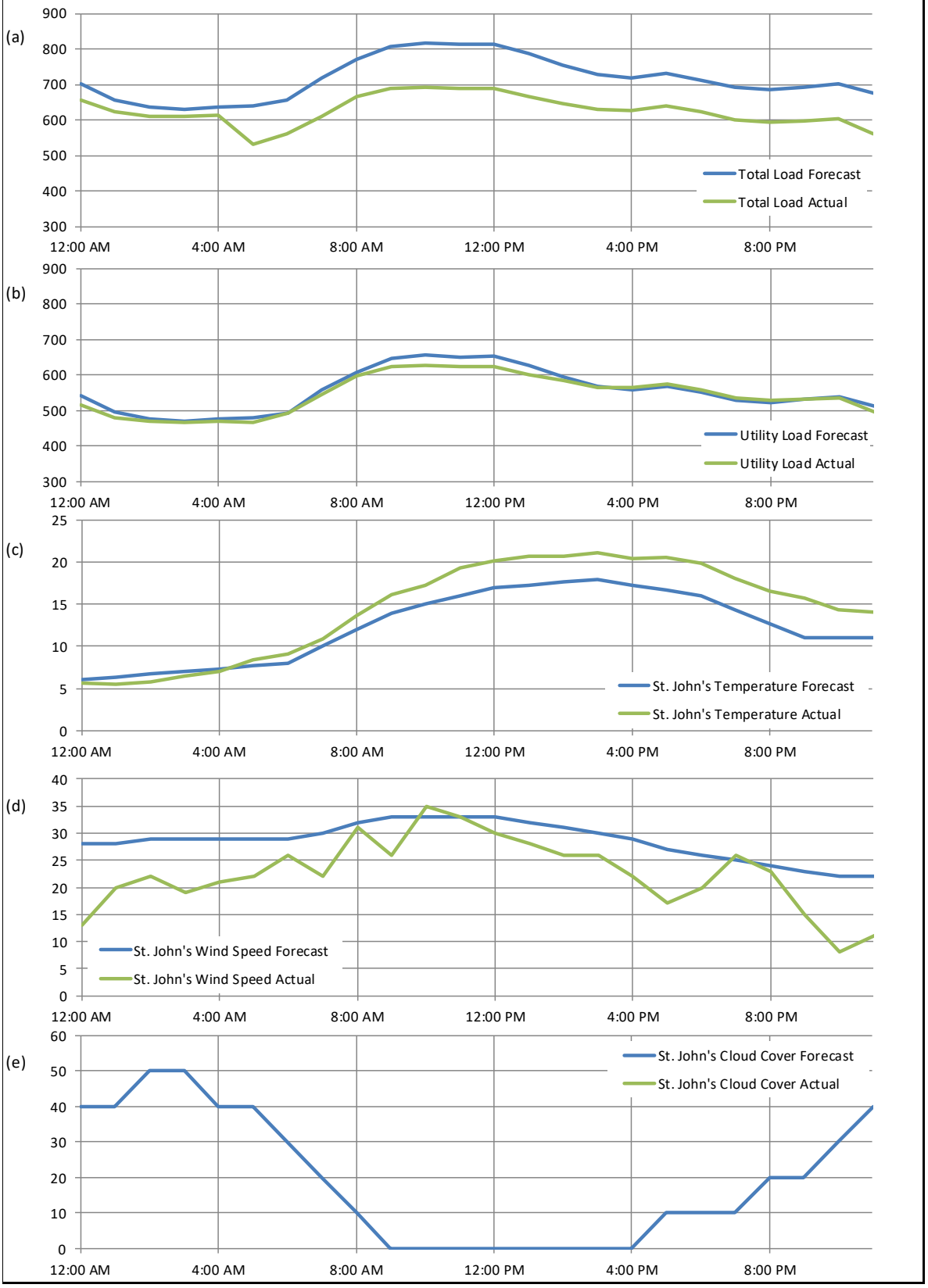

**Figure 21 Accuracy Analysis - Jun 29, 2020**

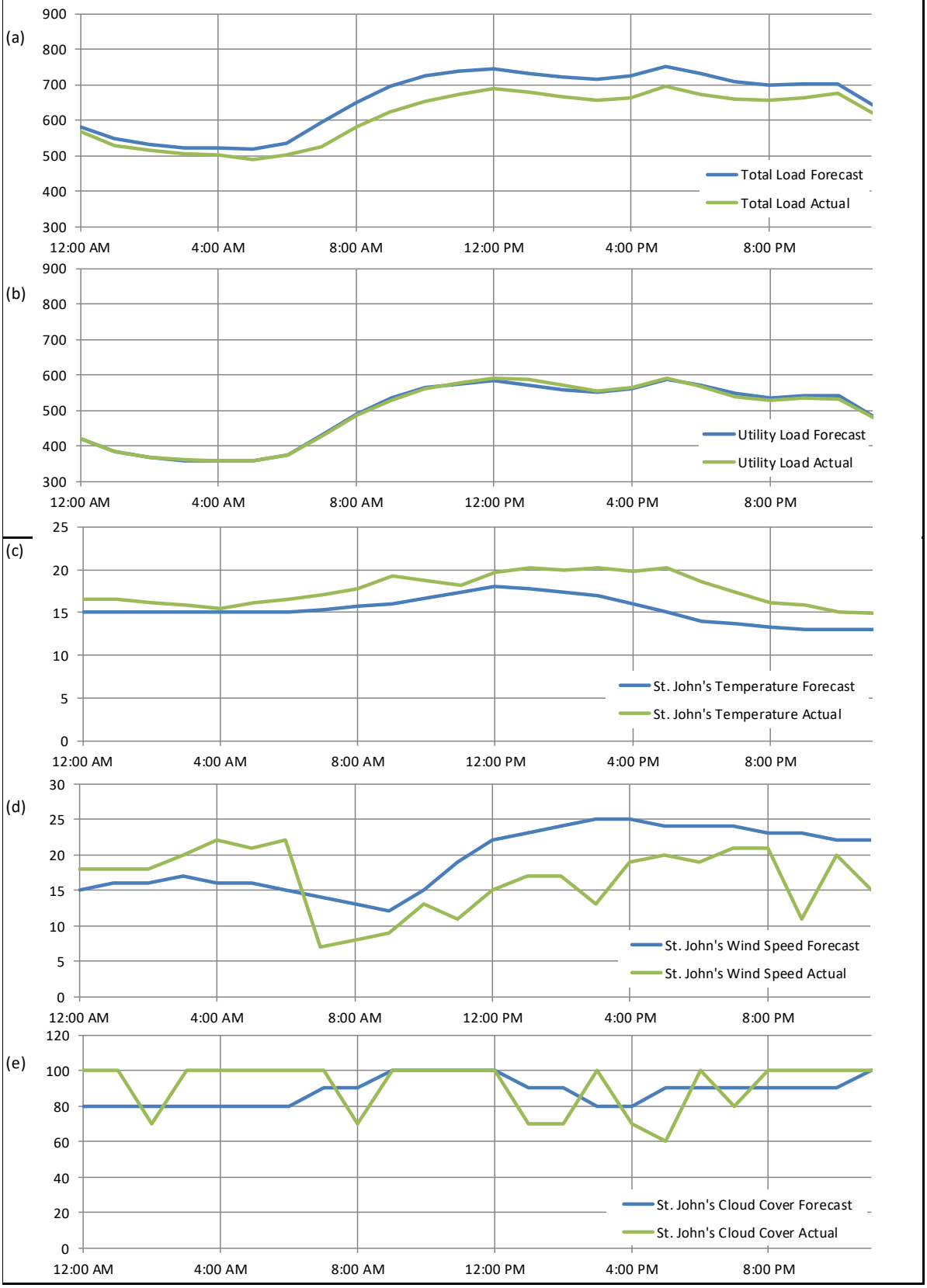

**Figure 22 Accuracy Analysis - Jul 08, 2020**

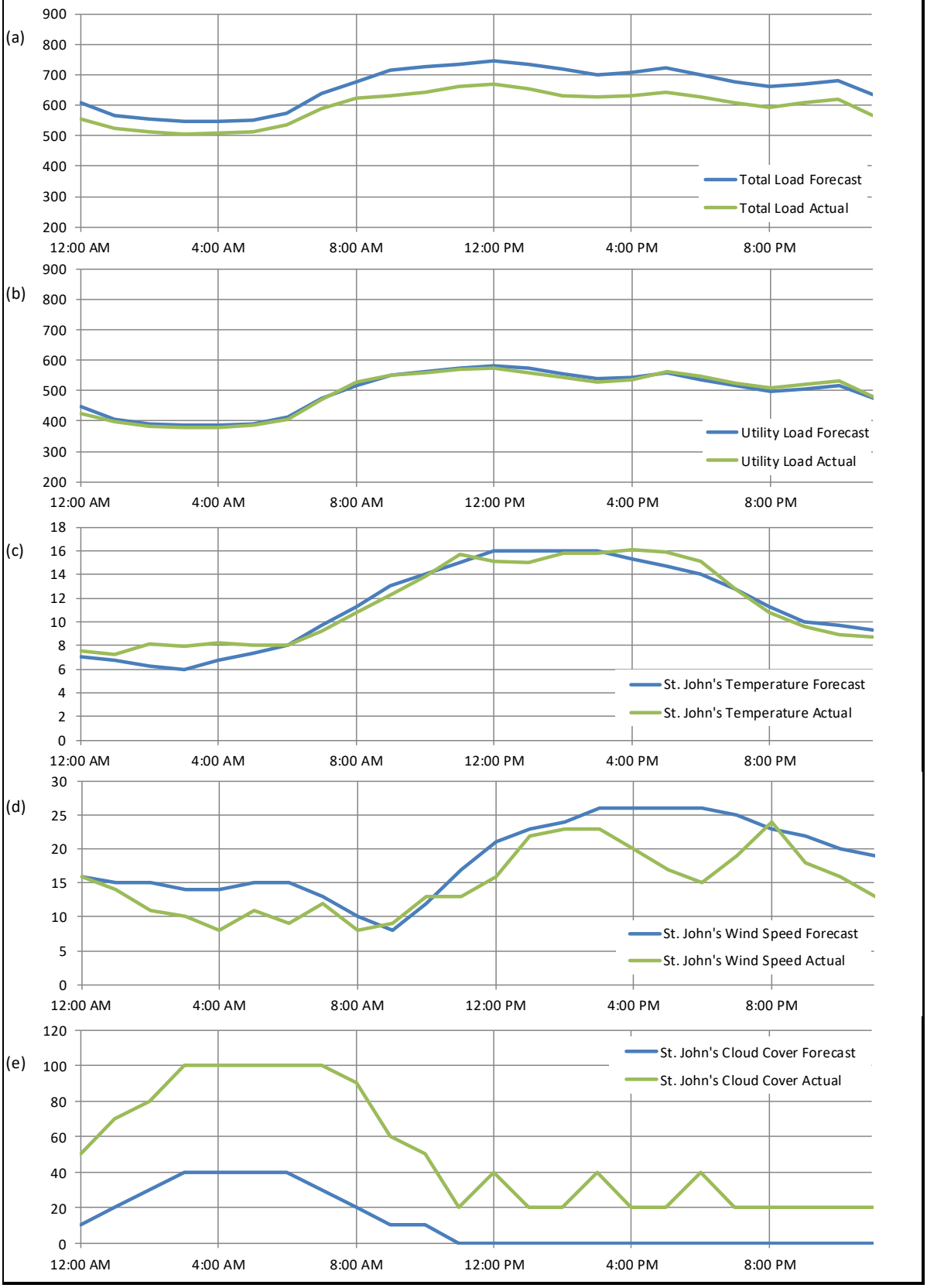

**Figure 23 Accuracy Analysis - Jul 18, 2020**

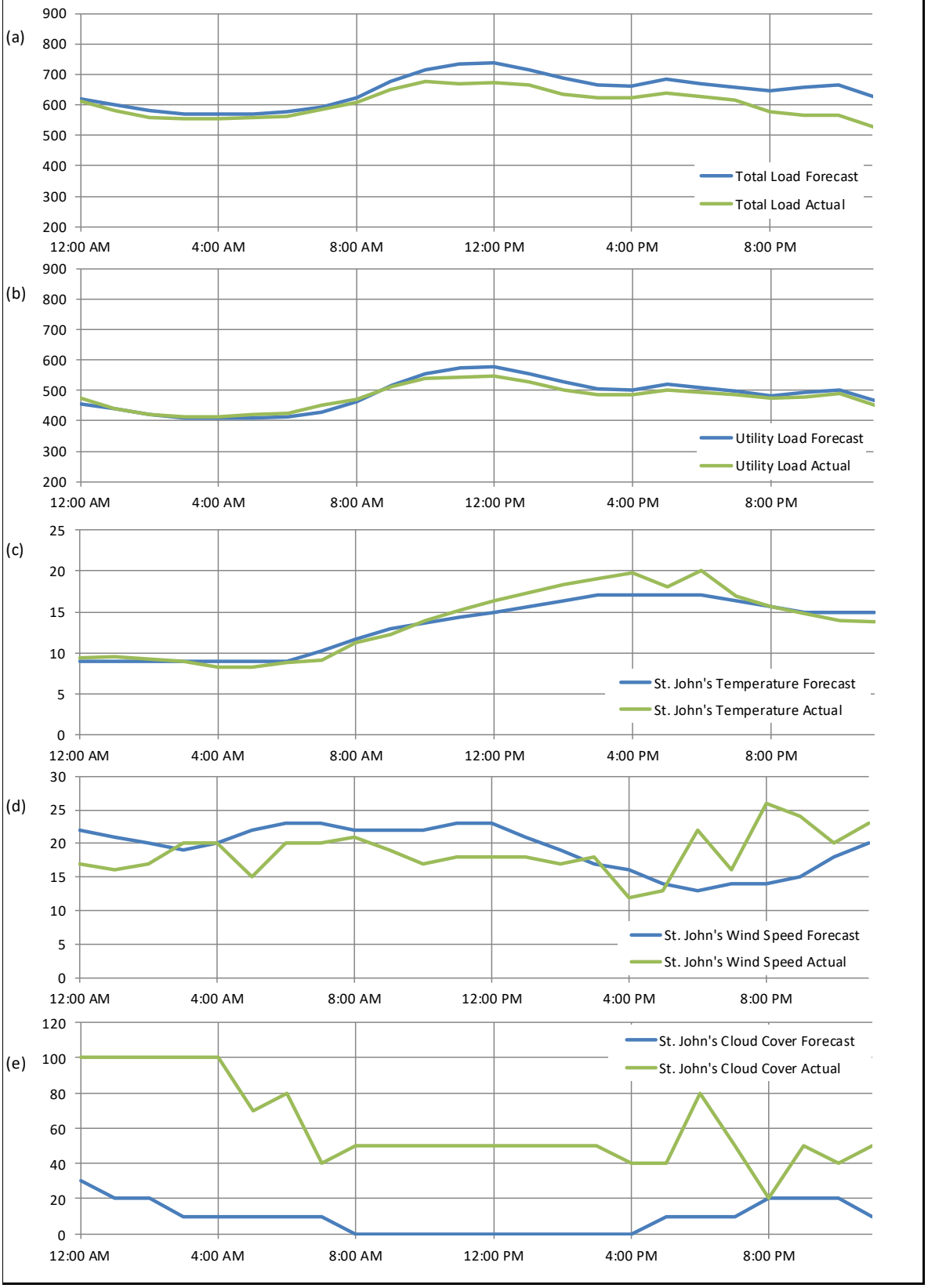

**Figure 24 Accuracy Analysis - Jul 19, 2020**

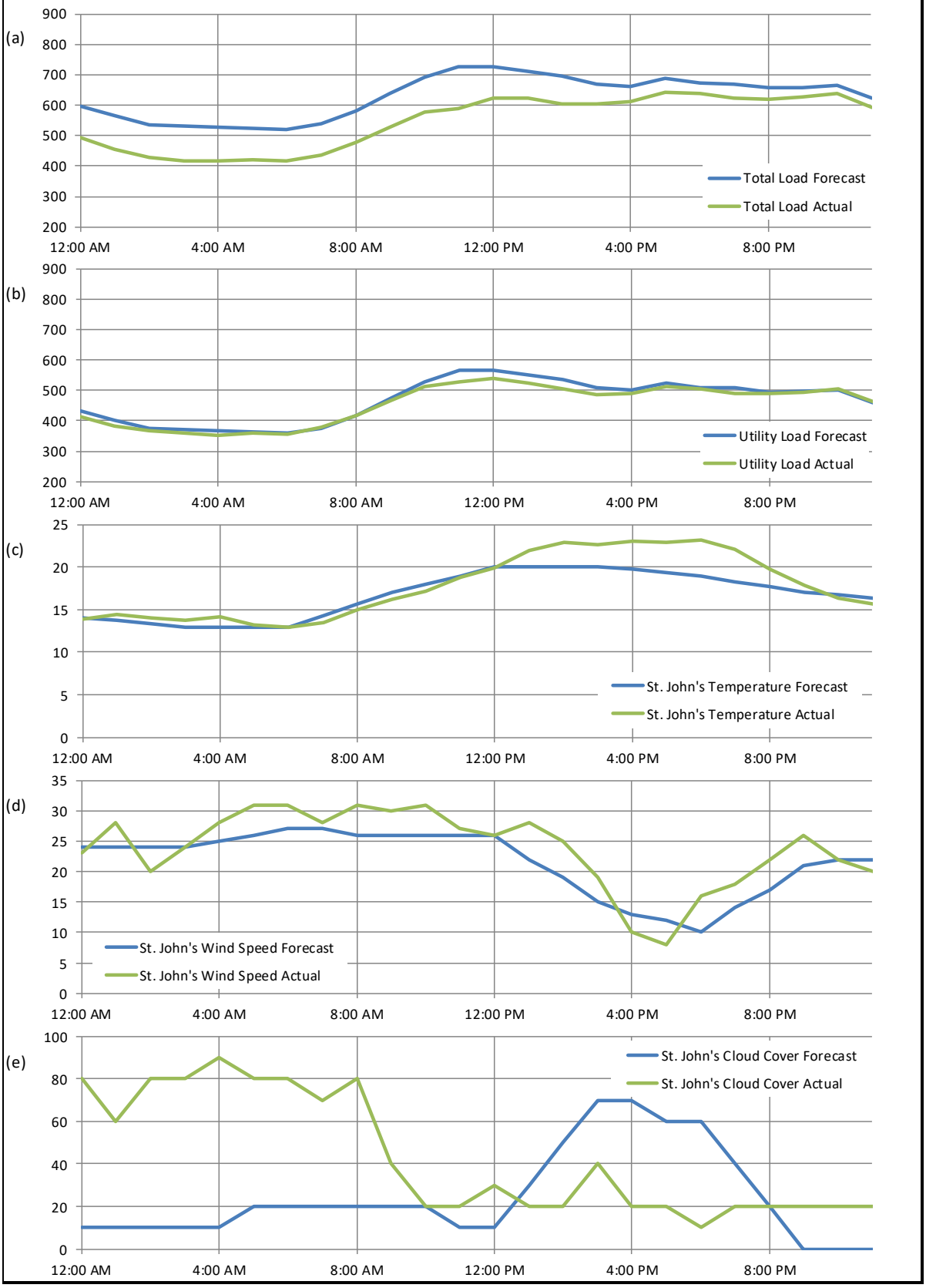

**Figure 25 Accuracy Analysis - Aug 09, 2020**

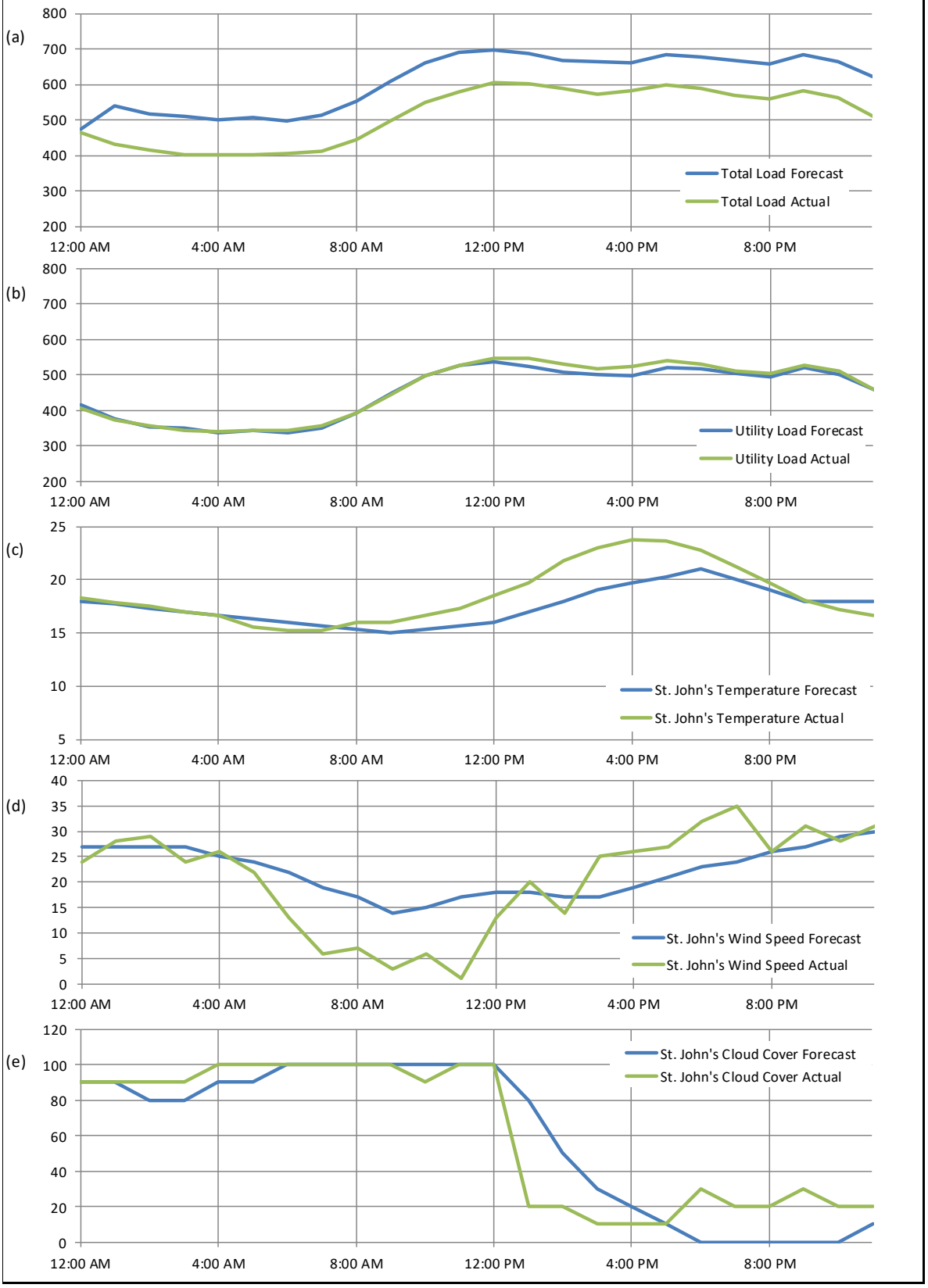

**Figure 26 Accuracy Analysis - Aug 10, 2020**

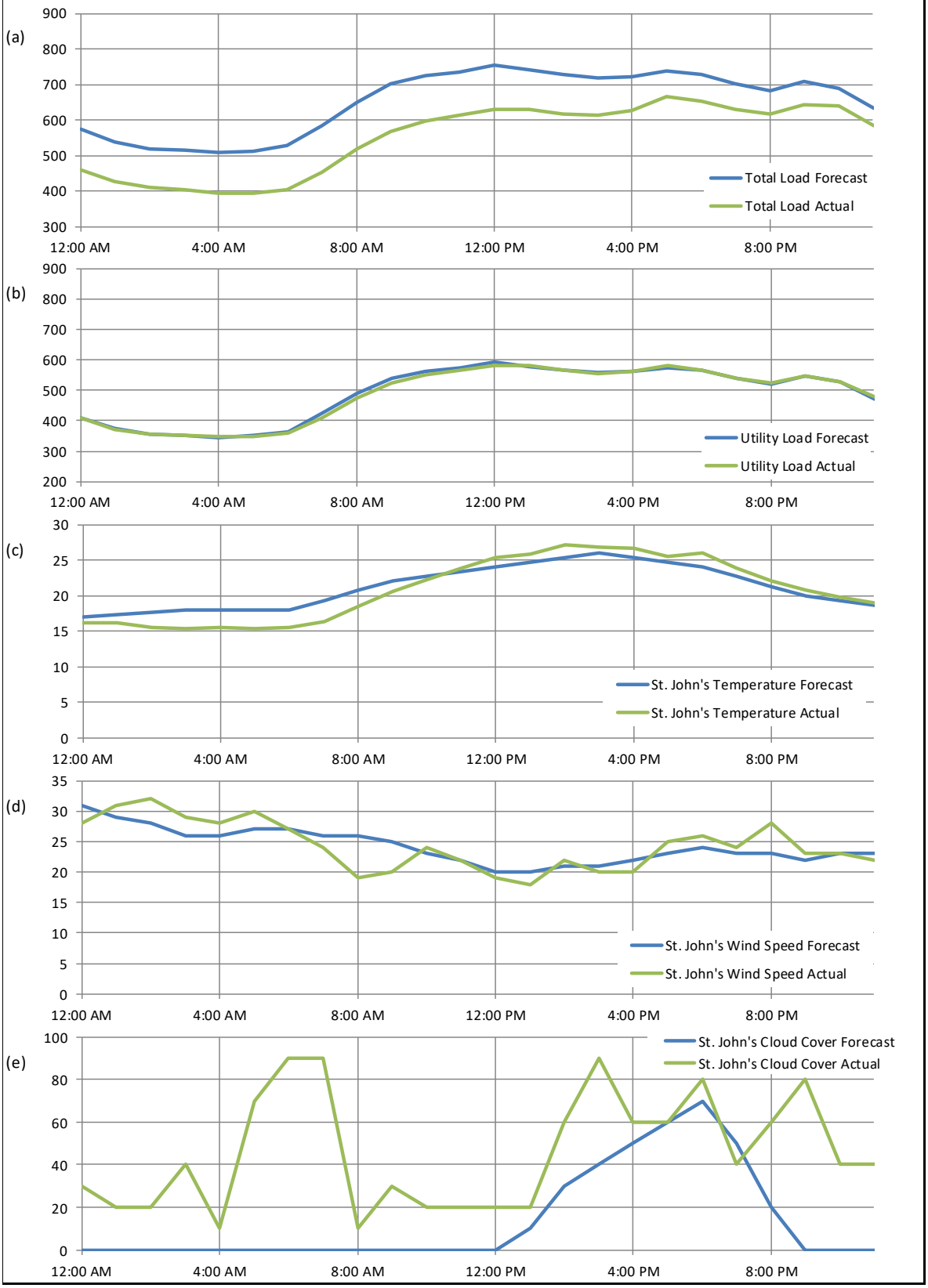

**Figure 27 Accuracy Analysis - Aug 27, 2020**

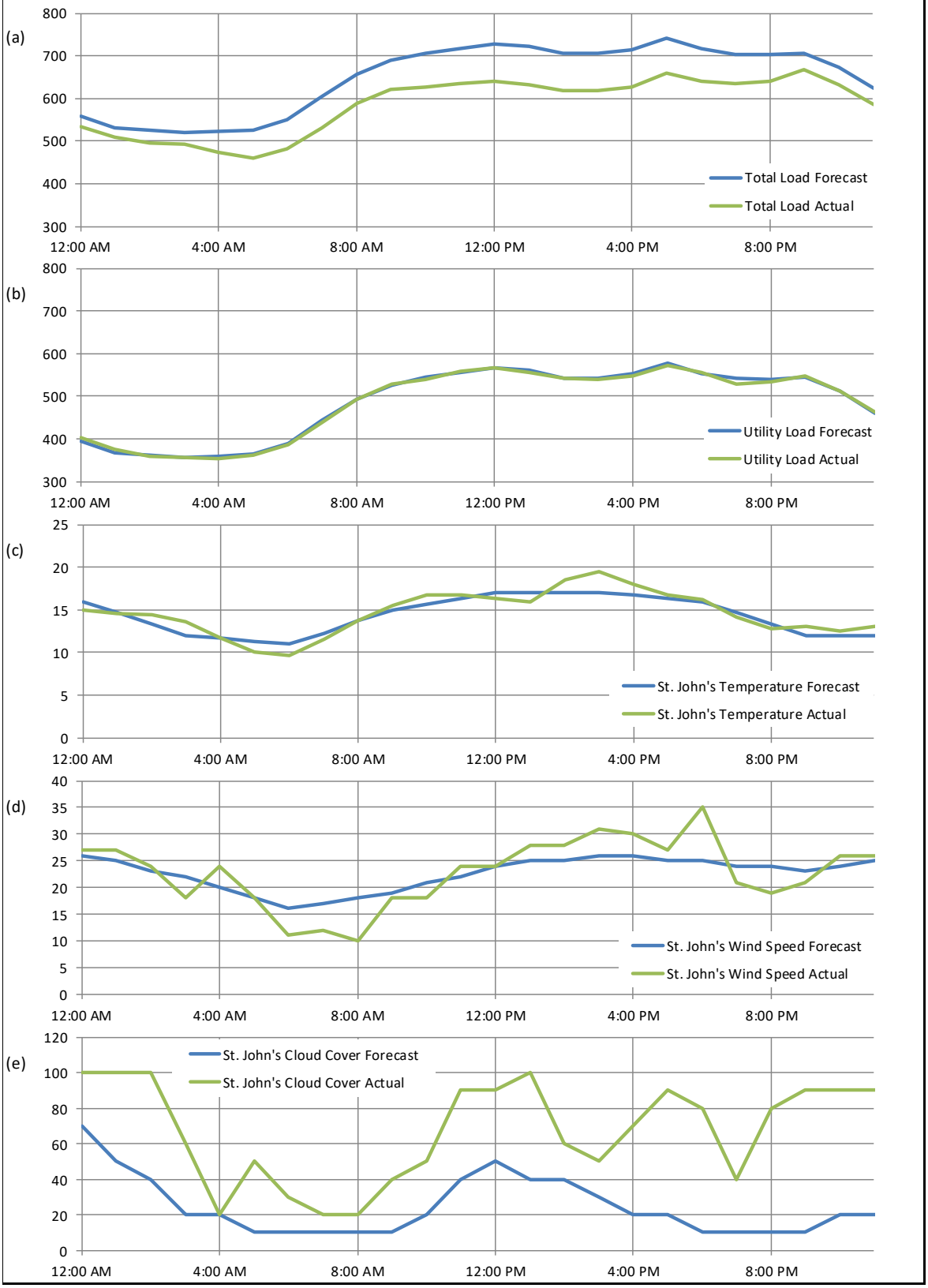

**Figure 28 Accuracy Analysis - Sep 08, 2020**

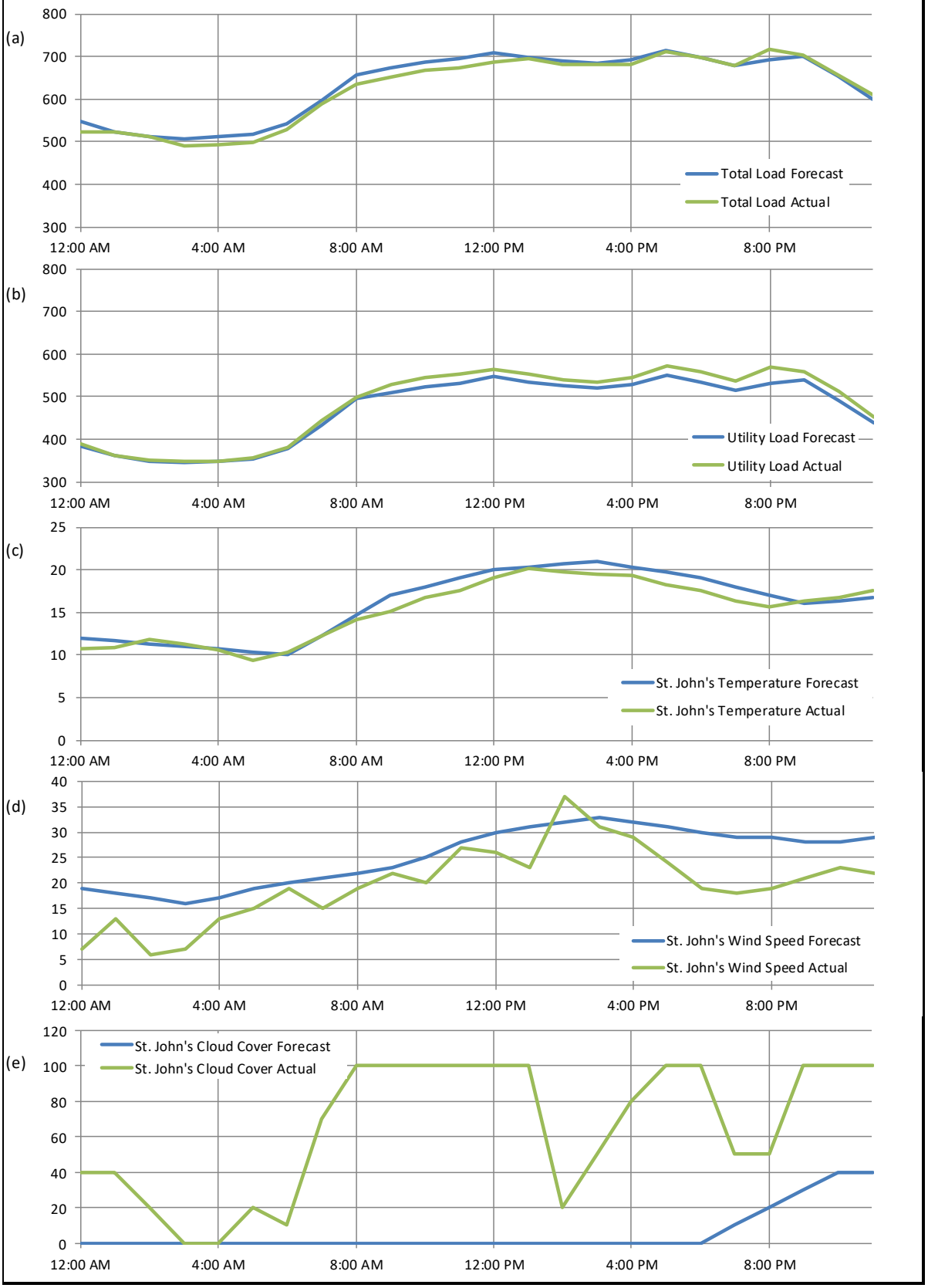

**Figure 29 Accuracy Analysis - Sep 09, 2020**

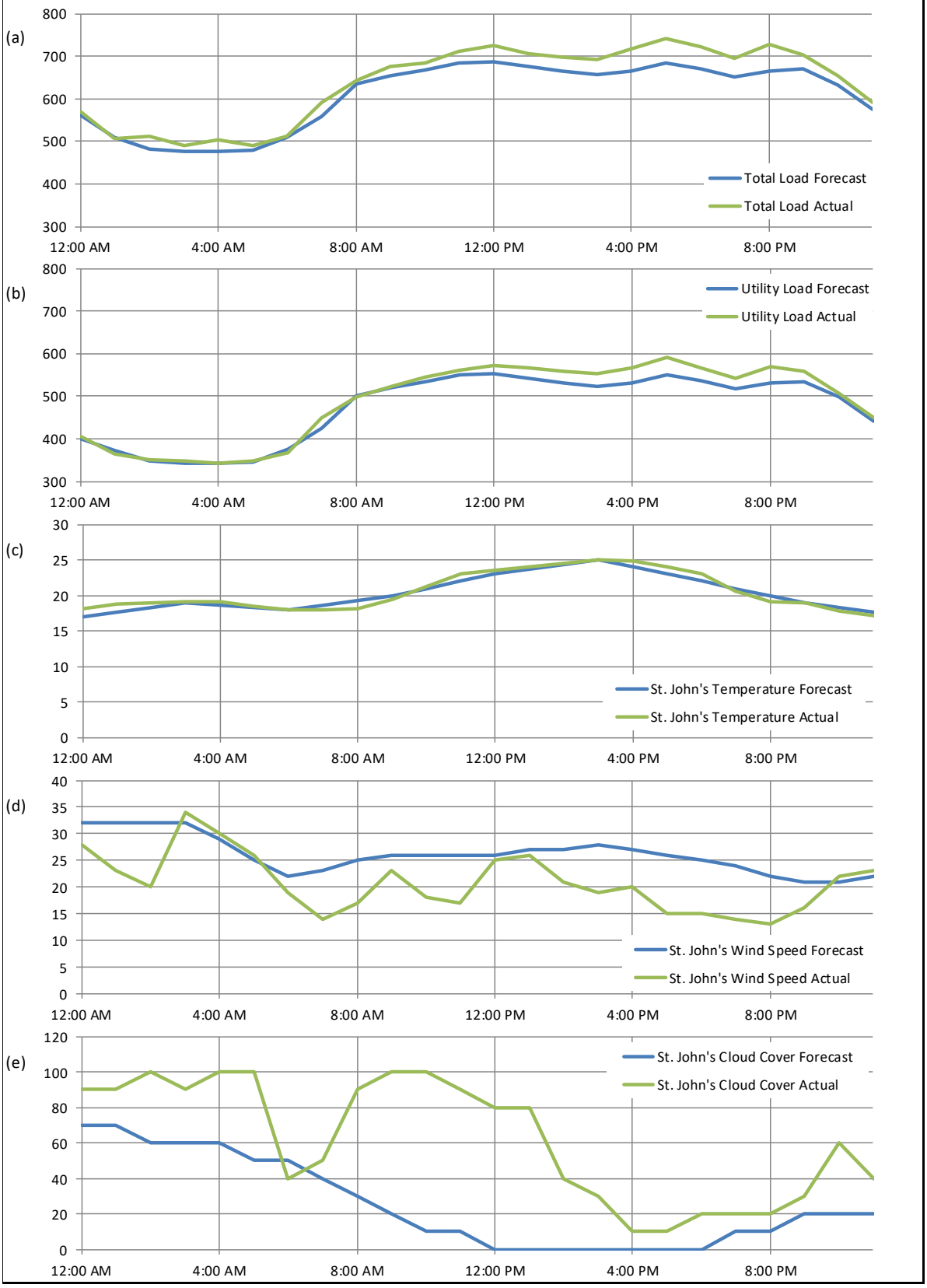

**Figure 30 Accuracy Analysis - Sep 11, 2020**

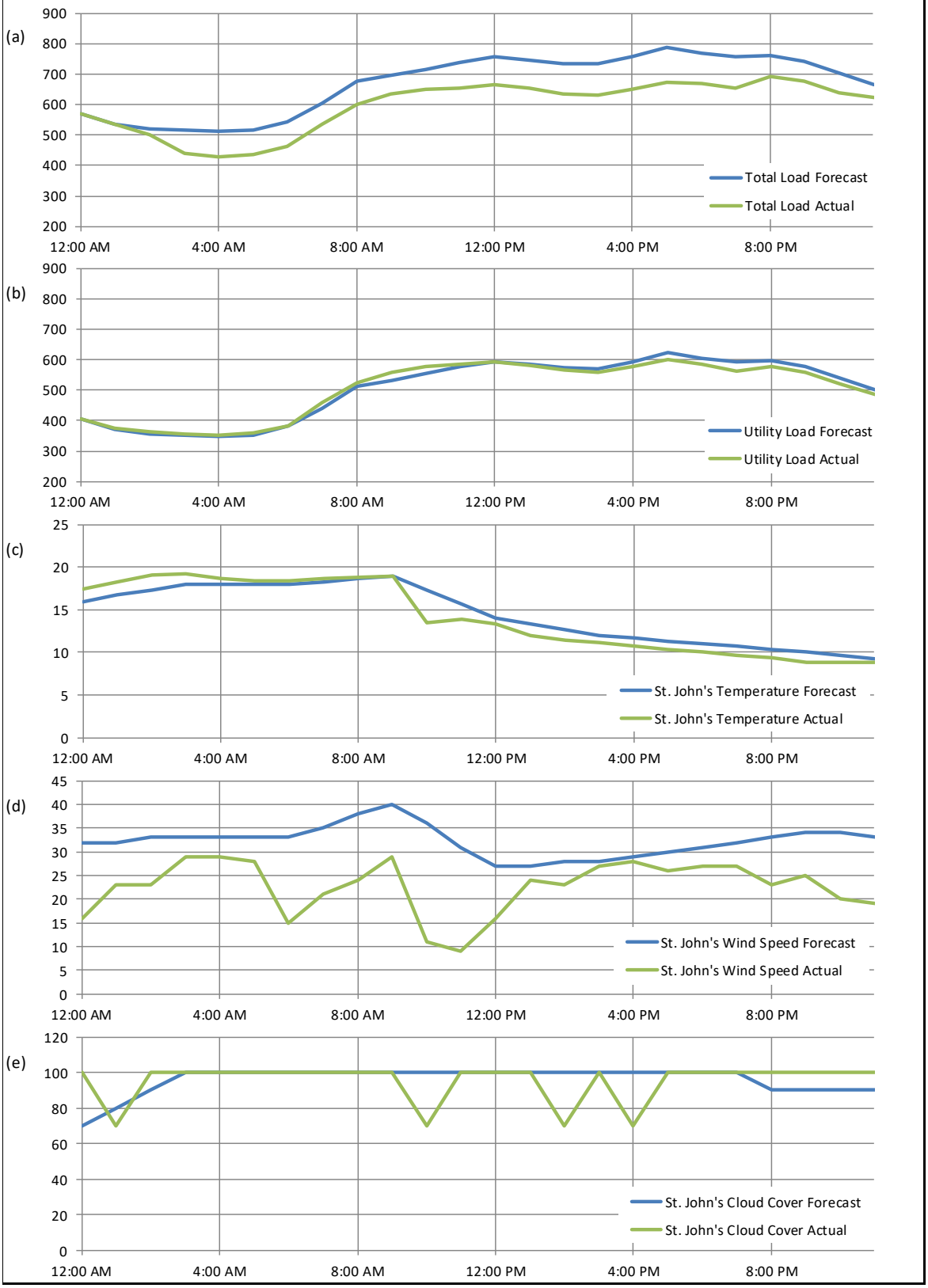

**Figure 31 Accuracy Analysis - Oct 01, 2020**

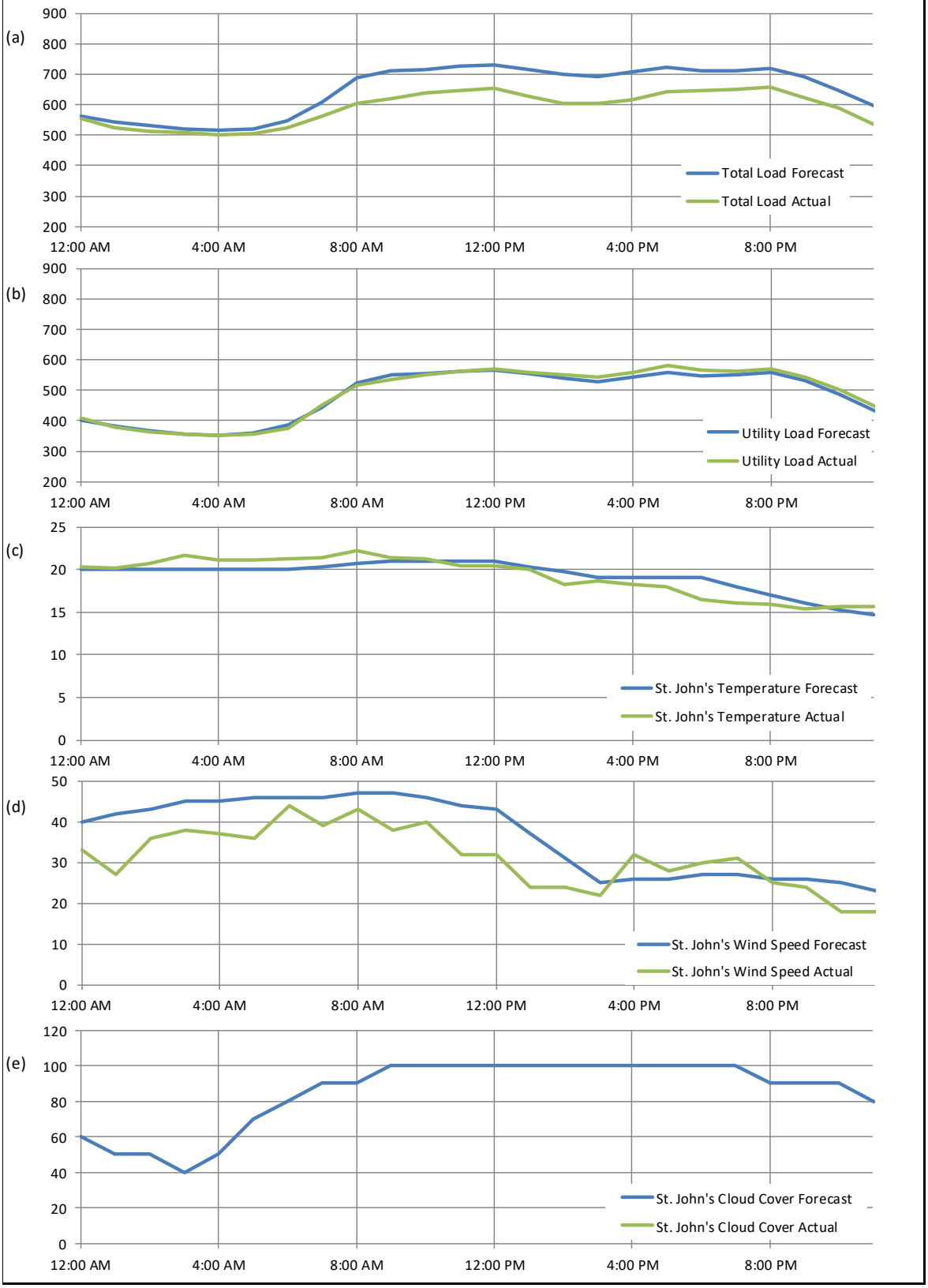

**Figure 32 Accuracy Analysis - Oct 18, 2020**

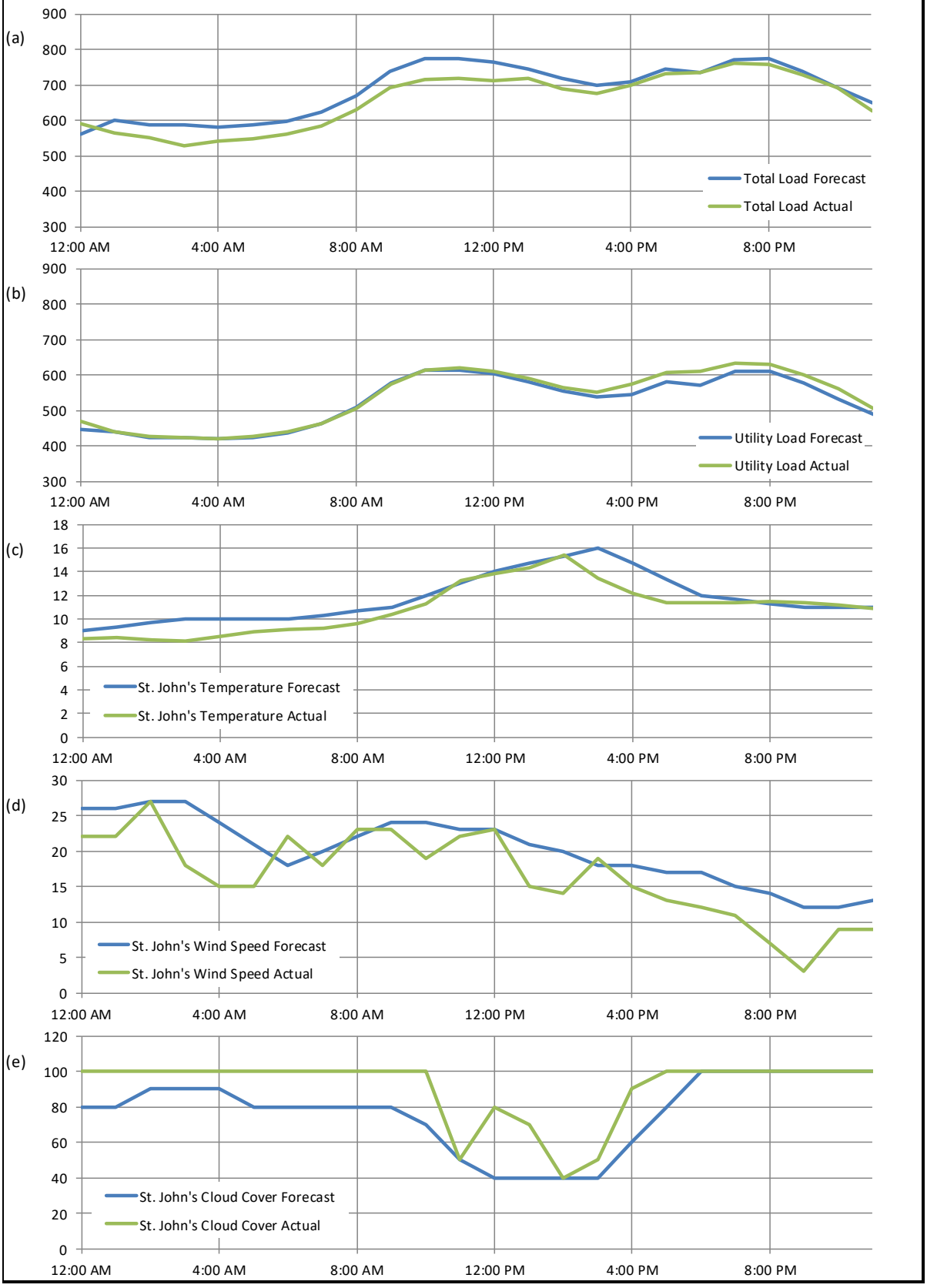

**Figure 33 Accuracy Analysis - Oct 21, 2020**

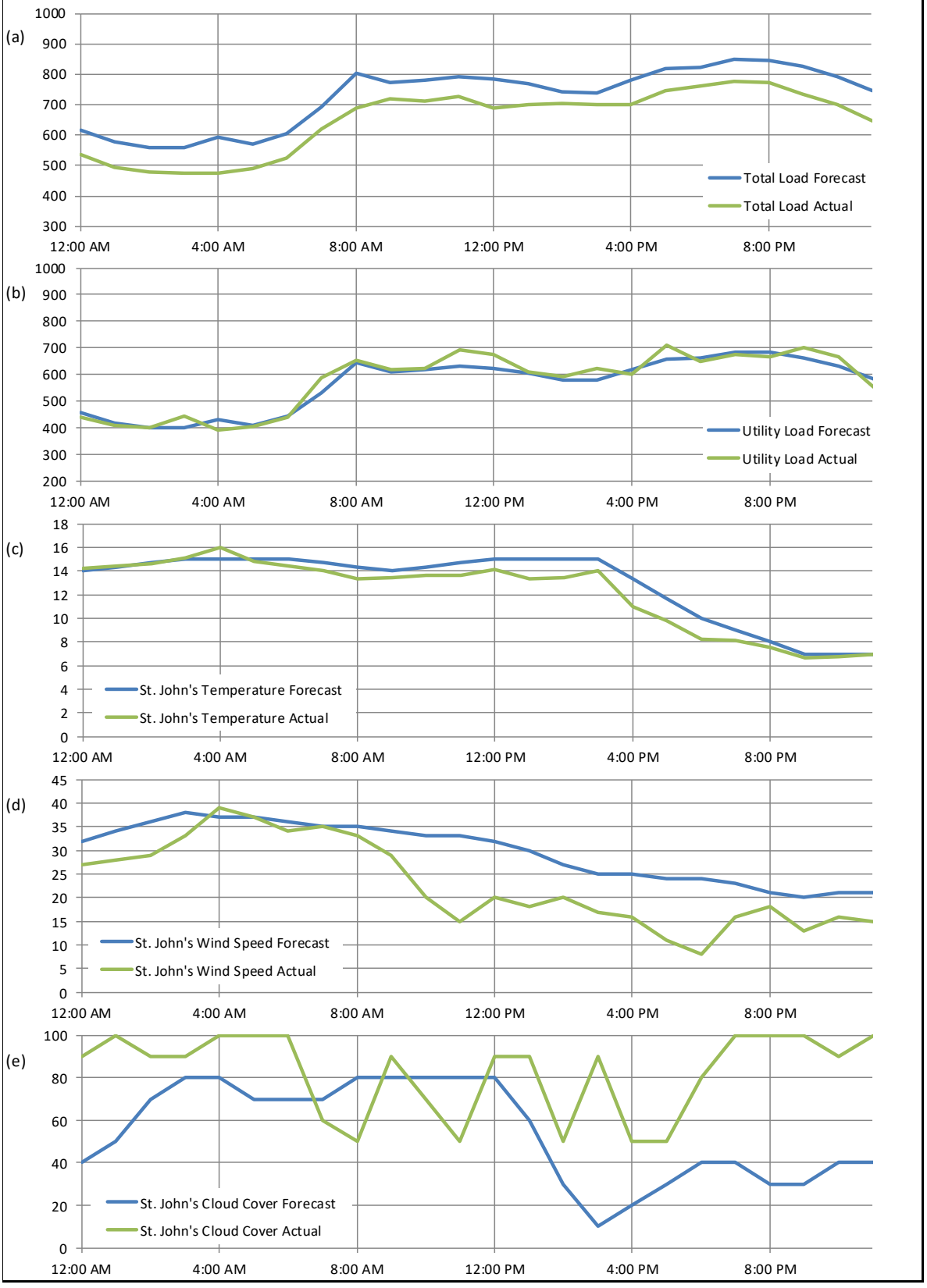

**Figure 34 Accuracy Analysis - Nov 14, 2020**

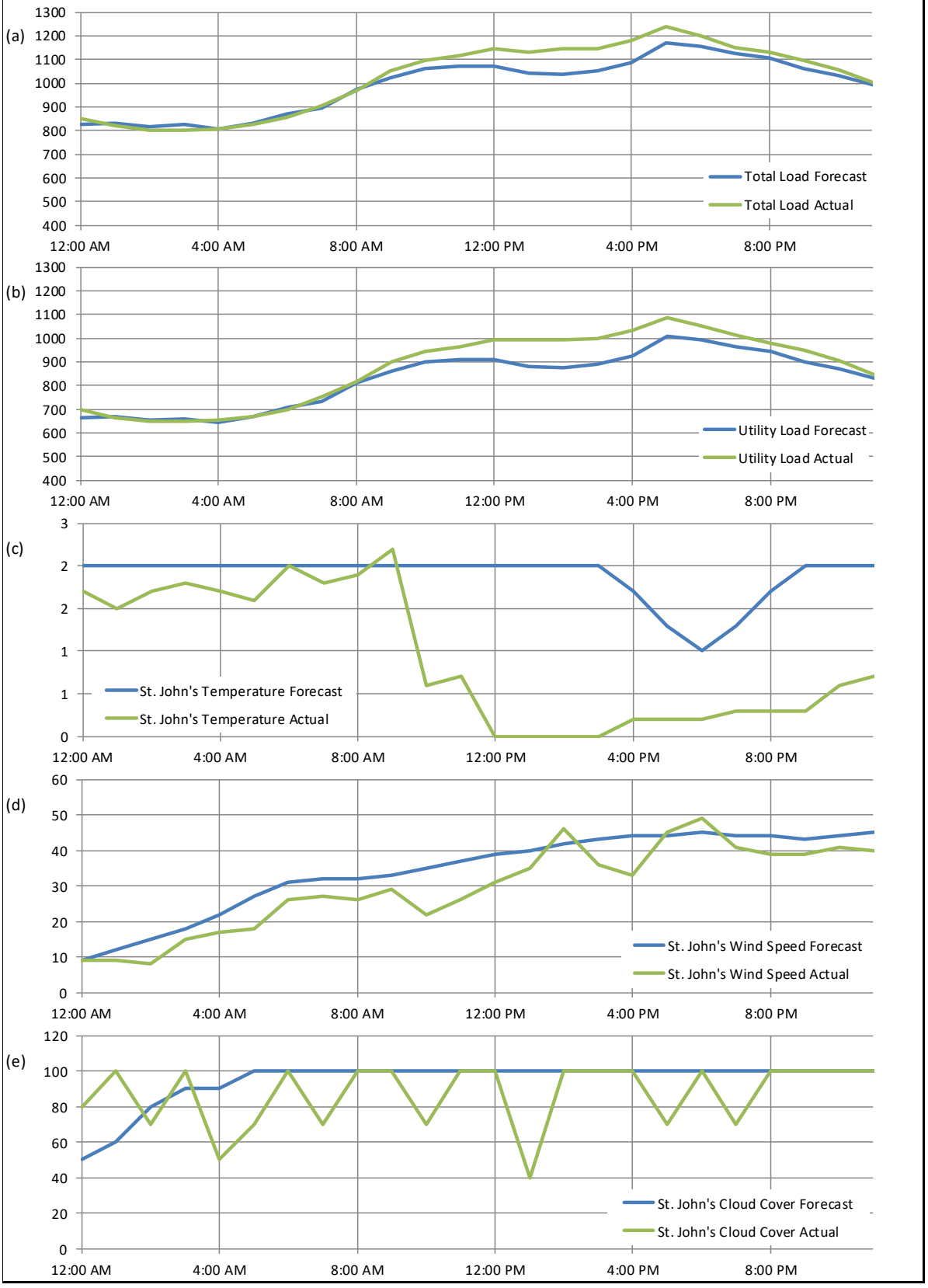

**Figure 35 Accuracy Analysis - Nov 17, 2020**

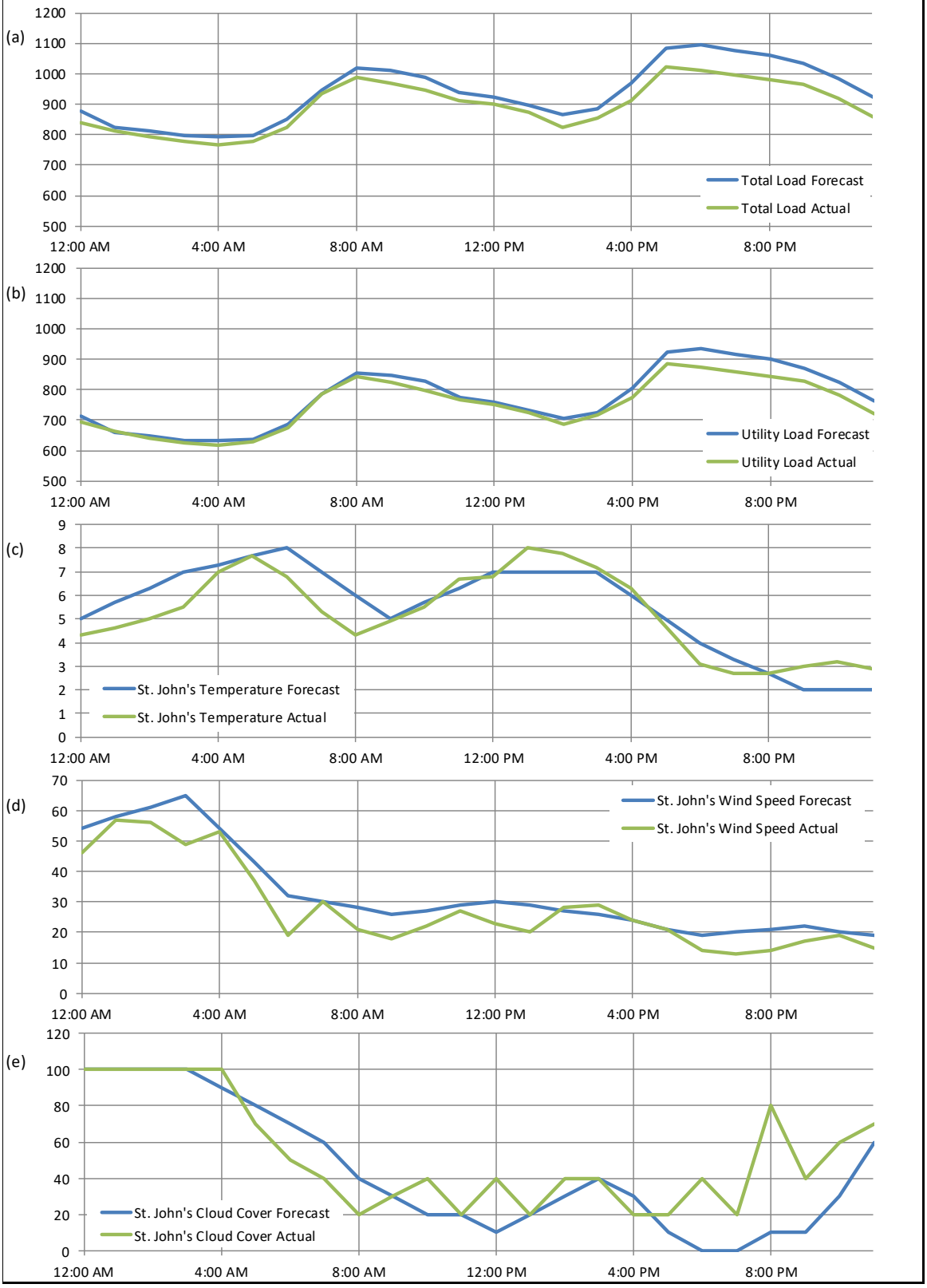

**Figure 36 Accuracy Analysis - Nov 19, 2020**

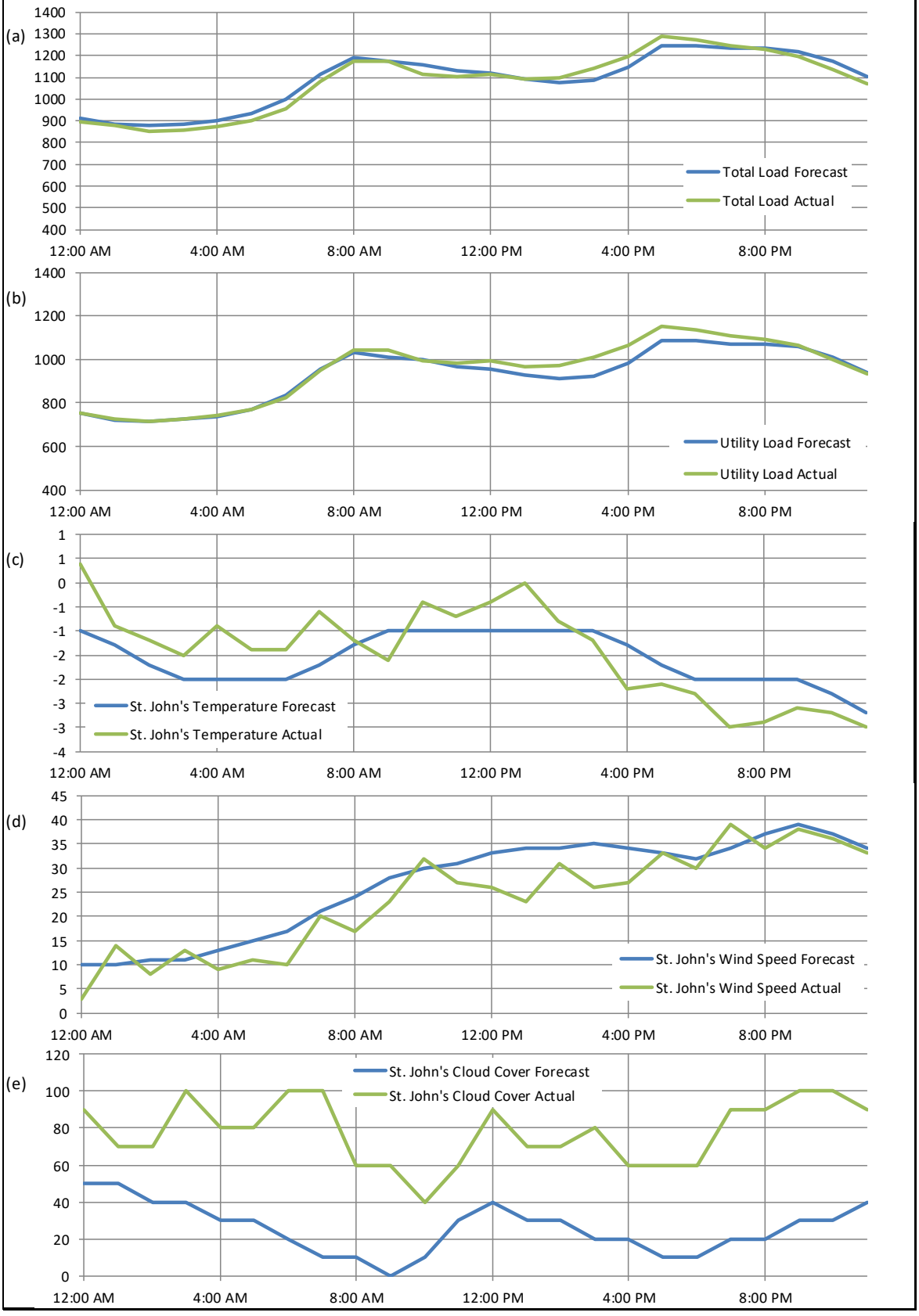

**Figure 37 Accuracy Analysis - Dec 10, 2020**

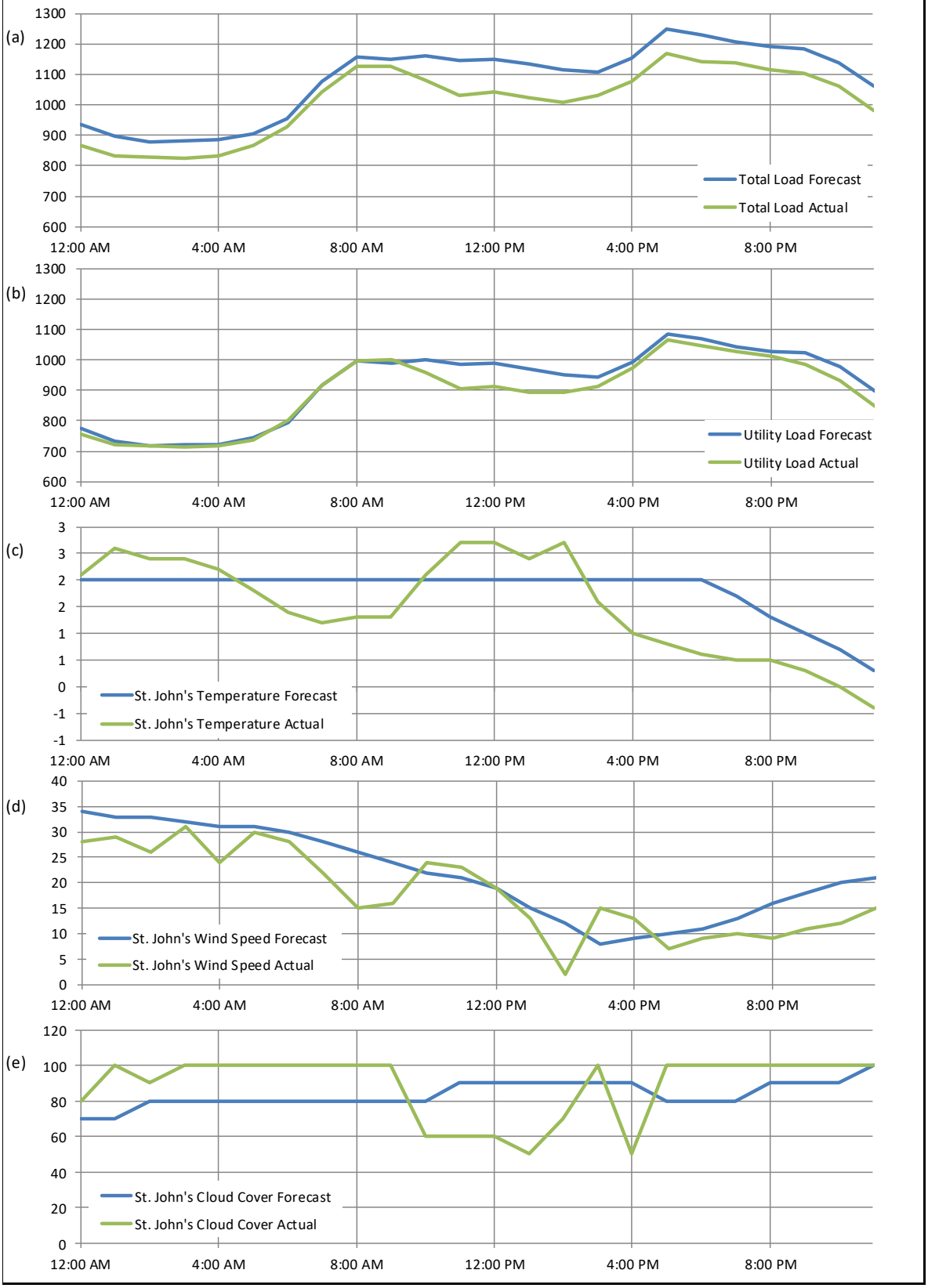

**Figure 38 Accuracy Analysis - Dec 19, 2020**

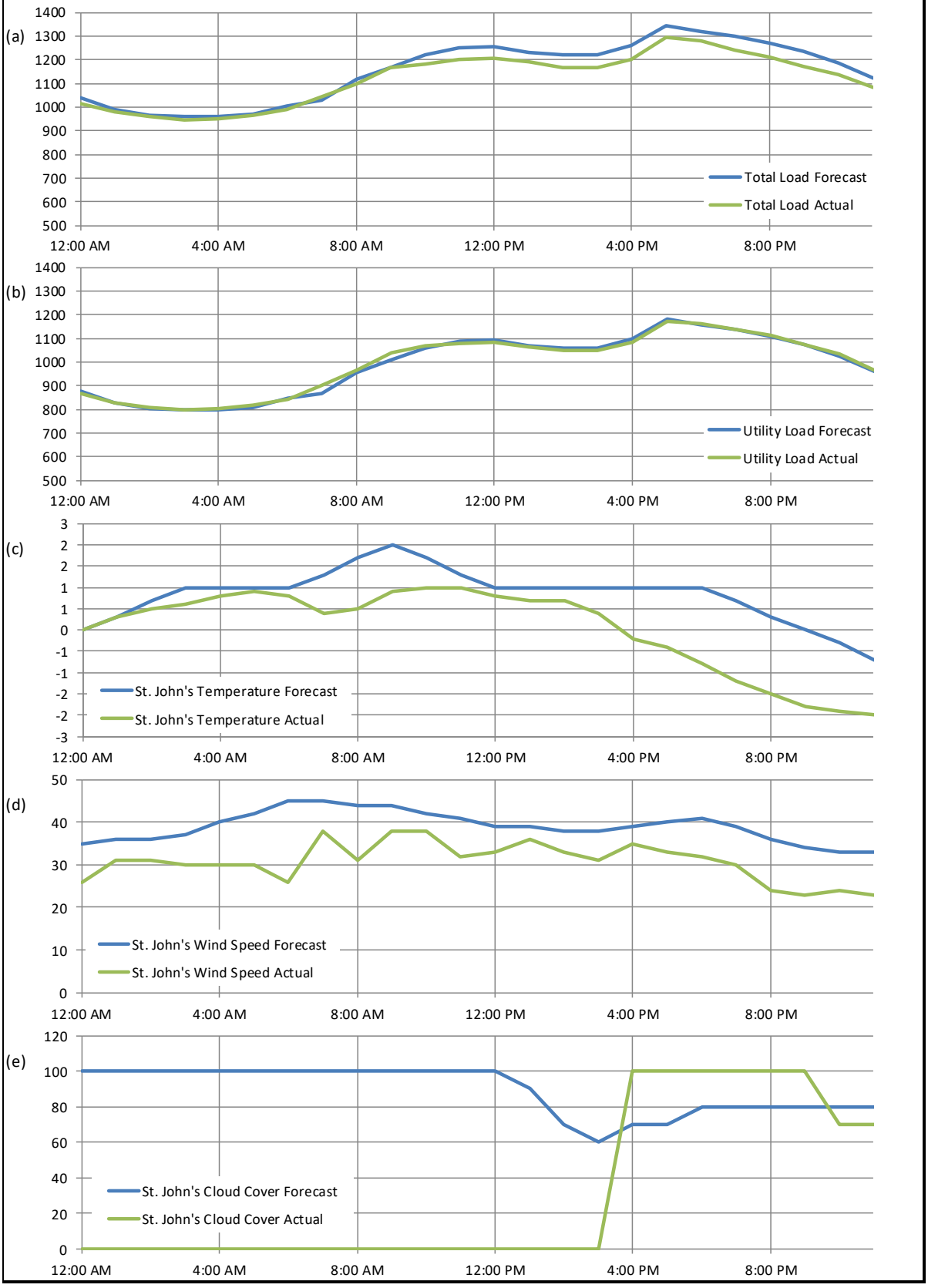

**Figure 39 Accuracy Analysis - Dec 30, 2020**

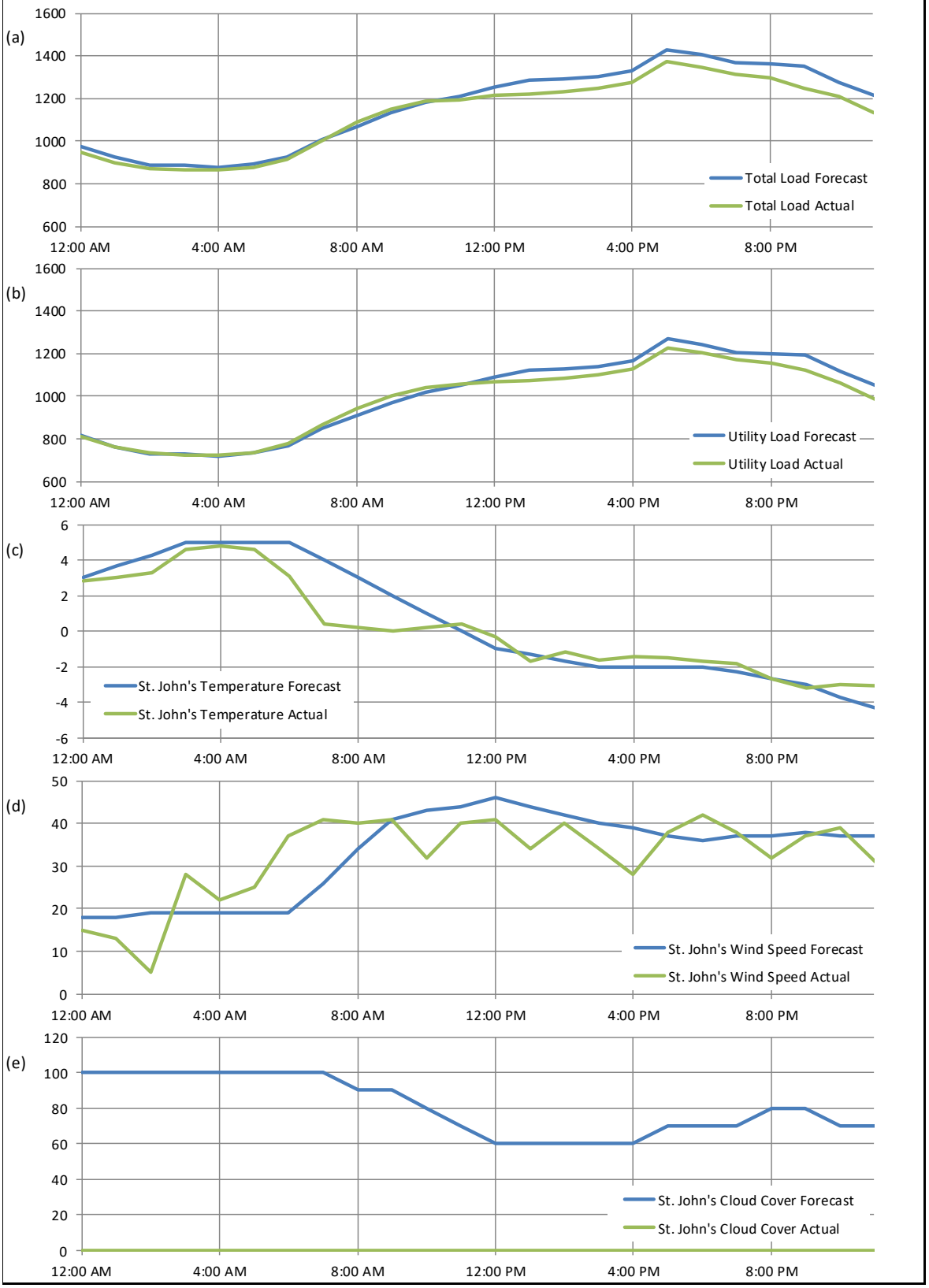

**Table 1: Load Forecasting Data (MW)[21]**

| Date | Forecast Total Peak | Actual Total Peak | Available Island Supply | Forecast Reserve |
|---|---|---|---|---|
| 1-Jan-2020 | 1,250 | 1,305 | 2,025 | 775 |
| 2-Jan-2020 | 1,135 | 1,282 | 2,015 | 880 |
| 3-Jan-2020 | 1,165 | 1,295 | 2,020 | 855 |
| 4-Jan-2020 | 1,250 | 1,240 | 1,975 | 725 |
| 5-Jan-2020 | 1,280 | 1,305 | 1,962 | 682 |
| 6-Jan-2020 | 1,475 | 1,373 | 1,950 | 475 |
| 7-Jan-2020 | 1,425 | 1,338 | 1,960 | 535 |
| 8-Jan-2020 | 1,410 | 1,401 | 1,955 | 545 |
| 9-Jan-2020 | 1,525 | 1,432 | 1,975 | 450 |
| 10-Jan-2020 | 1,620 | 1,619 | 1,970 | 350 |
| 11-Jan-2020 | 1,355 | 1,333 | 1,920 | 565 |
| 12-Jan-2020 | 1,500 | 1,451 | 2,005 | 505 |
| 13-Jan-2020 | 1,505 | 1,496 | 1,995 | 490 |
| 14-Jan-2020 | 1,555 | 1,528 | 1,990 | 435 |
| 15-Jan-2020 | 1,645 | 1,620 | 1,975 | 330 |
| 16-Jan-2020 | 1,550 | 1,501 | 1,970 | 420 |
| 17-Jan-2020 | 1,525 | 1,543 | 2,000 | 475 |
| 18-Jan-2020 | 1,635 | 1,549 | 1,745 | 110 |
| 19-Jan-2020 | 1,560 | 1,555 | 1,815 | 255 |
| 20-Jan-2020 | 1,395 | 1,385 | 1,965 | 570 |
| 21-Jan-2020 | 1,460 | 1,462 | 1,960 | 500 |
| 22-Jan-2020 | 1,615 | 1,568 | 1,980 | 365 |
| 23-Jan-2020 | 1,485 | 1,464 | 1,965 | 480 |
| 24-Jan-2020 | 1,405 | 1,349 | 1,915 | 510 |
| 25-Jan-2020 | 1,470 | 1,485 | 2,083 | 613 |
| 26-Jan-2020 | 1,410 | 1,376 | 2,103 | 693 |
| 27-Jan-2020 | 1,330 | 1,292 | 2,050 | 720 |
| 28-Jan-2020 | 1,330 | 1,299 | 2,035 | 705 |
| 29-Jan-2020 | 1,400 | 1,355 | 2,134 | 734 |
| 30-Jan-2020 | 1,405 | 1,355 | 2,144 | 739 |
| 31-Jan-2020 | 1,480 | 1,457 | 2,134 | 654 |
| Minimum | 1,135 | 1,240 | 1,745 | 110 |
| Average | 1,437 | 1,420 | 1,990 | 553 |
| Maximum | 1,645 | 1,620 | 2,144 | 880 |

[21] Forecast Reserve does not include adjustments for interruptible load, the impact of voltage reduction, or scheduled off-Island imports.

| Date | Forecast Total Peak | Actual Total Peak | Available Island Supply | Forecast Reserve |
|---|---|---|---|---|
| 1-Feb-2020 | 1,475 | 1,441 | 2,139 | 664 |
| 2-Feb-2020 | 1,420 | 1,498 | 2,159 | 739 |
| 3-Feb-2020 | 1,495 | 1,446 | 2,134 | 639 |
| 4-Feb-2020 | 1,435 | 1,410 | 2,039 | 604 |
| 5-Feb-2020 | 1,455 | 1,413 | 2,154 | 699 |
| 6-Feb-2020 | 1,555 | 1,529 | 2,070 | 515 |
| 7-Feb-2020 | 1,430 | 1,423 | 2,044 | 614 |
| 8-Feb-2020 | 1,485 | 1,427 | 1,887 | 402 |
| 9-Feb-2020 | 1,470 | 1,459 | 2,070 | 600 |
| 10-Feb-2020 | 1,555 | 1,532 | 2,140 | 585 |
| 11-Feb-2020 | 1,360 | 1,343 | 2,083 | 723 |
| 12-Feb-2020 | 1,440 | 1,379 | 2,150 | 710 |
| 13-Feb-2020 | 1,480 | 1,444 | 2,185 | 705 |
| 14-Feb-2020 | 1,685 | 1,606 | 2,070 | 385 |
| 15-Feb-2020 | 1,665 | 1,529 | 2,045 | 380 |
| 16-Feb-2020 | 1,450 | 1,476 | 2,205 | 755 |
| 17-Feb-2020 | 1,355 | 1,288 | 2,140 | 785 |
| 18-Feb-2020 | 1,500 | 1,439 | 2,055 | 555 |
| 19-Feb-2020 | 1,525 | 1,471 | 2,209 | 684 |
| 20-Feb-2020 | 1,605 | 1,587 | 2,095 | 490 |
| 21-Feb-2020 | 1,705 | 1,656 | 2,040 | 335 |
| 22-Feb-2020 | 1,545 | 1,516 | 2,150 | 605 |
| 23-Feb-2020 | 1,320 | 1,279 | 2,125 | 805 |
| 24-Feb-2020 | 1,420 | 1,401 | 2,095 | 675 |
| 25-Feb-2020 | 1,305 | 1,273 | 2,015 | 710 |
| 26-Feb-2020 | 1,330 | 1,246 | 2,086 | 756 |
| 27-Feb-2020 | 1,450 | 1,399 | 2,125 | 675 |
| 28-Feb-2020 | 1,440 | 1,403 | 2,135 | 695 |
| 29-Feb-2020 | 1,280 | 1,241 | 2,139 | 859 |
| Minimum | 1,280 | 1,241 | 1,887 | 335 |
| Average | 1,470 | 1,433 | 2,103 | 633 |
| Maximum | 1,705 | 1,656 | 2,209 | 859 |
| 1-Mar-2020 | 1,365 | 1,353 | 2,015 | 650 |
| 2-Mar-2020 | 1,415 | 1,356 | 2,114 | 699 |
| 3-Mar-2020 | 1,530 | 1,488 | 2,180 | 650 |
| 4-Mar-2020 | 1,270 | 1,226 | 2,140 | 870 |
| 5-Mar-2020 | 1,320 | 1,334 | 1,915 | 595 |
| 6-Mar-2020 | 1,360 | 1,309 | 2,199 | 839 |

| Date | Forecast Total Peak | Actual Total Peak | Available Island Supply | Forecast Reserve |
|---|---|---|---|---|
| 7-Mar-2020 | 1,390 | 1,411 | 2,175 | 785 |
| 8-Mar-2020 | 1,375 | 1,348 | 2,190 | 815 |
| 9-Mar-2020 | 1,590 | 1,465 | 2,118 | 528 |
| 10-Mar-2020 | 1,650 | 1,647 | 2,144 | 494 |
| 11-Mar-2020 | 1,430 | 1,449 | 2,029 | 599 |
| 12-Mar-2020 | 1,380 | 1,358 | 2,044 | 664 |
| 13-Mar-2020 | 1,440 | 1,455 | 2,104 | 664 |
| 14-Mar-2020 | 1,385 | 1,395 | 2,166 | 781 |
| 15-Mar-2020 | 1,350 | 1,296 | 2,189 | 839 |
| 16-Mar-2020 | 1,465 | 1,459 | 2,104 | 639 |
| 17-Mar-2020 | 1,540 | 1,561 | 2,089 | 549 |
| 18-Mar-2020 | 1,375 | 1,302 | 2,159 | 784 |
| 19-Mar-2020 | 1,390 | 1,329 | 2,094 | 704 |
| 20-Mar-2020 | 1,385 | 1,391 | 2,110 | 725 |
| 21-Mar-2020 | 1,245 | 1,216 | 2,144 | 899 |
| 22-Mar-2020 | 1,445 | 1,376 | 2,155 | 710 |
| 23-Mar-2020 | 1,515 | 1,437 | 2,084 | 569 |
| 24-Mar-2020 | 1,380 | 1,332 | 2,140 | 760 |
| 25-Mar-2020 | 1,320 | 1,301 | 2,089 | 769 |
| 26-Mar-2020 | 1,345 | 1,298 | 2,094 | 749 |
| 27-Mar-2020 | 1,290 | 1,302 | 2,164 | 874 |
| 28-Mar-2020 | 1,185 | 1,161 | 2,115 | 930 |
| 29-Mar-2020 | 1,260 | 1,276 | 2,124 | 864 |
| 30-Mar-2020 | 1,325 | 1,316 | 2,049 | 724 |
| 31-Mar-2020 | 1,220 | 1,173 | 2,079 | 859 |
| Minimum | 1,185 | 1,161 | 1,915 | 494 |
| Average | 1,385 | 1,359 | 2,113 | 728 |
| Maximum | 1,650 | 1,647 | 2,199 | 930 |
| 1-Apr-2020 | 1,155 | 1,086 | 1,900 | 745 |
| 2-Apr-2020 | 1,115 | 1,032 | 2,029 | 914 |
| 3-Apr-2020 | 1,185 | 1,181 | 1,995 | 810 |
| 4-Apr-2020 | 1,160 | 1,169 | 1,885 | 725 |
| 5-Apr-2020 | 1,165 | 1,168 | 1,875 | 710 |
| 6-Apr-2020 | 1,250 | 1,167 | 1,865 | 615 |
| 7-Apr-2020 | 1,200 | 1,179 | 1,810 | 610 |
| 8-Apr-2020 | 1,255 | 1,191 | 1,830 | 575 |
| 9-Apr-2020 | 1,220 | 1,176 | 1,855 | 635 |
| 10-Apr-2020 | 1,280 | 1,260 | 1,880 | 600 |

| Date | Forecast Total Peak | Actual Total Peak | Available Island Supply | Forecast Reserve |
|---|---|---|---|---|
| 11-Apr-2020 | 1,080 | 1,046 | 1,888 | 808 |
| 12-Apr-2020 | 1,025 | 1,046 | 1,904 | 879 |
| 13-Apr-2020 | 1,100 | 1,049 | 1,860 | 760 |
| 14-Apr-2020 | 1,130 | 1,018 | 1,775 | 645 |
| 15-Apr-2020 | 1,015 | 988 | 1,740 | 725 |
| 16-Apr-2020 | 1,040 | 1,069 | 1,675 | 635 |
| 17-Apr-2020 | 1,160 | 1,156 | 1,705 | 545 |
| 18-Apr-2020 | 1,080 | 1,055 | 1,745 | 665 |
| 19-Apr-2020 | 1,220 | 1,317 | 1,775 | 555 |
| 20-Apr-2020 | 1,120 | 1,113 | 1,765 | 645 |
| 21-Apr-2020 | 1,150 | 1,122 | 1,865 | 715 |
| 22-Apr-2020 | 1,115 | 1,050 | 1,795 | 680 |
| 23-Apr-2020 | 1,055 | 1,051 | 1,895 | 840 |
| 24-Apr-2020 | 1,075 | 1,042 | 1,845 | 770 |
| 25-Apr-2020 | 1,085 | 1,068 | 1,805 | 720 |
| 26-Apr-2020 | 1,020 | 973 | 1,795 | 775 |
| 27-Apr-2020 | 1,065 | 1,044 | 1,825 | 760 |
| 28-Apr-2020 | 1,115 | 1,074 | 1,785 | 670 |
| 29-Apr-2020 | 1,145 | 1,119 | 1,800 | 655 |
| 30-Apr-2020 | 1,090 | 1,100 | 1,850 | 760 |
| Minimum | 1,015 | 973 | 1,675 | 545 |
| Average | 1,129 | 1,104 | 1,834 | 705 |
| Maximum | 1,280 | 1,317 | 2,029 | 914 |
| 1-May-2020 | 960 | 871 | 1,840 | 880 |
| 2-May-2020 | 920 | 873 | 1,705 | 785 |
| 3-May-2020 | 945 | 987 | 1,720 | 775 |
| 4-May-2020 | 1,040 | 1,054 | 1,655 | 615 |
| 5-May-2020 | 1,145 | 1,150 | 1,650 | 505 |
| 6-May-2020 | 1,030 | 1,033 | 1,645 | 615 |
| 7-May-2020 | 1,055 | 1,062 | 1,650 | 595 |
| 8-May-2020 | 1,015 | 1,034 | 1,620 | 605 |
| 9-May-2020 | 920 | 952 | 1,630 | 710 |
| 10-May-2020 | 1,035 | 1,030 | 1,675 | 640 |
| 11-May-2020 | 1,030 | 1,041 | 1,670 | 640 |
| 12-May-2020 | 1,000 | 1,070 | 1,635 | 635 |
| 13-May-2020 | 1,025 | 1,036 | 1,635 | 610 |
| 14-May-2020 | 1,075 | 1,036 | 1,665 | 590 |
| 15-May-2020 | 1,050 | 1,067 | 1,645 | 595 |

| Date | Forecast Total Peak | Actual Total Peak | Available Island Supply | Forecast Reserve |
|---|---|---|---|---|
| 16-May-2020 | 985 | 928 | 1,625 | 640 |
| 17-May-2020 | 1,015 | 1,015 | 1,630 | 615 |
| 18-May-2020 | 990 | 949 | 1,635 | 645 |
| 19-May-2020 | 1,055 | 1,038 | 1,635 | 580 |
| 20-May-2020 | 1,040 | 1,011 | 1,545 | 505 |
| 21-May-2020 | 905 | 889 | 1,550 | 645 |
| 22-May-2020 | 895 | 855 | 1,670 | 775 |
| 23-May-2020 | 965 | 927 | 1,670 | 705 |
| 24-May-2020 | 965 | 854 | 1,630 | 665 |
| 25-May-2020 | 890 | 901 | 1,580 | 690 |
| 26-May-2020 | 850 | 823 | 1,600 | 750 |
| 27-May-2020 | 835 | 817 | 1,365 | 530 |
| 28-May-2020 | 830 | 841 | 1,570 | 740 |
| 29-May-2020 | 770 | 725 | 1,680 | 910 |
| 30-May-2020 | 730 | 713 | 1,705 | 975 |
| 31-May-2020 | 735 | 715 | 1,585 | 850 |
| Minimum | 730 | 713 | 1,365 | 505 |
| Average | 958 | 945 | 1,636 | 678 |
| Maximum | 1,145 | 1,150 | 1,840 | 975 |
| 1-Jun-2020 | 800 | 815 | 1,480 | 680 |
| 2-Jun-2020 | 840 | 891 | 1,495 | 655 |
| 3-Jun-2020 | 845 | 862 | 1,425 | 580 |
| 4-Jun-2020 | 865 | 846 | 1,540 | 675 |
| 5-Jun-2020 | 820 | 767 | 1,580 | 760 |
| 6-Jun-2020 | 795 | 746 | 1,475 | 680 |
| 7-Jun-2020 | 880 | 895 | 1,395 | 515 |
| 8-Jun-2020 | 890 | 932 | 1,415 | 525 |
| 9-Jun-2020 | 995 | 957 | 1,390 | 395 |
| 10-Jun-2020 | 910 | 869 | 1,385 | 475 |
| 11-Jun-2020 | 850 | 829 | 1,370 | 520 |
| 12-Jun-2020 | 840 | 726 | 1,365 | 525 |
| 13-Jun-2020 | 735 | 696 | 1,385 | 650 |
| 14-Jun-2020 | 785 | 778 | 1,425 | 640 |
| 15-Jun-2020 | 845 | 844 | 1,420 | 575 |
| 16-Jun-2020 | 775 | 774 | 1,430 | 655 |
| 17-Jun-2020 | 810 | 763 | 1,445 | 635 |
| 18-Jun-2020 | 755 | 780 | 1,385 | 630 |
| 19-Jun-2020 | 790 | 750 | 1,455 | 665 |

| Date | Forecast Total Peak | Actual Total Peak | Available Island Supply | Forecast Reserve |
|---|---|---|---|---|
| 20-Jun-2020 | 830 | 816 | 1,375 | 545 |
| 21-Jun-2020 | 780 | 768 | 1,355 | 575 |
| 22-Jun-2020 | 790 | 790 | 1,370 | 580 |
| 23-Jun-2020 | 770 | 740 | 1,375 | 605 |
| 24-Jun-2020 | 745 | 748 | 1,365 | 620 |
| 25-Jun-2020 | 755 | 720 | 1,300 | 545 |
| 26-Jun-2020 | 740 | 738 | 1,355 | 615 |
| 27-Jun-2020 | 705 | 691 | 1,365 | 660 |
| 28-Jun-2020 | 695 | 717 | 1,360 | 665 |
| 29-Jun-2020 | 835 | 750 | 1,535 | 700 |
| 30-Jun-2020 | 800 | 769 | 1,540 | 740 |
| Minimum | 695 | 691 | 1,300 | 395 |
| Average | 809 | 792 | 1,419 | 610 |
| Maximum | 995 | 957 | 1,580 | 760 |
| 1-Jul-2020 | 770 | 751 | 1,550 | 780 |
| 2-Jul-2020 | 790 | 741 | 1,270 | 480 |
| 3-Jul-2020 | 790 | 805 | 1,550 | 760 |
| 4-Jul-2020 | 760 | 739 | 1,365 | 605 |
| 5-Jul-2020 | 750 | 741 | 1,360 | 610 |
| 6-Jul-2020 | 780 | 743 | 1,315 | 535 |
| 7-Jul-2020 | 750 | 704 | 1,300 | 550 |
| 8-Jul-2020 | 745 | 669 | 1,170 | 425 |
| 9-Jul-2020 | 750 | 719 | 1,210 | 460 |
| 10-Jul-2020 | 740 | 708 | 1,205 | 465 |
| 11-Jul-2020 | 695 | 677 | 1,200 | 505 |
| 12-Jul-2020 | 695 | 681 | 1,300 | 605 |
| 13-Jul-2020 | 755 | 709 | 1,310 | 555 |
| 14-Jul-2020 | 740 | 691 | 1,285 | 545 |
| 15-Jul-2020 | 770 | 806 | 1,315 | 545 |
| 16-Jul-2020 | 815 | 856 | 1,405 | 590 |
| 17-Jul-2020 | 775 | 775 | 1,385 | 610 |
| 18-Jul-2020 | 740 | 677 | 1,435 | 695 |
| 19-Jul-2020 | 730 | 651 | 1,435 | 705 |
| 20-Jul-2020 | 755 | 725 | 1,455 | 700 |
| 21-Jul-2020 | 745 | 806 | 1,465 | 720 |
| 22-Jul-2020 | 735 | 745 | 1,395 | 660 |
| 23-Jul-2020 | 730 | 699 | 1,360 | 630 |
| 24-Jul-2020 | 740 | 711 | 1,370 | 630 |

| Date | Forecast Total Peak | Actual Total Peak | Available Island Supply | Forecast Reserve |
|---|---|---|---|---|
| 25-Jul-2020 | 695 | 660 | 1,490 | 795 |
| 26-Jul-2020 | 710 | 703 | 1,505 | 795 |
| 27-Jul-2020 | 750 | 724 | 1,435 | 685 |
| 28-Jul-2020 | 735 | 702 | 1,430 | 695 |
| 29-Jul-2020 | 735 | 708 | 1,440 | 705 |
| 30-Jul-2020 | 765 | 727 | 1,390 | 625 |
| 31-Jul-2020 | 730 | 710 | 1,425 | 695 |
| Minimum | 695 | 651 | 1,170 | 425 |
| Average | 747 | 725 | 1,372 | 625 |
| Maximum | 815 | 856 | 1,550 | 795 |
| 1-Aug-2020 | 725 | 671 | 1,420 | 695 |
| 2-Aug-2020 | 715 | 680 | 1,440 | 725 |
| 3-Aug-2020 | 645 | 608 | 1,430 | 785 |
| 4-Aug-2020 | 650 | 648 | 1,450 | 800 |
| 5-Aug-2020 | 615 | 606 | 1,370 | 755 |
| 6-Aug-2020 | 625 | 639 | 1,420 | 795 |
| 7-Aug-2020 | 625 | 624 | 1,400 | 775 |
| 8-Aug-2020 | 585 | 590 | 1,410 | 825 |
| 9-Aug-2020 | 700 | 606 | 1,380 | 680 |
| 10-Aug-2020 | 755 | 669 | 1,390 | 635 |
| 11-Aug-2020 | 745 | 693 | 1,265 | 520 |
| 12-Aug-2020 | 745 | 719 | 1,425 | 680 |
| 13-Aug-2020 | 750 | 733 | 1,410 | 660 |
| 14-Aug-2020 | 735 | 703 | 1,275 | 540 |
| 15-Aug-2020 | 710 | 650 | 1,435 | 725 |
| 16-Aug-2020 | 685 | 674 | 1,420 | 735 |
| 17-Aug-2020 | 740 | 718 | 1,365 | 625 |
| 18-Aug-2020 | 730 | 689 | 1,380 | 650 |
| 19-Aug-2020 | 715 | 694 | 1,385 | 670 |
| 20-Aug-2020 | 720 | 711 | 1,370 | 650 |
| 21-Aug-2020 | 725 | 688 | 1,460 | 735 |
| 22-Aug-2020 | 685 | 672 | 1,440 | 755 |
| 23-Aug-2020 | 685 | 679 | 1,375 | 690 |
| 24-Aug-2020 | 735 | 725 | 1,345 | 610 |
| 25-Aug-2020 | 720 | 695 | 1,300 | 580 |
| 26-Aug-2020 | 765 | 733 | 1,390 | 625 |
| 27-Aug-2020 | 740 | 673 | 1,375 | 635 |
| 28-Aug-2020 | 725 | 673 | 1,385 | 660 |

| Date | Forecast Total Peak | Actual Total Peak | Available Island Supply | Forecast Reserve |
|---|---|---|---|---|
| 29-Aug-2020 | 695 | 654 | 1,410 | 715 |
| 30-Aug-2020 | 760 | 745 | 1,395 | 635 |
| 31-Aug-2020 | 765 | 745 | 1,290 | 525 |
| Minimum | 585 | 590 | 1,265 | 520 |
| Average | 707 | 678 | 1,387 | 680 |
| Maximum | 765 | 745 | 1,460 | 825 |
| 1-Sep-2020 | 735 | 685 | 1,435 | 700 |
| 2-Sep-2020 | 710 | 696 | 1,420 | 710 |
| 3-Sep-2020 | 685 | 710 | 1,385 | 700 |
| 4-Sep-2020 | 730 | 717 | 1,390 | 660 |
| 5-Sep-2020 | 700 | 695 | 1,450 | 750 |
| 6-Sep-2020 | 680 | 681 | 1,445 | 765 |
| 7-Sep-2020 | 705 | 688 | 1,435 | 730 |
| 8-Sep-2020 | 715 | 773 | 1,280 | 565 |
| 9-Sep-2020 | 690 | 794 | 1,280 | 590 |
| 10-Sep-2020 | 755 | 769 | 1,270 | 515 |
| 11-Sep-2020 | 795 | 713 | 1,295 | 500 |
| 12-Sep-2020 | 730 | 711 | 1,295 | 565 |
| 13-Sep-2020 | 725 | 720 | 1,440 | 715 |
| 14-Sep-2020 | 770 | 756 | 1,275 | 505 |
| 15-Sep-2020 | 760 | 722 | 1,185 | 425 |
| 16-Sep-2020 | 770 | 767 | 1,150 | 380 |
| 17-Sep-2020 | 740 | 743 | 1,185 | 445 |
| 18-Sep-2020 | 745 | 763 | 1,185 | 440 |
| 19-Sep-2020 | 770 | 760 | 1,295 | 525 |
| 20-Sep-2020 | 790 | 789 | 1,280 | 490 |
| 21-Sep-2020 | 855 | 838 | 1,365 | 510 |
| 22-Sep-2020 | 835 | 820 | 1,325 | 490 |
| 23-Sep-2020 | 780 | 747 | 1,350 | 570 |
| 24-Sep-2020 | 755 | 724 | 1,360 | 605 |
| 25-Sep-2020 | 760 | 733 | 1,270 | 510 |
| 26-Sep-2020 | 750 | 743 | 1,355 | 605 |
| 27-Sep-2020 | 720 | 714 | 1,300 | 580 |
| 28-Sep-2020 | 755 | 734 | 1,375 | 620 |
| 29-Sep-2020 | 735 | 732 | 1,265 | 530 |
| 30-Sep-2020 | 735 | 739 | 1,270 | 535 |
| Minimum | 680 | 681 | 1,150 | 380 |
| Average | 746 | 739 | 1,320 | 574 |

| Date | Forecast Total Peak | Actual Total Peak | Available Island Supply | Forecast Reserve |
|---|---|---|---|---|
| Maximum | 855 | 838 | 1,450 | 765 |
| 1-Oct-2020 | 730 | 664 | 1,295 | 565 |
| 2-Oct-2020 | 710 | 696 | 1,200 | 490 |
| 3-Oct-2020 | 710 | 726 | 1,290 | 580 |
| 4-Oct-2020 | 775 | 785 | 1,260 | 485 |
| 5-Oct-2020 | 845 | 856 | 1,335 | 490 |
| 6-Oct-2020 | 910 | 877 | 1,310 | 400 |
| 7-Oct-2020 | 825 | 806 | 1,325 | 500 |
| 8-Oct-2020 | 820 | 793 | 1,374 | 554 |
| 9-Oct-2020 | 910 | 861 | 1,555 | 645 |
| 10-Oct-2020 | 835 | 805 | 1,550 | 715 |
| 11-Oct-2020 | 780 | 784 | 1,420 | 640 |
| 12-Oct-2020 | 850 | 850 | 1,405 | 555 |
| 13-Oct-2020 | 930 | 938 | 1,390 | 460 |
| 14-Oct-2020 | 910 | 908 | 1,439 | 529 |
| 15-Oct-2020 | 780 | 759 | 1,585 | 805 |
| 16-Oct-2020 | 770 | 782 | 1,515 | 745 |
| 17-Oct-2020 | 720 | 748 | 1,510 | 790 |
| 18-Oct-2020 | 730 | 817 | 1,460 | 730 |
| 19-Oct-2020 | 865 | 849 | 1,480 | 615 |
| 20-Oct-2020 | 860 | 834 | 1,445 | 585 |
| 21-Oct-2020 | 850 | 786 | 1,475 | 625 |
| 22-Oct-2020 | 860 | 812 | 1,557 | 697 |
| 23-Oct-2020 | 945 | 902 | 1,480 | 535 |
| 24-Oct-2020 | 915 | 922 | 1,563 | 648 |
| 25-Oct-2020 | 935 | 919 | 1,684 | 749 |
| 26-Oct-2020 | 1,055 | 1,036 | 1,545 | 490 |
| 27-Oct-2020 | 1,085 | 1,026 | 1,674 | 589 |
| 28-Oct-2020 | 1,080 | 1,059 | 1,510 | 430 |
| 29-Oct-2020 | 1,170 | 1,149 | 1,545 | 375 |
| 30-Oct-2020 | 1,145 | 1,111 | 1,640 | 495 |
| 31-Oct-2020 | 1,165 | 1,131 | 1,630 | 465 |
| Minimum | 710 | 664 | 1,200 | 375 |
| Average | 886 | 871 | 1,466 | 580 |
| Maximum | 1,170 | 1,149 | 1,684 | 805 |
| 1-Nov-2020 | 1,080 | 1,081 | 1,630 | 550 |
| 2-Nov-2020 | 1,020 | 1,034 | 1,645 | 625 |
| 3-Nov-2020 | 1,080 | 1,073 | 1,565 | 485 |

| Date | Forecast Total Peak | Actual Total Peak | Available Island Supply | Forecast Reserve |
|---|---|---|---|---|
| 4-Nov-2020 | 1,310 | 1,257 | 1,750 | 440 |
| 5-Nov-2020 | 1,270 | 1,218 | 1,705 | 435 |
| 6-Nov-2020 | 1,075 | 1,033 | 1,726 | 651 |
| 7-Nov-2020 | 1,000 | 1,002 | 1,800 | 800 |
| 8-Nov-2020 | 1,105 | 1,084 | 1,720 | 615 |
| 9-Nov-2020 | 1,190 | 1,182 | 1,705 | 515 |
| 10-Nov-2020 | 1,050 | 994 | 1,655 | 605 |
| 11-Nov-2020 | 1,055 | 1,015 | 1,696 | 641 |
| 12-Nov-2020 | 955 | 933 | 1,645 | 690 |
| 13-Nov-2020 | 1,005 | 1,021 | 1,610 | 605 |
| 14-Nov-2020 | 1,170 | 1,242 | 1,710 | 540 |
| 15-Nov-2020 | 1,220 | 1,154 | 1,795 | 575 |
| 16-Nov-2020 | 1,195 | 1,202 | 1,895 | 700 |
| 17-Nov-2020 | 1,095 | 1,029 | 1,910 | 815 |
| 18-Nov-2020 | 1,120 | 1,147 | 1,935 | 815 |
| 19-Nov-2020 | 1,245 | 1,346 | 1,945 | 700 |
| 20-Nov-2020 | 1,285 | 1,265 | 1,985 | 700 |
| 21-Nov-2020 | 1,085 | 1,098 | 2,010 | 925 |
| 22-Nov-2020 | 1,265 | 1,290 | 1,980 | 715 |
| 23-Nov-2020 | 1,365 | 1,353 | 2,055 | 690 |
| 24-Nov-2020 | 1,150 | 1,138 | 1,890 | 740 |
| 25-Nov-2020 | 1,355 | 1,329 | 2,000 | 645 |
| 26-Nov-2020 | 1,245 | 1,252 | 2,015 | 770 |
| 27-Nov-2020 | 1,070 | 1,096 | 1,810 | 740 |
| 28-Nov-2020 | 985 | 989 | 1,890 | 905 |
| 29-Nov-2020 | 1,130 | 1,148 | 1,760 | 630 |
| 30-Nov-2020 | 1,195 | 1,219 | 2,045 | 850 |
| Minimum | 955 | 933 | 1,565 | 435 |
| Average | 1146 | 1,141 | 1,816 | 670 |
| Maximum | 1365 | 1,353 | 2,055 | 925 |
| 1-Dec-2020 | 1,255 | 1,320 | 2,005 | 750 |
| 2-Dec-2020 | 1,400 | 1,375 | 1,980 | 580 |
| 3-Dec-2020 | 1,365 | 1,313 | 1,995 | 630 |
| 4-Dec-2020 | 1,205 | 1,171 | 2,040 | 835 |
| 5-Dec-2020 | 1,235 | 1,229 | 1,885 | 650 |
| 6-Dec-2020 | 1,275 | 1,229 | 1,970 | 695 |
| 7-Dec-2020 | 1,335 | 1,320 | 1,990 | 655 |
| 8-Dec-2020 | 1,390 | 1,400 | 1,985 | 595 |

| Date | Forecast Total Peak | Actual Total Peak | Available Island Supply | Forecast Reserve |
|---|---|---|---|---|
| 9-Dec-2020 | 1,410 | 1,351 | 2,000 | 590 |
| 10-Dec-2020 | 1,210 | 1,128 | 2,010 | 800 |
| 11-Dec-2020 | 1,260 | 1,195 | 1,985 | 725 |
| 12-Dec-2020 | 1,405 | 1,437 | 1,965 | 560 |
| 13-Dec-2020 | 1,565 | 1,564 | 2,000 | 435 |
| 14-Dec-2020 | 1,425 | 1,386 | 1,860 | 435 |
| 15-Dec-2020 | 1,230 | 1,171 | 1,872 | 642 |
| 16-Dec-2020 | 1,470 | 1,486 | 1,925 | 455 |
| 17-Dec-2020 | 1,570 | 1,492 | 2,025 | 455 |
| 18-Dec-2020 | 1,505 | 1,451 | 1,970 | 465 |
| 19-Dec-2020 | 1,510 | 1,398 | 1,975 | 465 |
| 20-Dec-2020 | 1,440 | 1,419 | 2,010 | 570 |
| 21-Dec-2020 | 1,390 | 1,365 | 2,060 | 670 |
| 22-Dec-2020 | 1,500 | 1,477 | 2,020 | 520 |
| 23-Dec-2020 | 1,495 | 1,500 | 1,995 | 500 |
| 24-Dec-2020 | 1,420 | 1,352 | 2,015 | 595 |
| 25-Dec-2020 | 1,305 | 1,322 | 2,040 | 735 |
| 26-Dec-2020 | 1,360 | 1,359 | 2,040 | 680 |
| 27-Dec-2020 | 1,380 | 1,344 | 2,050 | 670 |
| 28-Dec-2020 | 1,315 | 1,321 | 2,010 | 695 |
| 29-Dec-2020 | 1,305 | 1,303 | 2,025 | 720 |
| 30-Dec-2020 | 1,425 | 1,352 | 2,020 | 595 |
| 31-Dec-2020 | 1,355 | 1,316 | 2,015 | 660 |
| Minimum | 1,205 | 1,128 | 1,860 | 435 |
| Average | 1,378 | 1,350 | 1,992 | 614 |
| Maximum | 1,570 | 1,564 | 2,060 | 835 |

**Table 2: Analysis of Total Forecast Error[22]**

| Date | Actual Total Peak (MW) | Forecast Total Peak (MW) | Error (MW) | Absolute Error (MW) | Percent Error | Absolute Percent Error | Actual/ Forecast |
|---|---|---|---|---|---|---|---|
| 1-Jan-2020 | 1,305 | 1,250 | -55 | 55 | -4.2% | 4.2% | -4.4% |
| **2-Jan-2020** | **1,282** | **1,135** | **-147** | **147** | **-11.5%** | **11.5%** | **-13.0%** |
| **3-Jan-2020** | **1,295** | **1,165** | **-130** | **130** | **-10.0%** | **10.0%** | **-11.2%** |
| 4-Jan-2020 | 1,240 | 1,250 | 10 | 10 | 0.8% | 0.8% | 0.8% |
| 5-Jan-2020 | 1,305 | 1,280 | -25 | 25 | -1.9% | 1.9% | -2.0% |
| **6-Jan-2020** | **1,373** | **1,475** | **102** | **102** | **7.4%** | **7.4%** | **6.9%** |
| 7-Jan-2020 | 1,338 | 1,425 | 87 | 87 | 6.5% | 6.5% | 6.1% |
| 8-Jan-2020 | 1,401 | 1,410 | 9 | 9 | 0.6% | 0.6% | 0.6% |
| 9-Jan-2020 | 1,432 | 1,525 | 93 | 93 | 6.5% | 6.5% | 6.1% |
| 10-Jan-2020 | 1,619 | 1,620 | 1 | 1 | 0.1% | 0.1% | 0.1% |
| 11-Jan-2020 | 1,333 | 1,355 | 22 | 22 | 1.7% | 1.7% | 1.6% |
| 12-Jan-2020 | 1,451 | 1,500 | 49 | 49 | 3.4% | 3.4% | 3.3% |
| 13-Jan-2020 | 1,496 | 1,505 | 9 | 9 | 0.6% | 0.6% | 0.6% |
| 14-Jan-2020 | 1,528 | 1,555 | 27 | 27 | 1.8% | 1.8% | 1.7% |
| 15-Jan-2020 | 1,620 | 1,645 | 25 | 25 | 1.5% | 1.5% | 1.5% |
| 16-Jan-2020 | 1,501 | 1,550 | 49 | 49 | 3.3% | 3.3% | 3.2% |
| 17-Jan-2020 | 1,543 | 1,525 | -18 | 18 | -1.2% | 1.2% | -1.2% |
| 18-Jan-2020 | 1,549 | 1,635 | 86 | 86 | 5.6% | 5.6% | 5.3% |
| 19-Jan-2020 | 1,555 | 1,560 | 5 | 5 | 0.3% | 0.3% | 0.3% |
| 20-Jan-2020 | 1,385 | 1,395 | 10 | 10 | 0.7% | 0.7% | 0.7% |
| 21-Jan-2020 | 1,462 | 1,460 | -2 | 2 | -0.1% | 0.1% | -0.1% |
| 22-Jan-2020 | 1,568 | 1,615 | 47 | 47 | 3.0% | 3.0% | 2.9% |
| 23-Jan-2020 | 1,464 | 1,485 | 21 | 21 | 1.4% | 1.4% | 1.4% |
| 24-Jan-2020 | 1,349 | 1,405 | 56 | 56 | 4.2% | 4.2% | 4.0% |
| 25-Jan-2020 | 1,485 | 1,470 | -15 | 15 | -1.0% | 1.0% | -1.0% |
| 26-Jan-2020 | 1,376 | 1,410 | 34 | 34 | 2.5% | 2.5% | 2.4% |
| 27-Jan-2020 | 1,292 | 1,330 | 38 | 38 | 2.9% | 2.9% | 2.9% |
| 28-Jan-2020 | 1,299 | 1,330 | 31 | 31 | 2.4% | 2.4% | 2.3% |
| 29-Jan-2020 | 1,355 | 1,400 | 45 | 45 | 3.3% | 3.3% | 3.2% |
| 30-Jan-2020 | 1,355 | 1,405 | 50 | 50 | 3.7% | 3.7% | 3.6% |
| 31-Jan-2020 | 1,457 | 1,480 | 23 | 23 | 1.6% | 1.6% | 1.6% |
| Minimum | 1,240 | 1,135 | -147 | 1 | -11.5% | 0.1% | -13.0% |
| Average | 1,420 | 1,437 | 17 | 43 | 1.2% | 3.1% | 1.0% |
| Maximum | 1,620 | 1,645 | 102 | 147 | 7.4% | 11.5% | 6.9% |

[22] Lines that have been bolded indicate further examination of the hourly forecast was provided in this report.

| Date | Actual Total Peak (MW) | Forecast Total Peak (MW) | Error (MW) | Absolute Error (MW) | Percent Error | Absolute Percent Error | Actual/ Forecast |
|---|---|---|---|---|---|---|---|
| 1-Feb-2020 | 1,441 | 1,475 | 34 | 34 | 2.4% | 2.4% | 2.3% |
| **2-Feb-2020** | **1,498** | **1,420** | **-78** | **78** | **-5.2%** | **5.2%** | **-5.5%** |
| 3-Feb-2020 | 1,446 | 1,495 | 49 | 49 | 3.4% | 3.4% | 3.3% |
| 4-Feb-2020 | 1,410 | 1,435 | 25 | 25 | 1.8% | 1.8% | 1.7% |
| 5-Feb-2020 | 1,413 | 1,455 | 42 | 42 | 3.0% | 3.0% | 2.9% |
| 6-Feb-2020 | 1,529 | 1,555 | 26 | 26 | 1.7% | 1.7% | 1.7% |
| 7-Feb-2020 | 1,423 | 1,430 | 7 | 7 | 0.5% | 0.5% | 0.5% |
| 8-Feb-2020 | 1,427 | 1,485 | 58 | 58 | 4.1% | 4.1% | 3.9% |
| 9-Feb-2020 | 1,459 | 1,470 | 11 | 11 | 0.8% | 0.8% | 0.7% |
| 10-Feb-2020 | 1,532 | 1,555 | 23 | 23 | 1.5% | 1.5% | 1.5% |
| 11-Feb-2020 | 1,343 | 1,360 | 17 | 17 | 1.3% | 1.3% | 1.3% |
| 12-Feb-2020 | 1,379 | 1,440 | 61 | 61 | 4.4% | 4.4% | 4.2% |
| 13-Feb-2020 | 1,444 | 1,480 | 36 | 36 | 2.5% | 2.5% | 2.4% |
| 14-Feb-2020 | 1,606 | 1,685 | 79 | 79 | 4.9% | 4.9% | 4.7% |
| **15-Feb-2020** | **1,529** | **1,665** | **136** | **136** | **8.9%** | **8.9%** | **8.2%** |
| 16-Feb-2020 | 1,476 | 1,450 | -26 | 26 | -1.8% | 1.8% | -1.8% |
| 17-Feb-2020 | 1,288 | 1,355 | 67 | 67 | 5.2% | 5.2% | 4.9% |
| 18-Feb-2020 | 1,439 | 1,500 | 61 | 61 | 4.2% | 4.2% | 4.1% |
| 19-Feb-2020 | 1,471 | 1,525 | 54 | 54 | 3.7% | 3.7% | 3.5% |
| 20-Feb-2020 | 1,587 | 1,605 | 18 | 18 | 1.1% | 1.1% | 1.1% |
| 21-Feb-2020 | 1,656 | 1,705 | 49 | 49 | 3.0% | 3.0% | 2.9% |
| 22-Feb-2020 | 1,516 | 1,545 | 29 | 29 | 1.9% | 1.9% | 1.9% |
| 23-Feb-2020 | 1,279 | 1,320 | 41 | 41 | 3.2% | 3.2% | 3.1% |
| 24-Feb-2020 | 1,401 | 1,420 | 19 | 19 | 1.4% | 1.4% | 1.3% |
| 25-Feb-2020 | 1,273 | 1,305 | 32 | 32 | 2.5% | 2.5% | 2.5% |
| **26-Feb-2020** | **1,246** | **1,330** | **84** | **84** | **6.7%** | **6.7%** | **6.3%** |
| 27-Feb-2020 | 1,399 | 1,450 | 51 | 51 | 3.6% | 3.6% | 3.5% |
| 28-Feb-2020 | 1,403 | 1,440 | 37 | 37 | 2.6% | 2.6% | 2.6% |
| 29-Feb-2020 | 1,241 | 1,280 | 39 | 39 | 3.1% | 3.1% | 3.0% |
| Minimum | 1,241 | 1,280 | -78 | 7 | -5.2% | 0.5% | -5.5% |
| Average | 1,433 | 1,470 | 37 | 44 | 2.6% | 3.1% | 2.5% |
| Maximum | 1,656 | 1,705 | 136 | 136 | 8.9% | 8.9% | 8.2% |
| 1-Mar-2020 | 1,353 | 1,365 | 12 | 12 | 0.9% | 0.9% | 0.9% |
| 2-Mar-2020 | 1,356 | 1,415 | 59 | 59 | 4.4% | 4.4% | 4.2% |
| 3-Mar-2020 | 1,488 | 1,530 | 42 | 42 | 2.8% | 2.8% | 2.7% |
| 4-Mar-2020 | 1,226 | 1,270 | 44 | 44 | 3.6% | 3.6% | 3.5% |
| 5-Mar-2020 | 1,334 | 1,320 | -14 | 14 | -1.0% | 1.0% | -1.1% |

| Date | Actual Total Peak (MW) | Forecast Total Peak (MW) | Error (MW) | Absolute Error (MW) | Percent Error | Absolute Percent Error | Actual/ Forecast |
|---|---|---|---|---|---|---|---|
| 6-Mar-2020 | 1,309 | 1,360 | 51 | 51 | 3.9% | 3.9% | 3.8% |
| 7-Mar-2020 | 1,411 | 1,390 | -21 | 21 | -1.5% | 1.5% | -1.5% |
| 8-Mar-2020 | 1,348 | 1,375 | 27 | 27 | 2.0% | 2.0% | 2.0% |
| **9-Mar-2020** | **1,465** | **1,590** | **125** | **125** | **8.5%** | **8.5%** | **7.9%** |
| 10-Mar-2020 | 1,647 | 1,650 | 3 | 3 | 0.2% | 0.2% | 0.2% |
| 11-Mar-2020 | 1,449 | 1,430 | -19 | 19 | -1.3% | 1.3% | -1.3% |
| 12-Mar-2020 | 1,358 | 1,380 | 22 | 22 | 1.6% | 1.6% | 1.6% |
| 13-Mar-2020 | 1,455 | 1,440 | -15 | 15 | -1.0% | 1.0% | -1.0% |
| 14-Mar-2020 | 1,395 | 1,385 | -10 | 10 | -0.7% | 0.7% | -0.7% |
| 15-Mar-2020 | 1,296 | 1,350 | 54 | 54 | 4.2% | 4.2% | 4.0% |
| 16-Mar-2020 | 1,459 | 1,465 | 6 | 6 | 0.4% | 0.4% | 0.4% |
| 17-Mar-2020 | 1,561 | 1,540 | -21 | 21 | -1.3% | 1.3% | -1.4% |
| **18-Mar-2020** | **1,302** | **1,375** | **73** | **73** | **5.6%** | **5.6%** | **5.3%** |
| 19-Mar-2020 | 1,329 | 1,390 | 61 | 61 | 4.6% | 4.6% | 4.4% |
| 20-Mar-2020 | 1,391 | 1,385 | -6 | 6 | -0.4% | 0.4% | -0.4% |
| 21-Mar-2020 | 1,216 | 1,245 | 29 | 29 | 2.4% | 2.4% | 2.3% |
| 22-Mar-2020 | 1,376 | 1,445 | 69 | 69 | 5.0% | 5.0% | 4.8% |
| **23-Mar-2020** | **1,437** | **1,515** | **78** | **78** | **5.4%** | **5.4%** | **5.1%** |
| 24-Mar-2020 | 1,332 | 1,380 | 48 | 48 | 3.6% | 3.6% | 3.5% |
| 25-Mar-2020 | 1,301 | 1,320 | 19 | 19 | 1.5% | 1.5% | 1.4% |
| 26-Mar-2020 | 1,298 | 1,345 | 47 | 47 | 3.6% | 3.6% | 3.5% |
| 27-Mar-2020 | 1,302 | 1,290 | -12 | 12 | -0.9% | 0.9% | -0.9% |
| 28-Mar-2020 | 1,161 | 1,185 | 24 | 24 | 2.1% | 2.1% | 2.0% |
| 29-Mar-2020 | 1,276 | 1,260 | -16 | 16 | -1.3% | 1.3% | -1.3% |
| 30-Mar-2020 | 1,316 | 1,325 | 9 | 9 | 0.7% | 0.7% | 0.7% |
| 31-Mar-2020 | 1,173 | 1,220 | 47 | 47 | 4.0% | 4.0% | 3.9% |
| Minimum | 1,161 | 1,185 | -21 | 3 | -1.5% | 0.2% | -1.5% |
| Average | 1,359 | 1,385 | 26 | 35 | 2.0% | 2.6% | 1.9% |
| Maximum | 1,647 | 1,650 | 125 | 125 | 8.5% | 8.5% | 7.9% |
| 1-Apr-2020 | 1,086 | 1,155 | 69 | 69 | 6.4% | 6.4% | 6.0% |
| **2-Apr-2020** | **1,032** | **1,115** | **83** | **83** | **8.0%** | **8.0%** | **7.4%** |
| 3-Apr-2020 | 1,181 | 1,185 | 4 | 4 | 0.3% | 0.3% | 0.3% |
| 4-Apr-2020 | 1,169 | 1,160 | -9 | 9 | -0.8% | 0.8% | -0.8% |
| 5-Apr-2020 | 1,168 | 1,165 | -3 | 3 | -0.3% | 0.3% | -0.3% |
| 6-Apr-2020 | 1,167 | 1,250 | 83 | 83 | 7.1% | 7.1% | 6.6% |
| 7-Apr-2020 | 1,179 | 1,200 | 21 | 21 | 1.8% | 1.8% | 1.8% |
| 8-Apr-2020 | 1,191 | 1,255 | 64 | 64 | 5.4% | 5.4% | 5.1% |

| Date | Actual Total Peak (MW) | Forecast Total Peak (MW) | Error (MW) | Absolute Error (MW) | Percent Error | Absolute Percent Error | Actual/ Forecast |
|---|---|---|---|---|---|---|---|
| 9-Apr-2020 | 1,176 | 1,220 | 44 | 44 | 3.7% | 3.7% | 3.6% |
| 10-Apr-2020 | 1,260 | 1,280 | 20 | 20 | 1.6% | 1.6% | 1.6% |
| 11-Apr-2020 | 1,046 | 1,080 | 34 | 34 | 3.3% | 3.3% | 3.1% |
| 12-Apr-2020 | 1,046 | 1,025 | -21 | 21 | -2.0% | 2.0% | -2.0% |
| 13-Apr-2020 | 1,049 | 1,100 | 51 | 51 | 4.9% | 4.9% | 4.6% |
| **14-Apr-2020** | **1,018** | **1,130** | **112** | **112** | **11.0%** | **11.0%** | **9.9%** |
| 15-Apr-2020 | 988 | 1,015 | 27 | 27 | 2.7% | 2.7% | 2.7% |
| 16-Apr-2020 | 1,069 | 1,040 | -29 | 29 | -2.7% | 2.7% | -2.8% |
| 17-Apr-2020 | 1,156 | 1,160 | 4 | 4 | 0.3% | 0.3% | 0.3% |
| 18-Apr-2020 | 1,055 | 1,080 | 25 | 25 | 2.4% | 2.4% | 2.3% |
| **19-Apr-2020** | **1,317** | **1,220** | **-97** | **97** | **-7.4%** | **7.4%** | **-8.0%** |
| 20-Apr-2020 | 1,113 | 1,120 | 7 | 7 | 0.6% | 0.6% | 0.6% |
| 21-Apr-2020 | 1,122 | 1,150 | 28 | 28 | 2.5% | 2.5% | 2.4% |
| 22-Apr-2020 | 1,050 | 1,115 | 65 | 65 | 6.2% | 6.2% | 5.8% |
| 23-Apr-2020 | 1,051 | 1,055 | 4 | 4 | 0.4% | 0.4% | 0.4% |
| 24-Apr-2020 | 1,042 | 1,075 | 33 | 33 | 3.2% | 3.2% | 3.1% |
| 25-Apr-2020 | 1,068 | 1,085 | 17 | 17 | 1.6% | 1.6% | 1.6% |
| 26-Apr-2020 | 973 | 1,020 | 47 | 47 | 4.8% | 4.8% | 4.6% |
| 27-Apr-2020 | 1,044 | 1,065 | 21 | 21 | 2.0% | 2.0% | 2.0% |
| 28-Apr-2020 | 1,074 | 1,115 | 41 | 41 | 3.8% | 3.8% | 3.7% |
| 29-Apr-2020 | 1,119 | 1,145 | 26 | 26 | 2.3% | 2.3% | 2.3% |
| 30-Apr-2020 | 1,100 | 1,090 | -10 | 10 | -0.9% | 0.9% | -0.9% |
| Minimum | 973 | 1,015 | -97 | 3 | -7.4% | 0.3% | -8.0% |
| Average | 1,104 | 1,129 | 25 | 37 | 2.4% | 3.3% | 2.2% |
| Maximum | 1,317 | 1,280 | 112 | 112 | 11.0% | 11.0% | 9.9% |
| **1-May-2020** | **871** | **960** | **89** | **89** | **10.2%** | **10.2%** | **9.3%** |
| 2-May-2020 | 873 | 920 | 47 | 47 | 5.4% | 5.4% | 5.1% |
| 3-May-2020 | 987 | 945 | -42 | 42 | -4.3% | 4.3% | -4.4% |
| 4-May-2020 | 1,054 | 1,040 | -14 | 14 | -1.3% | 1.3% | -1.3% |
| 5-May-2020 | 1,150 | 1,145 | -5 | 5 | -0.4% | 0.4% | -0.4% |
| 6-May-2020 | 1,033 | 1,030 | -3 | 3 | -0.3% | 0.3% | -0.3% |
| 7-May-2020 | 1,062 | 1,055 | -7 | 7 | -0.7% | 0.7% | -0.7% |
| 8-May-2020 | 1,034 | 1,015 | -19 | 19 | -1.8% | 1.8% | -1.9% |
| 9-May-2020 | 952 | 920 | -32 | 32 | -3.4% | 3.4% | -3.5% |
| 10-May-2020 | 1,030 | 1,035 | 5 | 5 | 0.5% | 0.5% | 0.5% |
| 11-May-2020 | 1,041 | 1,030 | -11 | 11 | -1.1% | 1.1% | -1.1% |
| **12-May-2020** | **1,070** | **1,000** | **-70** | **70** | **-6.5%** | **6.5%** | **-7.0%** |

| Date | Actual Total Peak (MW) | Forecast Total Peak (MW) | Error (MW) | Absolute Error (MW) | Percent Error | Absolute Percent Error | Actual/ Forecast |
|---|---|---|---|---|---|---|---|
| 13-May-2020 | 1,036 | 1,025 | -11 | 11 | -1.1% | 1.1% | -1.1% |
| 14-May-2020 | 1,036 | 1,075 | 39 | 39 | 3.8% | 3.8% | 3.6% |
| 15-May-2020 | 1,067 | 1,050 | -17 | 17 | -1.6% | 1.6% | -1.6% |
| 16-May-2020 | 928 | 985 | 57 | 57 | 6.1% | 6.1% | 5.8% |
| 17-May-2020 | 1,015 | 1,015 | 0 | 0 | 0.0% | 0.0% | 0.0% |
| 18-May-2020 | 949 | 990 | 41 | 41 | 4.3% | 4.3% | 4.1% |
| 19-May-2020 | 1,038 | 1,055 | 17 | 17 | 1.6% | 1.6% | 1.6% |
| 20-May-2020 | 1,011 | 1,040 | 29 | 29 | 2.9% | 2.9% | 2.8% |
| 21-May-2020 | 889 | 905 | 16 | 16 | 1.8% | 1.8% | 1.8% |
| 22-May-2020 | 855 | 895 | 40 | 40 | 4.7% | 4.7% | 4.5% |
| 23-May-2020 | 927 | 965 | 38 | 38 | 4.1% | 4.1% | 3.9% |
| **24-May-2020** | **854** | **965** | **111** | **111** | **13.0%** | **13.0%** | **11.5%** |
| 25-May-2020 | 901 | 890 | -11 | 11 | -1.2% | 1.2% | -1.2% |
| 26-May-2020 | 823 | 850 | 27 | 27 | 3.3% | 3.3% | 3.2% |
| 27-May-2020 | 817 | 835 | 18 | 18 | 2.2% | 2.2% | 2.2% |
| 28-May-2020 | 841 | 830 | -11 | 11 | -1.3% | 1.3% | -1.3% |
| 29-May-2020 | 725 | 770 | 45 | 45 | 6.2% | 6.2% | 5.8% |
| 30-May-2020 | 713 | 730 | 17 | 17 | 2.4% | 2.4% | 2.3% |
| 31-May-2020 | 715 | 735 | 20 | 20 | 2.8% | 2.8% | 2.7% |
| Minimum | 713 | 730 | -70 | 0 | -6.5% | 0.0% | -7.0% |
| Average | 945 | 958 | 13 | 29 | 1.6% | 3.2% | 1.4% |
| Maximum | 1,150 | 1,145 | 111 | 111 | 13.0% | 13.0% | 11.5% |
| 1-Jun-2020 | 815 | 800 | -15 | 15 | -1.8% | 1.8% | -1.9% |
| 2-Jun-2020 | 891 | 840 | -51 | 51 | -5.7% | 5.7% | -6.1% |
| 3-Jun-2020 | 862 | 845 | -17 | 17 | -2.0% | 2.0% | -2.0% |
| 4-Jun-2020 | 846 | 865 | 19 | 19 | 2.2% | 2.2% | 2.2% |
| **5-Jun-2020** | **767** | **820** | **53** | **53** | **6.9%** | **6.9%** | **6.5%** |
| 6-Jun-2020 | 746 | 795 | 49 | 49 | 6.6% | 6.6% | 6.2% |
| 7-Jun-2020 | 895 | 880 | -15 | 15 | -1.7% | 1.7% | -1.7% |
| 8-Jun-2020 | 932 | 890 | -42 | 42 | -4.5% | 4.5% | -4.7% |
| 9-Jun-2020 | 957 | 995 | 38 | 38 | 4.0% | 4.0% | 3.8% |
| 10-Jun-2020 | 869 | 910 | 41 | 41 | 4.7% | 4.7% | 4.5% |
| 11-Jun-2020 | 829 | 850 | 21 | 21 | 2.5% | 2.5% | 2.5% |
| **12-Jun-2020** | **726** | **840** | **114** | **114** | **15.7%** | **15.7%** | **13.6%** |
| 13-Jun-2020 | 696 | 735 | 39 | 39 | 5.6% | 5.6% | 5.3% |
| 14-Jun-2020 | 778 | 785 | 7 | 7 | 0.9% | 0.9% | 0.9% |
| 15-Jun-2020 | 844 | 845 | 1 | 1 | 0.1% | 0.1% | 0.1% |

| Date | Actual Total Peak (MW) | Forecast Total Peak (MW) | Error (MW) | Absolute Error (MW) | Percent Error | Absolute Percent Error | Actual/ Forecast |
|---|---|---|---|---|---|---|---|
| 16-Jun-2020 | 774 | 775 | 1 | 1 | 0.1% | 0.1% | 0.1% |
| 17-Jun-2020 | 763 | 810 | 47 | 47 | 6.2% | 6.2% | 5.8% |
| 18-Jun-2020 | 780 | 755 | -25 | 25 | -3.2% | 3.2% | -3.3% |
| 19-Jun-2020 | 750 | 790 | 40 | 40 | 5.3% | 5.3% | 5.1% |
| 20-Jun-2020 | 816 | 830 | 14 | 14 | 1.7% | 1.7% | 1.7% |
| 21-Jun-2020 | 768 | 780 | 12 | 12 | 1.6% | 1.6% | 1.5% |
| 22-Jun-2020 | 790 | 790 | 0 | 0 | 0.0% | 0.0% | 0.0% |
| 23-Jun-2020 | 740 | 770 | 30 | 30 | 4.1% | 4.1% | 3.9% |
| 24-Jun-2020 | 748 | 745 | -3 | 3 | -0.4% | 0.4% | -0.4% |
| 25-Jun-2020 | 720 | 755 | 35 | 35 | 4.9% | 4.9% | 4.6% |
| 26-Jun-2020 | 738 | 740 | 2 | 2 | 0.3% | 0.3% | 0.3% |
| 27-Jun-2020 | 691 | 705 | 14 | 14 | 2.0% | 2.0% | 2.0% |
| 28-Jun-2020 | 717 | 695 | -22 | 22 | -3.1% | 3.1% | -3.2% |
| **29-Jun-2020** | **750** | **835** | **85** | **85** | **11.3%** | **11.3%** | **10.2%** |
| 30-Jun-2020 | 769 | 800 | 31 | 31 | 4.0% | 4.0% | 3.9% |
| Minimum | 691 | 695 | -51 | 0 | -5.7% | 0.0% | -6.1% |
| Average | 792 | 809 | 17 | 29 | 2.3% | 3.8% | 2.0% |
| Maximum | 957 | 995 | 114 | 114 | 15.7% | 15.7% | 13.6% |
| 1-Jul-2020 | 751 | 770 | 19 | 19 | 2.5% | 2.5% | 2.5% |
| 2-Jul-2020 | 741 | 790 | 49 | 49 | 6.6% | 6.6% | 6.2% |
| 3-Jul-2020 | 805 | 790 | -15 | 15 | -1.9% | 1.9% | -1.9% |
| 4-Jul-2020 | 739 | 760 | 21 | 21 | 2.8% | 2.8% | 2.8% |
| 5-Jul-2020 | 741 | 750 | 9 | 9 | 1.2% | 1.2% | 1.2% |
| 6-Jul-2020 | 743 | 780 | 37 | 37 | 5.0% | 5.0% | 4.7% |
| 7-Jul-2020 | 704 | 750 | 46 | 46 | 6.5% | 6.5% | 6.1% |
| **8-Jul-2020** | **669** | **745** | **76** | **76** | **11.4%** | **11.4%** | **10.2%** |
| 9-Jul-2020 | 719 | 750 | 31 | 31 | 4.3% | 4.3% | 4.1% |
| 10-Jul-2020 | 708 | 740 | 32 | 32 | 4.5% | 4.5% | 4.3% |
| 11-Jul-2020 | 677 | 695 | 18 | 18 | 2.7% | 2.7% | 2.6% |
| 12-Jul-2020 | 681 | 695 | 14 | 14 | 2.1% | 2.1% | 2.0% |
| 13-Jul-2020 | 709 | 755 | 46 | 46 | 6.5% | 6.5% | 6.1% |
| 14-Jul-2020 | 691 | 740 | 49 | 49 | 7.1% | 7.1% | 6.6% |
| 15-Jul-2020 | 806 | 770 | -36 | 36 | -4.5% | 4.5% | -4.7% |
| 16-Jul-2020 | 856 | 815 | -41 | 41 | -4.8% | 4.8% | -5.0% |
| 17-Jul-2020 | 775 | 775 | 0 | 0 | 0.0% | 0.0% | 0.0% |
| **18-Jul-2020** | **677** | **740** | **63** | **63** | **9.3%** | **9.3%** | **8.5%** |
| **19-Jul-2020** | **651** | **730** | **79** | **79** | **12.1%** | **12.1%** | **10.8%** |

| Date | Actual Total Peak (MW) | Forecast Total Peak (MW) | Error (MW) | Absolute Error (MW) | Percent Error | Absolute Percent Error | Actual/ Forecast |
|---|---|---|---|---|---|---|---|
| 20-Jul-2020 | 725 | 755 | 30 | 30 | 4.1% | 4.1% | 4.0% |
| 21-Jul-2020 | 806 | 745 | -61 | 61 | -7.6% | 7.6% | -8.2% |
| 22-Jul-2020 | 745 | 735 | -10 | 10 | -1.3% | 1.3% | -1.4% |
| 23-Jul-2020 | 699 | 730 | 31 | 31 | 4.4% | 4.4% | 4.2% |
| 24-Jul-2020 | 711 | 740 | 29 | 29 | 4.1% | 4.1% | 3.9% |
| 25-Jul-2020 | 660 | 695 | 35 | 35 | 5.3% | 5.3% | 5.0% |
| 26-Jul-2020 | 703 | 710 | 7 | 7 | 1.0% | 1.0% | 1.0% |
| 27-Jul-2020 | 724 | 750 | 26 | 26 | 3.6% | 3.6% | 3.5% |
| 28-Jul-2020 | 702 | 735 | 33 | 33 | 4.7% | 4.7% | 4.5% |
| 29-Jul-2020 | 708 | 735 | 27 | 27 | 3.8% | 3.8% | 3.7% |
| 30-Jul-2020 | 727 | 765 | 38 | 38 | 5.2% | 5.2% | 5.0% |
| 31-Jul-2020 | 710 | 730 | 20 | 20 | 2.8% | 2.8% | 2.7% |
| Minimum | 651 | 695 | -61 | 0 | -7.6% | 0.0% | -8.2% |
| Average | 725 | 747 | 23 | 33 | 3.3% | 4.6% | 3.1% |
| Maximum | 856 | 815 | 79 | 79 | 12.1% | 12.1% | 10.8% |
| 1-Aug-2020 | 671 | 725 | 54 | 54 | 8.0% | 8.0% | 7.4% |
| 2-Aug-2020 | 680 | 715 | 35 | 35 | 5.1% | 5.1% | 4.9% |
| 3-Aug-2020 | 608 | 645 | 37 | 37 | 6.1% | 6.1% | 5.7% |
| 4-Aug-2020 | 648 | 650 | 2 | 2 | 0.3% | 0.3% | 0.3% |
| 5-Aug-2020 | 606 | 615 | 9 | 9 | 1.5% | 1.5% | 1.5% |
| 6-Aug-2020 | 639 | 625 | -14 | 14 | -2.2% | 2.2% | -2.2% |
| 7-Aug-2020 | 624 | 625 | 1 | 1 | 0.2% | 0.2% | 0.2% |
| 8-Aug-2020 | 590 | 585 | -5 | 5 | -0.8% | 0.8% | -0.9% |
| **9-Aug-2020** | **606** | **700** | **94** | **94** | **15.5%** | **15.5%** | **13.4%** |
| **10-Aug-2020** | **669** | **755** | **86** | **86** | **12.9%** | **12.9%** | **11.4%** |
| 11-Aug-2020 | 693 | 745 | 52 | 52 | 7.5% | 7.5% | 7.0% |
| 12-Aug-2020 | 719 | 745 | 26 | 26 | 3.6% | 3.6% | 3.5% |
| 13-Aug-2020 | 733 | 750 | 17 | 17 | 2.3% | 2.3% | 2.3% |
| 14-Aug-2020 | 703 | 735 | 32 | 32 | 4.6% | 4.6% | 4.4% |
| 15-Aug-2020 | 650 | 710 | 60 | 60 | 9.2% | 9.2% | 8.5% |
| 16-Aug-2020 | 674 | 685 | 11 | 11 | 1.6% | 1.6% | 1.6% |
| 17-Aug-2020 | 718 | 740 | 22 | 22 | 3.1% | 3.1% | 3.0% |
| 18-Aug-2020 | 689 | 730 | 41 | 41 | 6.0% | 6.0% | 5.6% |
| 19-Aug-2020 | 694 | 715 | 21 | 21 | 3.0% | 3.0% | 2.9% |
| 20-Aug-2020 | 711 | 720 | 9 | 9 | 1.3% | 1.3% | 1.3% |
| 21-Aug-2020 | 688 | 725 | 37 | 37 | 5.4% | 5.4% | 5.1% |
| 22-Aug-2020 | 672 | 685 | 13 | 13 | 1.9% | 1.9% | 1.9% |

| Date | Actual Total Peak (MW) | Forecast Total Peak (MW) | Error (MW) | Absolute Error (MW) | Percent Error | Absolute Percent Error | Actual/ Forecast |
|---|---|---|---|---|---|---|---|
| 23-Aug-2020 | 679 | 685 | 6 | 6 | 0.9% | 0.9% | 0.9% |
| 24-Aug-2020 | 725 | 735 | 10 | 10 | 1.4% | 1.4% | 1.4% |
| 25-Aug-2020 | 695 | 720 | 25 | 25 | 3.6% | 3.6% | 3.5% |
| 26-Aug-2020 | 733 | 765 | 32 | 32 | 4.4% | 4.4% | 4.2% |
| **27-Aug-2020** | **673** | **740** | **67** | **67** | **10.0%** | **10.0%** | **9.1%** |
| 28-Aug-2020 | 673 | 725 | 52 | 52 | 7.7% | 7.7% | 7.2% |
| 29-Aug-2020 | 654 | 695 | 41 | 41 | 6.3% | 6.3% | 5.9% |
| 30-Aug-2020 | 745 | 760 | 15 | 15 | 2.0% | 2.0% | 2.0% |
| 31-Aug-2020 | 745 | 765 | 20 | 20 | 2.7% | 2.7% | 2.6% |
| Minimum | 590 | 585 | -14 | 1 | -2.2% | 0.2% | -2.2% |
| Average | 678 | 707 | 29 | 31 | 4.4% | 4.5% | 4.0% |
| Maximum | 745 | 765 | 94 | 94 | 15.5% | 15.5% | 13.4% |
| 1-Sep-2020 | 685 | 735 | 50 | 50 | 7.3% | 7.3% | 6.8% |
| 2-Sep-2020 | 696 | 710 | 14 | 14 | 2.0% | 2.0% | 2.0% |
| 3-Sep-2020 | 710 | 685 | -25 | 25 | -3.5% | 3.5% | -3.6% |
| 4-Sep-2020 | 717 | 730 | 13 | 13 | 1.8% | 1.8% | 1.8% |
| 5-Sep-2020 | 695 | 700 | 5 | 5 | 0.7% | 0.7% | 0.7% |
| 6-Sep-2020 | 681 | 680 | -1 | 1 | -0.1% | 0.1% | -0.1% |
| 7-Sep-2020 | 688 | 705 | 17 | 17 | 2.5% | 2.5% | 2.4% |
| **8-Sep-2020** | **773** | **715** | **-58** | **58** | **-7.5%** | **7.5%** | **-8.1%** |
| **9-Sep-2020** | **794** | **690** | **-104** | **104** | **-13.1%** | **13.1%** | **-15.1%** |
| 10-Sep-2020 | 769 | 755 | -14 | 14 | -1.8% | 1.8% | -1.9% |
| **11-Sep-2020** | **713** | **795** | **82** | **82** | **11.5%** | **11.5%** | **10.3%** |
| 12-Sep-2020 | 711 | 730 | 19 | 19 | 2.7% | 2.7% | 2.6% |
| 13-Sep-2020 | 720 | 725 | 5 | 5 | 0.7% | 0.7% | 0.7% |
| 14-Sep-2020 | 756 | 770 | 14 | 14 | 1.9% | 1.9% | 1.8% |
| 15-Sep-2020 | 722 | 760 | 38 | 38 | 5.3% | 5.3% | 5.0% |
| 16-Sep-2020 | 767 | 770 | 3 | 3 | 0.4% | 0.4% | 0.4% |
| 17-Sep-2020 | 743 | 740 | -3 | 3 | -0.4% | 0.4% | -0.4% |
| 18-Sep-2020 | 763 | 745 | -18 | 18 | -2.4% | 2.4% | -2.4% |
| 19-Sep-2020 | 760 | 770 | 10 | 10 | 1.3% | 1.3% | 1.3% |
| 20-Sep-2020 | 789 | 790 | 1 | 1 | 0.1% | 0.1% | 0.1% |
| 21-Sep-2020 | 838 | 855 | 17 | 17 | 2.0% | 2.0% | 2.0% |
| 22-Sep-2020 | 820 | 835 | 15 | 15 | 1.8% | 1.8% | 1.8% |
| 23-Sep-2020 | 747 | 780 | 33 | 33 | 4.4% | 4.4% | 4.2% |
| 24-Sep-2020 | 724 | 755 | 31 | 31 | 4.3% | 4.3% | 4.1% |
| 25-Sep-2020 | 733 | 760 | 27 | 27 | 3.7% | 3.7% | 3.6% |

| Date | Actual Total Peak (MW) | Forecast Total Peak (MW) | Error (MW) | Absolute Error (MW) | Percent Error | Absolute Percent Error | Actual/ Forecast |
|---|---|---|---|---|---|---|---|
| 26-Sep-20 | 743 | 750 | 7 | 7 | 0.9% | 0.9% | 0.9% |
| 27-Sep-20 | 714 | 720 | 6 | 6 | 0.8% | 0.8% | 0.8% |
| 28-Sep-20 | 734 | 755 | 21 | 21 | 2.9% | 2.9% | 2.8% |
| 29-Sep-20 | 732 | 735 | 3 | 3 | 0.4% | 0.4% | 0.4% |
| 30-Sep-20 | 739 | 735 | -4 | 4 | -0.5% | 0.5% | -0.5% |
| Minimum | 681 | 680 | -104 | 1 | -13.1% | 0.1% | -15.1% |
| Average | 739 | 746 | 7 | 22 | 1.0% | 3.0% | 0.8% |
| Maximum | 838 | 855 | 82 | 104 | 11.5% | 13.1% | 10.3% |
| **1-Oct-2020** | **664** | **730** | **66** | **66** | **9.9%** | **9.9%** | **9.0%** |
| 2-Oct-2020 | 696 | 710 | 14 | 14 | 2.0% | 2.0% | 2.0% |
| 3-Oct-2020 | 726 | 710 | -16 | 16 | -2.2% | 2.2% | -2.3% |
| 4-Oct-2020 | 785 | 775 | -10 | 10 | -1.3% | 1.3% | -1.3% |
| 5-Oct-2020 | 856 | 845 | -11 | 11 | -1.3% | 1.3% | -1.3% |
| 6-Oct-2020 | 877 | 910 | 33 | 33 | 3.8% | 3.8% | 3.6% |
| 7-Oct-2020 | 806 | 825 | 19 | 19 | 2.4% | 2.4% | 2.3% |
| 8-Oct-2020 | 793 | 820 | 27 | 27 | 3.4% | 3.4% | 3.3% |
| 9-Oct-2020 | 861 | 910 | 49 | 49 | 5.7% | 5.7% | 5.4% |
| 10-Oct-2020 | 805 | 835 | 30 | 30 | 3.7% | 3.7% | 3.6% |
| 11-Oct-2020 | 784 | 780 | -4 | 4 | -0.5% | 0.5% | -0.5% |
| 12-Oct-2020 | 850 | 850 | 0 | 0 | 0.0% | 0.0% | 0.0% |
| 13-Oct-2020 | 938 | 930 | -8 | 8 | -0.9% | 0.9% | -0.9% |
| 14-Oct-2020 | 908 | 910 | 2 | 2 | 0.2% | 0.2% | 0.2% |
| 15-Oct-2020 | 759 | 780 | 21 | 21 | 2.8% | 2.8% | 2.7% |
| 16-Oct-2020 | 782 | 770 | -12 | 12 | -1.5% | 1.5% | -1.6% |
| 17-Oct-2020 | 748 | 720 | -28 | 28 | -3.7% | 3.7% | -3.9% |
| **18-Oct-2020** | **817** | **730** | **-87** | **87** | **-10.6%** | **10.6%** | **-11.9%** |
| 19-Oct-2020 | 849 | 865 | 16 | 16 | 1.9% | 1.9% | 1.8% |
| 20-Oct-2020 | 834 | 860 | 26 | 26 | 3.1% | 3.1% | 3.0% |
| **21-Oct-2020** | **786** | **850** | **64** | **64** | **8.1%** | **8.1%** | **7.5%** |
| 22-Oct-2020 | 812 | 860 | 48 | 48 | 5.9% | 5.9% | 5.6% |
| 23-Oct-2020 | 902 | 945 | 43 | 43 | 4.8% | 4.8% | 4.6% |
| 24-Oct-2020 | 922 | 915 | -7 | 7 | -0.8% | 0.8% | -0.8% |
| 25-Oct-2020 | 919 | 935 | 16 | 16 | 1.7% | 1.7% | 1.7% |
| 26-Oct-2020 | 1,036 | 1,055 | 19 | 19 | 1.8% | 1.8% | 1.8% |
| 27-Oct-2020 | 1,026 | 1,085 | 59 | 59 | 5.8% | 5.8% | 5.4% |
| 28-Oct-2020 | 1,059 | 1,080 | 21 | 21 | 2.0% | 2.0% | 1.9% |
| 29-Oct-2020 | 1,149 | 1,170 | 21 | 21 | 1.8% | 1.8% | 1.8% |

| Date | Actual Total Peak (MW) | Forecast Total Peak (MW) | Error (MW) | Absolute Error (MW) | Percent Error | Absolute Percent Error | Actual/ Forecast |
|---|---|---|---|---|---|---|---|
| 30-Oct-2020 | 1,111 | 1,145 | 34 | 34 | 3.1% | 3.1% | 3.0% |
| 31-Oct-2020 | 1,131 | 1,165 | 34 | 34 | 3.0% | 3.0% | 2.9% |
| Minimum | 664 | 710 | -87 | 0 | -10.6% | 0.0% | -11.9% |
| Average | 871 | 886 | 15 | 27 | 1.7% | 3.2% | 1.6% |
| Maximum | 1,149 | 1,170 | 66 | 87 | 9.9% | 10.6% | 9.0% |
| 1-Nov-2020 | 1,081 | 1,080 | -1 | 1 | -0.1% | 0.1% | -0.1% |
| 2-Nov-2020 | 1,034 | 1,020 | -14 | 14 | -1.4% | 1.4% | -1.4% |
| 3-Nov-2020 | 1,073 | 1,080 | 7 | 7 | 0.7% | 0.7% | 0.6% |
| 4-Nov-2020 | 1,257 | 1,310 | 53 | 53 | 4.2% | 4.2% | 4.0% |
| 5-Nov-2020 | 1,218 | 1,270 | 52 | 52 | 4.3% | 4.3% | 4.1% |
| 6-Nov-2020 | 1,033 | 1,075 | 42 | 42 | 4.1% | 4.1% | 3.9% |
| 7-Nov-2020 | 1,002 | 1,000 | -2 | 2 | -0.2% | 0.2% | -0.2% |
| 8-Nov-2020 | 1,084 | 1,105 | 21 | 21 | 1.9% | 1.9% | 1.9% |
| 9-Nov-2020 | 1,182 | 1,190 | 8 | 8 | 0.7% | 0.7% | 0.7% |
| 10-Nov-2020 | 994 | 1,050 | 56 | 56 | 5.6% | 5.6% | 5.3% |
| 11-Nov-2020 | 1,015 | 1,055 | 40 | 40 | 3.9% | 3.9% | 3.8% |
| 12-Nov-2020 | 933 | 955 | 22 | 22 | 2.4% | 2.4% | 2.3% |
| 13-Nov-2020 | 1,021 | 1,005 | -16 | 16 | -1.6% | 1.6% | -1.6% |
| **14-Nov-2020** | **1,242** | **1,170** | **-72** | **72** | **-5.8%** | **5.8%** | **-6.2%** |
| 15-Nov-2020 | 1,154 | 1,220 | 66 | 66 | 5.7% | 5.7% | 5.4% |
| 16-Nov-2020 | 1,202 | 1,195 | -7 | 7 | -0.6% | 0.6% | -0.6% |
| **17-Nov-2020** | **1,029** | **1,095** | **66** | **66** | **6.4%** | **6.4%** | **6.0%** |
| 18-Nov-2020 | 1,147 | 1,120 | -27 | 27 | -2.4% | 2.4% | -2.4% |
| **19-Nov-2020** | **1,346** | **1,245** | **-101** | **101** | **-7.5%** | **7.5%** | **-8.1%** |
| 20-Nov-2020 | 1,265 | 1,285 | 20 | 20 | 1.6% | 1.6% | 1.6% |
| 21-Nov-2020 | 1,098 | 1,085 | -13 | 13 | -1.2% | 1.2% | -1.2% |
| 22-Nov-2020 | 1,290 | 1,265 | -25 | 25 | -1.9% | 1.9% | -2.0% |
| 23-Nov-2020 | 1,353 | 1,365 | 12 | 12 | 0.9% | 0.9% | 0.9% |
| 24-Nov-2020 | 1,138 | 1,150 | 12 | 12 | 1.1% | 1.1% | 1.0% |
| 25-Nov-2020 | 1,329 | 1,355 | 26 | 26 | 2.0% | 2.0% | 1.9% |
| 26-Nov-2020 | 1,252 | 1,245 | -7 | 7 | -0.6% | 0.6% | -0.6% |
| 27-Nov-2020 | 1,096 | 1,070 | -26 | 26 | -2.4% | 2.4% | -2.4% |
| 28-Nov-2020 | 989 | 985 | -4 | 4 | -0.4% | 0.4% | -0.4% |
| 29-Nov-2020 | 1,148 | 1,130 | -18 | 18 | -1.6% | 1.6% | -1.6% |
| 30-Nov-2020 | 1,219 | 1,195 | -24 | 24 | -2.0% | 2.0% | -2.0% |
| Minimum | 933 | 955 | -101 | 1 | -7.5% | 0.1% | -8.1% |
| Average | 1141 | 1146 | 5 | 29 | 0.5% | 2.5% | 0.4% |

| Date | Actual Total Peak (MW) | Forecast Total Peak (MW) | Error (MW) | Absolute Error (MW) | Percent Error | Absolute Percent Error | Actual/ Forecast |
|---|---|---|---|---|---|---|---|
| Maximum | 1,353 | 1,365 | 66 | 101 | 6.4% | 7.5% | 6.0% |
| 1-Dec-2020 | 1,320 | 1,255 | -65 | 65 | -4.9% | 4.9% | -5.2% |
| 2-Dec-2020 | 1,375 | 1,400 | 25 | 25 | 1.8% | 1.8% | 1.8% |
| 3-Dec-2020 | 1,313 | 1,365 | 52 | 52 | 4.0% | 4.0% | 3.8% |
| 4-Dec-2020 | 1,171 | 1,205 | 34 | 34 | 2.9% | 2.9% | 2.8% |
| 5-Dec-2020 | 1,229 | 1,235 | 6 | 6 | 0.5% | 0.5% | 0.5% |
| 6-Dec-2020 | 1,229 | 1,275 | 46 | 46 | 3.7% | 3.7% | 3.6% |
| 7-Dec-2020 | 1,320 | 1,335 | 15 | 15 | 1.1% | 1.1% | 1.1% |
| 8-Dec-2020 | 1,400 | 1,390 | -10 | 10 | -0.7% | 0.7% | -0.7% |
| 9-Dec-2020 | 1,351 | 1,410 | 59 | 59 | 4.4% | 4.4% | 4.2% |
| **10-Dec-2020** | **1,128** | **1,210** | **82** | **82** | **7.3%** | **7.3%** | **6.8%** |
| 11-Dec-2020 | 1,195 | 1,260 | 65 | 65 | 5.4% | 5.4% | 5.2% |
| 12-Dec-2020 | 1,437 | 1,405 | -32 | 32 | -2.2% | 2.2% | -2.3% |
| 13-Dec-2020 | 1,564 | 1,565 | 1 | 1 | 0.1% | 0.1% | 0.1% |
| 14-Dec-2020 | 1,386 | 1,425 | 39 | 39 | 2.8% | 2.8% | 2.7% |
| 15-Dec-2020 | 1,171 | 1,230 | 59 | 59 | 5.0% | 5.0% | 4.8% |
| 16-Dec-2020 | 1,486 | 1,470 | -16 | 16 | -1.1% | 1.1% | -1.1% |
| 17-Dec-2020 | 1,492 | 1,570 | 78 | 78 | 5.2% | 5.2% | 5.0% |
| 18-Dec-2020 | 1,451 | 1,505 | 54 | 54 | 3.7% | 3.7% | 3.6% |
| **19-Dec-2020** | **1,398** | **1,510** | **112** | **112** | **8.0%** | **8.0%** | **7.4%** |
| 20-Dec-2020 | 1,419 | 1,440 | 21 | 21 | 1.5% | 1.5% | 1.5% |
| 21-Dec-2020 | 1,365 | 1,390 | 25 | 25 | 1.8% | 1.8% | 1.8% |
| 22-Dec-2020 | 1,477 | 1,500 | 23 | 23 | 1.6% | 1.6% | 1.5% |
| 23-Dec-2020 | 1,500 | 1,495 | -5 | 5 | -0.3% | 0.3% | -0.3% |
| 24-Dec-2020 | 1,352 | 1,420 | 68 | 68 | 5.0% | 5.0% | 4.8% |
| 25-Dec-2020 | 1,322 | 1,305 | -17 | 17 | -1.3% | 1.3% | -1.3% |
| 26-Dec-2020 | 1,359 | 1,360 | 1 | 1 | 0.1% | 0.1% | 0.1% |
| 27-Dec-2020 | 1,344 | 1,380 | 36 | 36 | 2.7% | 2.7% | 2.6% |
| 28-Dec-2020 | 1,321 | 1,315 | -6 | 6 | -0.5% | 0.5% | -0.5% |
| 29-Dec-2020 | 1,303 | 1,305 | 2 | 2 | 0.2% | 0.2% | 0.2% |
| **30-Dec-2020** | **1,352** | **1,425** | **73** | **73** | **5.4%** | **5.4%** | **5.1%** |
| 31-Dec-2020 | 1,316 | 1,355 | 39 | 39 | 3.0% | 3.0% | 2.9% |
| Minimum | 1,128 | 1,205 | -65 | 1 | -4.9% | 0.1% | -5.2% |
| Average | 1,350 | 1,378 | 28 | 38 | 2.1% | 2.8% | 2.0% |
| Maximum | 1,564 | 1,570 | 112 | 112 | 8.0% | 8.0% | 7.4% |

## Table 3: Analysis of Utility Forecast Error[23]

| Date | Actual Utility Peak (MW) | Forecast Utility Peak (MW) | Error (MW) | Absolute Error (MW) | Percent Error | Absolute Percent Error | Actual/ Forecast |
|---|---|---|---|---|---|---|---|
| 1-Jan-2020 | 1,218 | 1,149 | -69 | 69 | -5.6% | 5.6% | -6.0% |
| **2-Jan-2020** | **1,193** | **1,035** | **-158** | **158** | **-13.2%** | **13.2%** | **-15.3%** |
| **3-Jan-2020** | **1,204** | **1,066** | **-137** | **137** | **-11.4%** | **11.4%** | **-12.9%** |
| 4-Jan-2020 | 1,153 | 1,157 | 4 | 4 | 0.4% | 0.4% | 0.4% |
| 5-Jan-2020 | 1,223 | 1,225 | 2 | 2 | 0.1% | 0.1% | 0.1% |
| **6-Jan-2020** | **1,280** | **1,314** | **34** | **34** | **2.7%** | **2.7%** | **2.6%** |
| 7-Jan-2020 | 1,233 | 1,233 | 0 | 0 | 0.0% | 0.0% | 0.0% |
| 8-Jan-2020 | 1,281 | 1,235 | -46 | 46 | -3.6% | 3.6% | -3.7% |
| 9-Jan-2020 | 1,313 | 1,343 | 30 | 30 | 2.3% | 2.3% | 2.3% |
| 10-Jan-2020 | 1,461 | 1,439 | -22 | 22 | -1.5% | 1.5% | -1.5% |
| 11-Jan-2020 | 1,179 | 1,173 | -5 | 5 | -0.4% | 0.4% | -0.4% |
| 12-Jan-2020 | 1,311 | 1,317 | 6 | 6 | 0.5% | 0.5% | 0.5% |
| 13-Jan-2020 | 1,363 | 1,346 | -17 | 17 | -1.3% | 1.3% | -1.3% |
| 14-Jan-2020 | 1,397 | 1,395 | -2 | 2 | -0.1% | 0.1% | -0.1% |
| 15-Jan-2020 | 1,484 | 1,472 | -12 | 12 | -0.8% | 0.8% | -0.8% |
| 16-Jan-2020 | 1,368 | 1,366 | -2 | 2 | -0.2% | 0.2% | -0.2% |
| 17-Jan-2020 | 1,413 | 1,334 | -78 | 78 | -5.5% | 5.5% | -5.9% |
| 18-Jan-2020 | 1,414 | 1,443 | 30 | 30 | 2.1% | 2.1% | 2.1% |
| 19-Jan-2020 | 1,419 | 1,367 | -53 | 53 | -3.7% | 3.7% | -3.8% |
| 20-Jan-2020 | 1,264 | 1,205 | -59 | 59 | -4.7% | 4.7% | -4.9% |
| 21-Jan-2020 | 1,351 | 1,267 | -84 | 84 | -6.2% | 6.2% | -6.6% |
| 22-Jan-2020 | 1,440 | 1,423 | -18 | 18 | -1.2% | 1.2% | -1.2% |
| 23-Jan-2020 | 1,317 | 1,292 | -24 | 24 | -1.8% | 1.8% | -1.9% |
| 24-Jan-2020 | 1,190 | 1,213 | 23 | 23 | 1.9% | 1.9% | 1.9% |
| 25-Jan-2020 | 1,313 | 1,280 | -33 | 33 | -2.5% | 2.5% | -2.6% |
| 26-Jan-2020 | 1,237 | 1,216 | -20 | 20 | -1.6% | 1.6% | -1.7% |
| 27-Jan-2020 | 1,137 | 1,139 | 2 | 2 | 0.2% | 0.2% | 0.2% |
| 28-Jan-2020 | 1,182 | 1,136 | -46 | 46 | -3.9% | 3.9% | -4.0% |
| 29-Jan-2020 | 1,190 | 1,210 | 20 | 20 | 1.7% | 1.7% | 1.7% |
| 30-Jan-2020 | 1,201 | 1,214 | 13 | 13 | 1.1% | 1.1% | 1.1% |
| 31-Oct-2016 | 1,288 | 1,288 | 0 | 0 | 0.0% | 0.0% | 0.0% |
| Minimum | 1,137 | 1,035 | -158 | 0 | -13.2% | 0.0% | -15.3% |
| Average | 1,291 | 1,268 | -23 | 34 | -1.8% | 2.7% | -2.0% |
| Maximum | 1,484 | 1,472 | 34 | 158 | 2.7% | 13.2% | 2.6% |

[23] Lines that have been bolded indicate further examination of the hourly forecast was provided in this report.

| Date | Actual Utility Peak (MW) | Forecast Utility Peak (MW) | Error (MW) | Absolute Error (MW) | Percent Error | Absolute Percent Error | Actual/ Forecast |
|---|---|---|---|---|---|---|---|
| 1-Feb-2020 | 1,274 | 1,283 | 8 | 8 | 0.6% | 0.6% | 0.6% |
| **2-Feb-2020** | **1,343** | **1,226** | **-116** | **116** | **-8.7%** | **8.7%** | **-9.5%** |
| 3-Feb-2020 | 1,274 | 1,304 | 29 | 29 | 2.3% | 2.3% | 2.2% |
| 4-Feb-2020 | 1,241 | 1,245 | 4 | 4 | 0.3% | 0.3% | 0.3% |
| 5-Feb-2020 | 1,261 | 1,263 | 1 | 1 | 0.1% | 0.1% | 0.1% |
| 6-Feb-2020 | 1,358 | 1,365 | 6 | 6 | 0.5% | 0.5% | 0.5% |
| 7-Feb-2020 | 1,248 | 1,240 | -9 | 9 | -0.7% | 0.7% | -0.7% |
| 8-Feb-2020 | 1,248 | 1,292 | 43 | 43 | 3.5% | 3.5% | 3.4% |
| 9-Feb-2020 | 1,476 | 1,494 | 18 | 18 | 1.2% | 1.2% | 1.2% |
| 10-Feb-2020 | 1,426 | 1,412 | -14 | 14 | -1.0% | 1.0% | -1.0% |
| 11-Feb-2020 | 1,497 | 1,515 | 18 | 18 | 1.2% | 1.2% | 1.2% |
| 12-Feb-2020 | 1,347 | 1,358 | 10 | 10 | 0.8% | 0.8% | 0.8% |
| 13-Feb-2020 | 1,105 | 1,133 | 28 | 28 | 2.5% | 2.5% | 2.4% |
| 14-Feb-2020 | 1,219 | 1,234 | 15 | 15 | 1.2% | 1.2% | 1.2% |
| **15-Feb-2020** | **1,120** | **1,119** | **-1** | **1** | **-0.1%** | **0.1%** | **-0.1%** |
| 16-Feb-2020 | 1,092 | 1,142 | 49 | 49 | 4.5% | 4.5% | 4.3% |
| 17-Feb-2020 | 1,222 | 1,261 | 39 | 39 | 3.2% | 3.2% | 3.1% |
| 18-Feb-2020 | 1,250 | 1,252 | 2 | 2 | 0.2% | 0.2% | 0.2% |
| 19-Feb-2020 | 1,277 | 1,259 | -18 | 18 | -1.4% | 1.4% | -1.5% |
| 20-Feb-2020 | 1,366 | 1,363 | -2 | 2 | -0.2% | 0.2% | -0.2% |
| 21-Feb-2020 | 1,174 | 1,170 | -4 | 4 | -0.4% | 0.4% | -0.4% |
| 22-Feb-2020 | 1,250 | 1,247 | -4 | 4 | -0.3% | 0.3% | -0.3% |
| 23-Feb-2020 | 1,288 | 1,287 | -1 | 1 | -0.1% | 0.1% | -0.1% |
| 24-Feb-2020 | 1,476 | 1,494 | 18 | 18 | 1.2% | 1.2% | 1.2% |
| 25-Feb-2020 | 1,437 | 1,474 | 37 | 37 | 2.6% | 2.6% | 2.5% |
| **26-Feb-2020** | **1,317** | **1,258** | **-59** | **59** | **-4.5%** | **4.5%** | **-4.7%** |
| 27-Feb-2020 | 1,142 | 1,164 | 22 | 22 | 1.9% | 1.9% | 1.9% |
| 28-Feb-2020 | 1,290 | 1,308 | 17 | 17 | 1.4% | 1.4% | 1.3% |
| 29-Feb-2020 | 1,290 | 1,308 | 17 | 17 | 1.4% | 1.4% | 1.3% |
| Minimum | 1,092 | 1,119 | -116 | 1 | -8.7% | 0.1% | -9.5% |
| Average | 1,287 | 1,292 | 5 | 21 | 0.5% | 1.6% | 0.4% |
| Maximum | 1,497 | 1,515 | 49 | 116 | 4.5% | 8.7% | 4.3% |
| 1-Mar-2020 | 1,203 | 1,177 | -25 | 25 | -2.1% | 2.1% | -2.1% |
| 2-Mar-2020 | 1,195 | 1,229 | 35 | 35 | 2.9% | 2.9% | 2.8% |
| 3-Mar-2020 | 1,308 | 1,342 | 34 | 34 | 2.6% | 2.6% | 2.5% |
| 4-Mar-2020 | 1,094 | 1,085 | -9 | 9 | -0.8% | 0.8% | -0.9% |
| 5-Mar-2020 | 1,166 | 1,133 | -33 | 33 | -2.8% | 2.8% | -2.9% |
| 6-Mar-2020 | 1,161 | 1,176 | 15 | 15 | 1.3% | 1.3% | 1.3% |

| Date | Actual Utility Peak (MW) | Forecast Utility Peak (MW) | Error (MW) | Absolute Error (MW) | Percent Error | Absolute Percent Error | Actual/ Forecast |
|---|---|---|---|---|---|---|---|
| 7-Mar-2020 | 1,243 | 1,203 | -40 | 40 | -3.2% | 3.2% | -3.3% |
| 8-Mar-2020 | 1,181 | 1,188 | 8 | 8 | 0.7% | 0.7% | 0.6% |
| **9-Mar-2020** | **1,311** | **1,402** | **91** | **91** | **7.0%** | **7.0%** | **6.5%** |
| 10-Mar-2020 | 1,496 | 1,465 | -31 | 31 | -2.1% | 2.1% | -2.1% |
| 11-Mar-2020 | 1,077 | 1,060 | -18 | 18 | -1.6% | 1.6% | -1.7% |
| 12-Mar-2020 | 1,195 | 1,258 | 62 | 62 | 5.2% | 5.2% | 4.9% |
| 13-Mar-2020 | 1,270 | 1,281 | 11 | 11 | 0.8% | 0.8% | 0.8% |
| 14-Mar-2020 | 1,152 | 1,191 | 40 | 40 | 3.5% | 3.5% | 3.3% |
| 15-Mar-2020 | 1,129 | 1,135 | 6 | 6 | 0.5% | 0.5% | 0.5% |
| 16-Mar-2020 | 1,122 | 1,157 | 34 | 34 | 3.1% | 3.1% | 3.0% |
| 17-Mar-2020 | 1,141 | 1,102 | -39 | 39 | -3.4% | 3.4% | -3.6% |
| **18-Mar-2020** | **992** | **1,000** | **9** | **9** | **0.9%** | **0.9%** | **0.9%** |
| 19-Mar-2020 | 1,090 | 1,072 | -17 | 17 | -1.6% | 1.6% | -1.6% |
| 20-Mar-2020 | 1,133 | 1,136 | 3 | 3 | 0.3% | 0.3% | 0.3% |
| 21-Mar-2020 | 1,282 | 1,241 | -41 | 41 | -3.2% | 3.2% | -3.3% |
| 22-Mar-2020 | 1,193 | 1,191 | -3 | 3 | -0.2% | 0.2% | -0.2% |
| **23-Mar-2020** | **1,272** | **1,253** | **-18** | **18** | **-1.4%** | **1.4%** | **-1.5%** |
| 24-Mar-2020 | 1,229 | 1,198 | -31 | 31 | -2.5% | 2.5% | -2.6% |
| 25-Mar-2020 | 1,126 | 1,164 | 38 | 38 | 3.4% | 3.4% | 3.3% |
| 26-Mar-2020 | 1,274 | 1,276 | 2 | 2 | 0.2% | 0.2% | 0.2% |
| 27-Mar-2020 | 1,373 | 1,355 | -18 | 18 | -1.3% | 1.3% | -1.3% |
| 28-Mar-2020 | 1,155 | 1,188 | 33 | 33 | 2.8% | 2.8% | 2.7% |
| 29-Mar-2020 | 1,178 | 1,205 | 27 | 27 | 2.3% | 2.3% | 2.2% |
| 30-Mar-2020 | 1,211 | 1,198 | -12 | 12 | -1.0% | 1.0% | -1.0% |
| 31-Mar-2020 | 1,043 | 1,058 | 15 | 15 | 1.5% | 1.5% | 1.4% |
| Minimum | 992 | 1,000 | -41 | 2 | -3.4% | 0.2% | -3.6% |
| Average | 1,193 | 1,197 | 4 | 26 | 0.4% | 2.1% | 0.3% |
| Maximum | 1,496 | 1,465 | 91 | 91 | 7.0% | 7.0% | 6.5% |
| 1-Apr-2020 | 951 | 984 | 34 | 34 | 3.5% | 3.5% | 3.4% |
| **2-Apr-2020** | **946** | **954** | **8** | **8** | **0.8%** | **0.8%** | **0.8%** |
| 3-Apr-2020 | 1,044 | 1,020 | -24 | 24 | -2.3% | 2.3% | -2.3% |
| 4-Apr-2020 | 1,030 | 1,000 | -30 | 30 | -2.9% | 2.9% | -3.0% |
| 5-Apr-2020 | 1,034 | 1,004 | -31 | 31 | -3.0% | 3.0% | -3.0% |
| 6-Apr-2020 | 1,022 | 1,087 | 66 | 66 | 6.4% | 6.4% | 6.0% |
| 7-Apr-2020 | 1,015 | 1,037 | 22 | 22 | 2.1% | 2.1% | 2.1% |
| 8-Apr-2020 | 1,039 | 1,091 | 52 | 52 | 5.0% | 5.0% | 4.8% |
| 9-Apr-2020 | 1,035 | 1,059 | 24 | 24 | 2.4% | 2.4% | 2.3% |
| 10-Apr-2020 | 1,110 | 1,116 | 5 | 5 | 0.5% | 0.5% | 0.5% |

| Date | Actual Utility Peak (MW) | Forecast Utility Peak (MW) | Error (MW) | Absolute Error (MW) | Percent Error | Absolute Percent Error | Actual/ Forecast |
|---|---|---|---|---|---|---|---|
| 11-Apr-2020 | 899 | 919 | 20 | 20 | 2.2% | 2.2% | 2.1% |
| 12-Apr-2020 | 905 | 865 | -40 | 40 | -4.5% | 4.5% | -4.7% |
| 13-Apr-2020 | 901 | 939 | 38 | 38 | 4.3% | 4.3% | 4.1% |
| **14-Apr-2020** | **889** | **968** | **79** | **79** | **8.9%** | **8.9%** | **8.2%** |
| 15-Apr-2020 | 833 | 854 | 21 | 21 | 2.5% | 2.5% | 2.5% |
| 16-Apr-2020 | 926 | 877 | -49 | 49 | -5.3% | 5.3% | -5.6% |
| 17-Apr-2020 | 956 | 998 | 43 | 43 | 4.5% | 4.5% | 4.3% |
| 18-Apr-2020 | 892 | 919 | 27 | 27 | 3.1% | 3.1% | 3.0% |
| **19-Apr-2020** | **1,161** | **1,058** | **-103** | **103** | **-8.8%** | **8.8%** | **-9.7%** |
| 20-Apr-2020 | 989 | 956 | -33 | 33 | -3.3% | 3.3% | -3.4% |
| 21-Apr-2020 | 986 | 989 | 3 | 3 | 0.3% | 0.3% | 0.3% |
| 22-Apr-2020 | 898 | 952 | 53 | 53 | 5.9% | 5.9% | 5.6% |
| 23-Apr-2020 | 909 | 894 | -15 | 15 | -1.7% | 1.7% | -1.7% |
| 24-Apr-2020 | 927 | 912 | -16 | 16 | -1.7% | 1.7% | -1.7% |
| 25-Apr-2020 | 924 | 924 | 0 | 0 | 0.0% | 0.0% | 0.0% |
| 26-Apr-2020 | 826 | 857 | 31 | 31 | 3.8% | 3.8% | 3.6% |
| 27-Apr-2020 | 917 | 902 | -15 | 15 | -1.7% | 1.7% | -1.7% |
| 28-Apr-2020 | 941 | 954 | 13 | 13 | 1.4% | 1.4% | 1.4% |
| 29-Apr-2020 | 995 | 984 | -11 | 11 | -1.2% | 1.2% | -1.2% |
| 30-Apr-2020 | 945 | 929 | -16 | 16 | -1.7% | 1.7% | -1.7% |
| Minimum | 826 | 854 | -103 | 0 | -8.8% | 0.0% | -9.7% |
| Average | 961 | 967 | 5 | 31 | 0.7% | 3.2% | 0.5% |
| Maximum | 1161 | 1116 | 79 | 103 | 8.9% | 8.9% | 8.2% |
| **1-May-2020** | **781** | **800** | **19** | **19** | **2.4%** | **2.4%** | **2.4%** |
| 2-May-2020 | 727 | 757 | 30 | 30 | 4.1% | 4.1% | 3.9% |
| 3-May-2020 | 846 | 782 | -65 | 65 | -7.6% | 7.6% | -8.3% |
| 4-May-2020 | 919 | 877 | -41 | 41 | -4.5% | 4.5% | -4.7% |
| 5-May-2020 | 1,049 | 981 | -68 | 68 | -6.5% | 6.5% | -6.9% |
| 6-May-2020 | 903 | 867 | -36 | 36 | -4.0% | 4.0% | -4.1% |
| 7-May-2020 | 866 | 891 | 24 | 24 | 2.8% | 2.8% | 2.7% |
| 8-May-2020 | 865 | 854 | -12 | 12 | -1.4% | 1.4% | -1.4% |
| 9-May-2020 | 916 | 910 | -6 | 6 | -0.6% | 0.6% | -0.6% |
| 10-May-2020 | 884 | 878 | -6 | 6 | -0.6% | 0.6% | -0.6% |
| 11-May-2020 | 755 | 748 | -7 | 7 | -0.9% | 0.9% | -0.9% |
| **12-May-2020** | **738** | **733** | **-5** | **5** | **-0.6%** | **0.6%** | **-0.7%** |
| 13-May-2020 | 820 | 805 | -15 | 15 | -1.8% | 1.8% | -1.9% |
| 14-May-2020 | 727 | 801 | 74 | 74 | 10.2% | 10.2% | 9.2% |
| 15-May-2020 | 714 | 730 | 16 | 16 | 2.2% | 2.2% | 2.1% |

| Date | Actual Utility Peak (MW) | Forecast Utility Peak (MW) | Error (MW) | Absolute Error (MW) | Percent Error | Absolute Percent Error | Actual/ Forecast |
|---|---|---|---|---|---|---|---|
| 16-May-2020 | 695 | 687 | -7 | 7 | -1.0% | 1.0% | -1.0% |
| 17-May-2020 | 703 | 677 | -26 | 26 | -3.7% | 3.7% | -3.9% |
| 18-May-2020 | 701 | 669 | -32 | 32 | -4.6% | 4.6% | -4.8% |
| 19-May-2020 | 783 | 745 | -38 | 38 | -4.9% | 4.9% | -5.2% |
| 20-May-2020 | 881 | 875 | -7 | 7 | -0.7% | 0.7% | -0.7% |
| 21-May-2020 | 901 | 870 | -30 | 30 | -3.4% | 3.4% | -3.5% |
| 22-May-2020 | 906 | 838 | -68 | 68 | -7.5% | 7.5% | -8.2% |
| 23-May-2020 | 872 | 863 | -9 | 9 | -1.1% | 1.1% | -1.1% |
| **24-May-2020** | **885** | **910** | **26** | **26** | **2.9%** | **2.9%** | **2.8%** |
| 25-May-2020 | 916 | 888 | -28 | 28 | -3.0% | 3.0% | -3.1% |
| 26-May-2020 | 773 | 821 | 47 | 47 | 6.1% | 6.1% | 5.7% |
| 27-May-2020 | 858 | 853 | -5 | 5 | -0.6% | 0.6% | -0.6% |
| 28-May-2020 | 803 | 826 | 23 | 23 | 2.8% | 2.8% | 2.7% |
| 29-May-2020 | 906 | 891 | -15 | 15 | -1.6% | 1.6% | -1.6% |
| 30-May-2020 | 577 | 568 | -8 | 8 | -1.5% | 1.5% | -1.5% |
| 31-May-2020 | 596 | 573 | -23 | 23 | -3.9% | 3.9% | -4.0% |
| Minimum | 577 | 568 | -68 | 5 | -7.6% | 0.6% | -8.3% |
| Average | 815 | 805 | -10 | 26 | -1.1% | 3.2% | -1.2% |
| Maximum | 1049 | 981 | 74 | 74 | 10.2% | 10.2% | 9.2% |
| 1-Jun-2020 | 650 | 639 | -11 | 11 | -1.7% | 1.7% | -1.8% |
| 2-Jun-2020 | 725 | 677 | -48 | 48 | -6.6% | 6.6% | -7.1% |
| 3-Jun-2020 | 688 | 659 | -29 | 29 | -4.2% | 4.2% | -4.4% |
| 4-Jun-2020 | 705 | 660 | -45 | 45 | -6.4% | 6.4% | -6.8% |
| **5-Jun-2020** | **608** | **616** | **7** | **7** | **1.2%** | **1.2%** | **1.2%** |
| 6-Jun-2020 | 570 | 590 | 20 | 20 | 3.5% | 3.5% | 3.4% |
| 7-Jun-2020 | 675 | 666 | -9 | 9 | -1.3% | 1.3% | -1.3% |
| 8-Jun-2020 | 728 | 707 | -21 | 21 | -2.9% | 2.9% | -3.0% |
| 9-Jun-2020 | 740 | 743 | 4 | 4 | 0.5% | 0.5% | 0.5% |
| 10-Jun-2020 | 746 | 746 | 0 | 0 | 0.0% | 0.0% | 0.0% |
| 11-Jun-2020 | 628 | 616 | -11 | 11 | -1.8% | 1.8% | -1.9% |
| **12-Jun-2020** | **642** | **628** | **-14** | **14** | **-2.1%** | **2.1%** | **-2.2%** |
| 13-Jun-2020 | 598 | 606 | 8 | 8 | 1.4% | 1.4% | 1.4% |
| 14-Jun-2020 | 602 | 584 | -18 | 18 | -3.0% | 3.0% | -3.1% |
| 15-Jun-2020 | 605 | 592 | -13 | 13 | -2.2% | 2.2% | -2.2% |
| 16-Jun-2020 | 597 | 576 | -21 | 21 | -3.5% | 3.5% | -3.7% |
| 17-Jun-2020 | 552 | 545 | -7 | 7 | -1.3% | 1.3% | -1.3% |
| 18-Jun-2020 | 569 | 533 | -36 | 36 | -6.3% | 6.3% | -6.8% |
| 19-Jun-2020 | 592 | 589 | -3 | 3 | -0.5% | 0.5% | -0.5% |

| Date | Actual Utility Peak (MW) | Forecast Utility Peak (MW) | Error (MW) | Absolute Error (MW) | Percent Error | Absolute Percent Error | Actual/ Forecast |
|---|---|---|---|---|---|---|---|
| 20-Jun-2020 | 585 | 584 | -1 | 1 | -0.2% | 0.2% | -0.2% |
| 21-Jun-2020 | 683 | 686 | 3 | 3 | 0.5% | 0.5% | 0.5% |
| 22-Jun-2020 | 627 | 655 | 28 | 28 | 4.5% | 4.5% | 4.3% |
| 23-Jun-2020 | 581 | 574 | -7 | 7 | -1.2% | 1.2% | -1.2% |
| 24-Jun-2020 | 634 | 622 | -12 | 12 | -1.9% | 1.9% | -1.9% |
| 25-Jun-2020 | 693 | 680 | -13 | 13 | -1.9% | 1.9% | -1.9% |
| 26-Jun-2020 | 605 | 614 | 9 | 9 | 1.5% | 1.5% | 1.5% |
| 27-Jun-2020 | 591 | 592 | 1 | 1 | 0.2% | 0.2% | 0.2% |
| 28-Jun-2020 | 592 | 591 | -1 | 1 | -0.2% | 0.2% | -0.2% |
| **29-Jun-2020** | **608** | **626** | **17** | **17** | **2.9%** | **2.9%** | **2.8%** |
| 30-Jun-2020 | 669 | 668 | -1 | 1 | -0.2% | 0.2% | -0.2% |
| Minimum | 552 | 533 | -48 | 0 | -6.6% | 0.0% | -7.1% |
| Average | 636 | 629 | -7 | 14 | -1.1% | 2.2% | -1.2% |
| Maximum | 746 | 746 | 28 | 48 | 4.5% | 6.6% | 4.3% |
| 1-Jul-2020 | 570 | 566 | -4 | 4 | -0.7% | 0.7% | -0.7% |
| 2-Jul-2020 | 617 | 626 | 9 | 9 | 1.4% | 1.4% | 1.4% |
| 3-Jul-2020 | 650 | 629 | -20 | 20 | -3.1% | 3.1% | -3.2% |
| 4-Jul-2020 | 592 | 598 | 6 | 6 | 1.0% | 1.0% | 1.0% |
| 5-Jul-2020 | 608 | 587 | -22 | 22 | -3.5% | 3.5% | -3.7% |
| 6-Jul-2020 | 613 | 618 | 5 | 5 | 0.8% | 0.8% | 0.7% |
| 7-Jul-2020 | 573 | 589 | 15 | 15 | 2.7% | 2.7% | 2.6% |
| **8-Jul-2020** | **573** | **582** | **9** | **9** | **1.6%** | **1.6%** | **1.5%** |
| 9-Jul-2020 | 590 | 586 | -4 | 4 | -0.7% | 0.7% | -0.7% |
| 10-Jul-2020 | 578 | 576 | -2 | 2 | -0.3% | 0.3% | -0.3% |
| 11-Jul-2020 | 538 | 535 | -3 | 3 | -0.5% | 0.5% | -0.5% |
| 12-Jul-2020 | 549 | 534 | -15 | 15 | -2.6% | 2.6% | -2.7% |
| 13-Jul-2020 | 589 | 593 | 4 | 4 | 0.7% | 0.7% | 0.7% |
| 14-Jul-2020 | 590 | 578 | -12 | 12 | -2.0% | 2.0% | -2.0% |
| 15-Jul-2020 | 704 | 609 | -94 | 94 | -13.4% | 13.4% | -15.5% |
| 16-Jul-2020 | 679 | 601 | -78 | 78 | -11.5% | 11.5% | -12.9% |
| 17-Jul-2020 | 650 | 615 | -36 | 36 | -5.5% | 5.5% | -5.8% |
| **18-Jul-2020** | **545** | **577** | **32** | **32** | **5.8%** | **5.8%** | **5.5%** |
| **19-Jul-2020** | **538** | **566** | **28** | **28** | **5.2%** | **5.2%** | **4.9%** |
| 20-Jul-2020 | 583 | 599 | 15 | 15 | 2.6% | 2.6% | 2.6% |
| 21-Jul-2020 | 592 | 587 | -5 | 5 | -0.9% | 0.9% | -0.9% |
| 22-Jul-2020 | 573 | 572 | 0 | 0 | -0.1% | 0.1% | -0.1% |
| 23-Jul-2020 | 572 | 569 | -3 | 3 | -0.5% | 0.5% | -0.5% |
| 24-Jul-2020 | 587 | 579 | -9 | 9 | -1.5% | 1.5% | -1.5% |

| Date | Actual Utility Peak (MW) | Forecast Utility Peak (MW) | Error (MW) | Absolute Error (MW) | Percent Error | Absolute Percent Error | Actual/ Forecast |
|---|---|---|---|---|---|---|---|
| 25-Jul-2020 | 540 | 534 | -6 | 6 | -1.0% | 1.0% | -1.1% |
| 26-Jul-2020 | 575 | 550 | -25 | 25 | -4.4% | 4.4% | -4.6% |
| 27-Jul-2020 | 588 | 586 | -2 | 2 | -0.3% | 0.3% | -0.3% |
| 28-Jul-2020 | 575 | 574 | -1 | 1 | -0.2% | 0.2% | -0.2% |
| 29-Jul-2020 | 576 | 573 | -3 | 3 | -0.5% | 0.5% | -0.5% |
| 30-Jul-2020 | 599 | 601 | 2 | 2 | 0.3% | 0.3% | 0.3% |
| 31-Jul-2020 | 583 | 568 | -15 | 15 | -2.7% | 2.7% | -2.7% |
| Minimum | 538 | 534 | -94 | 0 | -13.4% | 0.1% | -15.5% |
| Average | 590 | 582 | -7 | 16 | -1.1% | 2.5% | -1.3% |
| Maximum | 704 | 629 | 32 | 94 | 5.8% | 13.4% | 5.5% |
| 1-Aug-2020 | 545 | 561 | 16 | 16 | 2.9% | 2.9% | 2.8% |
| 2-Aug-2020 | 559 | 551 | -8 | 8 | -1.4% | 1.4% | -1.4% |
| 3-Aug-2020 | 556 | 574 | 18 | 18 | 3.2% | 3.2% | 3.1% |
| 4-Aug-2020 | 590 | 582 | -9 | 9 | -1.4% | 1.4% | -1.5% |
| 5-Aug-2020 | 551 | 548 | -3 | 3 | -0.6% | 0.6% | -0.6% |
| 6-Aug-2020 | 579 | 567 | -12 | 12 | -2.0% | 2.0% | -2.0% |
| 7-Aug-2020 | 573 | 567 | -6 | 6 | -1.0% | 1.0% | -1.1% |
| 8-Aug-2020 | 531 | 524 | -7 | 7 | -1.3% | 1.3% | -1.3% |
| **9-Aug-2020** | **548** | **536** | **-12** | **12** | **-2.3%** | **2.3%** | **-2.3%** |
| **10-Aug-2020** | **582** | **591** | **9** | **9** | **1.6%** | **1.6%** | **1.6%** |
| 11-Aug-2020 | 592 | 582 | -10 | 10 | -1.7% | 1.7% | -1.7% |
| 12-Aug-2020 | 589 | 581 | -8 | 8 | -1.4% | 1.4% | -1.5% |
| 13-Aug-2020 | 591 | 589 | -2 | 2 | -0.3% | 0.3% | -0.3% |
| 14-Aug-2020 | 579 | 572 | -6 | 6 | -1.1% | 1.1% | -1.1% |
| 15-Aug-2020 | 524 | 546 | 22 | 22 | 4.2% | 4.2% | 4.0% |
| 16-Aug-2020 | 532 | 524 | -8 | 8 | -1.4% | 1.4% | -1.4% |
| 17-Aug-2020 | 566 | 578 | 12 | 12 | 2.1% | 2.1% | 2.1% |
| 18-Aug-2020 | 585 | 567 | -18 | 18 | -3.0% | 3.0% | -3.1% |
| 19-Aug-2020 | 574 | 551 | -22 | 22 | -3.9% | 3.9% | -4.0% |
| 20-Aug-2020 | 569 | 558 | -11 | 11 | -1.9% | 1.9% | -1.9% |
| 21-Aug-2020 | 547 | 562 | 15 | 15 | 2.7% | 2.7% | 2.7% |
| 22-Aug-2020 | 528 | 522 | -5 | 5 | -1.0% | 1.0% | -1.1% |
| 23-Aug-2020 | 526 | 518 | -9 | 9 | -1.6% | 1.6% | -1.7% |
| 24-Aug-2020 | 582 | 575 | -7 | 7 | -1.1% | 1.1% | -1.1% |
| 25-Aug-2020 | 558 | 560 | 2 | 2 | 0.3% | 0.3% | 0.3% |
| 26-Aug-2020 | 616 | 603 | -14 | 14 | -2.2% | 2.2% | -2.3% |
| **27-Aug-2020** | **572** | **578** | **6** | **6** | **1.1%** | **1.1%** | **1.1%** |
| 28-Aug-2020 | 560 | 558 | -2 | 2 | -0.4% | 0.4% | -0.4% |

| Date | Actual Utility Peak (MW) | Forecast Utility Peak (MW) | Error (MW) | Absolute Error (MW) | Percent Error | Absolute Percent Error | Actual/ Forecast |
|---|---|---|---|---|---|---|---|
| 29-Aug-2020 | 524 | 535 | 11 | 11 | 2.0% | 2.0% | 2.0% |
| 30-Aug-2020 | 603 | 598 | -5 | 5 | -0.9% | 0.9% | -0.9% |
| 31-Aug-2020 | 595 | 601 | 6 | 6 | 1.0% | 1.0% | 1.0% |
| Minimum | 524 | 518 | -22 | 2 | -3.9% | 0.3% | -4.0% |
| Average | 565 | 563 | -2 | 10 | -0.4% | 1.7% | -0.4% |
| Maximum | 616 | 603 | 22 | 22 | 4.2% | 4.2% | 4.0% |
| 1-Sep-2020 | 560 | 573 | 14 | 14 | 2.4% | 2.4% | 2.4% |
| 2-Sep-2020 | 558 | 546 | -12 | 12 | -2.1% | 2.1% | -2.2% |
| 3-Sep-2020 | 581 | 550 | -31 | 31 | -5.3% | 5.3% | -5.6% |
| 4-Sep-2020 | 583 | 550 | -33 | 33 | -5.6% | 5.6% | -5.9% |
| 5-Sep-2020 | 553 | 539 | -14 | 14 | -2.6% | 2.6% | -2.7% |
| 6-Sep-2020 | 526 | 519 | -7 | 7 | -1.4% | 1.4% | -1.4% |
| 7-Sep-2020 | 539 | 545 | 6 | 6 | 1.1% | 1.1% | 1.1% |
| **8-Sep-2020** | **573** | **551** | **-22** | **22** | **-3.9%** | **3.9%** | **-4.1%** |
| **9-Sep-2020** | **591** | **554** | **-37** | **37** | **-6.3%** | **6.3%** | **-6.7%** |
| 10-Sep-2020 | 639 | 616 | -23 | 23 | -3.6% | 3.6% | -3.7% |
| **11-Sep-2020** | **599** | **623** | **24** | **24** | **4.1%** | **4.1%** | **3.9%** |
| 12-Sep-2020 | 571 | 567 | -4 | 4 | -0.7% | 0.7% | -0.7% |
| 13-Sep-2020 | 588 | 565 | -23 | 23 | -3.9% | 3.9% | -4.0% |
| 14-Sep-2020 | 624 | 609 | -14 | 14 | -2.3% | 2.3% | -2.4% |
| 15-Sep-2020 | 621 | 599 | -22 | 22 | -3.6% | 3.6% | -3.7% |
| 16-Sep-2020 | 632 | 606 | -26 | 26 | -4.1% | 4.1% | -4.3% |
| 17-Sep-2020 | 590 | 576 | -14 | 14 | -2.4% | 2.4% | -2.5% |
| 18-Sep-2020 | 609 | 584 | -25 | 25 | -4.0% | 4.0% | -4.2% |
| 19-Sep-2020 | 609 | 606 | -3 | 3 | -0.5% | 0.5% | -0.5% |
| 20-Sep-2020 | 664 | 630 | -34 | 34 | -5.1% | 5.1% | -5.4% |
| 21-Sep-2020 | 706 | 692 | -13 | 13 | -1.9% | 1.9% | -1.9% |
| 22-Sep-2020 | 686 | 675 | -11 | 11 | -1.6% | 1.6% | -1.6% |
| 23-Sep-2020 | 617 | 617 | -1 | 1 | -0.1% | 0.1% | -0.1% |
| 24-Sep-2020 | 584 | 595 | 10 | 10 | 1.8% | 1.8% | 1.8% |
| 25-Sep-2020 | 580 | 596 | 16 | 16 | 2.8% | 2.8% | 2.7% |
| 26-Sep-2020 | 601 | 586 | -15 | 15 | -2.5% | 2.5% | -2.6% |
| 27-Sep-2020 | 586 | 559 | -26 | 26 | -4.5% | 4.5% | -4.7% |
| 28-Sep-2020 | 591 | 593 | 2 | 2 | 0.4% | 0.4% | 0.4% |
| 29-Sep-2020 | 590 | 574 | -15 | 15 | -2.6% | 2.6% | -2.7% |
| 30-Sep-2020 | 586 | 571 | -15 | 15 | -2.5% | 2.5% | -2.6% |
| Minimum | 526 | 519 | -34 | 1 | -5.6% | 0.1% | -5.9% |
| Average | 597 | 586 | -12 | 16 | -1.9% | 2.8% | -2.0% |

| Date | Actual Utility Peak (MW) | Forecast Utility Peak (MW) | Error (MW) | Absolute Error (MW) | Percent Error | Absolute Percent Error | Actual/ Forecast |
|---|---|---|---|---|---|---|---|
| Maximum | 706 | 692 | 24 | 34 | 4.1% | 5.6% | 3.9% |
| **1-Oct-2020** | **582** | **567** | **-15** | **15** | **-2.6%** | **2.6%** | **-2.7%** |
| 2-Oct-2020 | 558 | 550 | -9 | 9 | -1.5% | 1.5% | -1.6% |
| 3-Oct-2020 | 577 | 550 | -27 | 27 | -4.7% | 4.7% | -5.0% |
| 4-Oct-2020 | 634 | 617 | -18 | 18 | -2.8% | 2.8% | -2.9% |
| 5-Oct-2020 | 710 | 683 | -28 | 28 | -3.9% | 3.9% | -4.1% |
| 6-Oct-2020 | 747 | 745 | -1 | 1 | -0.2% | 0.2% | -0.2% |
| 7-Oct-2020 | 678 | 663 | -15 | 15 | -2.3% | 2.3% | -2.3% |
| 8-Oct-2020 | 654 | 657 | 3 | 3 | 0.4% | 0.4% | 0.4% |
| 9-Oct-2020 | 742 | 746 | 4 | 4 | 0.5% | 0.5% | 0.5% |
| 10-Oct-2020 | 711 | 718 | 6 | 6 | 0.9% | 0.9% | 0.9% |
| 11-Oct-2020 | 678 | 665 | -13 | 13 | -1.9% | 1.9% | -1.9% |
| 12-Oct-2020 | 744 | 736 | -7 | 7 | -1.0% | 1.0% | -1.0% |
| 13-Oct-2020 | 833 | 814 | -19 | 19 | -2.2% | 2.2% | -2.3% |
| 14-Oct-2020 | 809 | 796 | -13 | 13 | -1.6% | 1.6% | -1.7% |
| 15-Oct-2020 | 653 | 666 | 13 | 13 | 1.9% | 1.9% | 1.9% |
| 16-Oct-2020 | 661 | 653 | -7 | 7 | -1.1% | 1.1% | -1.1% |
| 17-Oct-2020 | 621 | 605 | -16 | 16 | -2.6% | 2.6% | -2.7% |
| **18-Oct-2020** | **635** | **613** | **-22** | **22** | **-3.4%** | **3.4%** | **-3.5%** |
| 19-Oct-2020 | 672 | 654 | -18 | 18 | -2.6% | 2.6% | -2.7% |
| 20-Oct-2020 | 693 | 644 | -49 | 49 | -7.1% | 7.1% | -7.6% |
| **21-Oct-2020** | **712** | **686** | **-26** | **26** | **-3.6%** | **3.6%** | **-3.8%** |
| 22-Oct-2020 | 696 | 700 | 5 | 5 | 0.6% | 0.6% | 0.6% |
| 23-Oct-2020 | 780 | 782 | 1 | 1 | 0.2% | 0.2% | 0.2% |
| 24-Oct-2020 | 774 | 754 | -19 | 19 | -2.5% | 2.5% | -2.5% |
| 25-Oct-2020 | 780 | 772 | -9 | 9 | -1.1% | 1.1% | -1.2% |
| 26-Oct-2020 | 912 | 892 | -20 | 20 | -2.2% | 2.2% | -2.2% |
| 27-Oct-2020 | 904 | 924 | 20 | 20 | 2.3% | 2.3% | 2.2% |
| 28-Oct-2020 | 926 | 916 | -10 | 10 | -1.1% | 1.1% | -1.1% |
| 29-Oct-2020 | 984 | 1,009 | 24 | 24 | 2.5% | 2.5% | 2.4% |
| 30-Oct-2020 | 957 | 981 | 25 | 25 | 2.6% | 2.6% | 2.5% |
| 31-Oct-2020 | 983 | 1,000 | 18 | 18 | 1.8% | 1.8% | 1.8% |
| Minimum | 558 | 550 | -49 | 1 | -7.1% | 0.2% | -7.6% |
| Average | 742 | 734 | -8 | 15 | -1.2% | 2.1% | -1.3% |
| Maximum | 984 | 1,009 | 25 | 49 | 2.6% | 7.1% | 2.5% |
| 1-Nov-2020 | 924 | 920 | -4 | 4 | -0.5% | 0.5% | -0.5% |
| 2-Nov-2020 | 885 | 856 | -30 | 30 | -3.4% | 3.4% | -3.5% |

| Date | Actual Utility Peak (MW) | Forecast Utility Peak (MW) | Error (MW) | Absolute Error (MW) | Percent Error | Absolute Percent Error | Actual/ Forecast |
|---|---|---|---|---|---|---|---|
| 3-Nov-2020 | 922 | 916 | -6 | 6 | -0.7% | 0.7% | -0.7% |
| 4-Nov-2020 | 1,151 | 1,146 | -5 | 5 | -0.5% | 0.5% | -0.5% |
| 5-Nov-2020 | 1,073 | 1,107 | 33 | 33 | 3.1% | 3.1% | 3.0% |
| 6-Nov-2020 | 872 | 9,14 | 42 | 42 | 4.9% | 4.9% | 4.6% |
| 7-Nov-2020 | 856 | 839 | -17 | 17 | -1.9% | 1.9% | -2.0% |
| 8-Nov-2020 | 967 | 945 | -22 | 22 | -2.3% | 2.3% | -2.4% |
| 9-Nov-2020 | 1,046 | 1,026 | -19 | 19 | -1.9% | 1.9% | -1.9% |
| 10-Nov-2020 | 849 | 890 | 41 | 41 | 4.8% | 4.8% | 4.6% |
| 11-Nov-2020 | 912 | 894 | -18 | 18 | -1.9% | 1.9% | -2.0% |
| 12-Nov-2020 | 784 | 795 | 11 | 11 | 1.4% | 1.4% | 1.4% |
| 13-Nov-2020 | 878 | 845 | -33 | 33 | -3.7% | 3.7% | -3.9% |
| **14-Nov-2020** | **1,089** | **1,009** | **-80** | **80** | **-7.3%** | **7.3%** | **-7.9%** |
| 15-Nov-2020 | 1,000 | 1,060 | 60 | 60 | 6.0% | 6.0% | 5.7% |
| 16-Nov-2020 | 1,062 | 1,034 | -28 | 28 | -2.7% | 2.7% | -2.7% |
| **17-Nov-2020** | **886** | **934** | **48** | **48** | **5.4%** | **5.4%** | **5.1%** |
| 18-Nov-2020 | 987 | 957 | -30 | 30 | -3.0% | 3.0% | -3.1% |
| **19-Nov-2020** | **1,152** | **1,084** | **-67** | **67** | **-5.8%** | **5.8%** | **-6.2%** |
| 20-Nov-2020 | 1,098 | 1,122 | 24 | 24 | 2.2% | 2.2% | 2.1% |
| 21-Nov-2020 | 931 | 925 | -5 | 5 | -0.6% | 0.6% | -0.6% |
| 22-Nov-2020 | 1,126 | 1,101 | -25 | 25 | -2.2% | 2.2% | -2.3% |
| 23-Nov-2020 | 1,186 | 1,204 | 18 | 18 | 1.5% | 1.5% | 1.5% |
| 24-Nov-2020 | 1,003 | 986 | -18 | 18 | -1.8% | 1.8% | -1.8% |
| 25-Nov-2020 | 1,183 | 1,191 | 8 | 8 | 0.7% | 0.7% | 0.7% |
| 26-Nov-2020 | 1,104 | 1,082 | -22 | 22 | -2.0% | 2.0% | -2.0% |
| 27-Nov-2020 | 933 | 911 | -22 | 22 | -2.4% | 2.4% | -2.5% |
| 28-Nov-2020 | 831 | 825 | -6 | 6 | -0.8% | 0.8% | -0.8% |
| 29-Nov-2020 | 985 | 968 | -17 | 17 | -1.7% | 1.7% | -1.8% |
| 30-Nov-2020 | 1,043 | 1,033 | -10 | 10 | -1.0% | 1.0% | -1.0% |
| Minimum | 784 | 795 | -80 | 4 | -7.3% | 0.5% | -7.9% |
| Average | 991 | 984 | -7 | 26 | -0.6% | 2.6% | -0.7% |
| Maximum | 1,186 | 1,204 | 60 | 80 | 6.0% | 7.4% | 5.7% |
| 1-Dec-2020 | 1,029 | 1,011 | -18 | 18 | -1.8% | 1.8% | -1.8% |
| 2-Dec-2020 | 873 | 914 | 41 | 41 | 4.7% | 4.7% | 4.5% |
| 3-Dec-2020 | 823 | 877 | 54 | 54 | 6.6% | 6.6% | 6.2% |
| 4-Dec-2020 | 912 | 858 | -54 | 54 | -5.9% | 5.9% | -6.3% |
| 5-Dec-2020 | 899 | 837 | -63 | 63 | -7.0% | 7.0% | -7.5% |
| 6-Dec-2020 | 943 | 965 | 22 | 22 | 2.3% | 2.3% | 2.2% |
| 7-Dec-2020 | 919 | 969 | 50 | 50 | 5.5% | 5.5% | 5.2% |

| Date | Actual Utility Peak (MW) | Forecast Utility Peak (MW) | Error (MW) | Absolute Error (MW) | Percent Error | Absolute Percent Error | Actual/ Forecast |
|---|---|---|---|---|---|---|---|
| 8-Dec-2020 | 1,029 | 977 | -52 | 52 | -5.0% | 5.0% | -5.3% |
| 9-Dec-2020 | 1,109 | 1,203 | 94 | 94 | 8.4% | 8.4% | 7.8% |
| **10-Dec-2020** | **1,067** | **1,086** | **19** | **19** | **1.8%** | **1.8%** | **1.8%** |
| 11-Dec-2020 | 1,101 | 1,151 | 50 | 50 | 4.5% | 4.5% | 4.3% |
| 12-Dec-2020 | 1,078 | 1,103 | 25 | 25 | 2.3% | 2.3% | 2.3% |
| 13-Dec-2020 | 1,225 | 1,212 | -13 | 13 | -1.0% | 1.0% | -1.0% |
| 14-Dec-2020 | 1,213 | 1,233 | 19 | 19 | 1.6% | 1.6% | 1.6% |
| 15-Dec-2020 | 1,203 | 1,213 | 10 | 10 | 0.8% | 0.8% | 0.8% |
| 16-Dec-2020 | 1,331 | 1,318 | -13 | 13 | -1.0% | 1.0% | -1.0% |
| 17-Dec-2020 | 1,237 | 1,205 | -32 | 32 | -2.6% | 2.6% | -2.7% |
| 18-Dec-2020 | 1,199 | 1,164 | -35 | 35 | -2.9% | 2.9% | -3.0% |
| **19-Dec-2020** | **1,174** | **1,184** | **10** | **10** | **0.8%** | **0.8%** | **0.8%** |
| 20-Dec-2020 | 1,216 | 1,207 | -9 | 9 | -0.8% | 0.8% | -0.8% |
| 21-Dec-2020 | 1,193 | 1,198 | 5 | 5 | 0.5% | 0.5% | 0.4% |
| 22-Dec-2020 | 1,037 | 1,124 | 87 | 87 | 8.4% | 8.4% | 7.7% |
| 23-Dec-2020 | 1,119 | 1,142 | 23 | 23 | 2.0% | 2.0% | 2.0% |
| 24-Dec-2020 | 1,116 | 1,227 | 111 | 111 | 10.0% | 10.0% | 9.1% |
| 25-Dec-2020 | 1,038 | 996 | -42 | 42 | -4.1% | 4.1% | -4.2% |
| 26-Dec-2020 | 948 | 924 | -24 | 24 | -2.5% | 2.5% | -2.6% |
| 27-Dec-2020 | 997 | 1,027 | 29 | 29 | 3.0% | 3.0% | 2.9% |
| 28-Dec-2020 | 1,106 | 1,093 | -14 | 14 | -1.3% | 1.3% | -1.3% |
| 29-Dec-2020 | 1,167 | 1,182 | 15 | 15 | 1.3% | 1.3% | 1.3% |
| **30-Dec-2020** | **1,227** | **1,268** | **41** | **41** | **3.3%** | **3.3%** | **3.2%** |
| 31-Dec-2020 | 1,250 | 1,177 | -73 | 73 | -5.8% | 5.8% | -6.2% |
| Minimum | 823 | 837 | -73 | 5 | -7.0% | 0.5% | -7.5% |
| Average | 1,090 | 1,098 | 9 | 37 | 0.8% | 3.5% | 0.7% |
| Maximum | 1,331 | 1,318 | 111 | 111 | 10.0% | 10.0% | 9.1% |

### Table 4: Monthly Peak Utility Load Error Summary - Average Error

| Date | Actual Utility Peak (MW) | Forecast Utility Peak (MW) | Error (MW) | Absolute Error (MW) | Percent Error | Absolute Percent Error | Actual/ Forecast |
|---|---|---|---|---|---|---|---|
| Jan 2020 | 1,291 | 1,268 | -23 | 34 | -1.8% | 2.7% | -2.0% |
| Feb 2020 | 1,287 | 1,292 | 5 | 21 | 0.5% | 1.6% | 0.4% |
| Mar 2020 | 1,193 | 1,197 | 4 | 26 | 0.4% | 2.1% | 0.3% |
| Apr 2020 | 961 | 967 | 5 | 31 | 0.7% | 3.2% | 0.5% |
| May 2020 | 815 | 805 | -10 | 26 | -1.1% | 3.2% | -1.2% |
| Jun 2020 | 636 | 629 | -7 | 14 | -1.1% | 2.2% | -1.2% |
| Jul 2020 | 590 | 582 | -7 | 16 | -1.1% | 2.5% | -1.3% |
| Aug 2020 | 565 | 563 | -2 | 10 | -0.4% | 1.7% | -0.4% |
| Sep 2020 | 597 | 586 | -12 | 16 | -1.9% | 2.8% | -2.0% |
| Oct 2020 | 742 | 734 | -8 | 15 | -1.2% | 2.1% | -1.3% |
| Nov 2020 | 991 | 984 | -7 | 26 | -0.6% | 2.6% | -0.7% |
| Dec 2020 | 1,090 | 1,098 | 9 | 37 | 0.8% | 3.5% | 0.7% |
| **Total Average** | **897** | **892** | **-4** | **23** | **-0.6%** | **2.5%** | **-0.7%** |

### Table 5: Monthly Peak Utility Load Error Summary - Maximum Error[24]

| Date | Actual Utility Peak (MW) | Forecast Utility Peak (MW) | Error (MW) | Absolute Error (MW) | Percent Error | Absolute Percent Error | Actual/ Forecast |
|---|---|---|---|---|---|---|---|
| Jan 2020 | 1,484 | 1,472 | 34 | 158 | 2.7% | 13.2% | 2.6% |
| Feb 2020 | 1,497 | 1,515 | 49 | 116 | 4.5% | 8.7% | 4.3% |
| Mar 2020 | 1,496 | 1,465 | 91 | 91 | 7.0% | 7.0% | 6.5% |
| Apr 2020 | 1,161 | 1,116 | 79 | 103 | 8.9% | 8.9% | 8.2% |
| May 2020 | 1,049 | 981 | 74 | 74 | 10.2% | 10.2% | 9.2% |
| Jun 2020 | 746 | 746 | 28 | 48 | 4.5% | 6.6% | 4.3% |
| Jul 2020 | 704 | 629 | 32 | 94 | 5.8% | 13.4% | 5.5% |
| Aug 2020 | 616 | 603 | 22 | 22 | 4.2% | 4.2% | 4.0% |
| Sep 2020 | 706 | 692 | 24 | 34 | 4.1% | 5.6% | 3.9% |
| Oct 2020 | 984 | 1,009 | 25 | 49 | 2.6% | 7.1% | 2.5% |
| Nov 2020 | 1,186 | 1,204 | 60 | 80 | 6.0% | 7.4% | 5.7% |
| Dec 2020 | 1,331 | 1,318 | 111 | 111 | 10.0% | 10.0% | 9.1% |
| **Annual** | **1,497** | **1,515** | **111** | **158** | **10.2%** | **13.4%** | **9.2%** |

[24] The maximum forecast, the maximum peak, and the maximum error do not necessarily occur on the same day.

### Table 6: Error in Ten Highest Utility Loads

| Date | Actual Utility Peak (MW) | Forecast Utility Peak (MW) | Error (MW) | Absolute Error (MW) | Percent Error | Absolute Percent Error | Actual/ Forecast |
|---|---|---|---|---|---|---|---|
| 11-Feb-2020 | 1,497 | 1,515 | 18 | 18 | 1.2% | 1.2% | 1.2% |
| 10-Mar-2020 | 1,496 | 1,465 | -31 | 31 | -2.1% | 2.1% | -2.1% |
| 15-Jan-2020 | 1,484 | 1,472 | -12 | 12 | -0.8% | 0.8% | -0.8% |
| 9-Feb-2020 | 1,476 | 1,494 | 18 | 18 | 1.2% | 1.2% | 1.2% |
| 24-Feb-2020 | 1,476 | 1,494 | 18 | 18 | 1.2% | 1.2% | 1.2% |
| 10-Jan-2020 | 1,461 | 1,439 | -22 | 22 | -1.5% | 1.5% | -1.5% |
| 22-Jan-2020 | 1,440 | 1,423 | -18 | 18 | -1.2% | 1.2% | -1.2% |
| 25-Feb-2020 | 1,437 | 1,474 | 37 | 37 | 2.6% | 2.6% | 2.5% |
| 10-Feb-2020 | 1,426 | 1,412 | -14 | 14 | -1.0% | 1.0% | -1.0% |
| 19-Jan-2020 | 1,419 | 1,367 | -53 | 53 | -3.7% | 3.7% | -3.8% |
| **Average** | **1,461** | **1,456** | **-6** | **24** | **-0.4%** | **1.7%** | **-0.4%** |

### Table 7: Summary of Forecast Issues

| Date | Actual Utility Peak (MW) | Forecast Utility Peak (MW) | Error (MW) | Absolute Error (MW) | Absolute Percent Error | Explanation |
|---|---|---|---|---|---|---|
| 2-Jan-2020 | 1,193 | 1,035 | -158 | 158 | 13.2% | External technology error |
| 3-Jan-2020 | 1,204 | 1,066 | -137 | 137 | 13.2% | External technology error |
| 6-Jan-2020 | 1,280 | 1,314 | 34 | 34 | 2.7% | Error in industrial load |
| 2-Feb-2020 | 1,343 | 1,226 | -116 | 116 | 8.7% | Error in temperature and wind speed forecast; non-uniform customer behaviour |
| 15-Feb-2020 | 1,120 | 1,119 | -1 | 1 | 0.1% | Error in industrial load; non-uniform customer behaviour |
| 26-Feb-2020 | 1,317 | 1,258 | -59 | 59 | 4.5% | Error in industrial load; error in the Nostradamus program |
| 9-Mar-2020 | 1,311 | 1,402 | 91 | 91 | 7.0% | Software forecast error |
| 18-Mar-2020 | 992 | 1,000 | 9 | 9 | 0.9% | Error in industrial load |
| 23-Mar-2020 | 1,272 | 1,253 | -18 | 18 | 1.4% | External technology error |
| 2-Apr-2020 | 946 | 954 | 8 | 8 | 0.8% | Error in industrial load |
| 14-Apr-2020 | 889 | 968 | 79 | 79 | 8.9% | Error in industrial load; error in temperature forecast; non-uniform customer behaviour |

| Date | Actual Utility Peak (MW) | Forecast Utility Peak (MW) | Error (MW) | Absolute Error (MW) | Absolute Percent Error | Explanation |
|---|---|---|---|---|---|---|
| 19-Apr-2020 | 1,161 | 1,058 | -103 | 103 | 8.8% | Non-uniform customer behaviour |
| 1-May-2020 | 781 | 800 | 19 | 19 | 2.4% | Error in industrial load |
| 12-May-2020 | 738 | 733 | -5 | 5 | 0.6% | Error in the Nostradamus program; export activity over the Maritime Link |
| 24-May-2020 | 885 | 910 | 26 | 26 | 2.9% | Error in industrial load; non-uniform customer behaviour |
| 5-Jun-2020 | 608 | 616 | 7 | 7 | 1.2% | Export activity over the Maritime Link; error in industrial load |
| 12-Jun-2020 | 642 | 628 | -14 | 14 | 2.1% | Error in industrial load; export activity over the Maritime Link |
| 29-Jun-2020 | 608 | 626 | 17 | 17 | 2.9% | Error in industrial load; export activity over the Maritime Link |
| 8-Jul-2020 | 573 | 582 | 9 | 9 | 1.6% | Error in industrial load |
| 18-Jul-2020 | 545 | 577 | 32 | 32 | 5.8% | External technology error |
| 19-Jul-2020 | 538 | 566 | 28 | 28 | 5.2% | External technology error |
| 9-Aug-2020 | 548 | 536 | -12 | 12 | 2.3% | Error in industrial load |
| 10-Aug-2020 | 582 | 591 | 9 | 9 | 1.6% | Error in industrial load |
| 27-Aug-2020 | 572 | 578 | 6 | 6 | 1.1% | Error in industrial load |
| 8-Sep-2020 | 573 | 551 | -22 | 22 | 3.9% | Export activity over the Maritime Link |
| 9-Sep-2020 | 591 | 554 | -37 | 37 | 6.3% | Error with SCADA data |
| 11-Sep-2020 | 599 | 623 | 24 | 24 | 4.1% | Error in industrial load |
| 1-Oct-2020 | 582 | 567 | -15 | 15 | 2.6% | Error in industrial load |
| 18-Oct-2020 | 635 | 613 | -22 | 22 | 3.4% | Export activity over the Maritime Link |
| 21-Oct-2020 | 712 | 686 | -26 | 26 | 3.6% | Error in industrial load; Error due to SCADA System Upgrade |
| 14-Nov-2020 | 1,089 | 1,009 | -80 | 80 | 7.3% | Error in temperature forecast; non-uniform customer behaviour |
| 17-Nov-2020 | 886 | 934 | 48 | 48 | 5.4% | Error in industrial load; error in wind speed forecast |
| 19-Nov-2020 | 1,152 | 1,084 | -67 | 67 | 5.8% | Export activity over the Maritime Link; error in temperature and cloud cover forecast |

| Date | Actual Utility Peak (MW) | Forecast Utility Peak (MW) | Error (MW) | Absolute Error (MW) | Absolute Percent Error | Explanation |
|---|---|---|---|---|---|---|
| 10-Dec-2020 | 1,067 | 1,086 | 19 | 19 | 1.8% | Error in industrial load |
| 19-Dec-2020 | 1,174 | 1,184 | 10 | 10 | 0.8% | Export activity over the Maritime Link |
| 30-Dec-2020 | 1,227 | 1,268 | 41 | 41 | 3.3% | Error in industrial load; non-uniform customer behaviour |