Short-Term Load Forecasting Document

Date: 2024-06-16
Prepared by: Power Systems Analyst Team

1. Purpose

This document provides the short-term load forecast for the region, supporting operations, scheduling, and resource planning for the electricity grid.

2. Scope

The scope covers the 7-day forecast period starting from 2024-06-17 to 2024-06-23 for the entire region covered by the utility.

3. Methodology

1. Data Collection: Historical load data, weather forecasts, holidays, and special events are considered.
2. Analysis: Statistical modeling (ARIMA, Linear Regression) and Machine Learning approaches (Random Forests) applied.
3. Validation: Forecast accuracy assessed using Mean Absolute Percentage Error (MAPE).

4. Forecast Summary

Date	Forecasted Peak Load (MW)	Forecasted Average Load (MW)
2024-06-17	550	410
2024-06-18	540	405
2024-06-19	560	420
2024-06-20	570	430
2024-06-21	585	440
2024-06-22	600	450
2024-06-23	590	445

5. Assumptions

- Weather conditions will remain as predicted in the issued weather forecast.
- No unplanned major outage or extraordinary event will occur.
- Economic activity levels remain constant during the forecast period.

6. Limitations

- Model accuracy may decline if actual weather conditions deviate significantly from forecast.
- Sudden changes in consumer behavior or industrial activity may not be captured.

7. Contact Information

For any queries, contact: