



Auckland Network

Supplementary Information – Substation Load Characteristics

EECA

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A	Draft

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1. Executive Summary

The following figures illustrate the characteristics of the major electrical substations (both GXPs and Zone Substations) in the Auckland region. This document supplements the main report titled "*Auckland – Spare Capacity and Load Characteristics*".

For each GXP, the January 2023 through December 2023 apparent (MVA) and reactive loadings (MVAR) are presented. For each Zone Substation, the apparent power (MVA) or real power (MW) loadings only are presented. The data is presented in graphs of:

- The load profile for the entire year.
- The maximum and minimum loads for each of the 365 days.
- Load profiles for two weeks in summer and two weeks in winter.
- Typical daily summer and winter load profiles.
- A load duration curve for the entire year.

2. Zone Substations

2.1 Vector

The characteristics of the zone substation **apparent power loadings** within Vector's network are shown in the following:

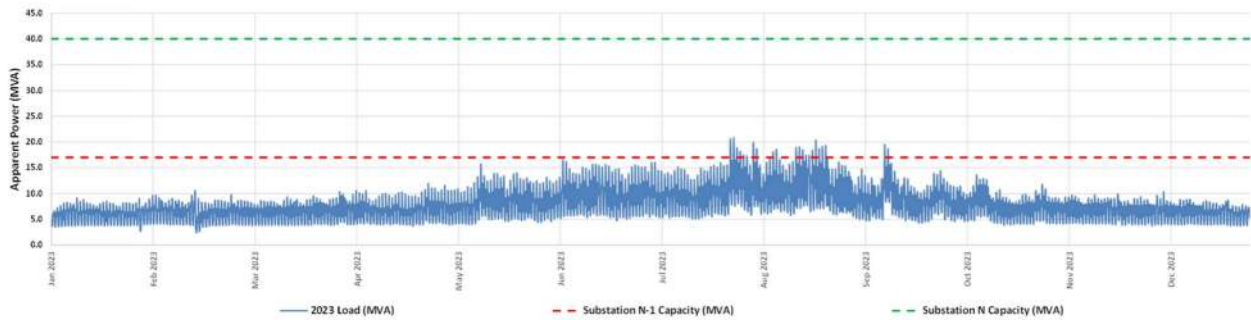
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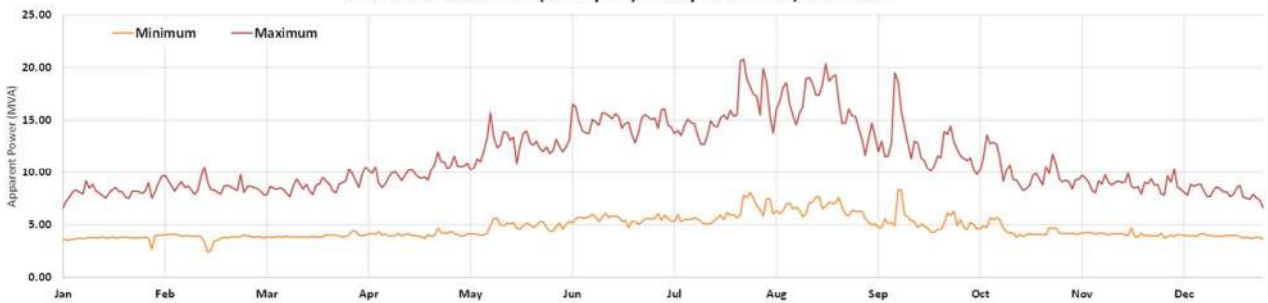
- Figure 86. Sandringham 22/11 kV zone substation: Apparent Power (MVA) load characteristics
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Atkinson Road MVA

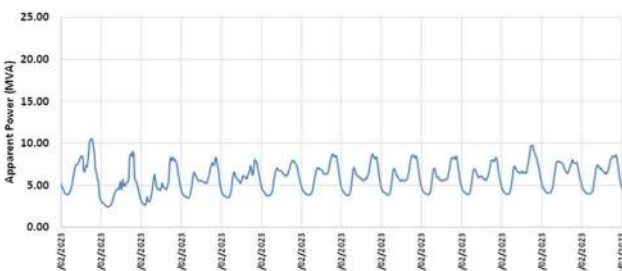
ATKI Zone Substation (2023 year) - Half hourly loading



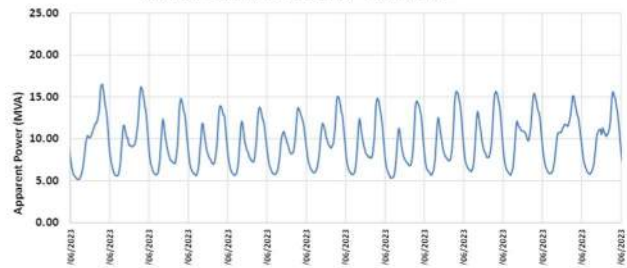
ATKI Zone Substation (2023 year) - Daily Maximum/Minimum



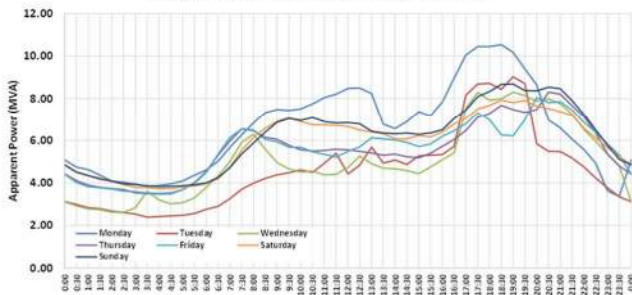
ATKI Zone Substation (2023 year) - Summer (February)



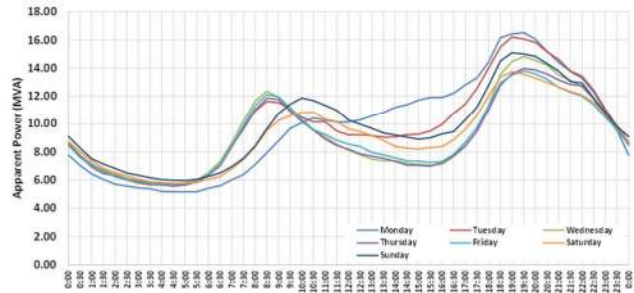
ATKI Zone Substation (2023 year) - Winter (June)



ATKI Zone Substation (2023 year) - Summer (February)



ATKI Zone Substation (2023 year) - Winter (June)



ATKI Zone Substation (2023 year) - Load Duration Curve

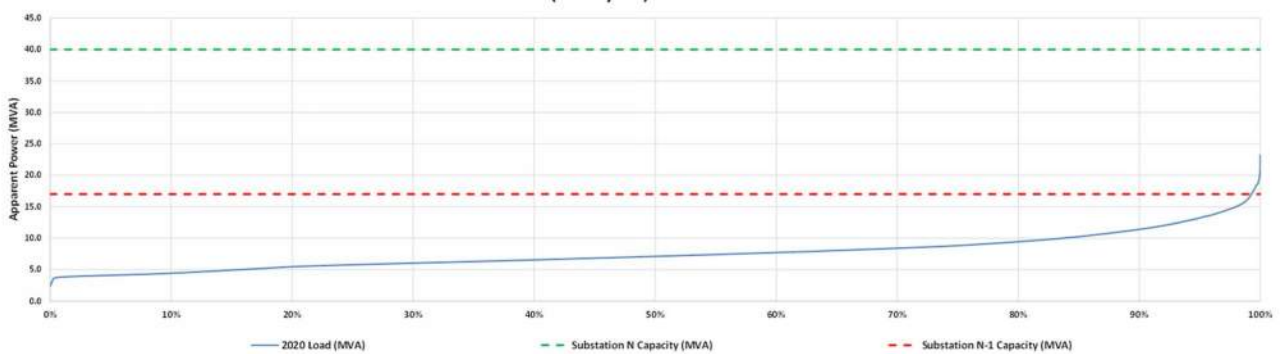
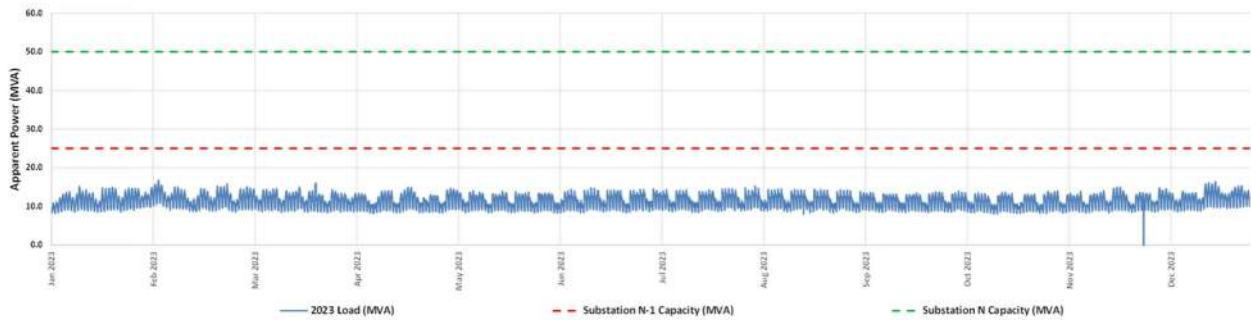


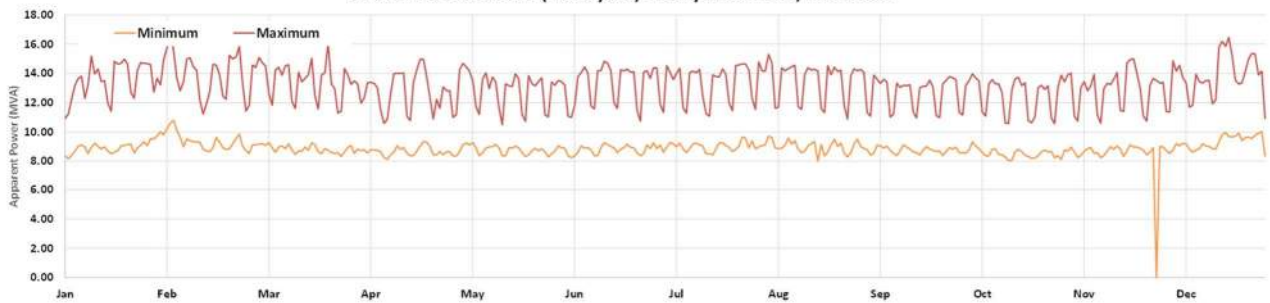
Figure 1. Atkinson Road 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Auckland Airport MVA

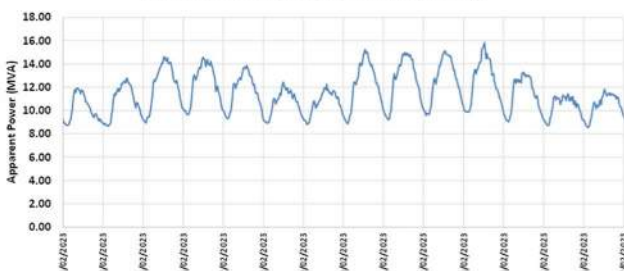
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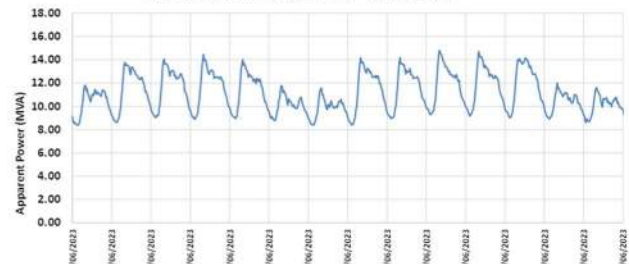
AIAL Zone Substation (2023 year) - Daily Maximum/Minimum



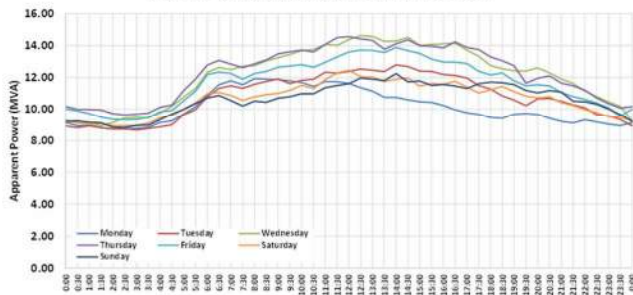
AIAL Zone Substation (2023 year) - Summer (February)



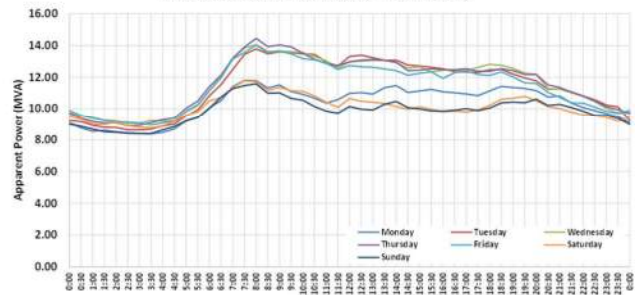
AIAL Zone Substation (2023 year) - Winter (June)



AIAL Zone Substation (2023 year) - Summer (February)



AIAL Zone Substation (2023 year) - Winter (June)



AIAL Zone Substation (2023 year) - Load Duration Curve

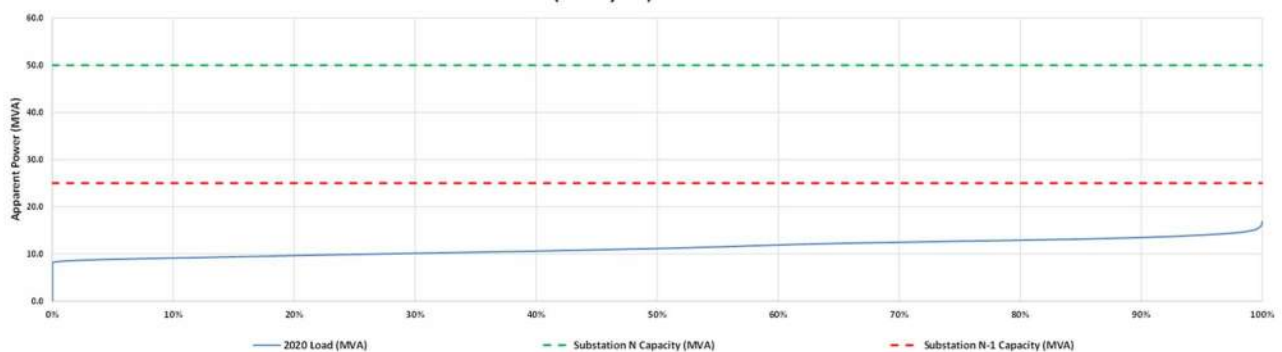
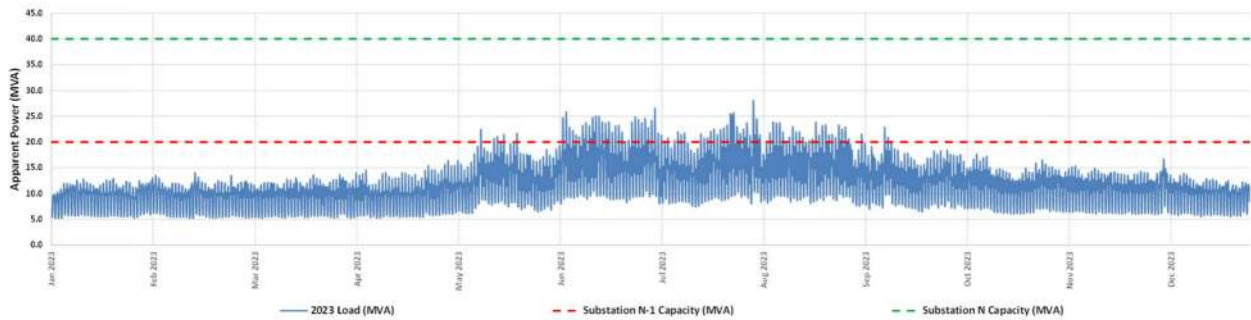


Figure 2. Auckland Airport 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Avondale MVA

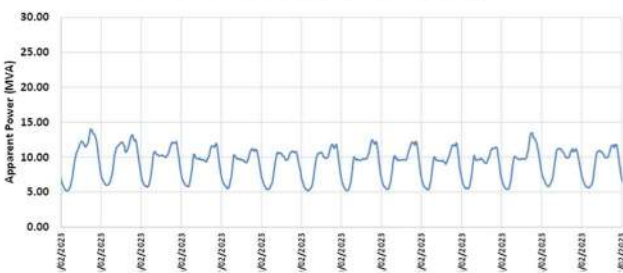
AVON Zone Substation (2023 year) - Half hourly loading



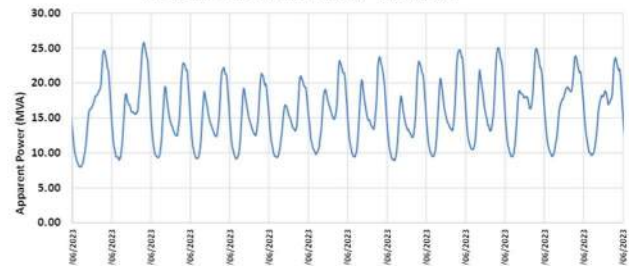
AVON Zone Substation (2023 year) - Daily Maximum/Minimum



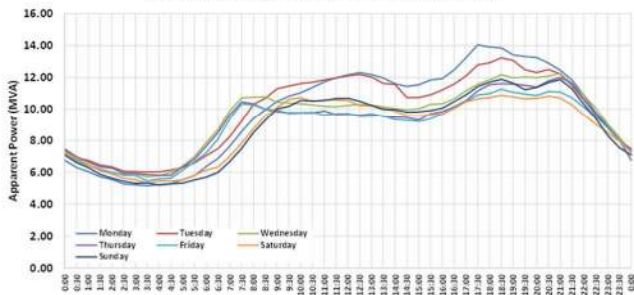
AVON Zone Substation (2023 year) - Summer (February)



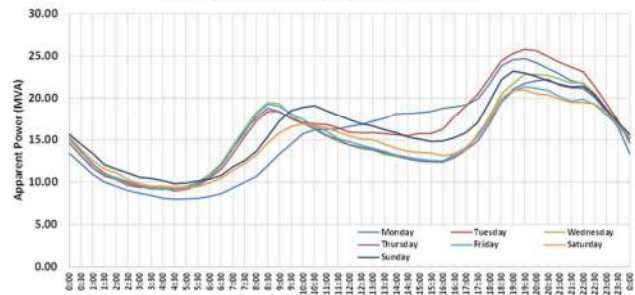
AVON Zone Substation (2023 year) - Winter (June)



AVON Zone Substation (2023 year) - Summer (February)



AVON Zone Substation (2023 year) - Winter (June)



AVON Zone Substation (2023 year) - Load Duration Curve

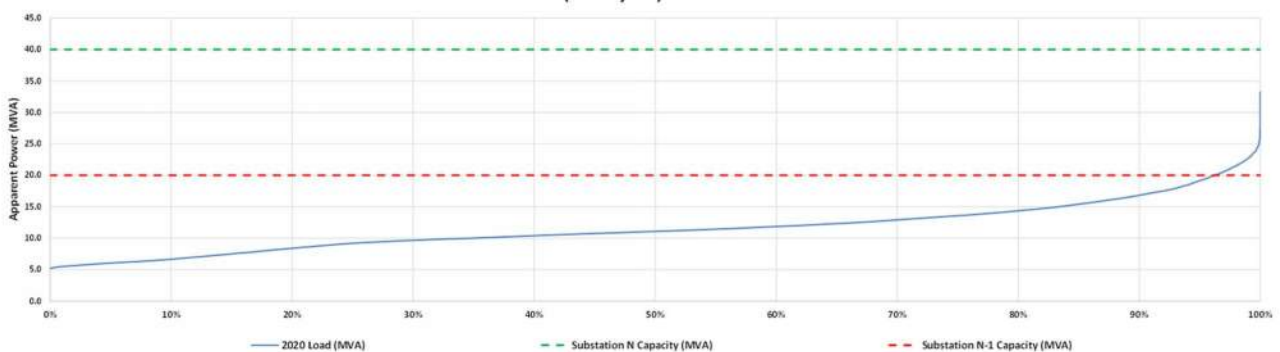
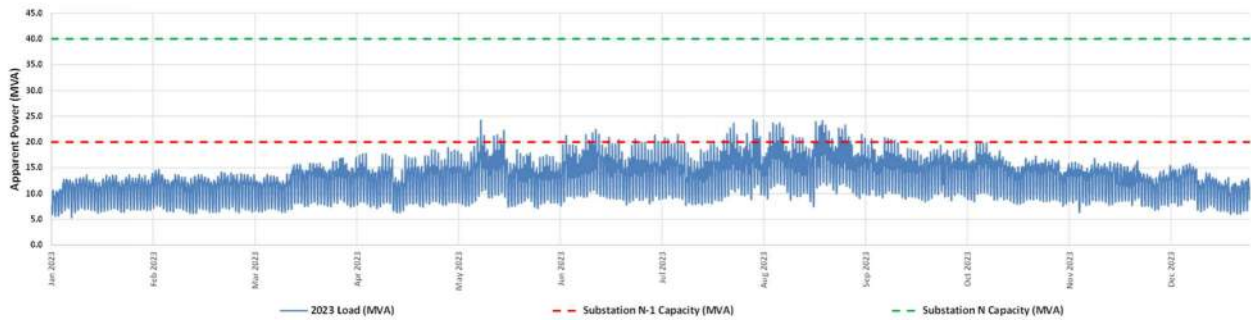


Figure 3. Avondale 22/11 kV zone substation: Apparent Power (MVA) load characteristics

Bairds MVA

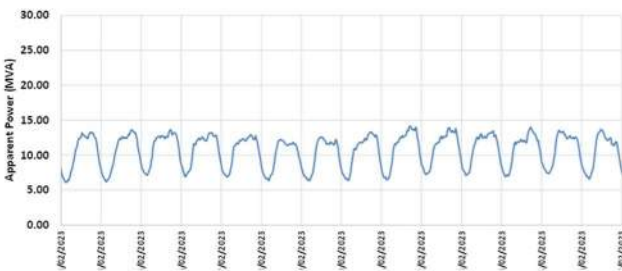
BAIR Zone Substation (2023 year) - Half hourly loading



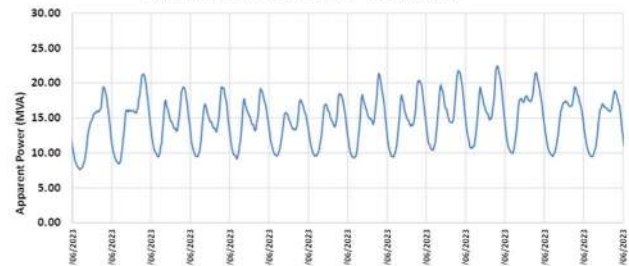
BAIR Zone Substation (2023 year) - Daily Maximum/Minimum



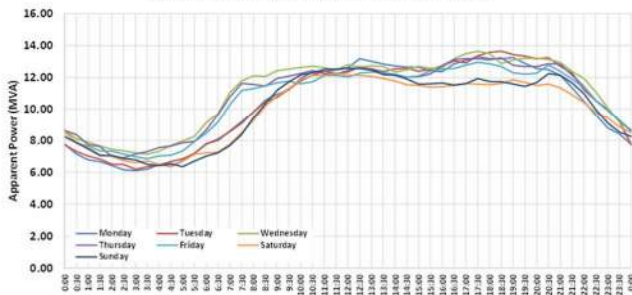
BAIR Zone Substation (2023 year) - Summer (February)



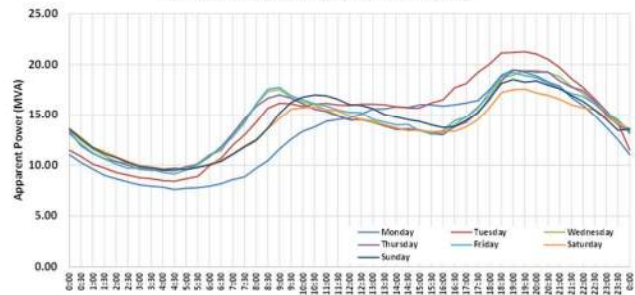
BAIR Zone Substation (2023 year) - Winter (June)



BAIR Zone Substation (2023 year) - Summer (February)



BAIR Zone Substation (2023 year) - Winter (June)



BAIR Zone Substation (2023 year) - Load Duration Curve

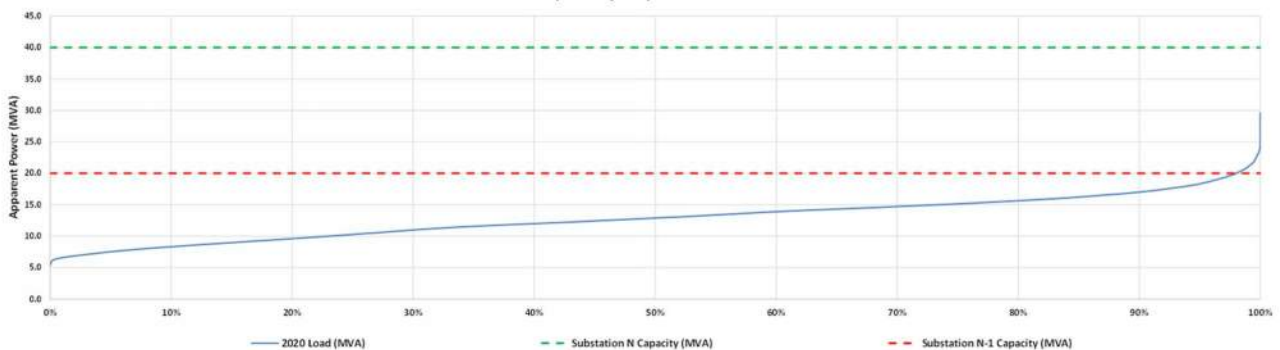
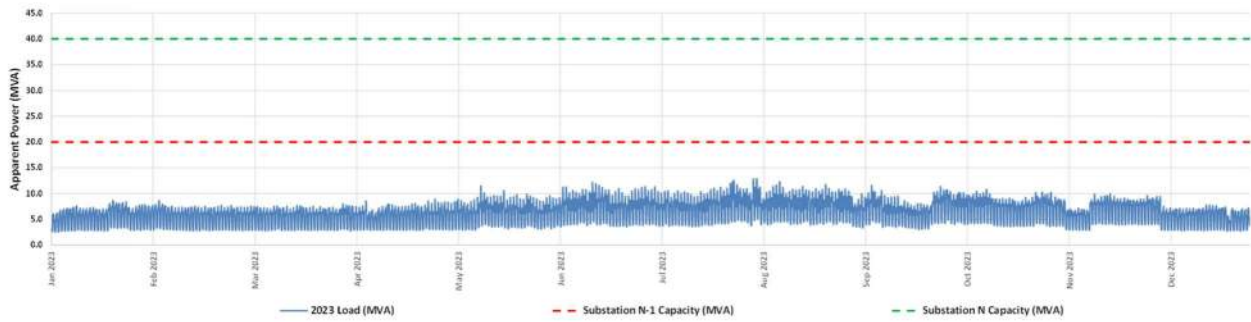


Figure 4. Bairds 22/11 kV zone substation: Apparent Power (MVA) load characteristics

Balmoral MVA

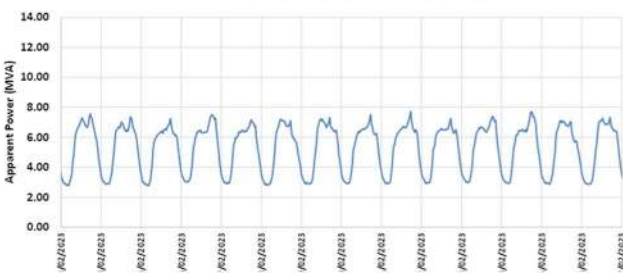
BALM Zone Substation (2023 year) - Half hourly loading



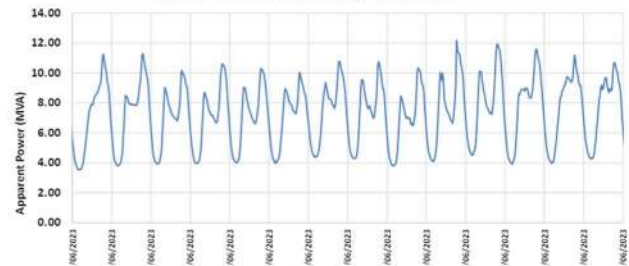
BALM Zone Substation (2023 year) - Daily Maximum/Minimum



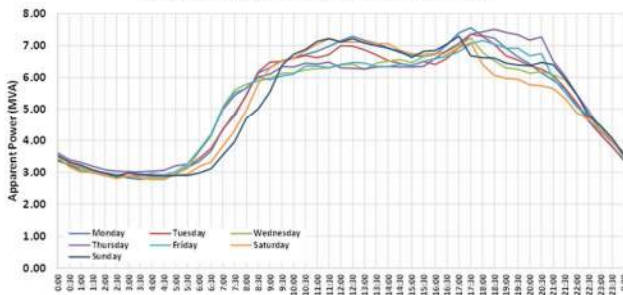
BALM Zone Substation (2023 year) - Summer (February)



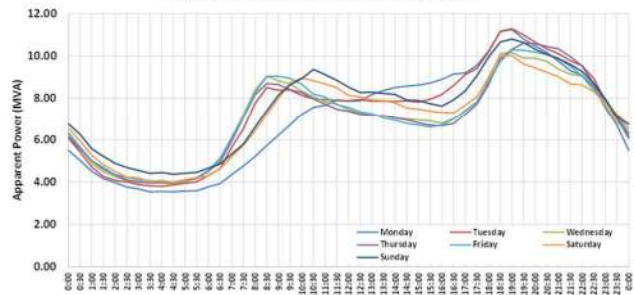
BALM Zone Substation (2023 year) - Winter (June)



BALM Zone Substation (2023 year) - Summer (February)



BALM Zone Substation (2023 year) - Winter (June)



BALM Zone Substation (2023 year) - Load Duration Curve

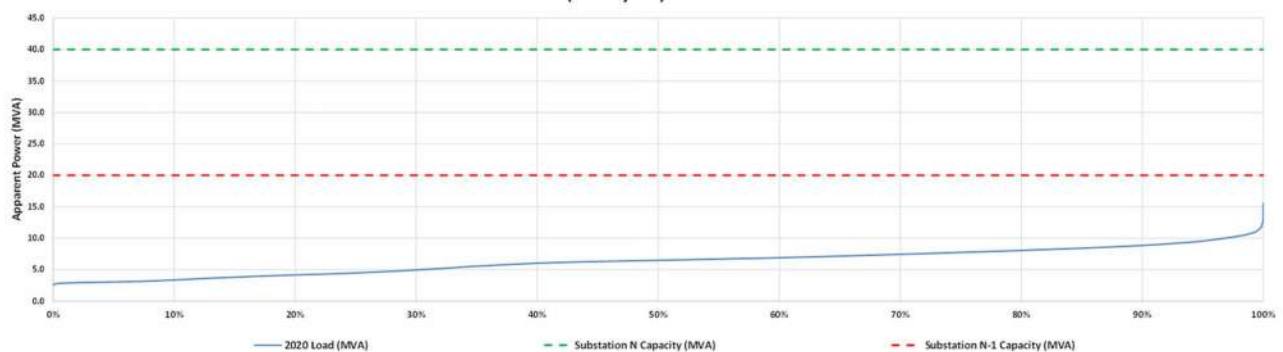
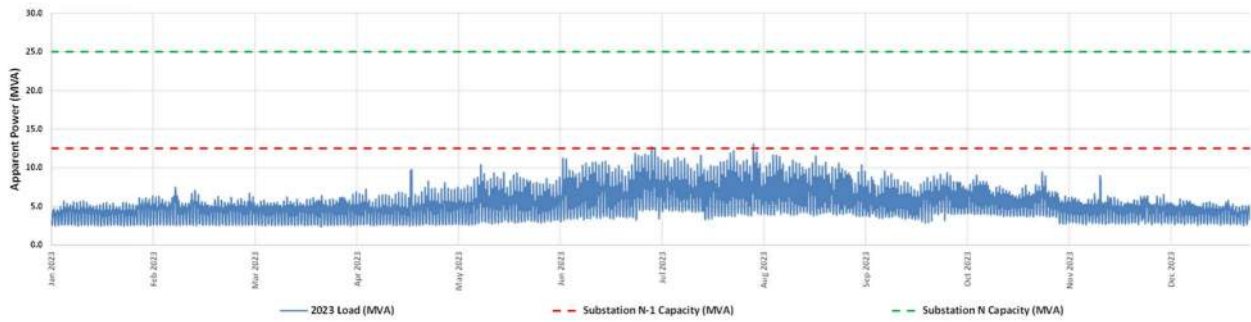


Figure 5. Balmoral 22/11 kV zone substation: Apparent Power (MVA) load characteristics

Belmont MVA

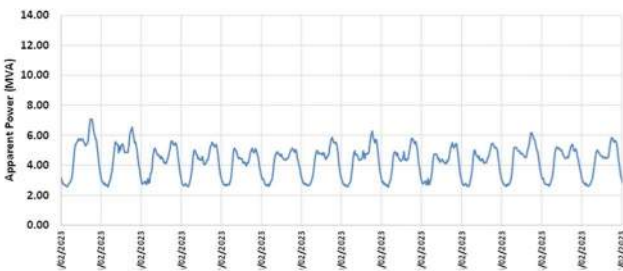
BMON Zone Substation (2023 year) - Half hourly loading



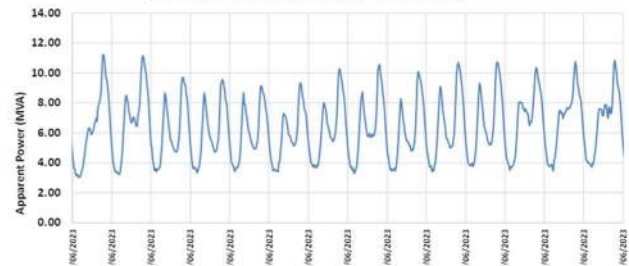
BMON Zone Substation (2023 year) - Daily Maximum/Minimum



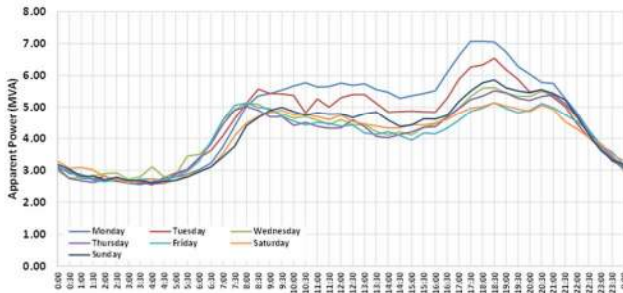
BMON Zone Substation (2023 year) - Summer (February)



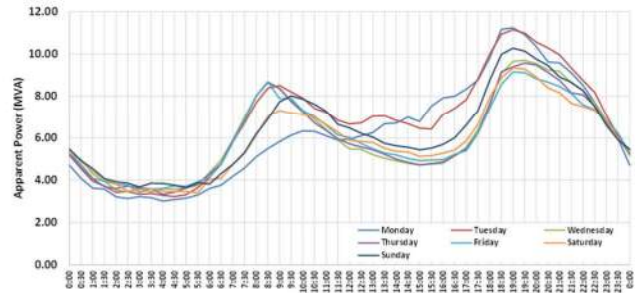
BMON Zone Substation (2023 year) - Winter (June)



BMON Zone Substation (2023 year) - Summer (February)



BMON Zone Substation (2023 year) - Winter (June)



BMON Zone Substation (2023 year) - Load Duration Curve

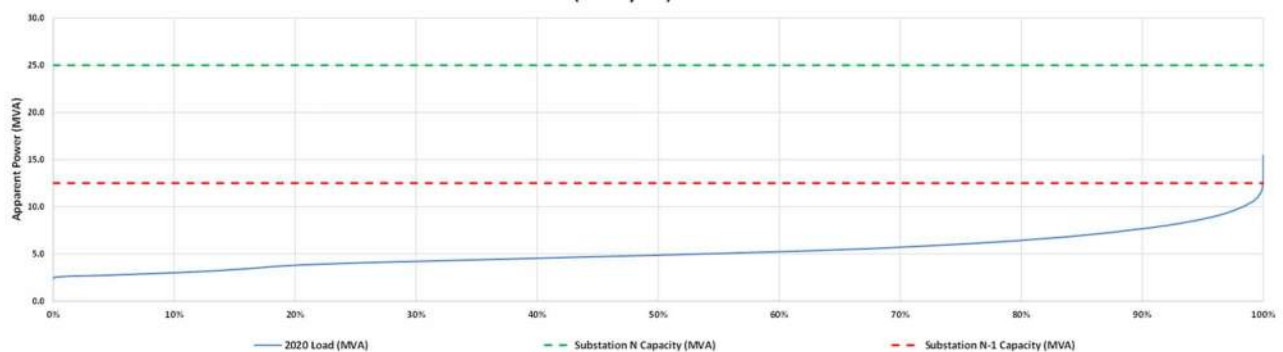


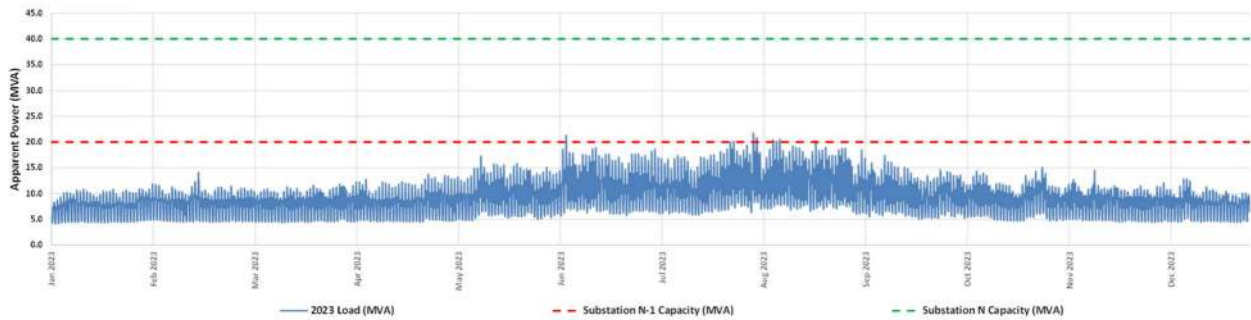
Figure 6. Belmont 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Big Ōmaha MVA

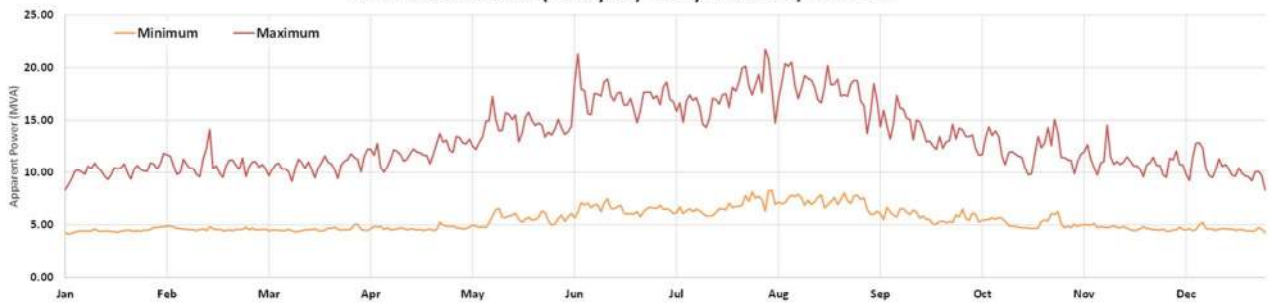
Ergo was not supplied load information for this substation.

Birkdale MVA

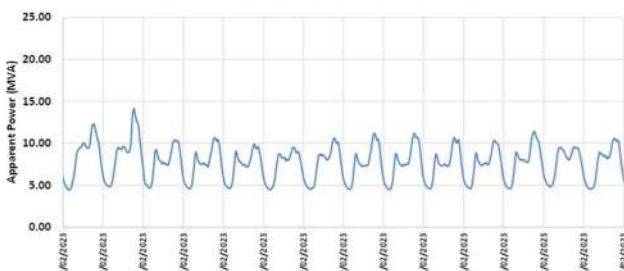
BIRK Zone Substation (2023 year) - Half hourly loading



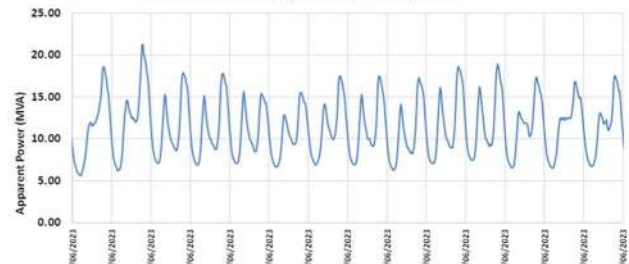
BIRK Zone Substation (2023 year) - Daily Maximum/Minimum



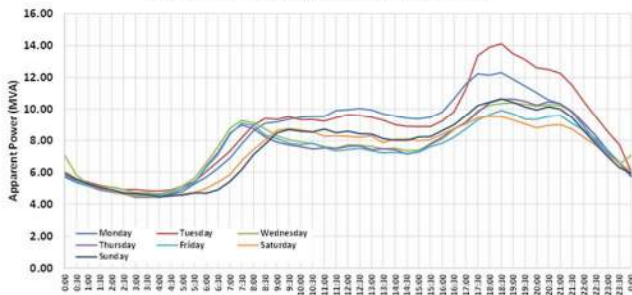
BIRK Zone Substation (2023 year) - Summer (February)



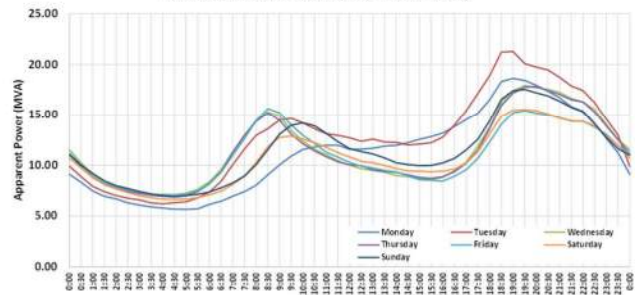
BIRK Zone Substation (2023 year) - Winter (June)



BIRK Zone Substation (2023 year) - Summer (February)



BIRK Zone Substation (2023 year) - Winter (June)



BIRK Zone Substation (2023 year) - Load Duration Curve

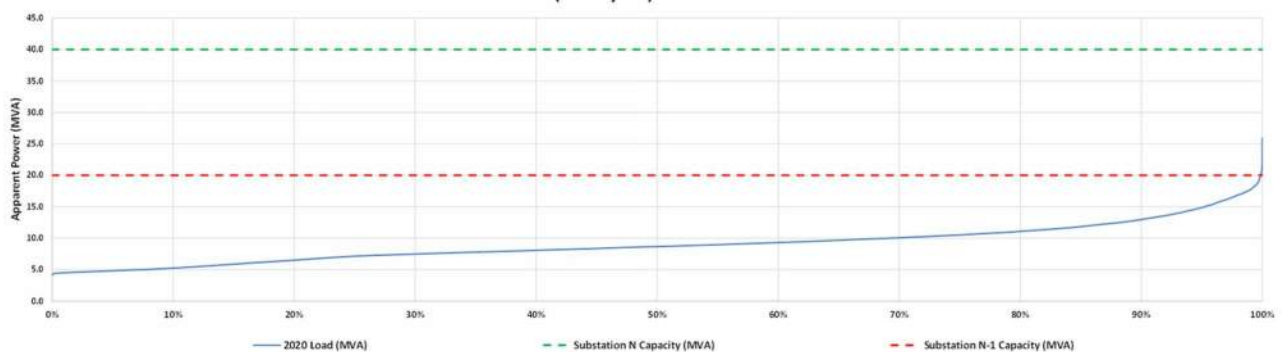
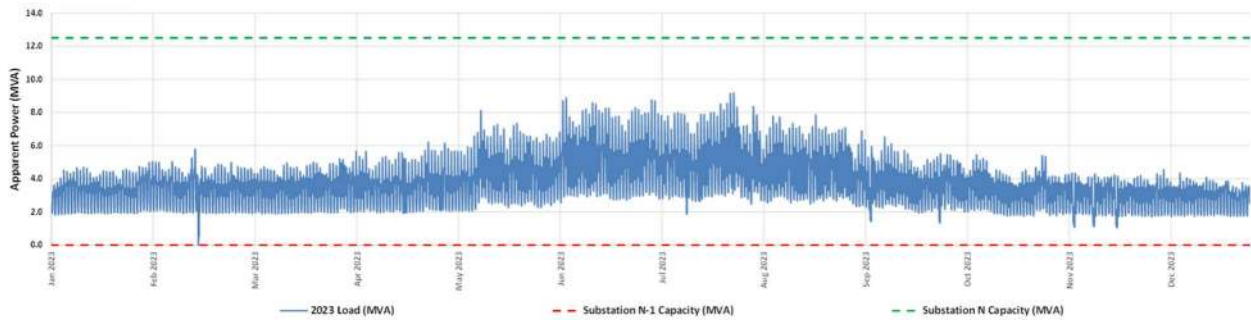


Figure 7. Birkdale 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Balmain MVA

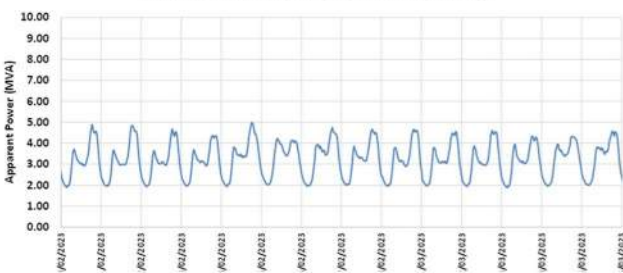
BLMN Zone Substation (2023 year) - Half hourly loading



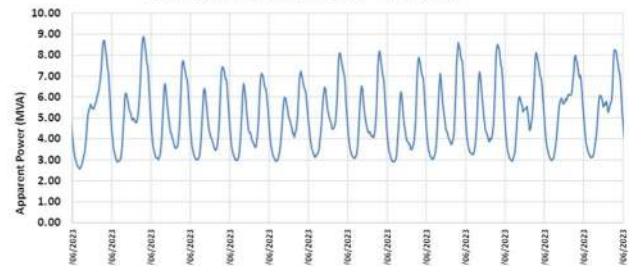
BLMN Zone Substation (2023 year) - Daily Maximum/Minimum



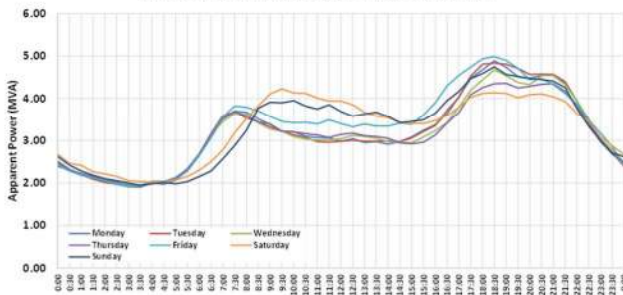
BLMN Zone Substation (2023 year) - Summer (February)



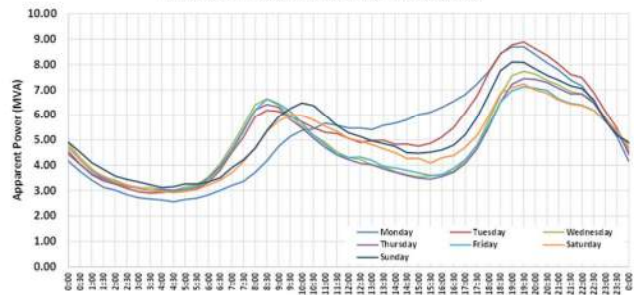
BLMN Zone Substation (2023 year) - Winter (June)



BLMN Zone Substation (2023 year) - Summer (February)



BLMN Zone Substation (2023 year) - Winter (June)



BLMN Zone Substation (2023 year) - Load Duration Curve

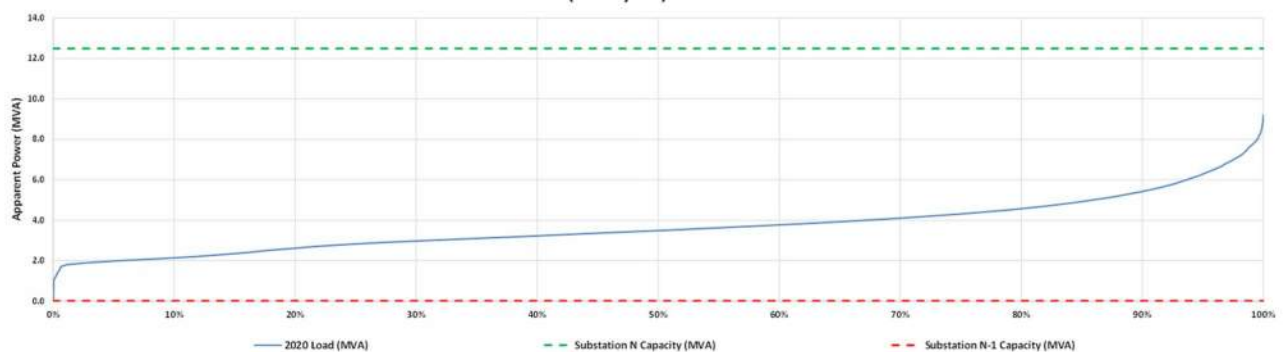
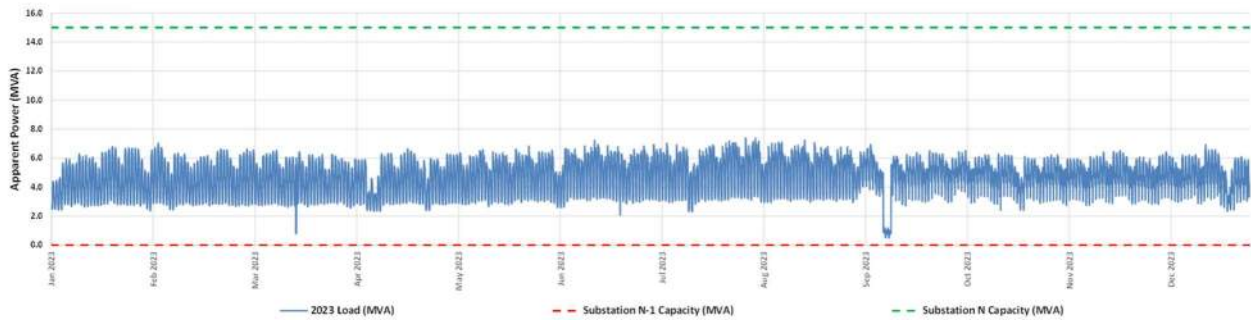


Figure 8. Balmain 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Brickworks MVA

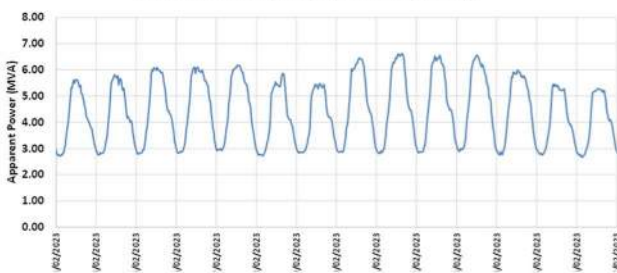
BRIC Zone Substation (2023 year) - Half hourly loading



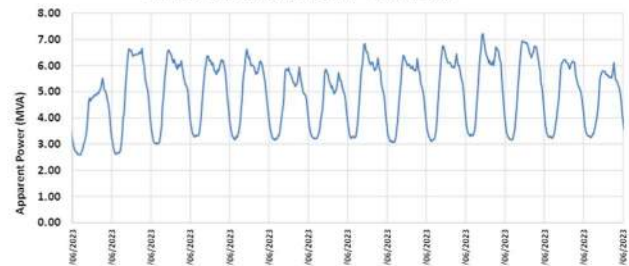
BRIC Zone Substation (2023 year) - Daily Maximum/Minimum



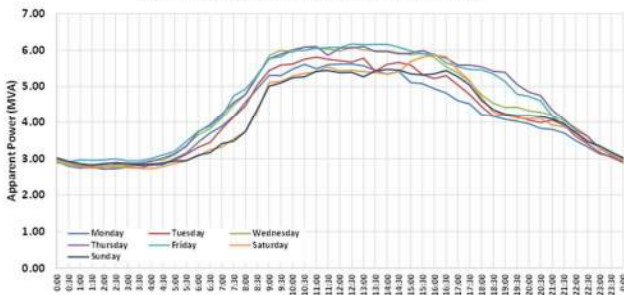
BRIC Zone Substation (2023 year) - Summer (February)



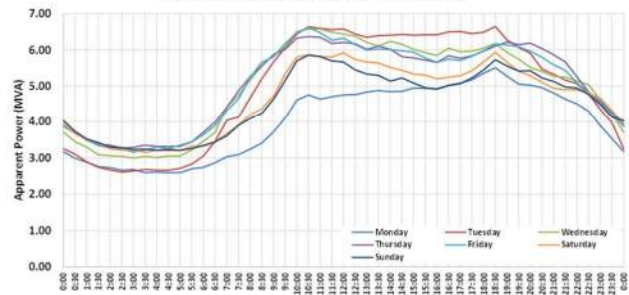
BRIC Zone Substation (2023 year) - Winter (June)



BRIC Zone Substation (2023 year) - Summer (February)



BRIC Zone Substation (2023 year) - Winter (June)



BRIC Zone Substation (2023 year) - Load Duration Curve

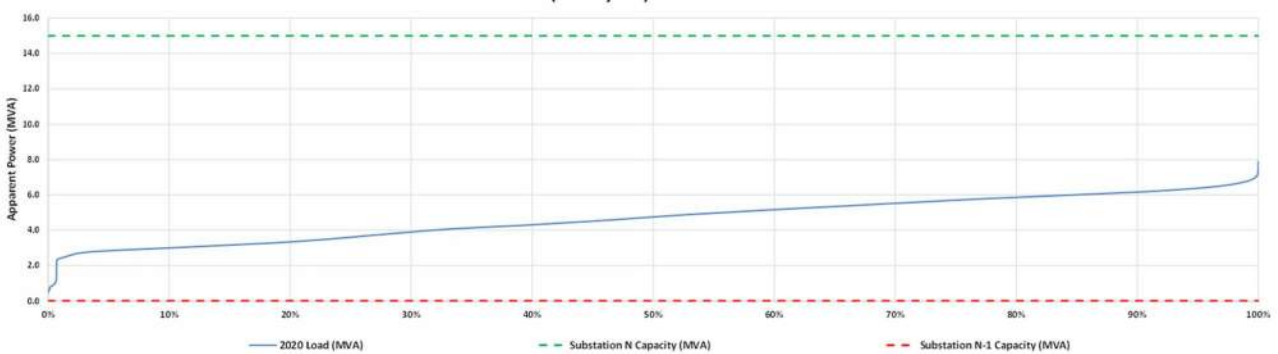
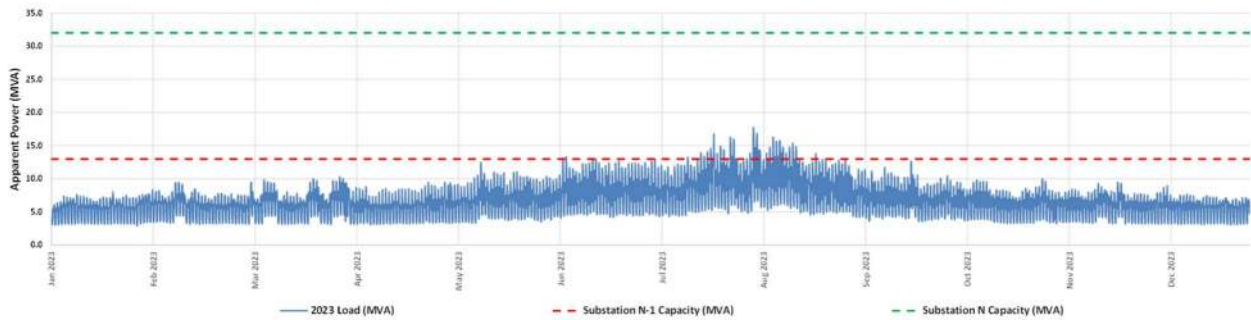


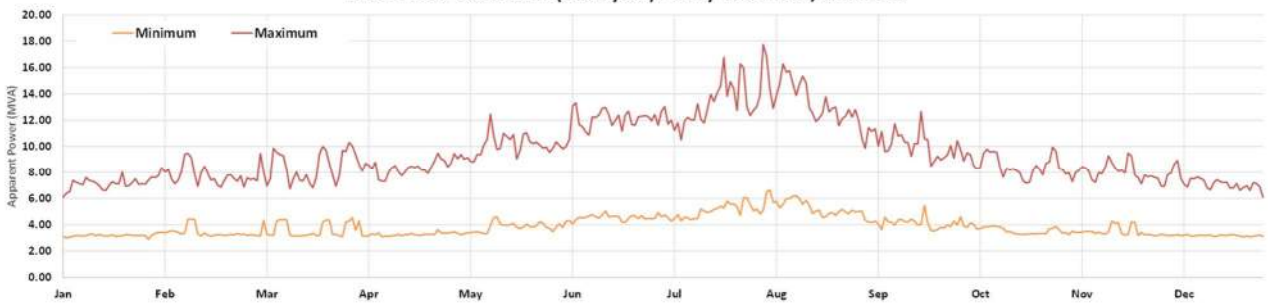
Figure 9. Brickworks 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Browns Bay MVA

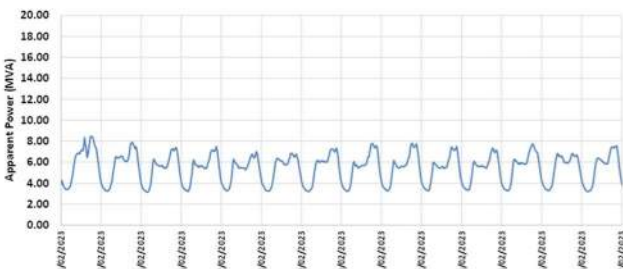
BROW Zone Substation (2023 year) - Half hourly loading



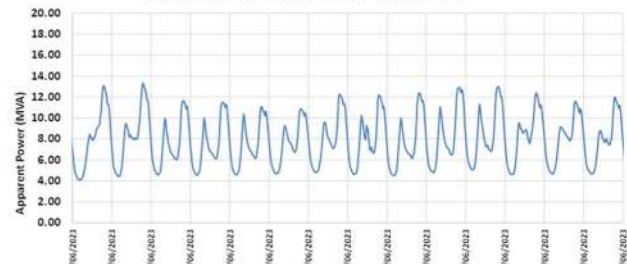
BROW Zone Substation (2023 year) - Daily Maximum/Minimum



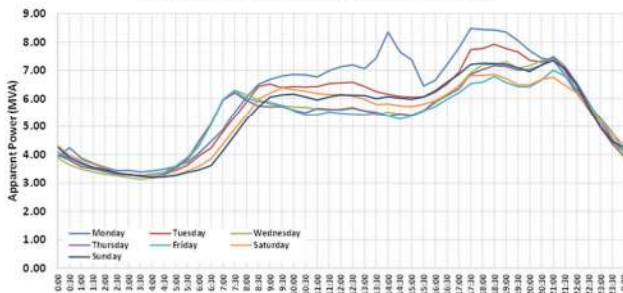
BROW Zone Substation (2023 year) - Summer (February)



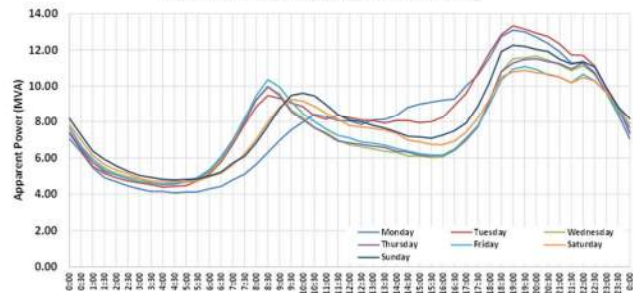
BROW Zone Substation (2023 year) - Winter (June)



BROW Zone Substation (2023 year) - Summer (February)



BROW Zone Substation (2023 year) - Winter (June)



BROW Zone Substation (2023 year) - Load Duration Curve

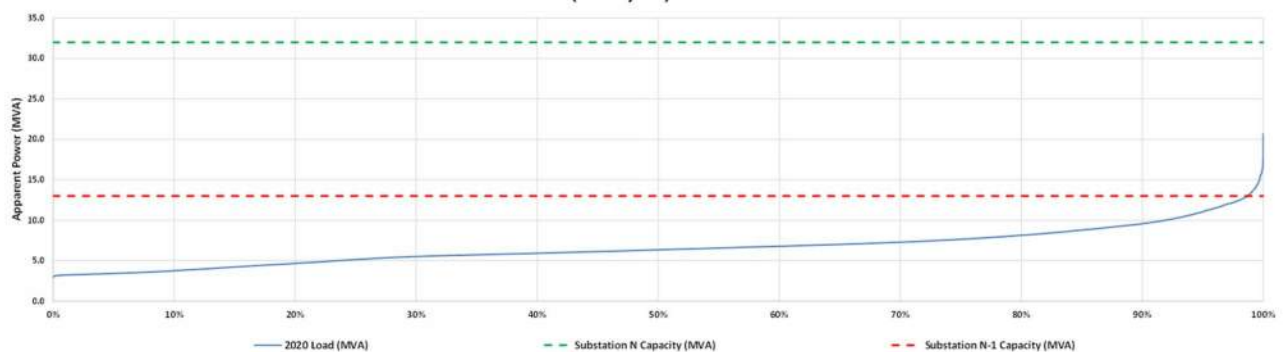
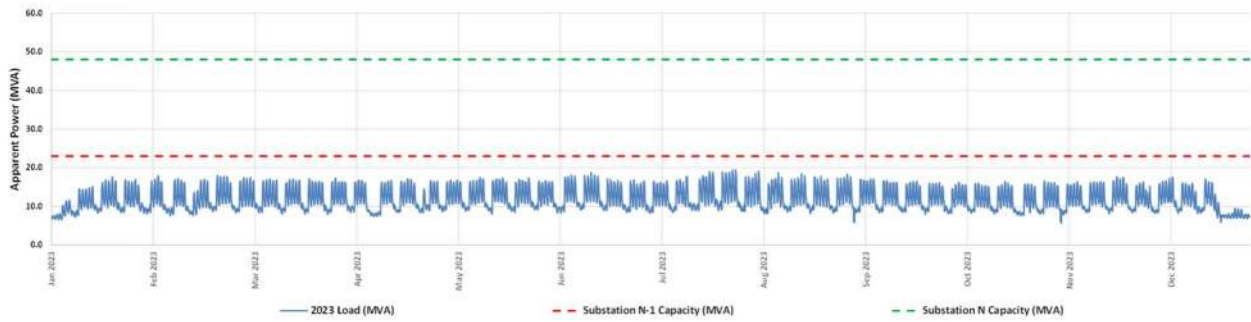


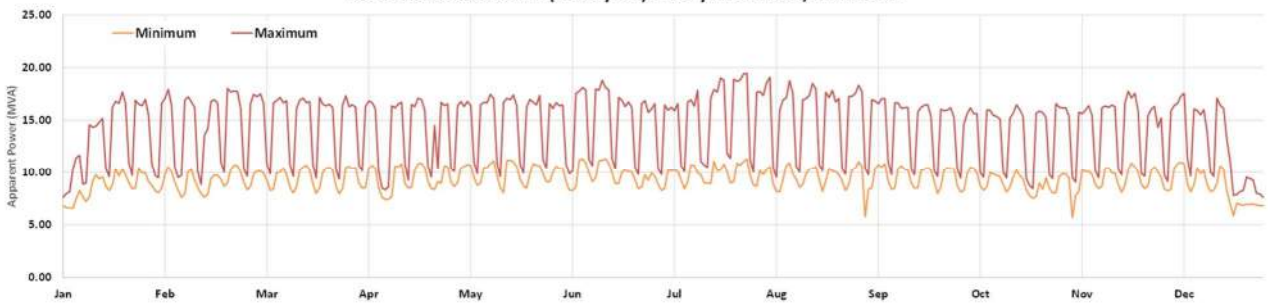
Figure 10. Browns Bay 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Bush Road MVA

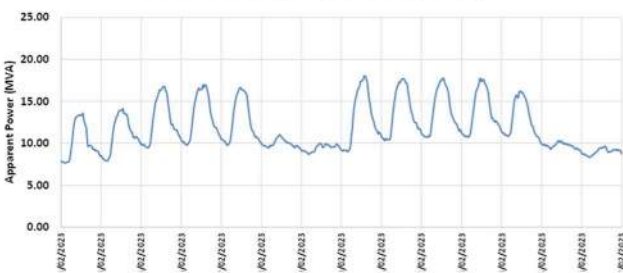
BUSH Zone Substation (2023 year) - Half hourly loading



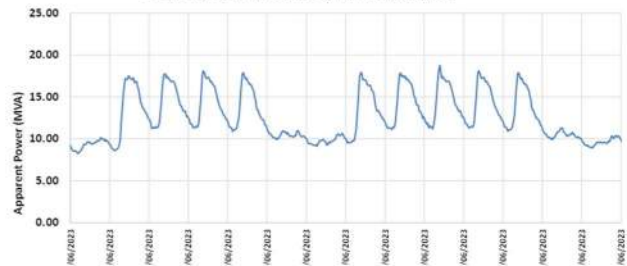
BUSH Zone Substation (2023 year) - Daily Maximum/Minimum



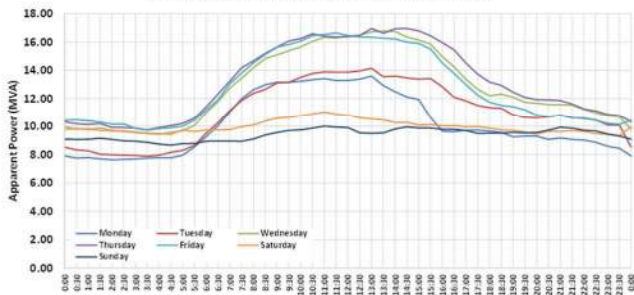
BUSH Zone Substation (2023 year) - Summer (February)



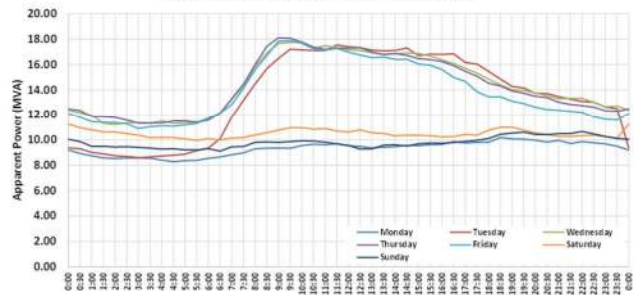
BUSH Zone Substation (2023 year) - Winter (June)



BUSH Zone Substation (2023 year) - Summer (February)



BUSH Zone Substation (2023 year) - Winter (June)



BUSH Zone Substation (2023 year) - Load Duration Curve

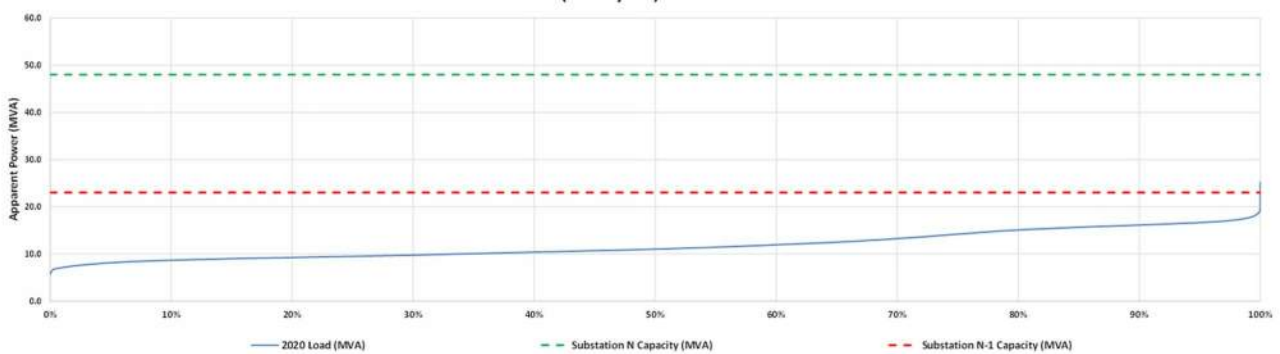
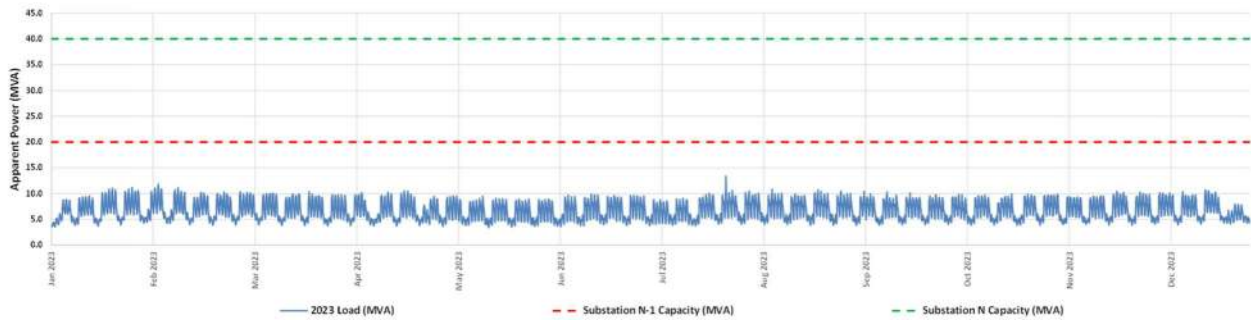


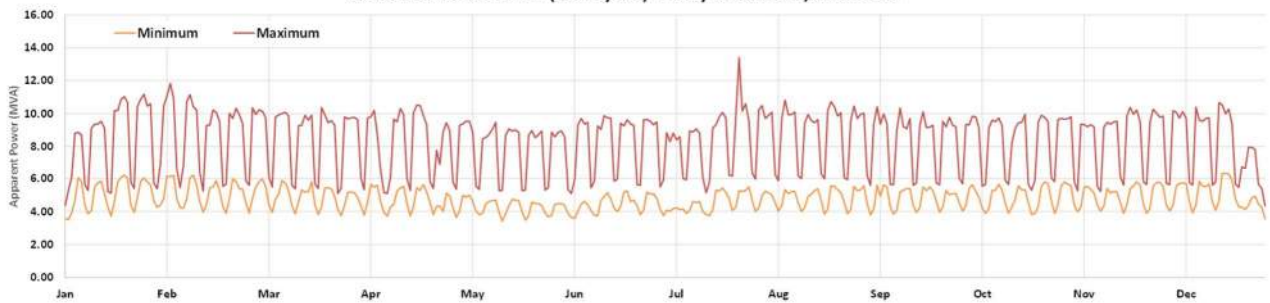
Figure 11. Bush Road 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Carbine MVA

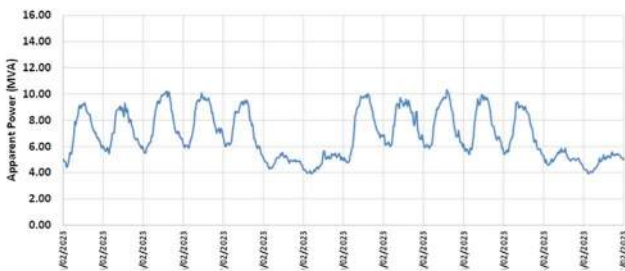
CARB Zone Substation (2023 year) - Half hourly loading



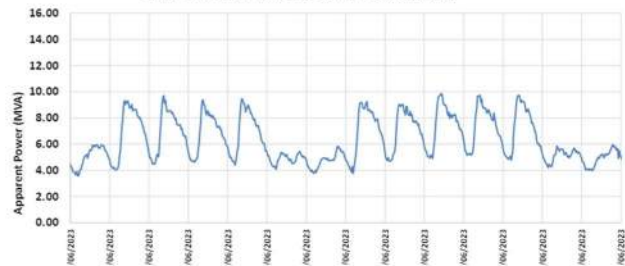
CARB Zone Substation (2023 year) - Daily Maximum/Minimum



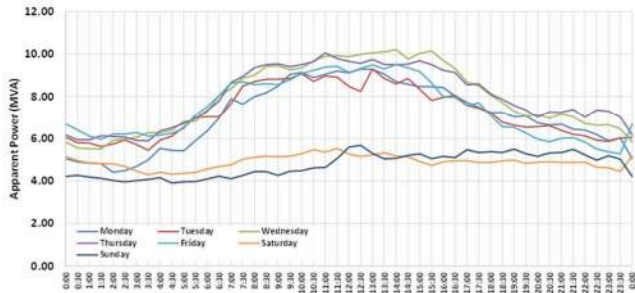
CARB Zone Substation (2023 year) - Summer (February)



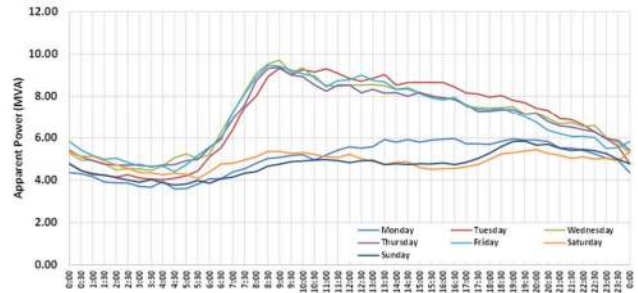
CARB Zone Substation (2023 year) - Winter (June)



CARB Zone Substation (2023 year) - Summer (February)



CARB Zone Substation (2023 year) - Winter (June)



CARB Zone Substation (2023 year) - Load Duration Curve

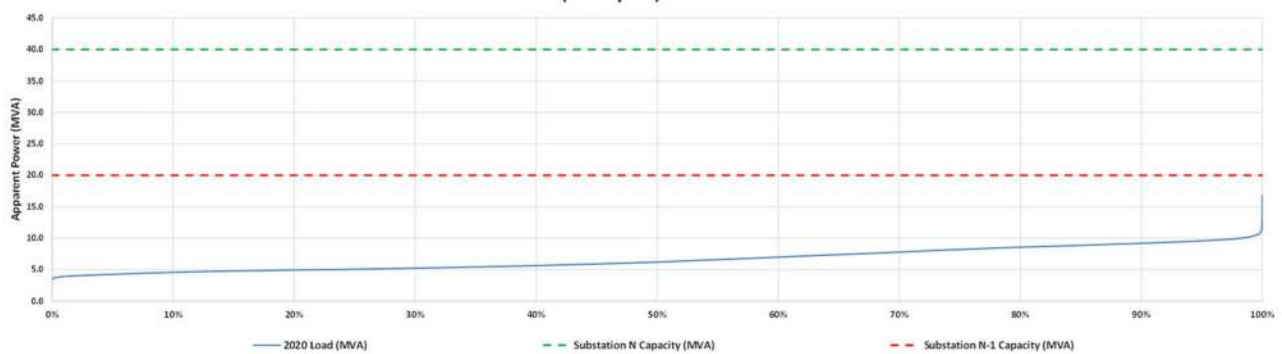
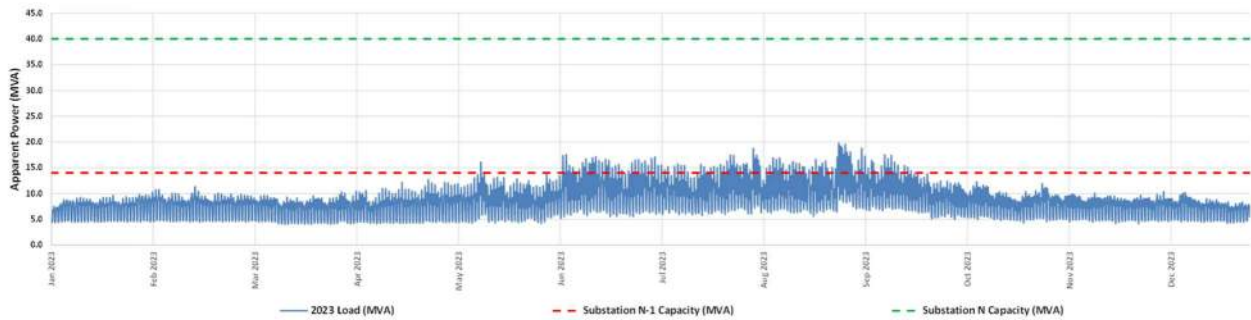


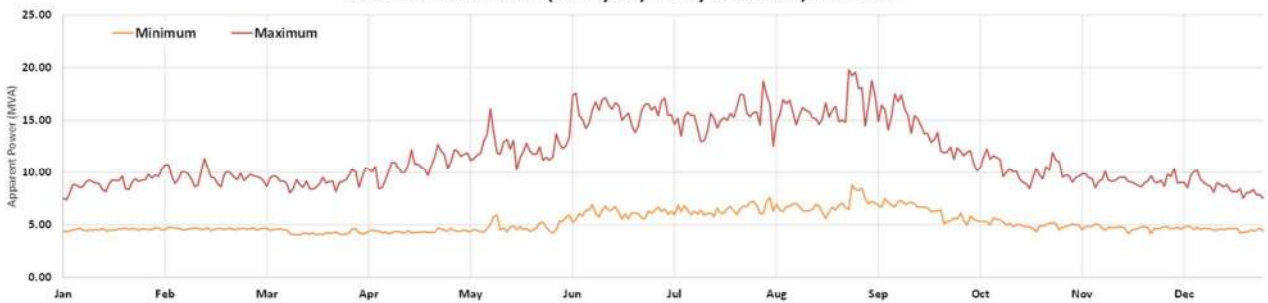
Figure 12. Carbine 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Chevalier MVA

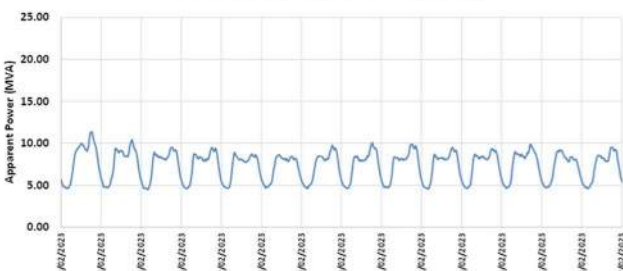
CHEV Zone Substation (2023 year) - Half hourly loading



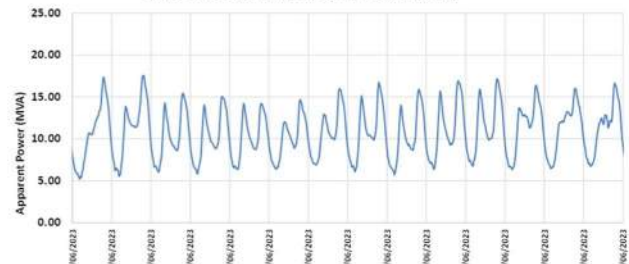
CHEV Zone Substation (2023 year) - Daily Maximum/Minimum



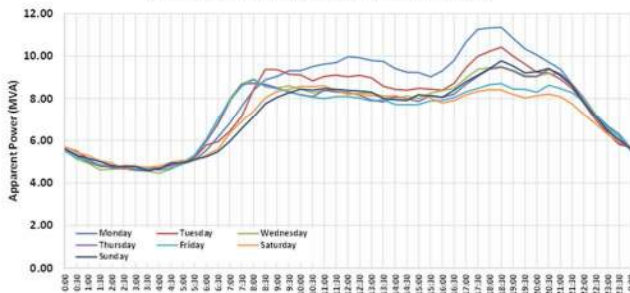
CHEV Zone Substation (2023 year) - Summer (February)



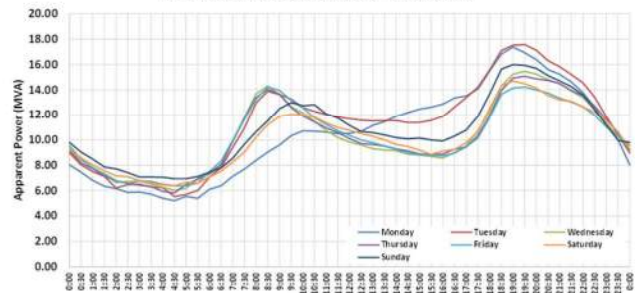
CHEV Zone Substation (2023 year) - Winter (June)



CHEV Zone Substation (2023 year) - Summer (February)



CHEV Zone Substation (2023 year) - Winter (June)



CHEV Zone Substation (2023 year) - Load Duration Curve

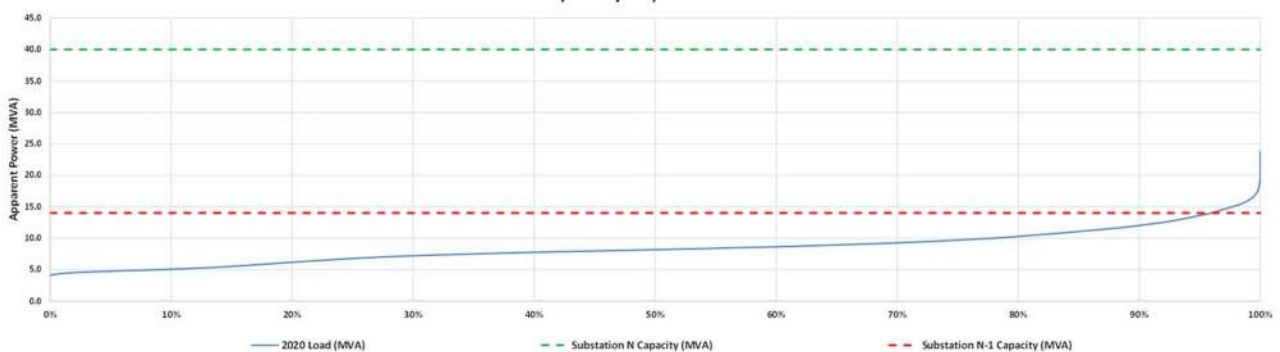
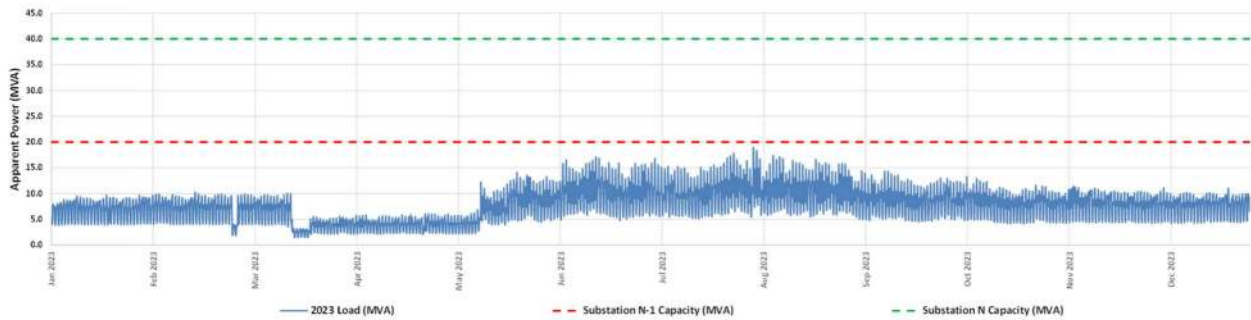


Figure 13. Chevalier 22/11 kV zone substation: Apparent Power (MVA) load characteristics

Clendon MVA

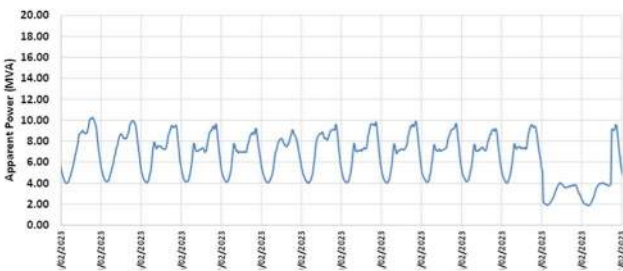
CLEN Zone Substation (2023 year) - Half hourly loading



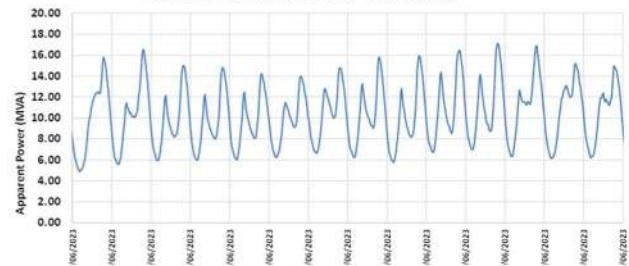
CLEN Zone Substation (2023 year) - Daily Maximum/Minimum



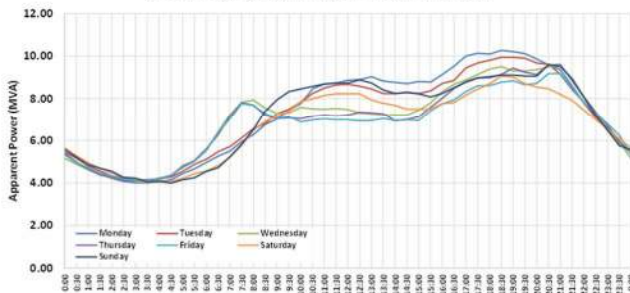
CLEN Zone Substation (2023 year) - Summer (February)



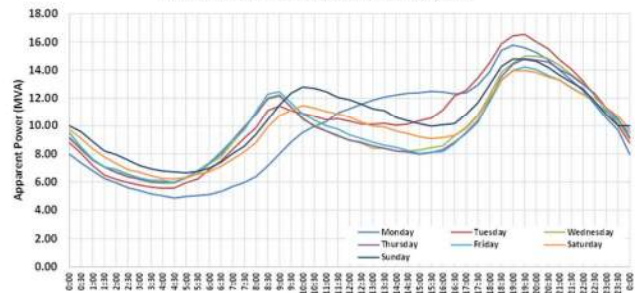
CLEN Zone Substation (2023 year) - Winter (June)



CLEN Zone Substation (2023 year) - Summer (February)



CLEN Zone Substation (2023 year) - Winter (June)



CLEN Zone Substation (2023 year) - Load Duration Curve

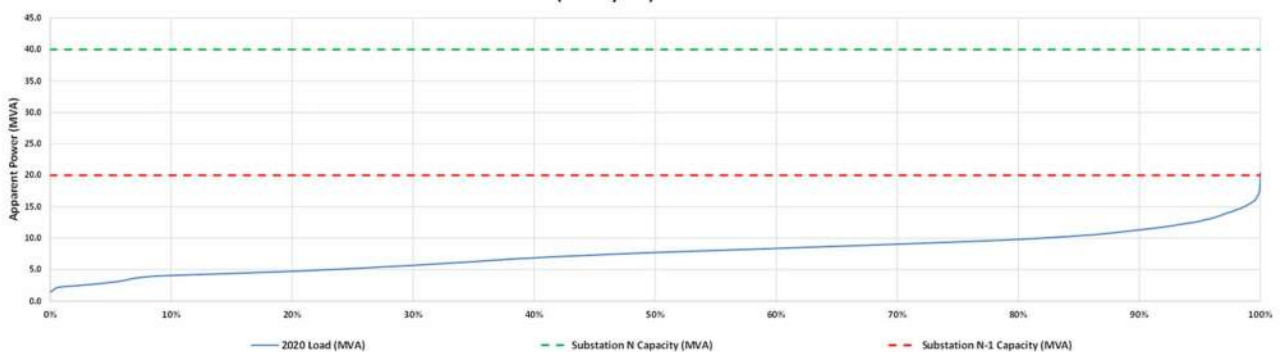
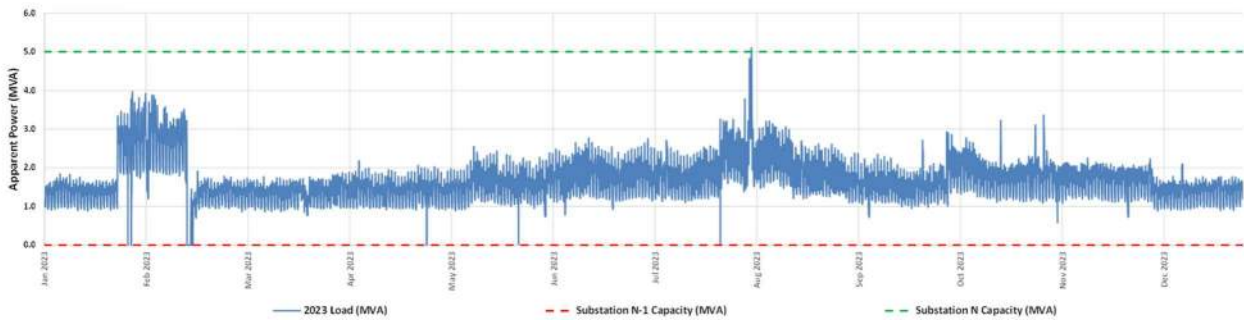


Figure 14. Clendon 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Clevedon MVA

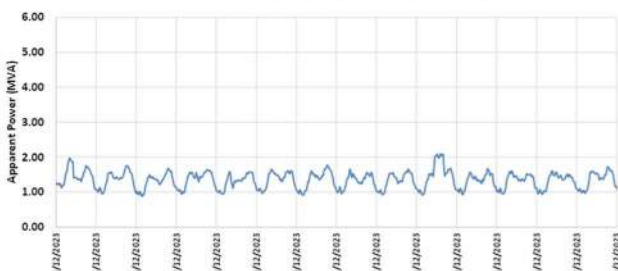
CLEV Zone Substation (2023 year) - Half hourly loading



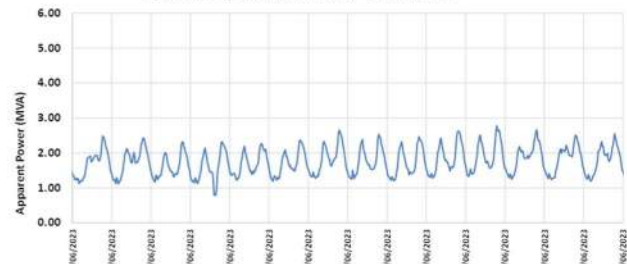
CLEV Zone Substation (2023 year) - Daily Maximum/Minimum



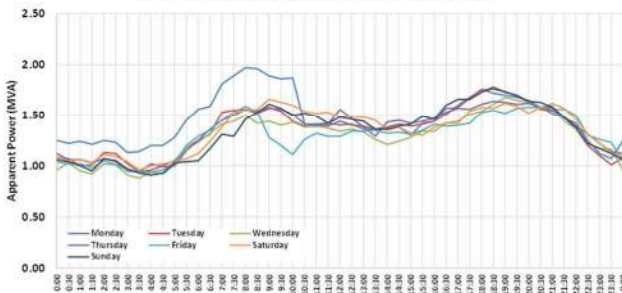
CLEV Zone Substation (2023 year) - Summer (December)



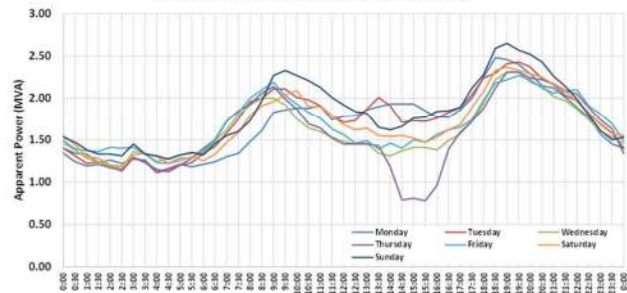
CLEV Zone Substation (2023 year) - Winter (June)



CLEV Zone Substation (2023 year) - Summer (December)



CLEV Zone Substation (2023 year) - Winter (June)



CLEV Zone Substation (2023 year) - Load Duration Curve

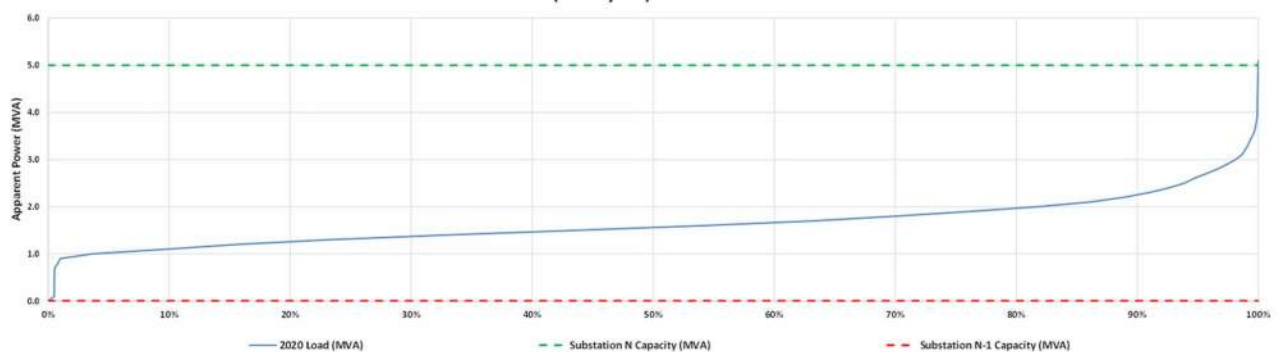
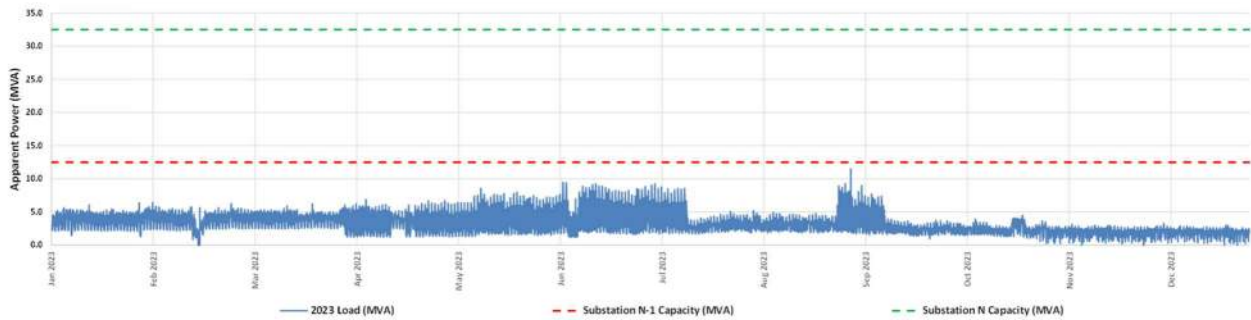


Figure 15. Clevedon 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Coatesville MVA

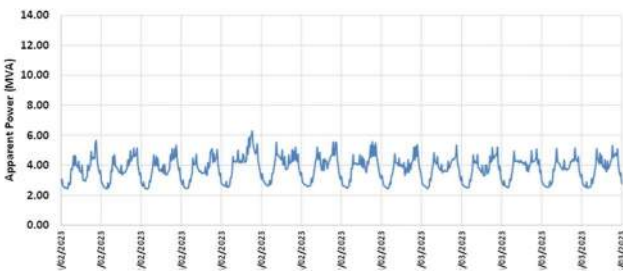
COAT Zone Substation (2023 year) - Half hourly loading



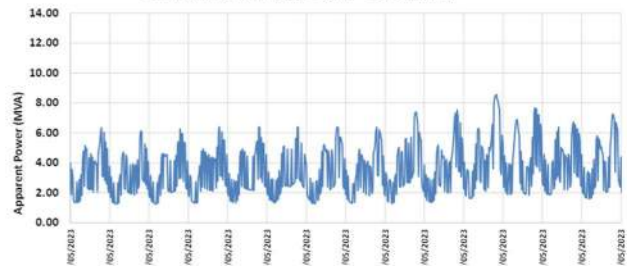
COAT Zone Substation (2023 year) - Daily Maximum/Minimum



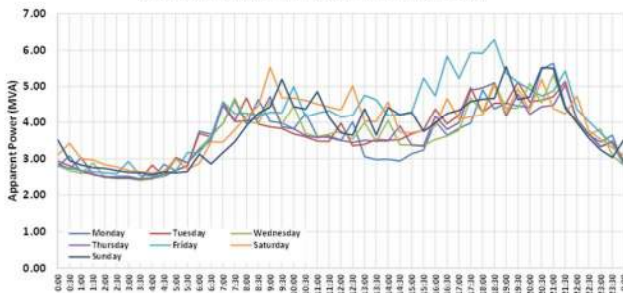
COAT Zone Substation (2023 year) - Summer (February)



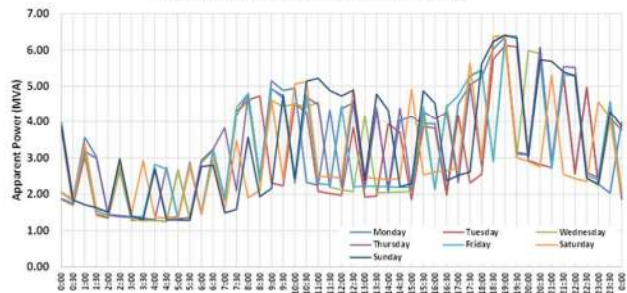
COAT Zone Substation (2023 year) - Winter (May)



COAT Zone Substation (2023 year) - Summer (February)



COAT Zone Substation (2023 year) - Winter (May)



COAT Zone Substation (2023 year) - Load Duration Curve

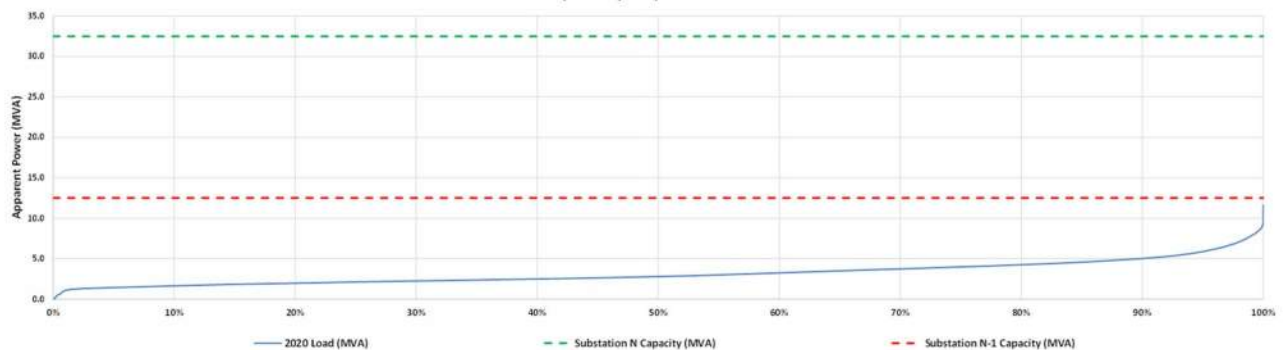
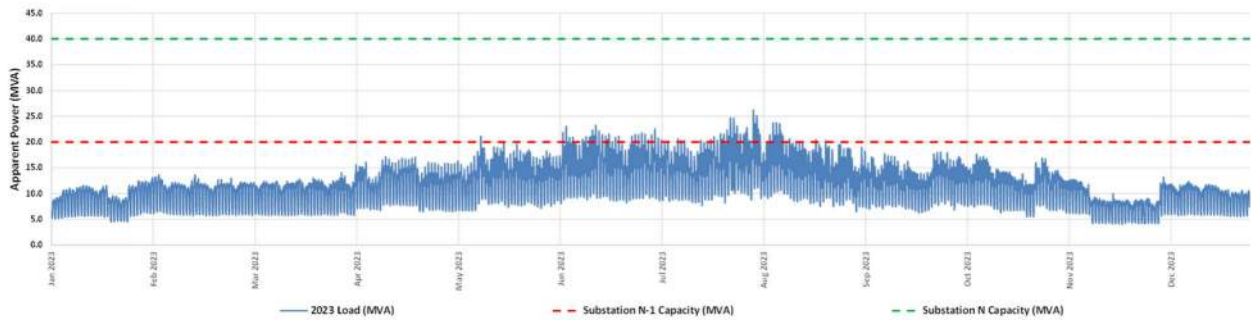


Figure 16. Coatesville 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Drive MVA

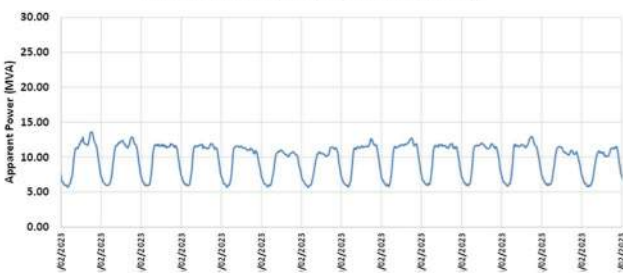
DRIV Zone Substation (2023 year) - Half hourly loading



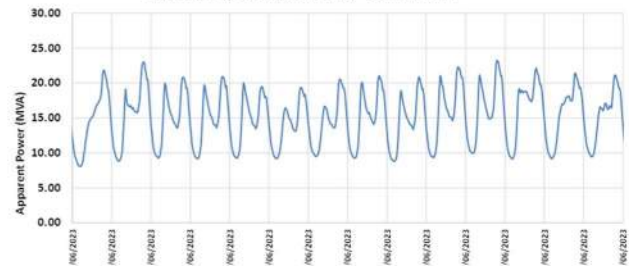
DRIV Zone Substation (2023 year) - Daily Maximum/Minimum



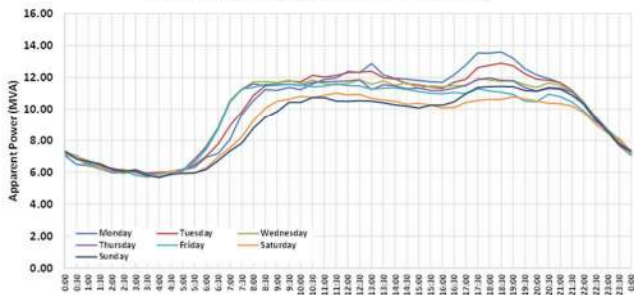
DRIV Zone Substation (2023 year) - Summer (February)



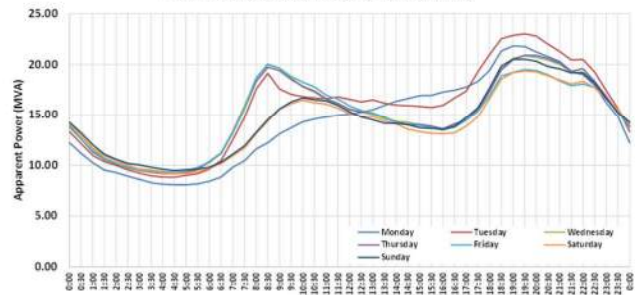
DRIV Zone Substation (2023 year) - Winter (June)



DRIV Zone Substation (2023 year) - Summer (February)



DRIV Zone Substation (2023 year) - Winter (June)



DRIV Zone Substation (2023 year) - Load Duration Curve

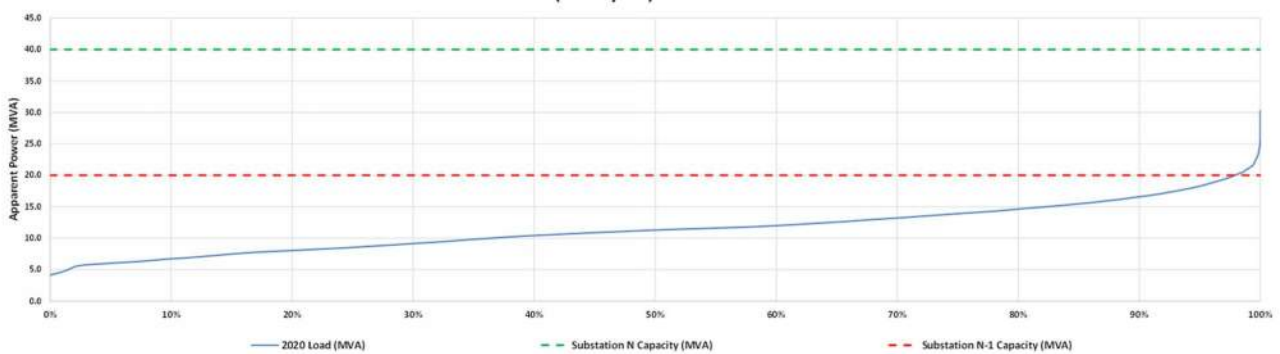
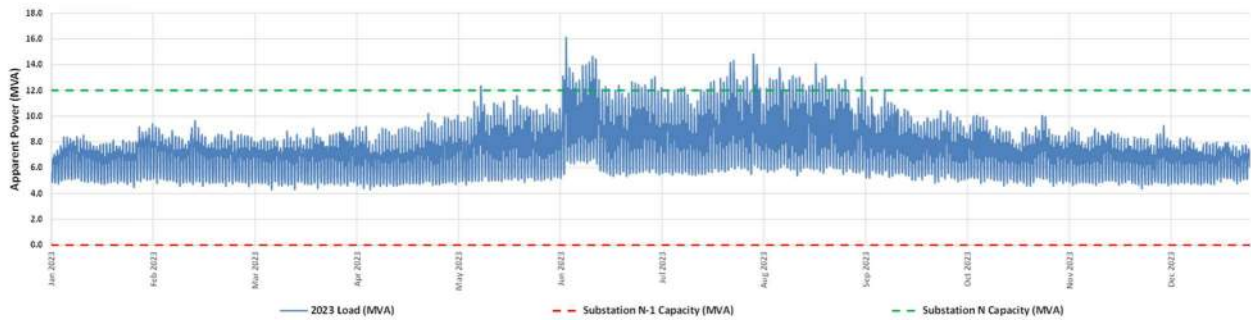


Figure 17. Drive 33/11 kV zone substation: Apparent Power (MVA) load characteristics

East Coast Road MVA

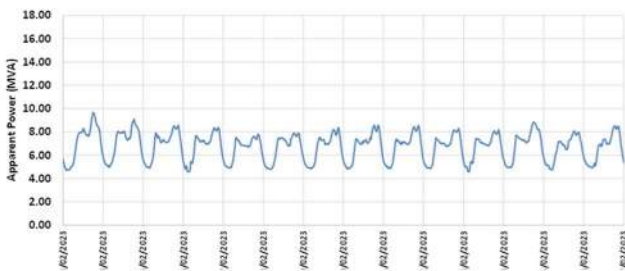
ECO Zone Substation (2023 year) - Half hourly loading



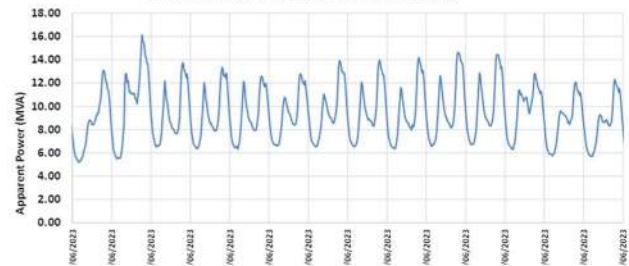
ECO Zone Substation (2023 year) - Daily Maximum/Minimum



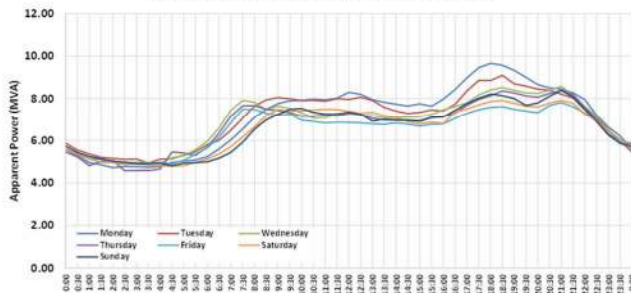
ECO Zone Substation (2023 year) - Summer (February)



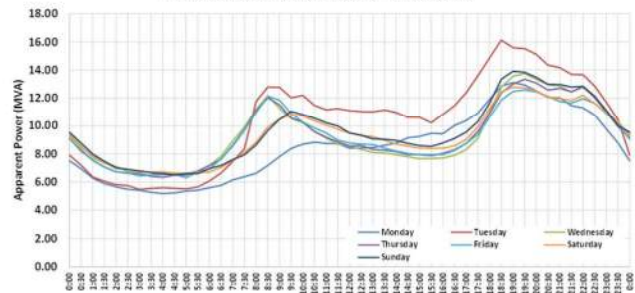
ECO Zone Substation (2023 year) - Winter (June)



ECO Zone Substation (2023 year) - Summer (February)



ECO Zone Substation (2023 year) - Winter (June)



ECO Zone Substation (2023 year) - Load Duration Curve

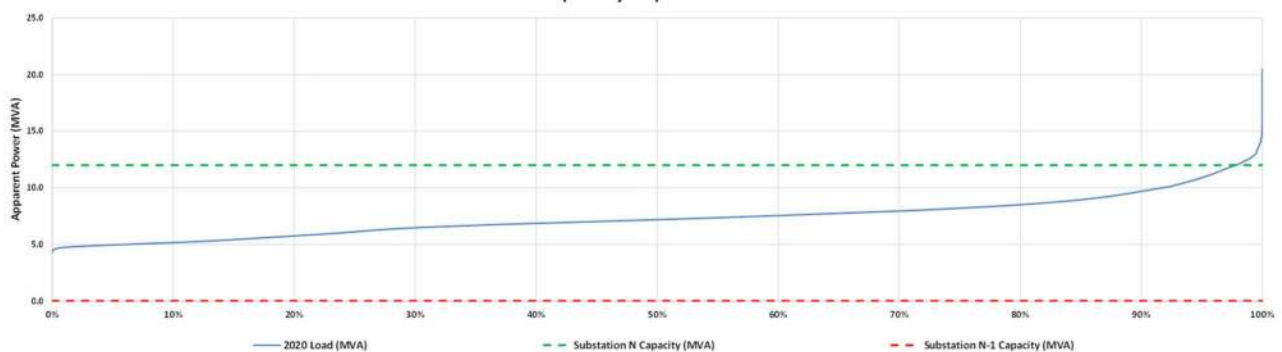
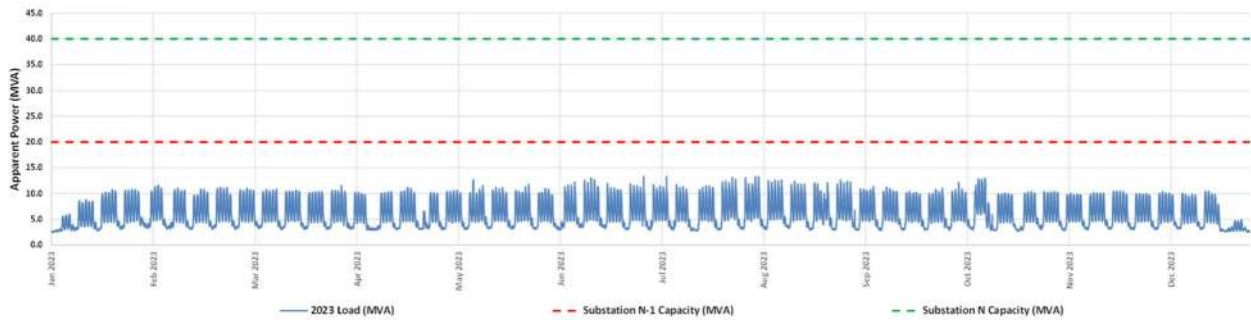


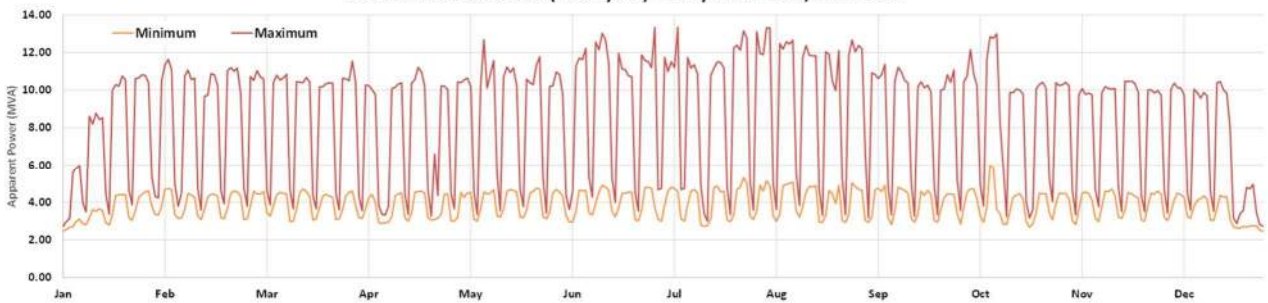
Figure 18. East Coast Road 33/11 kV zone substation: Apparent Power (MVA) load characteristics

East Tāmaki MVA

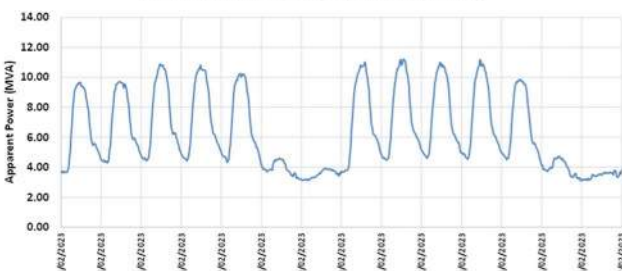
ETAM Zone Substation (2023 year) - Half hourly loading



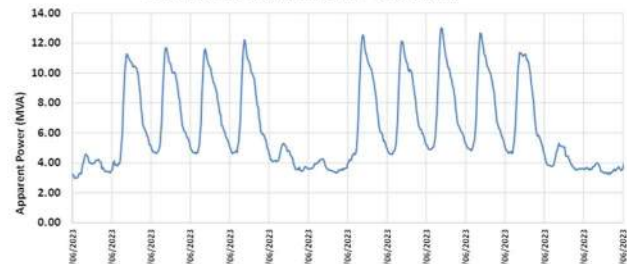
ETAM Zone Substation (2023 year) - Daily Maximum/Minimum



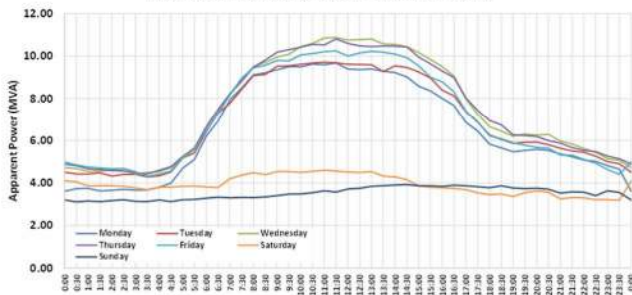
ETAM Zone Substation (2023 year) - Summer (February)



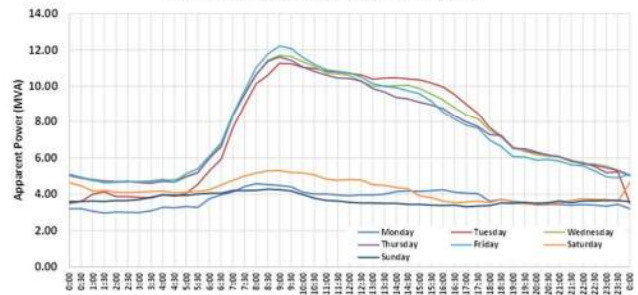
ETAM Zone Substation (2023 year) - Winter (June)



ETAM Zone Substation (2023 year) - Summer (February)



ETAM Zone Substation (2023 year) - Winter (June)



ETAM Zone Substation (2023 year) - Load Duration Curve

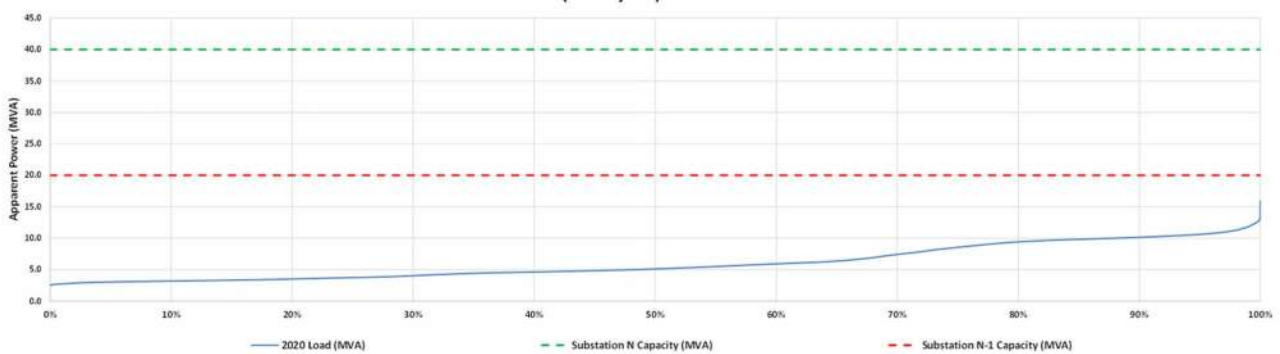
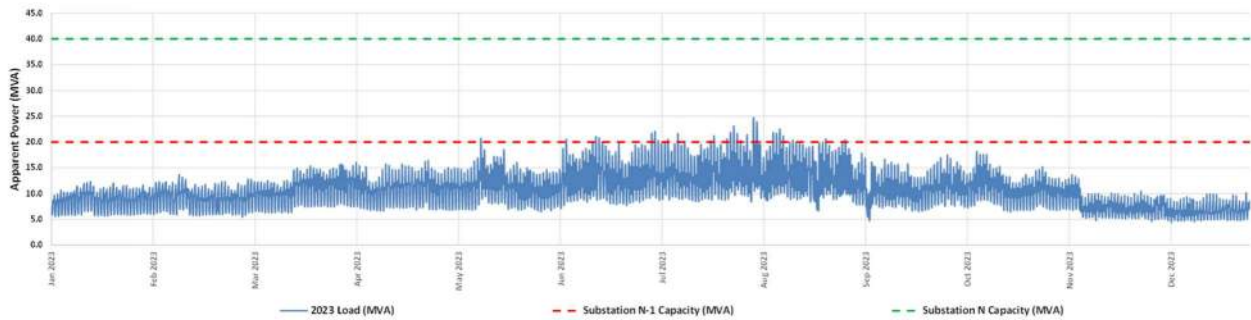


Figure 19. East Tāmaki 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Flat Bush MVA

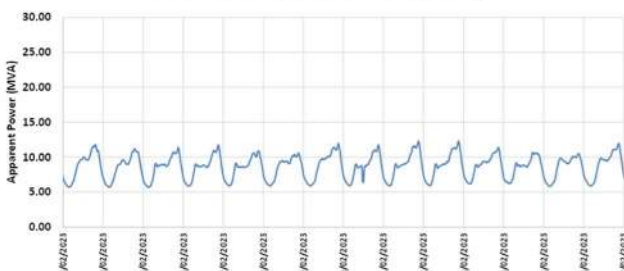
FBSH Zone Substation (2023 year) - Half hourly loading



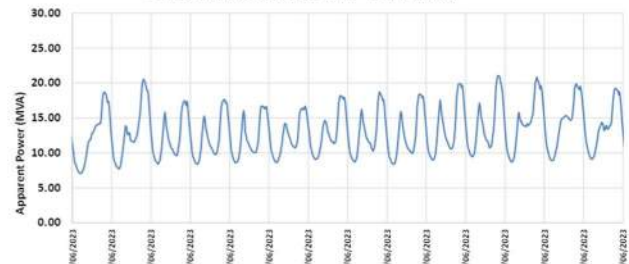
FBSH Zone Substation (2023 year) - Daily Maximum/Minimum



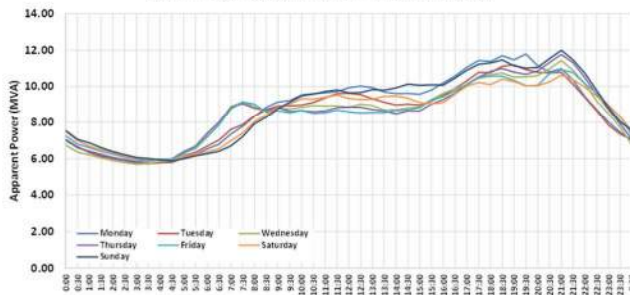
FBSH Zone Substation (2023 year) - Summer (February)



FBSH Zone Substation (2023 year) - Winter (June)



FBSH Zone Substation (2023 year) - Summer (February)



FBSH Zone Substation (2023 year) - Winter (June)



FBSH Zone Substation (2023 year) - Load Duration Curve

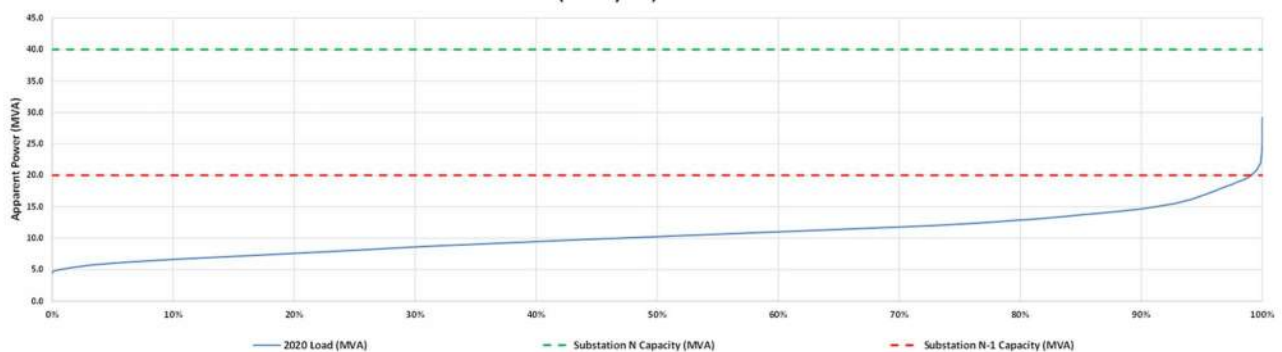
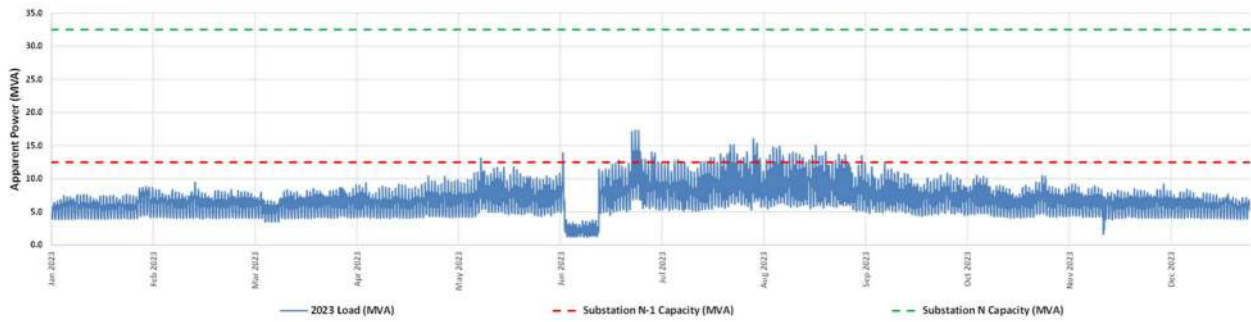


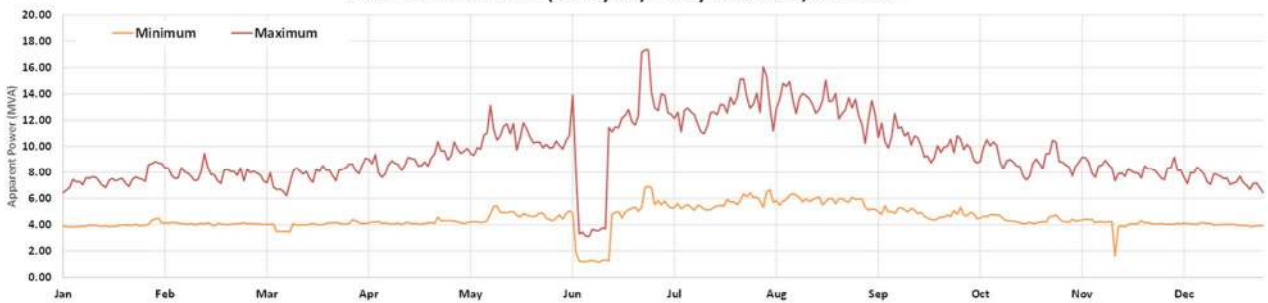
Figure 20. Flat Bush 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Forrest Road MVA

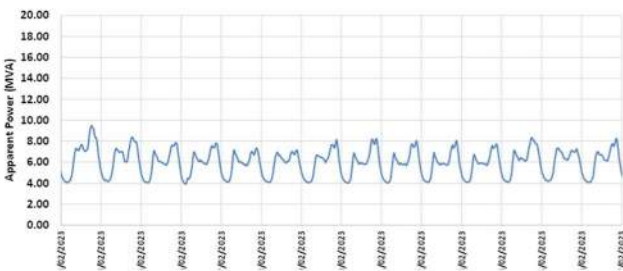
FORR Zone Substation (2023 year) - Half hourly loading



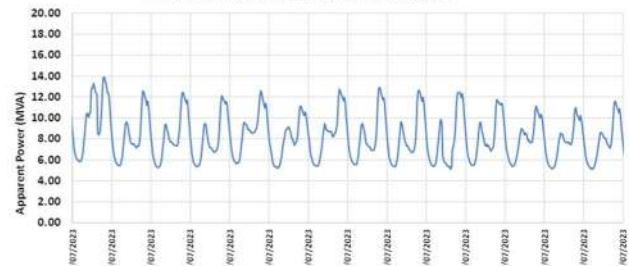
FORR Zone Substation (2023 year) - Daily Maximum/Minimum



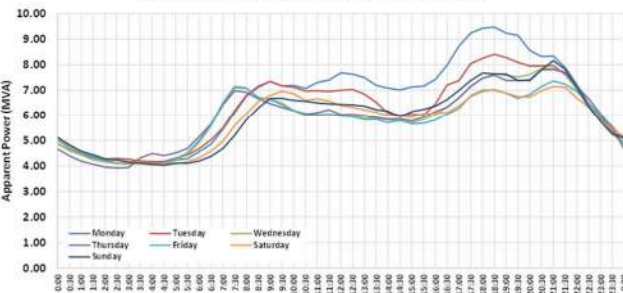
FORR Zone Substation (2023 year) - Summer (February)



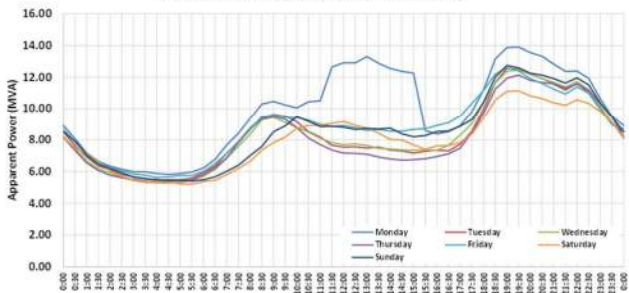
FORR Zone Substation (2023 year) - Winter (July)



FORR Zone Substation (2023 year) - Summer (February)



FORR Zone Substation (2023 year) - Winter (July)



FORR Zone Substation (2023 year) - Load Duration Curve

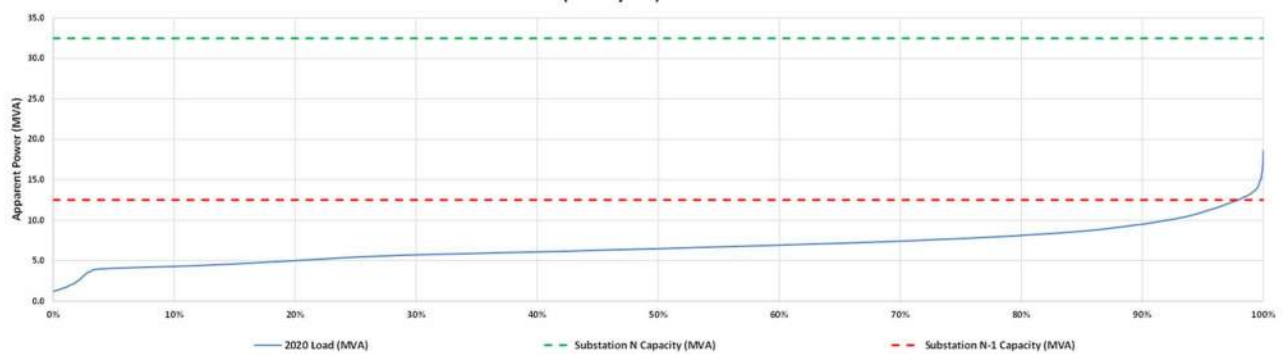
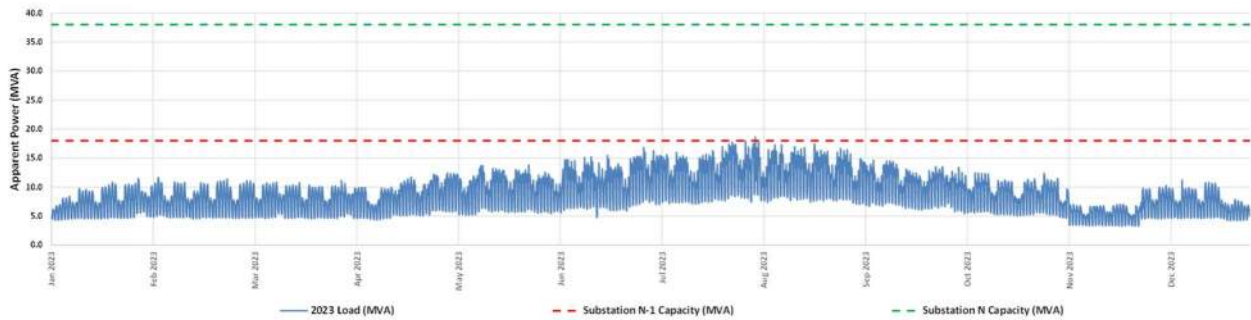


Figure 21. Forrest Road 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Freemans Bay MVA

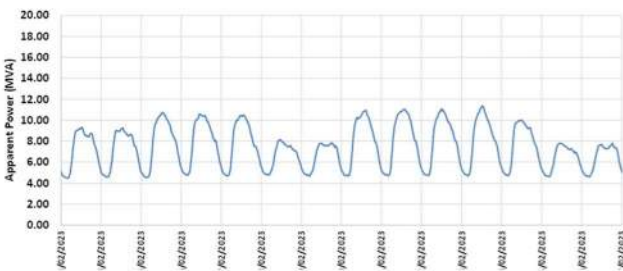
FREE Zone Substation (2023 year) - Half hourly loading



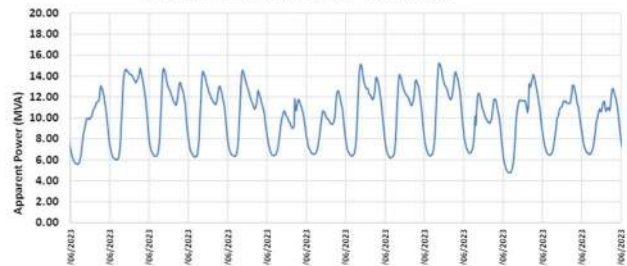
FREE Zone Substation (2023 year) - Daily Maximum/Minimum



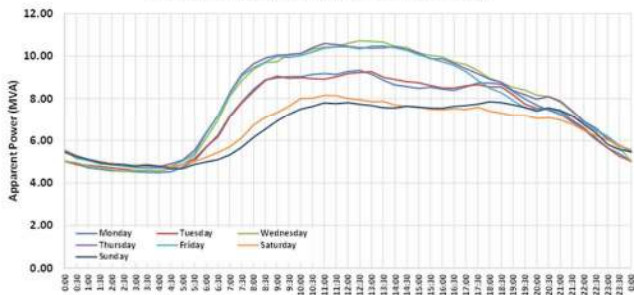
FREE Zone Substation (2023 year) - Summer (February)



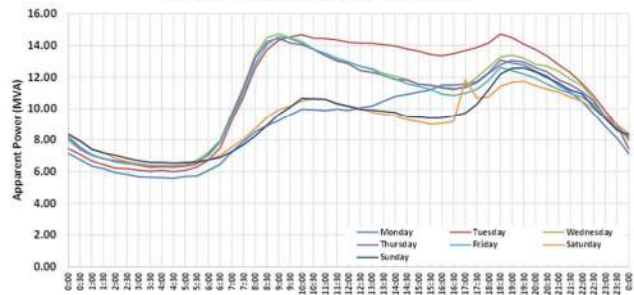
FREE Zone Substation (2023 year) - Winter (June)



FREE Zone Substation (2023 year) - Summer (February)



FREE Zone Substation (2023 year) - Winter (June)



FREE Zone Substation (2023 year) - Load Duration Curve

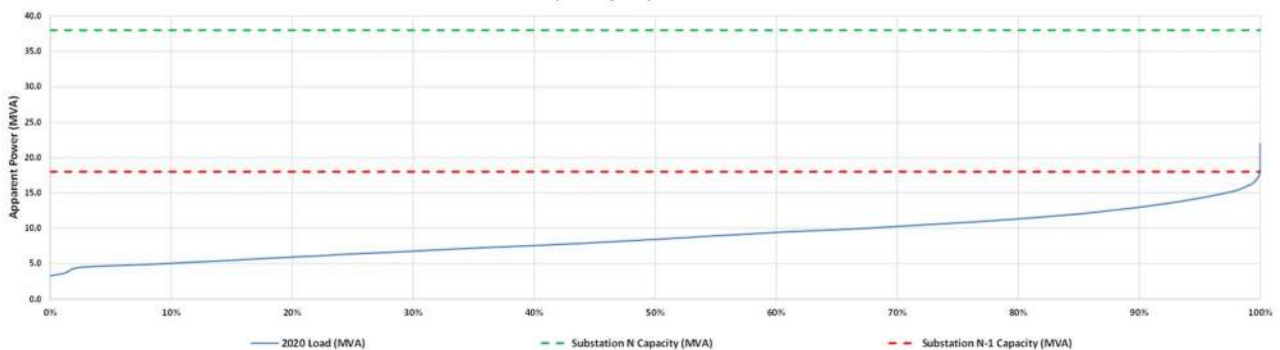
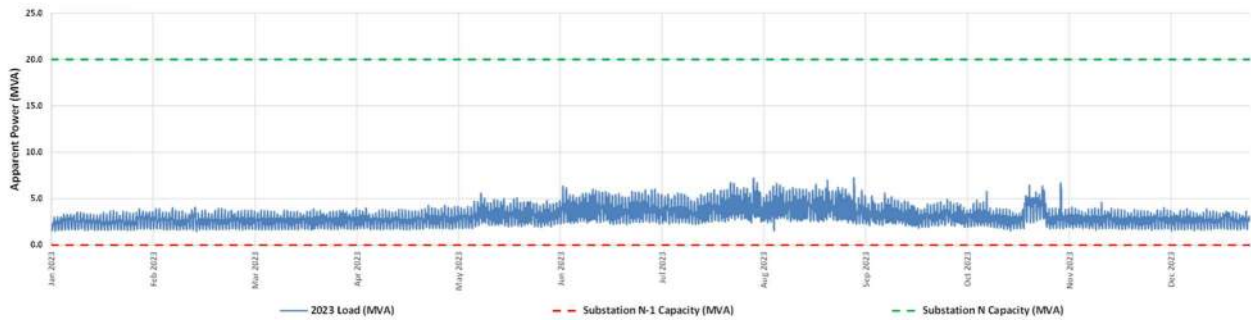


Figure 22. Freemans Bay 22/11 kV zone substation: Apparent Power (MVA) load characteristics

Greenhithe MVA

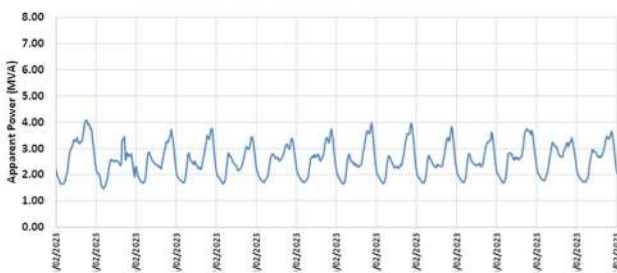
GHIT Zone Substation (2023 year) - Half hourly loading



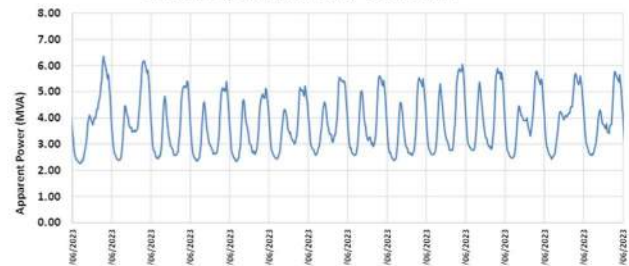
GHIT Zone Substation (2023 year) - Daily Maximum/Minimum



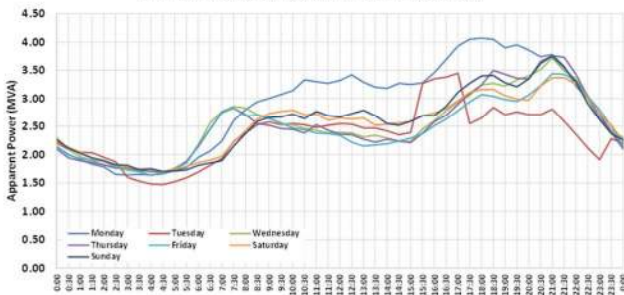
GHIT Zone Substation (2023 year) - Summer (February)



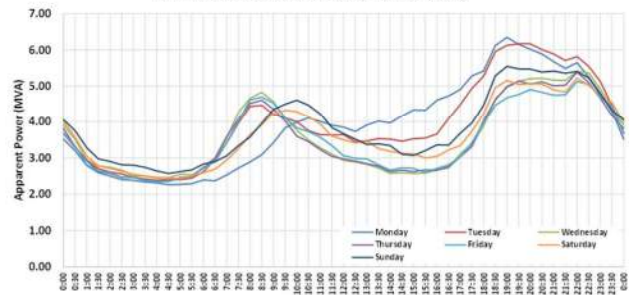
GHIT Zone Substation (2023 year) - Winter (June)



GHIT Zone Substation (2023 year) - Summer (February)



GHIT Zone Substation (2023 year) - Winter (June)



GHIT Zone Substation (2023 year) - Load Duration Curve

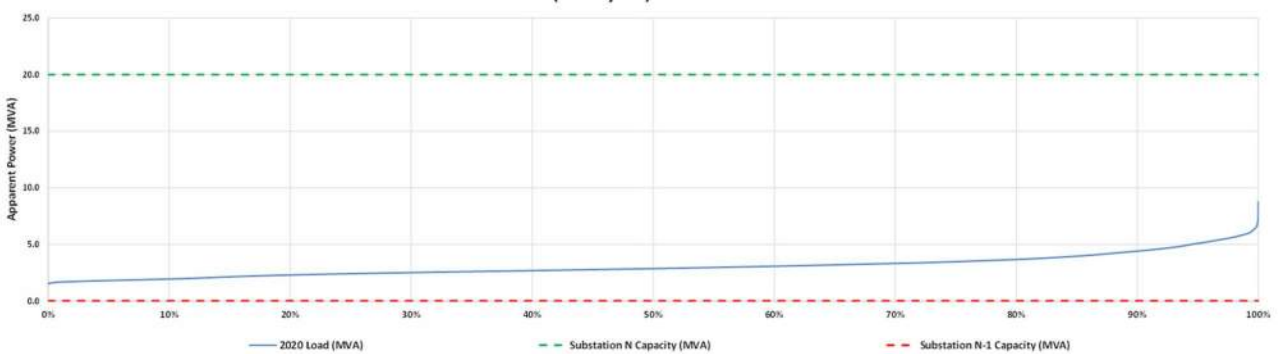
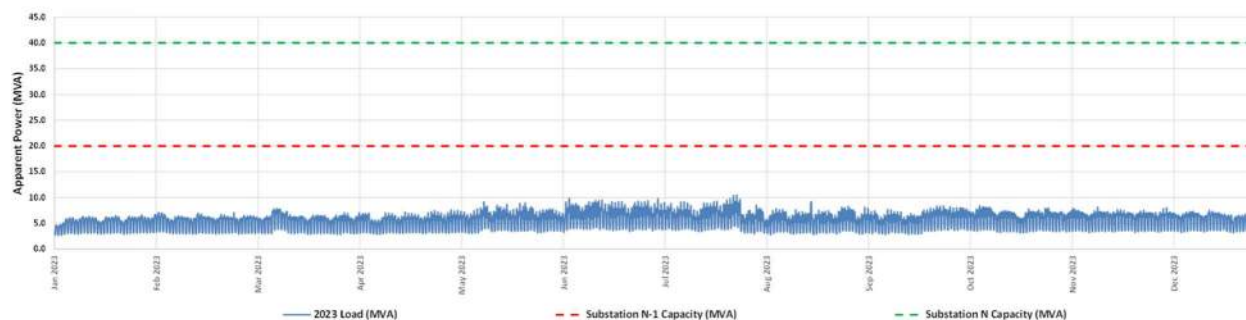


Figure 23. Greenhithe 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Glen Innes MVA

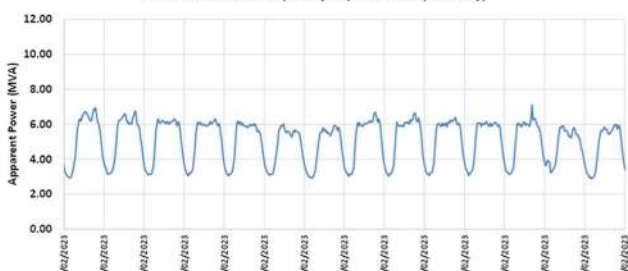
GINN Zone Substation (2023 year) - Half hourly loading



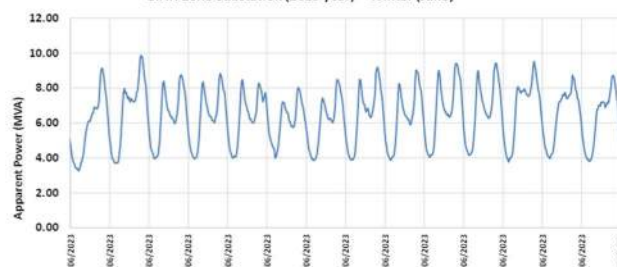
GINN Zone Substation (2023 year) - Daily Maximum/Minimum



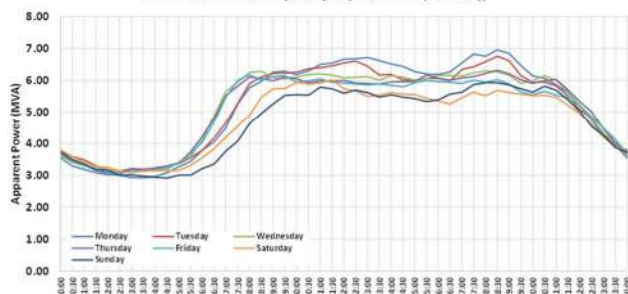
GINN Zone Substation (2023 year) - Summer (February)



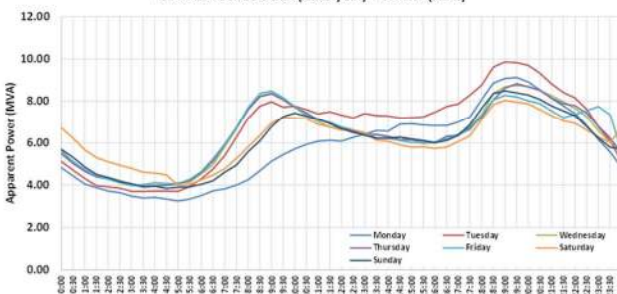
GINN Zone Substation (2023 year) - Winter (June)



GINN Zone Substation (2023 year) - Summer (February)



GINN Zone Substation (2023 year) - Winter (June)



GINN Zone Substation (2023 year) - Load Duration Curve

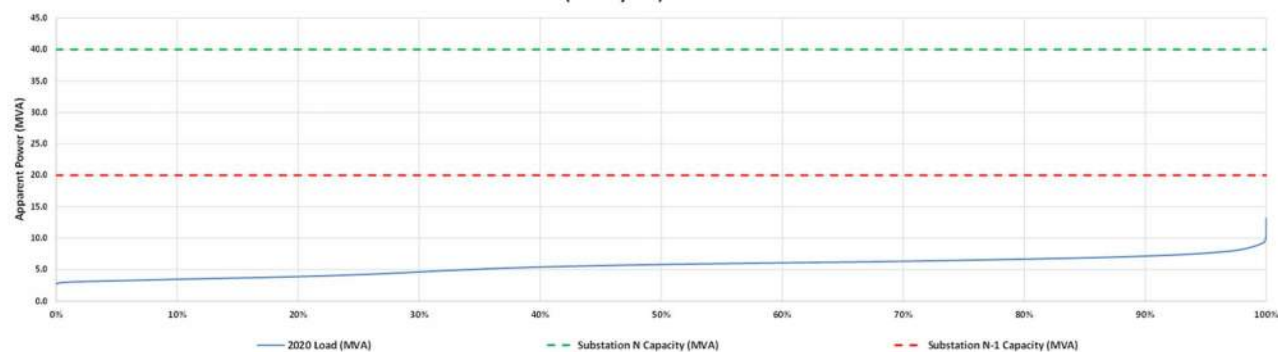
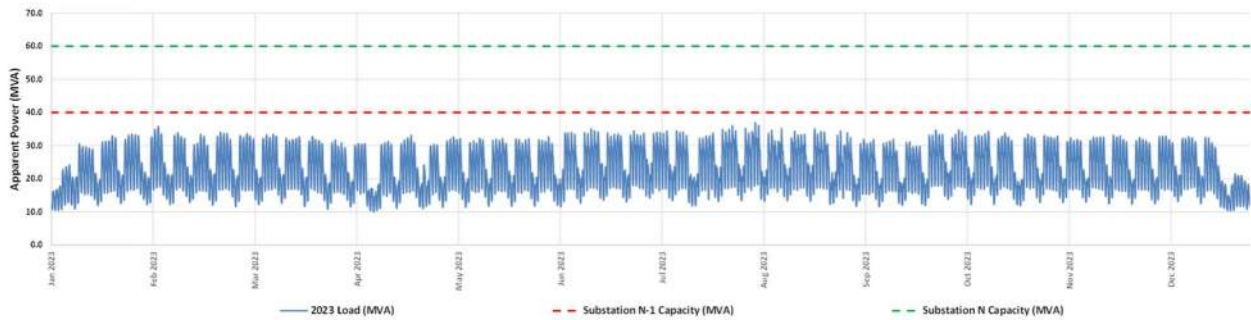


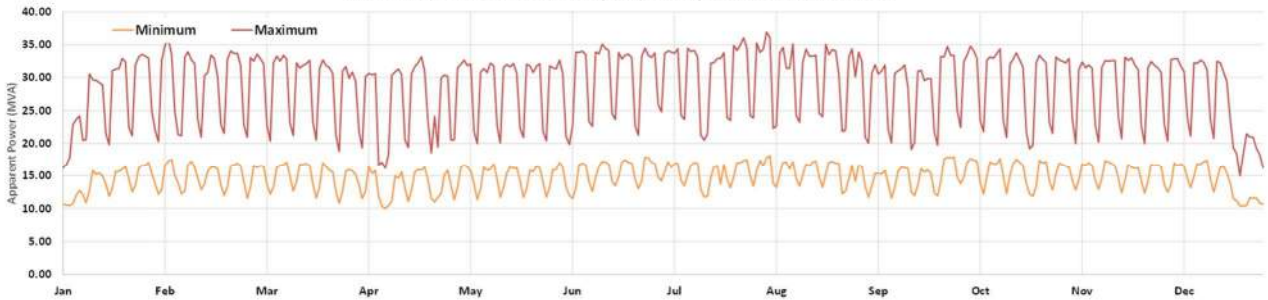
Figure 24. Glen Innes 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Greenmount MVA

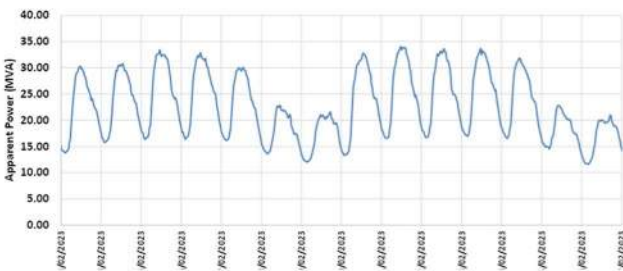
GREE Zone Substation (2023 year) - Half hourly loading



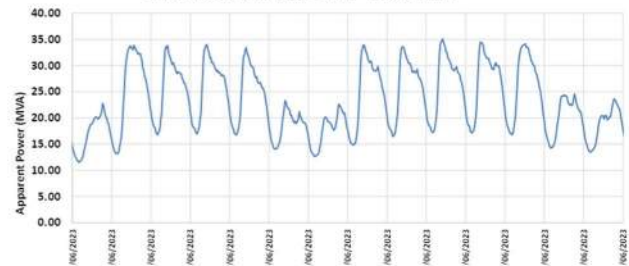
GREE Zone Substation (2023 year) - Daily Maximum/Minimum



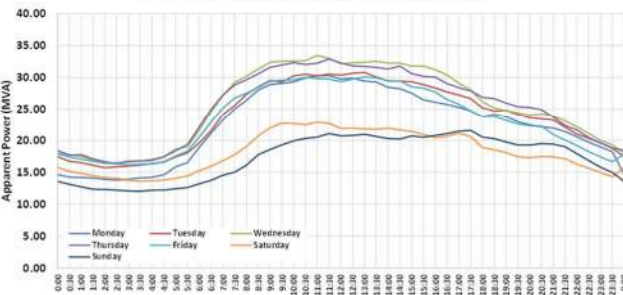
GREE Zone Substation (2023 year) - Summer (February)



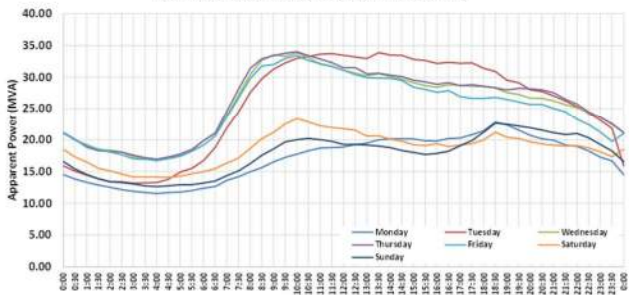
GREE Zone Substation (2023 year) - Winter (June)



GREE Zone Substation (2023 year) - Summer (February)



GREE Zone Substation (2023 year) - Winter (June)



GREE Zone Substation (2023 year) - Load Duration Curve

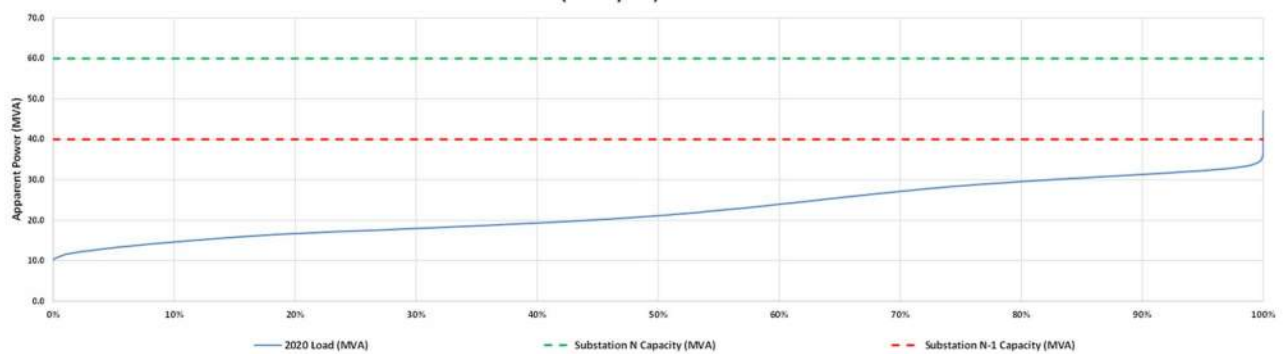
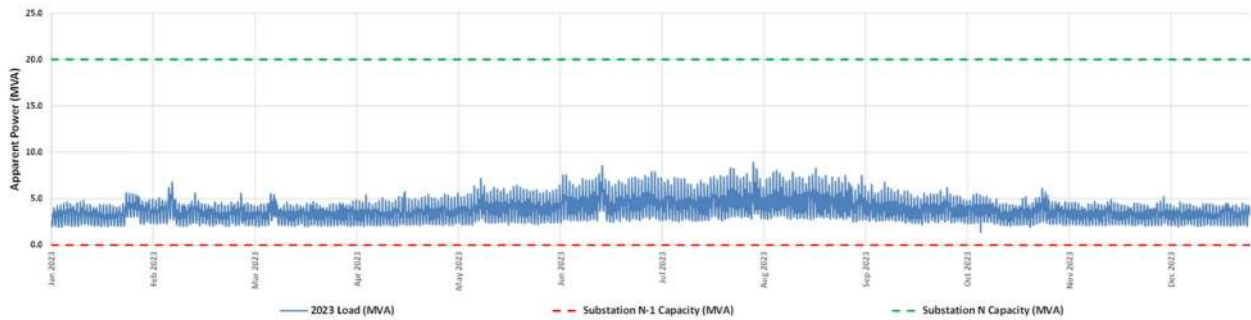


Figure 25. Greenmount 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Gulf Harbour MVA

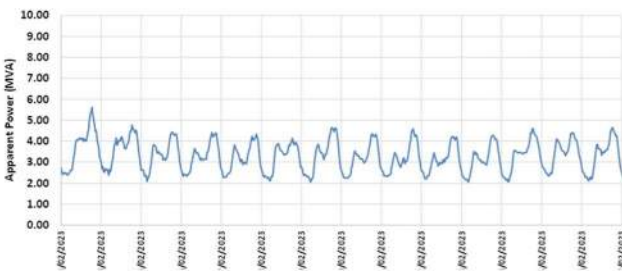
GULF Zone Substation (2023 year) - Half hourly loading



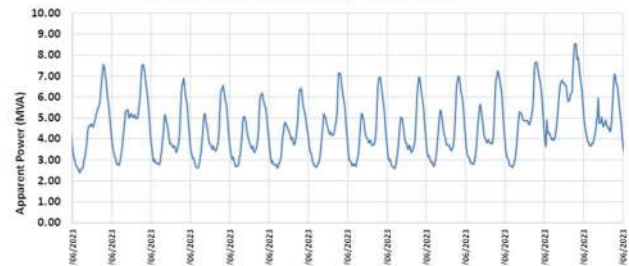
GULF Zone Substation (2023 year) - Daily Maximum/Minimum



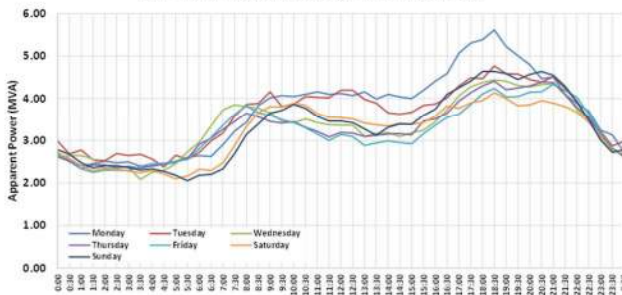
GULF Zone Substation (2023 year) - Summer (February)



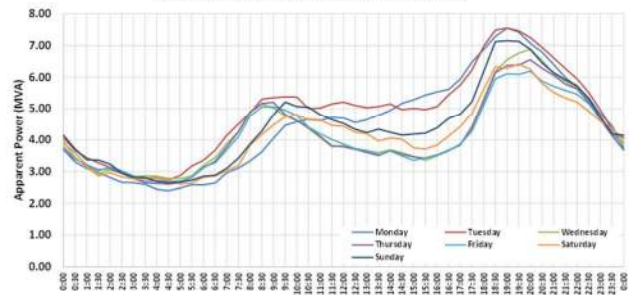
GULF Zone Substation (2023 year) - Winter (June)



GULF Zone Substation (2023 year) - Summer (February)



GULF Zone Substation (2023 year) - Winter (June)



GULF Zone Substation (2023 year) - Load Duration Curve

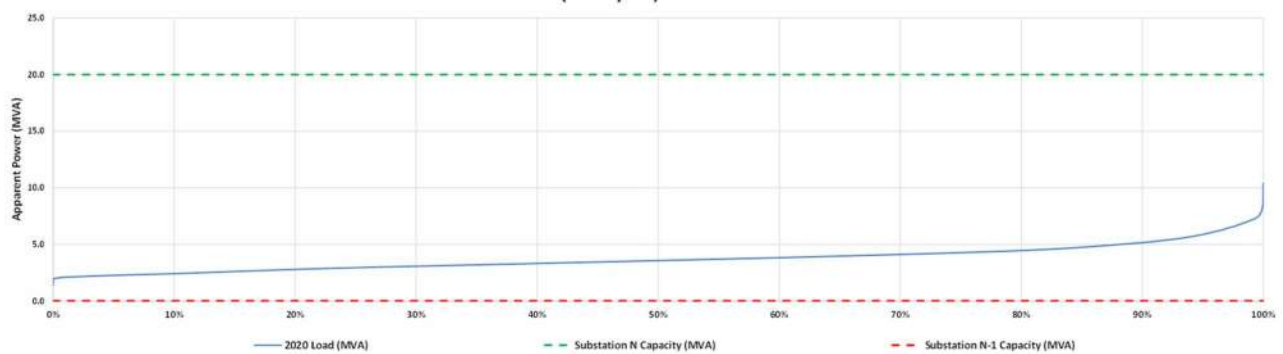
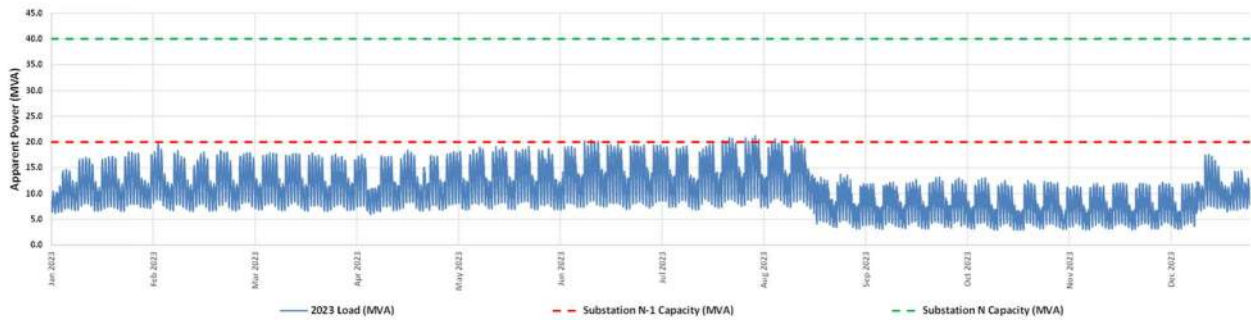


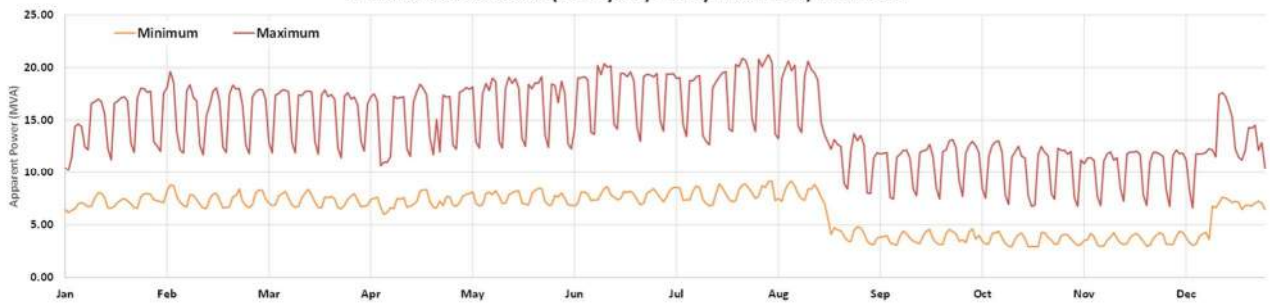
Figure 26. Gulf Harbour 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Hans MVA

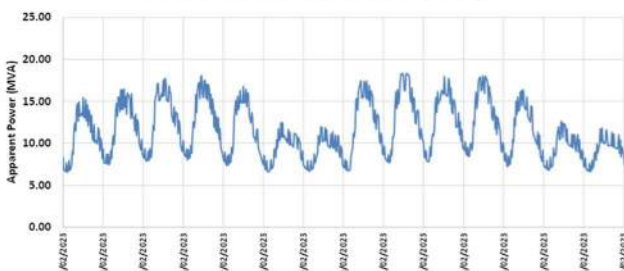
HANS Zone Substation (2023 year) - Half hourly loading



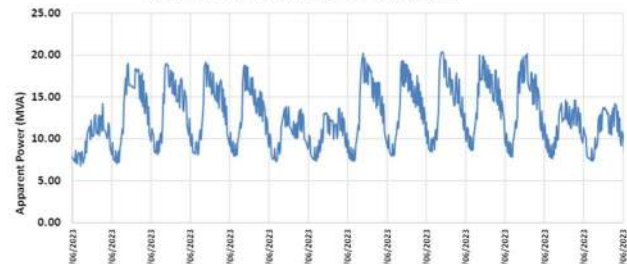
HANS Zone Substation (2023 year) - Daily Maximum/Minimum



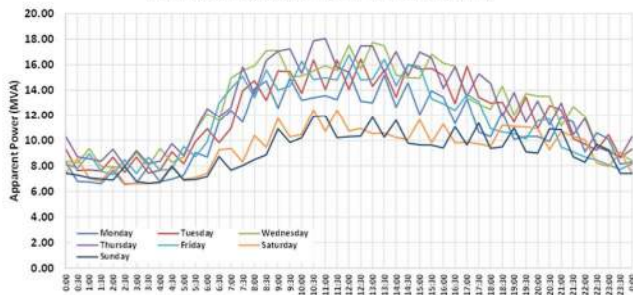
HANS Zone Substation (2023 year) - Summer (February)



HANS Zone Substation (2023 year) - Winter (June)



HANS Zone Substation (2023 year) - Summer (February)



HANS Zone Substation (2023 year) - Winter (June)



HANS Zone Substation (2023 year) - Load Duration Curve

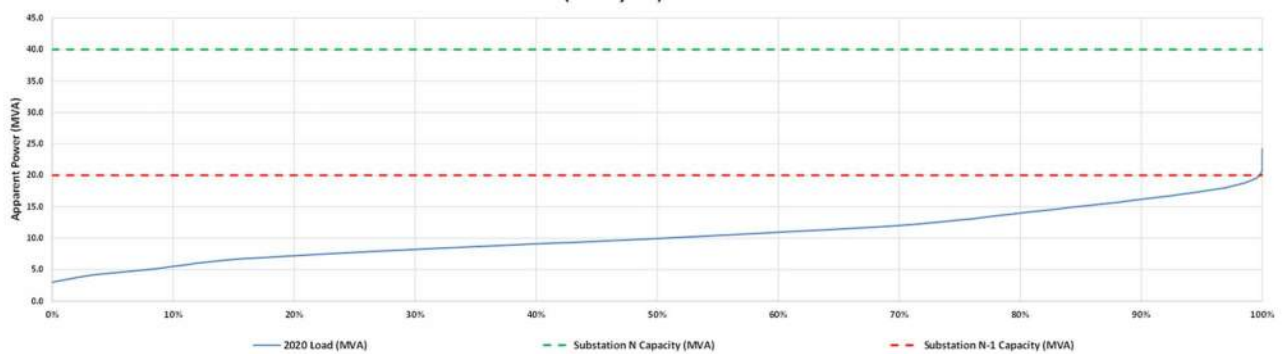
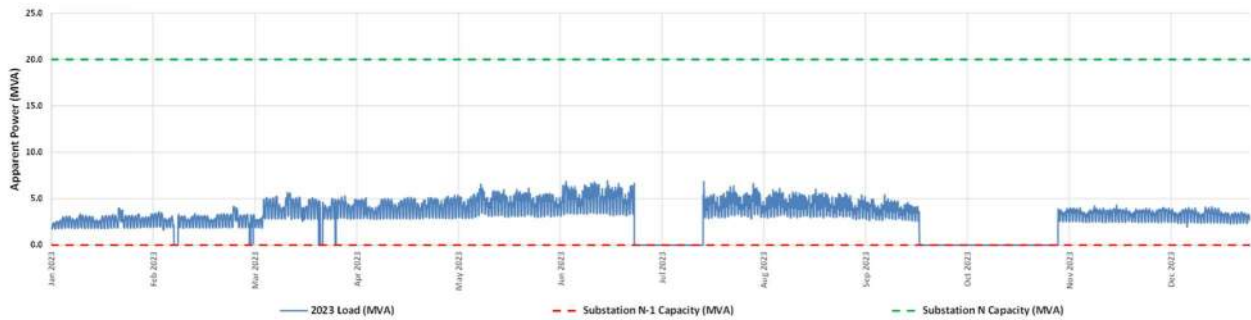


Figure 27. Hans 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Hauraki MVA

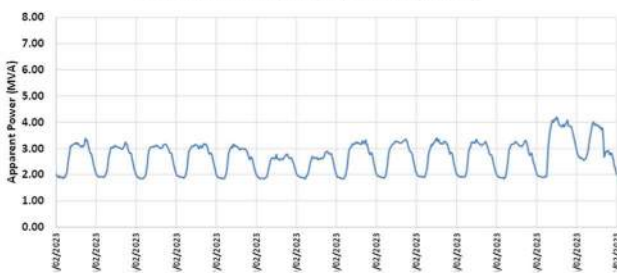
HAUR Zone Substation (2023 year) - Half hourly loading



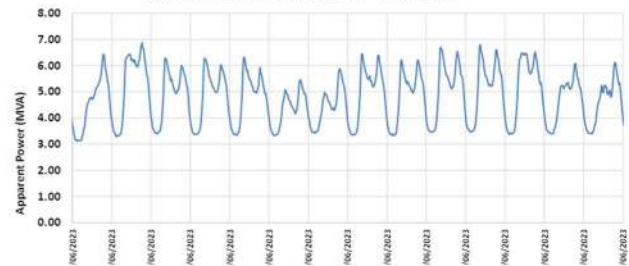
HAUR Zone Substation (2023 year) - Daily Maximum/Minimum



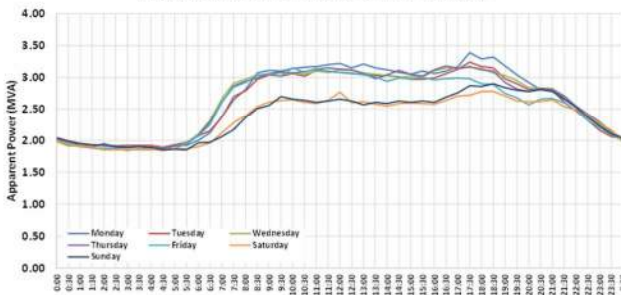
HAUR Zone Substation (2023 year) - Summer (February)



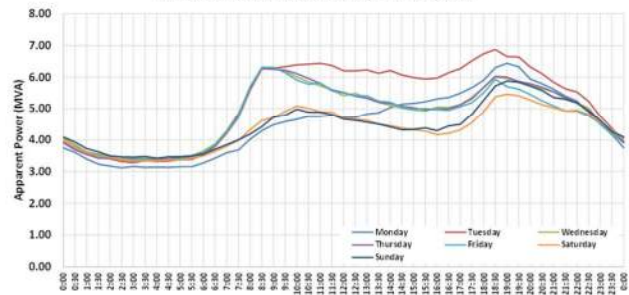
HAUR Zone Substation (2023 year) - Winter (June)



HAUR Zone Substation (2023 year) - Summer (February)



HAUR Zone Substation (2023 year) - Winter (June)



HAUR Zone Substation (2023 year) - Load Duration Curve

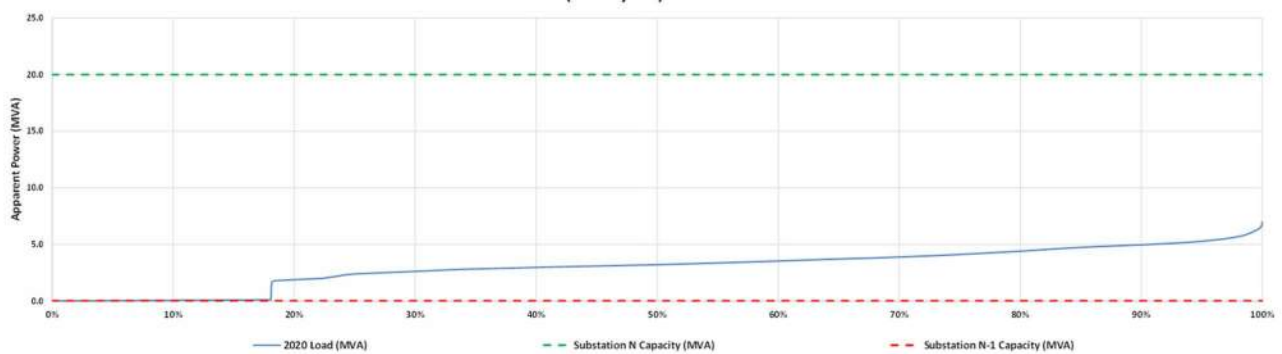
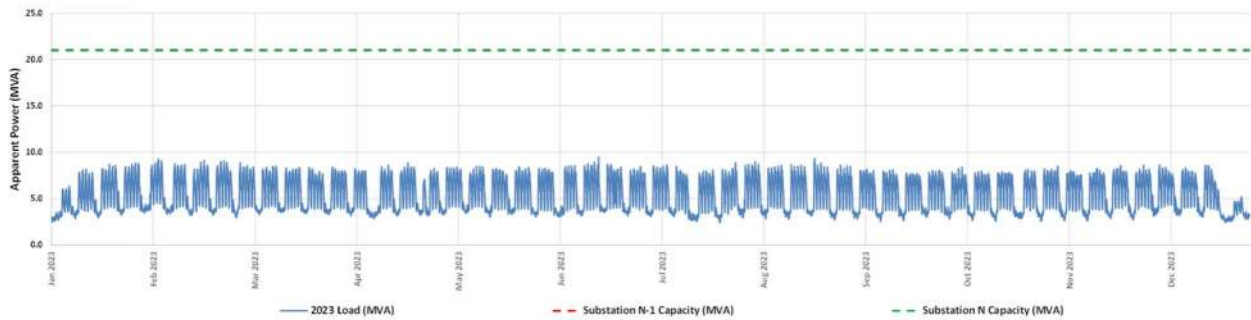


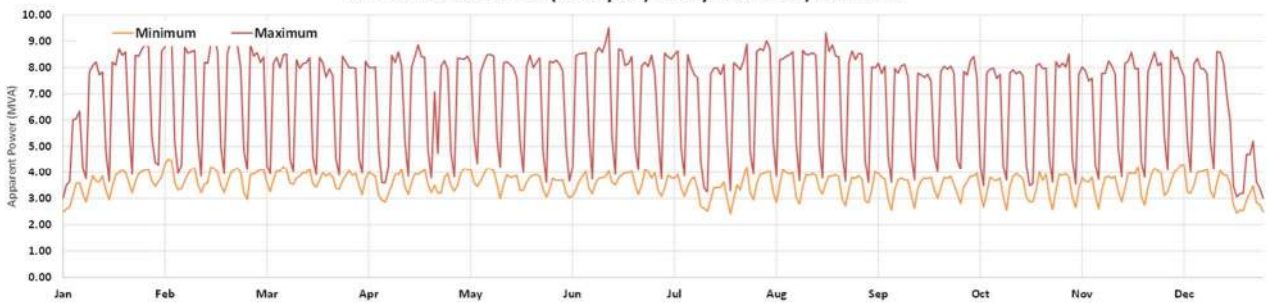
Figure 28. Hauraki 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Highbrook MVA

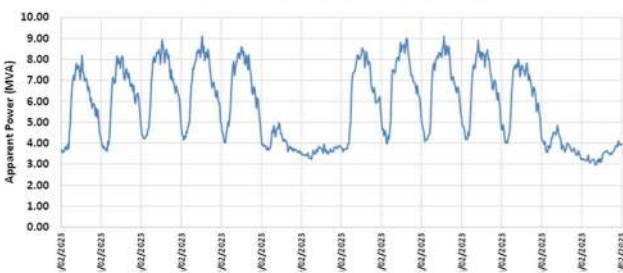
HBRO Zone Substation (2023 year) - Half hourly loading



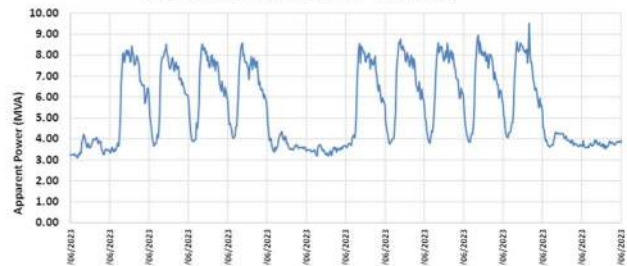
HBRO Zone Substation (2023 year) - Daily Maximum/Minimum



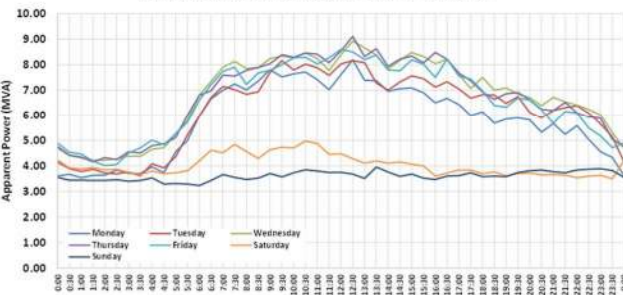
HBRO Zone Substation (2023 year) - Summer (February)



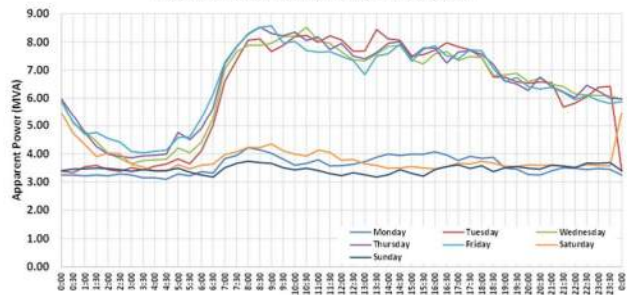
HBRO Zone Substation (2023 year) - Winter (June)



HBRO Zone Substation (2023 year) - Summer (February)



HBRO Zone Substation (2023 year) - Winter (June)



HBRO Zone Substation (2023 year) - Load Duration Curve

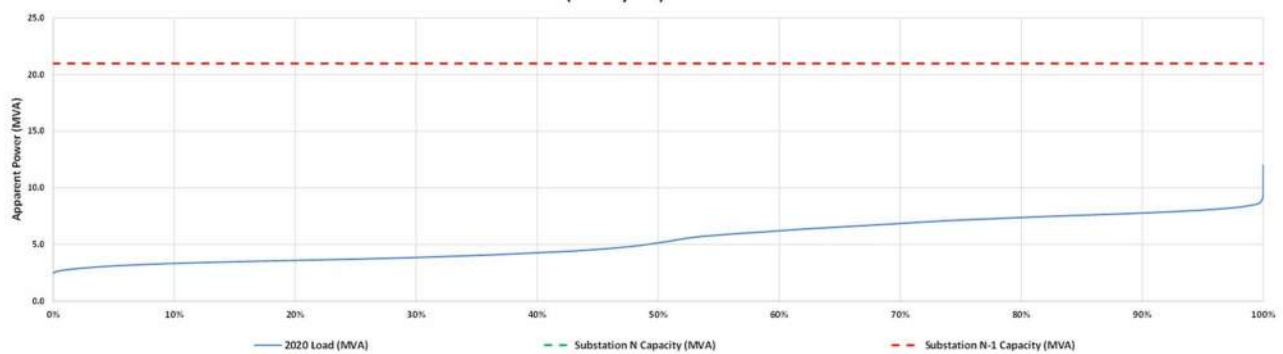
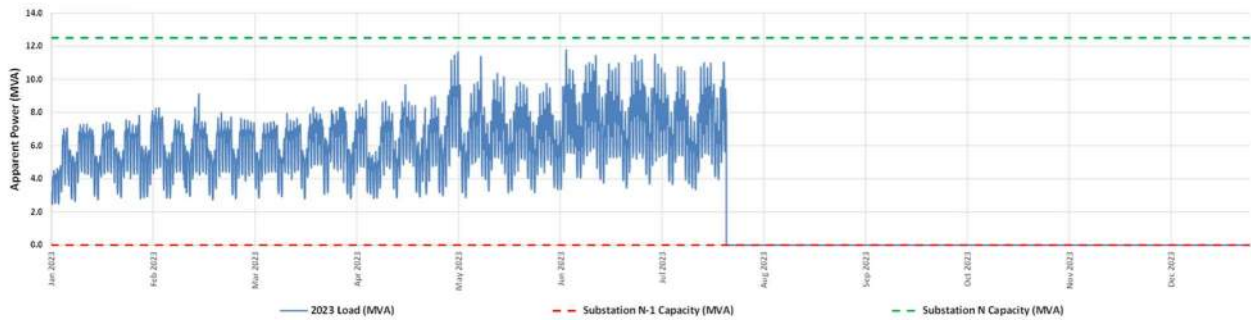


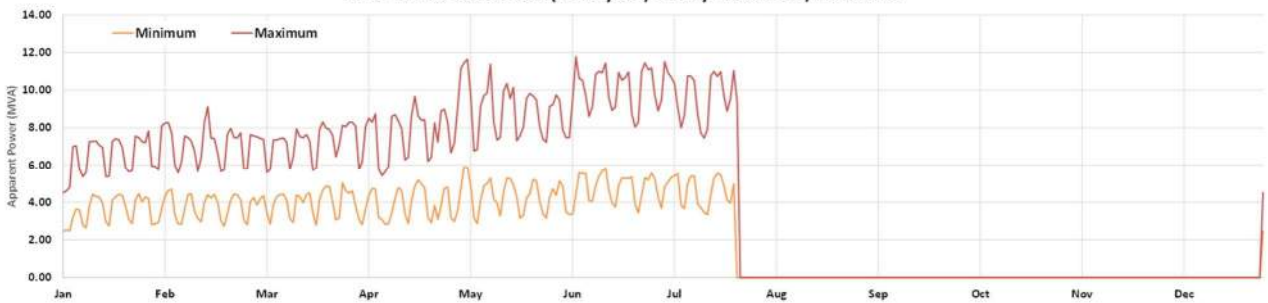
Figure 29. Highbrook 22/11 kV zone substation: Apparent Power (MVA) load characteristics

Highbury MVA

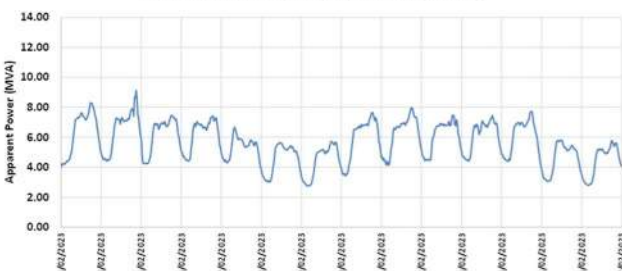
HBUR Zone Substation (2023 year) - Half hourly loading



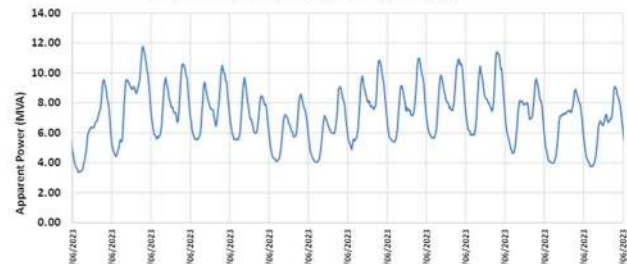
HBUR Zone Substation (2023 year) - Daily Maximum/Minimum



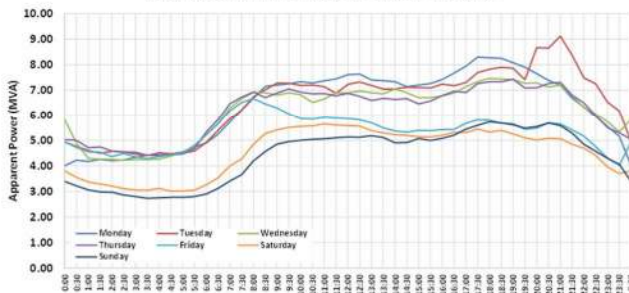
HBUR Zone Substation (2023 year) - Summer (February)



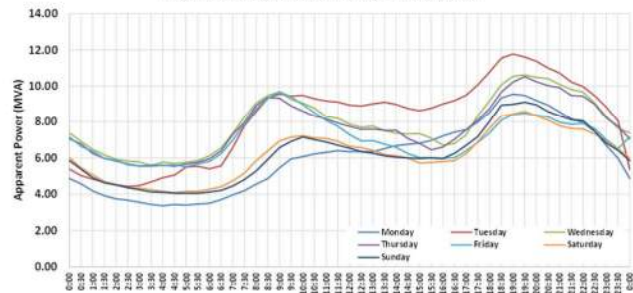
HBUR Zone Substation (2023 year) - Winter (June)



HBUR Zone Substation (2023 year) - Summer (February)



HBUR Zone Substation (2023 year) - Winter (June)



HBUR Zone Substation (2023 year) - Load Duration Curve

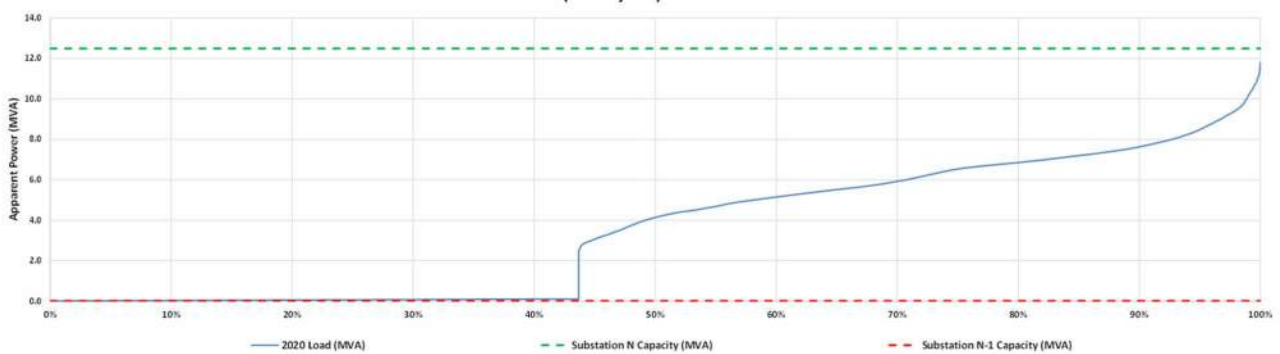
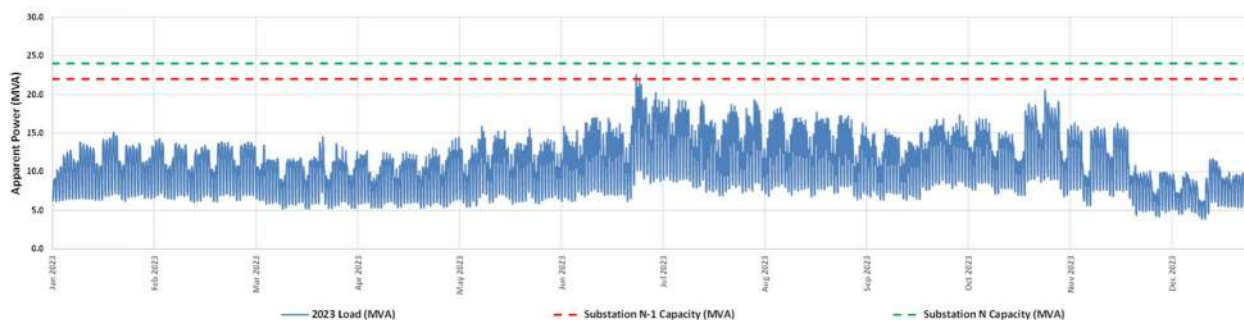


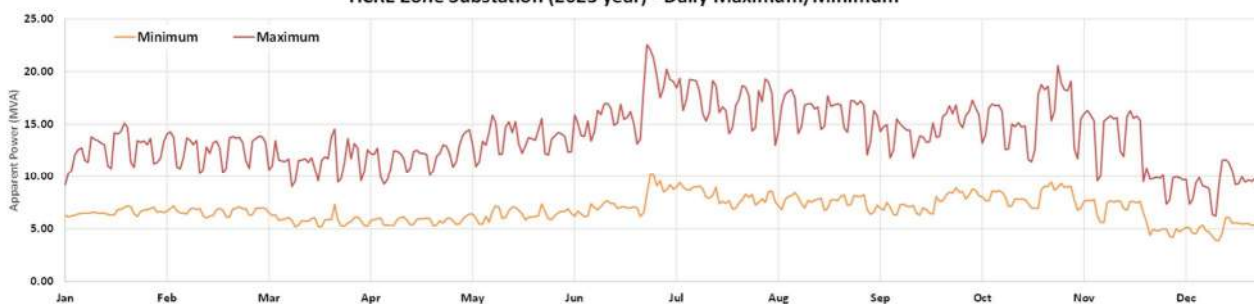
Figure 30. Highbury 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Hillcrest MVA

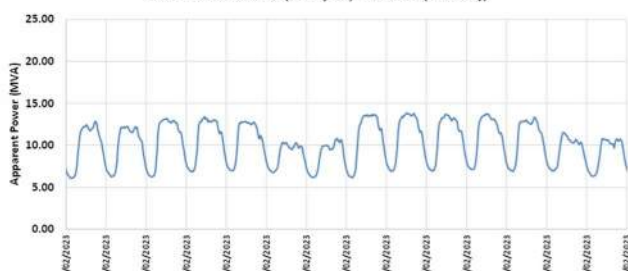
HCRE Zone Substation (2023 year) - Half hourly loading



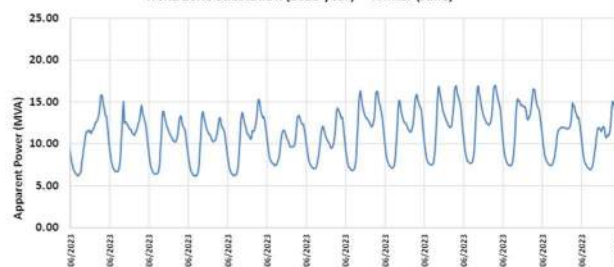
HCRE Zone Substation (2023 year) - Daily Maximum/Minimum



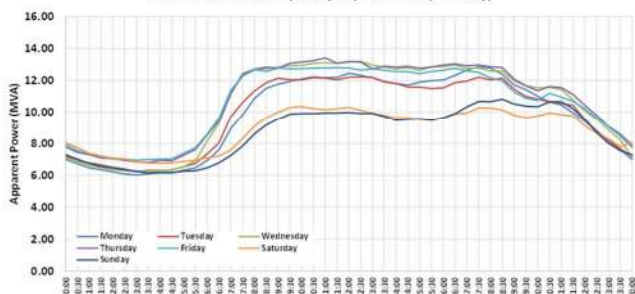
HCRE Zone Substation (2023 year) - Summer (February)



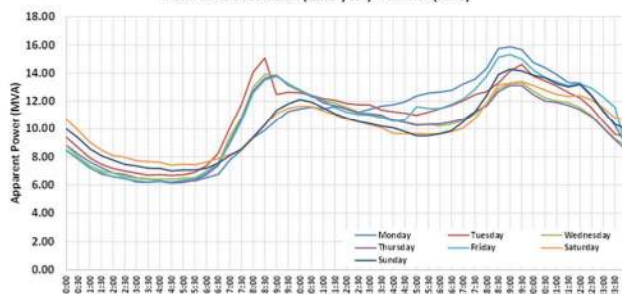
HCRE Zone Substation (2023 year) - Winter (June)



HCRE Zone Substation (2023 year) - Summer (February)



HCRE Zone Substation (2023 year) - Winter (June)



HCRE Zone Substation (2023 year) - Load Duration Curve

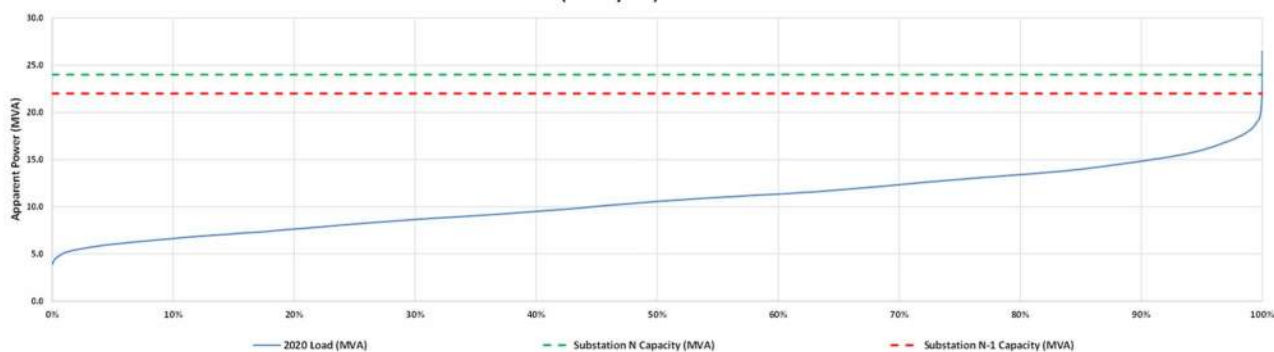
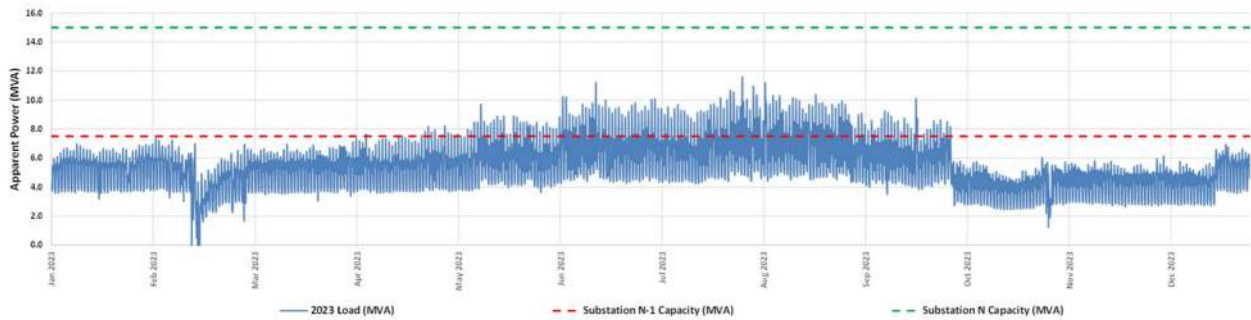


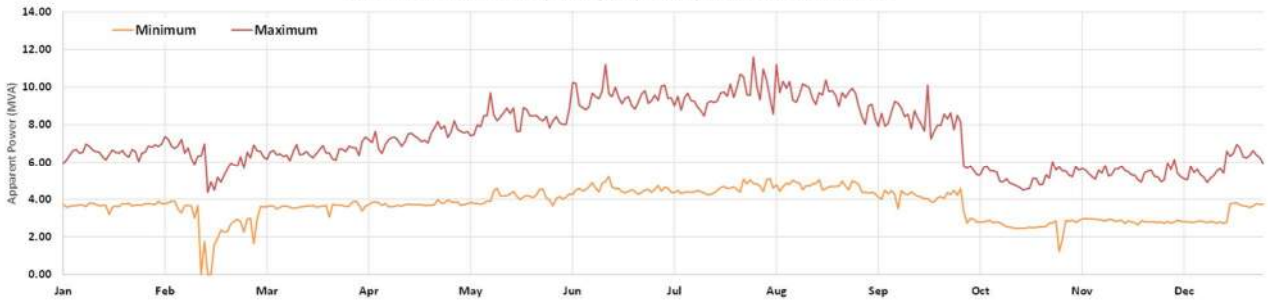
Figure 31. Hillcrest 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Helensville MVA

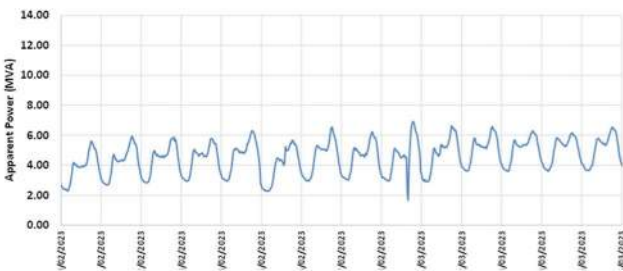
HELE Zone Substation (2023 year) - Half hourly loading



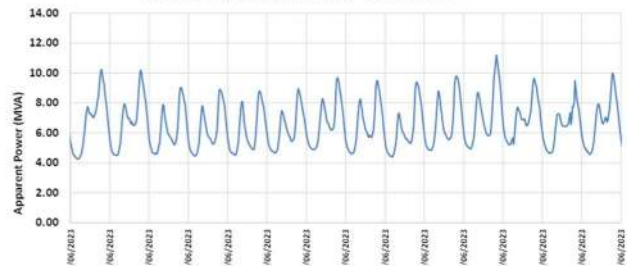
HELE Zone Substation (2023 year) - Daily Maximum/Minimum



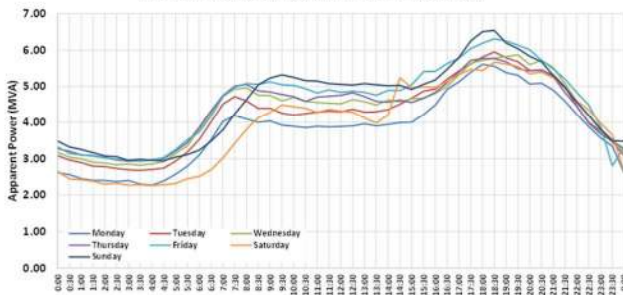
HELE Zone Substation (2023 year) - Summer (February)



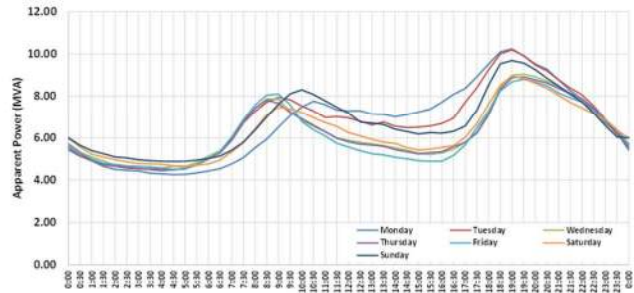
HELE Zone Substation (2023 year) - Winter (June)



HELE Zone Substation (2023 year) - Summer (February)



HELE Zone Substation (2023 year) - Winter (June)



HELE Zone Substation (2023 year) - Load Duration Curve

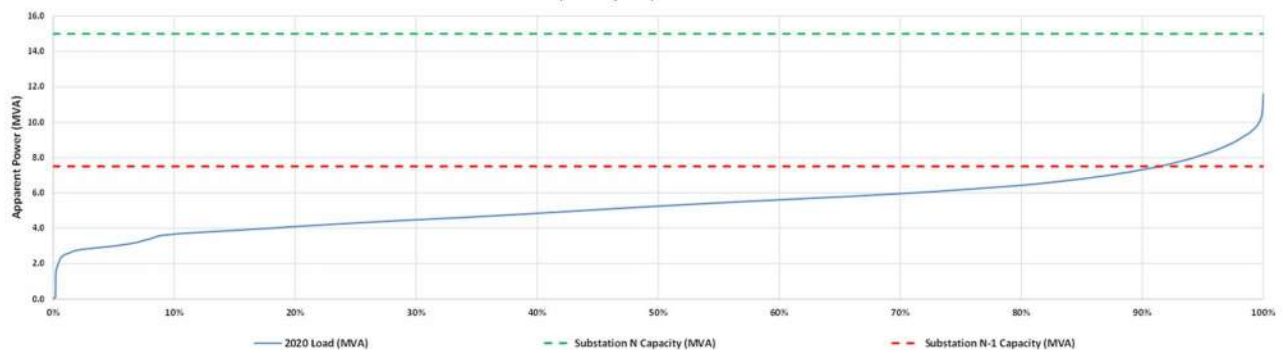
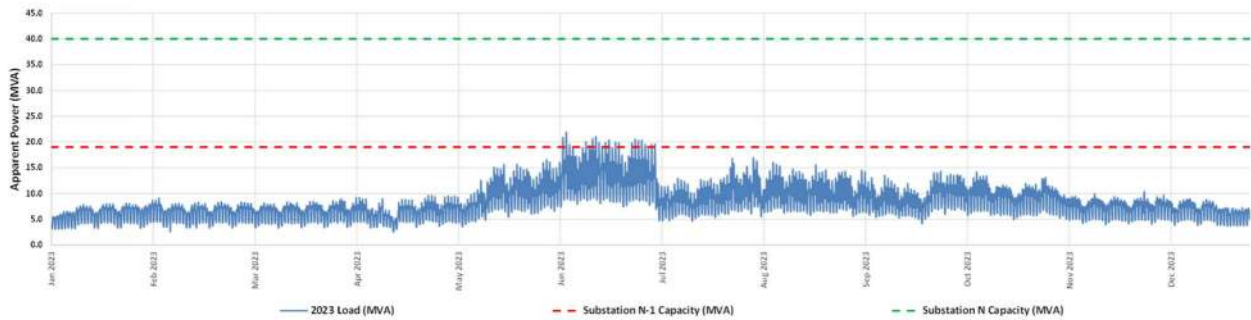


Figure 32. Helensville 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Hillsborough MVA

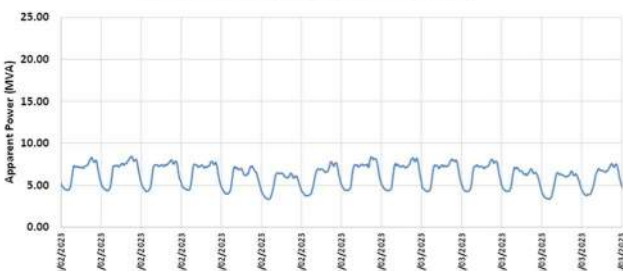
HILL Zone Substation (2023 year) - Half hourly loading



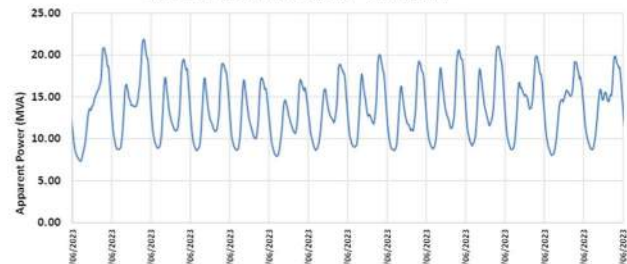
HILL Zone Substation (2023 year) - Daily Maximum/Minimum



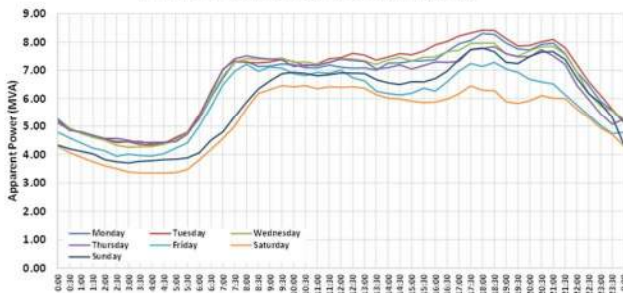
HILL Zone Substation (2023 year) - Summer (February)



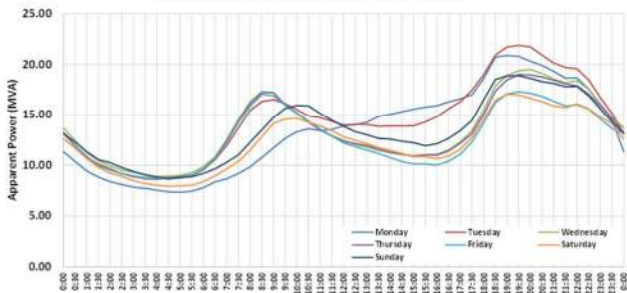
HILL Zone Substation (2023 year) - Winter (June)



HILL Zone Substation (2023 year) - Summer (February)



HILL Zone Substation (2023 year) - Winter (June)



HILL Zone Substation (2023 year) - Load Duration Curve

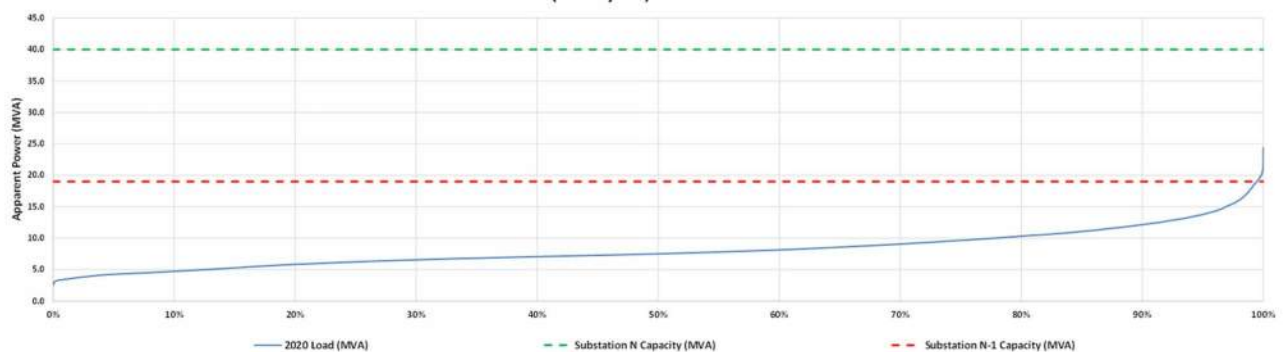
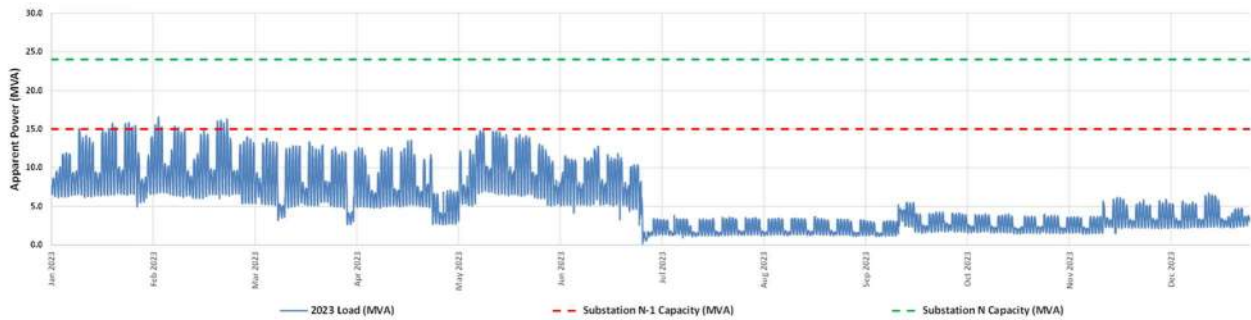


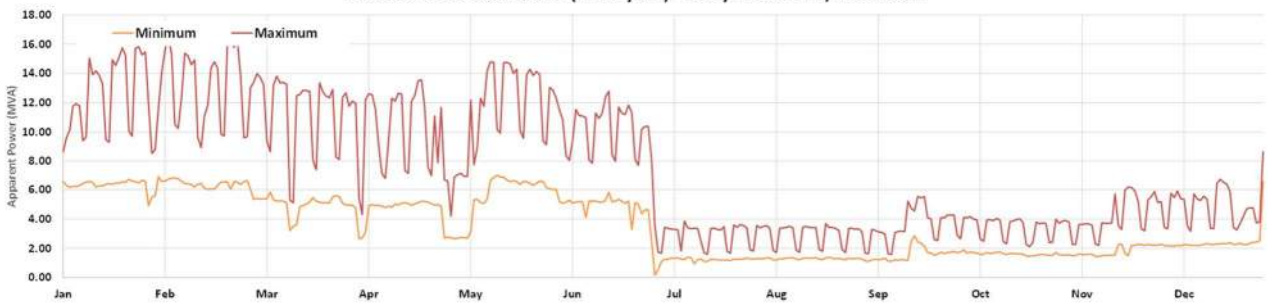
Figure 33. Hillsborough 22/11 kV zone substation: Apparent Power (MVA) load characteristics

Hobson 11 kV MVA

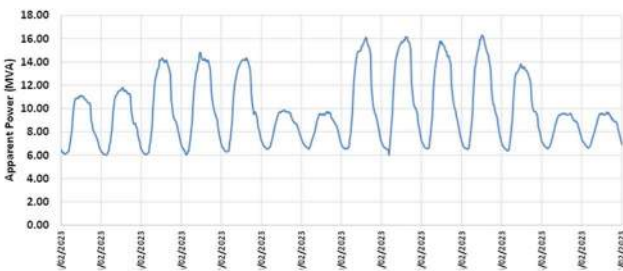
HOB511 Zone Substation (2023 year) - Half hourly loading



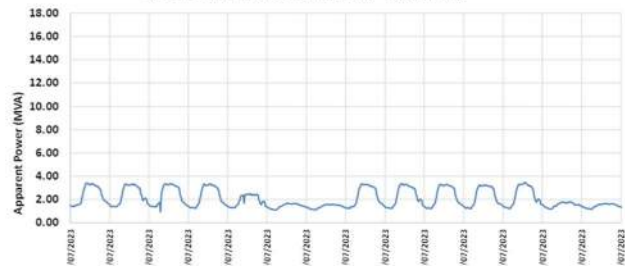
HOB511 Zone Substation (2023 year) - Daily Maximum/Minimum



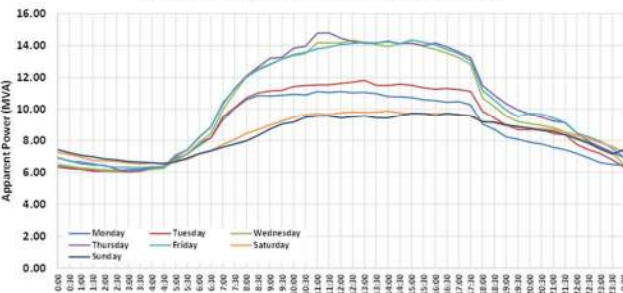
HOB511 Zone Substation (2023 year) - Summer (February)



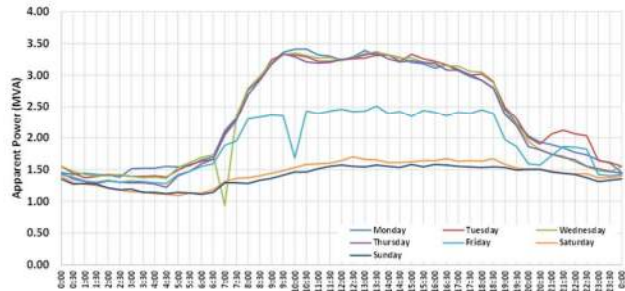
HOB511 Zone Substation (2023 year) - Winter (July)



HOB511 Zone Substation (2023 year) - Summer (February)



HOB511 Zone Substation (2023 year) - Winter (July)



HOB511 Zone Substation (2023 year) - Load Duration Curve

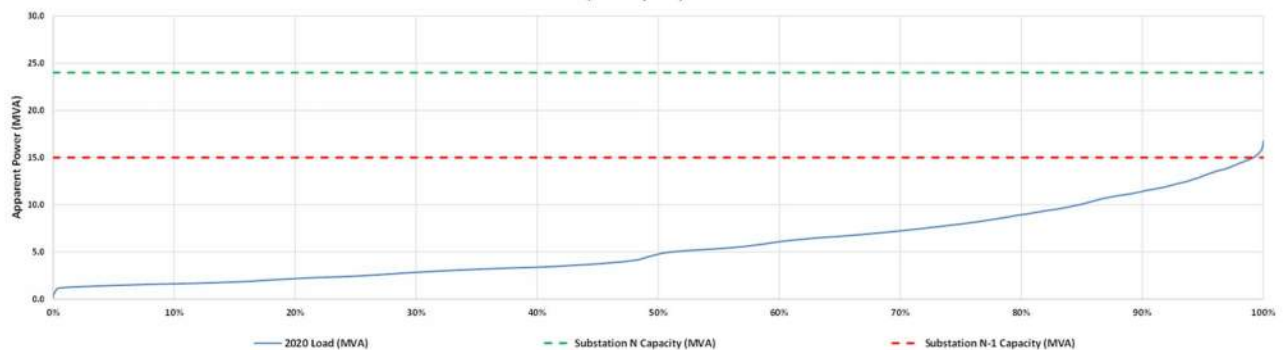
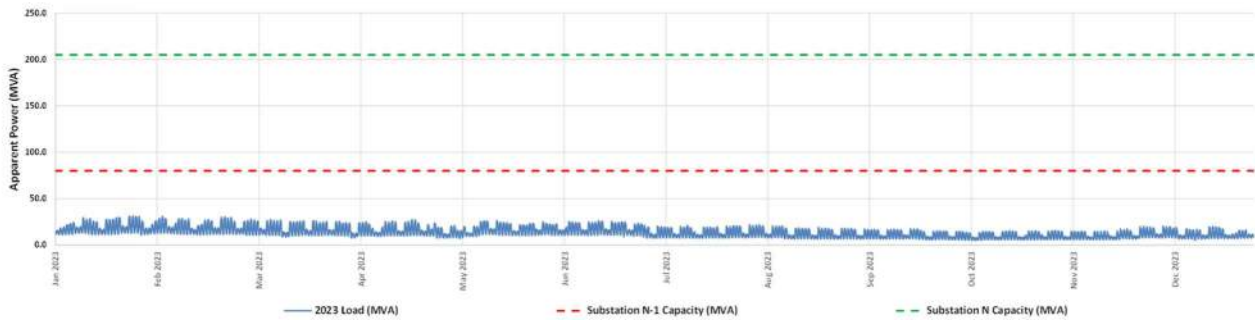


Figure 34. Hobson 22/11 kV zone substation: Apparent Power (MVA) load characteristics

Hobson 22 kV MVA

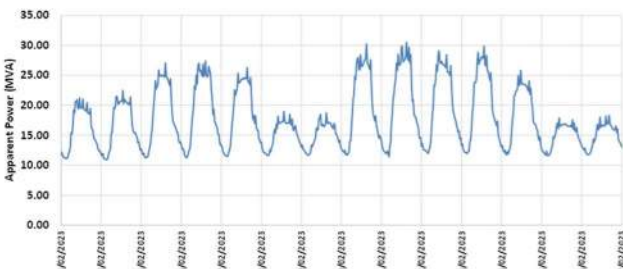
HOB522 Zone Substation (2023 year) - Half hourly loading



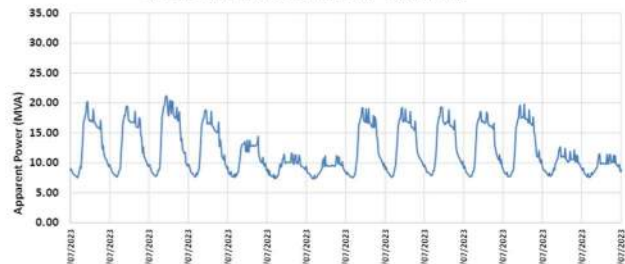
HOB522 Zone Substation (2023 year) - Daily Maximum/Minimum



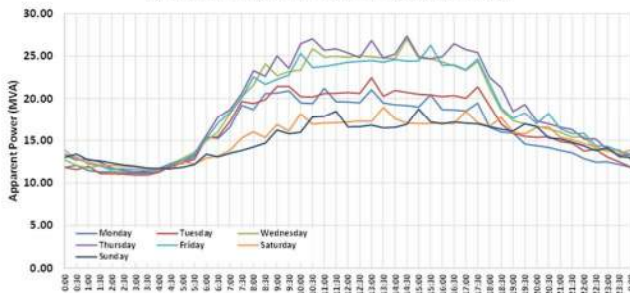
HOB522 Zone Substation (2023 year) - Summer (February)



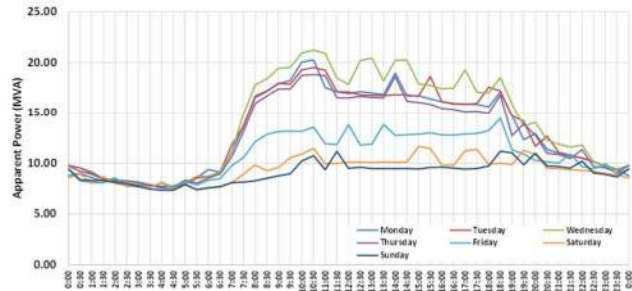
HOB522 Zone Substation (2023 year) - Winter (July)



HOB522 Zone Substation (2023 year) - Summer (February)



HOB522 Zone Substation (2023 year) - Winter (July)



HOB522 Zone Substation (2023 year) - Load Duration Curve

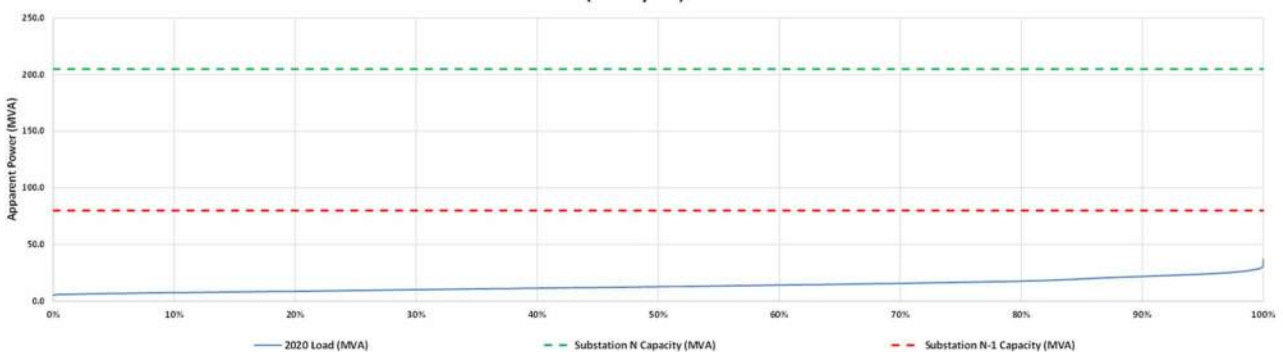
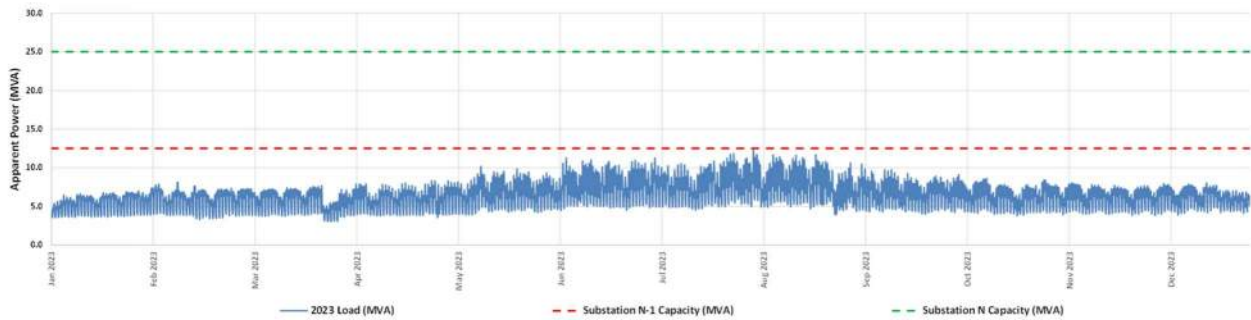


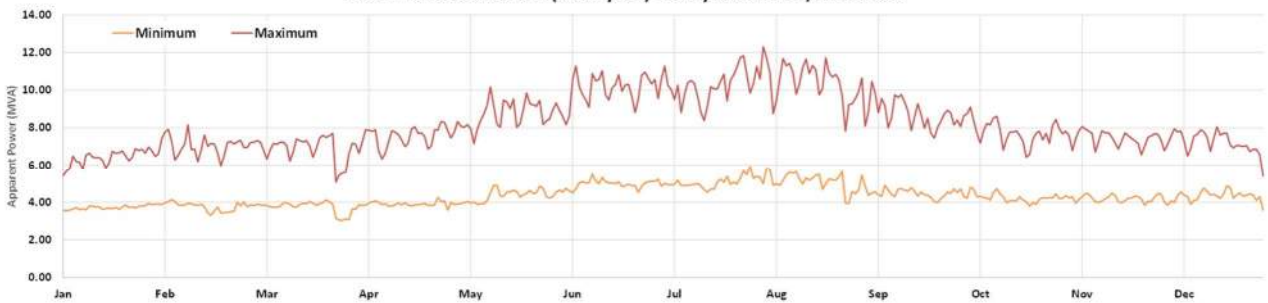
Figure 35. Hobson 110/22 kV zone substation: Apparent Power (MVA) load characteristics

Hobsonville MVA

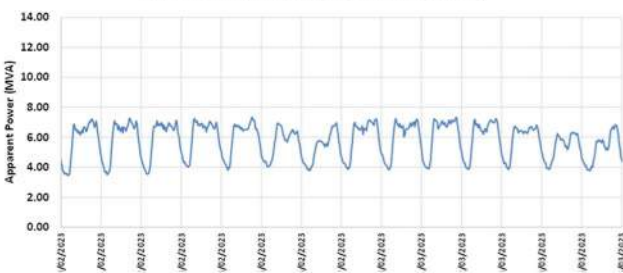
HOBV Zone Substation (2023 year) - Half hourly loading



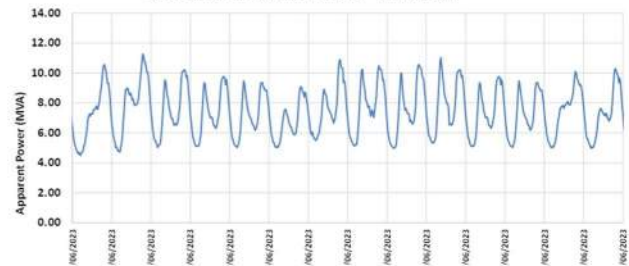
HOBV Zone Substation (2023 year) - Daily Maximum/Minimum



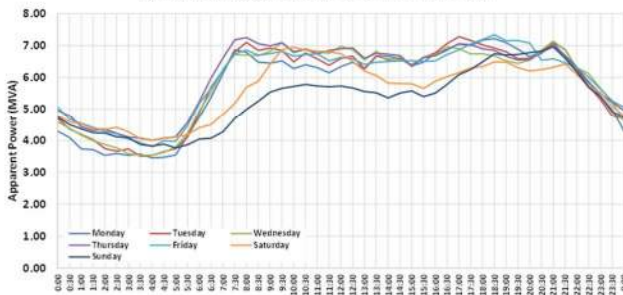
HOBV Zone Substation (2023 year) - Summer (February)



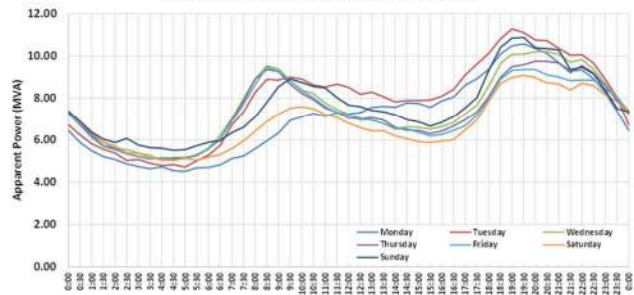
HOBV Zone Substation (2023 year) - Winter (June)



HOBV Zone Substation (2023 year) - Summer (February)



HOBV Zone Substation (2023 year) - Winter (June)



HOBV Zone Substation (2023 year) - Load Duration Curve

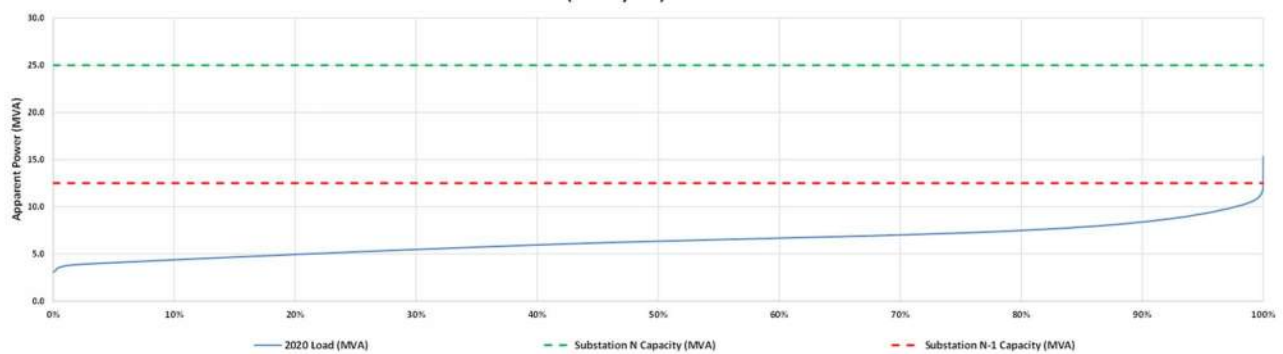


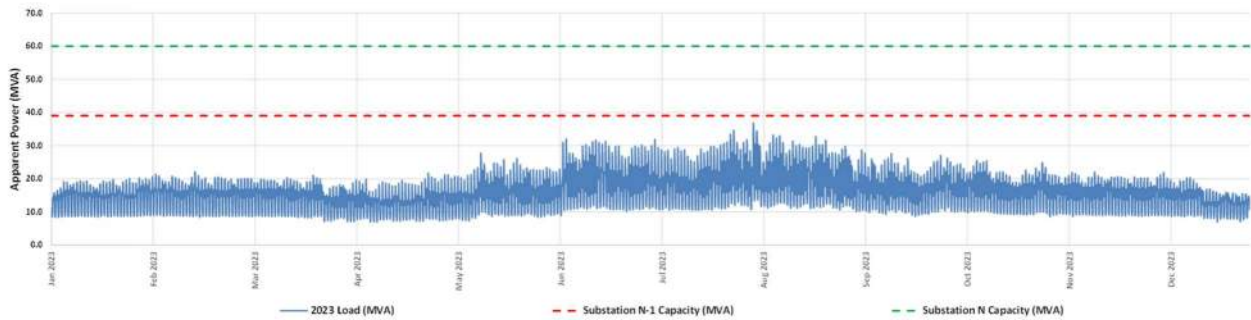
Figure 36. Hobsonville 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Ergo was not supplied information for this substation.

Horseshoe Bush

Howick MVA

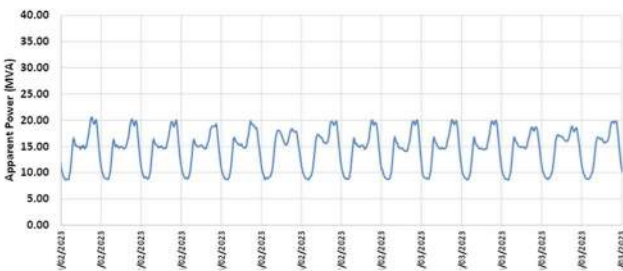
HOWI Zone Substation (2023 year) - Half hourly loading



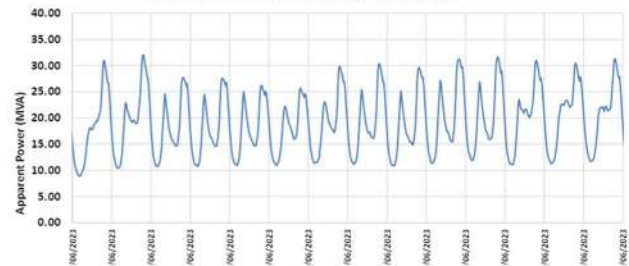
HOWI Zone Substation (2023 year) - Daily Maximum/Minimum



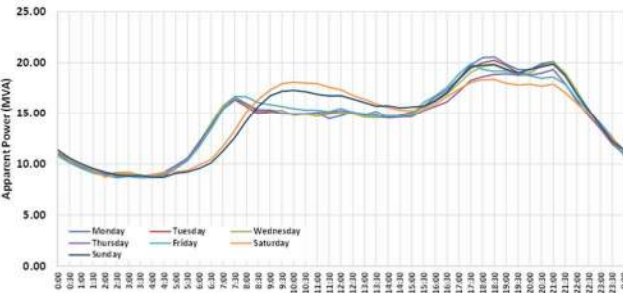
HOWI Zone Substation (2023 year) - Summer (February)



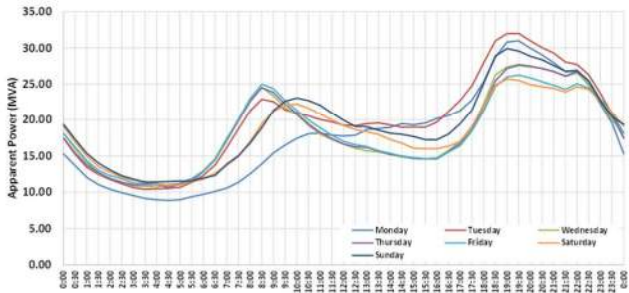
HOWI Zone Substation (2023 year) - Winter (June)



HOWI Zone Substation (2023 year) - Summer (February)



HOWI Zone Substation (2023 year) - Winter (June)



HOWI Zone Substation (2023 year) - Load Duration Curve

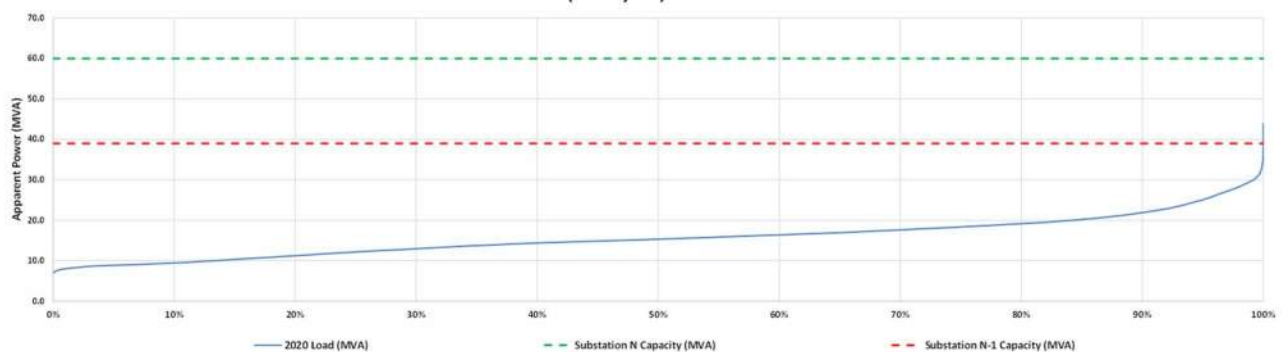
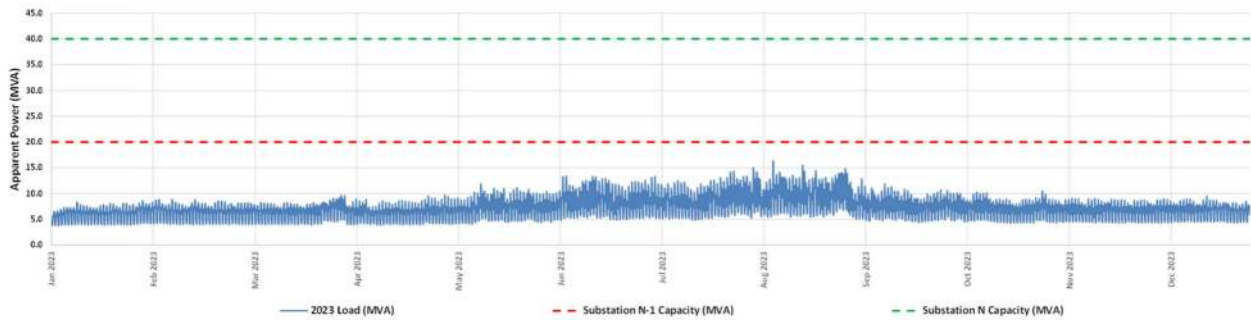


Figure 37. Howick 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Hobsonville Point MVA

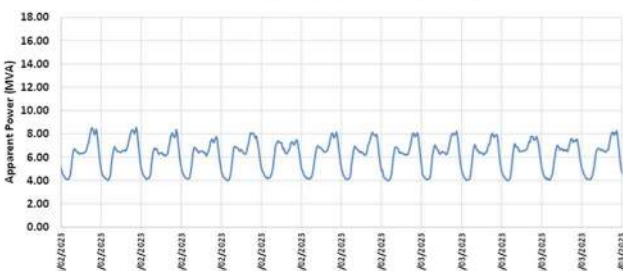
HPOI Zone Substation (2023 year) - Half hourly loading



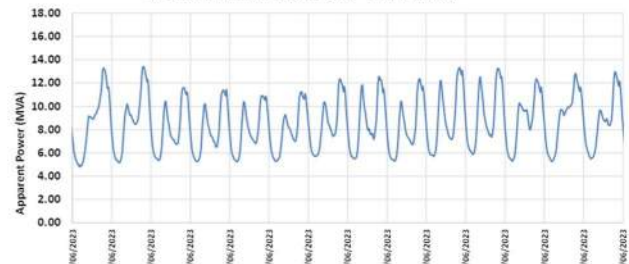
HPOI Zone Substation (2023 year) - Daily Maximum/Minimum



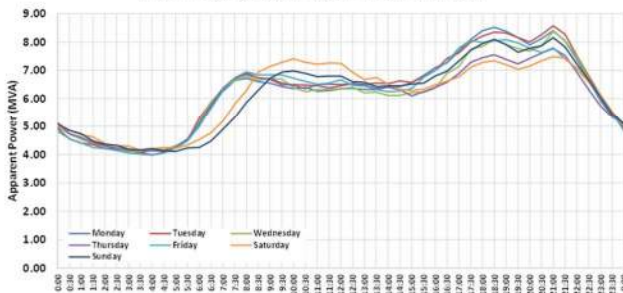
HPOI Zone Substation (2023 year) - Summer (February)



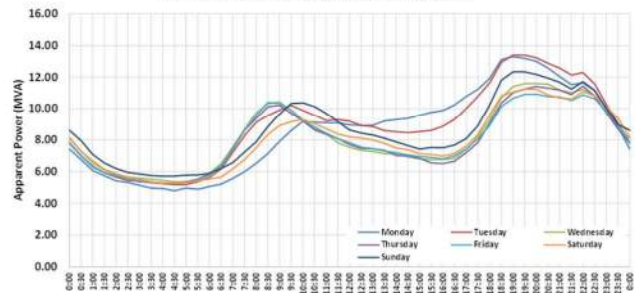
HPOI Zone Substation (2023 year) - Winter (June)



HPOI Zone Substation (2023 year) - Summer (February)



HPOI Zone Substation (2023 year) - Winter (June)



HPOI Zone Substation (2023 year) - Load Duration Curve

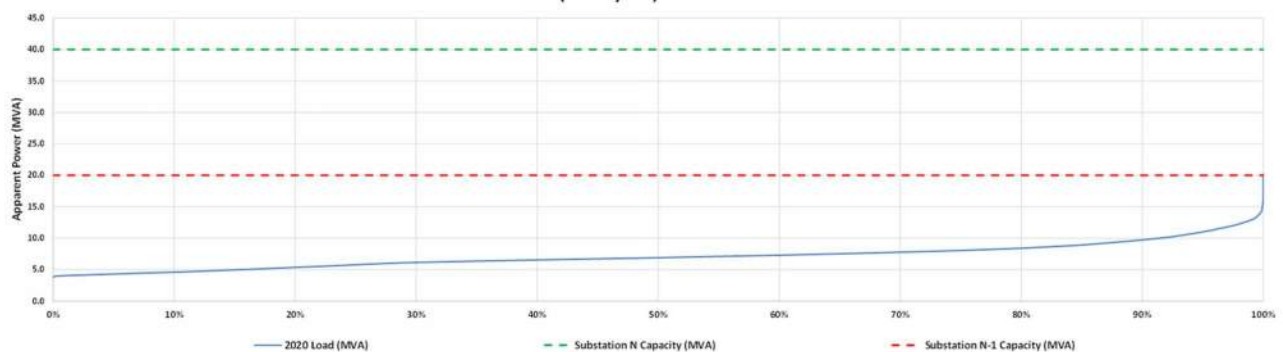
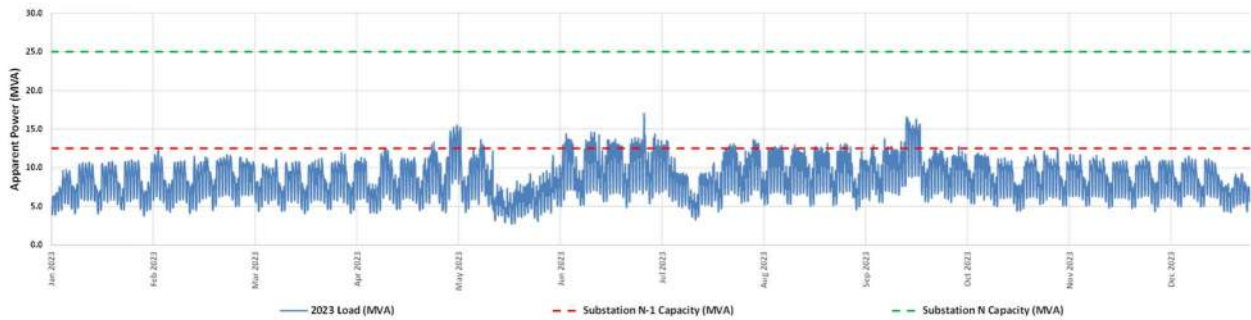


Figure 38. Hobsonville Point 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Henderson Valley MVA

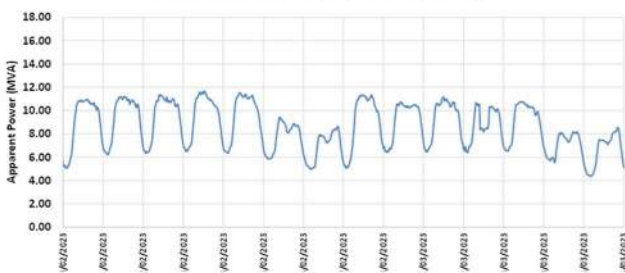
HVAL Zone Substation (2023 year) - Half hourly loading



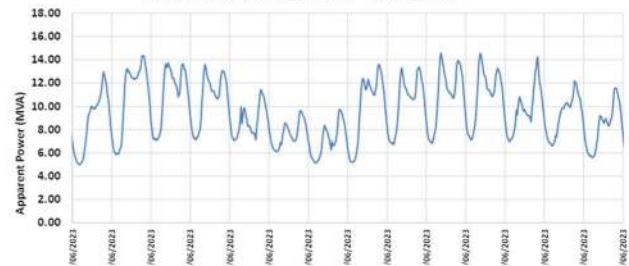
HVAL Zone Substation (2023 year) - Daily Maximum/Minimum



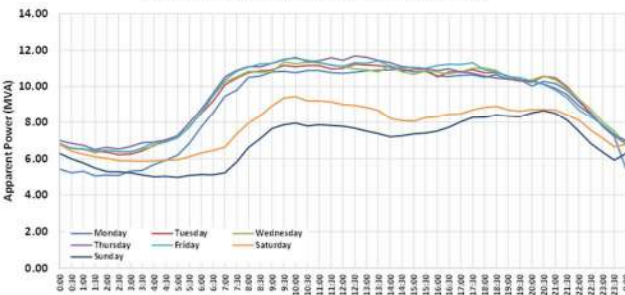
HVAL Zone Substation (2023 year) - Summer (February)



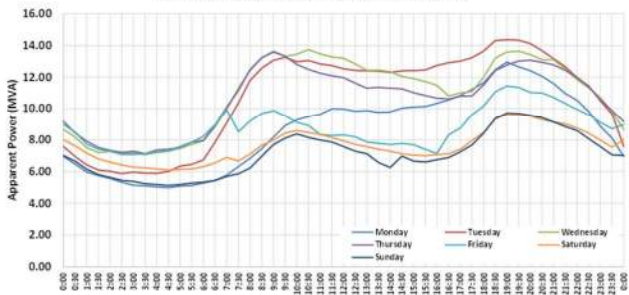
HVAL Zone Substation (2023 year) - Winter (June)



HVAL Zone Substation (2023 year) - Summer (February)



HVAL Zone Substation (2023 year) - Winter (June)



HVAL Zone Substation (2023 year) - Load Duration Curve

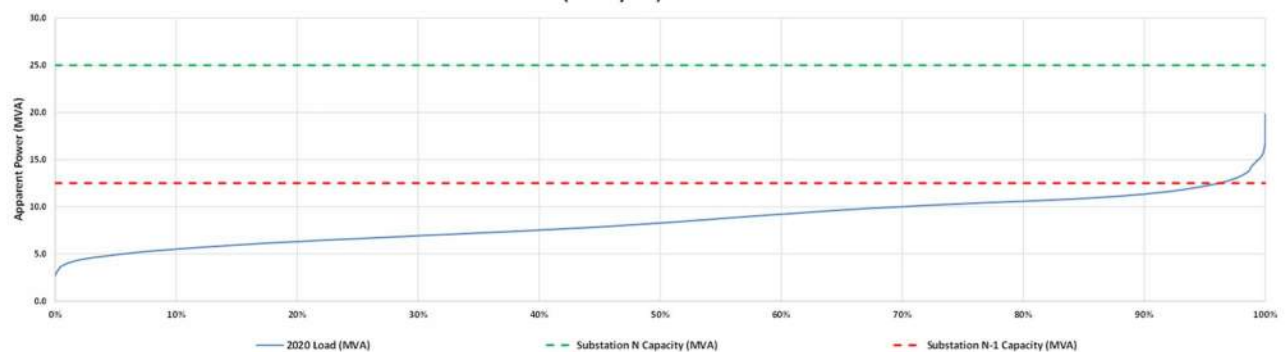
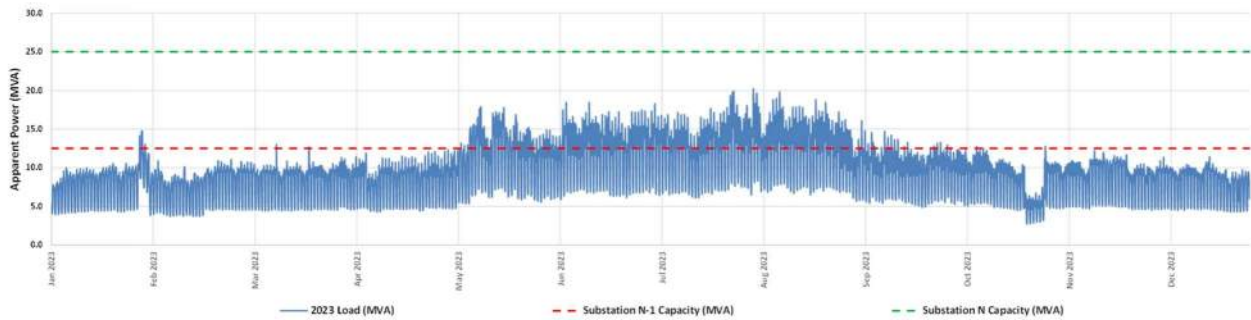


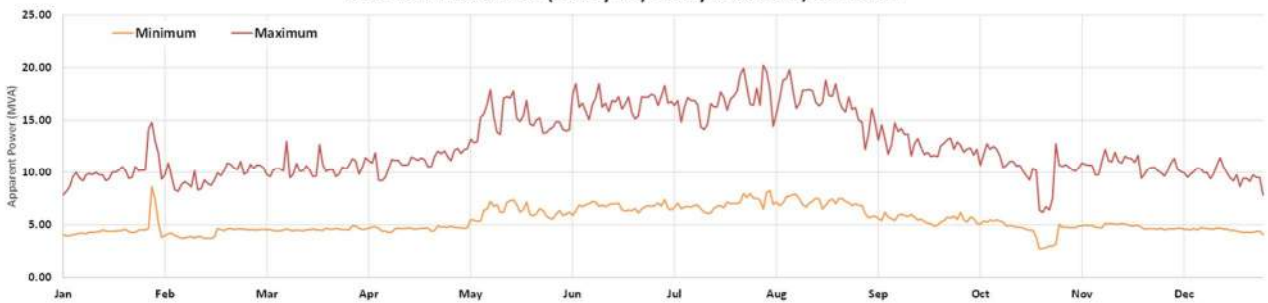
Figure 39. Henderson Valley 33/11 kV zone substation: Apparent Power (MVA) load characteristics

James Street MVA

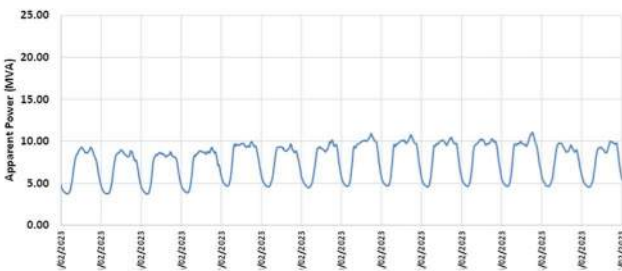
JAME Zone Substation (2023 year) - Half hourly loading



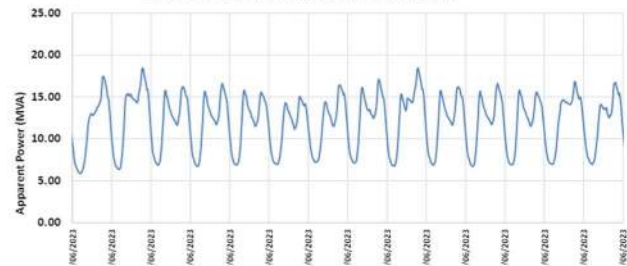
JAME Zone Substation (2023 year) - Daily Maximum/Minimum



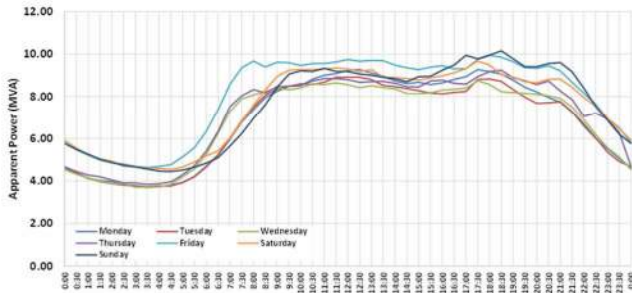
JAME Zone Substation (2023 year) - Summer (February)



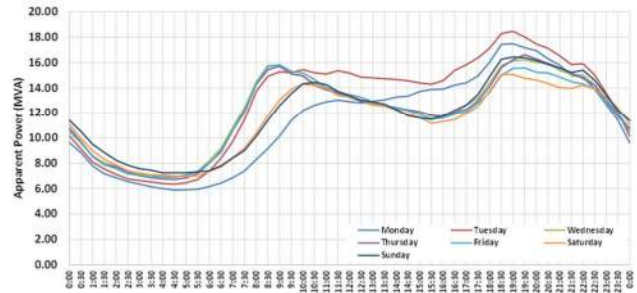
JAME Zone Substation (2023 year) - Winter (June)



JAME Zone Substation (2023 year) - Summer (February)



JAME Zone Substation (2023 year) - Winter (June)



JAME Zone Substation (2023 year) - Load Duration Curve

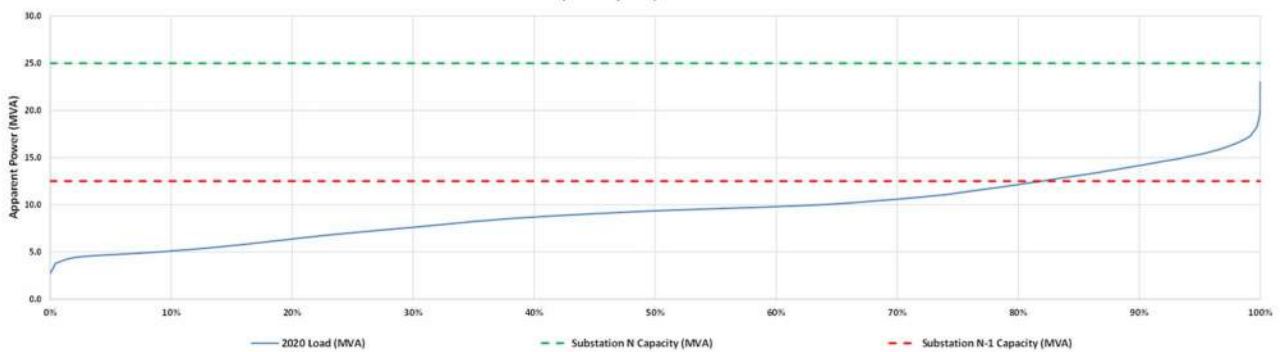
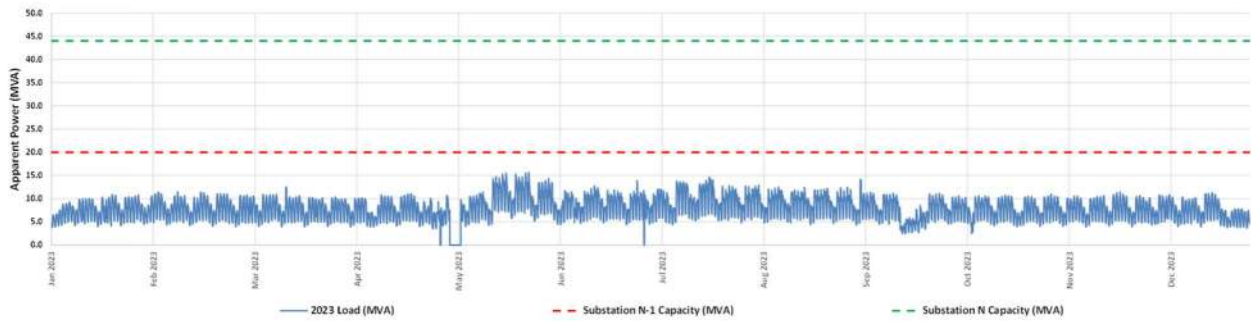


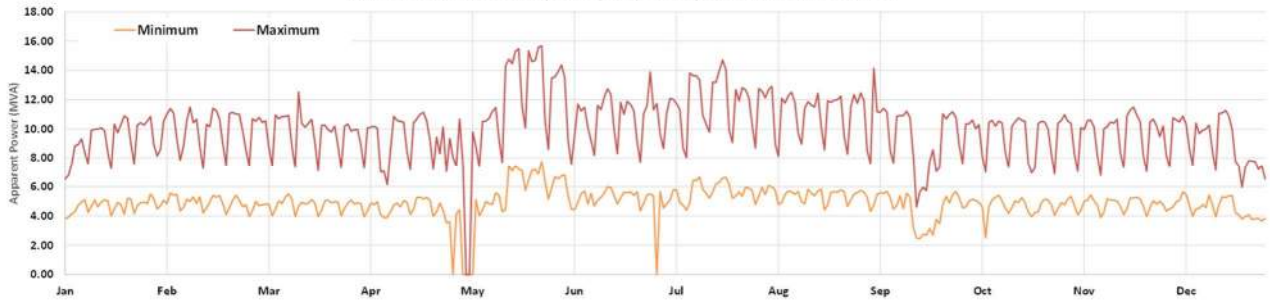
Figure 40. James Street 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Keeling Road MVA

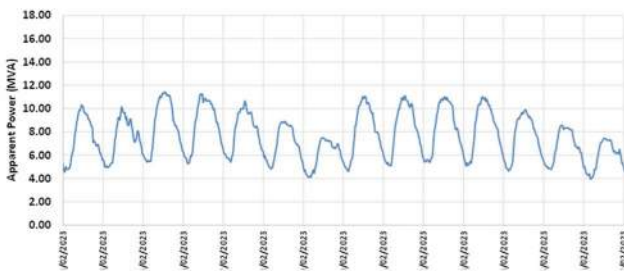
KEEL Zone Substation (2023 year) - Half hourly loading



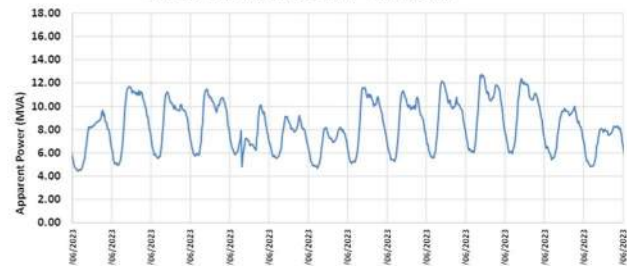
KEEL Zone Substation (2023 year) - Daily Maximum/Minimum



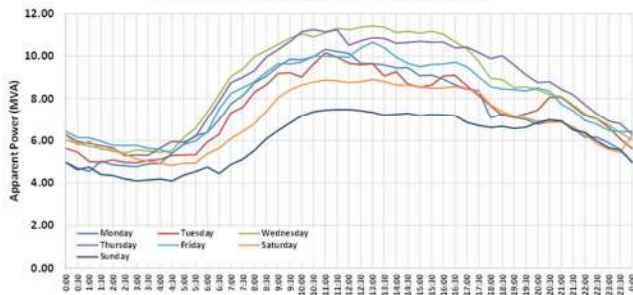
KEEL Zone Substation (2023 year) - Summer (February)



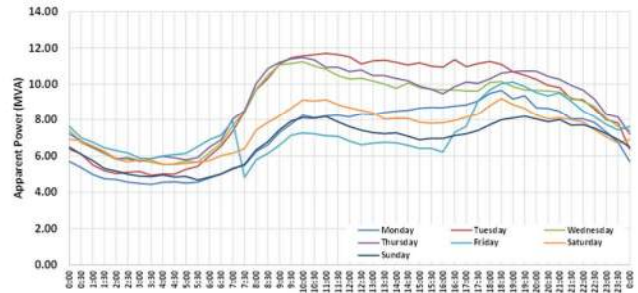
KEEL Zone Substation (2023 year) - Winter (June)



KEEL Zone Substation (2023 year) - Summer (February)



KEEL Zone Substation (2023 year) - Winter (June)



KEEL Zone Substation (2023 year) - Load Duration Curve

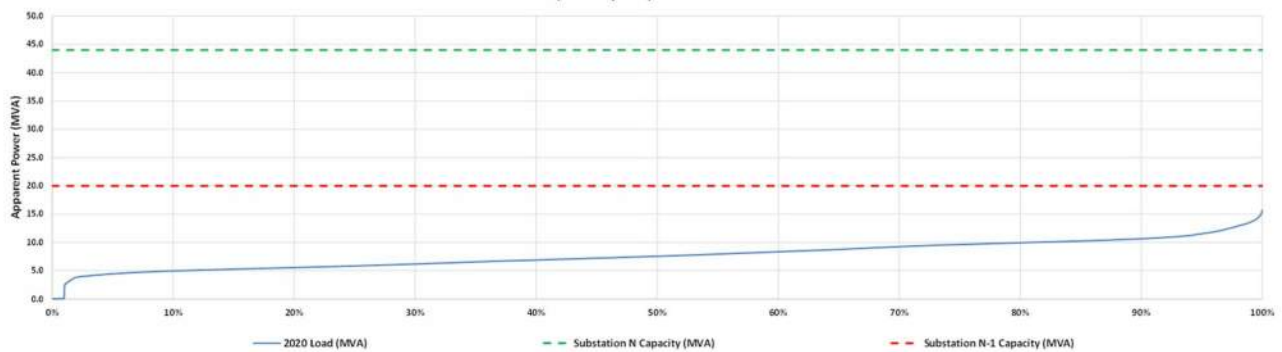
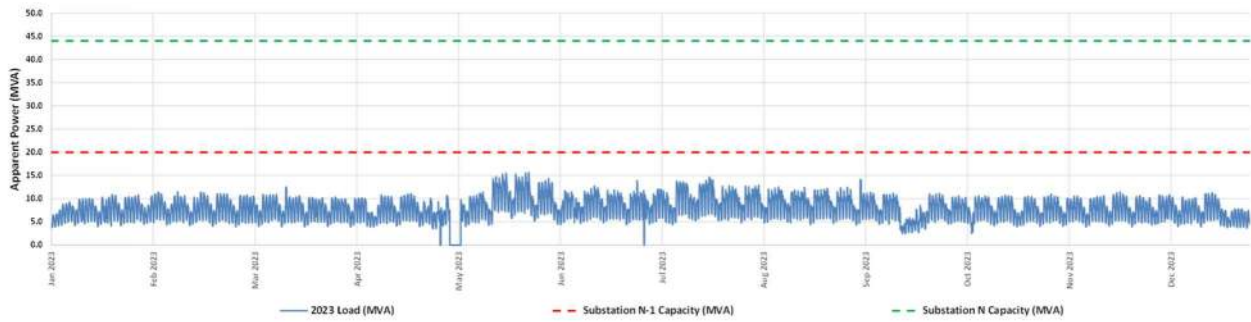


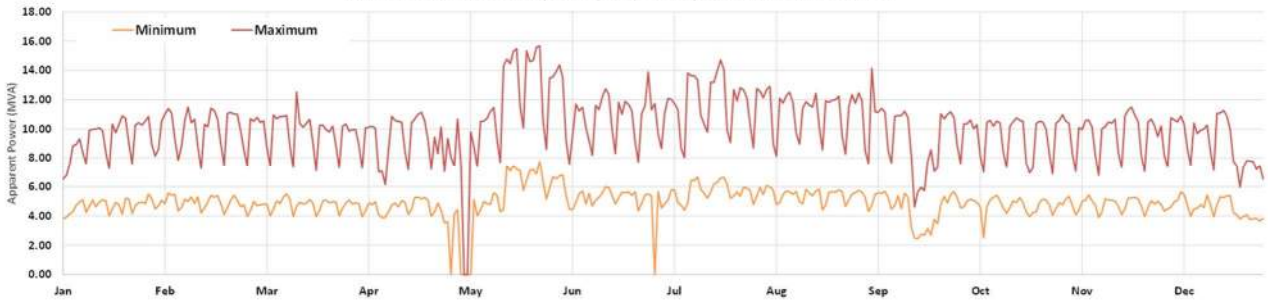
Figure 41. Keeling Road 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Kingsland 11 kV MVA

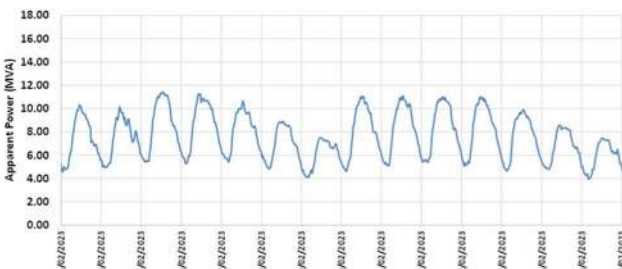
KEEL Zone Substation (2023 year) - Half hourly loading



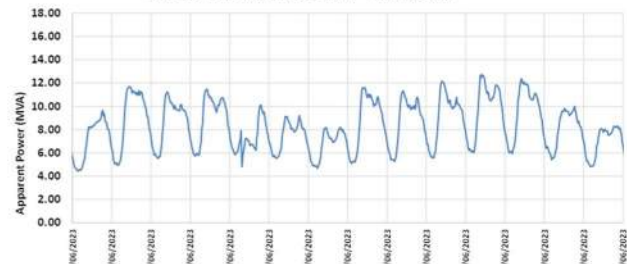
KEEL Zone Substation (2023 year) - Daily Maximum/Minimum



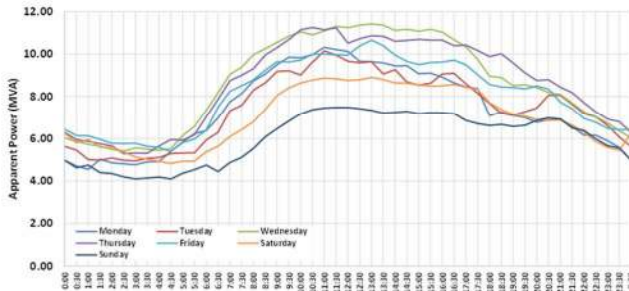
KEEL Zone Substation (2023 year) - Summer (February)



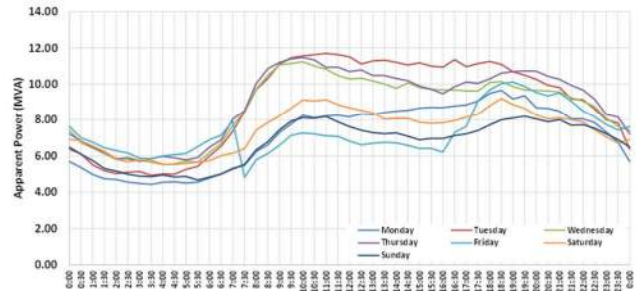
KEEL Zone Substation (2023 year) - Winter (June)



KEEL Zone Substation (2023 year) - Summer (February)



KEEL Zone Substation (2023 year) - Winter (June)



KEEL Zone Substation (2023 year) - Load Duration Curve

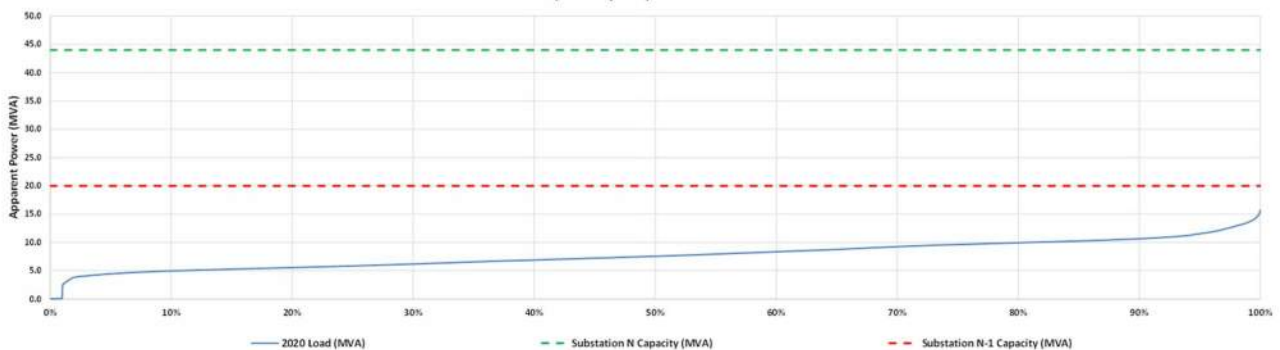
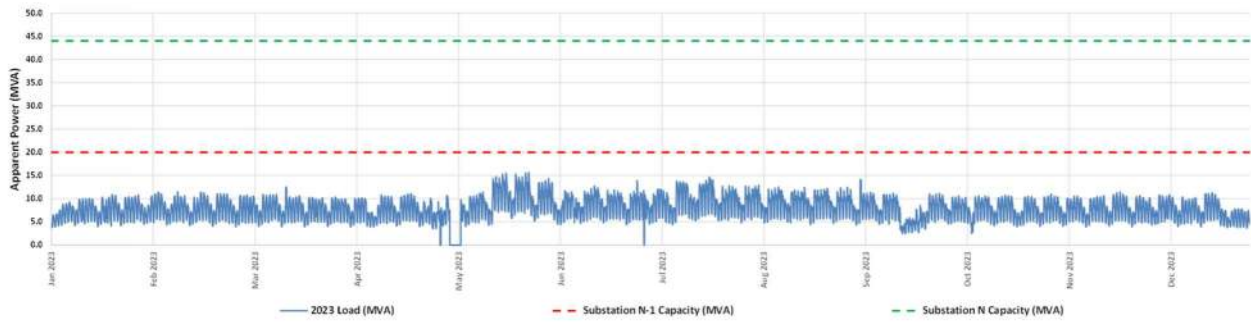


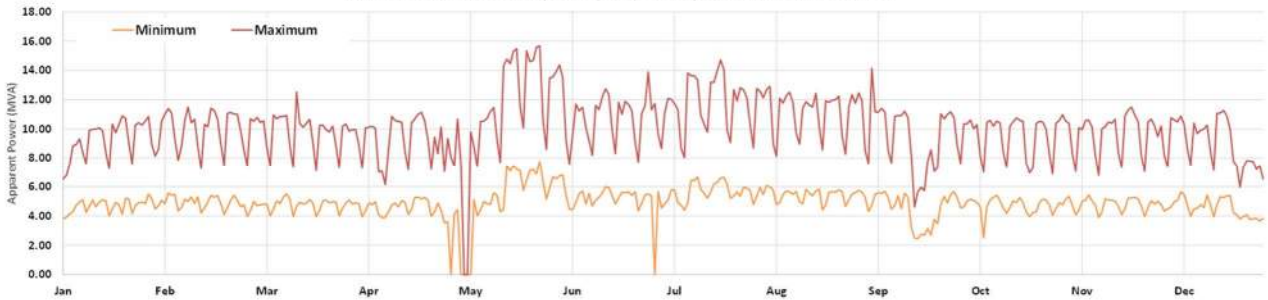
Figure 42. Kingsland 22/11 kV zone substation: Apparent Power (MVA) load characteristics

Kingsland 22 kv MVA

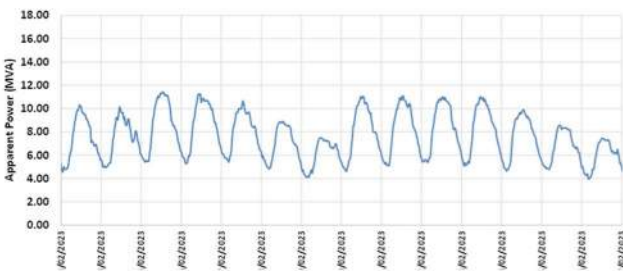
KEEL Zone Substation (2023 year) - Half hourly loading



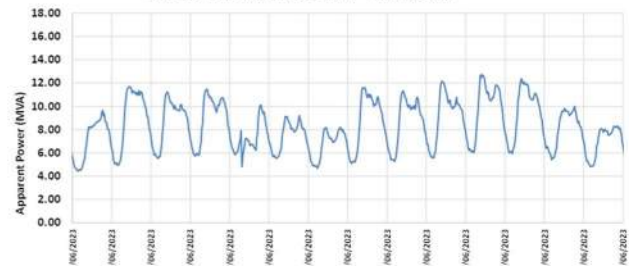
KEEL Zone Substation (2023 year) - Daily Maximum/Minimum



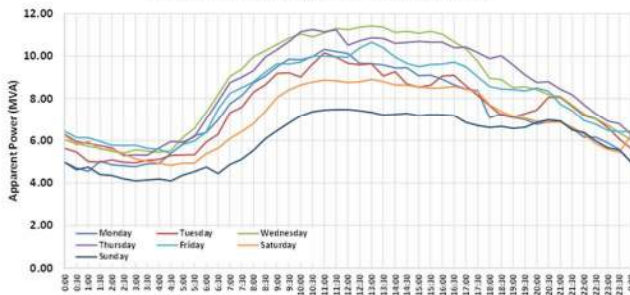
KEEL Zone Substation (2023 year) - Summer (February)



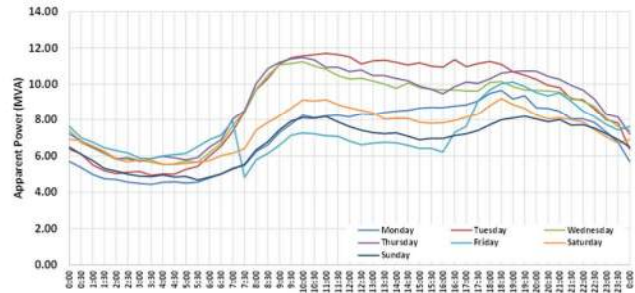
KEEL Zone Substation (2023 year) - Winter (June)



KEEL Zone Substation (2023 year) - Summer (February)



KEEL Zone Substation (2023 year) - Winter (June)



KEEL Zone Substation (2023 year) - Load Duration Curve

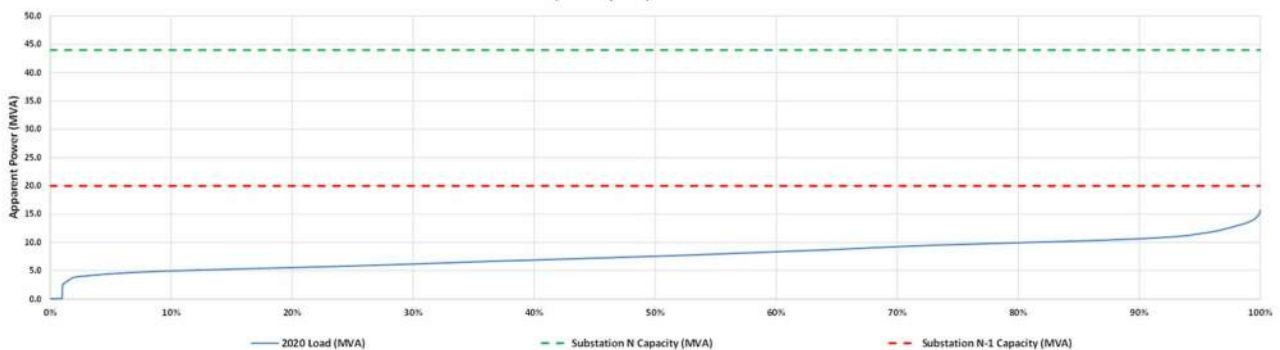
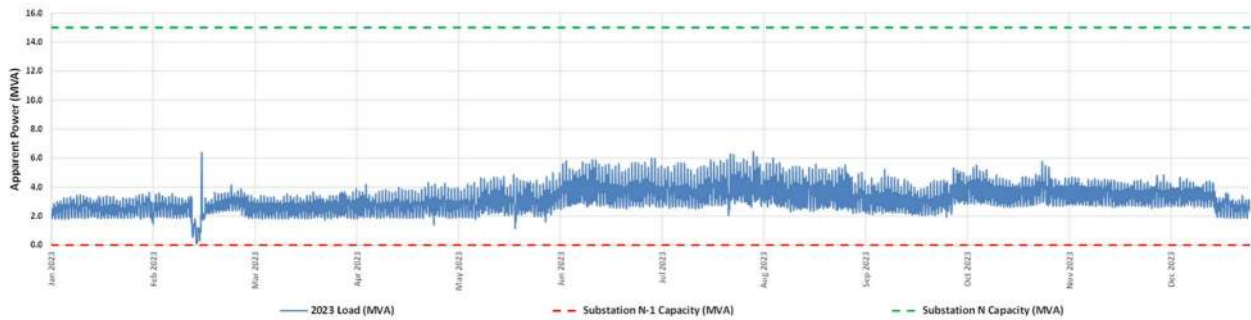


Figure 43. Kingsland 110/22 kv zone substation: Apparent Power (MVA) load characteristics

Kaukapakapa MVA

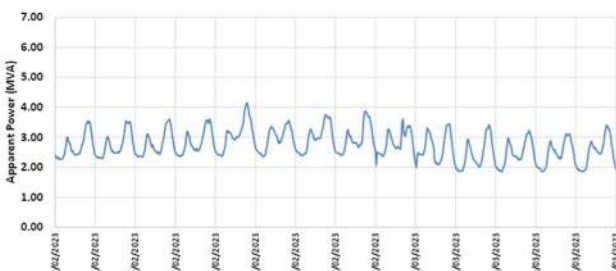
KKAP Zone Substation (2023 year) - Half hourly loading



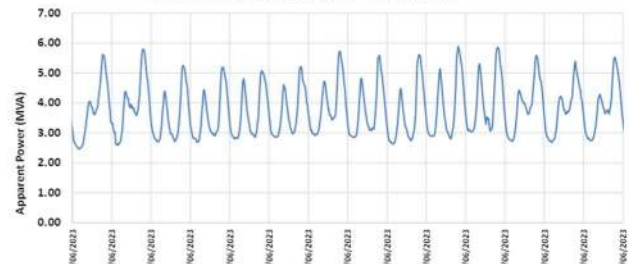
KKAP Zone Substation (2023 year) - Daily Maximum/Minimum



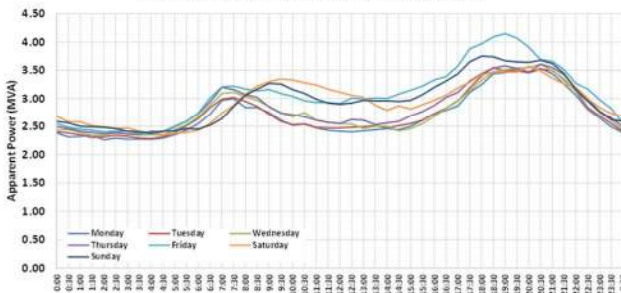
KKAP Zone Substation (2023 year) - Summer (February)



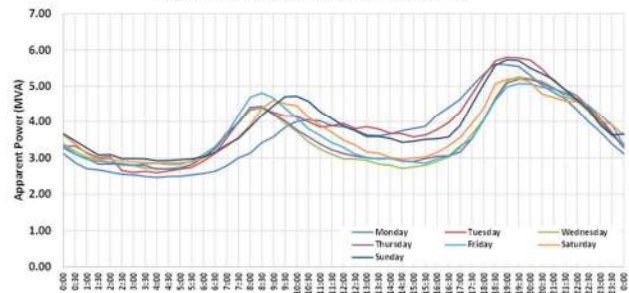
KKAP Zone Substation (2023 year) - Winter (June)



KKAP Zone Substation (2023 year) - Summer (February)



KKAP Zone Substation (2023 year) - Winter (June)



KKAP Zone Substation (2023 year) - Load Duration Curve

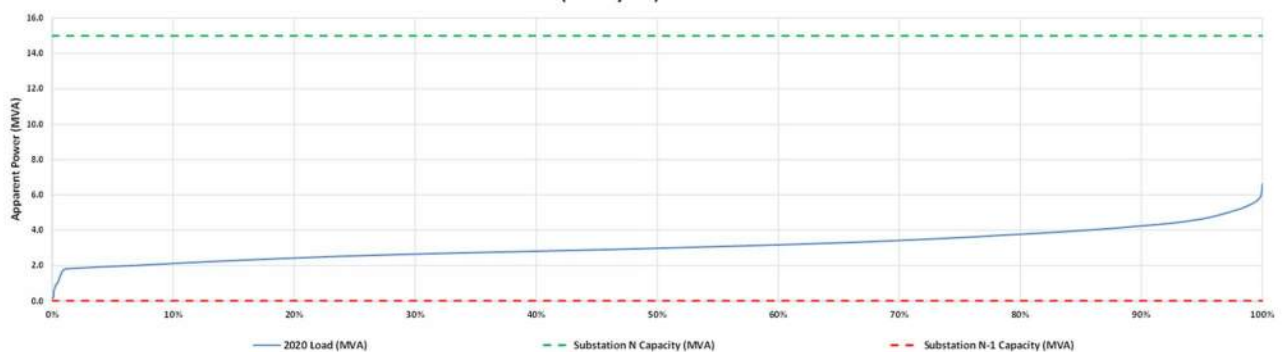
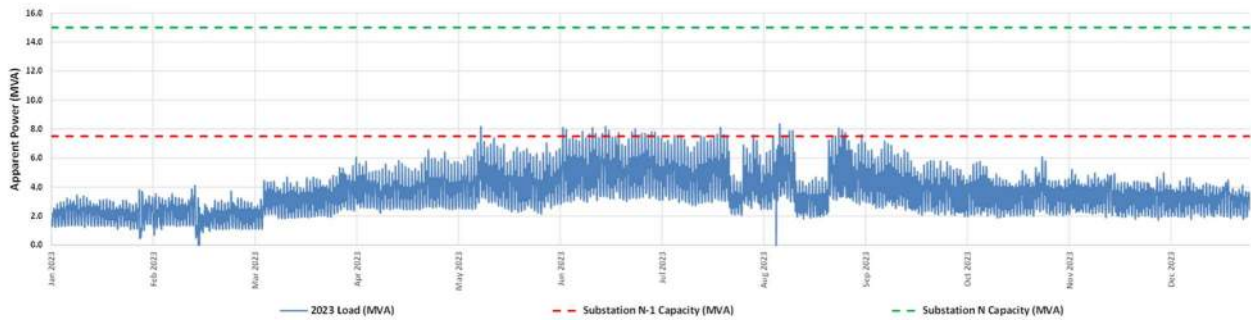


Figure 44. Kaukapakapa 22/11 kV zone substation: Apparent Power (MVA) load characteristics

Laingholm MVA

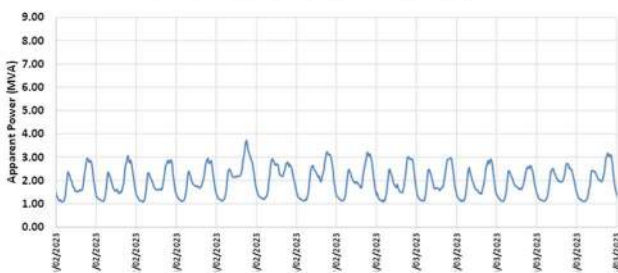
LAIN Zone Substation (2023 year) - Half hourly loading



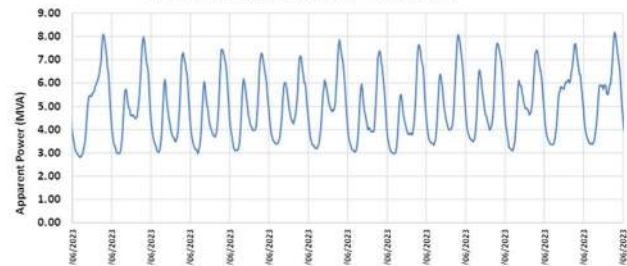
LAIN Zone Substation (2023 year) - Daily Maximum/Minimum



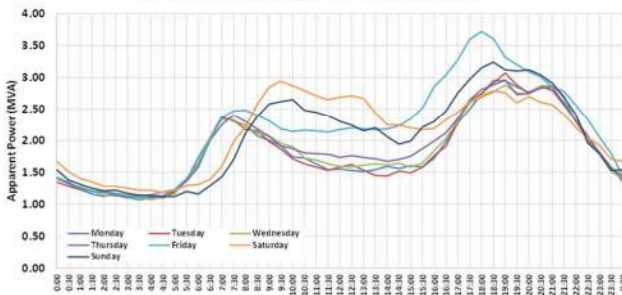
LAIN Zone Substation (2023 year) - Summer (February)



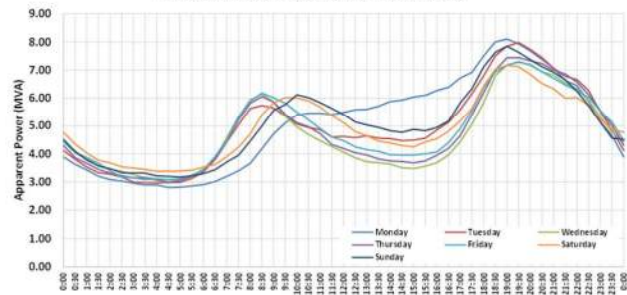
LAIN Zone Substation (2023 year) - Winter (June)



LAIN Zone Substation (2023 year) - Summer (February)



LAIN Zone Substation (2023 year) - Winter (June)



LAIN Zone Substation (2023 year) - Load Duration Curve

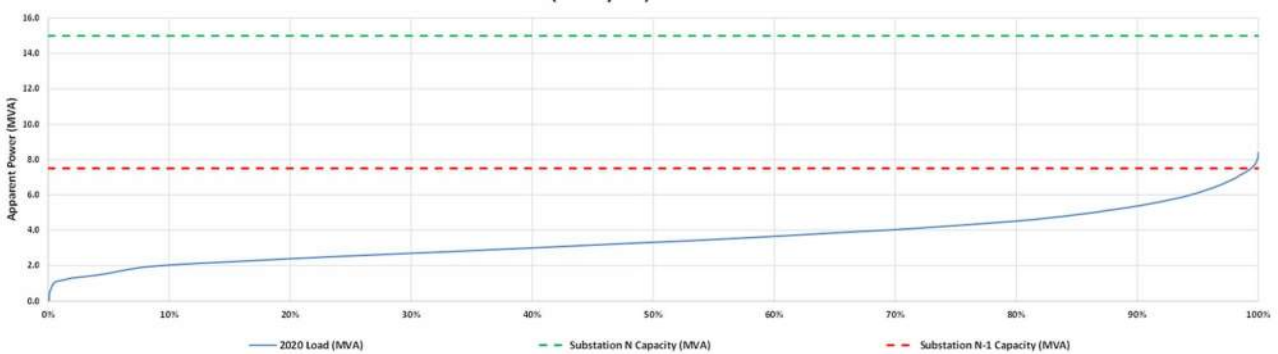
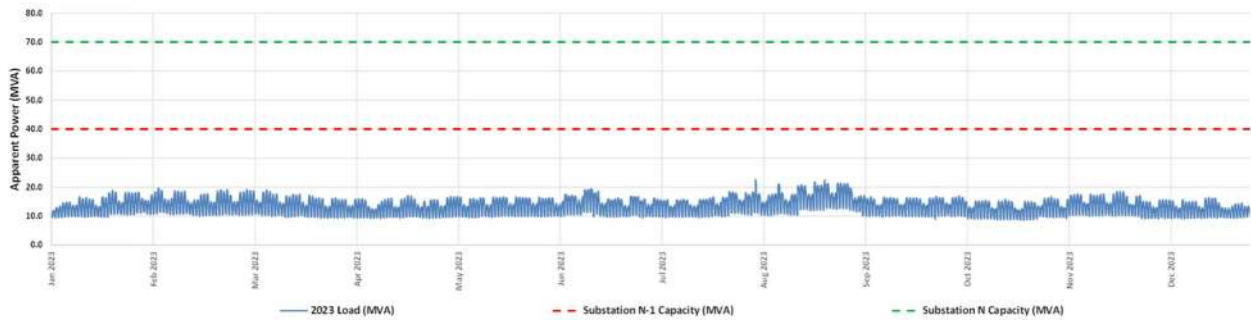


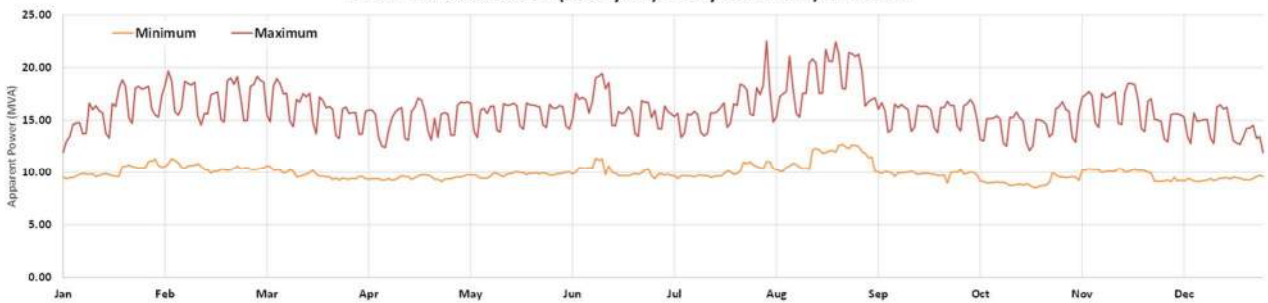
Figure 45. Laingholm 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Liverpool 11 kv MVA

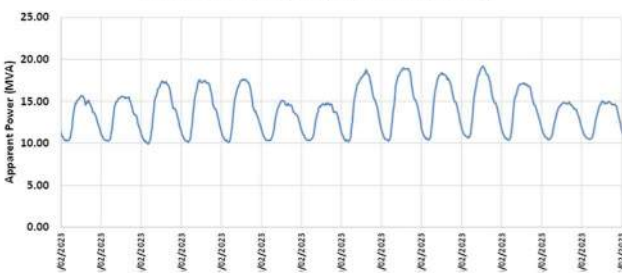
LIVE11 Zone Substation (2023 year) - Half hourly loading



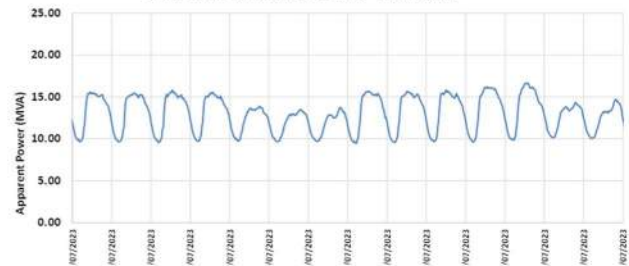
LIVE11 Zone Substation (2023 year) - Daily Maximum/Minimum



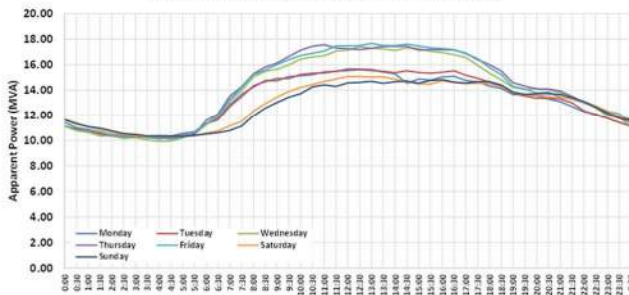
LIVE11 Zone Substation (2023 year) - Summer (February)



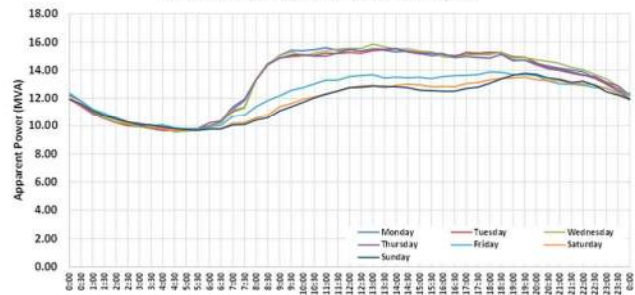
LIVE11 Zone Substation (2023 year) - Winter (July)



LIVE11 Zone Substation (2023 year) - Summer (February)



LIVE11 Zone Substation (2023 year) - Winter (July)



LIVE11 Zone Substation (2023 year) - Load Duration Curve

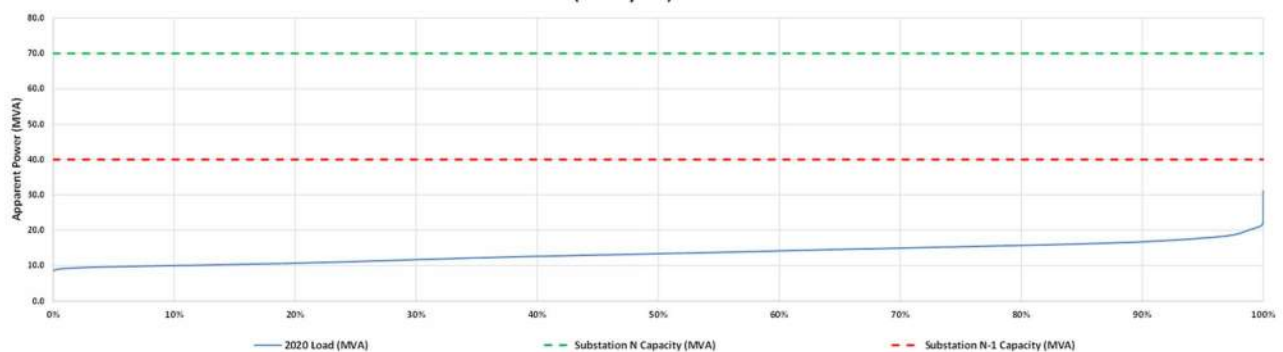
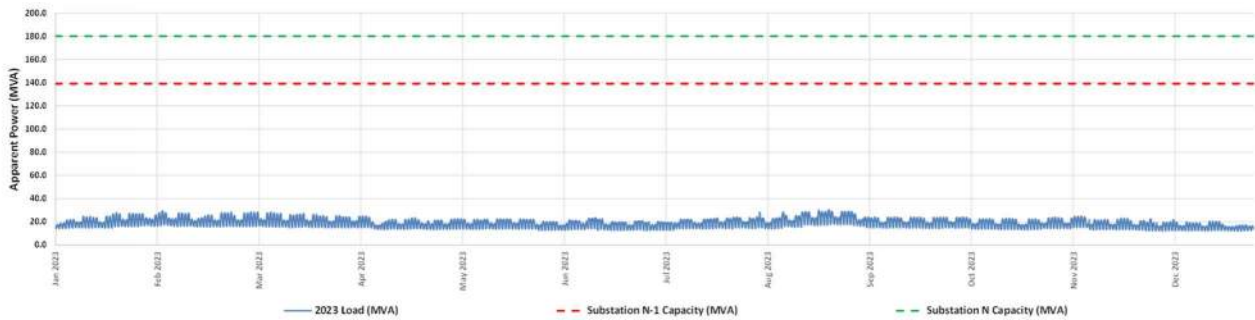


Figure 46. Liverpool 22/11 kv zone substation: Apparent Power (MVA) load characteristics

Liverpool 22 kV MVA

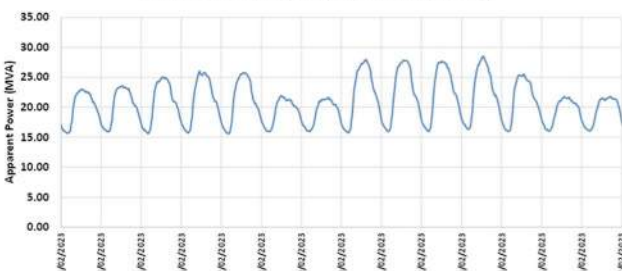
LIVE22 Zone Substation (2023 year) - Half hourly loading



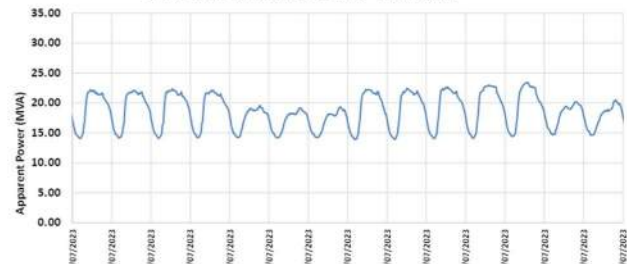
LIVE22 Zone Substation (2023 year) - Daily Maximum/Minimum



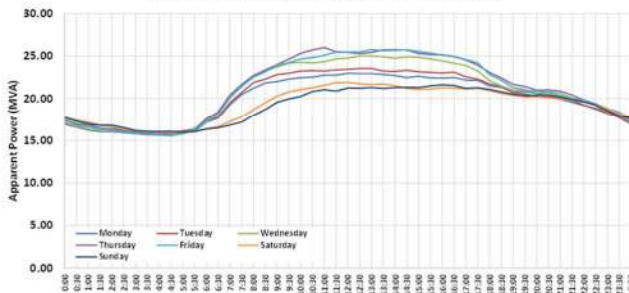
LIVE22 Zone Substation (2023 year) - Summer (February)



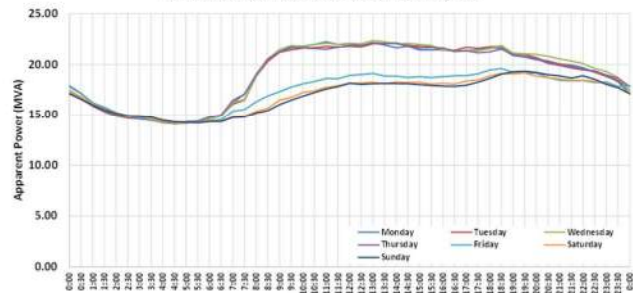
LIVE22 Zone Substation (2023 year) - Winter (July)



LIVE22 Zone Substation (2023 year) - Summer (February)



LIVE22 Zone Substation (2023 year) - Winter (July)



LIVE22 Zone Substation (2023 year) - Load Duration Curve

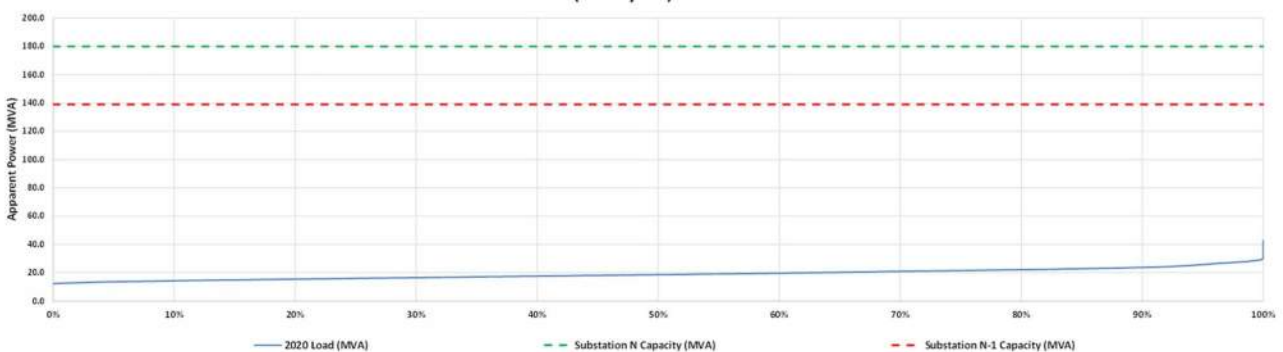
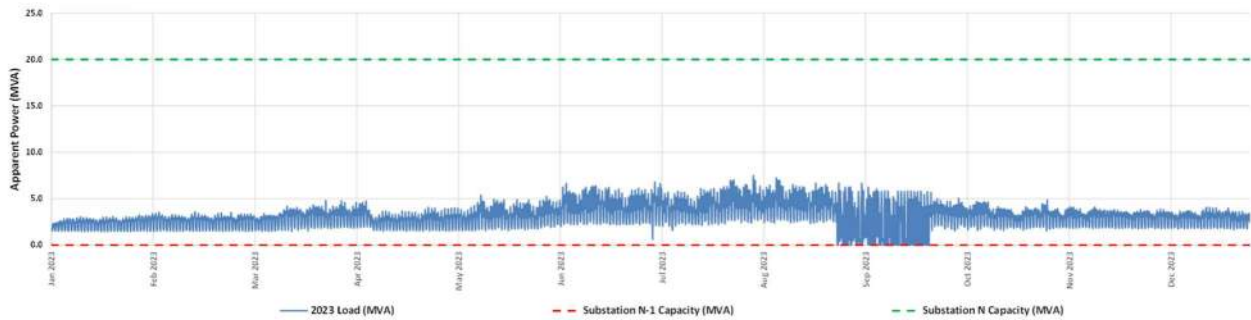


Figure 47. Liverpool 110/22 kV zone substation: Apparent Power (MVA) load characteristics

Mt Albert MVA

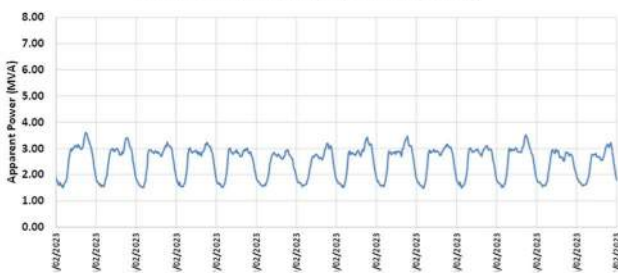
MALB Zone Substation (2023 year) - Half hourly loading



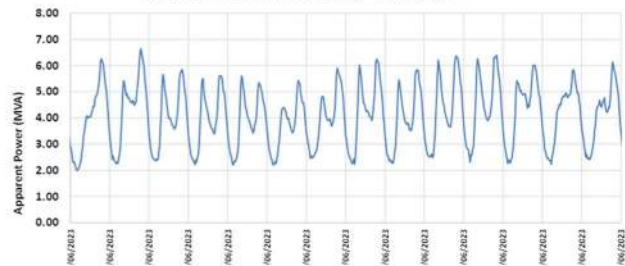
MALB Zone Substation (2023 year) - Daily Maximum/Minimum



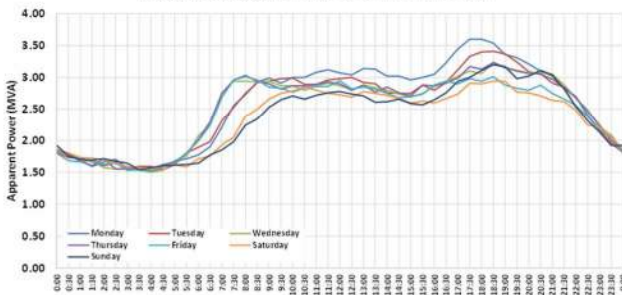
MALB Zone Substation (2023 year) - Summer (February)



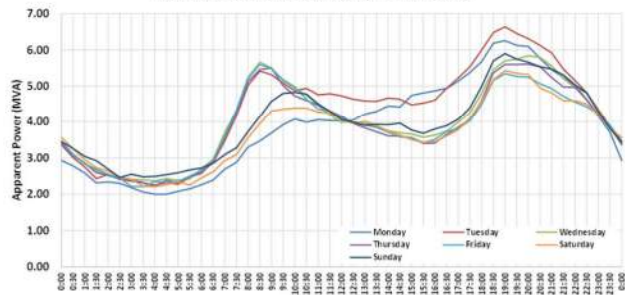
MALB Zone Substation (2023 year) - Winter (June)



MALB Zone Substation (2023 year) - Summer (February)



MALB Zone Substation (2023 year) - Winter (June)



MALB Zone Substation (2023 year) - Load Duration Curve

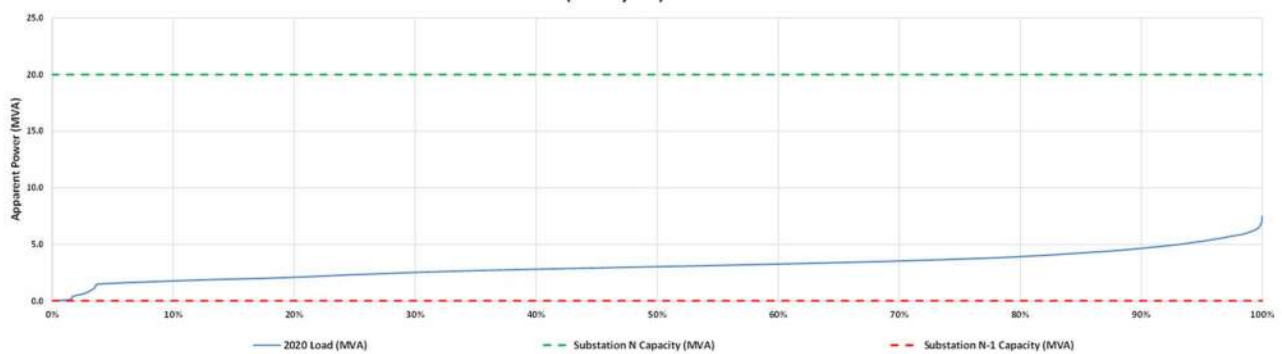
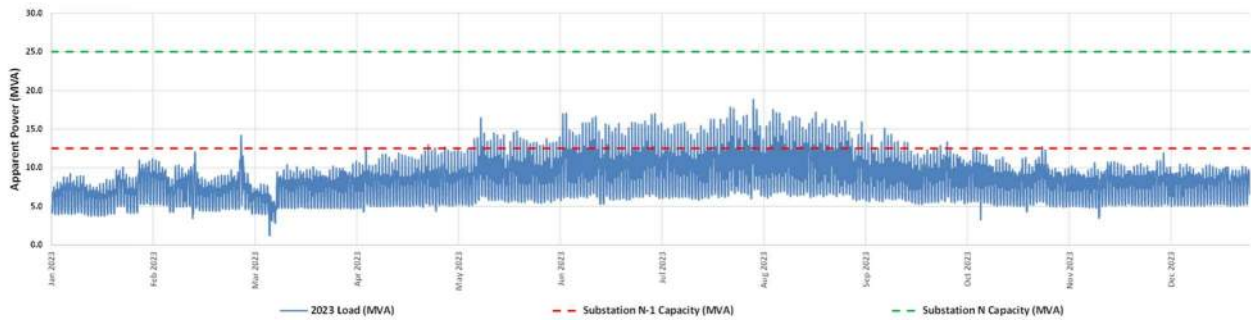


Figure 48. Mt Albert 22/11 kV zone substation: Apparent Power (MVA) load characteristics

Manly MVA

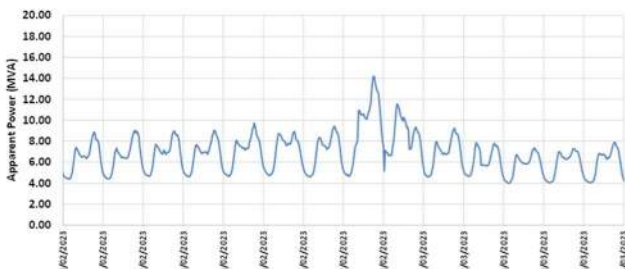
MANL Zone Substation (2023 year) - Half hourly loading



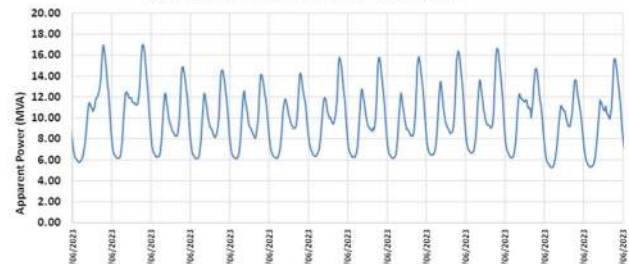
MANL Zone Substation (2023 year) - Daily Maximum/Minimum



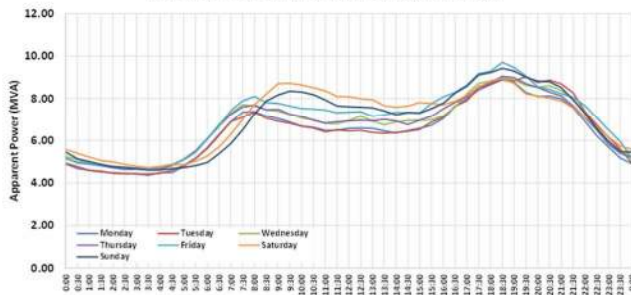
MANL Zone Substation (2023 year) - Summer (February)



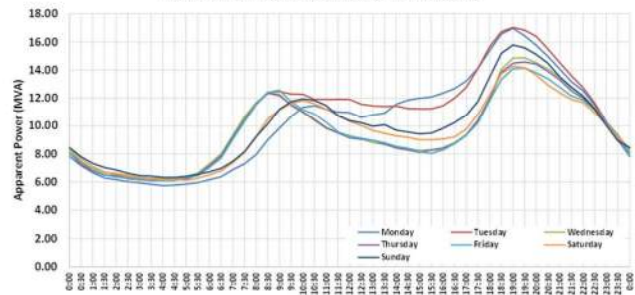
MANL Zone Substation (2023 year) - Winter (June)



MANL Zone Substation (2023 year) - Summer (February)



MANL Zone Substation (2023 year) - Winter (June)



MANL Zone Substation (2023 year) - Load Duration Curve

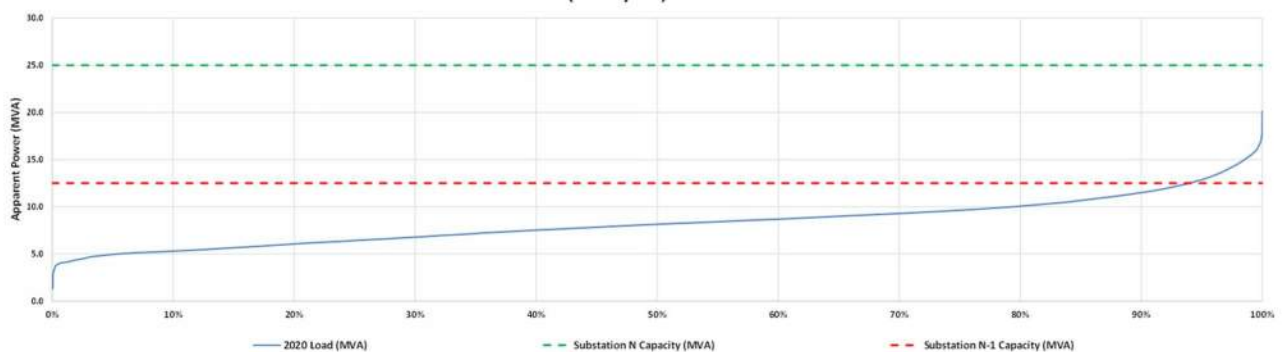
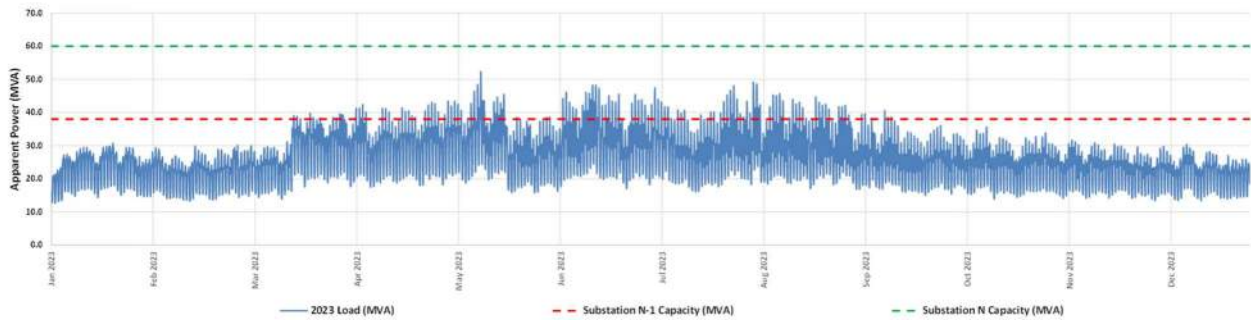


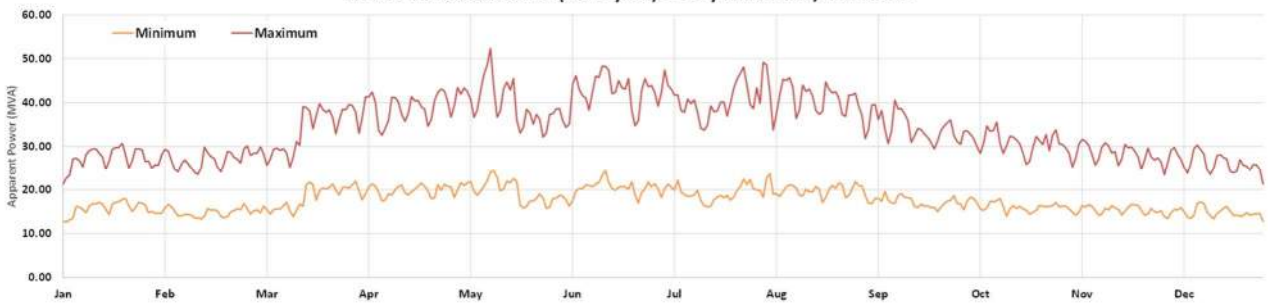
Figure 49. Manly 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Manurewa MVA

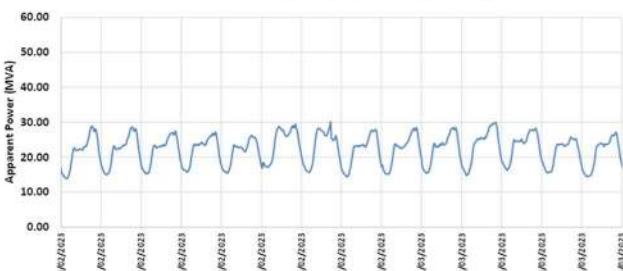
MANU Zone Substation (2023 year) - Half hourly loading



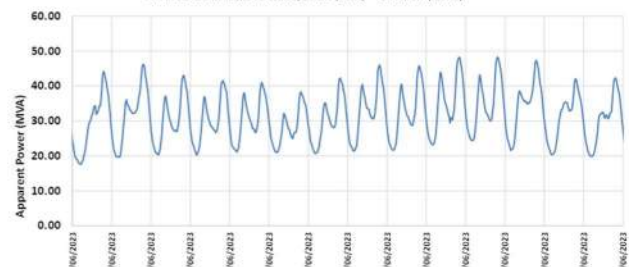
MANU Zone Substation (2023 year) - Daily Maximum/Minimum



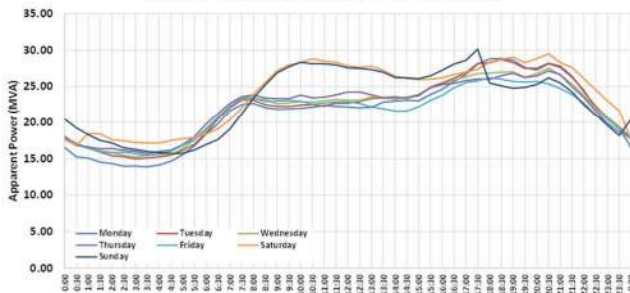
MANU Zone Substation (2023 year) - Summer (February)



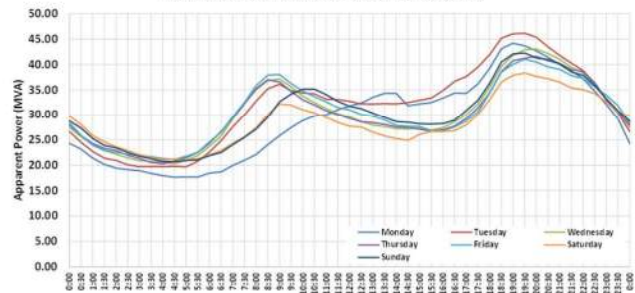
MANU Zone Substation (2023 year) - Winter (June)



MANU Zone Substation (2023 year) - Summer (February)



MANU Zone Substation (2023 year) - Winter (June)



MANU Zone Substation (2023 year) - Load Duration Curve

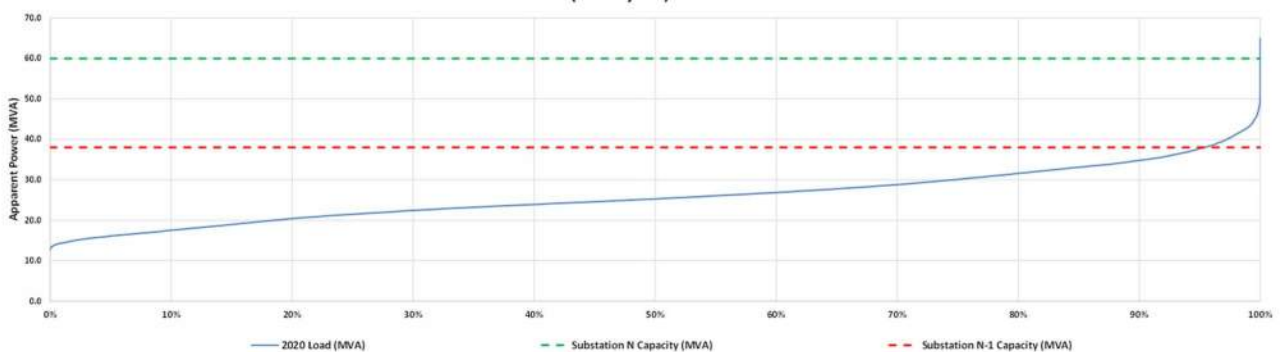
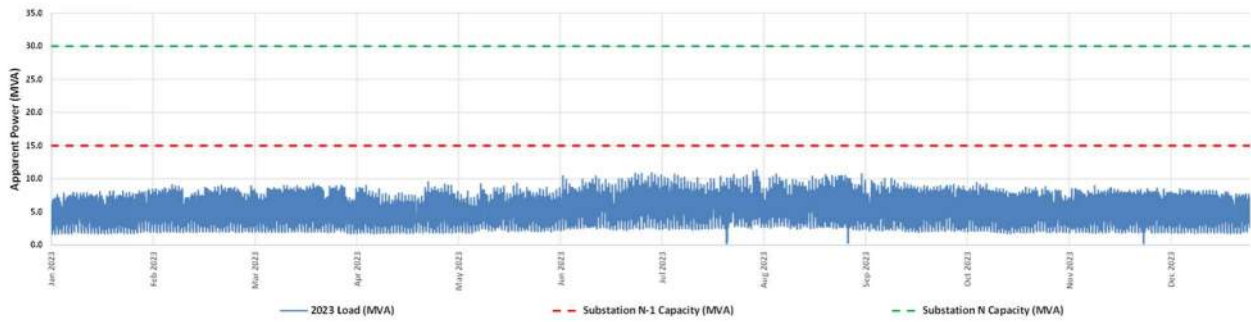


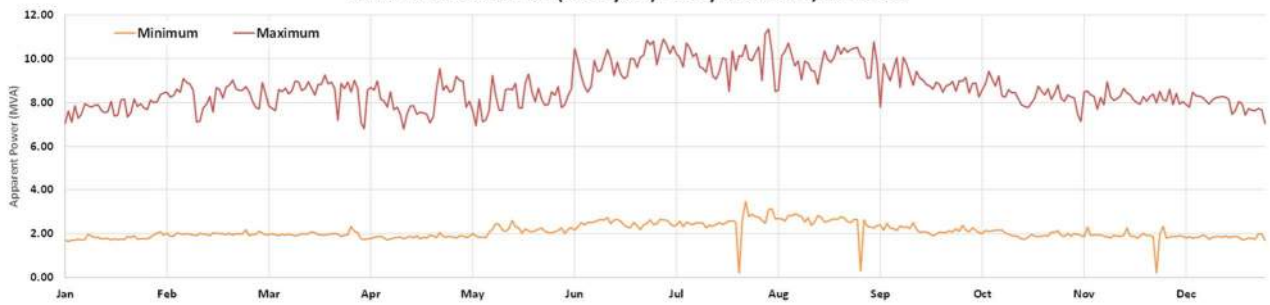
Figure 50. Manurewa 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Maraetai MVA

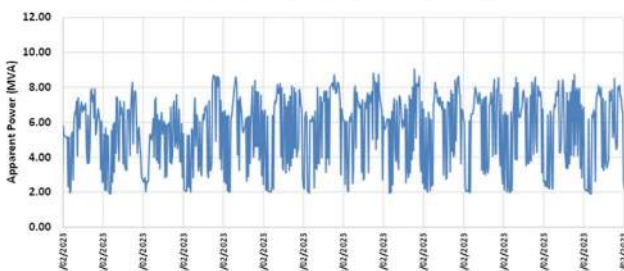
MARA Zone Substation (2023 year) - Half hourly loading



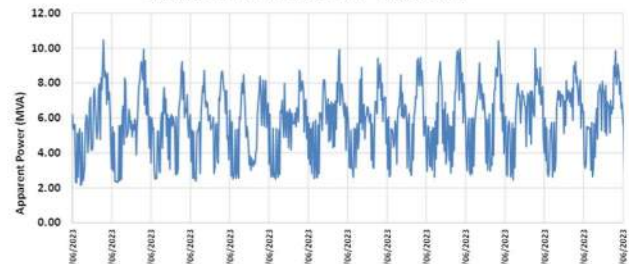
MARA Zone Substation (2023 year) - Daily Maximum/Minimum



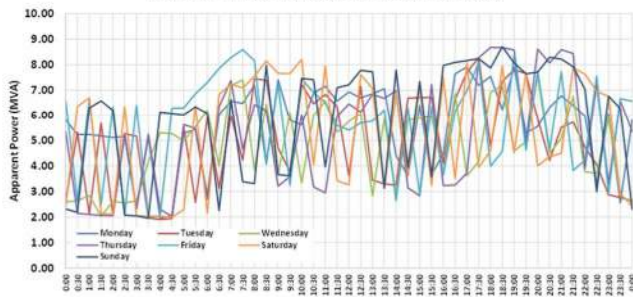
MARA Zone Substation (2023 year) - Summer (February)



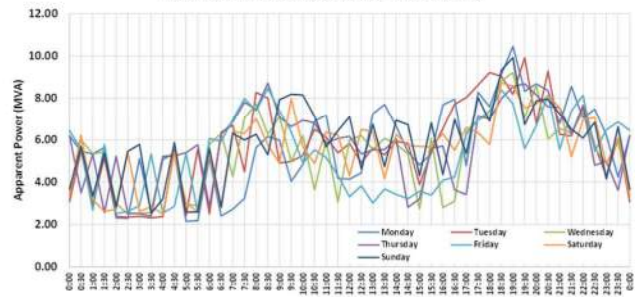
MARA Zone Substation (2023 year) - Winter (June)



MARA Zone Substation (2023 year) - Summer (February)



MARA Zone Substation (2023 year) - Winter (June)



MARA Zone Substation (2023 year) - Load Duration Curve

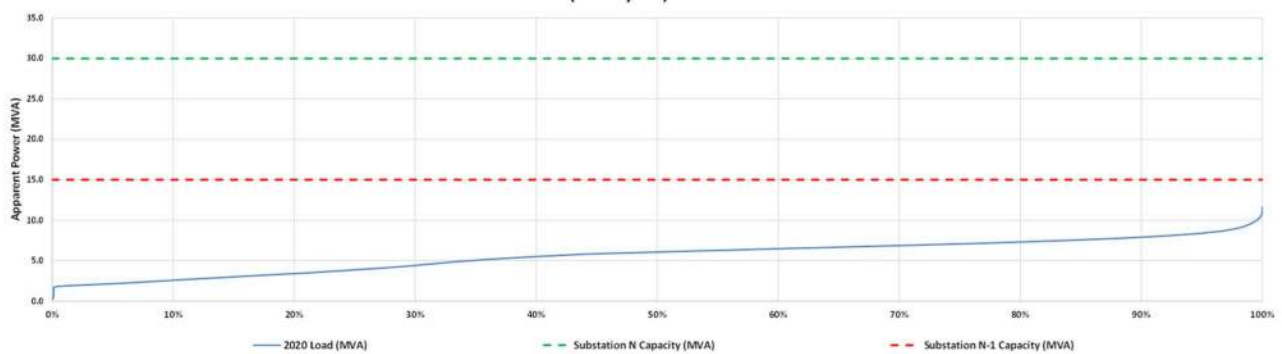
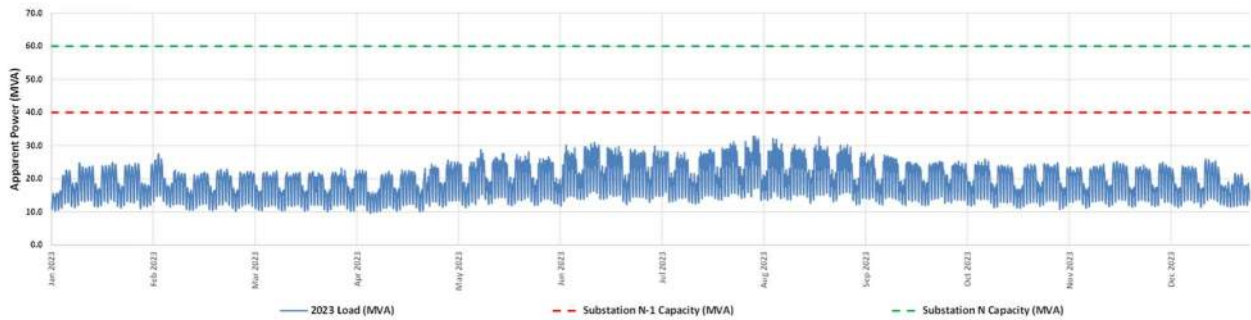


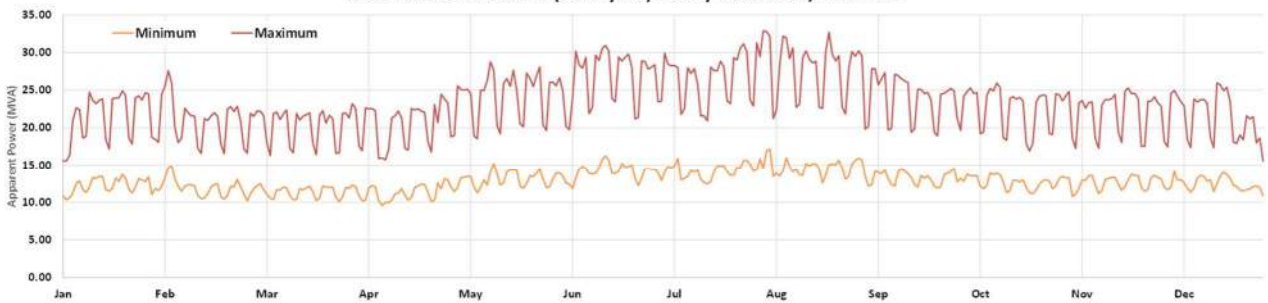
Figure 51. Maraetai 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Māngere Central MVA

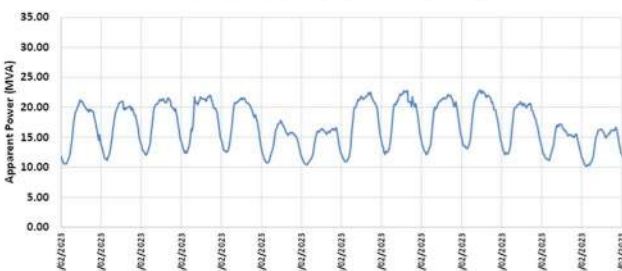
MCEN Zone Substation (2023 year) - Half hourly loading



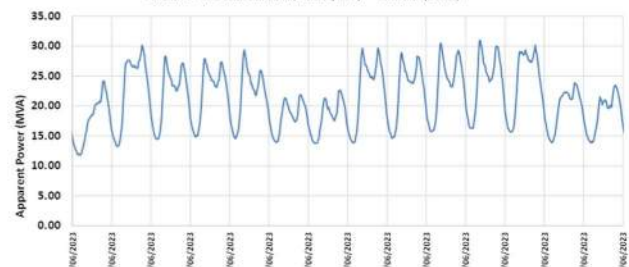
MCEN Zone Substation (2023 year) - Daily Maximum/Minimum



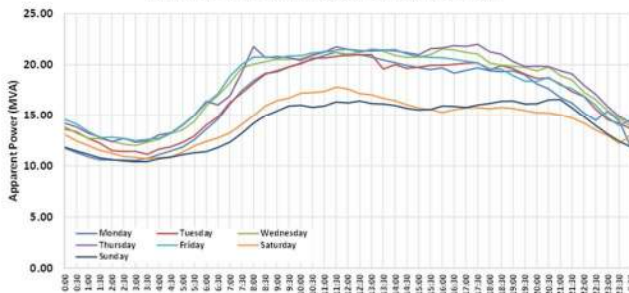
MCEN Zone Substation (2023 year) - Summer (February)



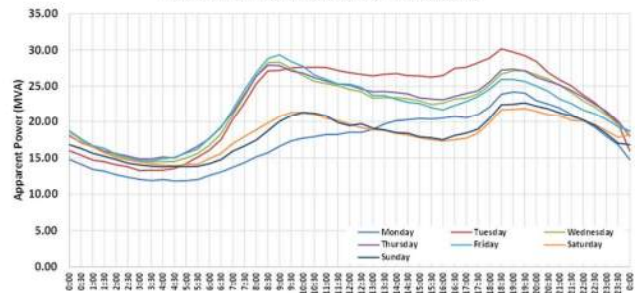
MCEN Zone Substation (2023 year) - Winter (June)



MCEN Zone Substation (2023 year) - Summer (February)



MCEN Zone Substation (2023 year) - Winter (June)



MCEN Zone Substation (2023 year) - Load Duration Curve

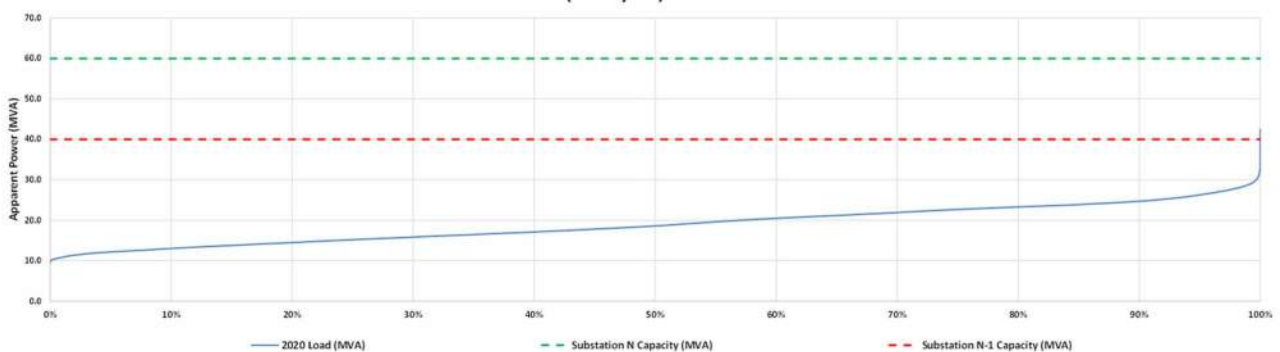
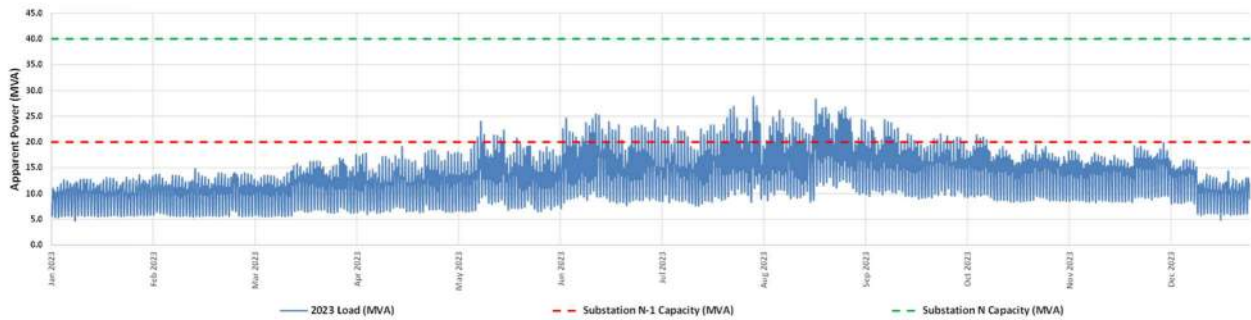


Figure 52. Māngere Central 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Māngere East MVA

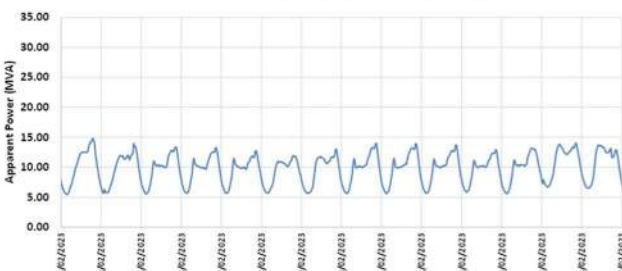
MEAS Zone Substation (2023 year) - Half hourly loading



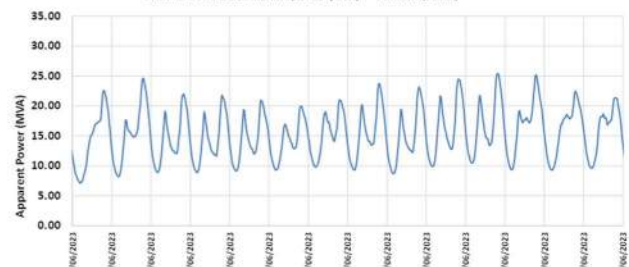
MEAS Zone Substation (2023 year) - Daily Maximum/Minimum



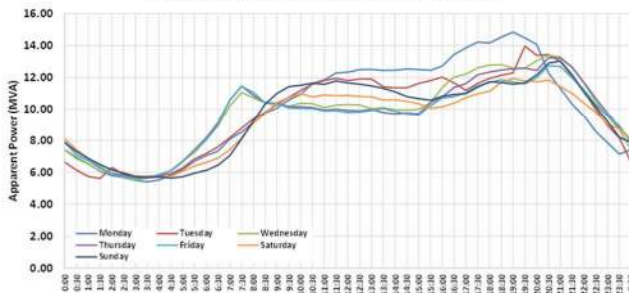
MEAS Zone Substation (2023 year) - Summer (February)



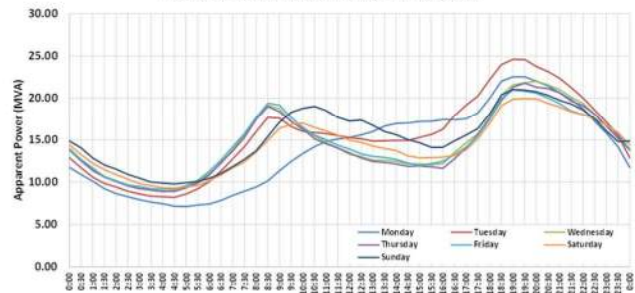
MEAS Zone Substation (2023 year) - Winter (June)



MEAS Zone Substation (2023 year) - Summer (February)



MEAS Zone Substation (2023 year) - Winter (June)



MEAS Zone Substation (2023 year) - Load Duration Curve

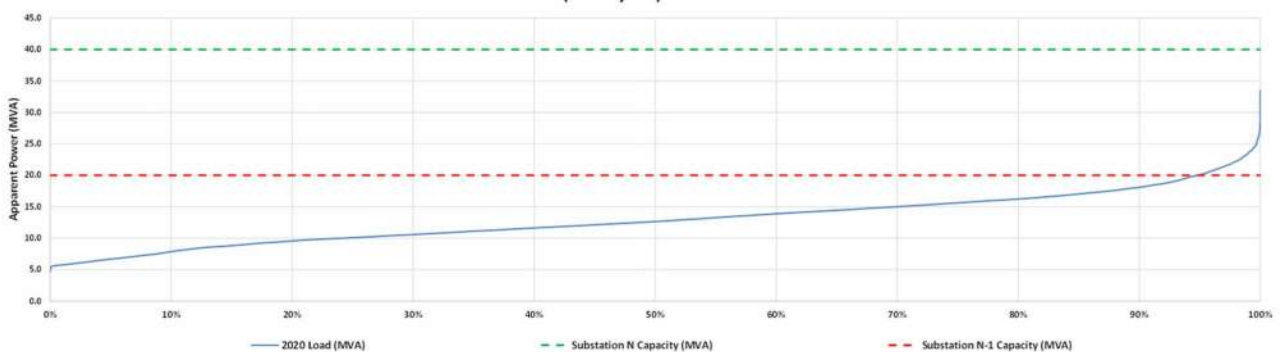
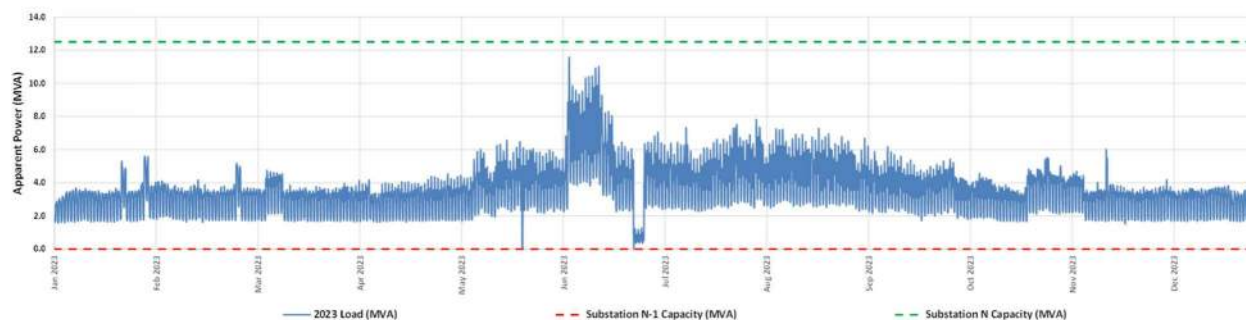


Figure 53. Māngere East 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Milford MVA

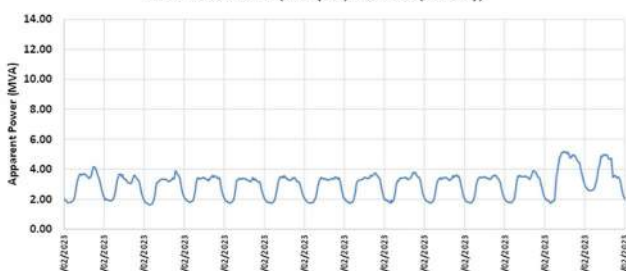
MILF Zone Substation (2023 year) - Half hourly loading



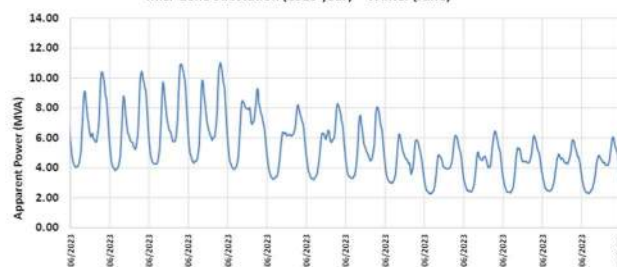
MILF Zone Substation (2023 year) - Daily Maximum/Minimum



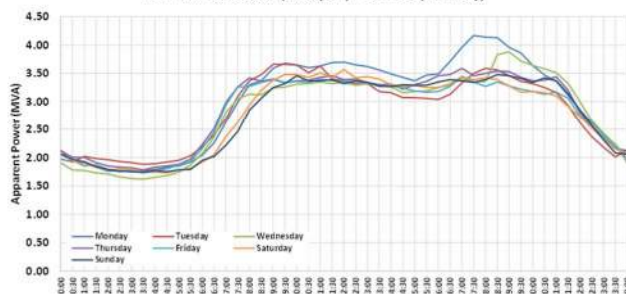
MILF Zone Substation (2023 year) - Summer (February)



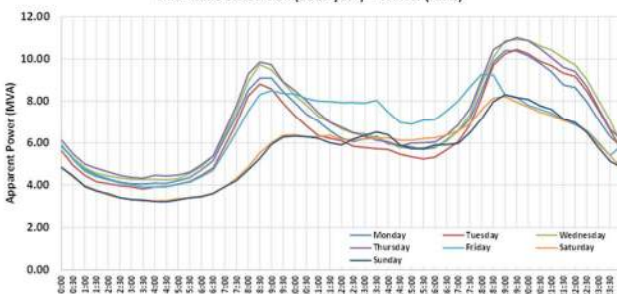
MILF Zone Substation (2023 year) - Winter (June)



MILF Zone Substation (2023 year) - Summer (February)



MILF Zone Substation (2023 year) - Winter (June)



MILF Zone Substation (2023 year) - Load Duration Curve

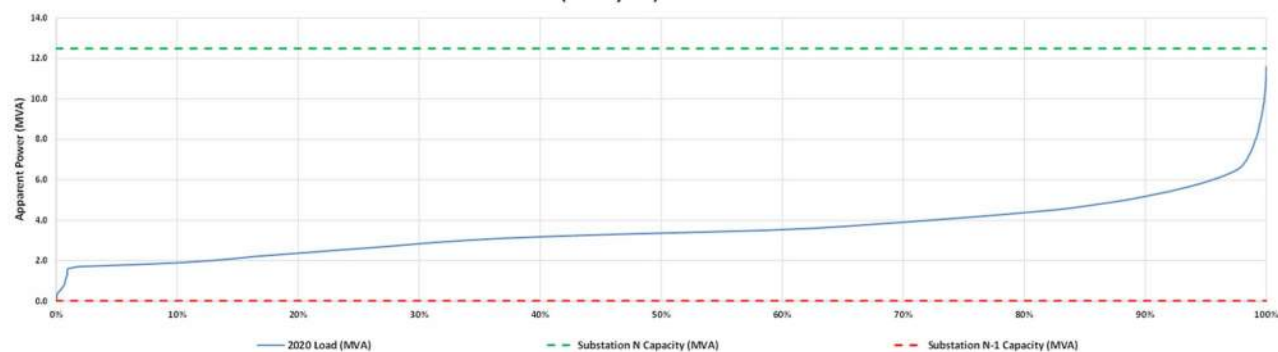
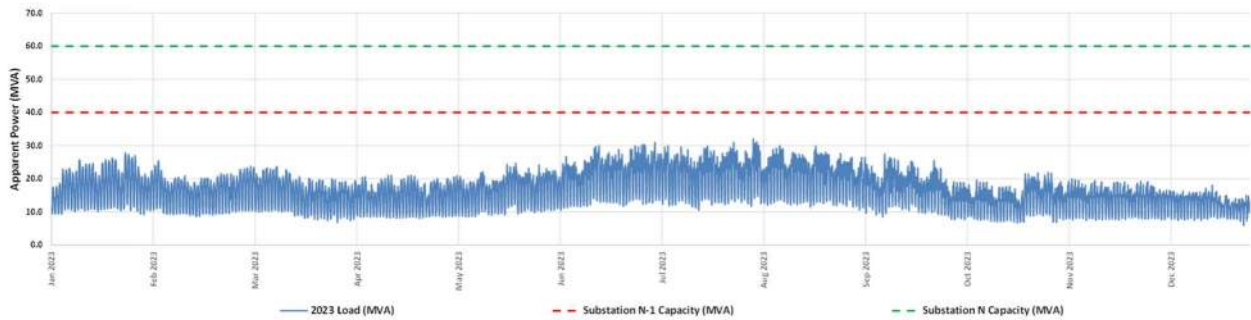


Figure 54. Milford 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Manukau MVA

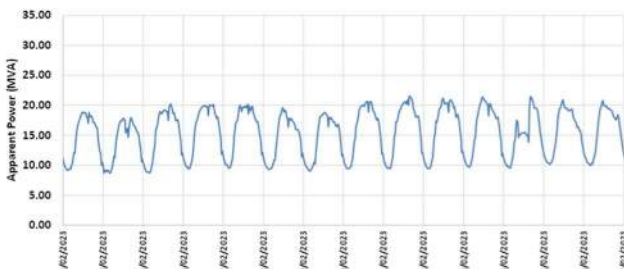
MKAU Zone Substation (2023 year) - Half hourly loading



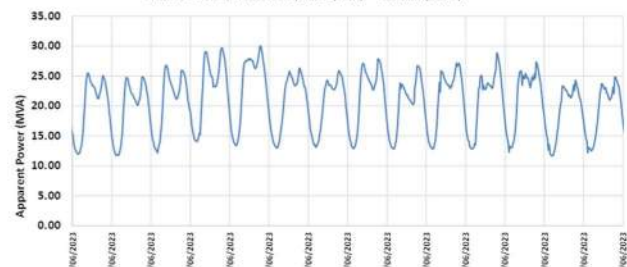
MKAU Zone Substation (2023 year) - Daily Maximum/Minimum



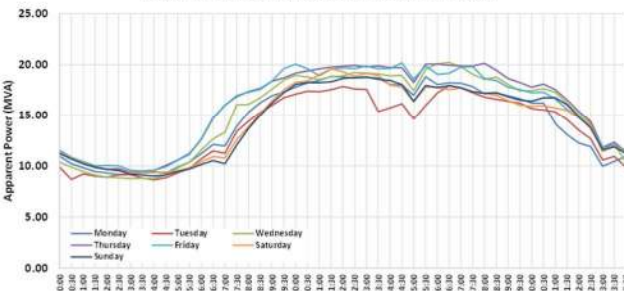
MKAU Zone Substation (2023 year) - Summer (February)



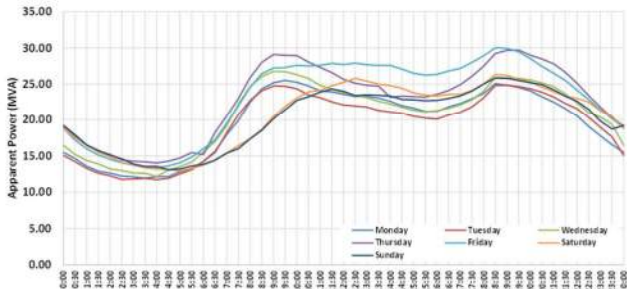
MKAU Zone Substation (2023 year) - Winter (June)



MKAU Zone Substation (2023 year) - Summer (February)



MKAU Zone Substation (2023 year) - Winter (June)



MKAU Zone Substation (2023 year) - Load Duration Curve

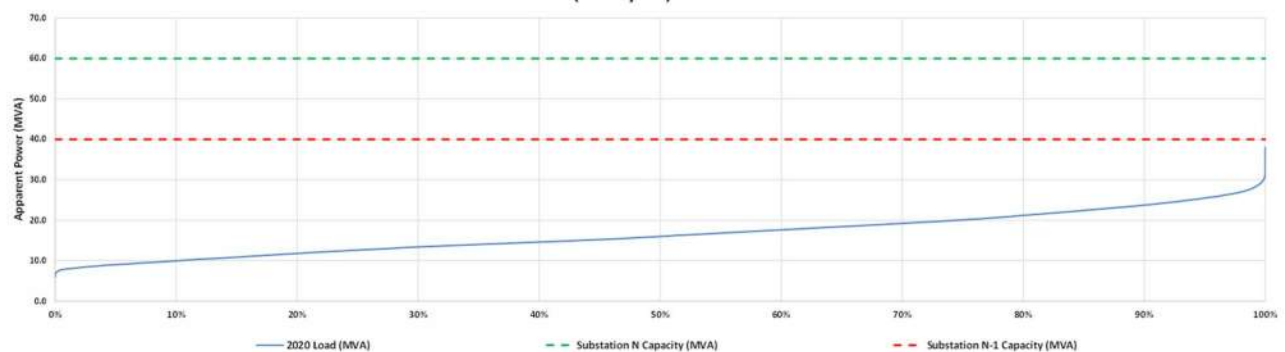
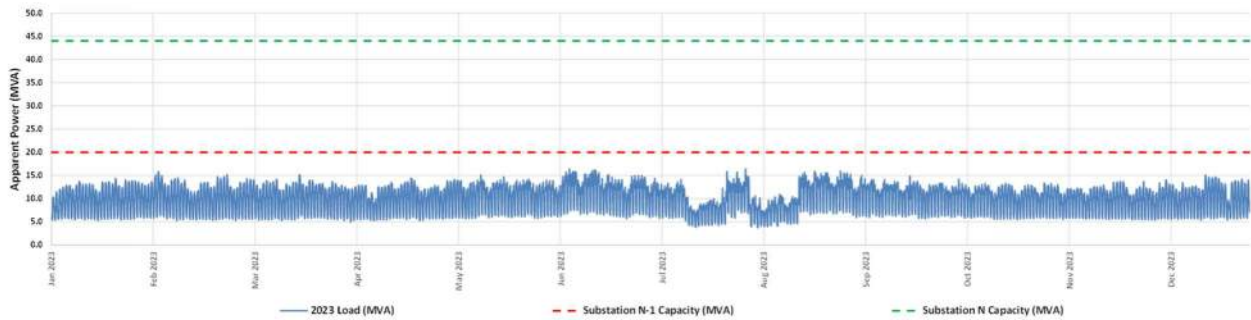


Figure 55. Manukau 33/11 kV zone substation: Apparent Power (MVA) load characteristics

McKinnon MVA

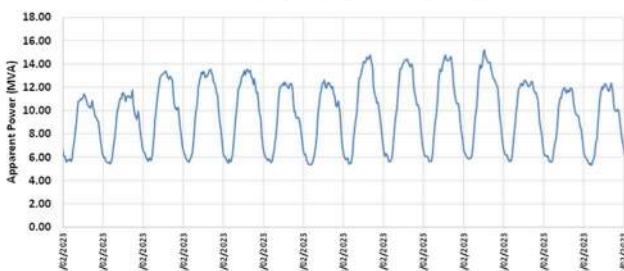
MKIN Zone Substation (2023 year) - Half hourly loading



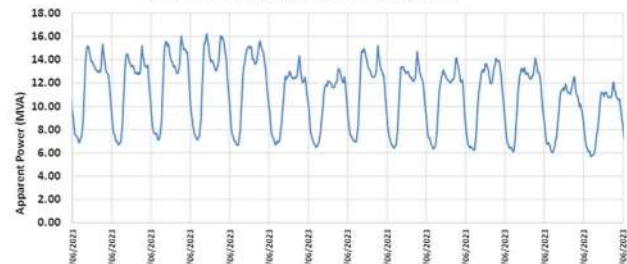
MKIN Zone Substation (2023 year) - Daily Maximum/Minimum



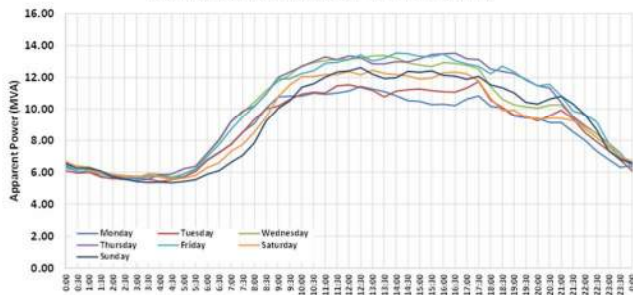
MKIN Zone Substation (2023 year) - Summer (February)



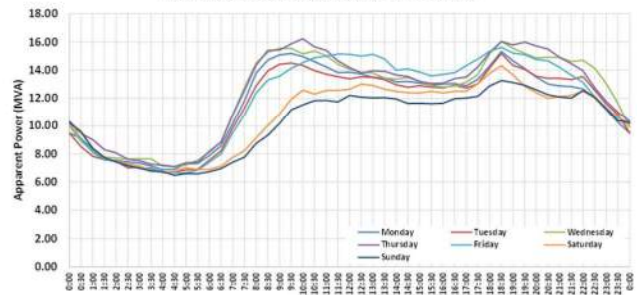
MKIN Zone Substation (2023 year) - Winter (June)



MKIN Zone Substation (2023 year) - Summer (February)



MKIN Zone Substation (2023 year) - Winter (June)



MKIN Zone Substation (2023 year) - Load Duration Curve

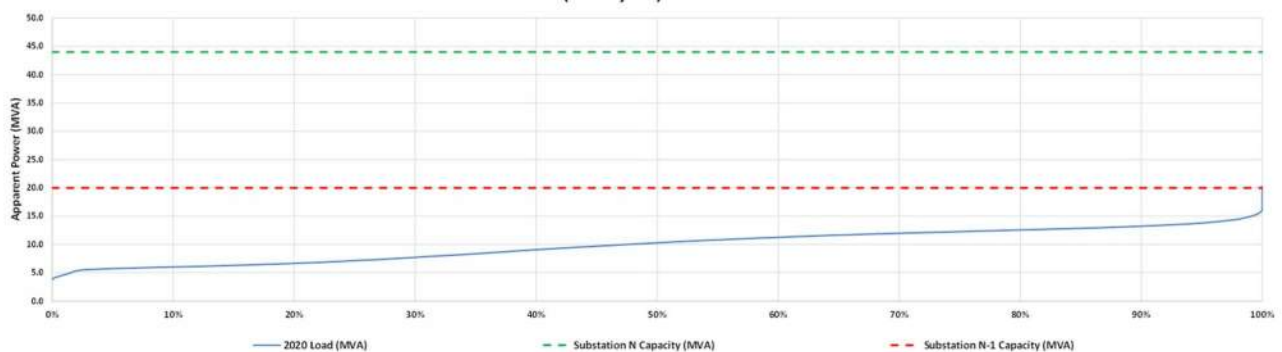
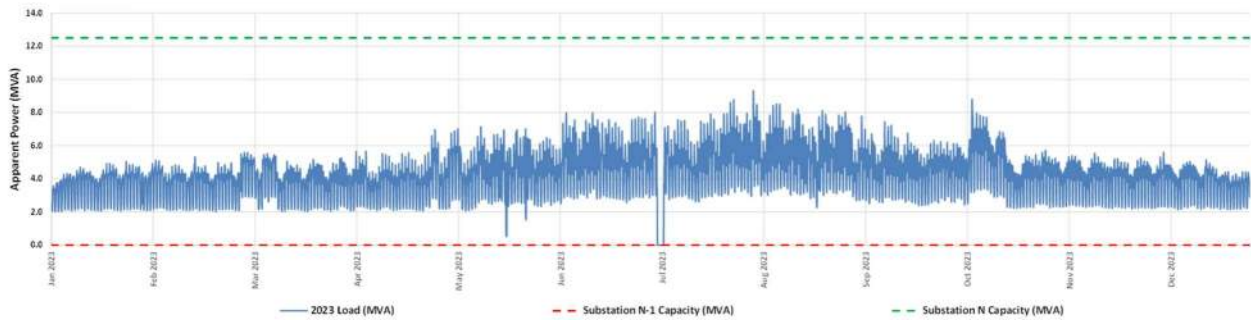


Figure 56. McKinnon 33/11 kV zone substation: Apparent Power (MVA) load characteristics

McLeod Road MVA

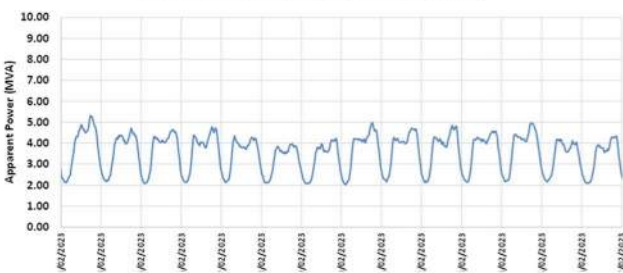
MLEO Zone Substation (2023 year) - Half hourly loading



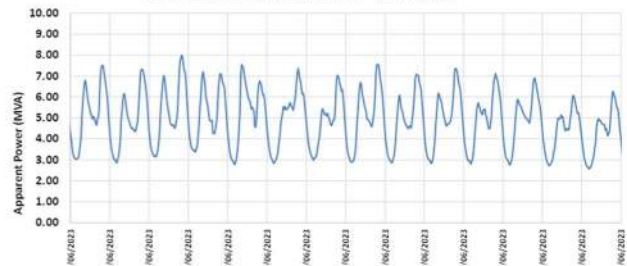
MLEO Zone Substation (2023 year) - Daily Maximum/Minimum



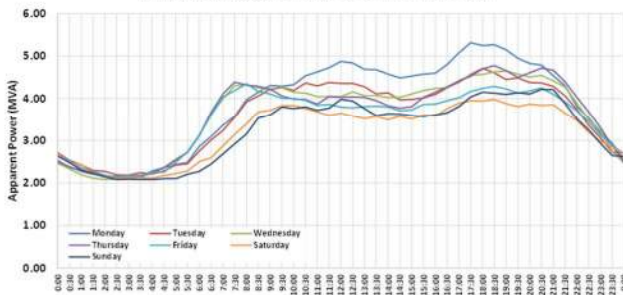
MLEO Zone Substation (2023 year) - Summer (February)



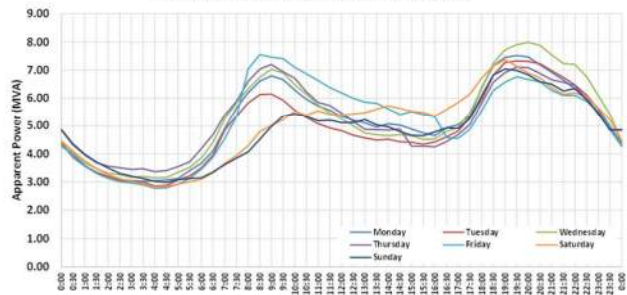
MLEO Zone Substation (2023 year) - Winter (June)



MLEO Zone Substation (2023 year) - Summer (February)



MLEO Zone Substation (2023 year) - Winter (June)



MLEO Zone Substation (2023 year) - Load Duration Curve

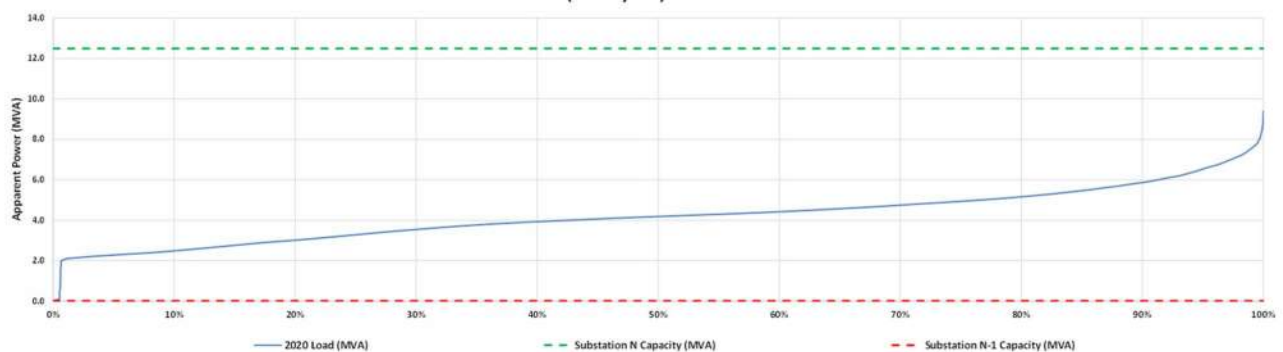
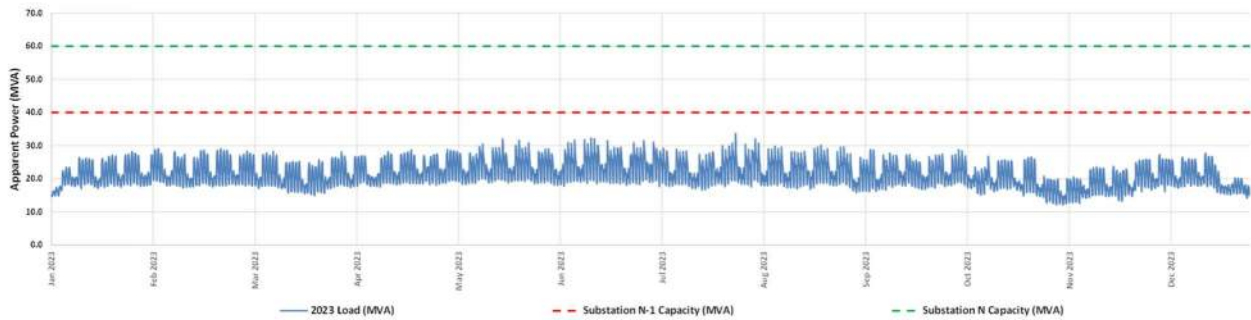


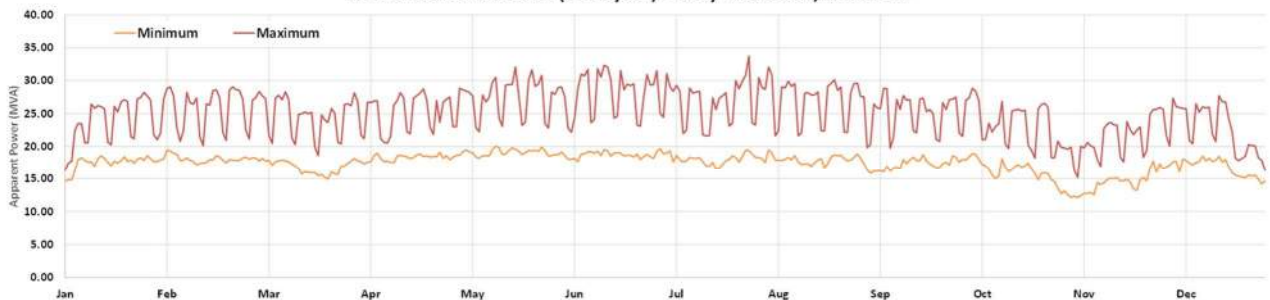
Figure 57. McLeod Road 33/11 kV zone substation: Apparent Power (MVA) load characteristics

McNab MVA

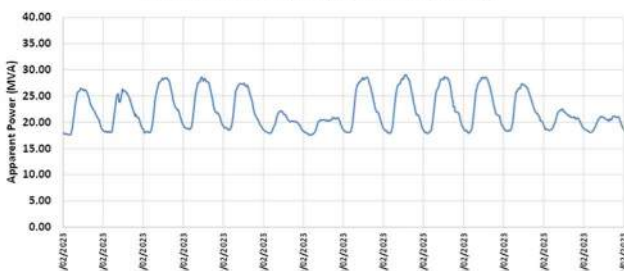
MNAB Zone Substation (2023 year) - Half hourly loading



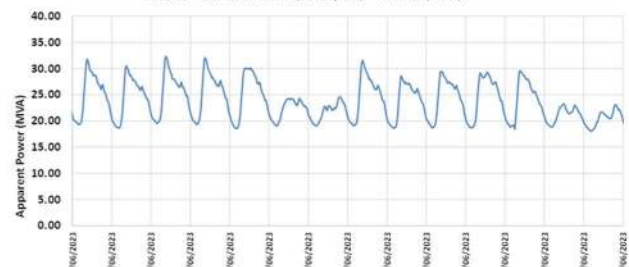
MNAB Zone Substation (2023 year) - Daily Maximum/Minimum



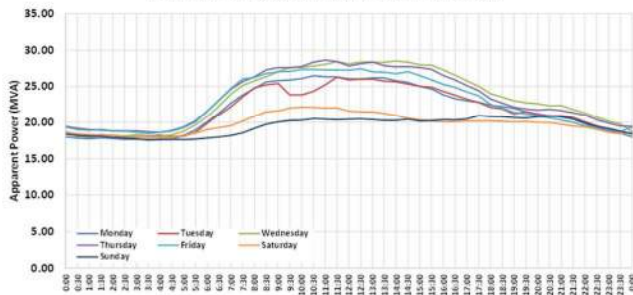
MNAB Zone Substation (2023 year) - Summer (February)



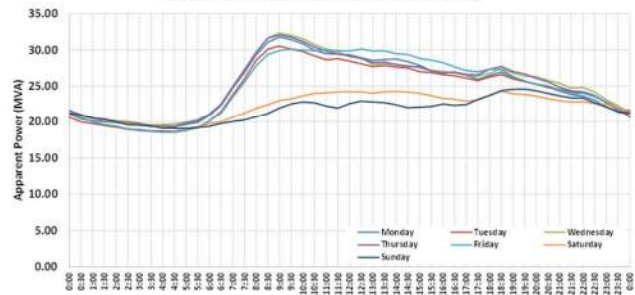
MNAB Zone Substation (2023 year) - Winter (June)



MNAB Zone Substation (2023 year) - Summer (February)



MNAB Zone Substation (2023 year) - Winter (June)



MNAB Zone Substation (2023 year) - Load Duration Curve

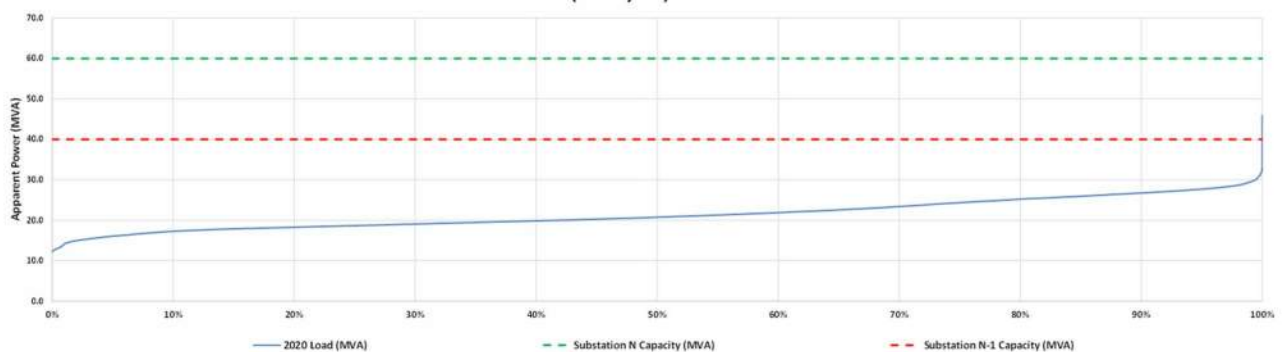
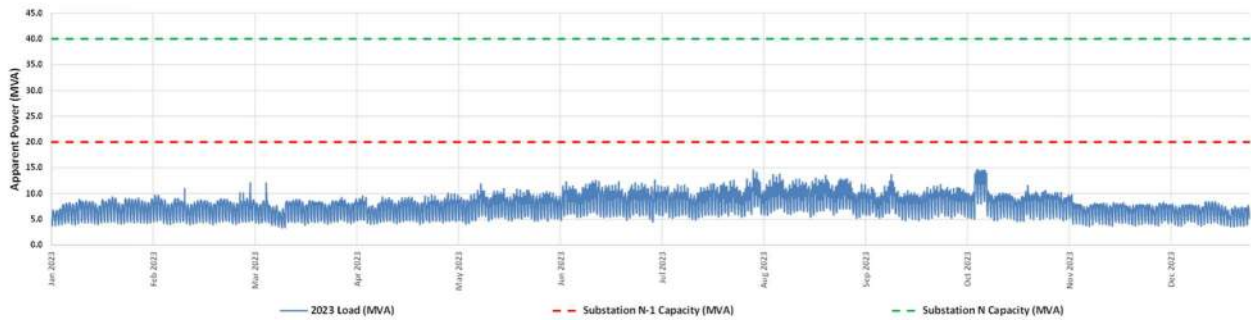


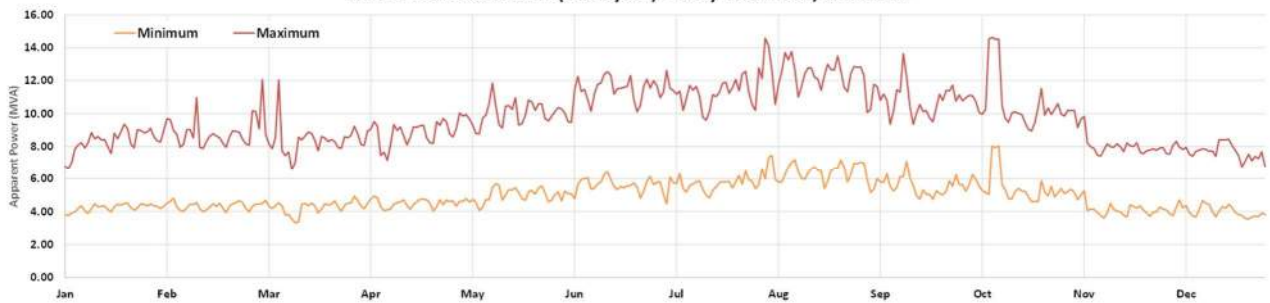
Figure 58. McNab 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Mt Wellington MVA

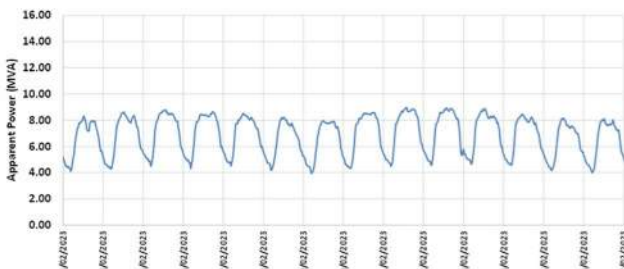
MWEL Zone Substation (2023 year) - Half hourly loading



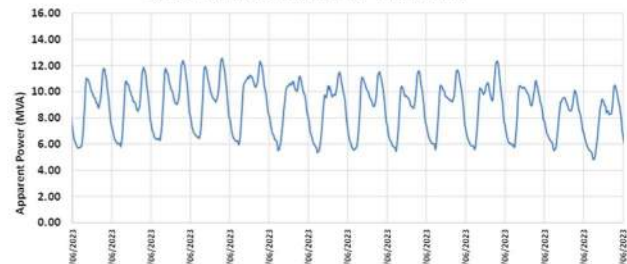
MWEL Zone Substation (2023 year) - Daily Maximum/Minimum



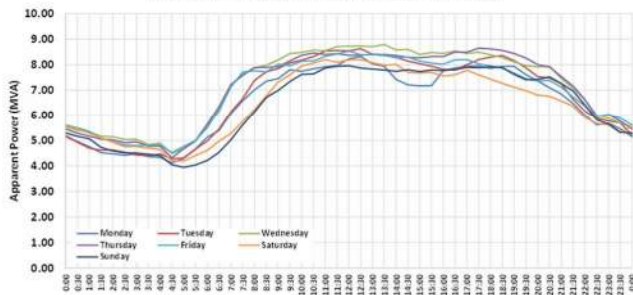
MWEL Zone Substation (2023 year) - Summer (February)



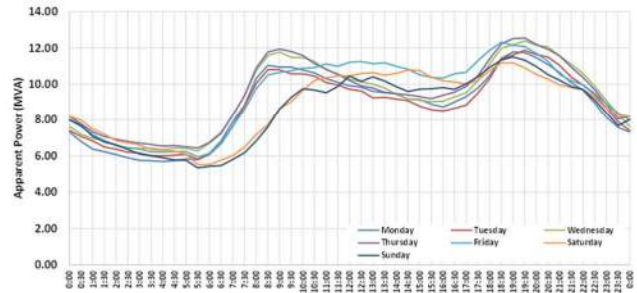
MWEL Zone Substation (2023 year) - Winter (June)



MWEL Zone Substation (2023 year) - Summer (February)



MWEL Zone Substation (2023 year) - Winter (June)



MWEL Zone Substation (2023 year) - Load Duration Curve

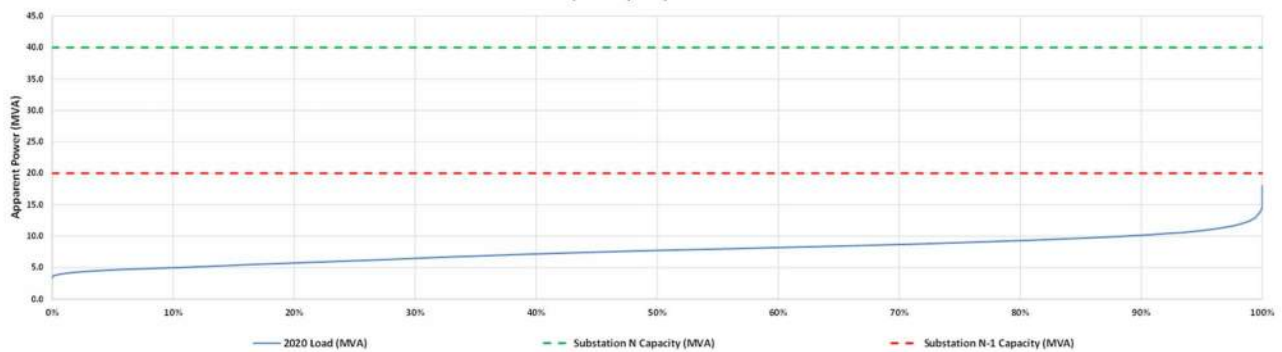
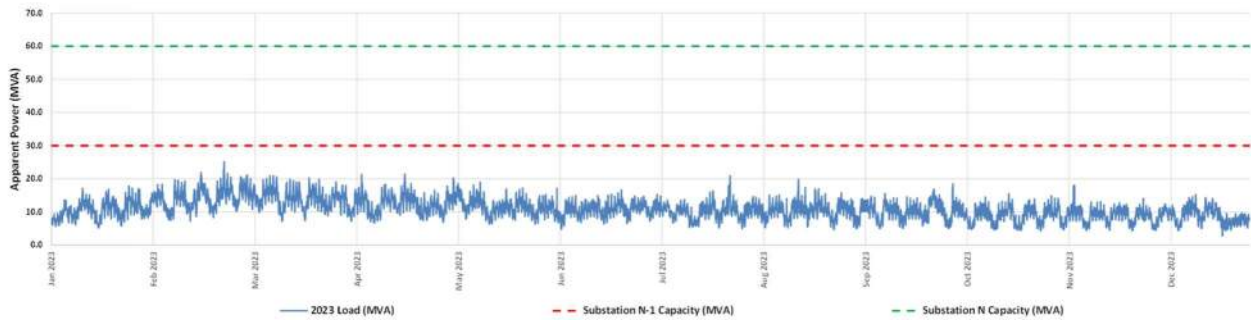


Figure 59. Mt Wellington 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Māngere West MVA

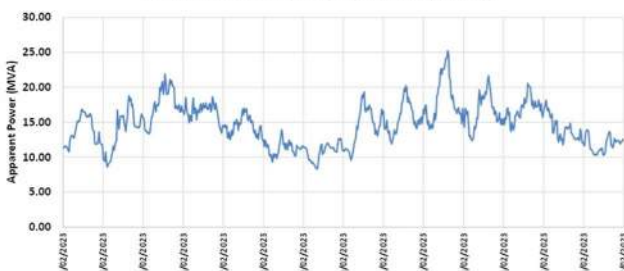
MWES Zone Substation (2023 year) - Half hourly loading



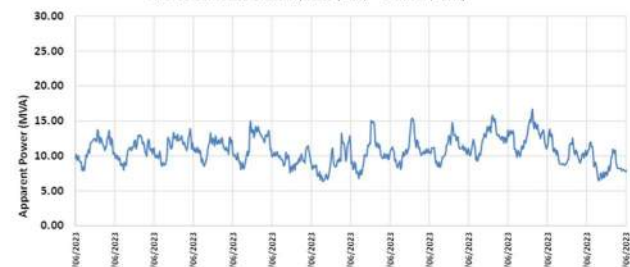
MWES Zone Substation (2023 year) - Daily Maximum/Minimum



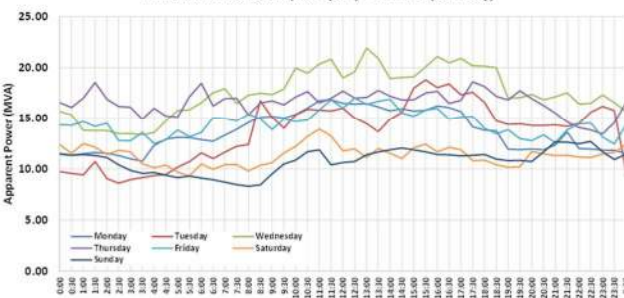
MWES Zone Substation (2023 year) - Summer (February)



MWES Zone Substation (2023 year) - Winter (June)



MWES Zone Substation (2023 year) - Summer (February)



MWES Zone Substation (2023 year) - Winter (June)



MWES Zone Substation (2023 year) - Load Duration Curve

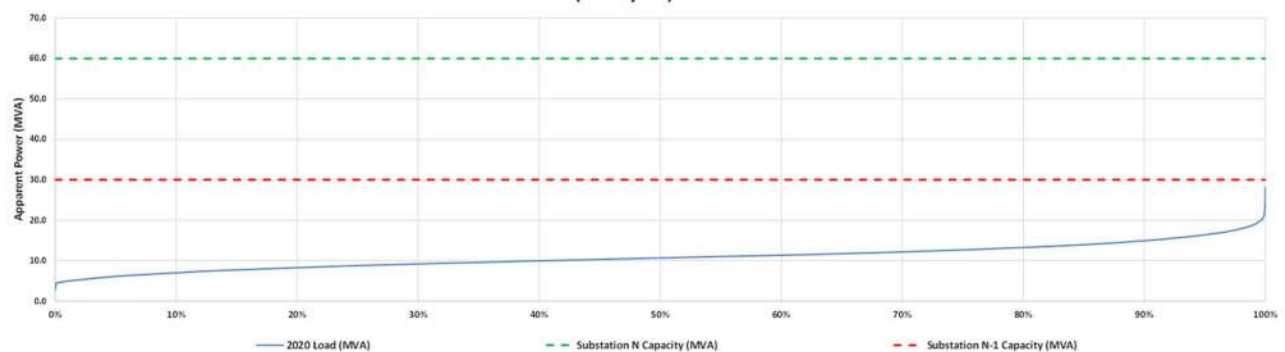
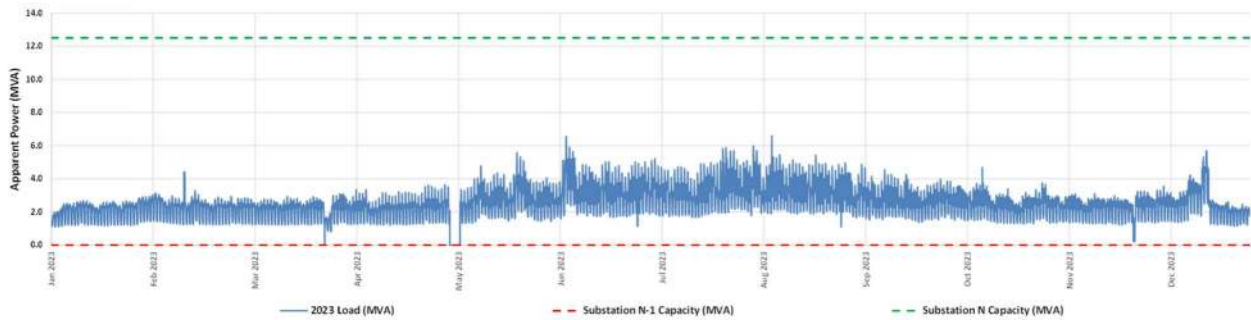


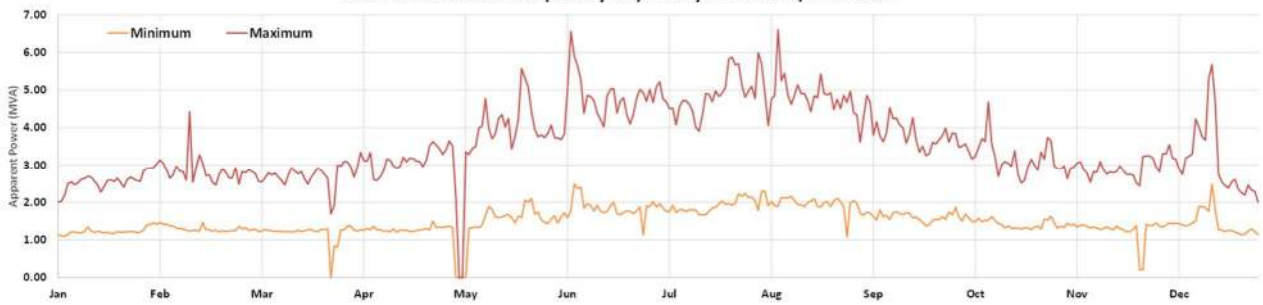
Figure 60. Māngere West 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Northcote MVA

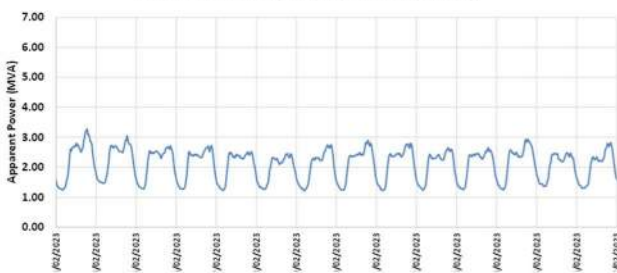
NCOT Zone Substation (2023 year) - Half hourly loading



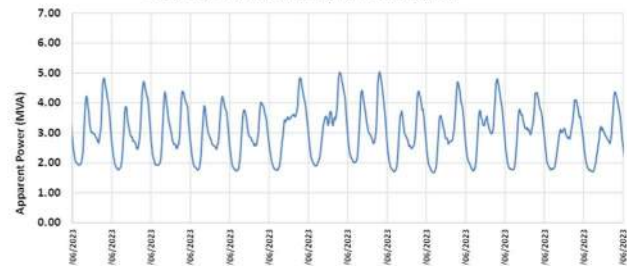
NCOT Zone Substation (2023 year) - Daily Maximum/Minimum



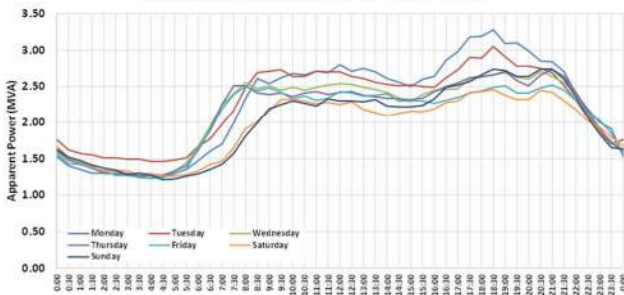
NCOT Zone Substation (2023 year) - Summer (February)



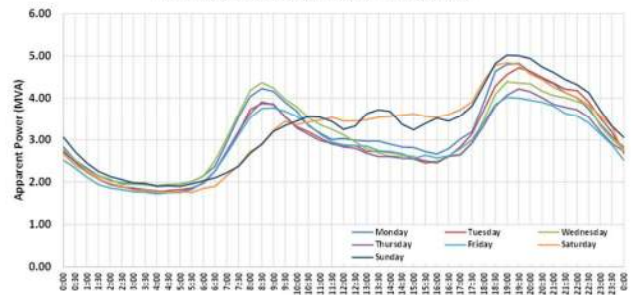
NCOT Zone Substation (2023 year) - Winter (June)



NCOT Zone Substation (2023 year) - Summer (February)



NCOT Zone Substation (2023 year) - Winter (June)



NCOT Zone Substation (2023 year) - Load Duration Curve

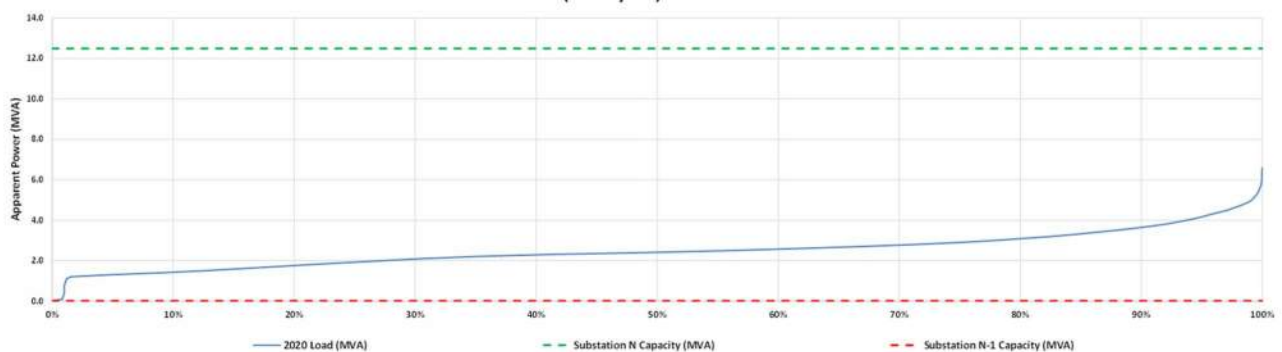
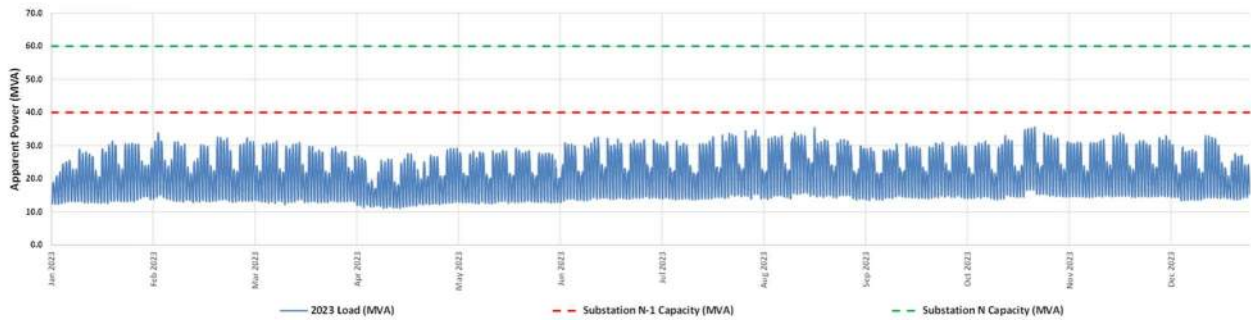


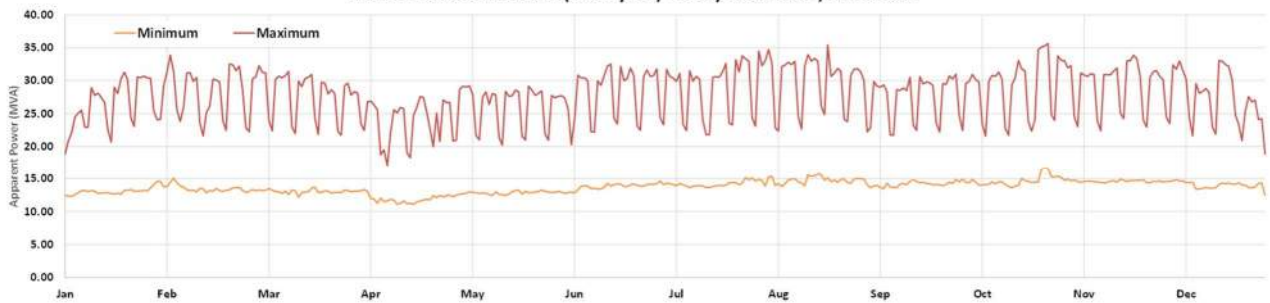
Figure 61. Northcote 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Newmarket MVA

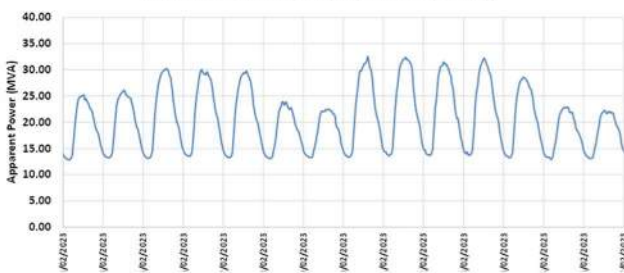
NEWM Zone Substation (2023 year) - Half hourly loading



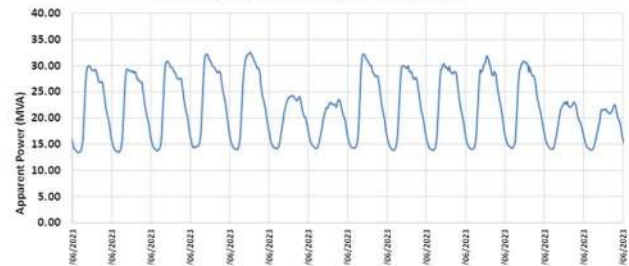
NEWM Zone Substation (2023 year) - Daily Maximum/Minimum



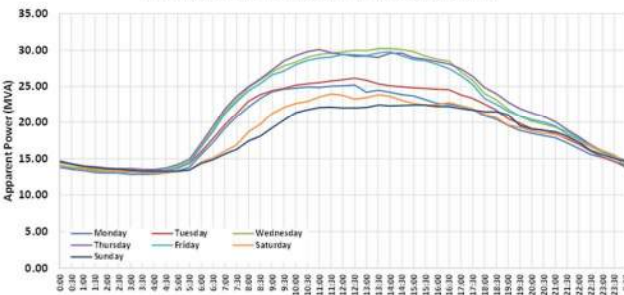
NEWM Zone Substation (2023 year) - Summer (February)



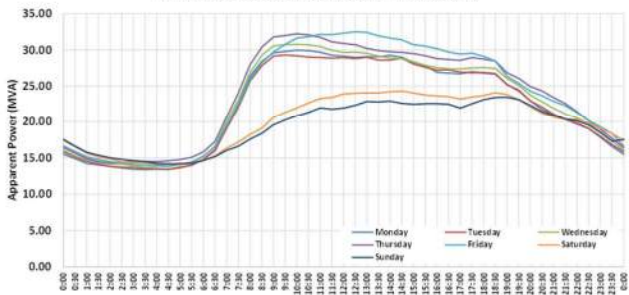
NEWM Zone Substation (2023 year) - Winter (June)



NEWM Zone Substation (2023 year) - Summer (February)



NEWM Zone Substation (2023 year) - Winter (June)



NEWM Zone Substation (2023 year) - Load Duration Curve

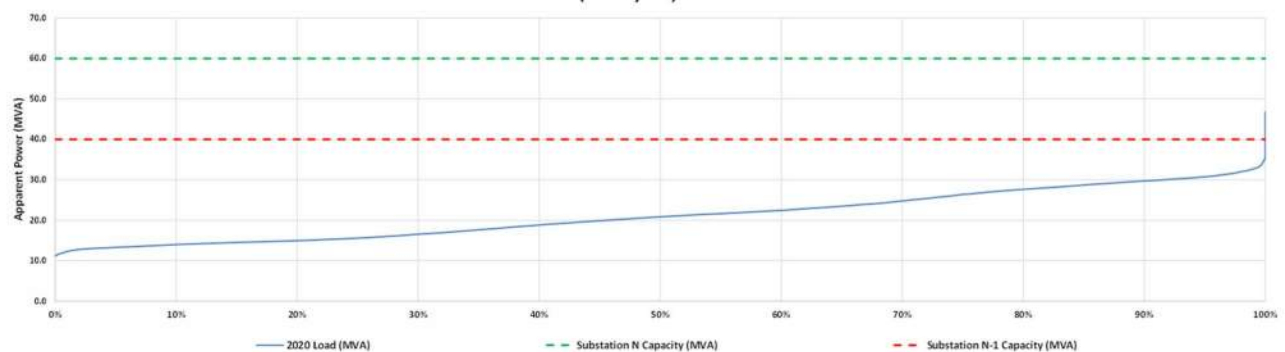
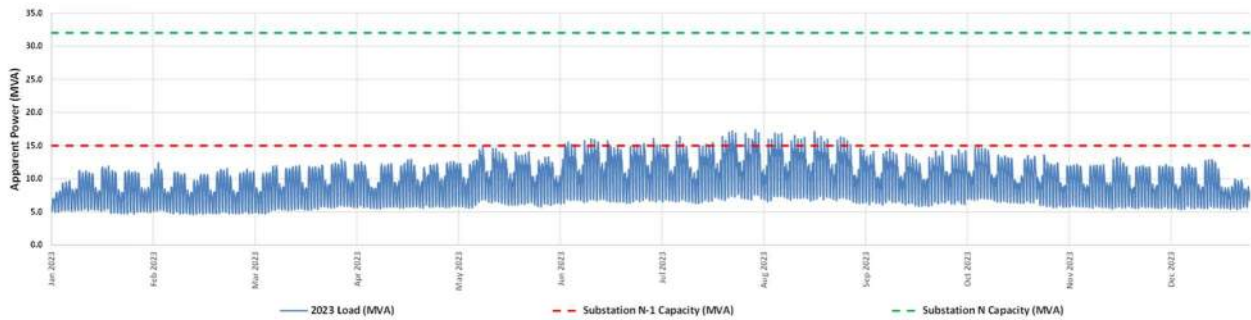


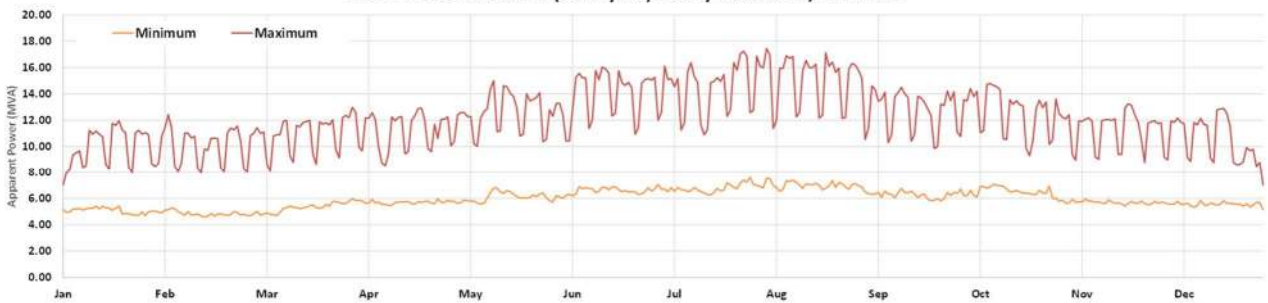
Figure 62. Newmarket 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Newton MVA

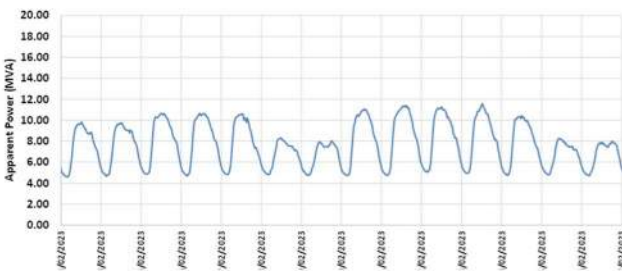
NEWT Zone Substation (2023 year) - Half hourly loading



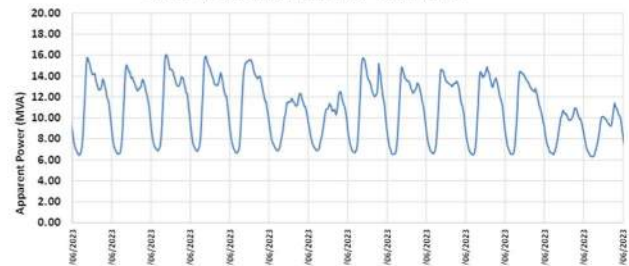
NEWT Zone Substation (2023 year) - Daily Maximum/Minimum



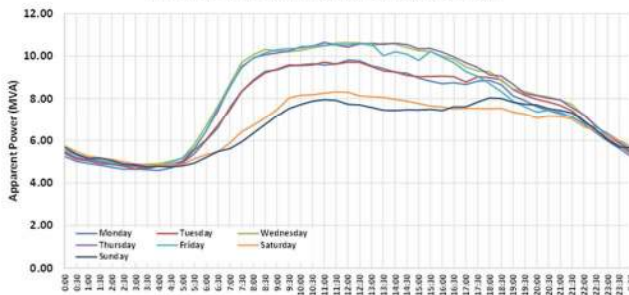
NEWT Zone Substation (2023 year) - Summer (February)



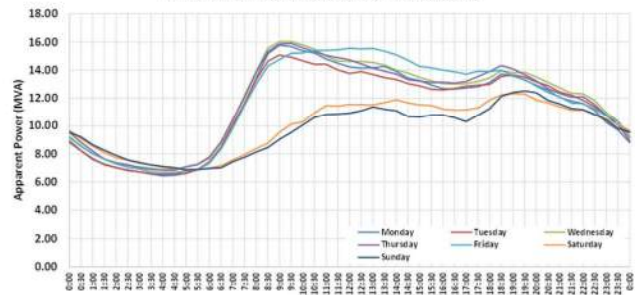
NEWT Zone Substation (2023 year) - Winter (June)



NEWT Zone Substation (2023 year) - Summer (February)



NEWT Zone Substation (2023 year) - Winter (June)



NEWT Zone Substation (2023 year) - Load Duration Curve

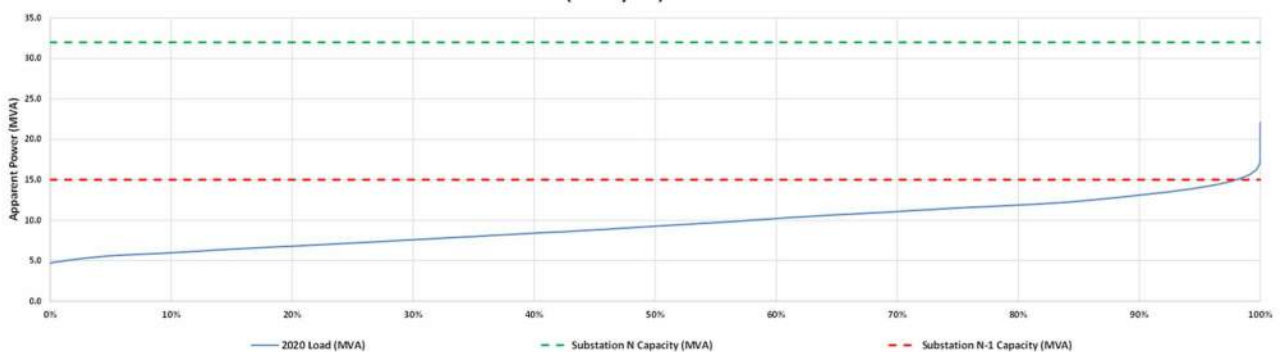
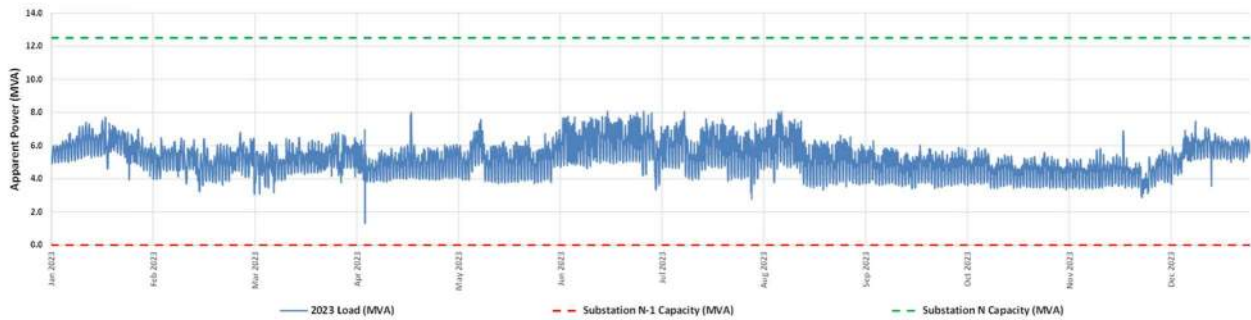


Figure 63. Newton 22/11 kV zone substation: Apparent Power (MVA) load characteristics

Ngātaringa Bay MVA

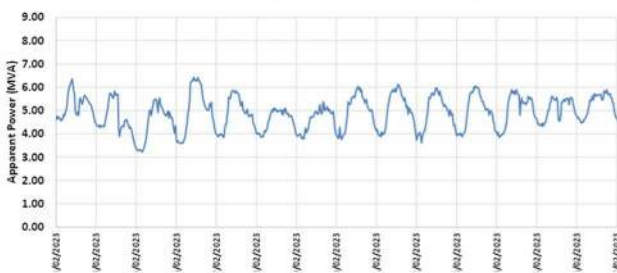
NGAT Zone Substation (2023 year) - Half hourly loading



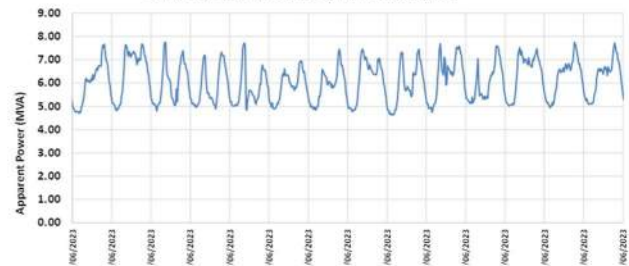
NGAT Zone Substation (2023 year) - Daily Maximum/Minimum



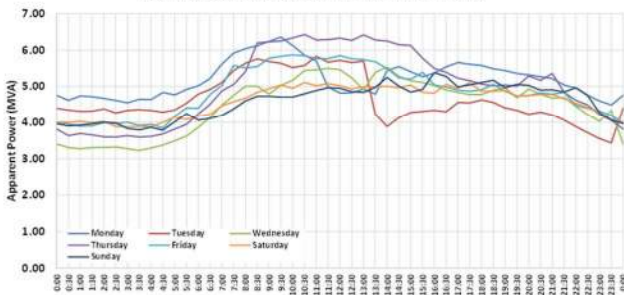
NGAT Zone Substation (2023 year) - Summer (February)



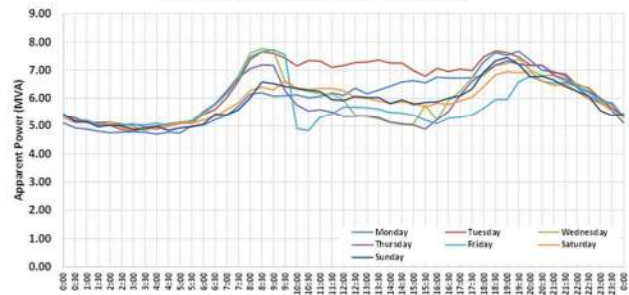
NGAT Zone Substation (2023 year) - Winter (June)



NGAT Zone Substation (2023 year) - Summer (February)



NGAT Zone Substation (2023 year) - Winter (June)



NGAT Zone Substation (2023 year) - Load Duration Curve

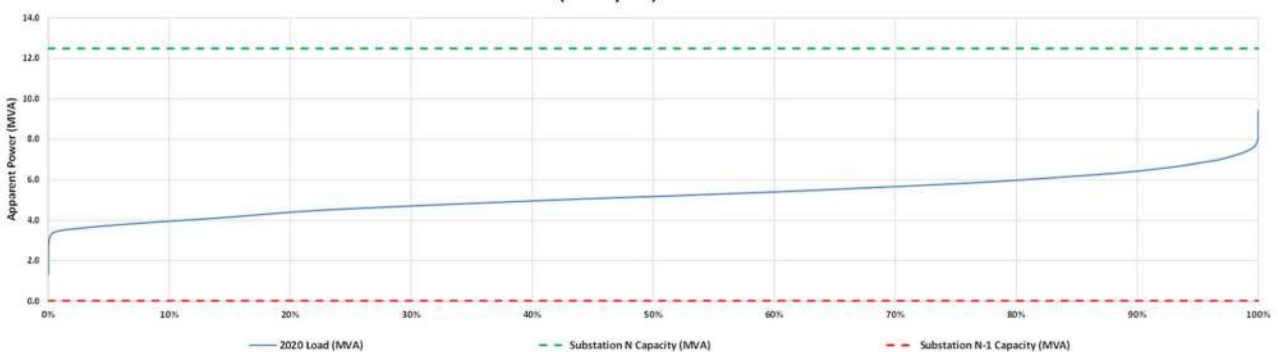
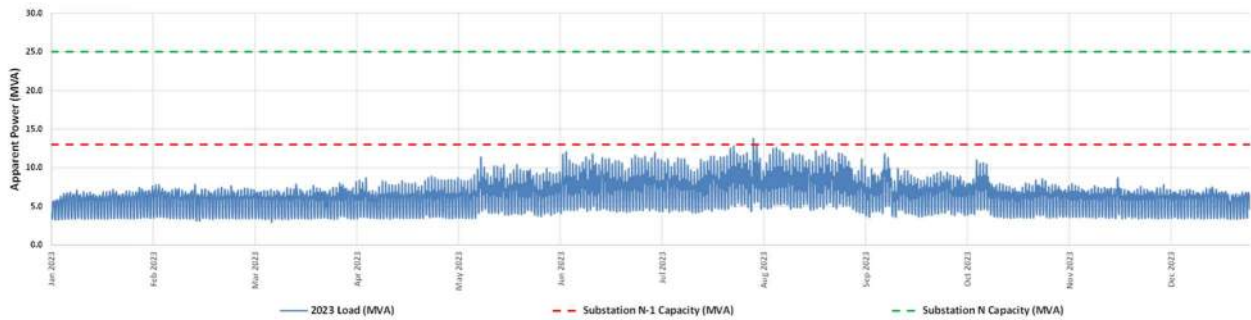


Figure 64. Ngātaringa Bay 33/11 kV zone substation: Apparent Power (MVA) load characteristics

New Lynn MVA

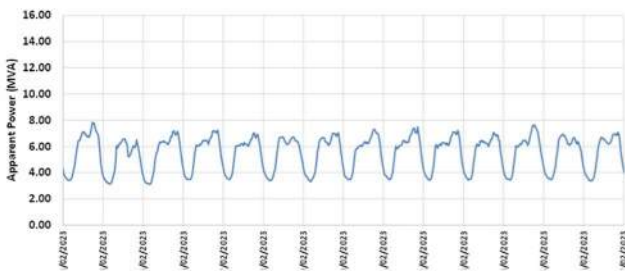
NLYN Zone Substation (2023 year) - Half hourly loading



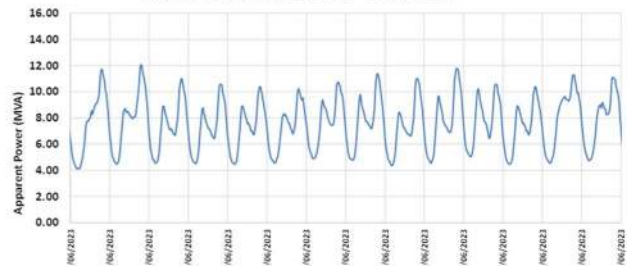
NLYN Zone Substation (2023 year) - Daily Maximum/Minimum



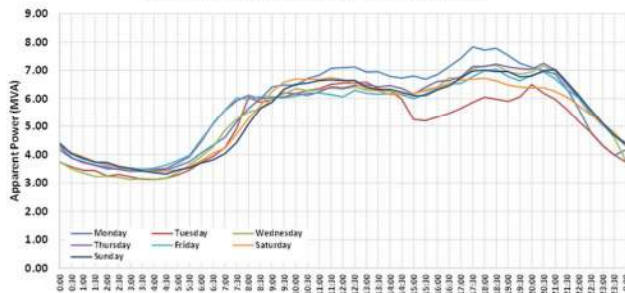
NLYN Zone Substation (2023 year) - Summer (February)



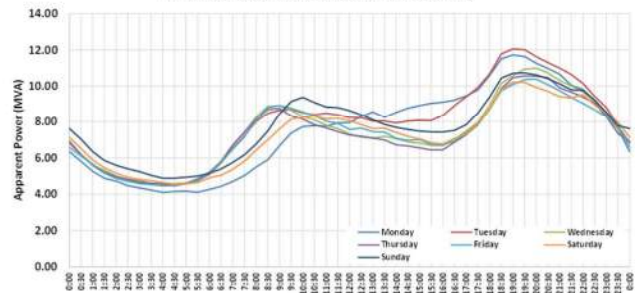
NLYN Zone Substation (2023 year) - Winter (June)



NLYN Zone Substation (2023 year) - Summer (February)



NLYN Zone Substation (2023 year) - Winter (June)



NLYN Zone Substation (2023 year) - Load Duration Curve

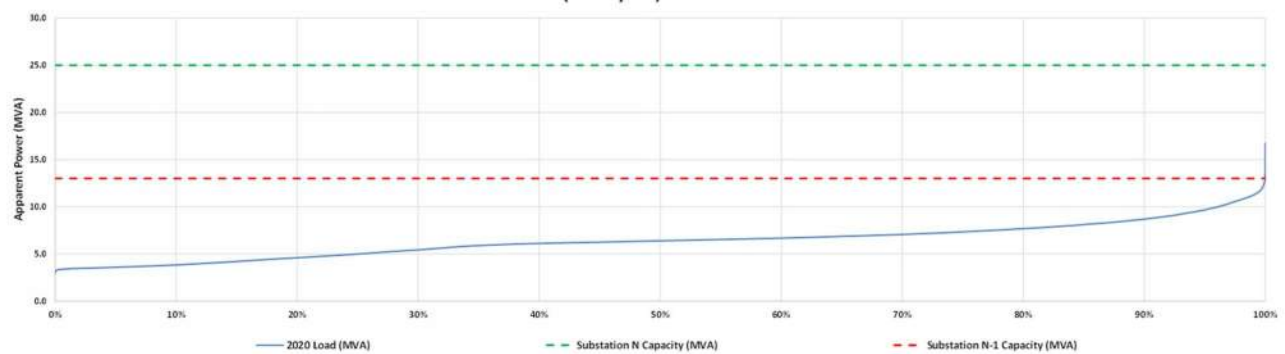
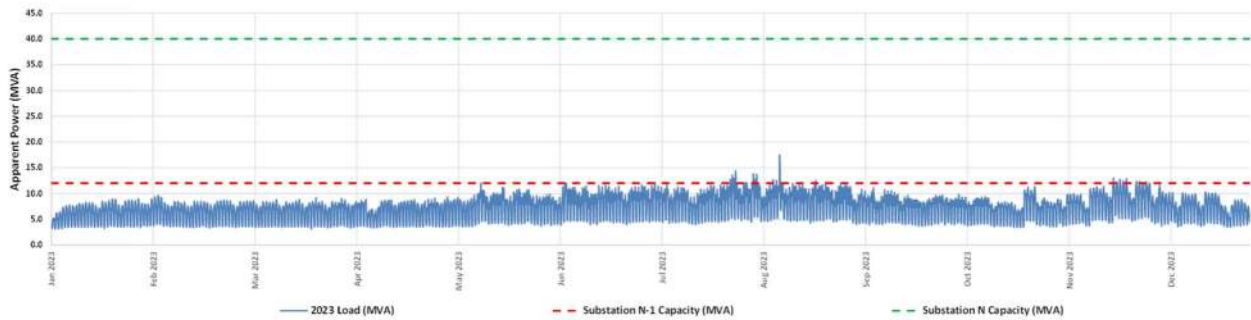


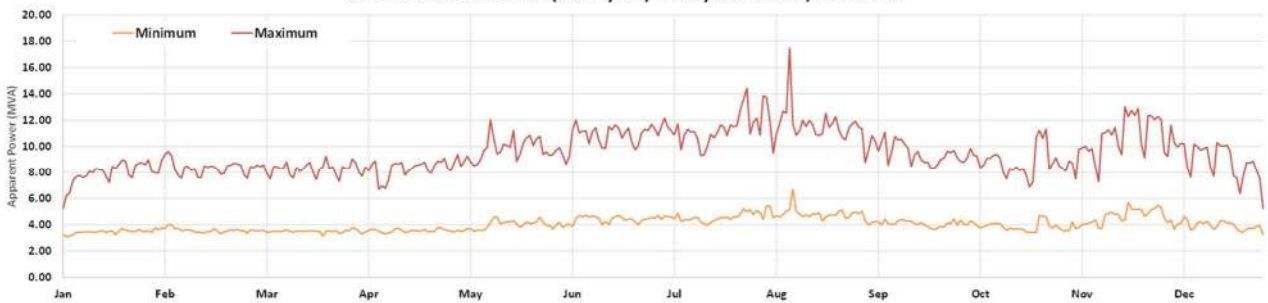
Figure 65. New Lynn 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Onehunga MVA

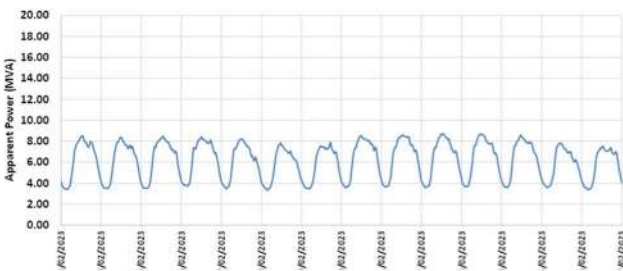
ONEH Zone Substation (2023 year) - Half hourly loading



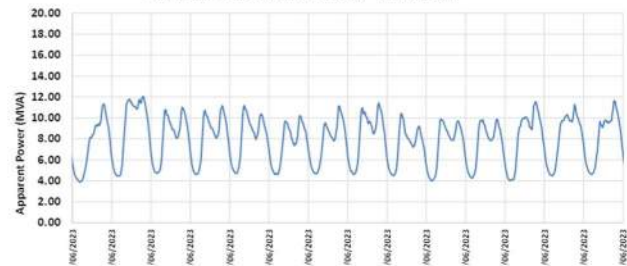
ONEH Zone Substation (2023 year) - Daily Maximum/Minimum



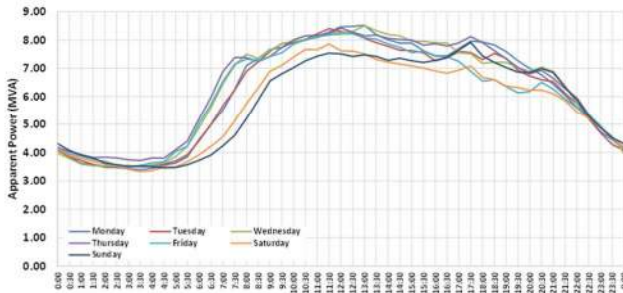
ONEH Zone Substation (2023 year) - Summer (February)



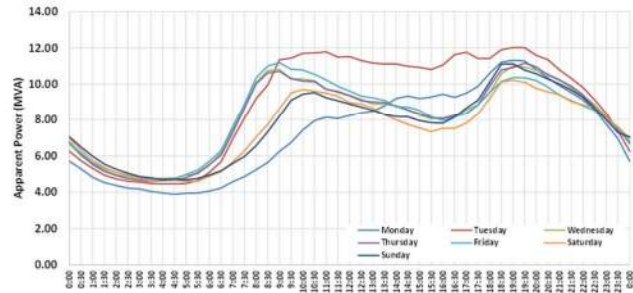
ONEH Zone Substation (2023 year) - Winter (June)



ONEH Zone Substation (2023 year) - Summer (February)



ONEH Zone Substation (2023 year) - Winter (June)



ONEH Zone Substation (2023 year) - Load Duration Curve

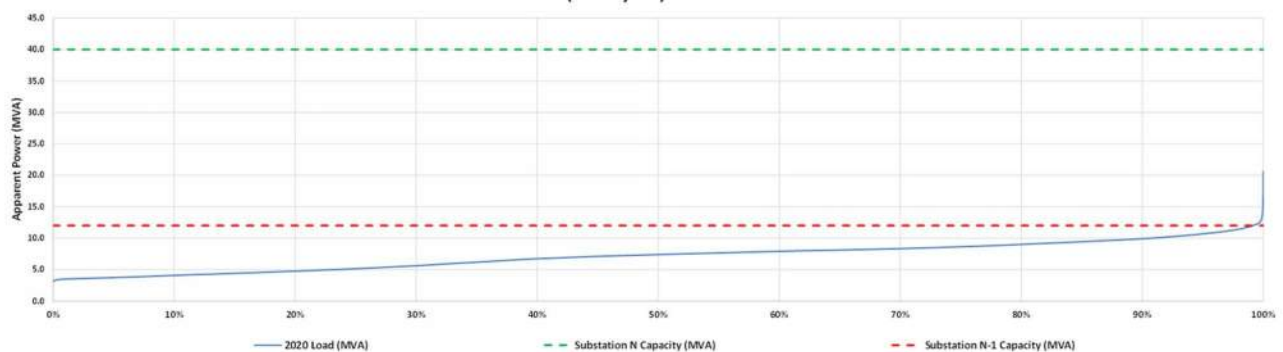
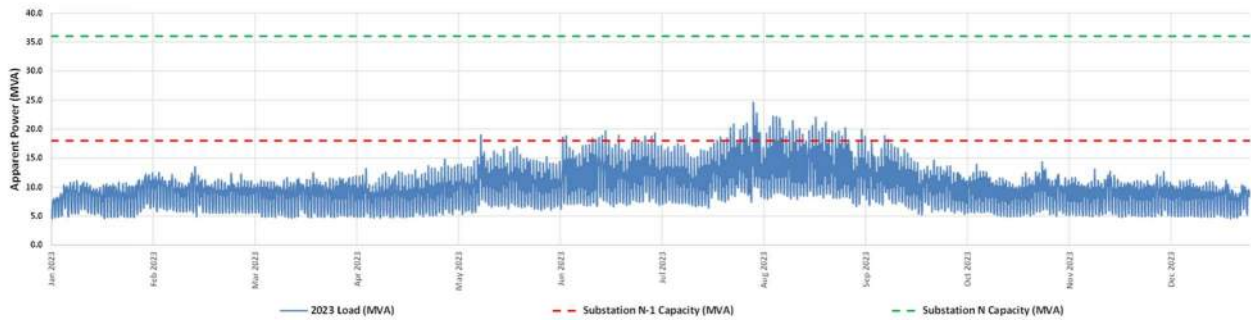


Figure 66. Onehunga 22/11 kV zone substation: Apparent Power (MVA) load characteristics

Ōrākei MVA

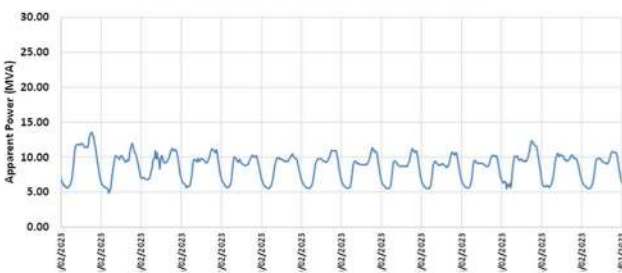
ORAK Zone Substation (2023 year) - Half hourly loading



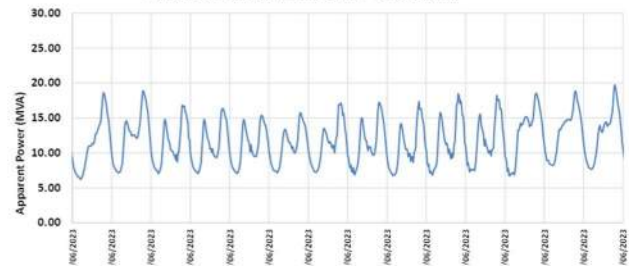
ORAK Zone Substation (2023 year) - Daily Maximum/Minimum



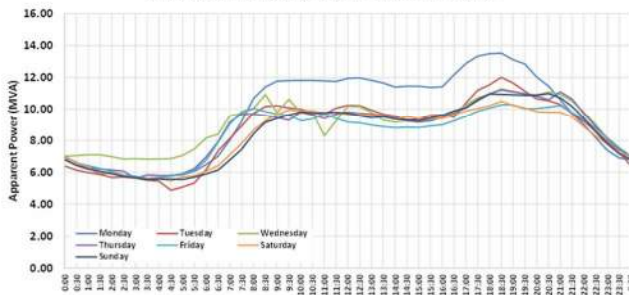
ORAK Zone Substation (2023 year) - Summer (February)



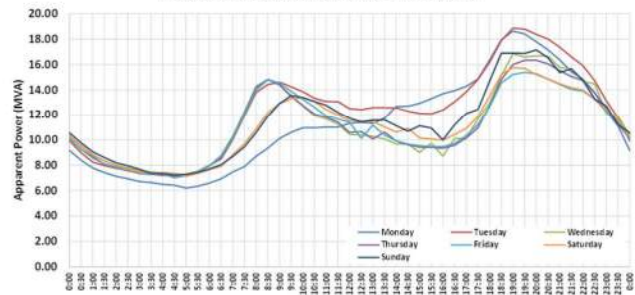
ORAK Zone Substation (2023 year) - Winter (June)



ORAK Zone Substation (2023 year) - Summer (February)



ORAK Zone Substation (2023 year) - Winter (June)



ORAK Zone Substation (2023 year) - Load Duration Curve

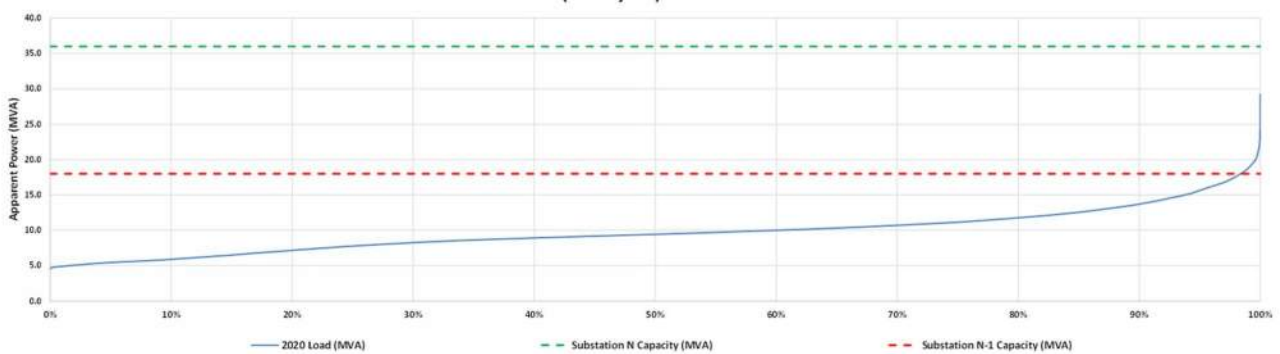
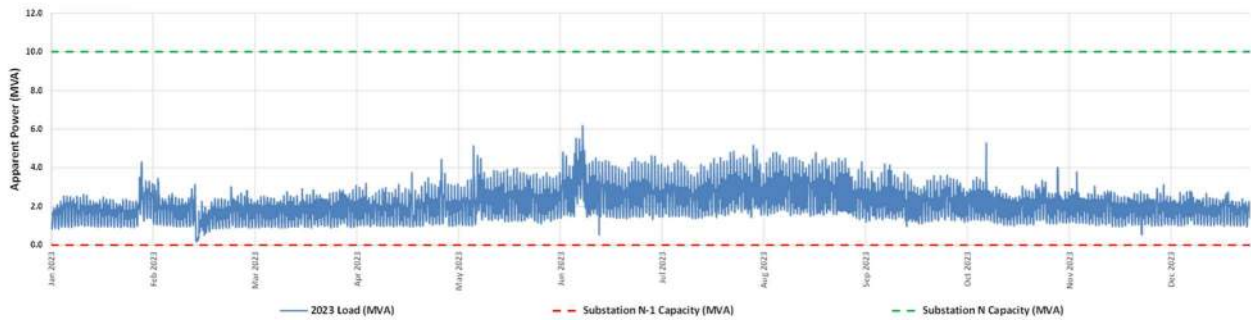


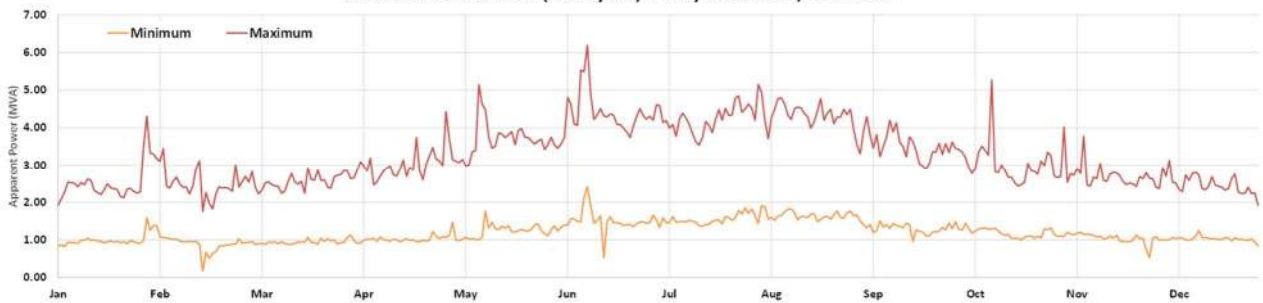
Figure 67. Ōrākei 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Oratia MVA

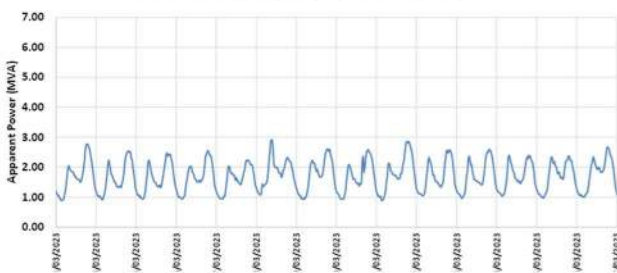
ORAT Zone Substation (2023 year) - Half hourly loading



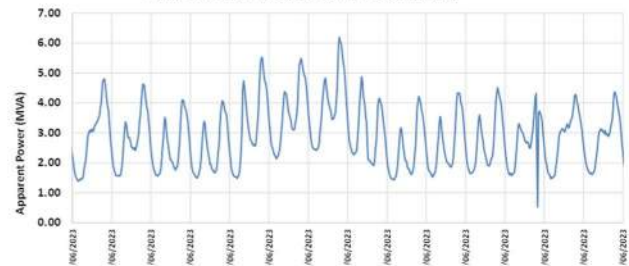
ORAT Zone Substation (2023 year) - Daily Maximum/Minimum



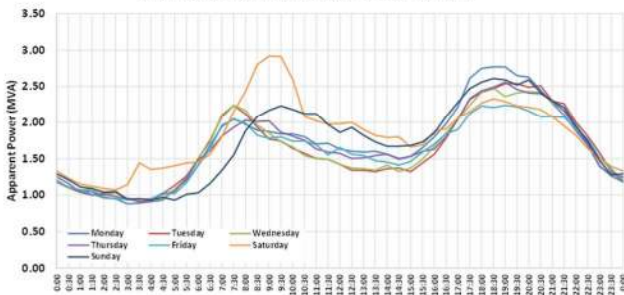
ORAT Zone Substation (2023 year) - Summer (March)



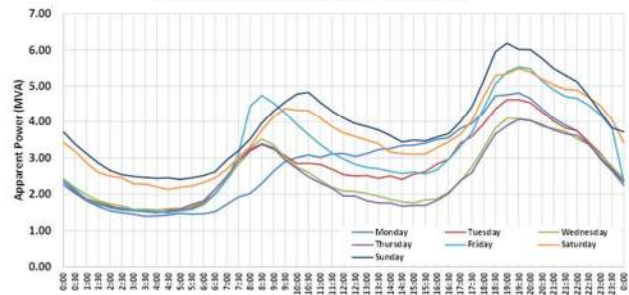
ORAT Zone Substation (2023 year) - Winter (June)



ORAT Zone Substation (2023 year) - Summer (March)



ORAT Zone Substation (2023 year) - Winter (June)



ORAT Zone Substation (2023 year) - Load Duration Curve

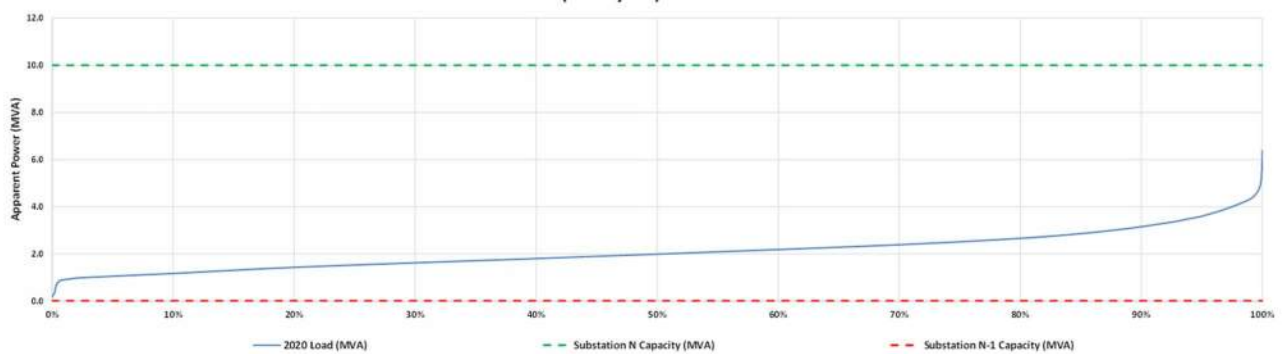
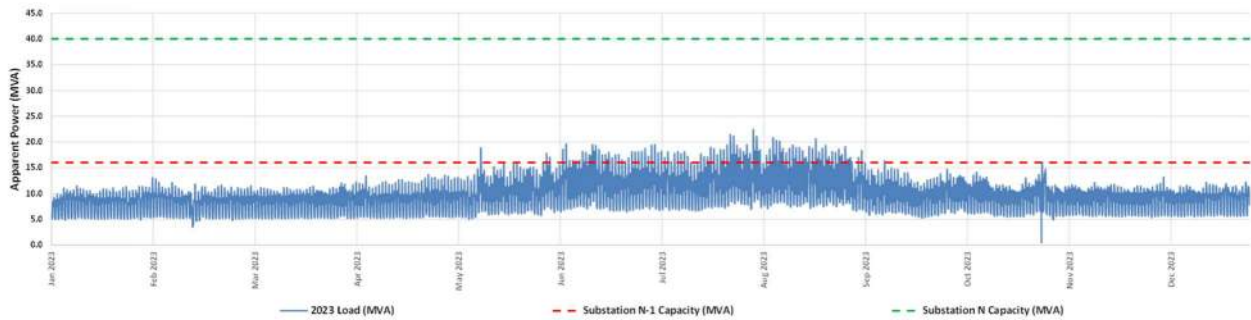


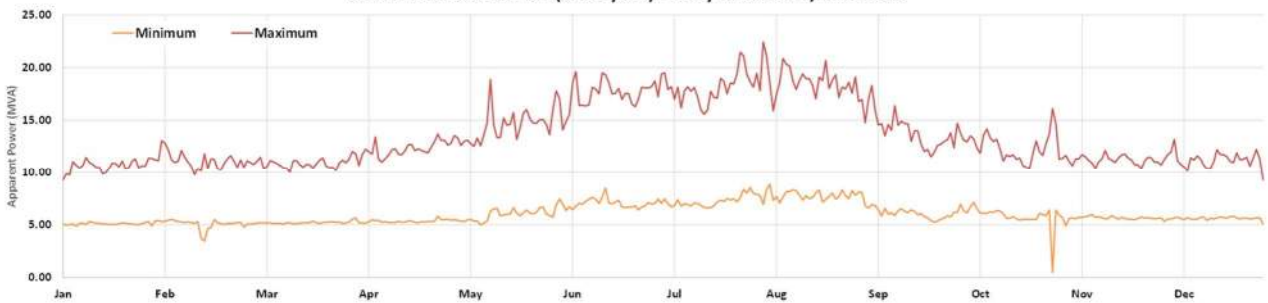
Figure 68. Oratia 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Ōrewa MVA

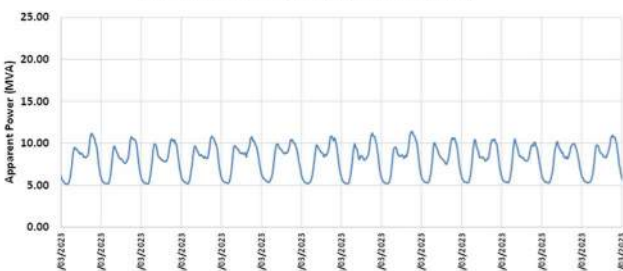
OREW Zone Substation (2023 year) - Half hourly loading



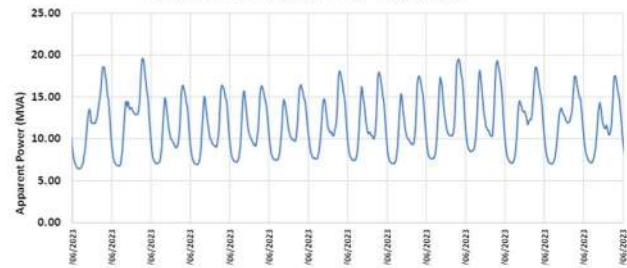
OREW Zone Substation (2023 year) - Daily Maximum/Minimum



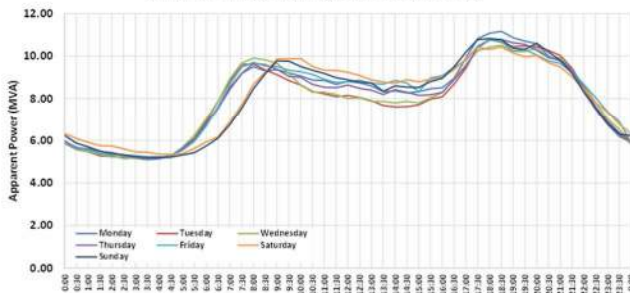
OREW Zone Substation (2023 year) - Summer (March)



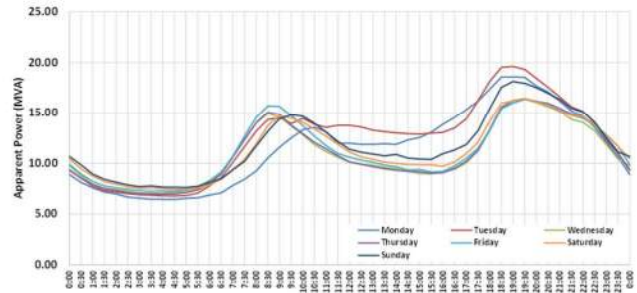
OREW Zone Substation (2023 year) - Winter (June)



OREW Zone Substation (2023 year) - Summer (March)



OREW Zone Substation (2023 year) - Winter (June)



OREW Zone Substation (2023 year) - Load Duration Curve

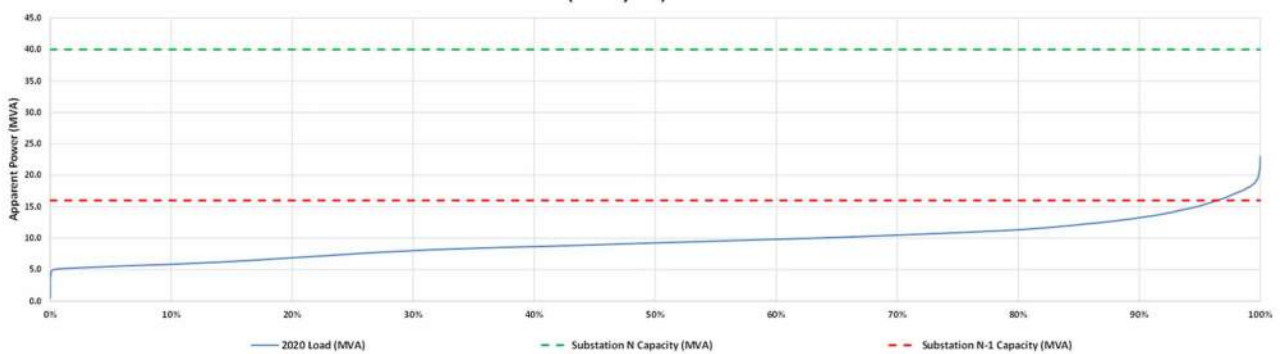
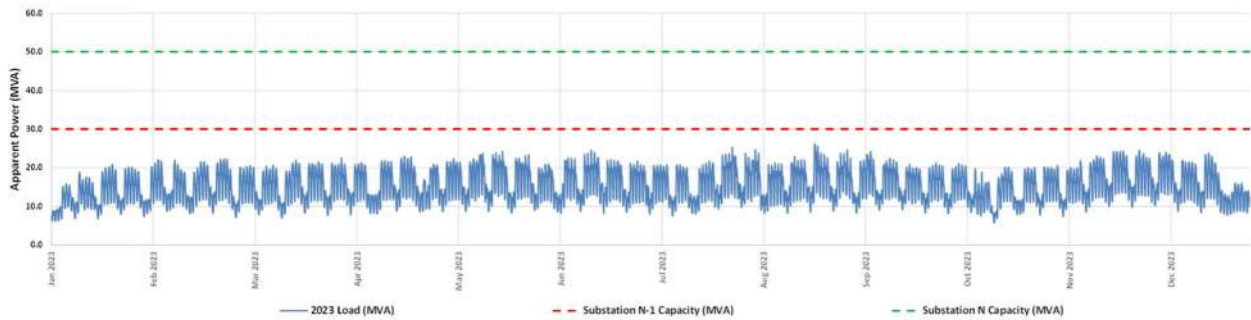


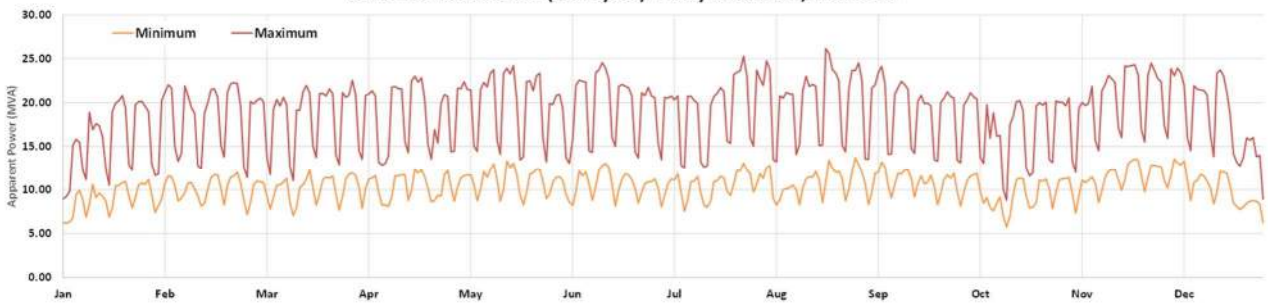
Figure 69. Ōrewa 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Ōtara MVA

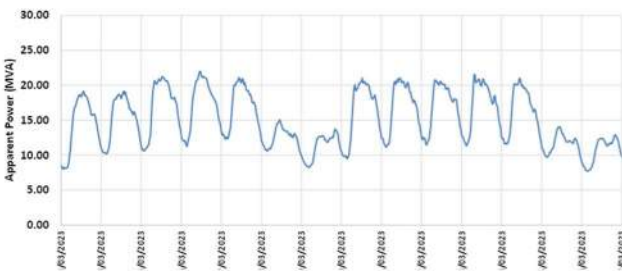
OTAR Zone Substation (2023 year) - Half hourly loading



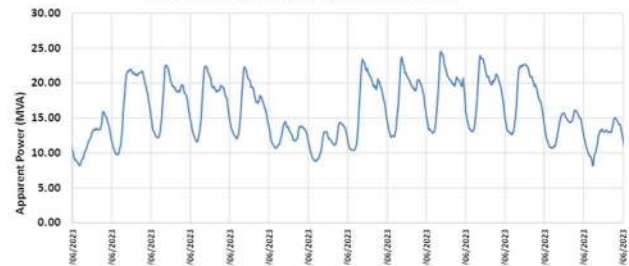
OTAR Zone Substation (2023 year) - Daily Maximum/Minimum



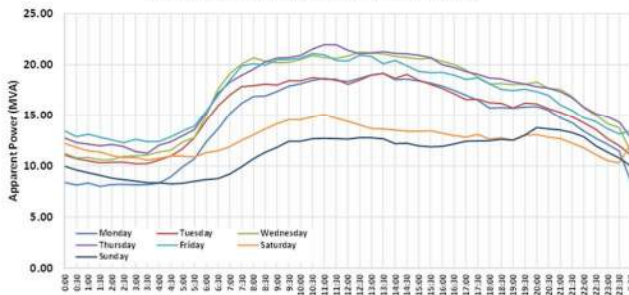
OTAR Zone Substation (2023 year) - Summer (March)



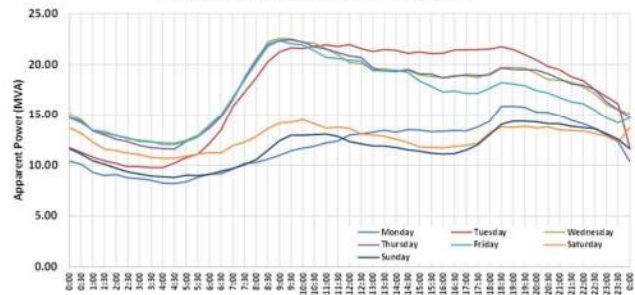
OTAR Zone Substation (2023 year) - Winter (June)



OTAR Zone Substation (2023 year) - Summer (March)



OTAR Zone Substation (2023 year) - Winter (June)



OTAR Zone Substation (2023 year) - Load Duration Curve

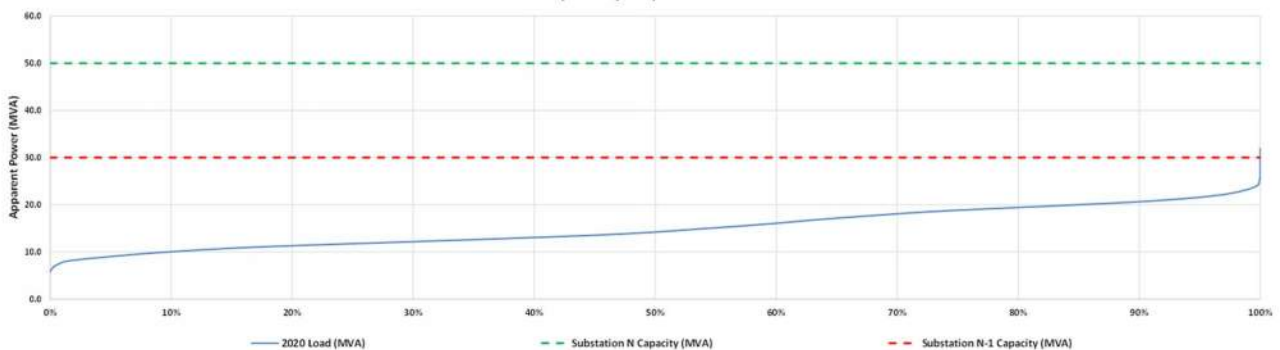
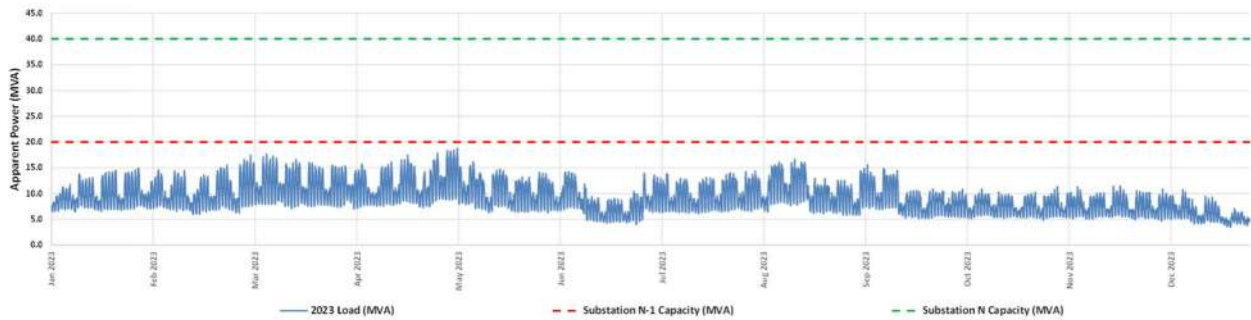


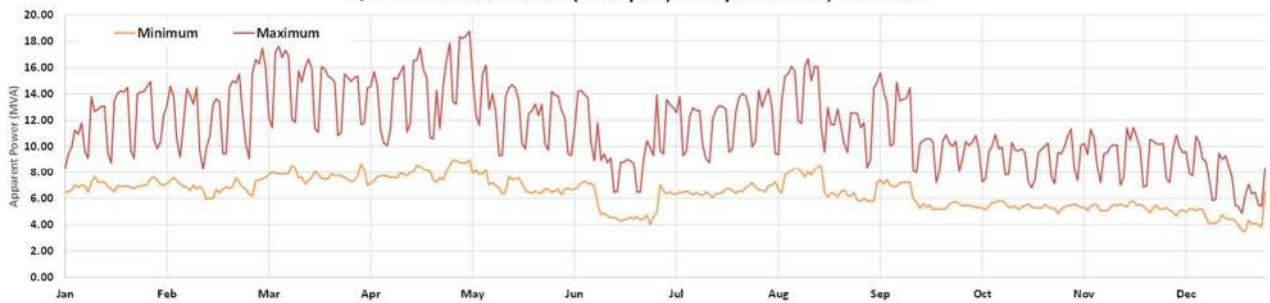
Figure 70. Ōtara 22/11 kV zone substation: Apparent Power (MVA) load characteristics

Quay 11 kv MVA

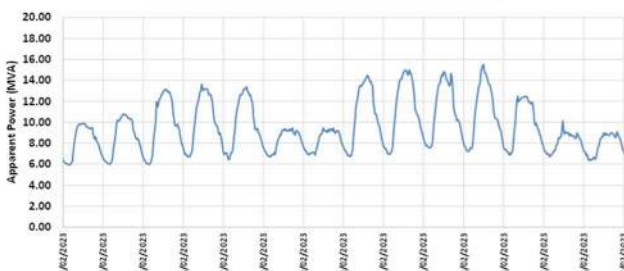
QUAY11 Zone Substation (2023 year) - Half hourly loading



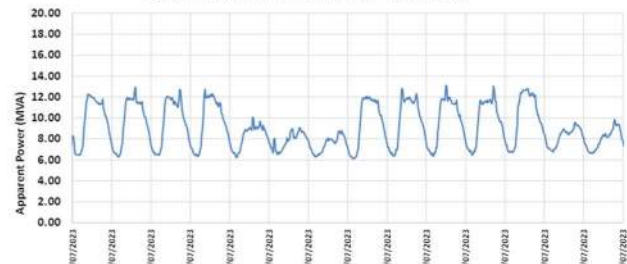
QUAY11 Zone Substation (2023 year) - Daily Maximum/Minimum



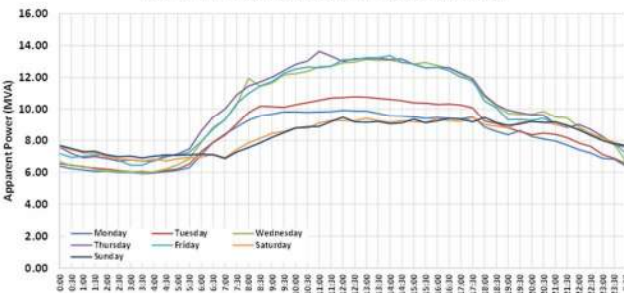
QUAY11 Zone Substation (2023 year) - Summer (February)



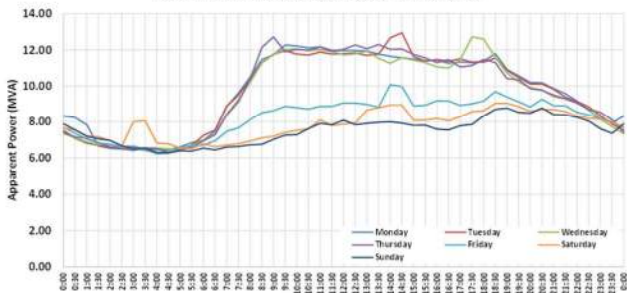
QUAY11 Zone Substation (2023 year) - Winter (July)



QUAY11 Zone Substation (2023 year) - Summer (February)



QUAY11 Zone Substation (2023 year) - Winter (July)



QUAY11 Zone Substation (2023 year) - Load Duration Curve

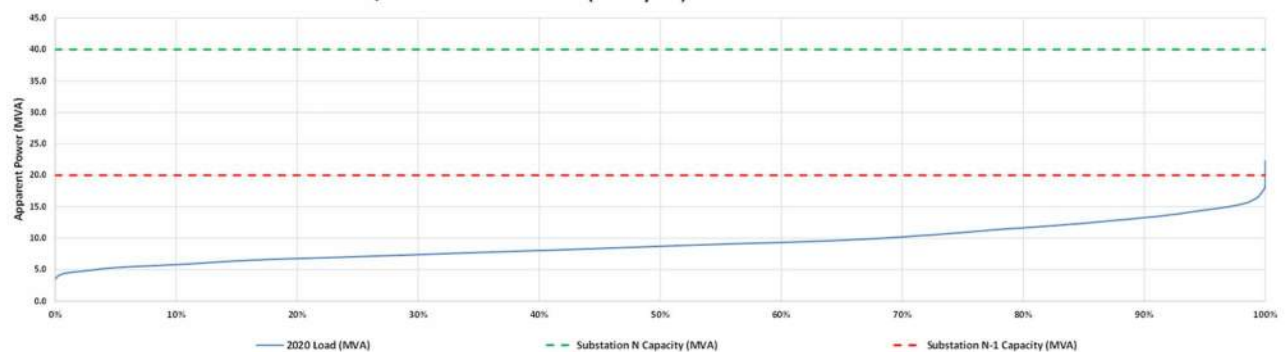
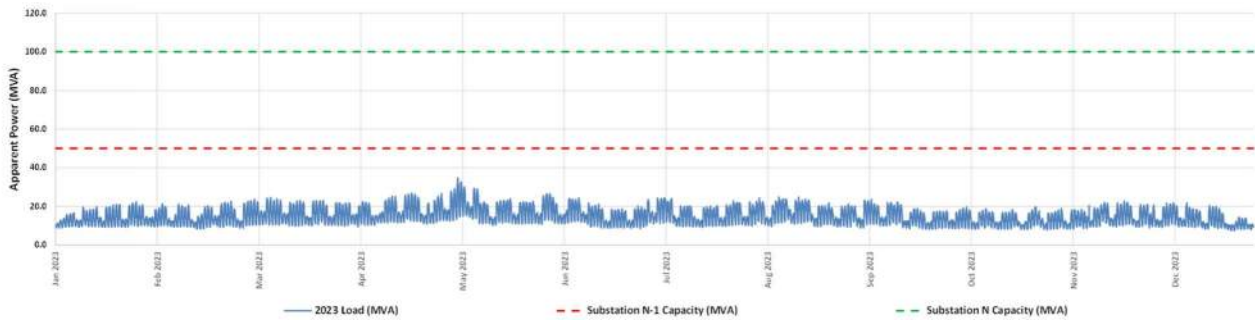


Figure 71. Quay 22/11 kv zone substation: Apparent Power (MVA) load characteristics

Quay 22 kv MVA

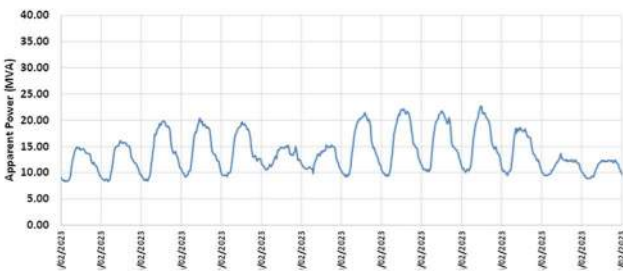
QUAY22 Zone Substation (2023 year) - Half hourly loading



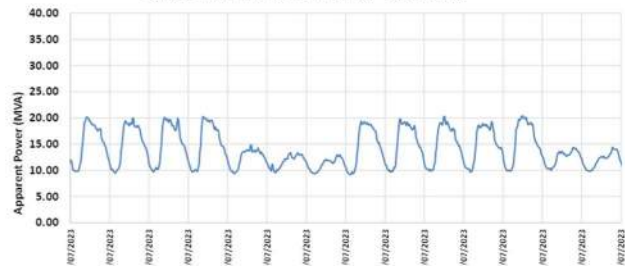
QUAY22 Zone Substation (2023 year) - Daily Maximum/Minimum



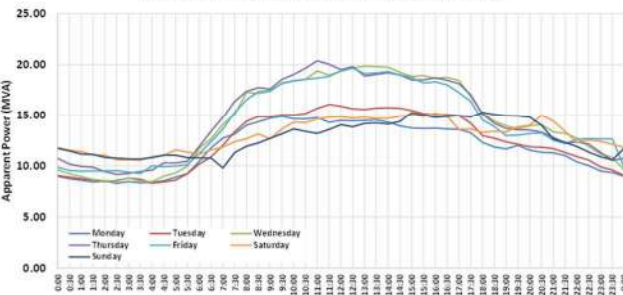
QUAY22 Zone Substation (2023 year) - Summer (February)



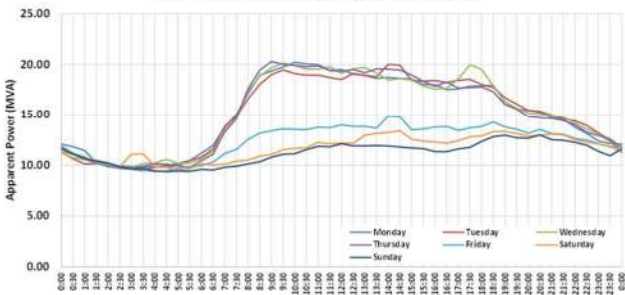
QUAY22 Zone Substation (2023 year) - Winter (July)



QUAY22 Zone Substation (2023 year) - Summer (February)



QUAY22 Zone Substation (2023 year) - Winter (July)



QUAY22 Zone Substation (2023 year) - Load Duration Curve

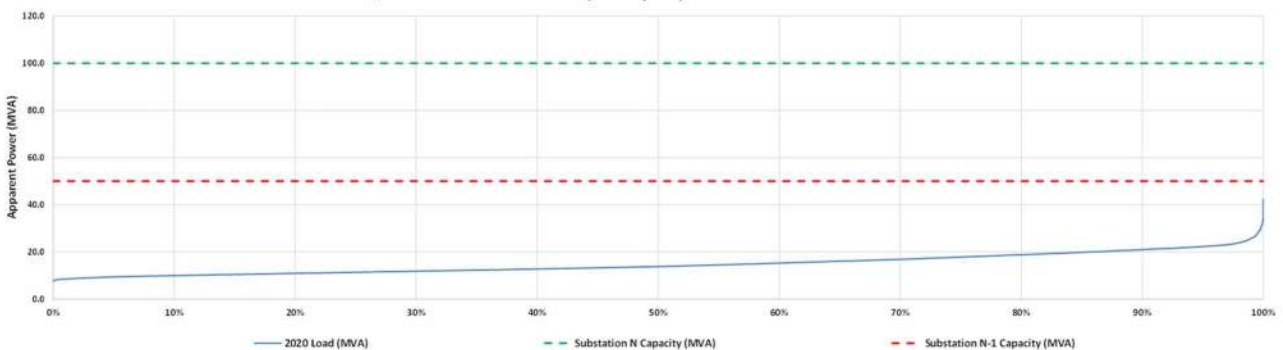
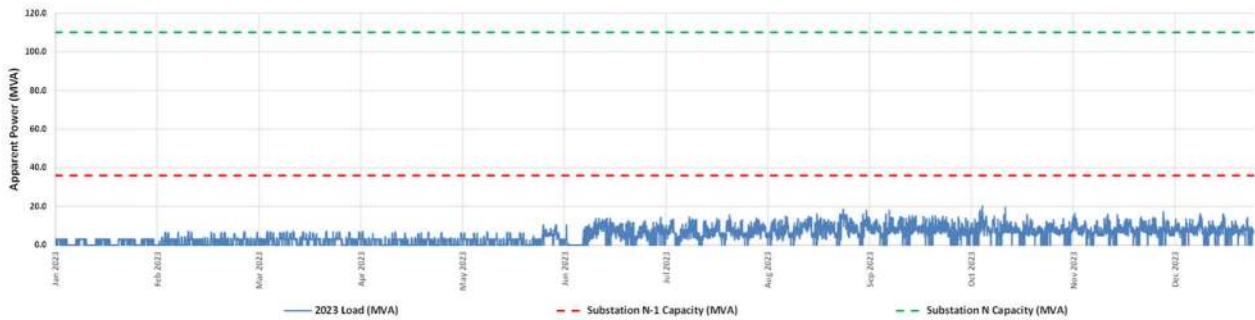


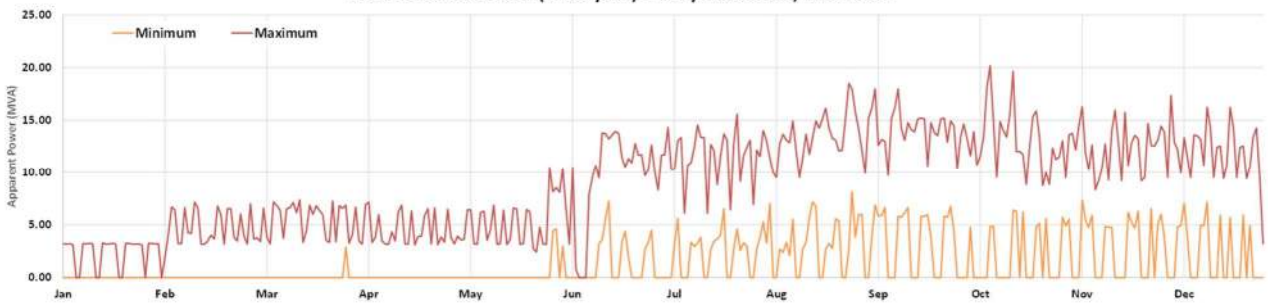
Figure 72. Quay 110/22 kv zone substation: Apparent Power (MVA) load characteristics

Pacific Steel MVA

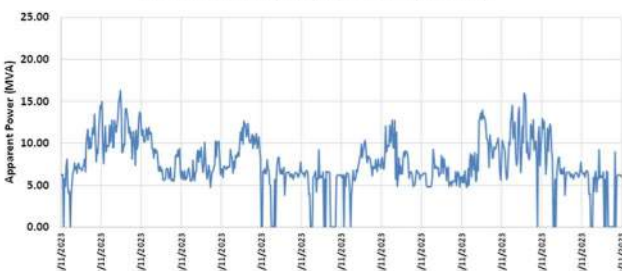
PACI Zone Substation (2023 year) - Half hourly loading



PACI Zone Substation (2023 year) - Daily Maximum/Minimum



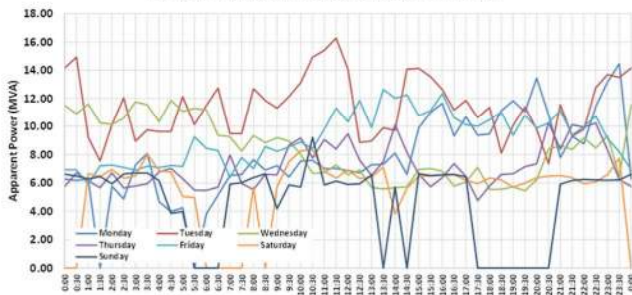
PACI Zone Substation (2023 year) - Summer (November)



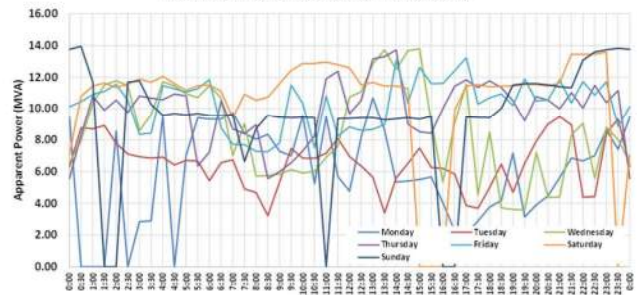
PACI Zone Substation (2023 year) - Winter (June)



PACI Zone Substation (2023 year) - Summer (November)



PACI Zone Substation (2023 year) - Winter (June)



PACI Zone Substation (2023 year) - Load Duration Curve

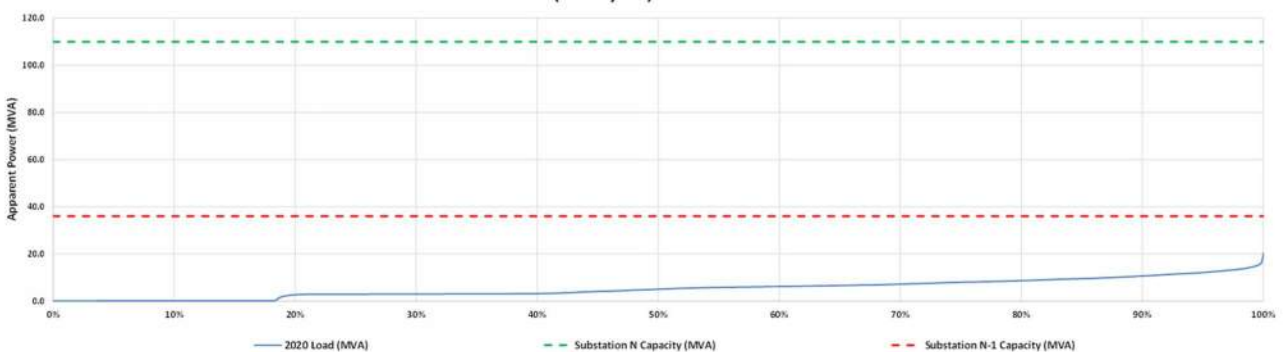
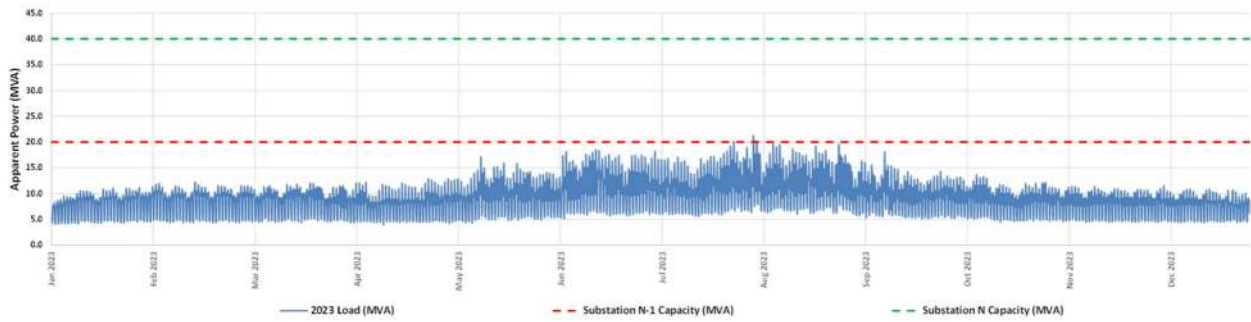


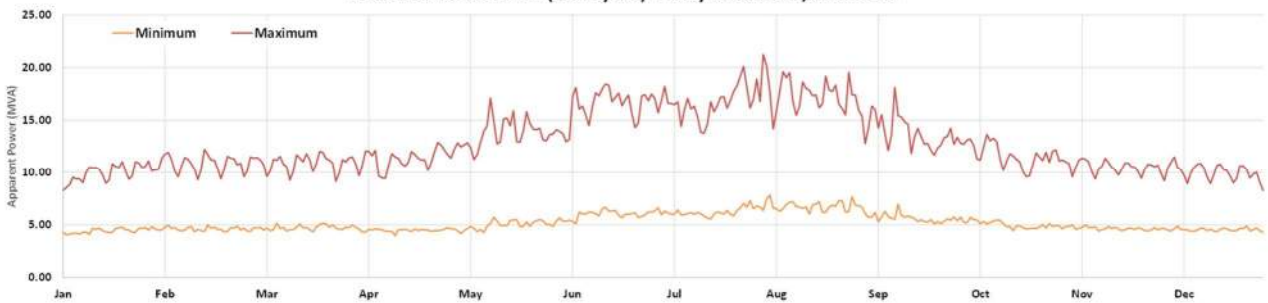
Figure 73. Pacific Steel 110/11 kV zone substation: Apparent Power (MVA) load characteristics

Pakuranga MVA

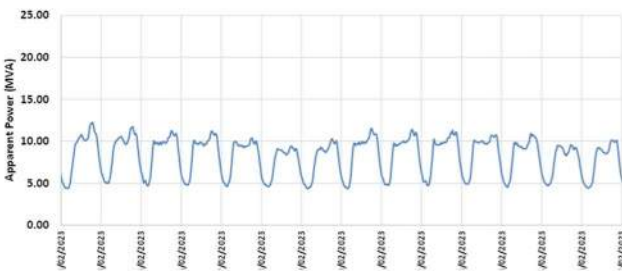
PAKU Zone Substation (2023 year) - Half hourly loading



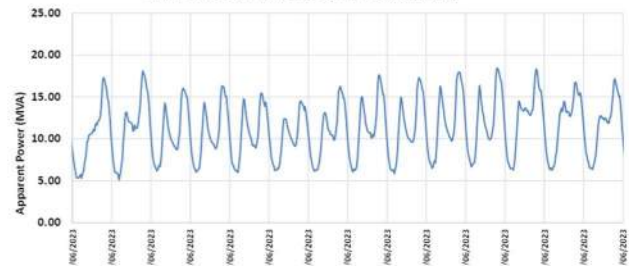
PAKU Zone Substation (2023 year) - Daily Maximum/Minimum



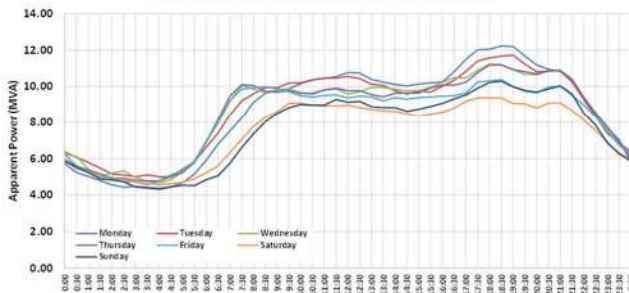
PAKU Zone Substation (2023 year) - Summer (February)



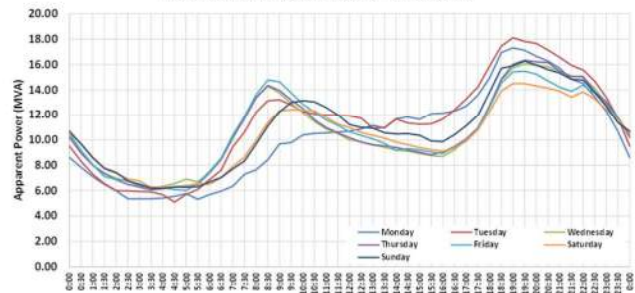
PAKU Zone Substation (2023 year) - Winter (June)



PAKU Zone Substation (2023 year) - Summer (February)



PAKU Zone Substation (2023 year) - Winter (June)



PAKU Zone Substation (2023 year) - Load Duration Curve

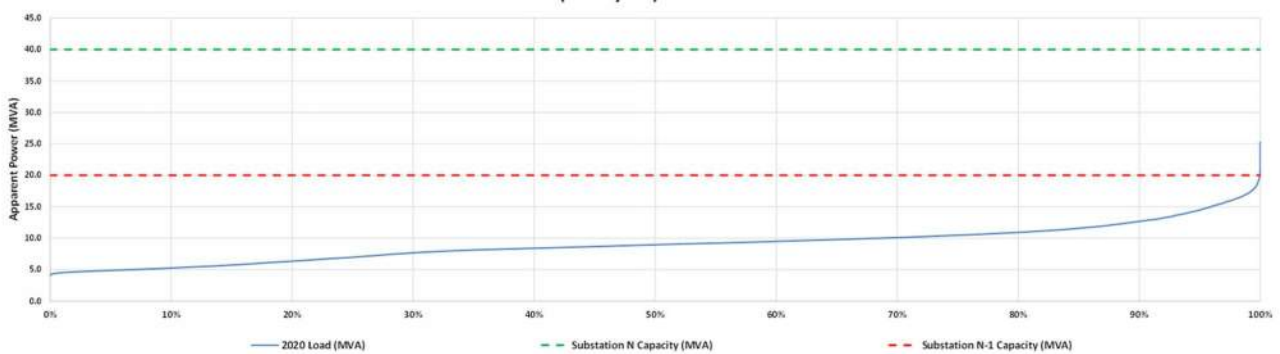
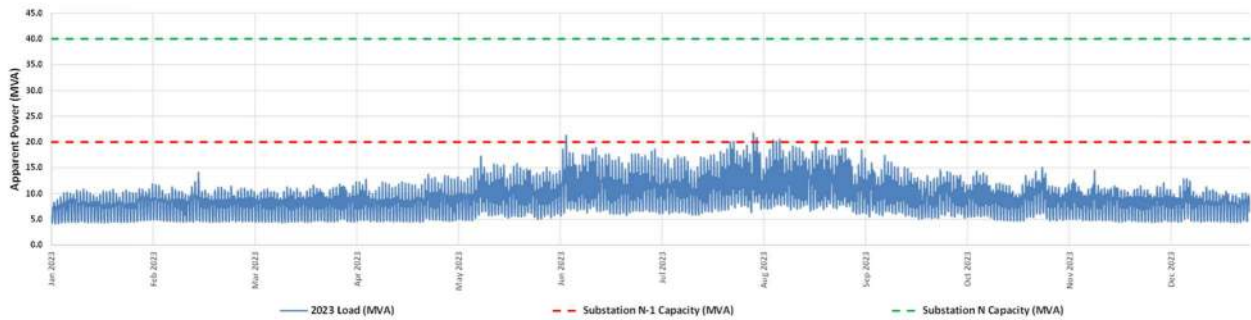


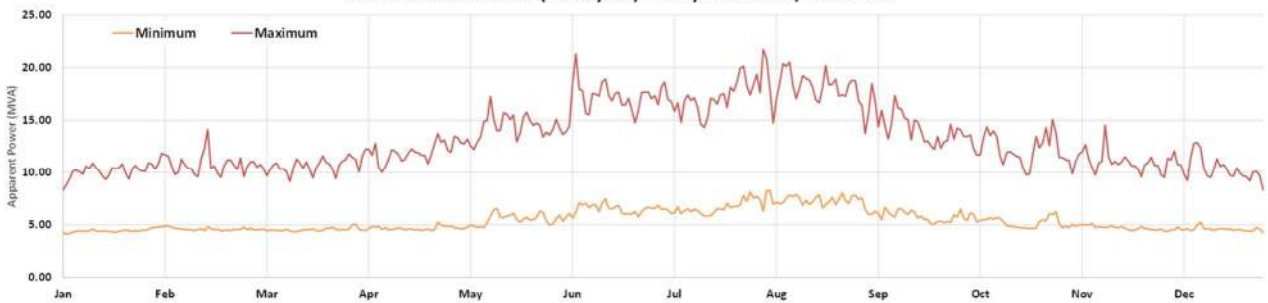
Figure 74. Pakuranga 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Papakura MVA

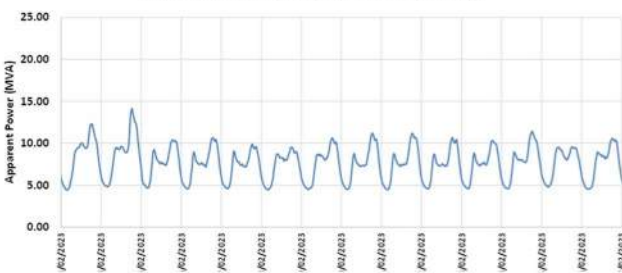
BIRK Zone Substation (2023 year) - Half hourly loading



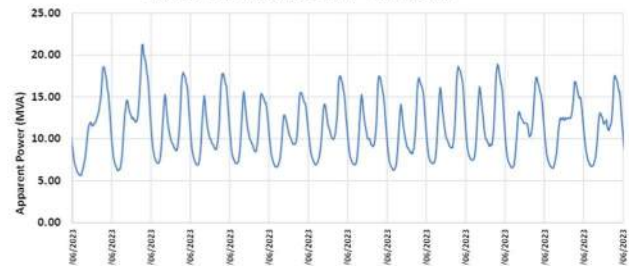
BIRK Zone Substation (2023 year) - Daily Maximum/Minimum



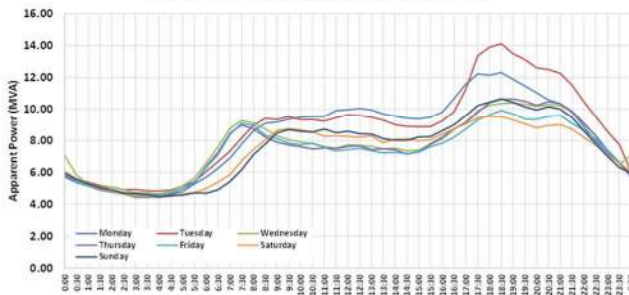
BIRK Zone Substation (2023 year) - Summer (February)



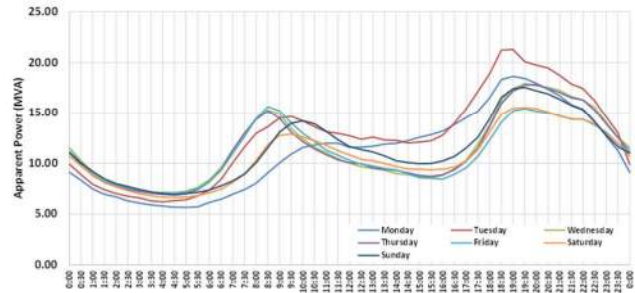
BIRK Zone Substation (2023 year) - Winter (June)



BIRK Zone Substation (2023 year) - Summer (February)



BIRK Zone Substation (2023 year) - Winter (June)



BIRK Zone Substation (2023 year) - Load Duration Curve

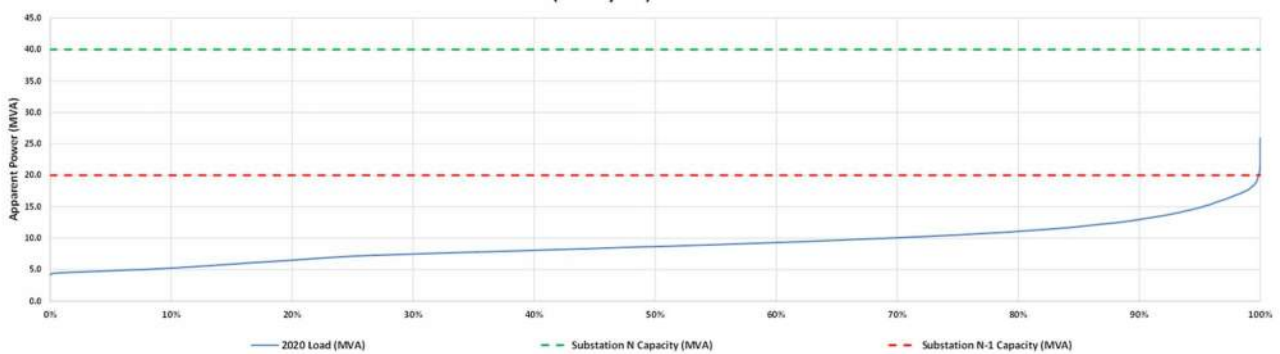
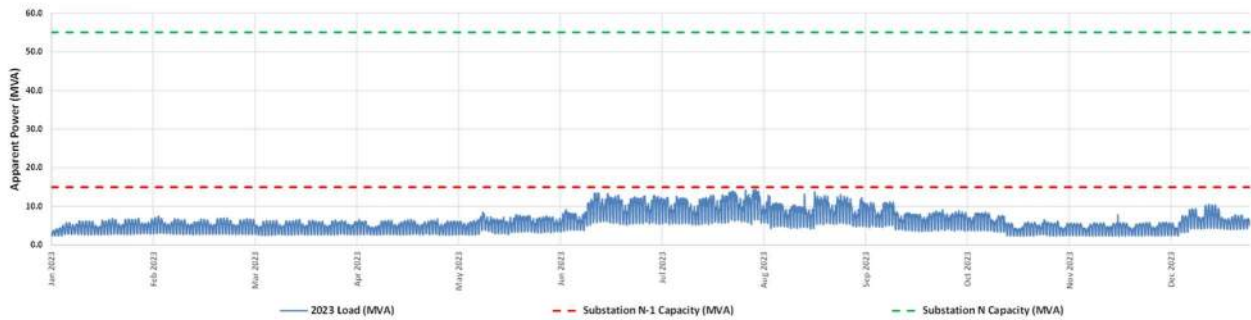


Figure 75. Papakura 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Parnell MVA

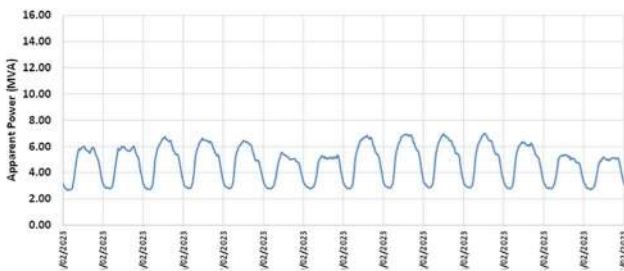
PARN Zone Substation (2023 year) - Half hourly loading



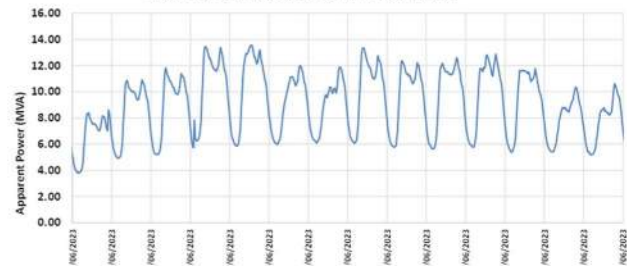
PARN Zone Substation (2023 year) - Daily Maximum/Minimum



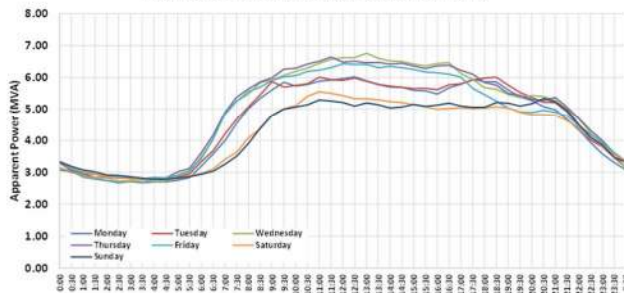
PARN Zone Substation (2023 year) - Summer (February)



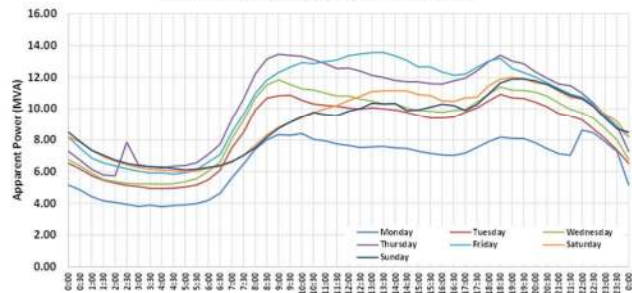
PARN Zone Substation (2023 year) - Winter (June)



PARN Zone Substation (2023 year) - Summer (February)



PARN Zone Substation (2023 year) - Winter (June)



PARN Zone Substation (2023 year) - Load Duration Curve

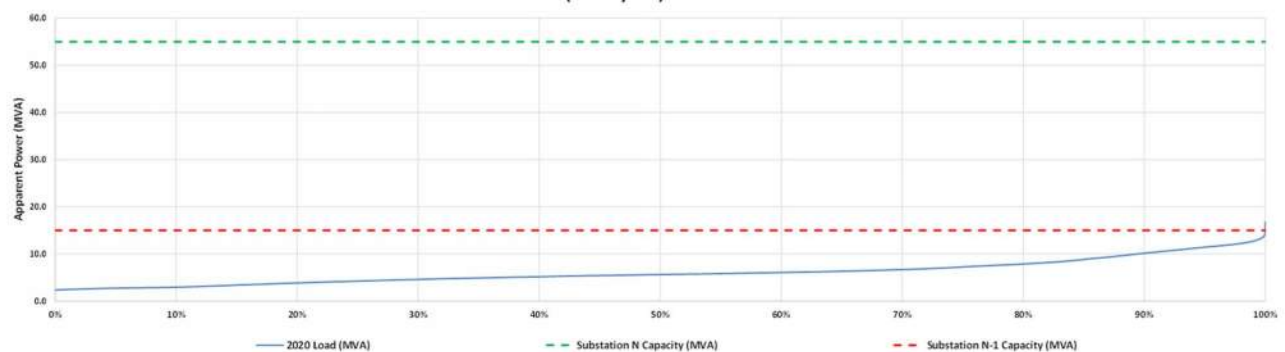
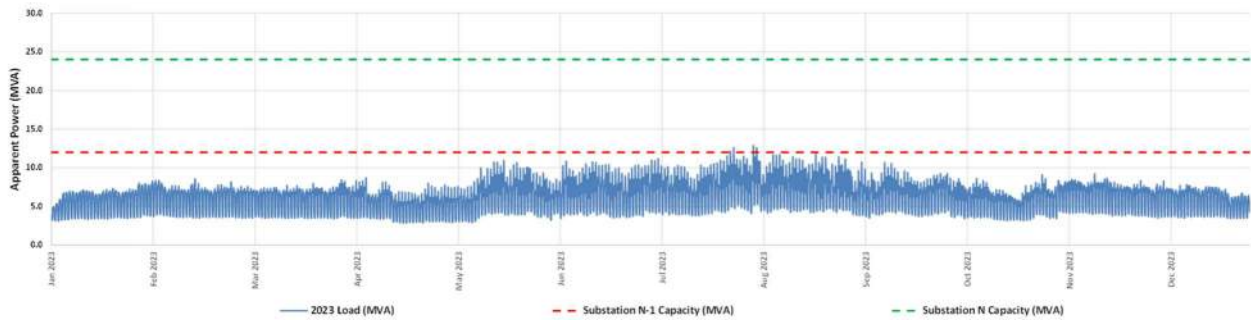


Figure 76. Parnell 22/11 kV zone substation: Apparent Power (MVA) load characteristics

Ponsonby MVA

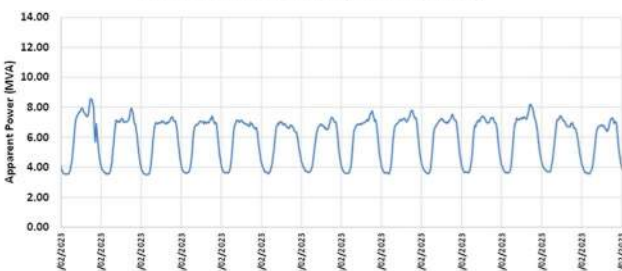
PONS Zone Substation (2023 year) - Half hourly loading



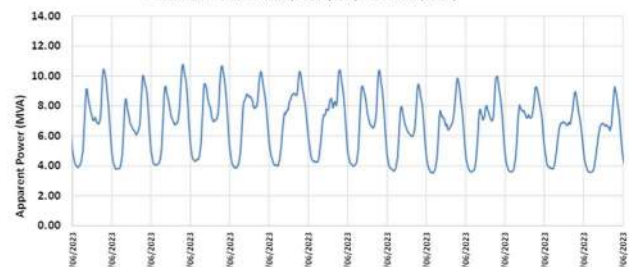
PONS Zone Substation (2023 year) - Daily Maximum/Minimum



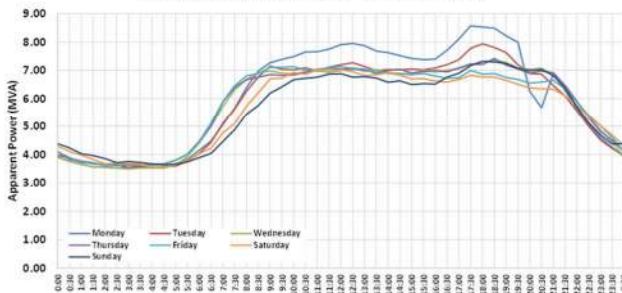
PONS Zone Substation (2023 year) - Summer (February)



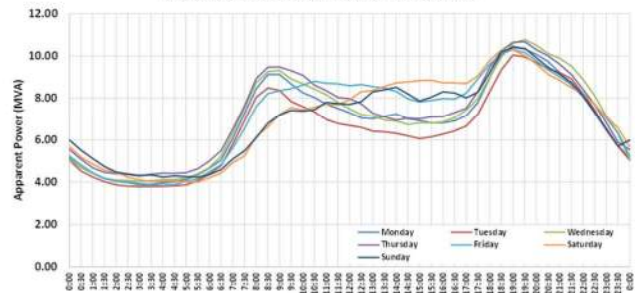
PONS Zone Substation (2023 year) - Winter (June)



PONS Zone Substation (2023 year) - Summer (February)



PONS Zone Substation (2023 year) - Winter (June)



PONS Zone Substation (2023 year) - Load Duration Curve

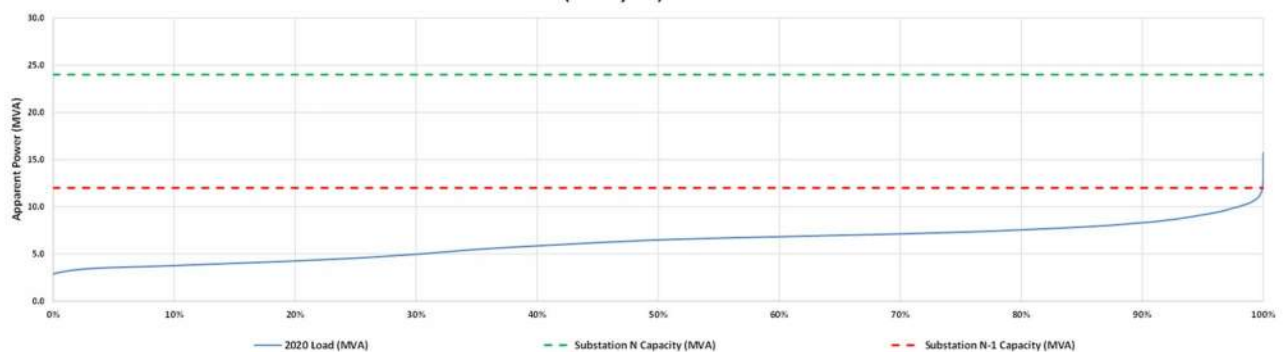
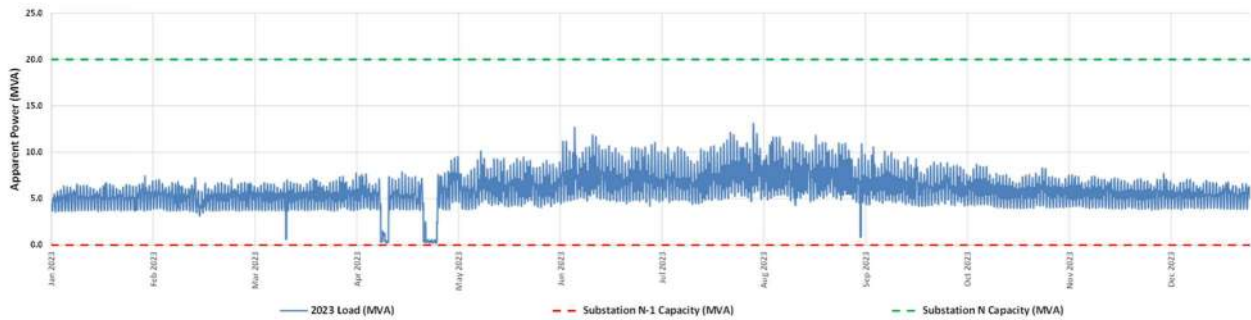


Figure 77. Ponsonby 22/11 kV zone substation: Apparent Power (MVA) load characteristics

Rānui MVA

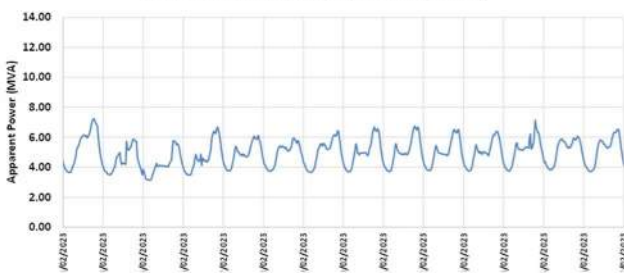
RANU Zone Substation (2023 year) - Half hourly loading



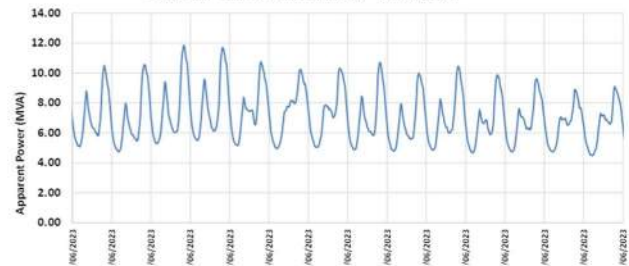
RANU Zone Substation (2023 year) - Daily Maximum/Minimum



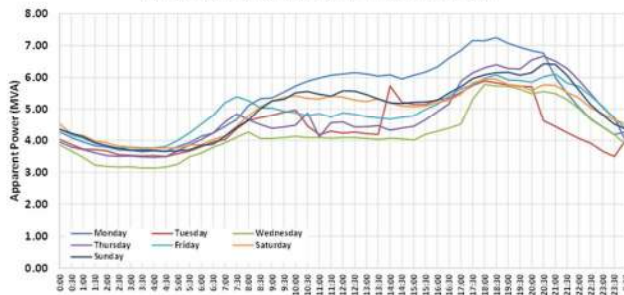
RANU Zone Substation (2023 year) - Summer (February)



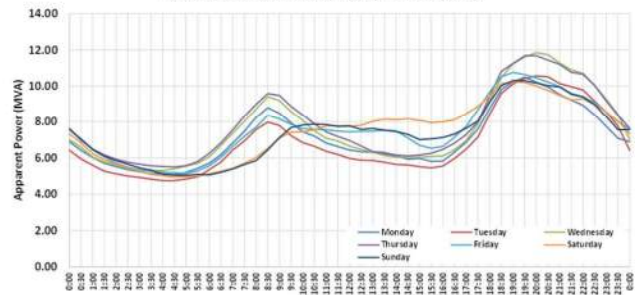
RANU Zone Substation (2023 year) - Winter (June)



RANU Zone Substation (2023 year) - Summer (February)



RANU Zone Substation (2023 year) - Winter (June)



RANU Zone Substation (2023 year) - Load Duration Curve

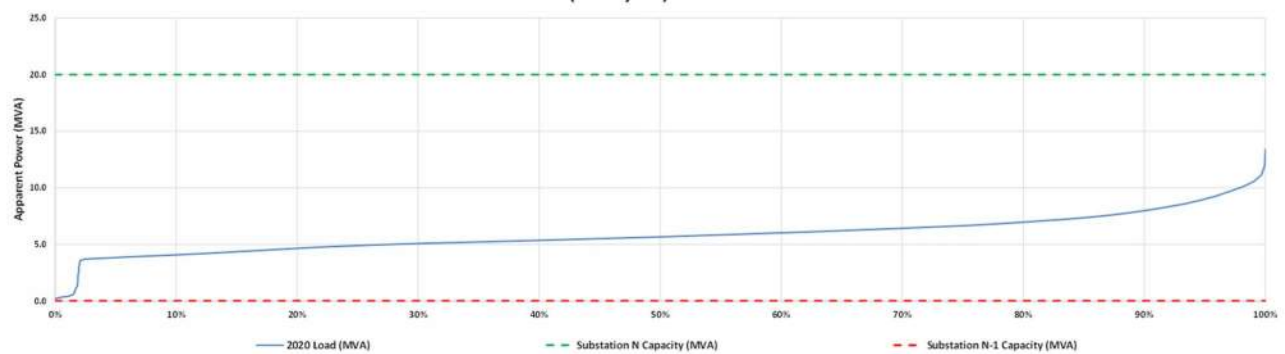
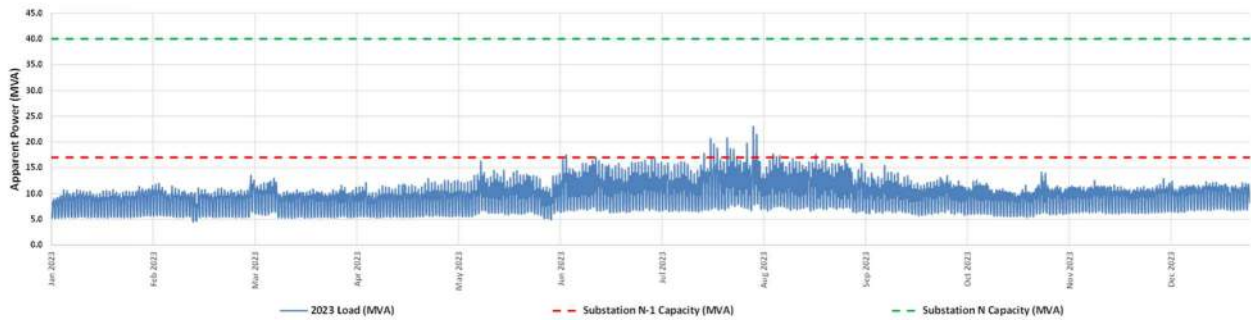


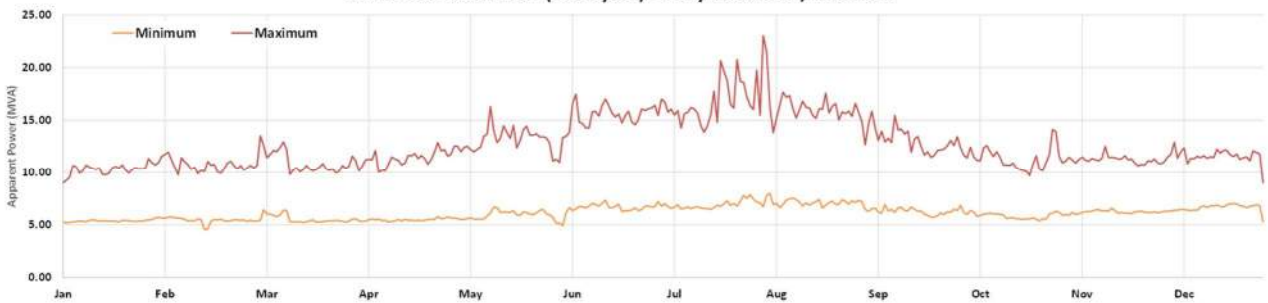
Figure 78. Rānui 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Red Beach MVA

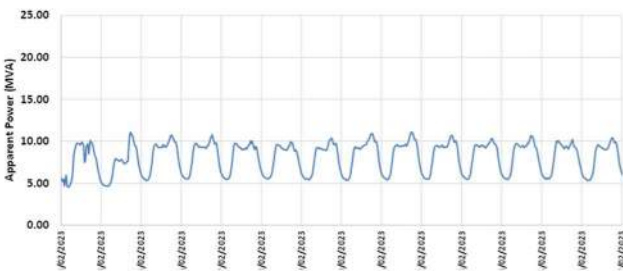
RBEA Zone Substation (2023 year) - Half hourly loading



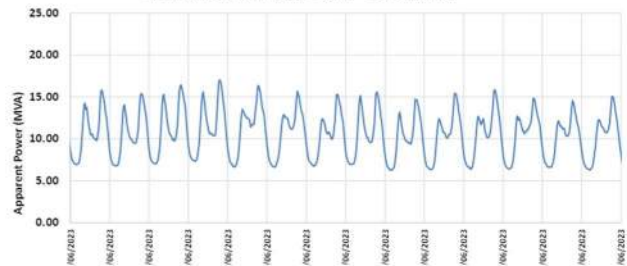
RBEA Zone Substation (2023 year) - Daily Maximum/Minimum



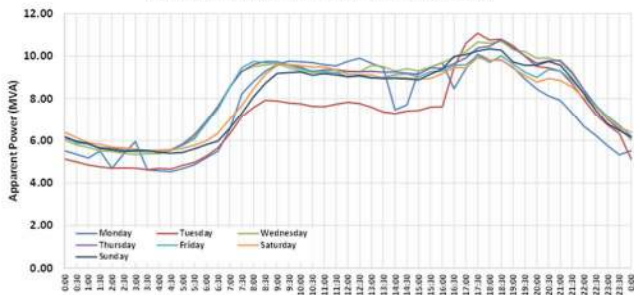
RBEA Zone Substation (2023 year) - Summer (February)



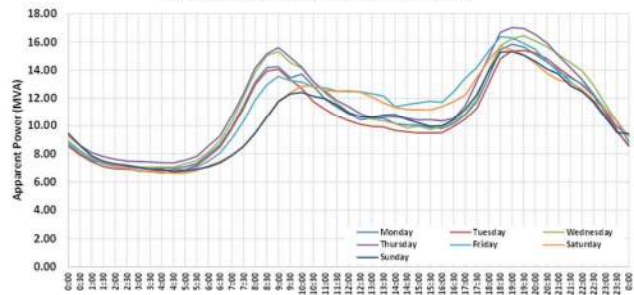
RBEA Zone Substation (2023 year) - Winter (June)



RBEA Zone Substation (2023 year) - Summer (February)



RBEA Zone Substation (2023 year) - Winter (June)



RBEA Zone Substation (2023 year) - Load Duration Curve

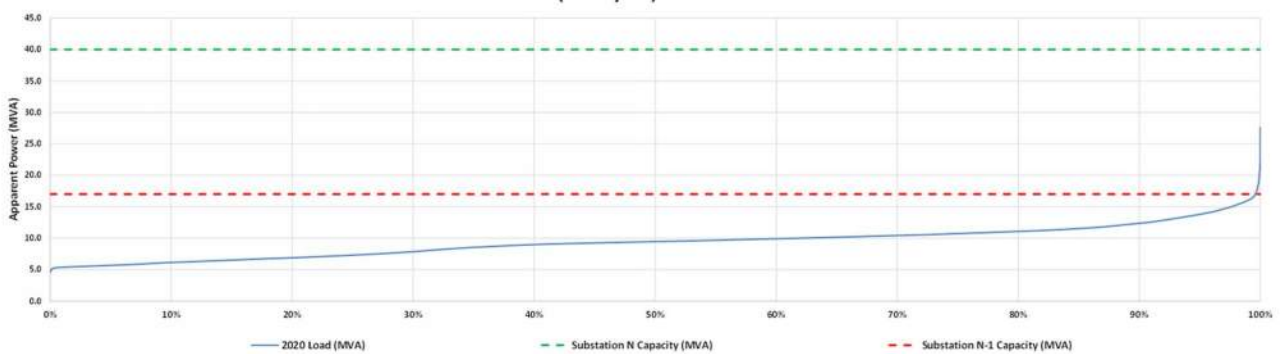
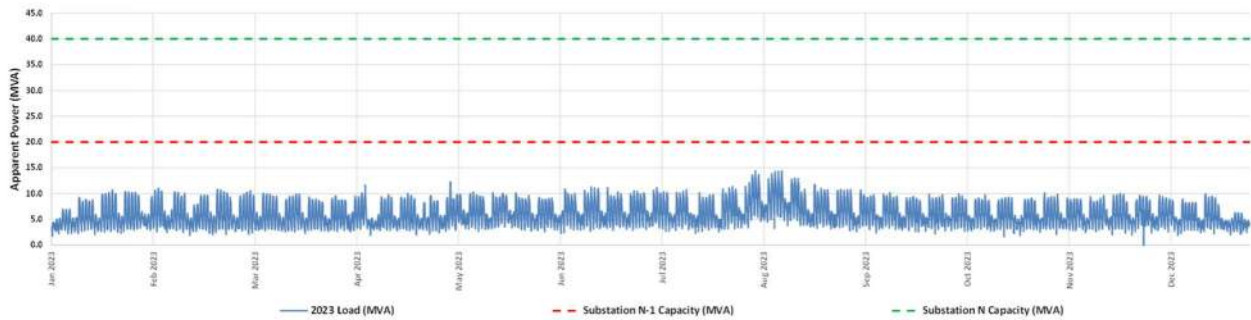


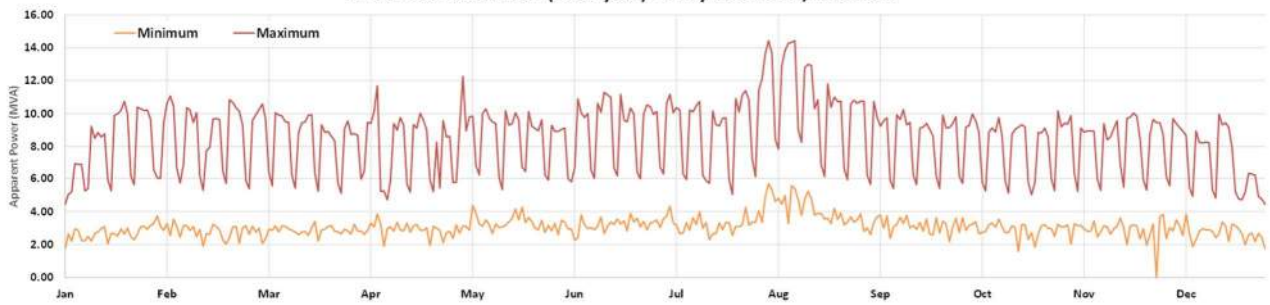
Figure 79. Red Beach 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Rosedale MVA

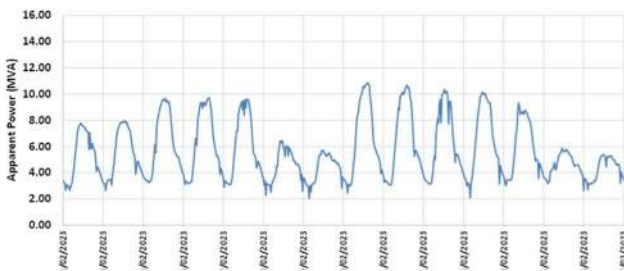
RDAL Zone Substation (2023 year) - Half hourly loading



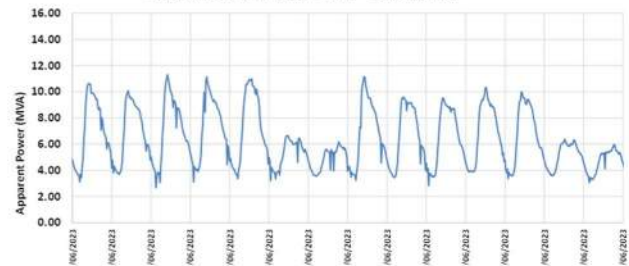
RDAL Zone Substation (2023 year) - Daily Maximum/Minimum



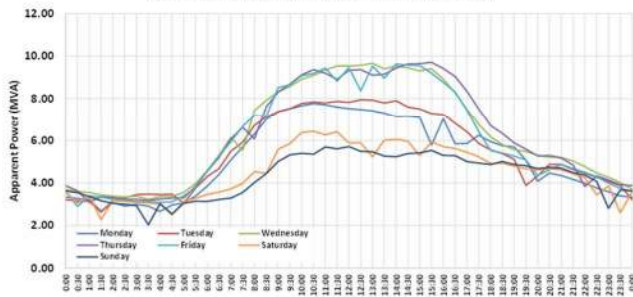
RDAL Zone Substation (2023 year) - Summer (February)



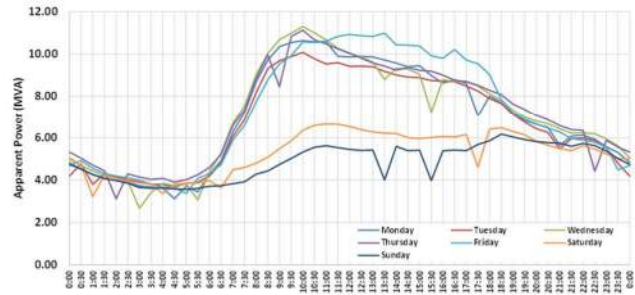
RDAL Zone Substation (2023 year) - Winter (June)



RDAL Zone Substation (2023 year) - Summer (February)



RDAL Zone Substation (2023 year) - Winter (June)



RDAL Zone Substation (2023 year) - Load Duration Curve

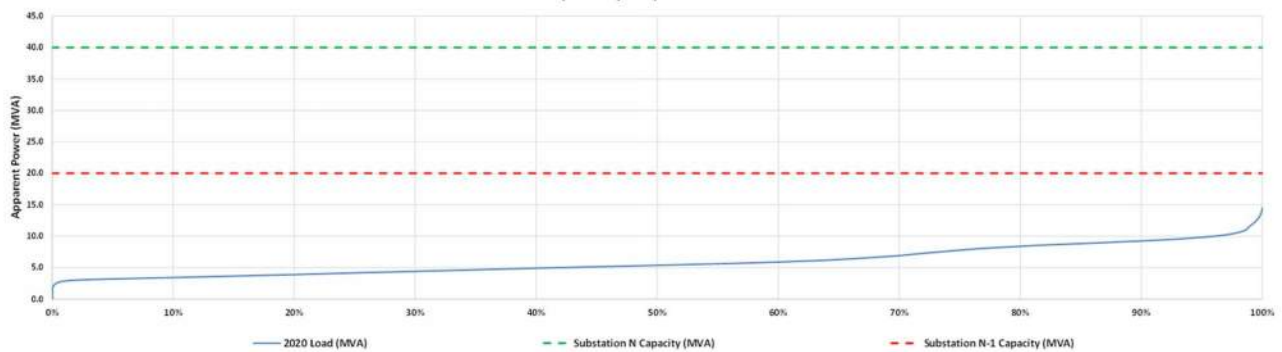
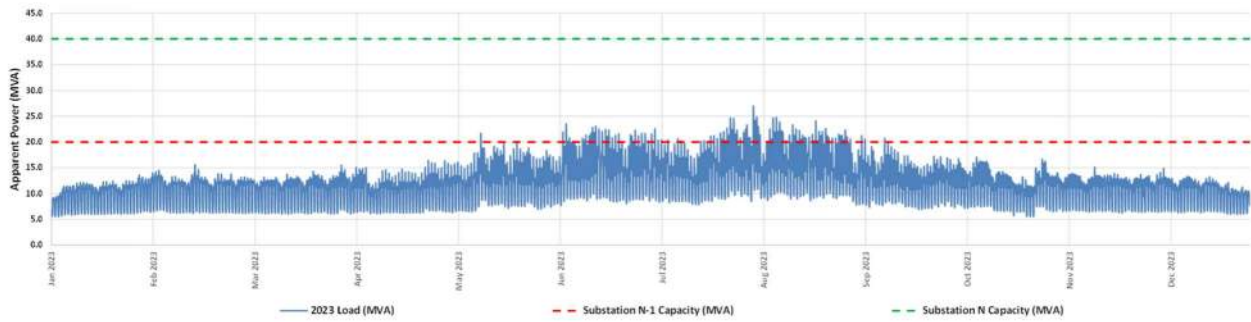


Figure 80. Rosedale 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Remuera MVA

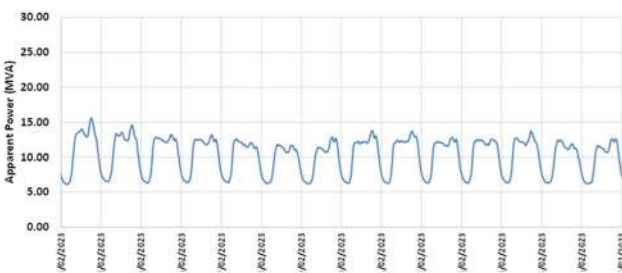
REMUE Zone Substation (2023 year) - Half hourly loading



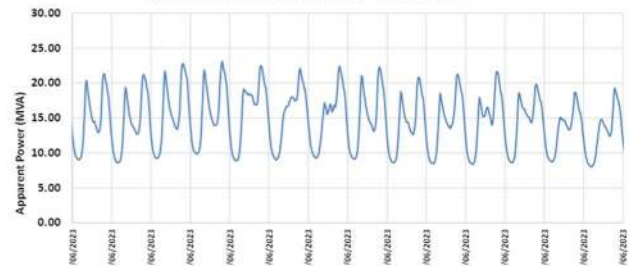
REMUE Zone Substation (2023 year) - Daily Maximum/Minimum



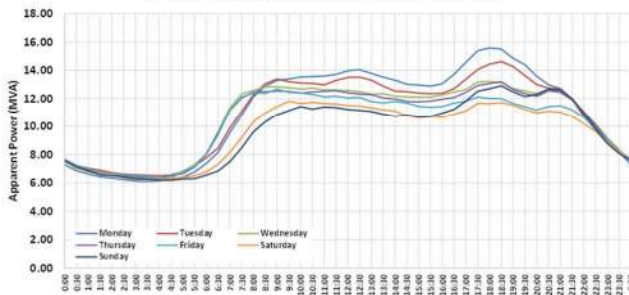
REMUE Zone Substation (2023 year) - Summer (February)



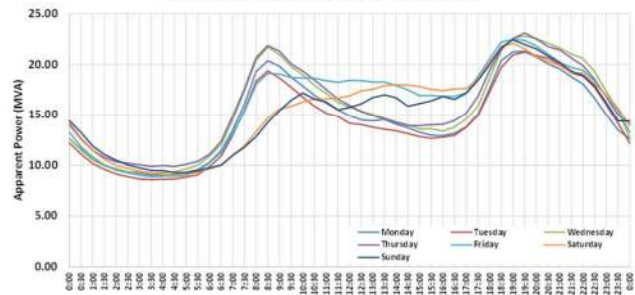
REMUE Zone Substation (2023 year) - Winter (June)



REMUE Zone Substation (2023 year) - Summer (February)



REMUE Zone Substation (2023 year) - Winter (June)



REMUE Zone Substation (2023 year) - Load Duration Curve

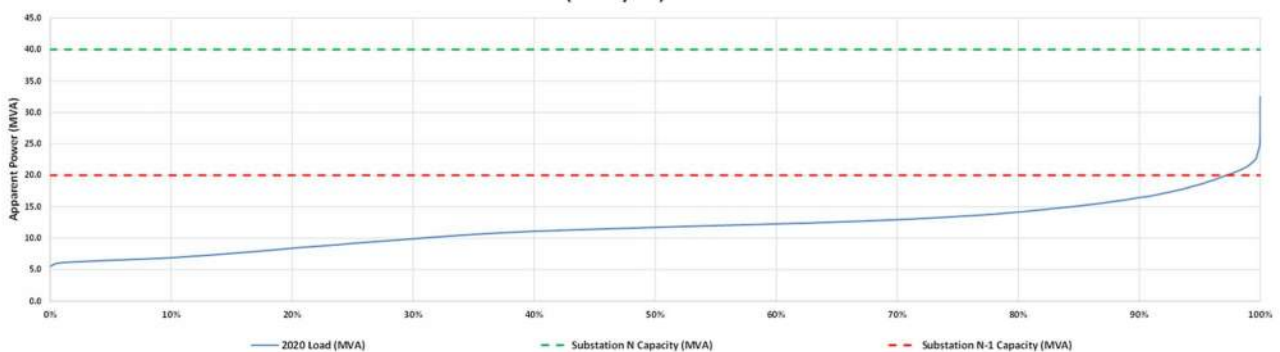
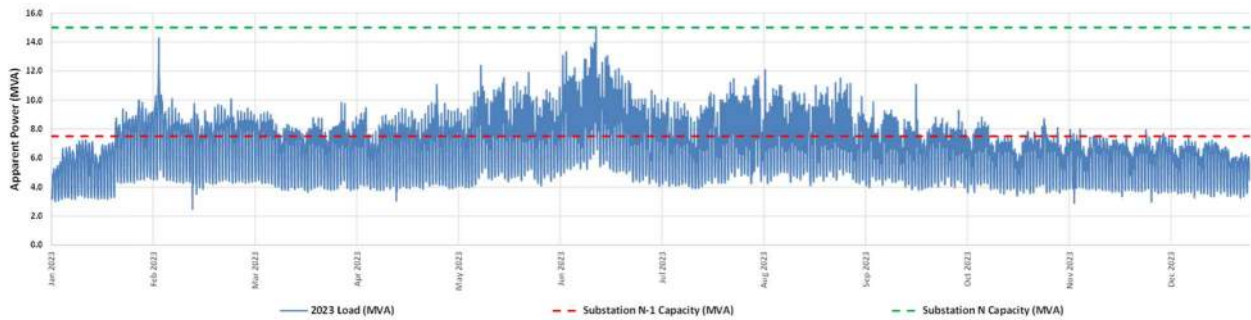


Figure 81. Remuera 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Riverhead MVA

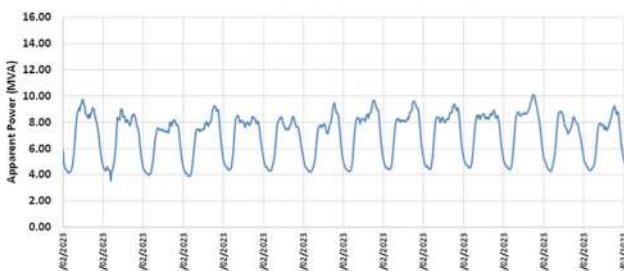
RIVE Zone Substation (2023 year) - Half hourly loading



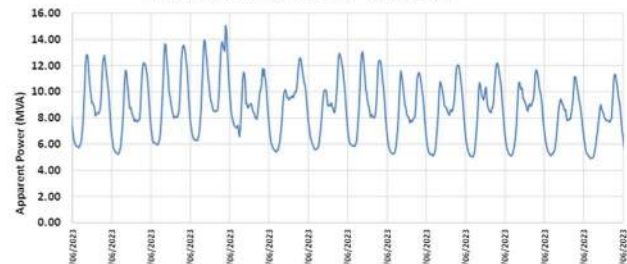
RIVE Zone Substation (2023 year) - Daily Maximum/Minimum



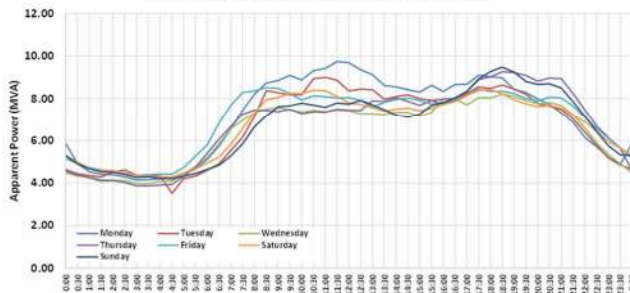
RIVE Zone Substation (2023 year) - Summer (February)



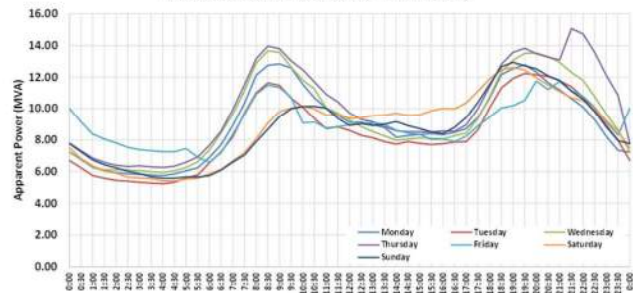
RIVE Zone Substation (2023 year) - Winter (June)



RIVE Zone Substation (2023 year) - Summer (February)



RIVE Zone Substation (2023 year) - Winter (June)



RIVE Zone Substation (2023 year) - Load Duration Curve

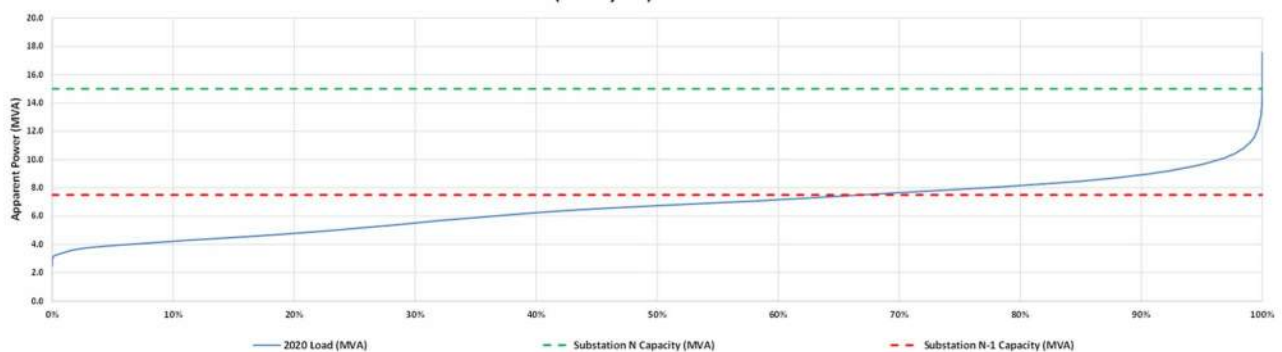
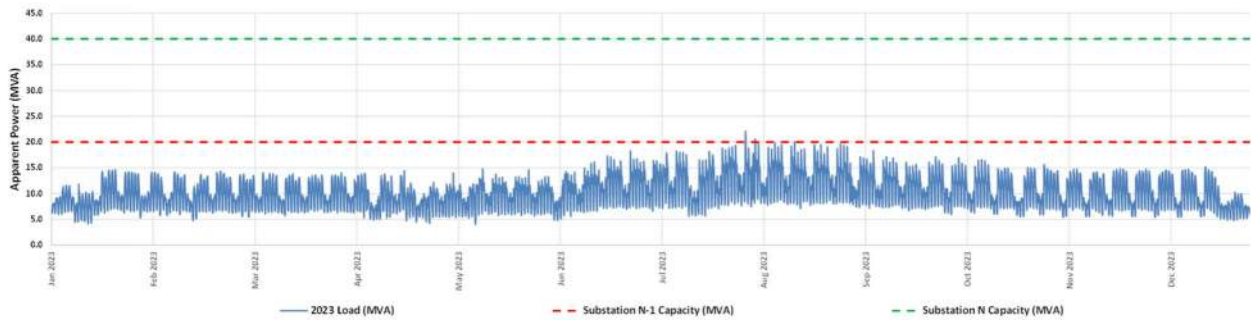


Figure 82. Riverhead 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Rockfield MVA

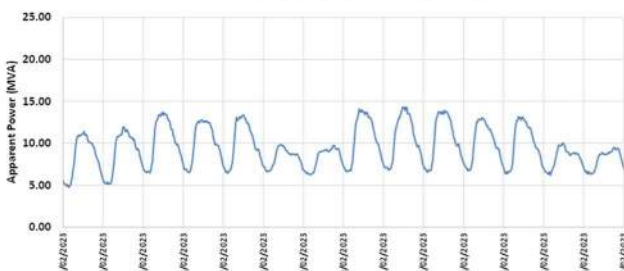
ROCK Zone Substation (2023 year) - Half hourly loading



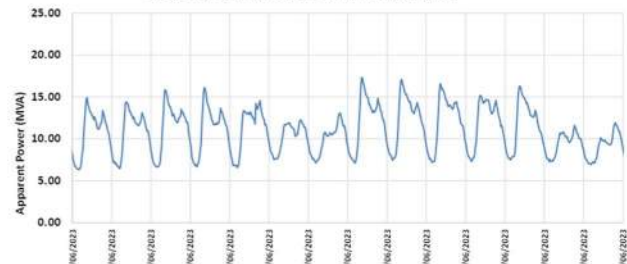
ROCK Zone Substation (2023 year) - Daily Maximum/Minimum



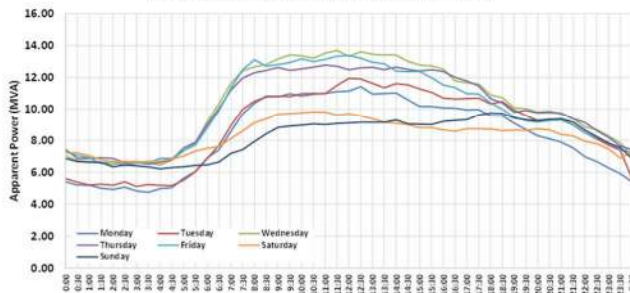
ROCK Zone Substation (2023 year) - Summer (February)



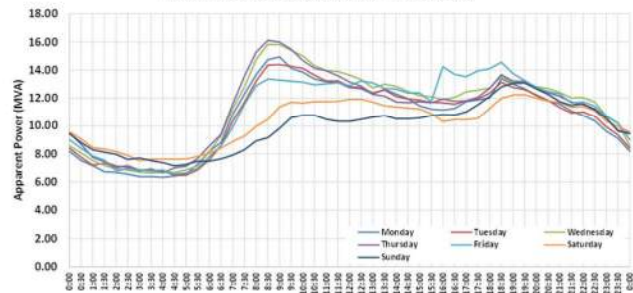
ROCK Zone Substation (2023 year) - Winter (June)



ROCK Zone Substation (2023 year) - Summer (February)



ROCK Zone Substation (2023 year) - Winter (June)



ROCK Zone Substation (2023 year) - Load Duration Curve

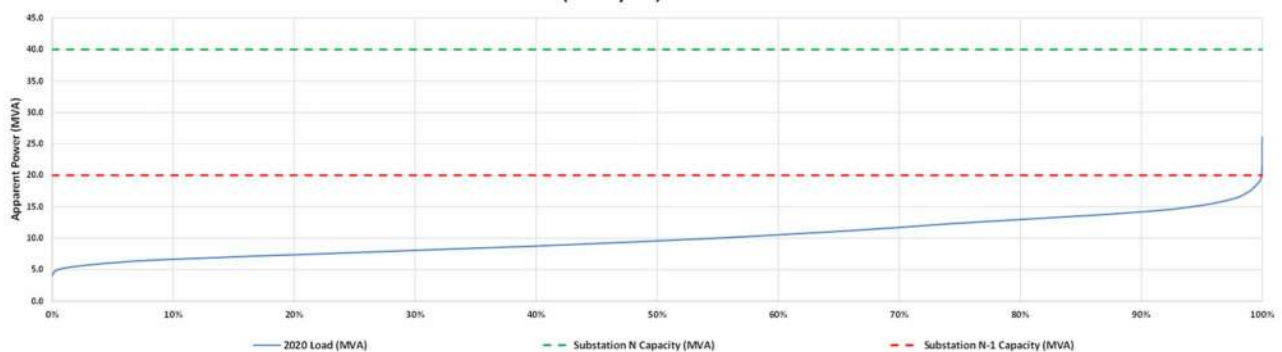
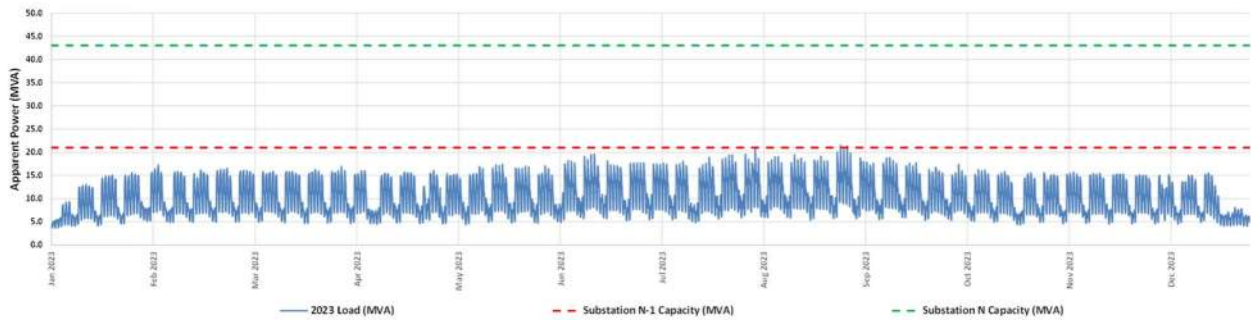


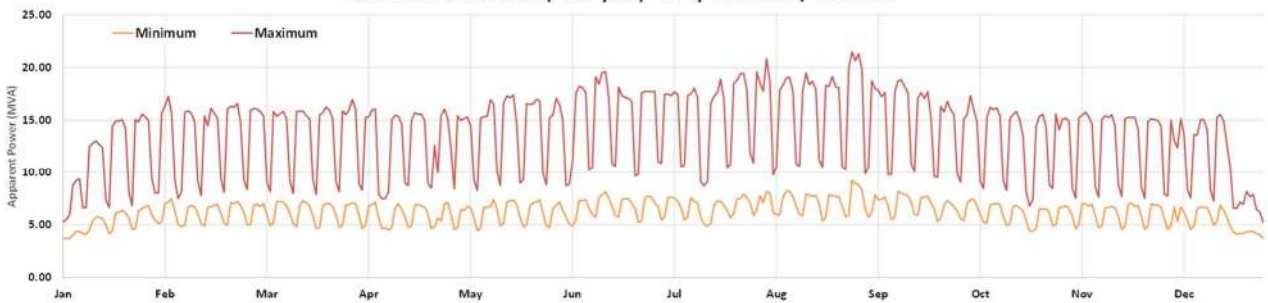
Figure 83. Rockfield 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Rosebank MVA

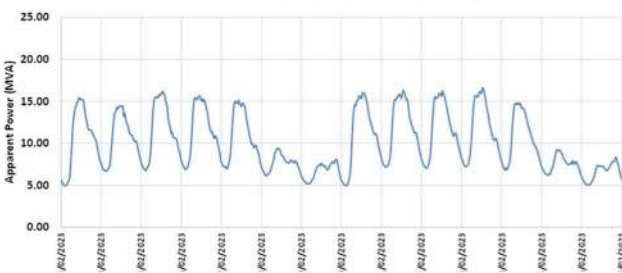
ROSE Zone Substation (2023 year) - Half hourly loading



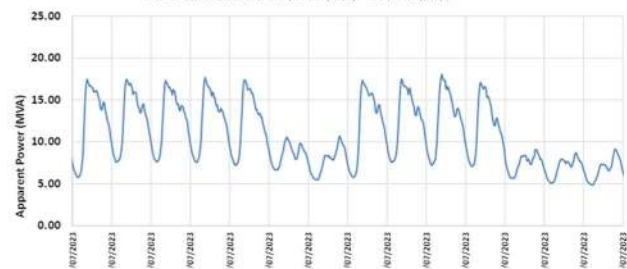
ROSE Zone Substation (2023 year) - Daily Maximum/Minimum



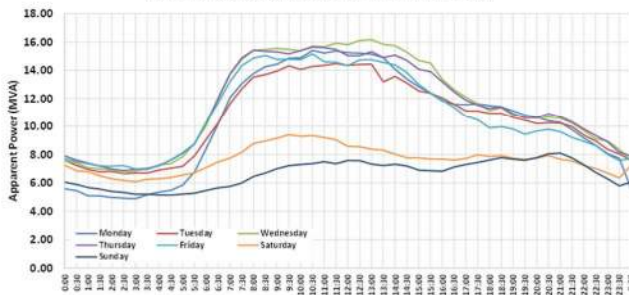
ROSE Zone Substation (2023 year) - Summer (February)



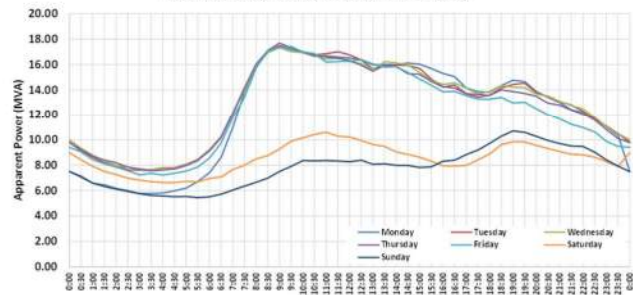
ROSE Zone Substation (2023 year) - Winter (July)



ROSE Zone Substation (2023 year) - Summer (February)



ROSE Zone Substation (2023 year) - Winter (July)



ROSE Zone Substation (2023 year) - Load Duration Curve

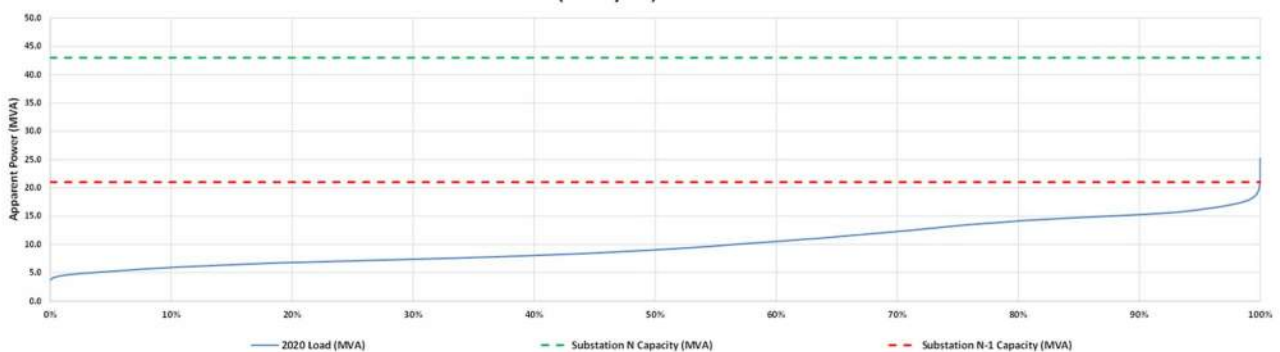
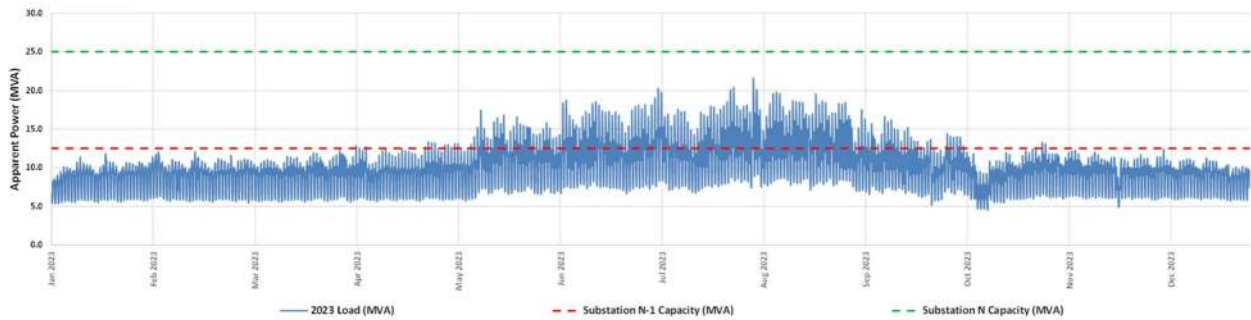


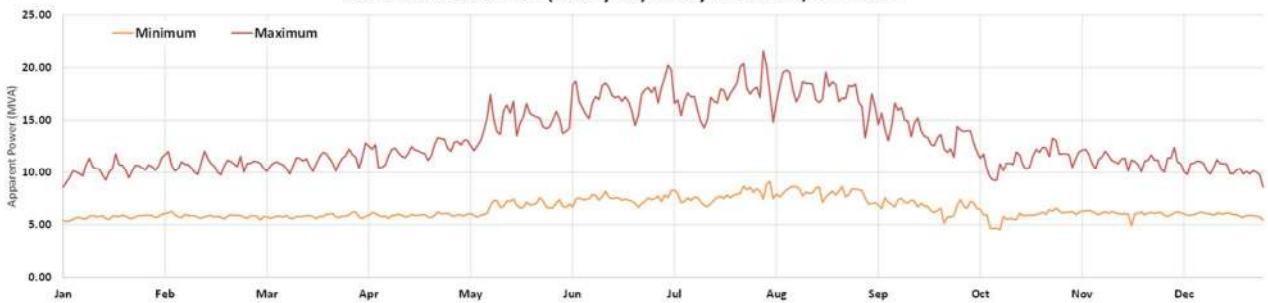
Figure 84. Rosebank 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Sabulite Road MVA

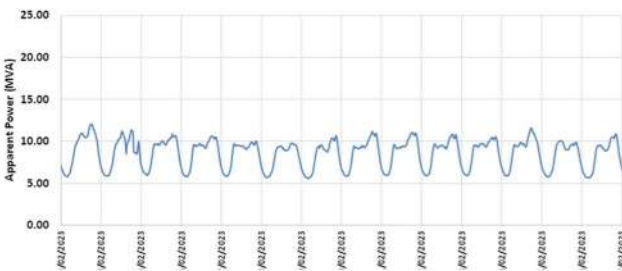
SABU Zone Substation (2023 year) - Half hourly loading



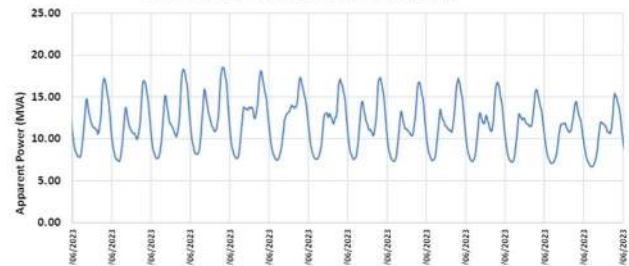
SABU Zone Substation (2023 year) - Daily Maximum/Minimum



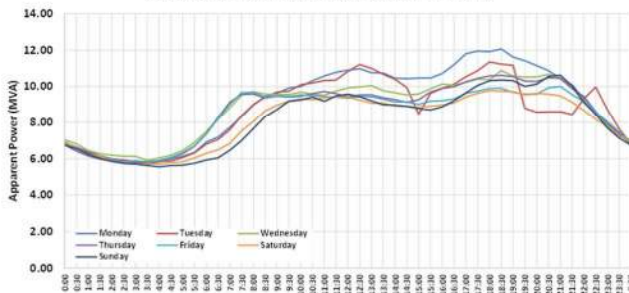
SABU Zone Substation (2023 year) - Summer (February)



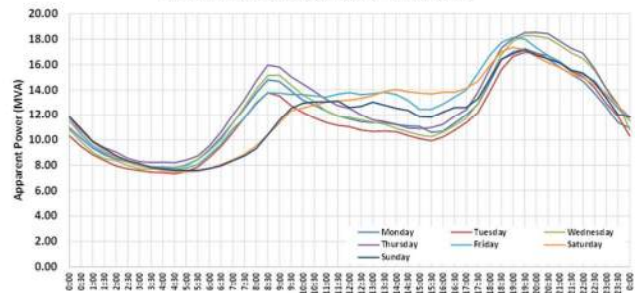
SABU Zone Substation (2023 year) - Winter (June)



SABU Zone Substation (2023 year) - Summer (February)



SABU Zone Substation (2023 year) - Winter (June)



SABU Zone Substation (2023 year) - Load Duration Curve

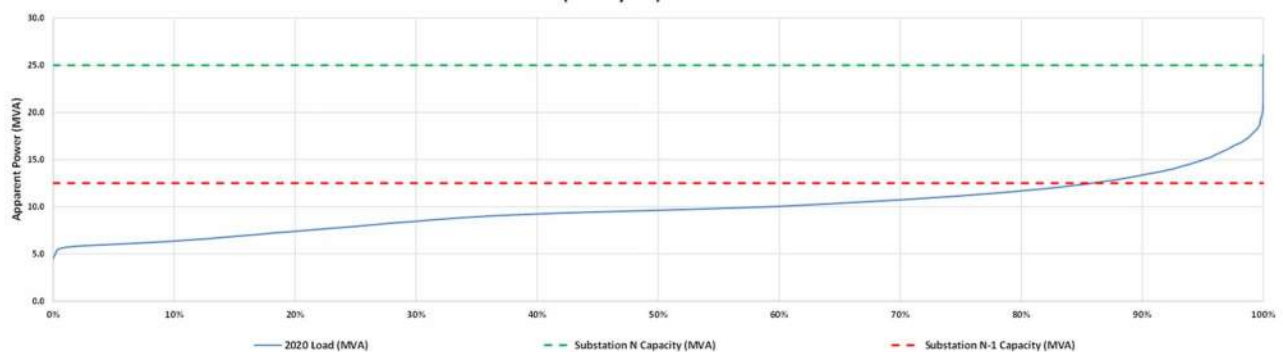
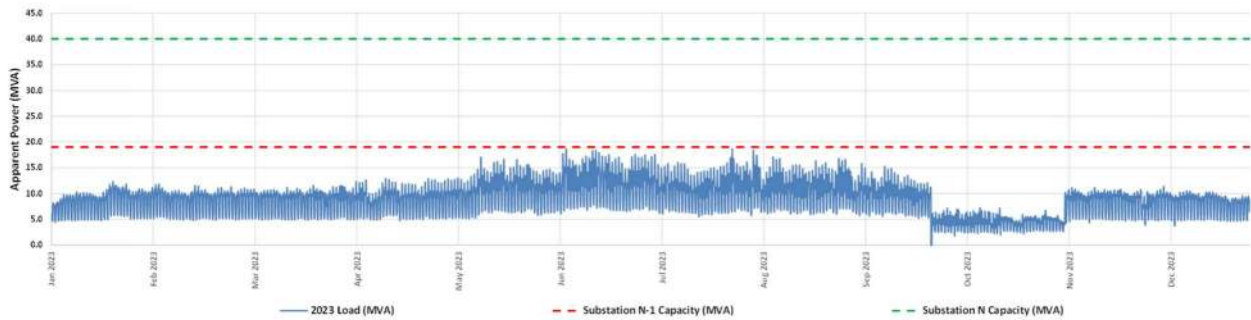


Figure 85. Sabulite Road 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Sandringham MVA

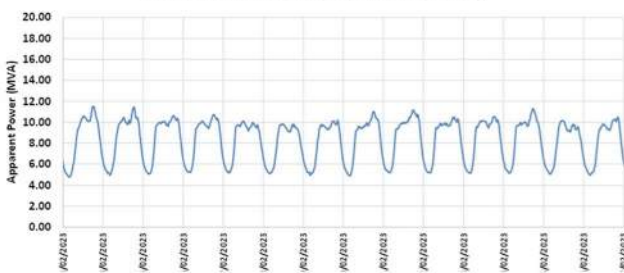
SAND Zone Substation (2023 year) - Half hourly loading



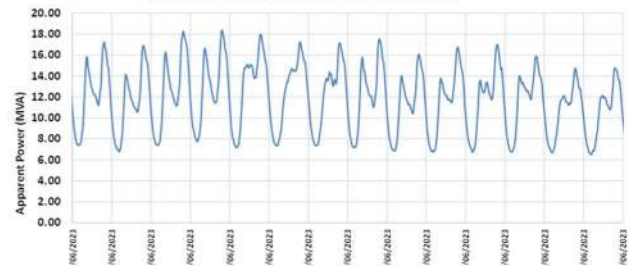
SAND Zone Substation (2023 year) - Daily Maximum/Minimum



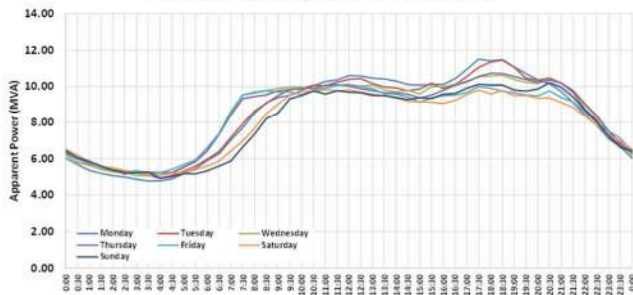
SAND Zone Substation (2023 year) - Summer (February)



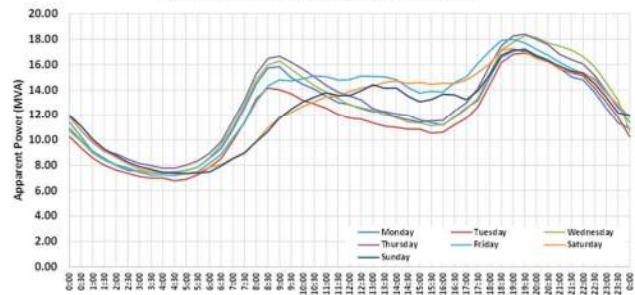
SAND Zone Substation (2023 year) - Winter (June)



SAND Zone Substation (2023 year) - Summer (February)



SAND Zone Substation (2023 year) - Winter (June)



SAND Zone Substation (2023 year) - Load Duration Curve

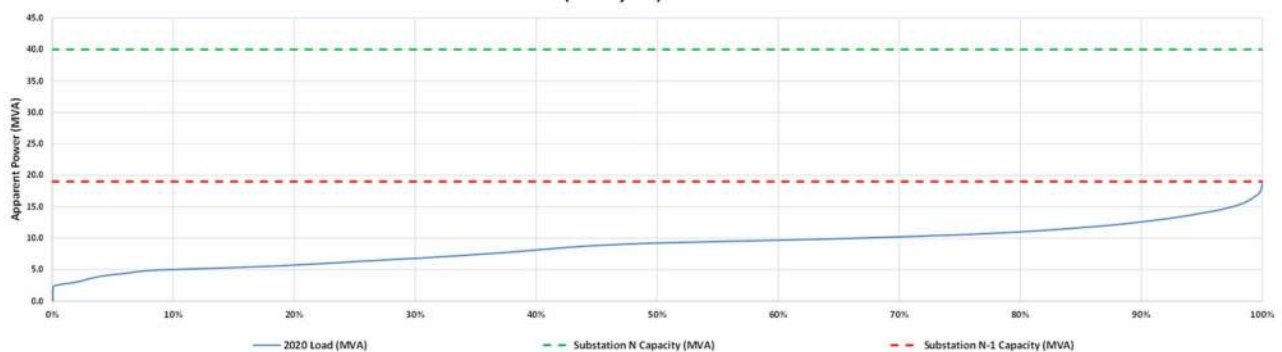
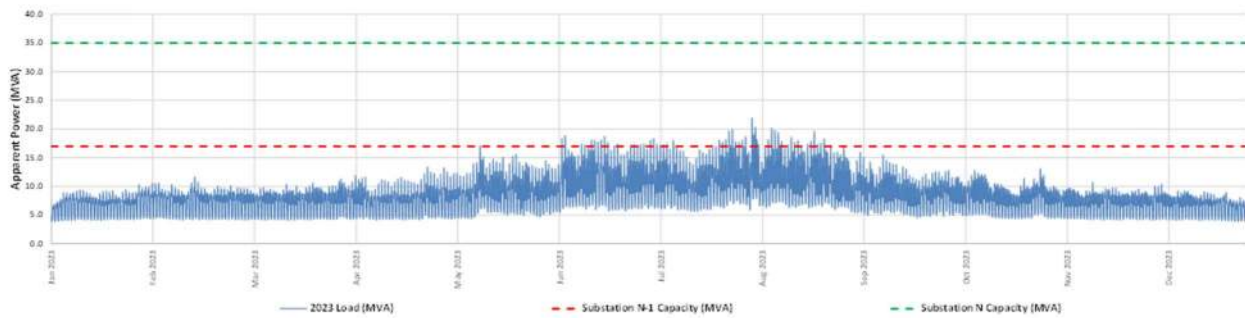


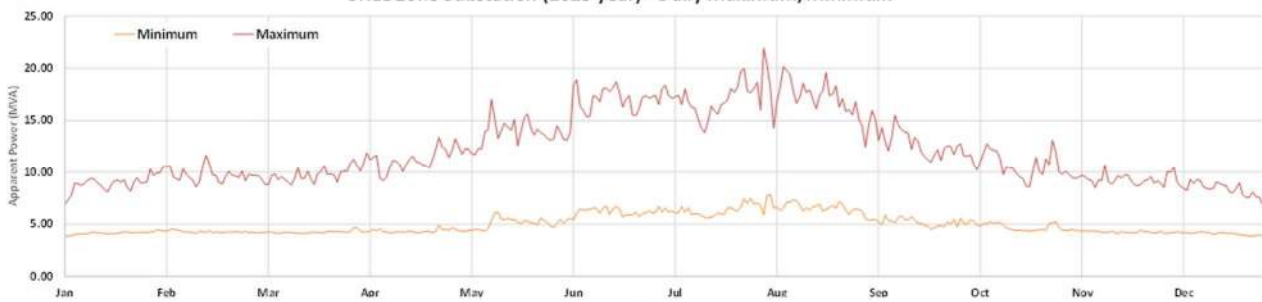
Figure 86. Sandringham 22/11 kV zone substation: Apparent Power (MVA) load characteristics

St Heliers MVA

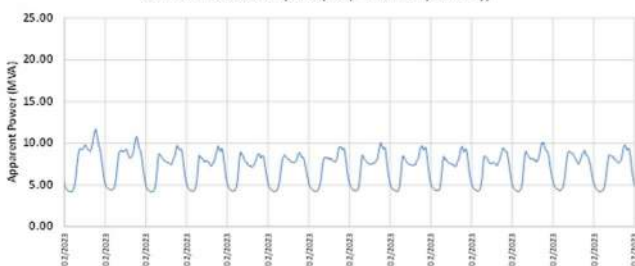
SHEL Zone Substation (2023 year) - Half hourly loading



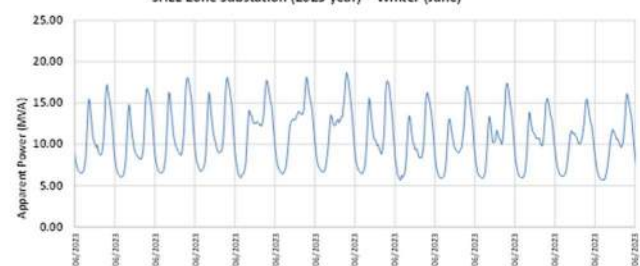
SHEL Zone Substation (2023 year) - Daily Maximum/Minimum



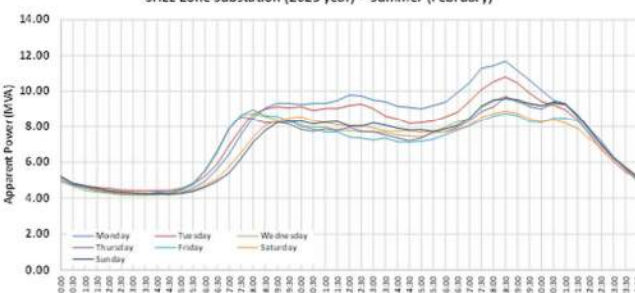
SHEL Zone Substation (2023 year) - Summer (February)



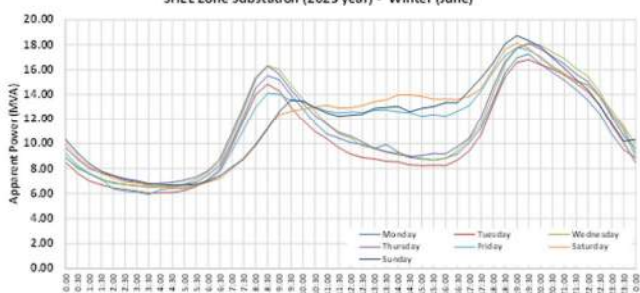
SHEL Zone Substation (2023 year) - Winter (June)



SHEL Zone Substation (2023 year) - Summer (February)



SHEL Zone Substation (2023 year) - Winter (June)



SHEL Zone Substation (2023 year) - Load Duration Curve

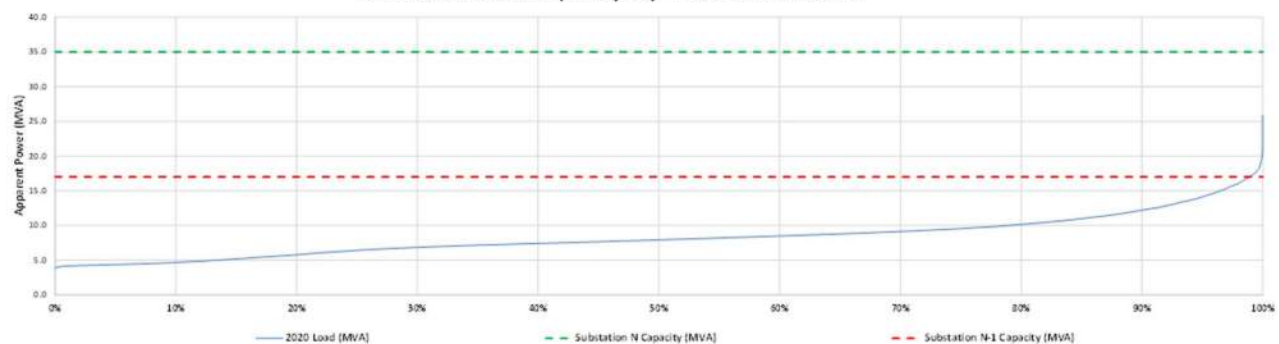
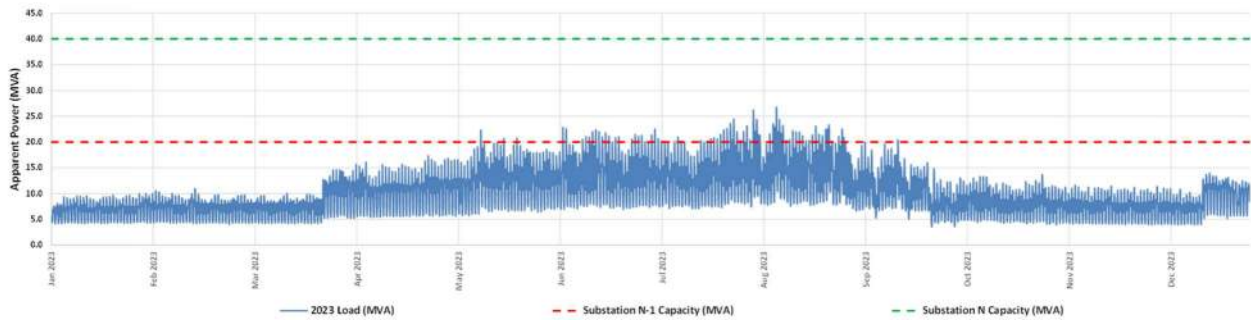


Figure 87. St Heliers 33/11 kV zone substation: Apparent Power (MVA) load characteristics

South Howick MVA

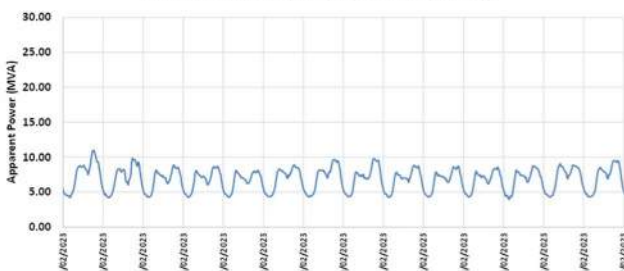
SHOW Zone Substation (2023 year) - Half hourly loading



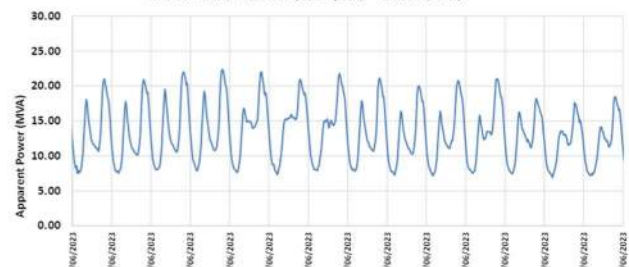
SHOW Zone Substation (2023 year) - Daily Maximum/Minimum



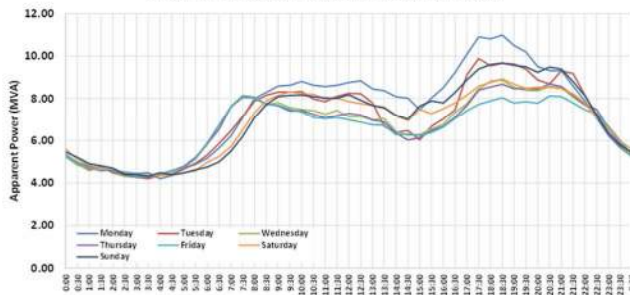
SHOW Zone Substation (2023 year) - Summer (February)



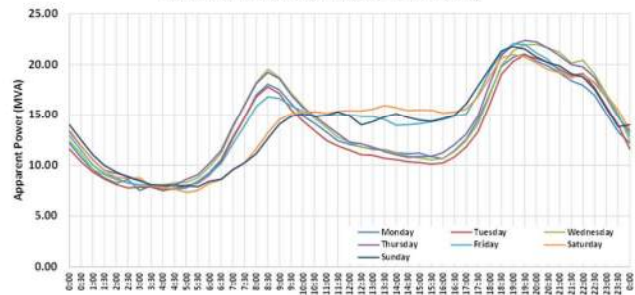
SHOW Zone Substation (2023 year) - Winter (June)



SHOW Zone Substation (2023 year) - Summer (February)



SHOW Zone Substation (2023 year) - Winter (June)



SHOW Zone Substation (2023 year) - Load Duration Curve

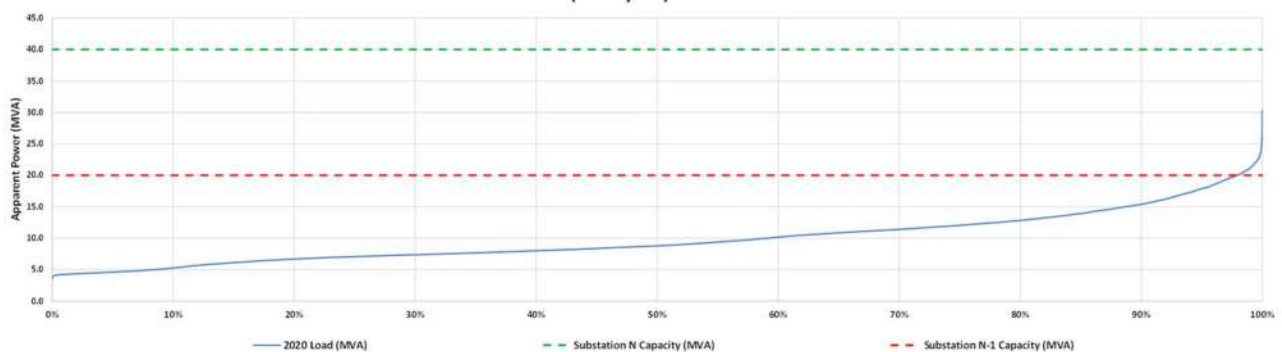
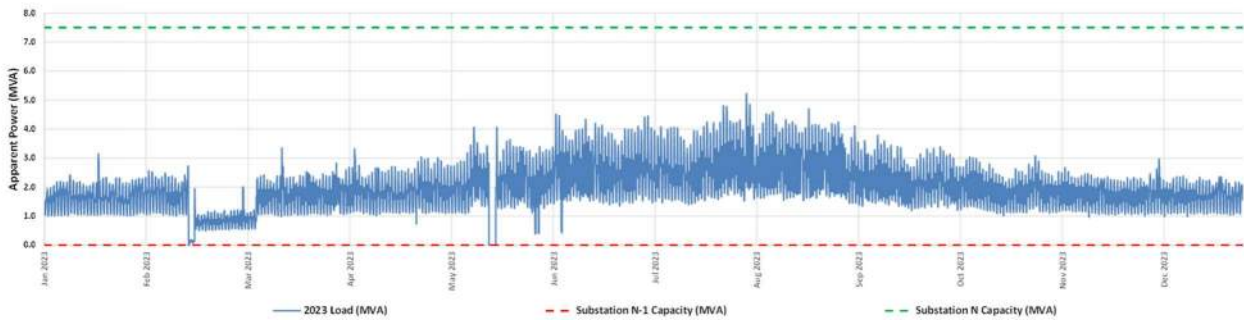


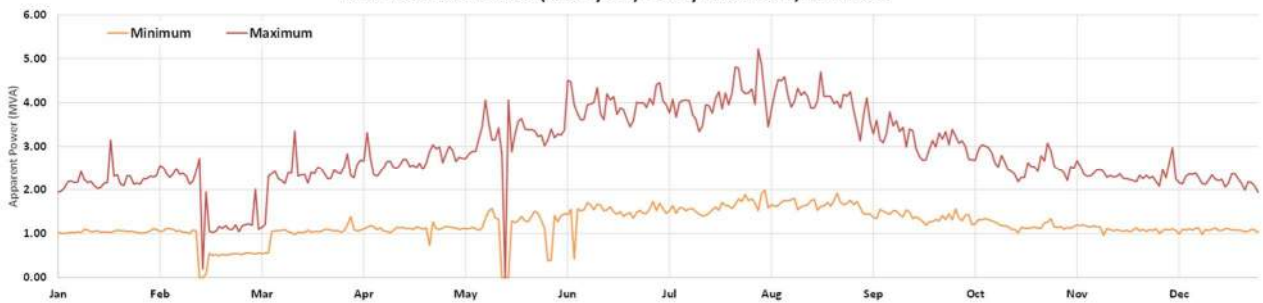
Figure 88. South Howick 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Simpson Road

SIMP Zone Substation (2023 year) - Half hourly loading



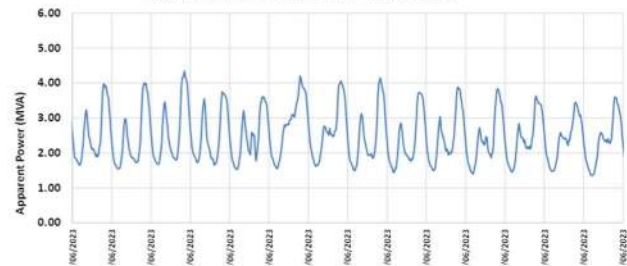
SIMP Zone Substation (2023 year) - Daily Maximum/Minimum



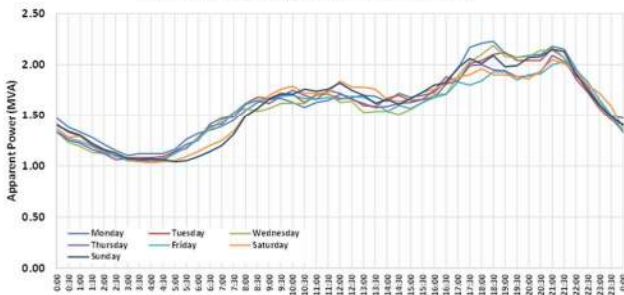
SIMP Zone Substation (2023 year) - Summer (January)



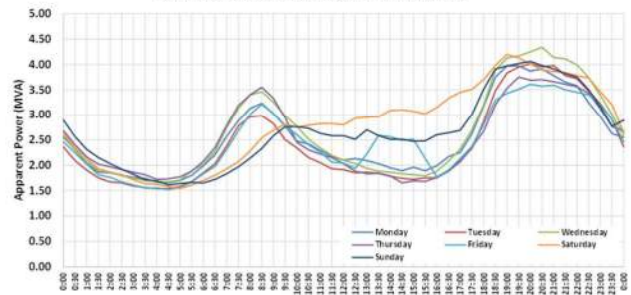
SIMP Zone Substation (2023 year) - Winter (June)



SIMP Zone Substation (2023 year) - Summer (January)



SIMP Zone Substation (2023 year) - Winter (June)



SIMP Zone Substation (2023 year) - Load Duration Curve

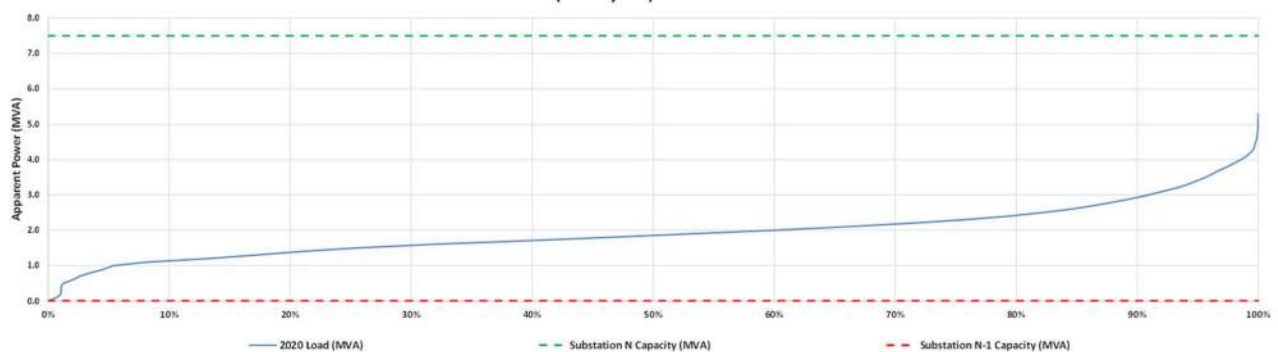
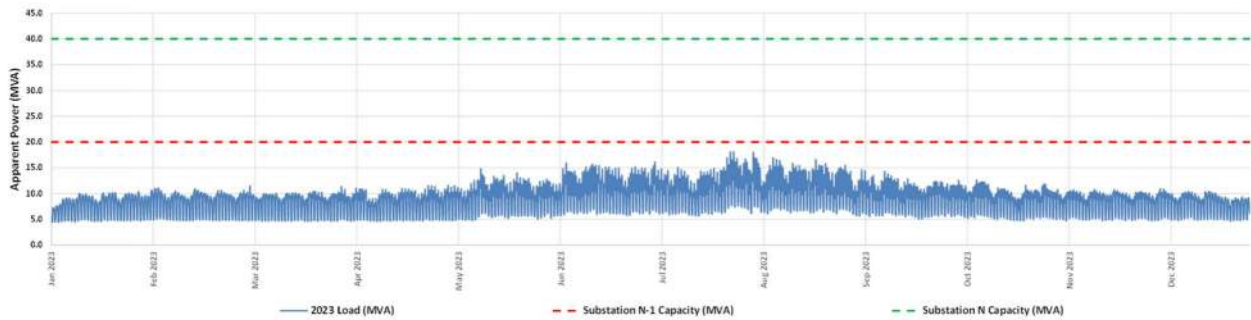


Figure 89. Simpson Road 33/11 kV zone substation: Apparent Power (MVA) load characteristics

St Johns MVA

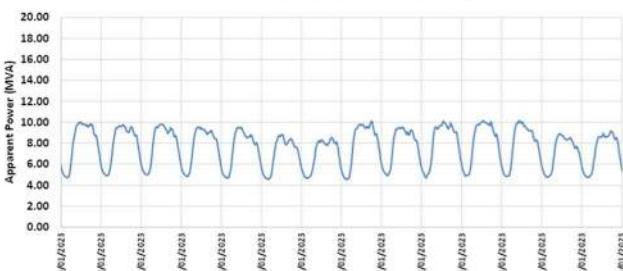
SJOH Zone Substation (2023 year) - Half hourly loading



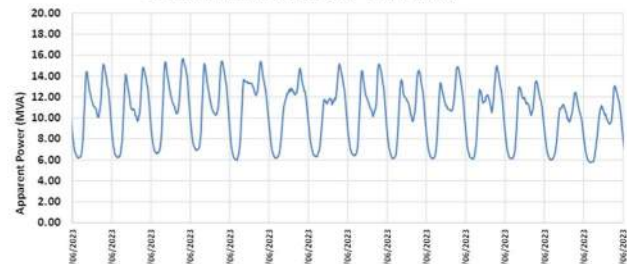
SJOH Zone Substation (2023 year) - Daily Maximum/Minimum



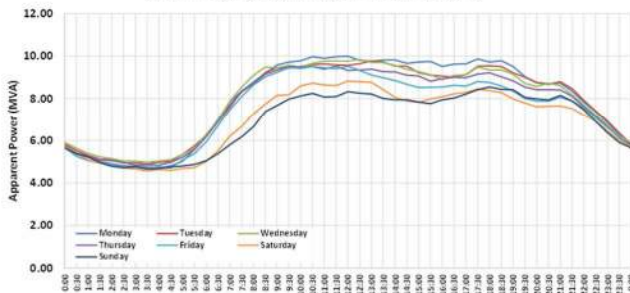
SJOH Zone Substation (2023 year) - Summer (January)



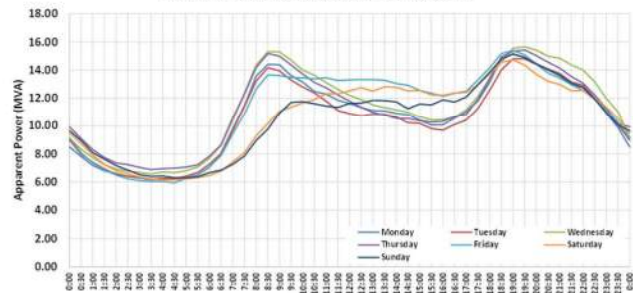
SJOH Zone Substation (2023 year) - Winter (June)



SJOH Zone Substation (2023 year) - Summer (January)



SJOH Zone Substation (2023 year) - Winter (June)



SJOH Zone Substation (2023 year) - Load Duration Curve

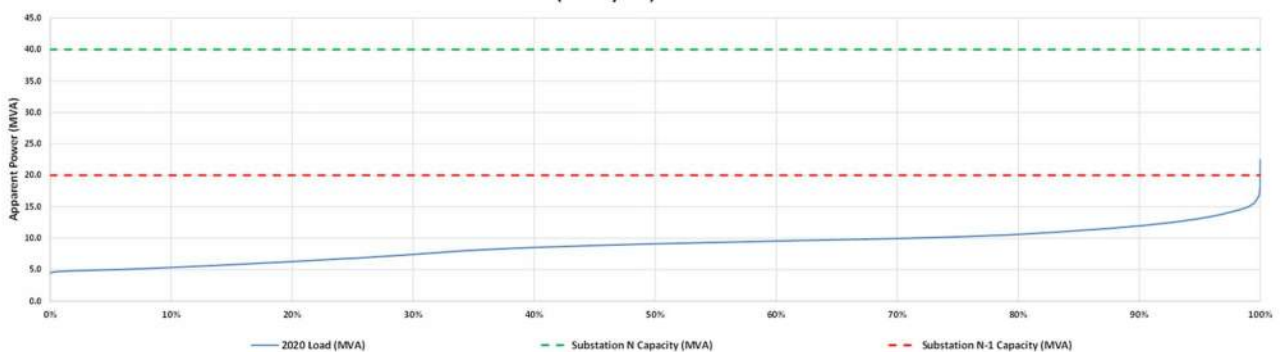
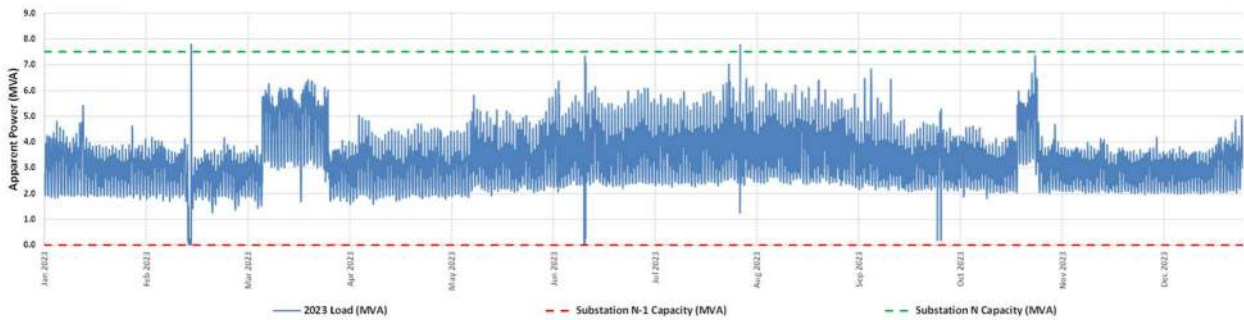


Figure 90. St Johns 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Snells Beach MVA

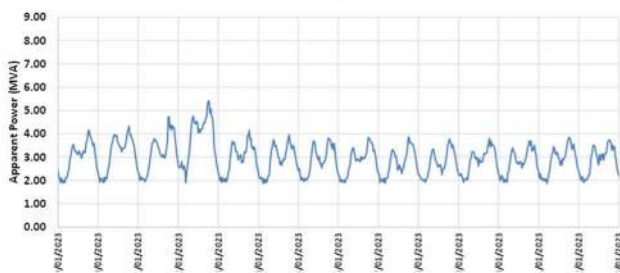
SNEL Zone Substation (2023 year) - Half hourly loading



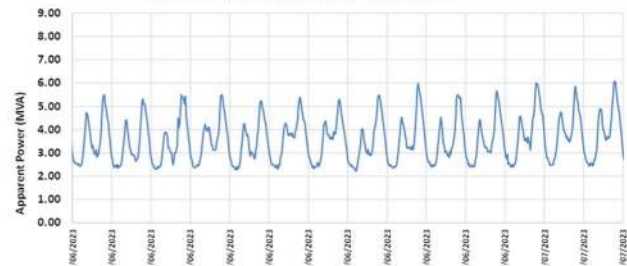
SNEL Zone Substation (2023 year) - Daily Maximum/Minimum



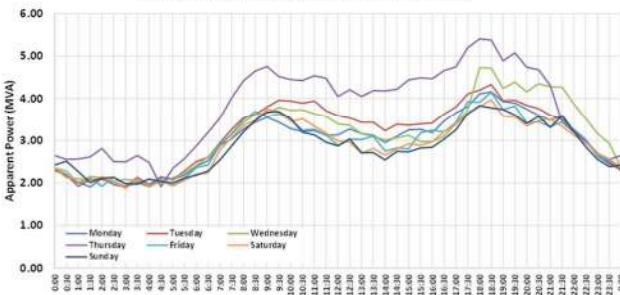
SNEL Zone Substation (2023 year) - Summer (January)



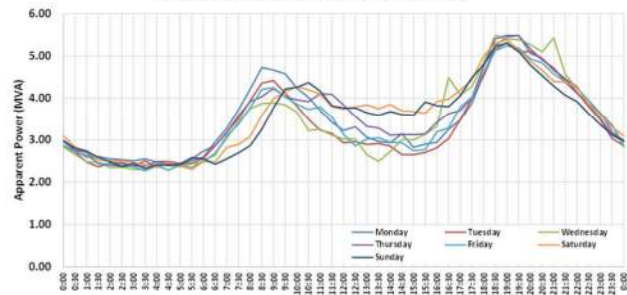
SNEL Zone Substation (2023 year) - Winter (June)



SNEL Zone Substation (2023 year) - Summer (January)



SNEL Zone Substation (2023 year) - Winter (June)



SNEL Zone Substation (2023 year) - Load Duration Curve

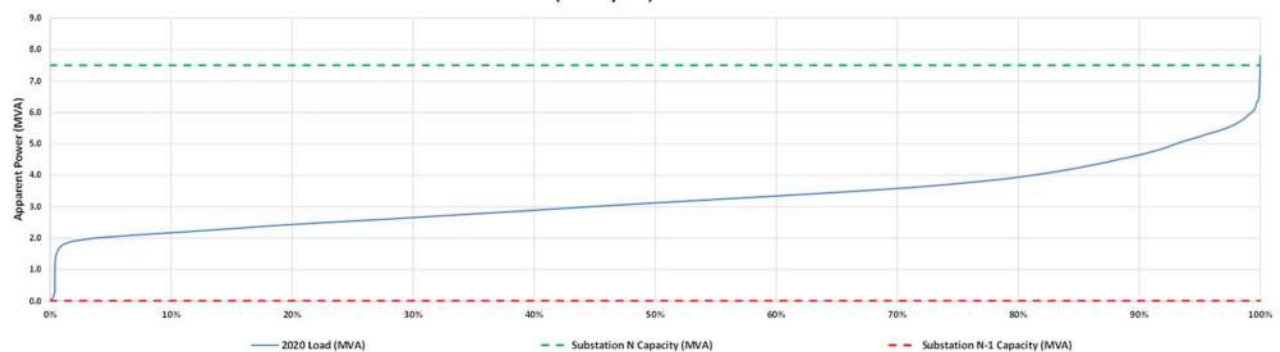
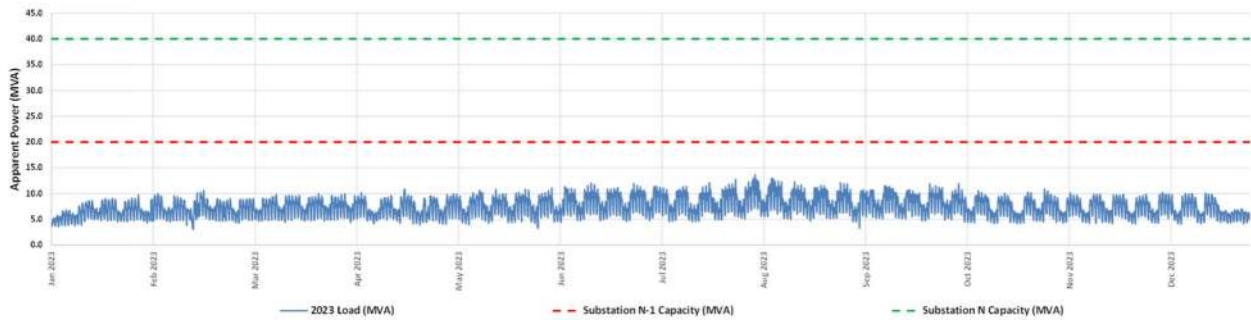


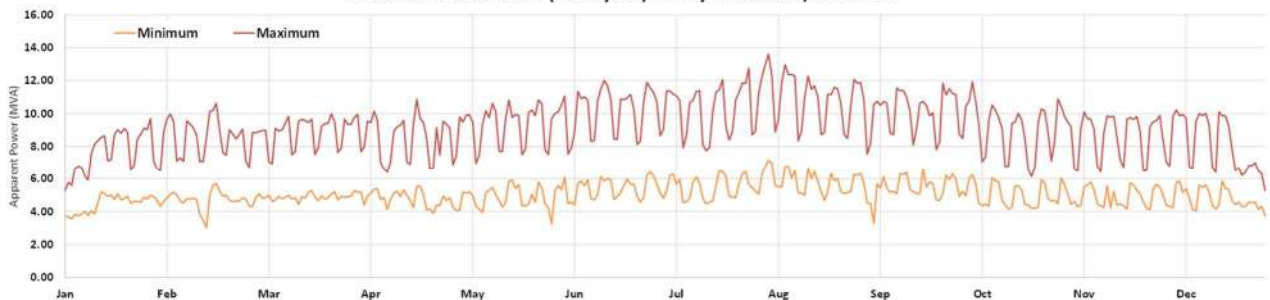
Figure 91. Snells Beach 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Spur Road MVA

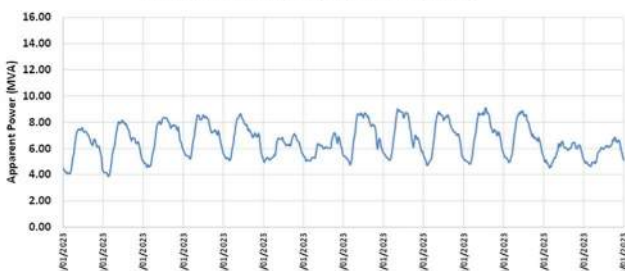
SPUR Zone Substation (2023 year) - Half hourly loading



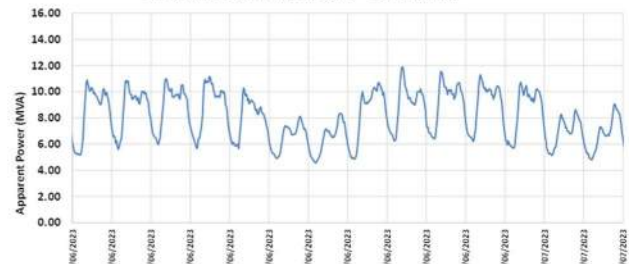
SPUR Zone Substation (2023 year) - Daily Maximum/Minimum



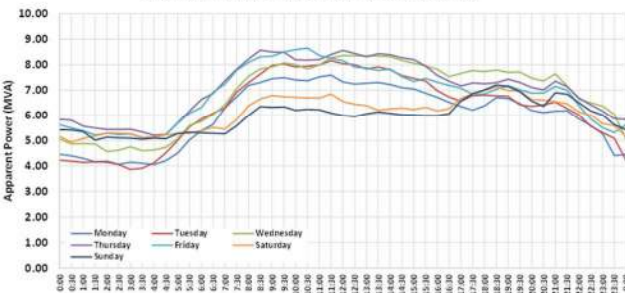
SPUR Zone Substation (2023 year) - Summer (January)



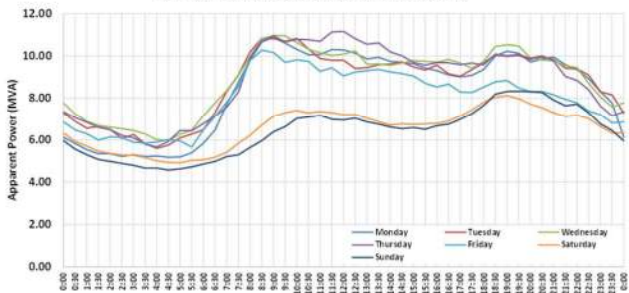
SPUR Zone Substation (2023 year) - Winter (June)



SPUR Zone Substation (2023 year) - Summer (January)



SPUR Zone Substation (2023 year) - Winter (June)



SPUR Zone Substation (2023 year) - Load Duration Curve

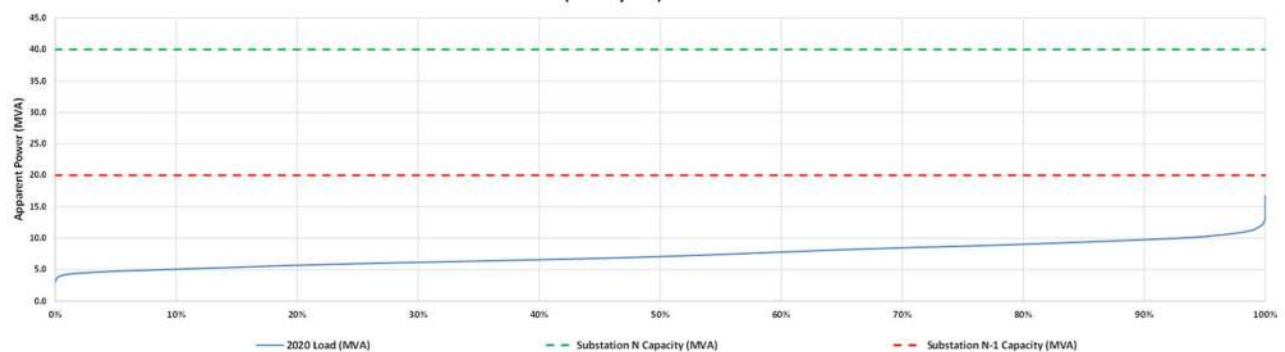
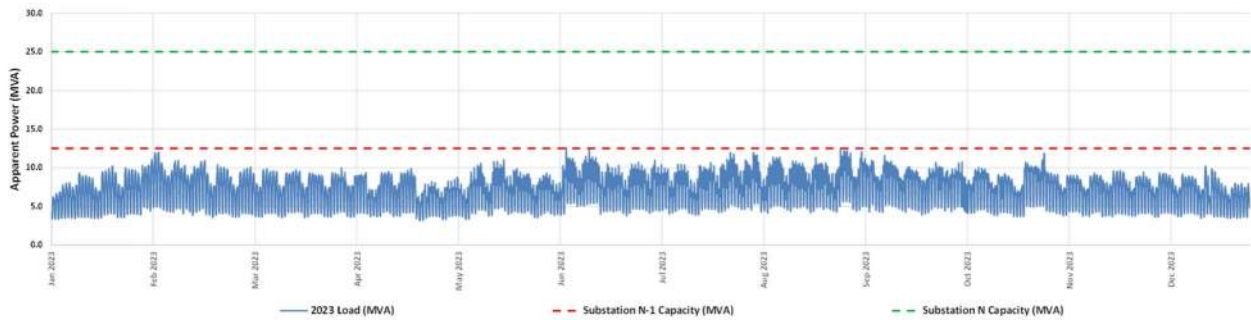


Figure 92. Spur Road 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Sunset Road MVA

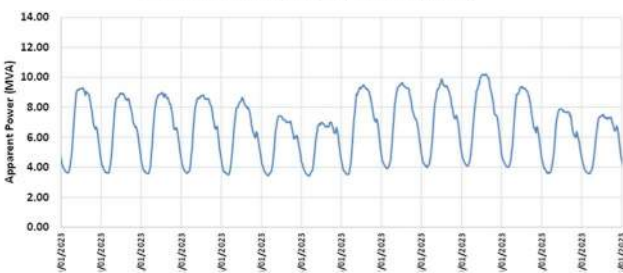
SUNS Zone Substation (2023 year) - Half hourly loading



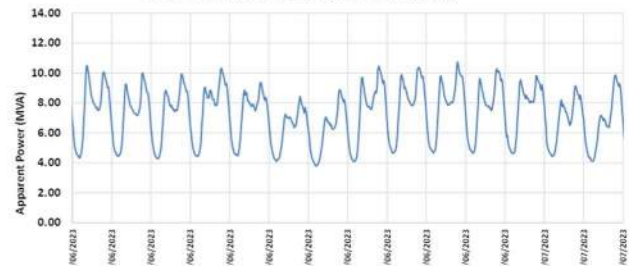
SUNS Zone Substation (2023 year) - Daily Maximum/Minimum



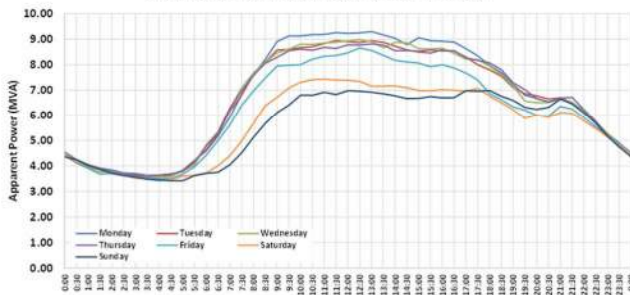
SUNS Zone Substation (2023 year) - Summer (January)



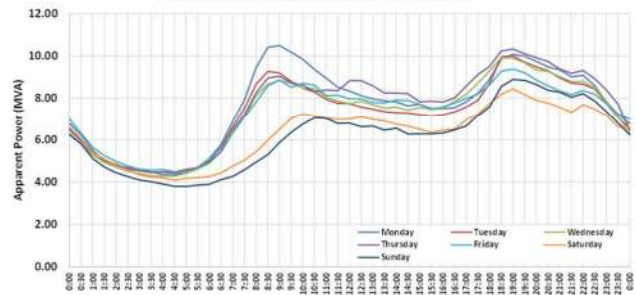
SUNS Zone Substation (2023 year) - Winter (June)



SUNS Zone Substation (2023 year) - Summer (January)



SUNS Zone Substation (2023 year) - Winter (June)



SUNS Zone Substation (2023 year) - Load Duration Curve

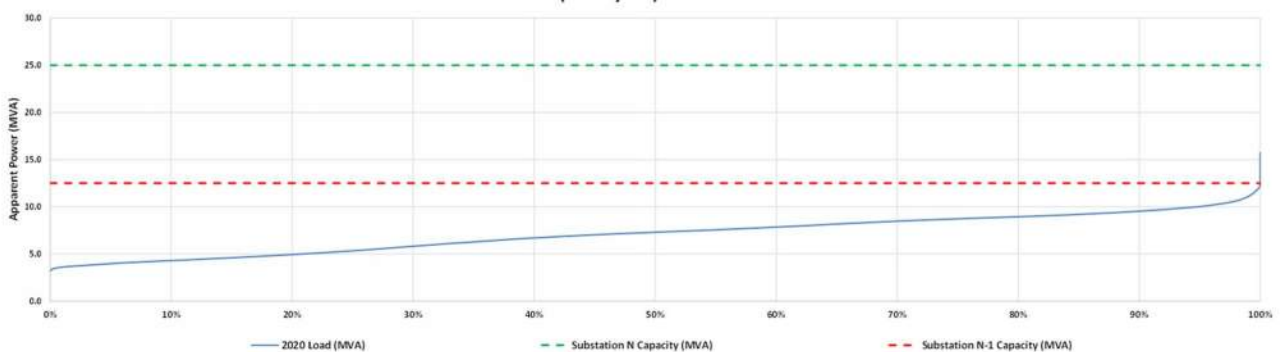
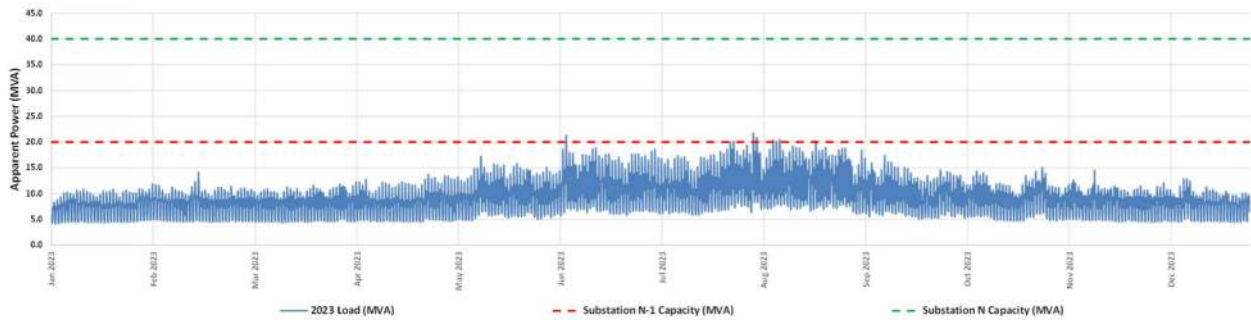


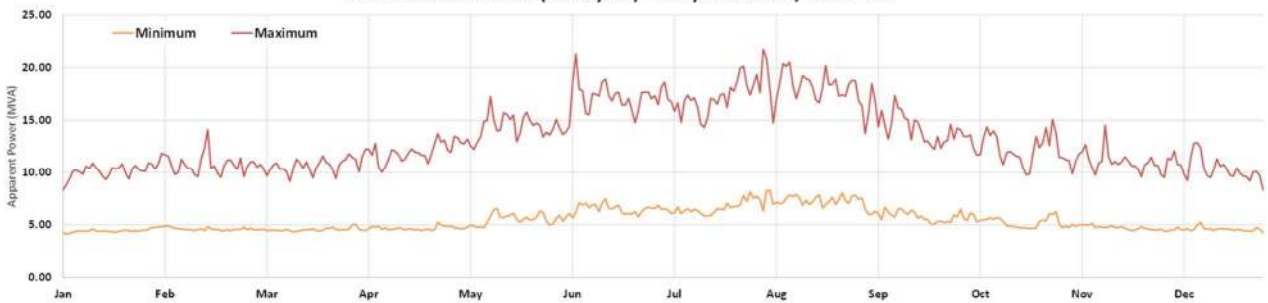
Figure 93. Sunset Road 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Swanson MVA

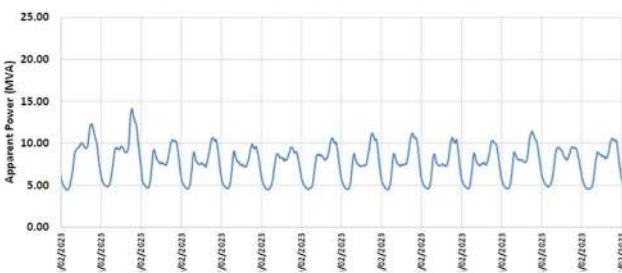
BIRK Zone Substation (2023 year) - Half hourly loading



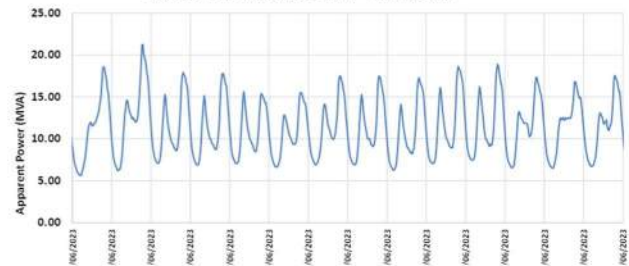
BIRK Zone Substation (2023 year) - Daily Maximum/Minimum



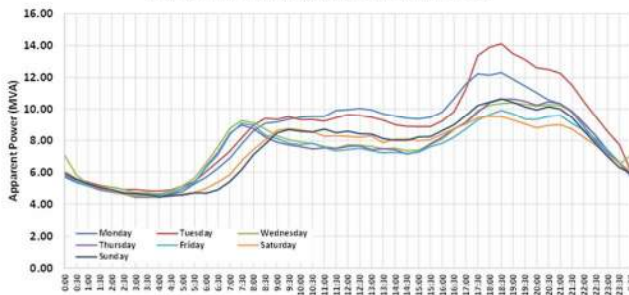
BIRK Zone Substation (2023 year) - Summer (February)



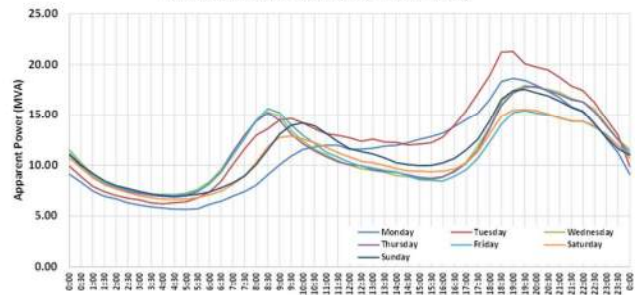
BIRK Zone Substation (2023 year) - Winter (June)



BIRK Zone Substation (2023 year) - Summer (February)



BIRK Zone Substation (2023 year) - Winter (June)



BIRK Zone Substation (2023 year) - Load Duration Curve

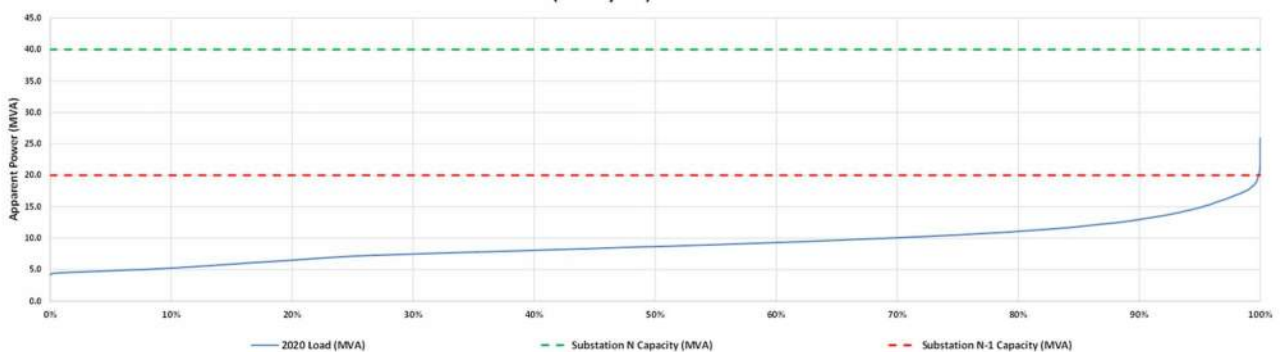
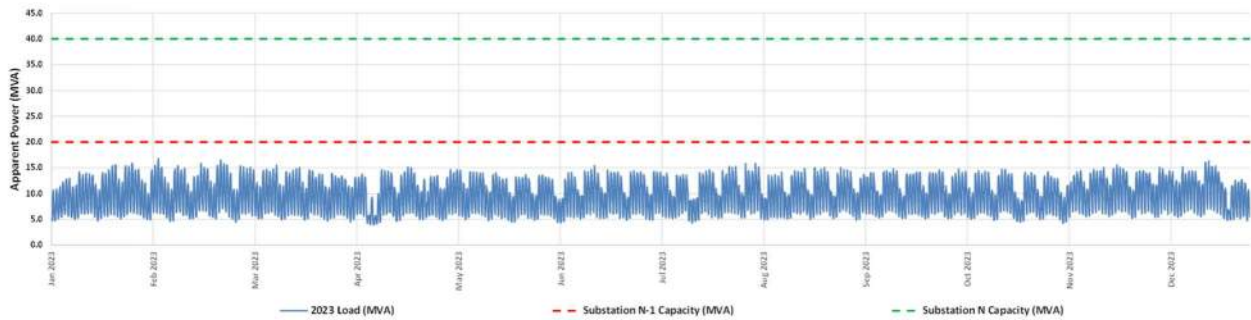


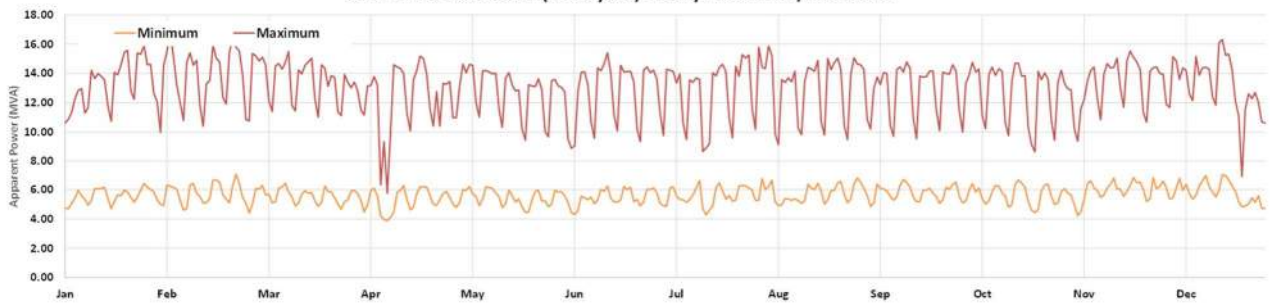
Figure 94. Swanson 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Sylvia Park MVA

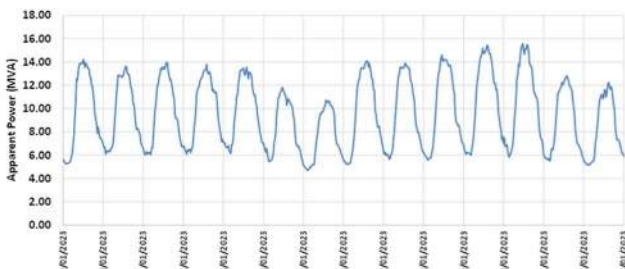
SYLV Zone Substation (2023 year) - Half hourly loading



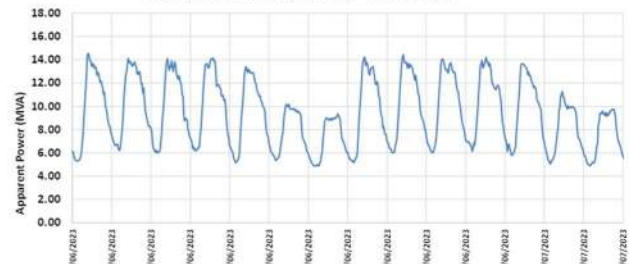
SYLV Zone Substation (2023 year) - Daily Maximum/Minimum



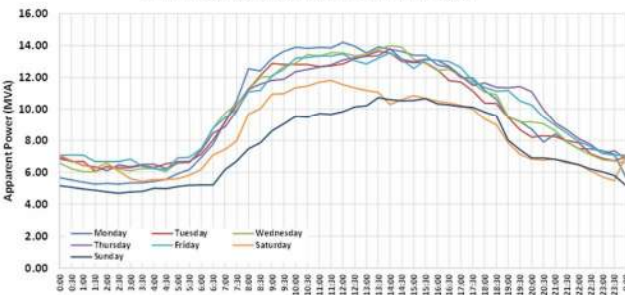
SYLV Zone Substation (2023 year) - Summer (January)



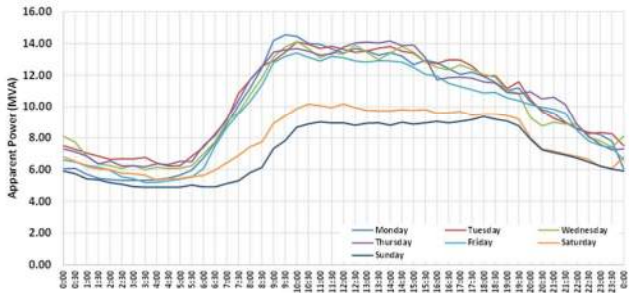
SYLV Zone Substation (2023 year) - Winter (June)



SYLV Zone Substation (2023 year) - Summer (January)



SYLV Zone Substation (2023 year) - Winter (June)



SYLV Zone Substation (2023 year) - Load Duration Curve

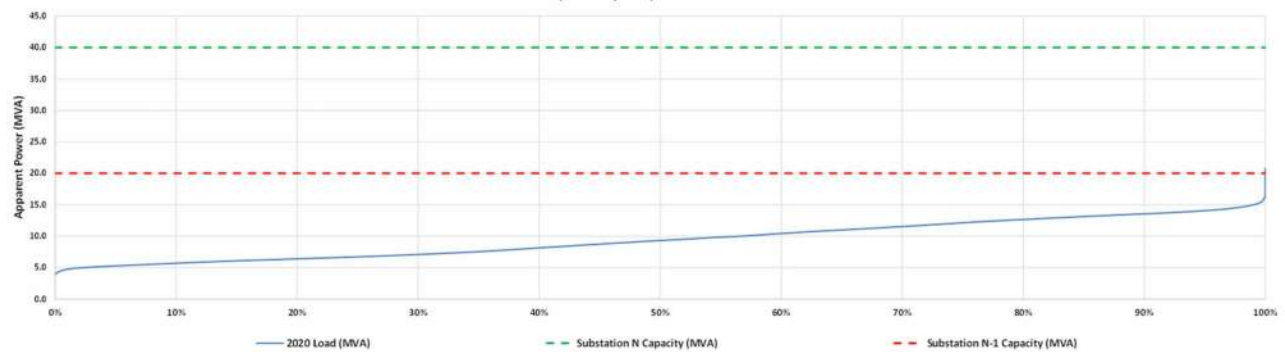
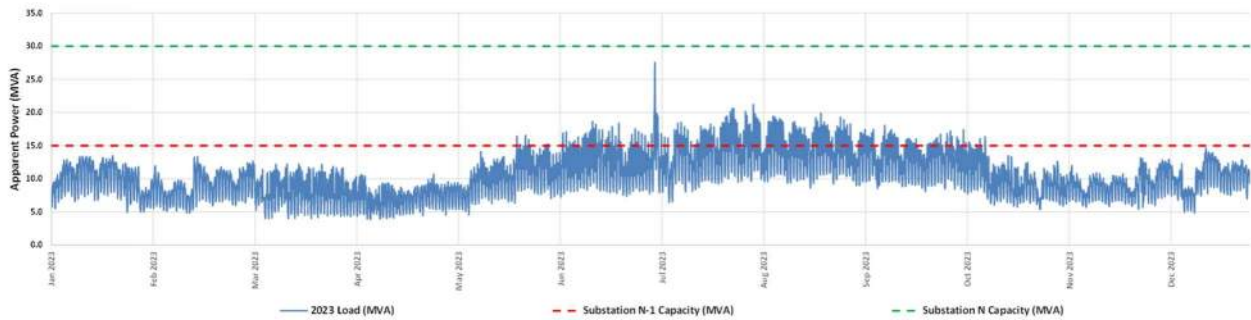


Figure 95. Sylvia Park 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Takanini MVA

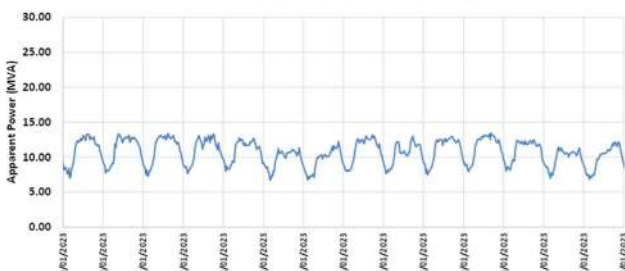
TAKA Zone Substation (2023 year) - Half hourly loading



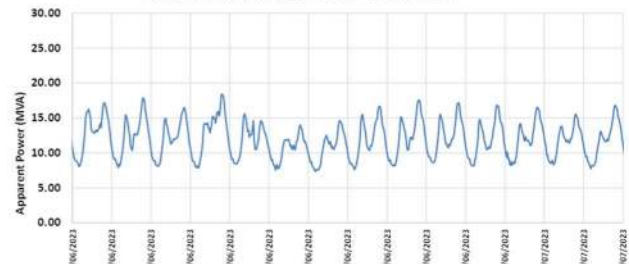
TAKA Zone Substation (2023 year) - Daily Maximum/Minimum



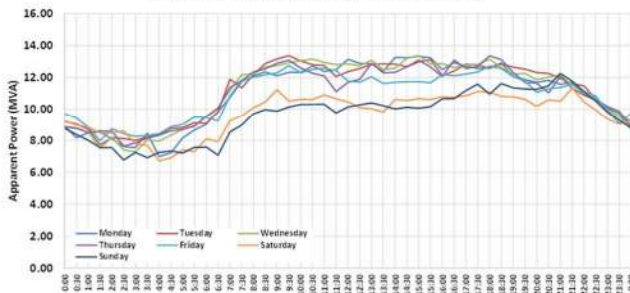
TAKA Zone Substation (2023 year) - Summer (January)



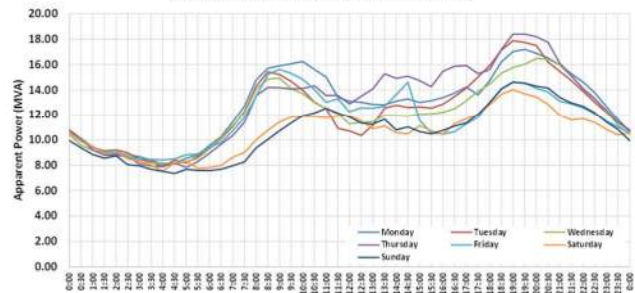
TAKA Zone Substation (2023 year) - Winter (June)



TAKA Zone Substation (2023 year) - Summer (January)



TAKA Zone Substation (2023 year) - Winter (June)



TAKA Zone Substation (2023 year) - Load Duration Curve

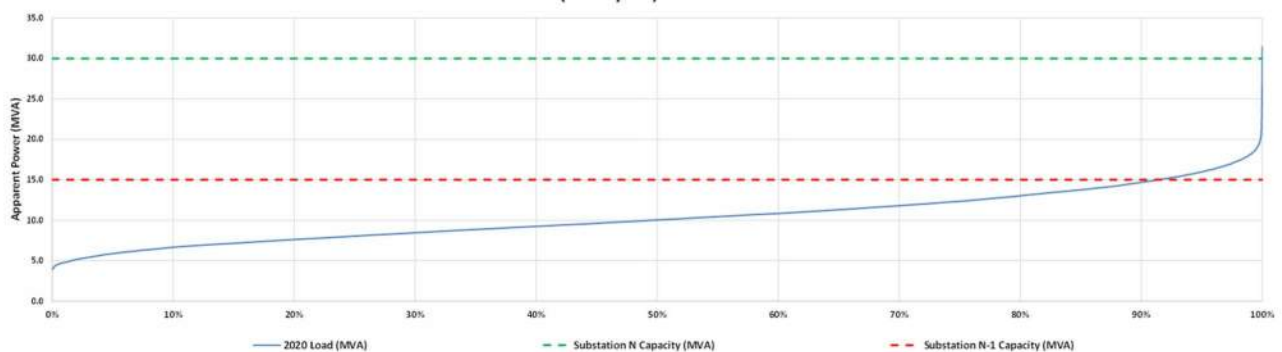
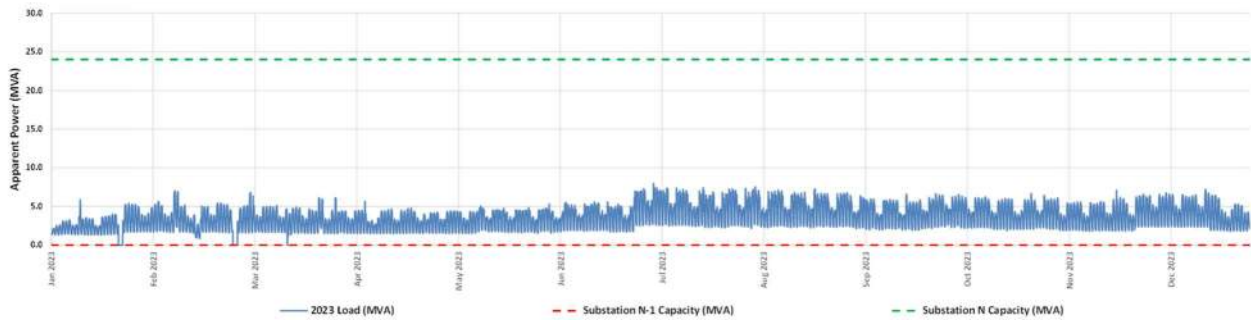


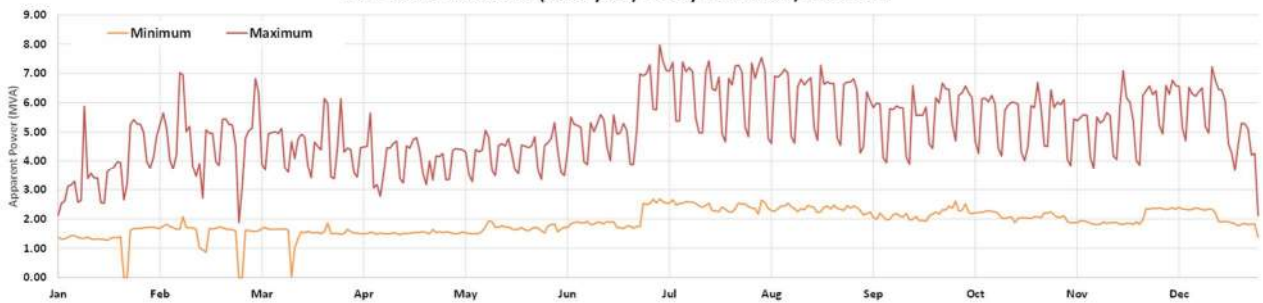
Figure 96. Takanini 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Takapura MVA

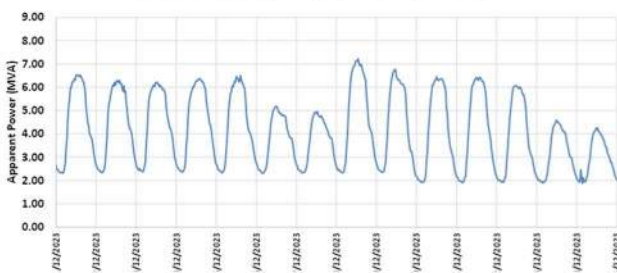
TAKP Zone Substation (2023 year) - Half hourly loading



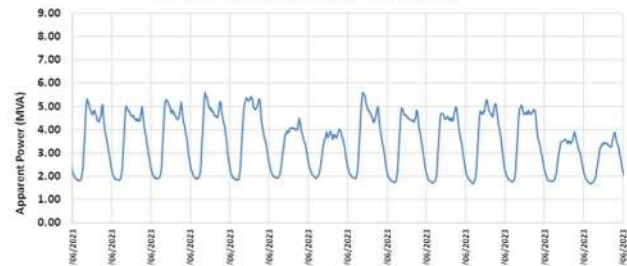
TAKP Zone Substation (2023 year) - Daily Maximum/Minimum



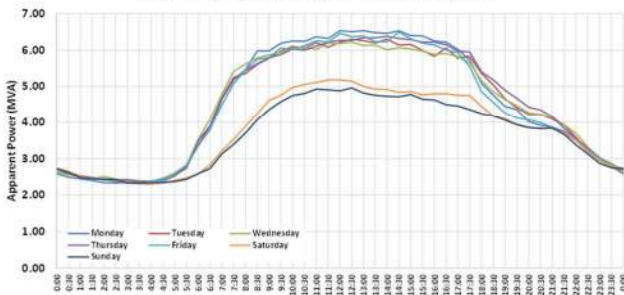
TAKP Zone Substation (2023 year) - Summer (December)



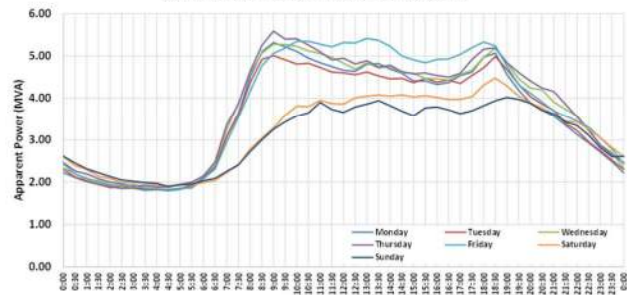
TAKP Zone Substation (2023 year) - Winter (June)



TAKP Zone Substation (2023 year) - Summer (December)



TAKP Zone Substation (2023 year) - Winter (June)



TAKP Zone Substation (2023 year) - Load Duration Curve

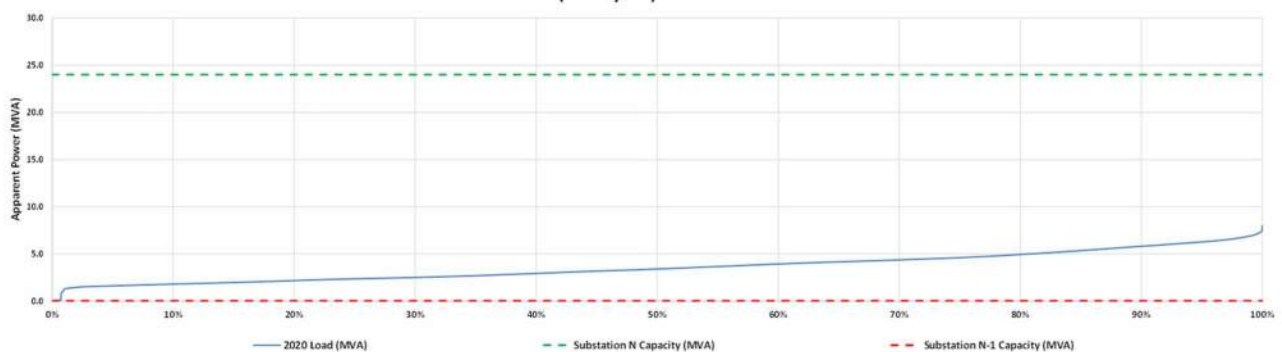
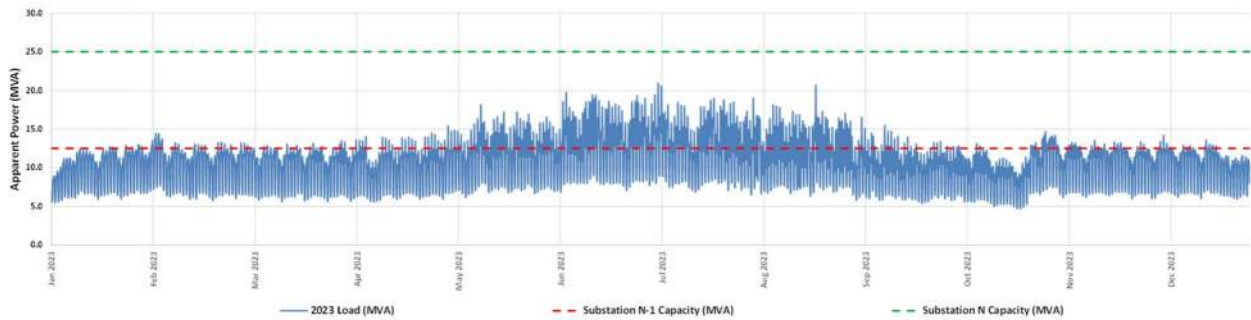


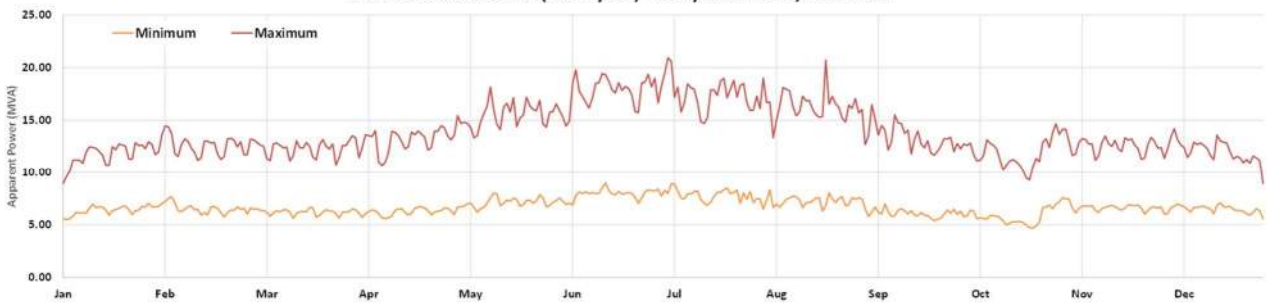
Figure 97. Takapuna 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Te Atatū MVA

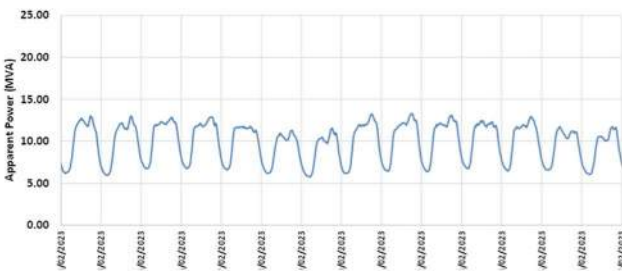
TATA Zone Substation (2023 year) - Half hourly loading



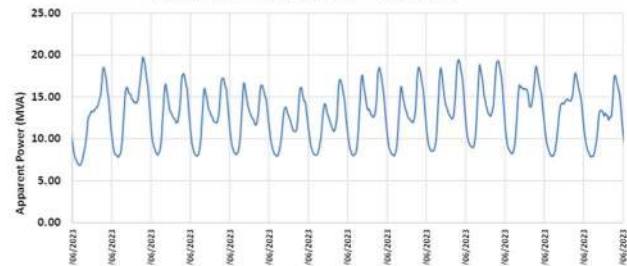
TATA Zone Substation (2023 year) - Daily Maximum/Minimum



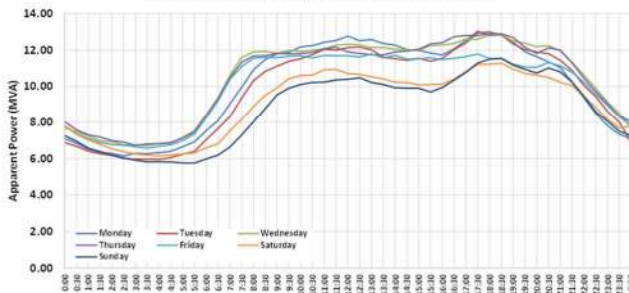
TATA Zone Substation (2023 year) - Summer (February)



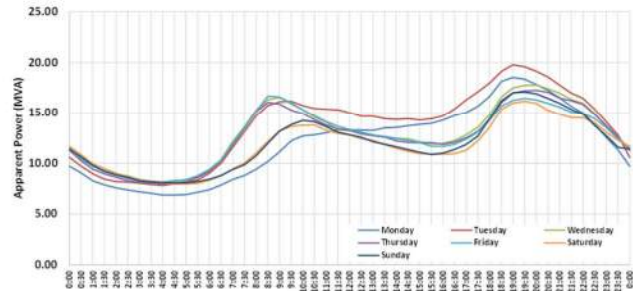
TATA Zone Substation (2023 year) - Winter (June)



TATA Zone Substation (2023 year) - Summer (February)



TATA Zone Substation (2023 year) - Winter (June)



TATA Zone Substation (2023 year) - Load Duration Curve

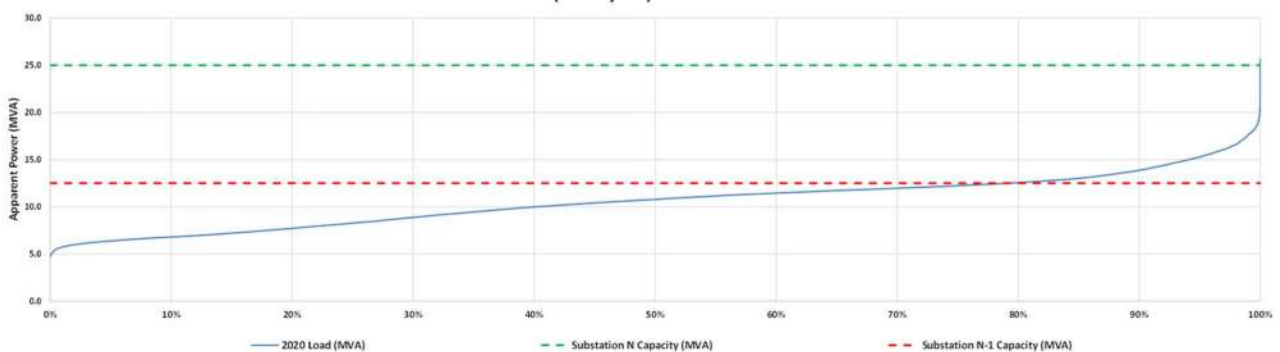
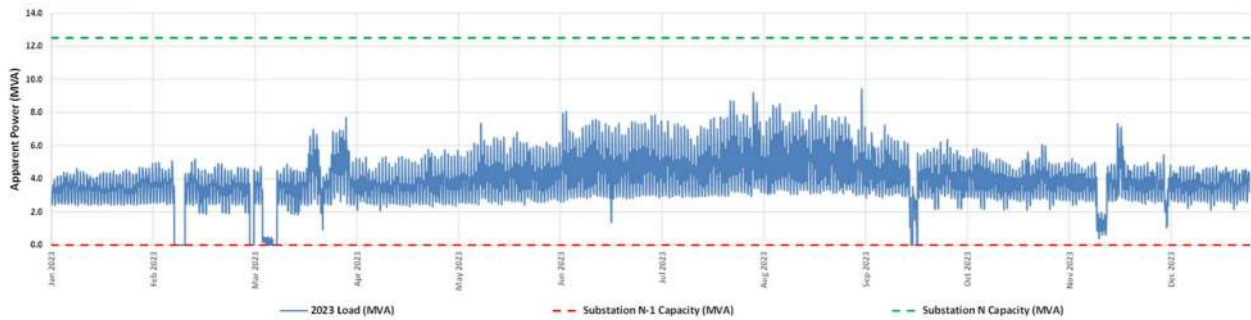


Figure 98. Te Atatū 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Torbay MVA

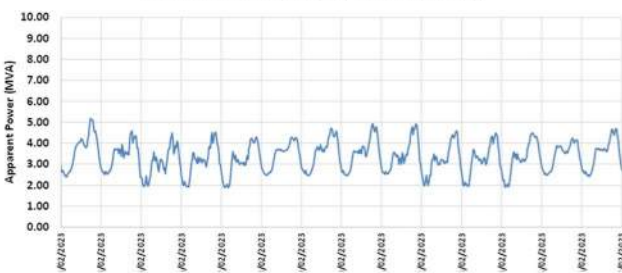
TORB Zone Substation (2023 year) - Half hourly loading



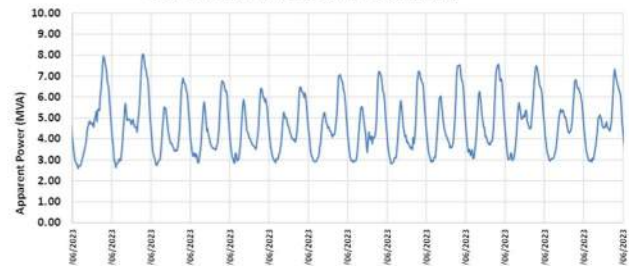
TORB Zone Substation (2023 year) - Daily Maximum/Minimum



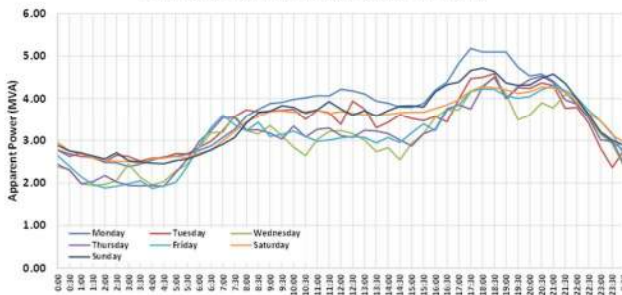
TORB Zone Substation (2023 year) - Summer (February)



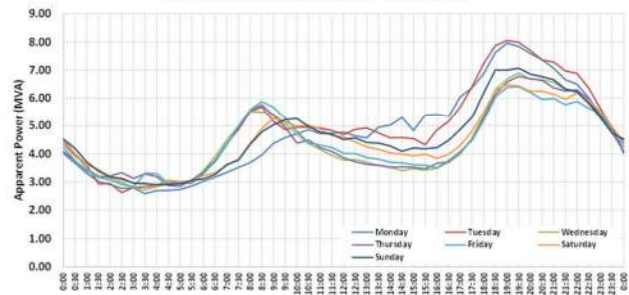
TORB Zone Substation (2023 year) - Winter (June)



TORB Zone Substation (2023 year) - Summer (February)



TORB Zone Substation (2023 year) - Winter (June)



TORB Zone Substation (2023 year) - Load Duration Curve

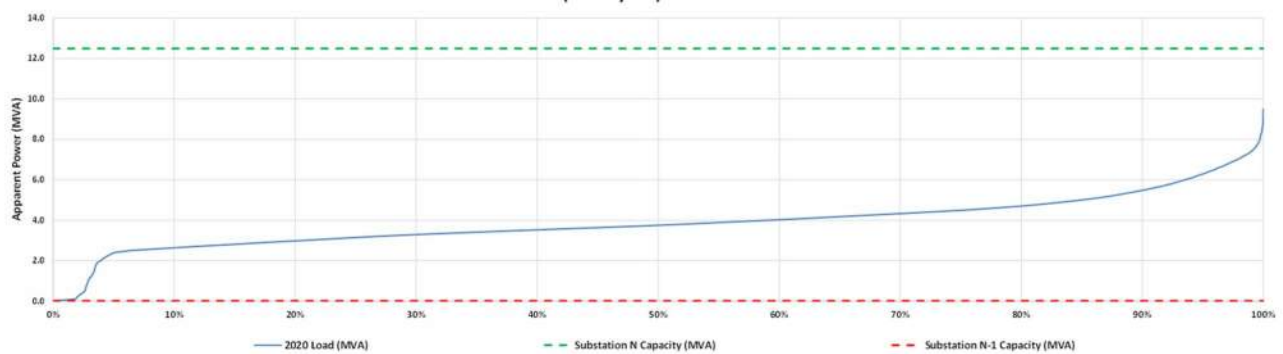
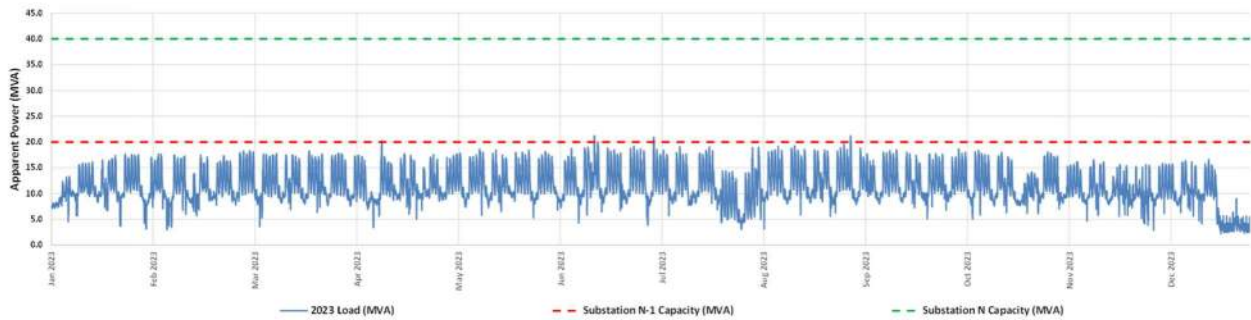


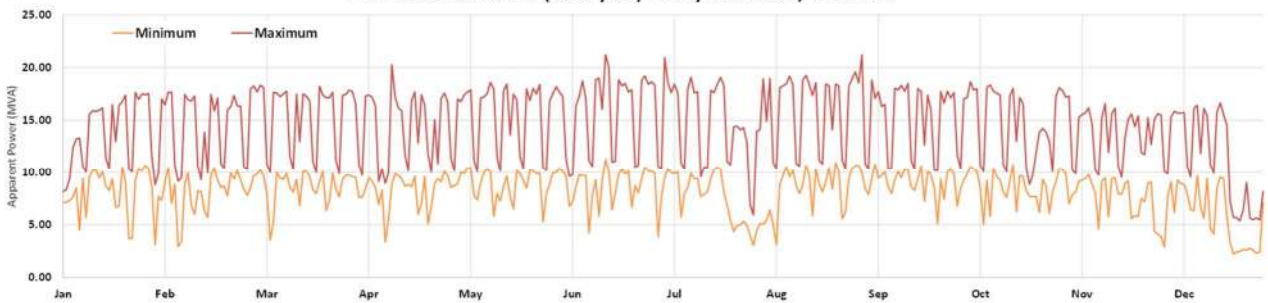
Figure 99. Torbay 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Te Papapa MVA

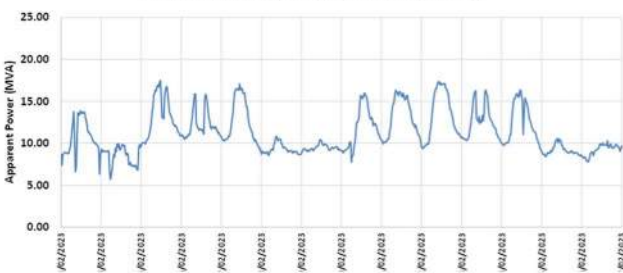
TPAP Zone Substation (2023 year) - Half hourly loading



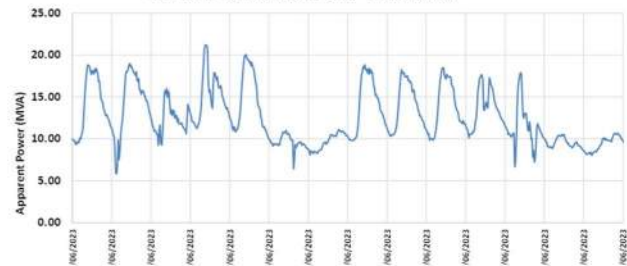
TPAP Zone Substation (2023 year) - Daily Maximum/Minimum



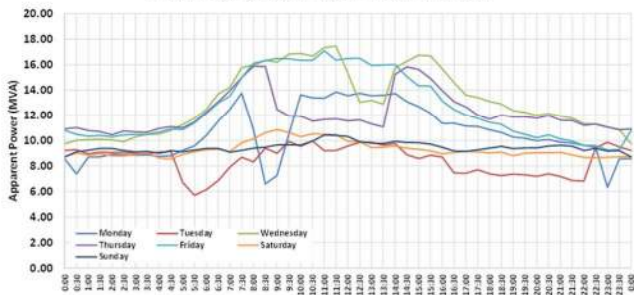
TPAP Zone Substation (2023 year) - Summer (February)



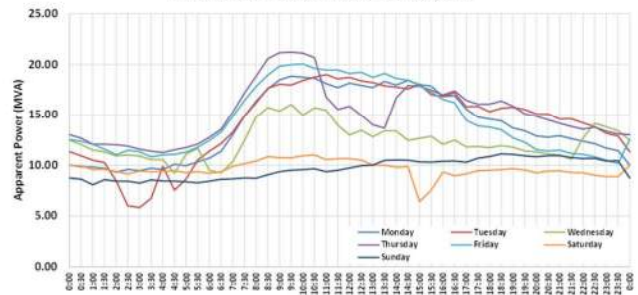
TPAP Zone Substation (2023 year) - Winter (June)



TPAP Zone Substation (2023 year) - Summer (February)



TPAP Zone Substation (2023 year) - Winter (June)



TPAP Zone Substation (2023 year) - Load Duration Curve

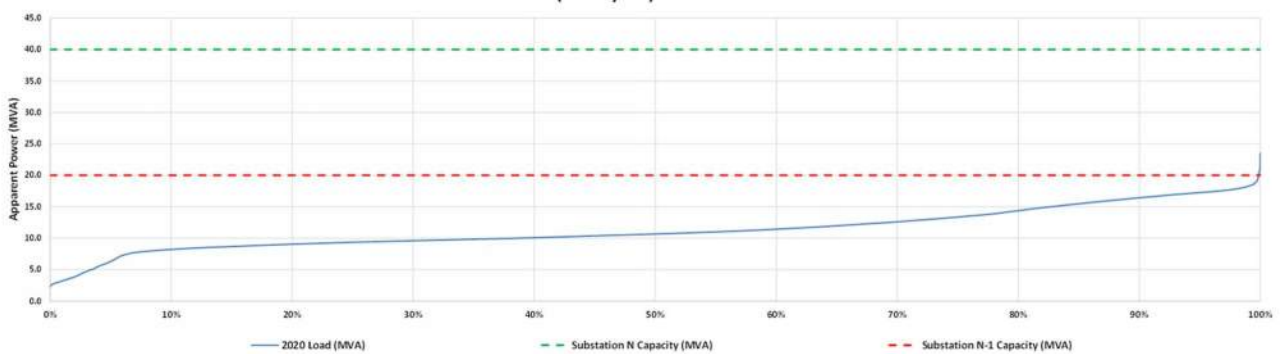
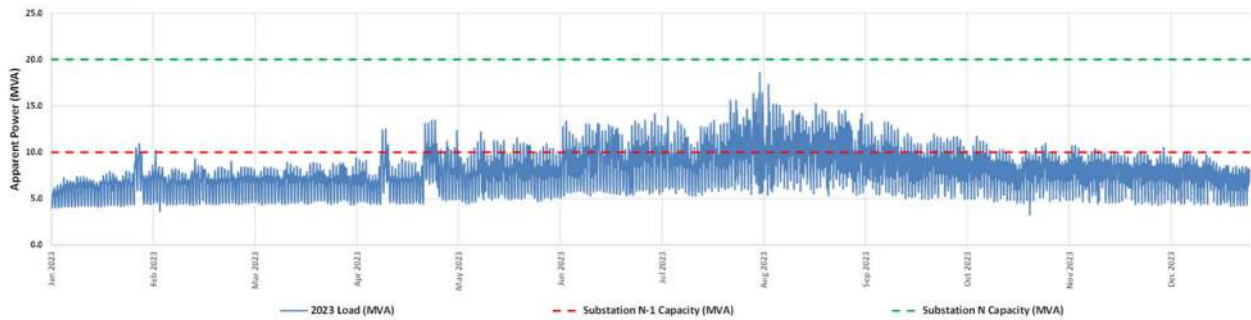


Figure 100. Te Papapa 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Triangle Road MVA

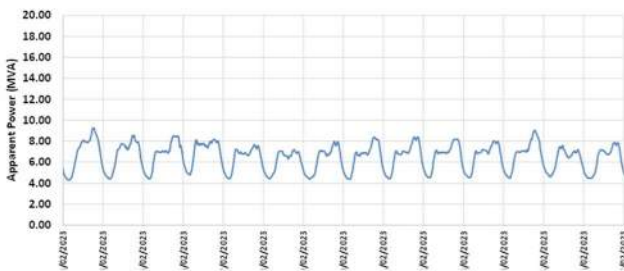
TRIA Zone Substation (2023 year) - Half hourly loading



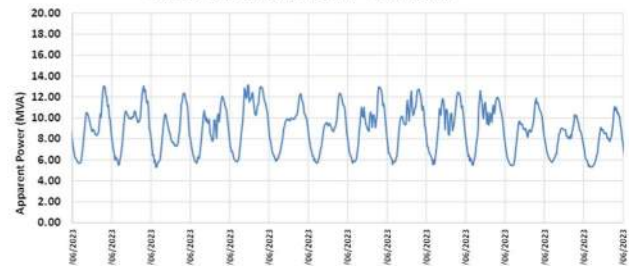
TRIA Zone Substation (2023 year) - Daily Maximum/Minimum



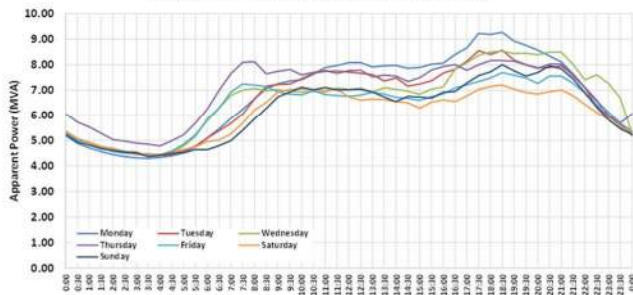
TRIA Zone Substation (2023 year) - Summer (February)



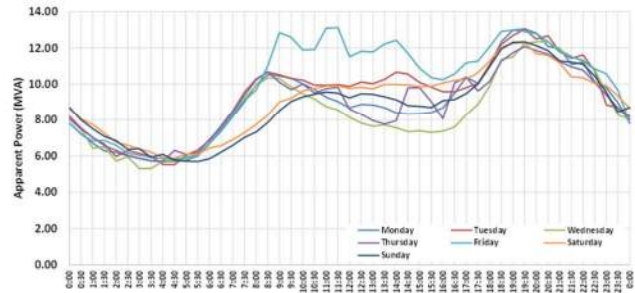
TRIA Zone Substation (2023 year) - Winter (June)



TRIA Zone Substation (2023 year) - Summer (February)



TRIA Zone Substation (2023 year) - Winter (June)



TRIA Zone Substation (2023 year) - Load Duration Curve

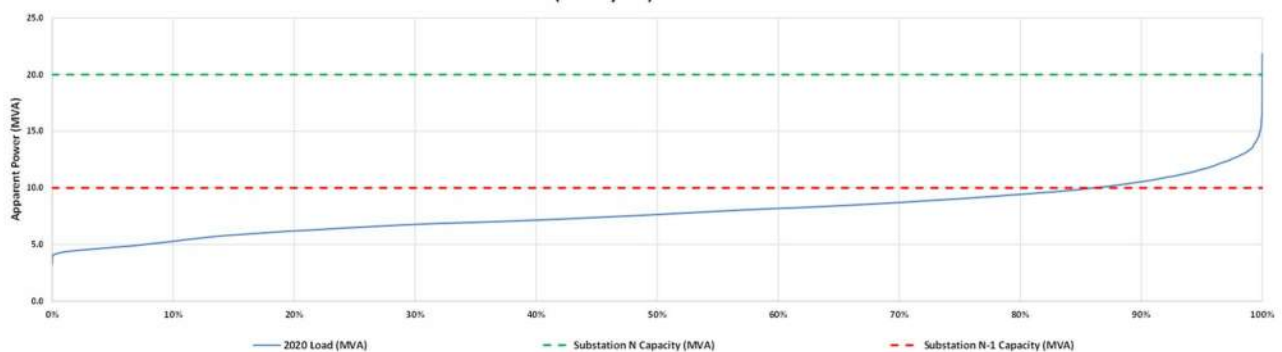
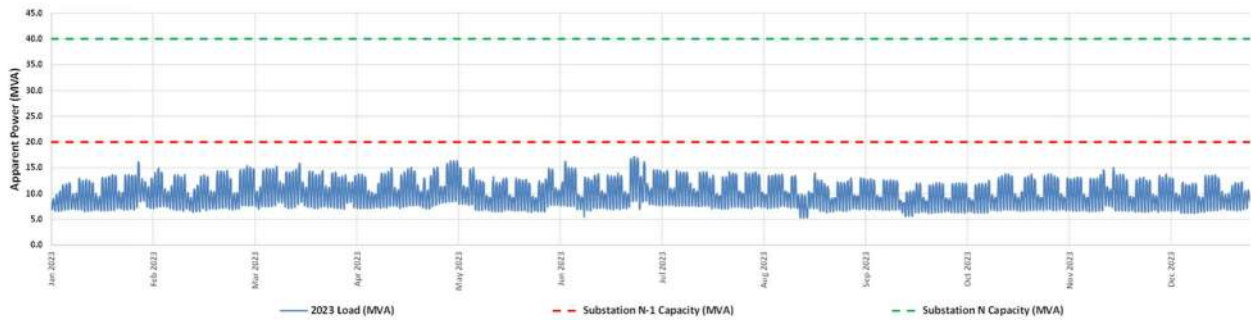


Figure 101. Triangle Road 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Victoria MVA

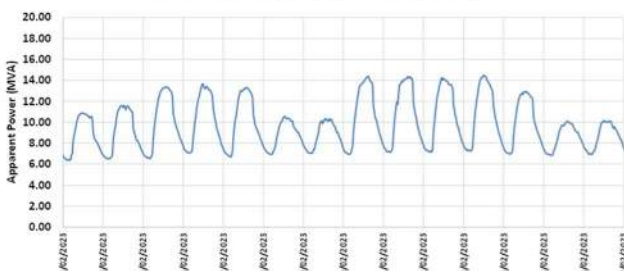
VICT Zone Substation (2023 year) - Half hourly loading



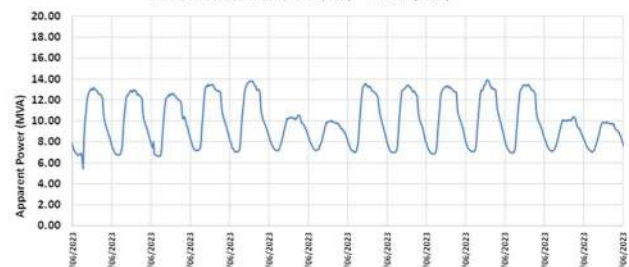
VICT Zone Substation (2023 year) - Daily Maximum/Minimum



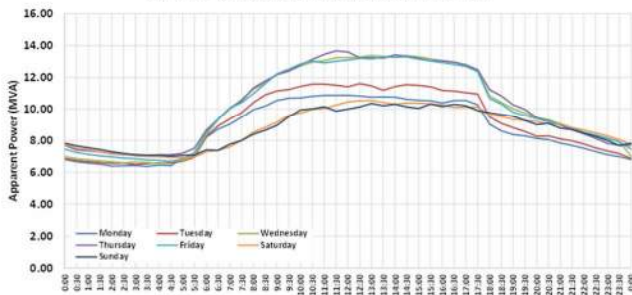
VICT Zone Substation (2023 year) - Summer (February)



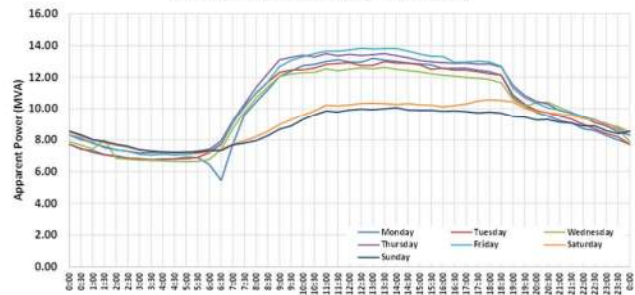
VICT Zone Substation (2023 year) - Winter (June)



VICT Zone Substation (2023 year) - Summer (February)



VICT Zone Substation (2023 year) - Winter (June)



VICT Zone Substation (2023 year) - Load Duration Curve

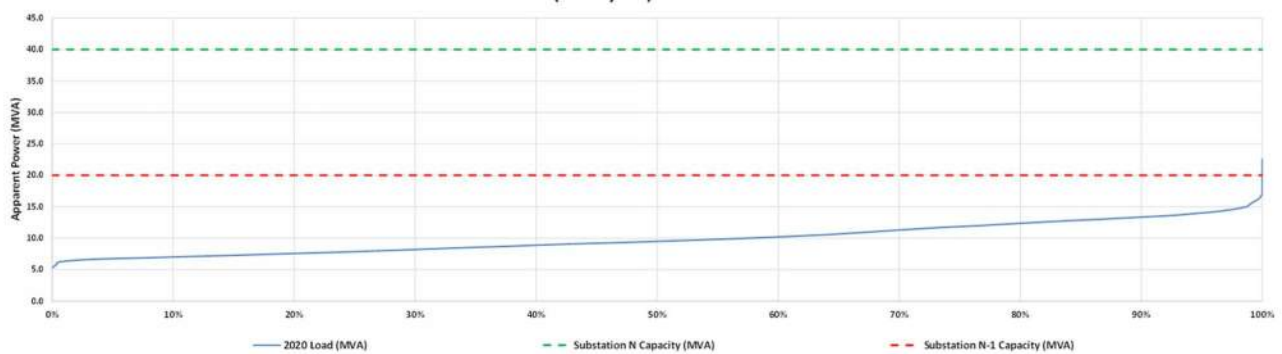
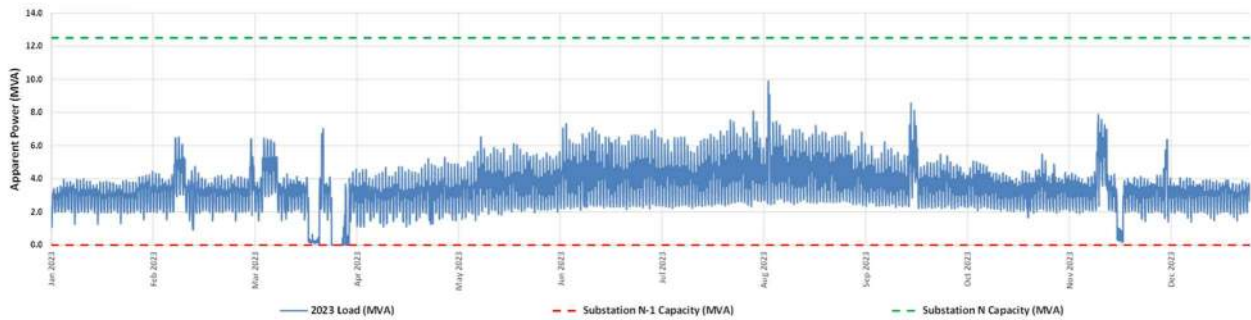


Figure 102. Victoria 22/11 kV zone substation: Apparent Power (MVA) load characteristics

Waiake MVA

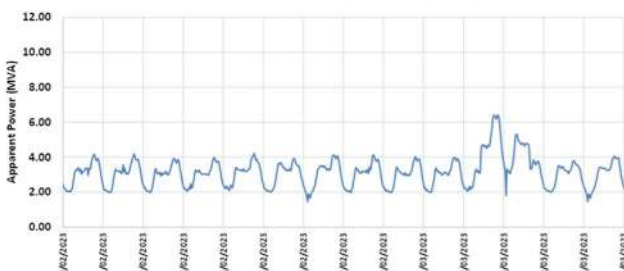
WAIA Zone Substation (2023 year) - Half hourly loading



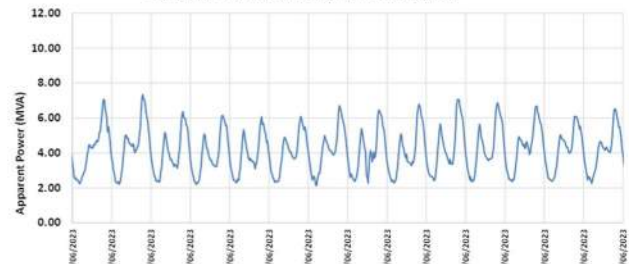
WAIA Zone Substation (2023 year) - Daily Maximum/Minimum



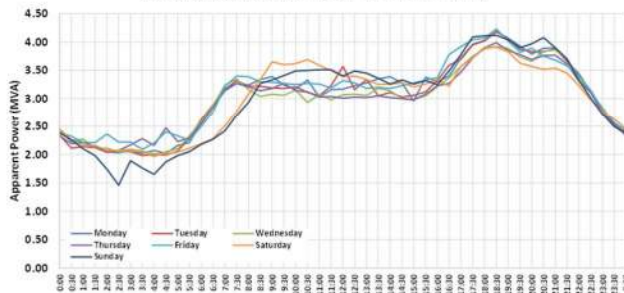
WAIA Zone Substation (2023 year) - Summer (February)



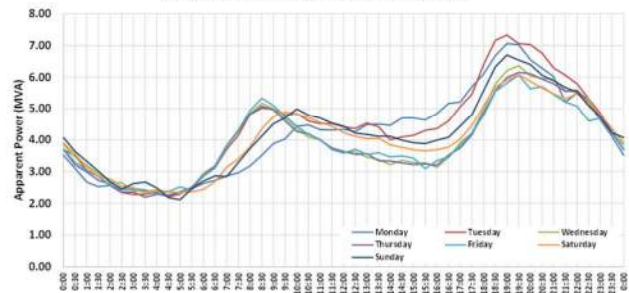
WAIA Zone Substation (2023 year) - Winter (June)



WAIA Zone Substation (2023 year) - Summer (February)



WAIA Zone Substation (2023 year) - Winter (June)



WAIA Zone Substation (2023 year) - Load Duration Curve

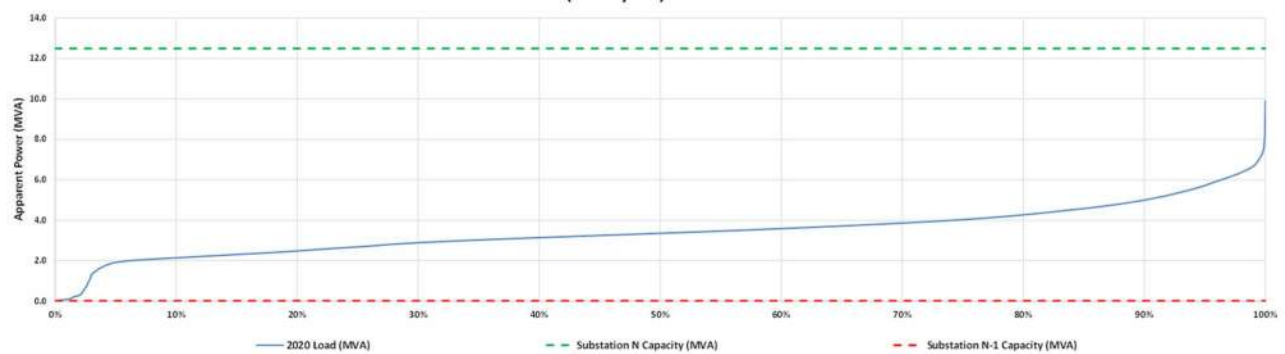
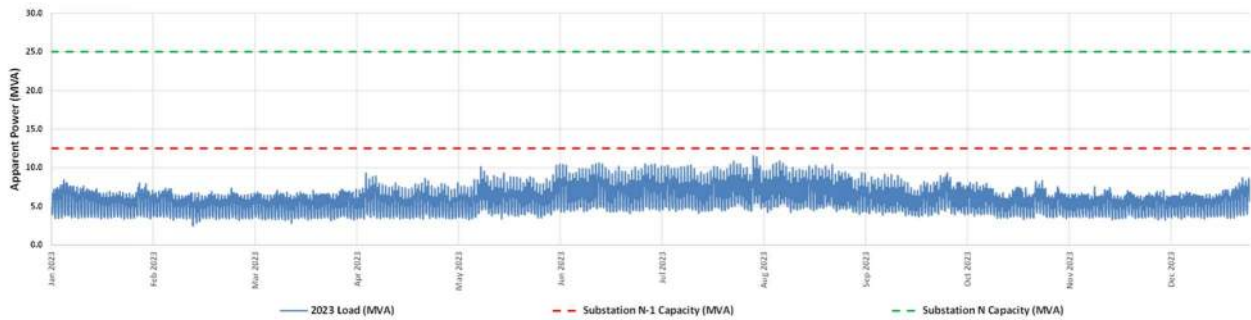


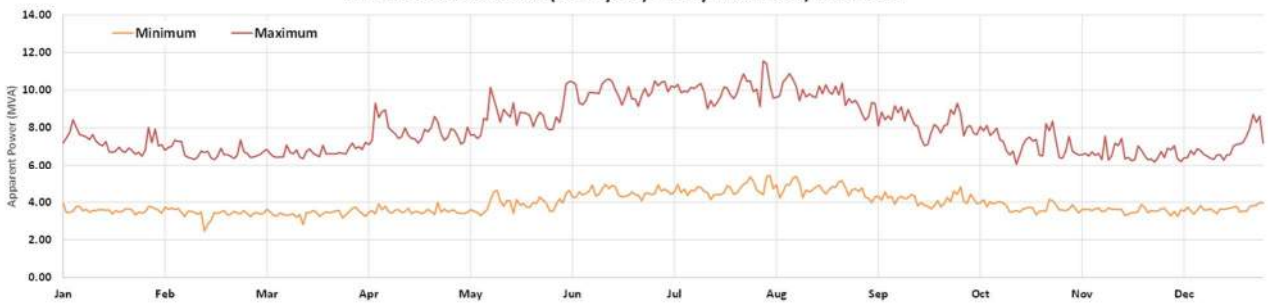
Figure 103. Waiake 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Waiheke MVA

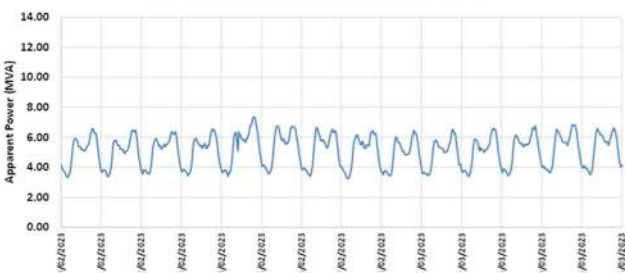
WAIH Zone Substation (2023 year) - Half hourly loading



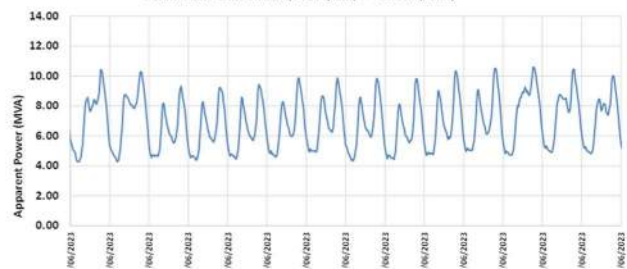
WAIH Zone Substation (2023 year) - Daily Maximum/Minimum



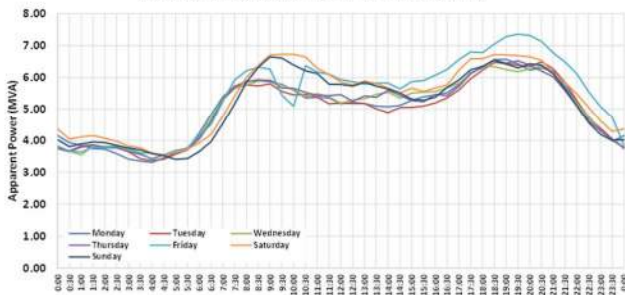
WAIH Zone Substation (2023 year) - Summer (February)



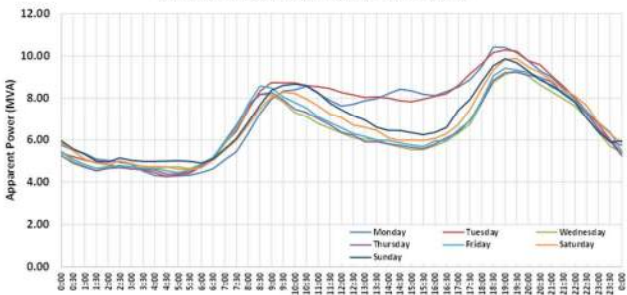
WAIH Zone Substation (2023 year) - Winter (June)



WAIH Zone Substation (2023 year) - Summer (February)



WAIH Zone Substation (2023 year) - Winter (June)



WAIH Zone Substation (2023 year) - Load Duration Curve

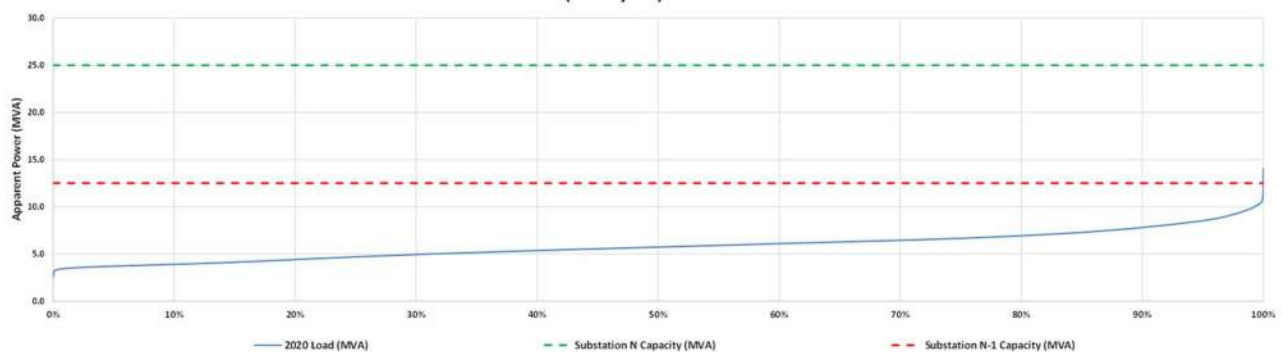
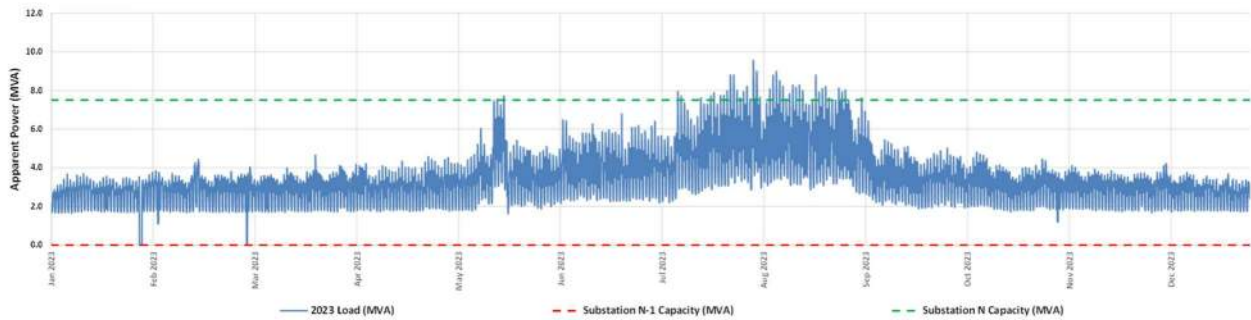


Figure 104. Waiheke 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Waikaukau MVA

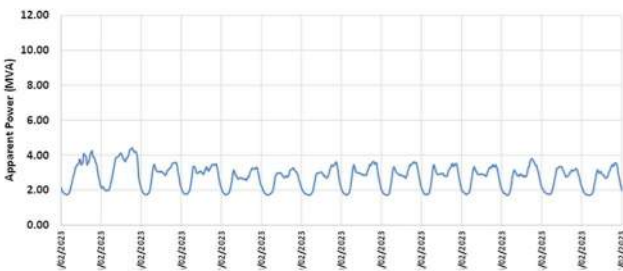
WAIK Zone Substation (2023 year) - Half hourly loading



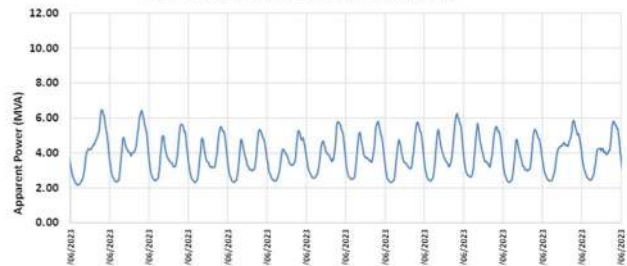
WAIK Zone Substation (2023 year) - Daily Maximum/Minimum



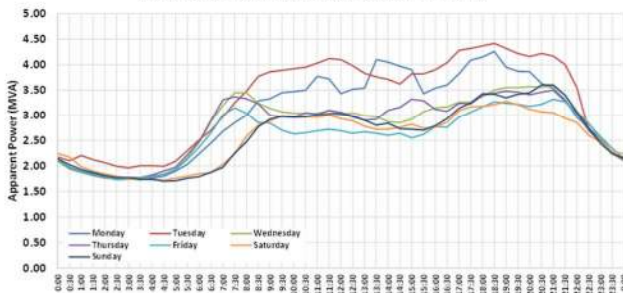
WAIK Zone Substation (2023 year) - Summer (February)



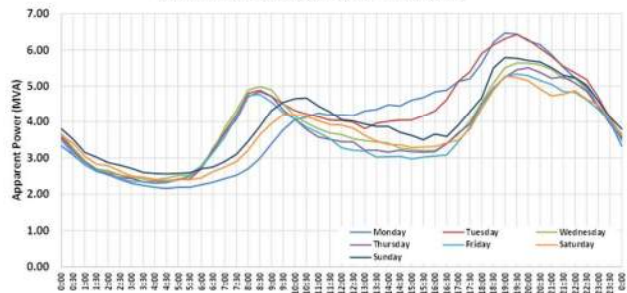
WAIK Zone Substation (2023 year) - Winter (June)



WAIK Zone Substation (2023 year) - Summer (February)



WAIK Zone Substation (2023 year) - Winter (June)



WAIK Zone Substation (2023 year) - Load Duration Curve

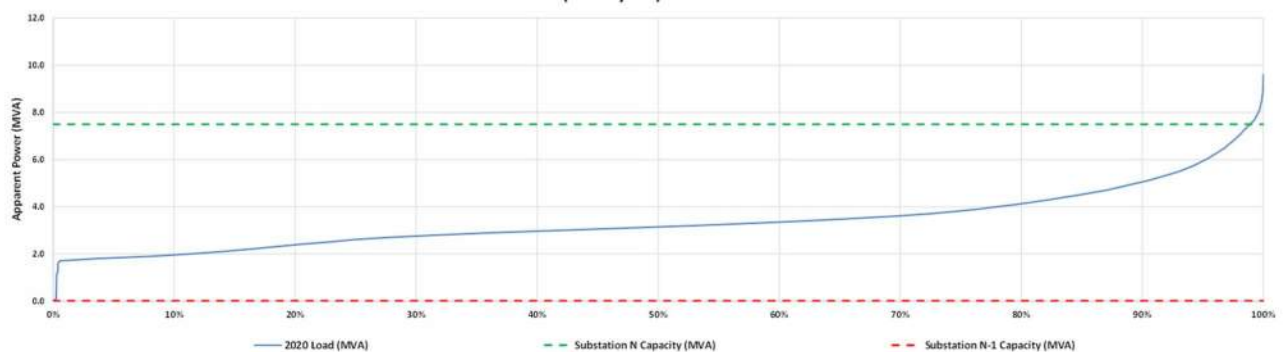
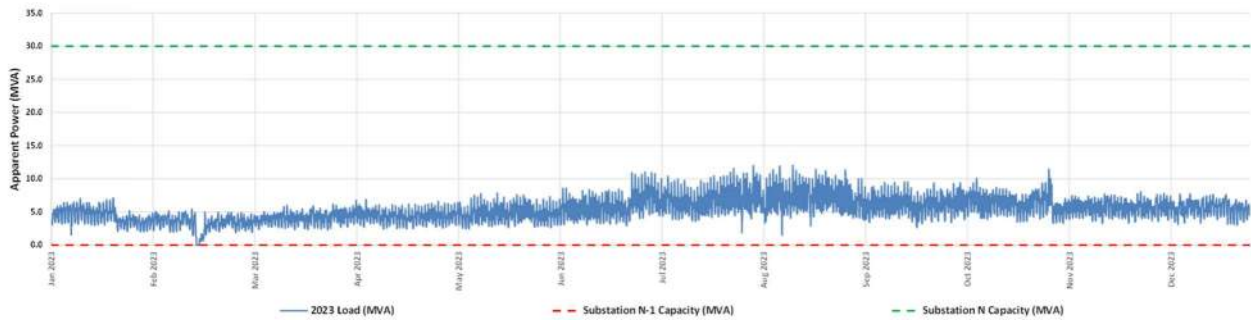


Figure 105. Waikaukau 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Waimauku MVA

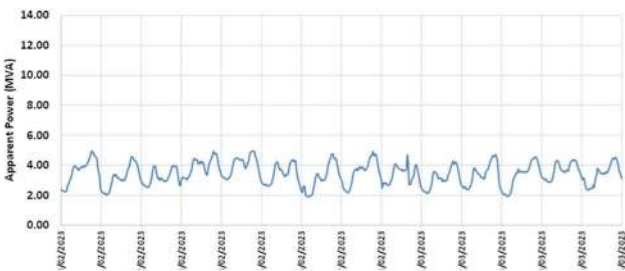
WAIM Zone Substation (2023 year) - Half hourly loading



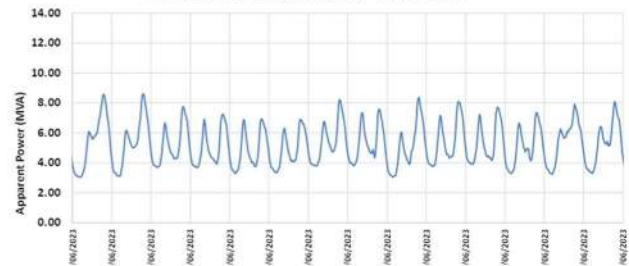
WAIM Zone Substation (2023 year) - Daily Maximum/Minimum



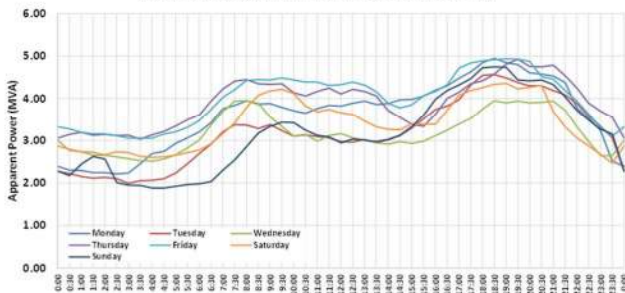
WAIM Zone Substation (2023 year) - Summer (February)



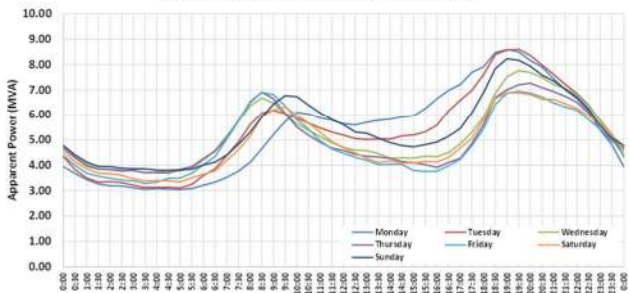
WAIM Zone Substation (2023 year) - Winter (June)



WAIM Zone Substation (2023 year) - Summer (February)



WAIM Zone Substation (2023 year) - Winter (June)



WAIM Zone Substation (2023 year) - Load Duration Curve

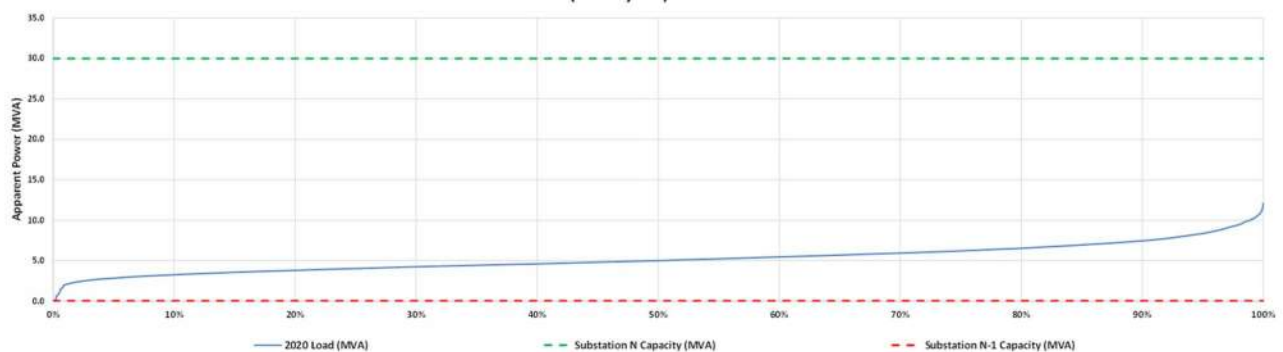
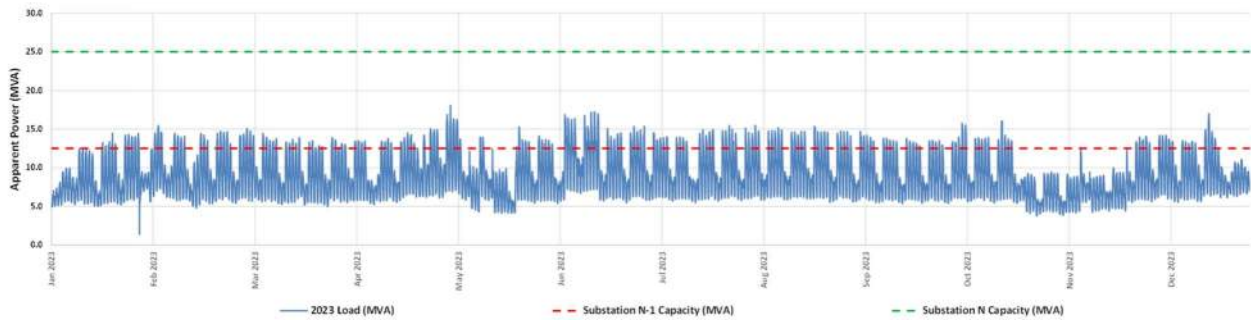


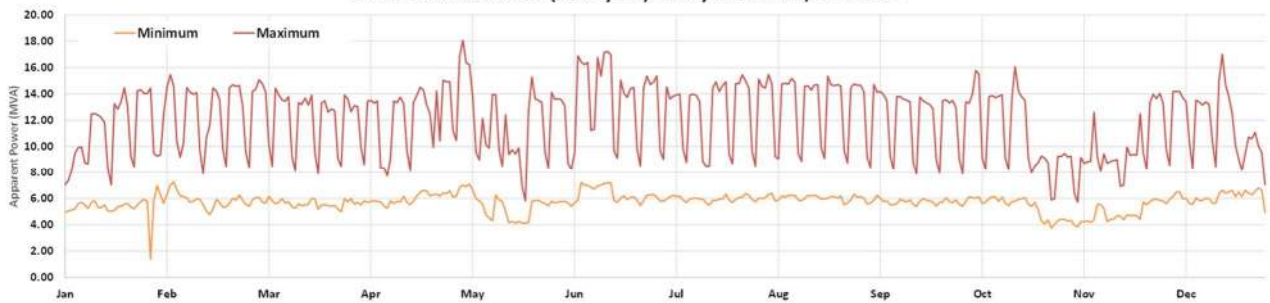
Figure 106. Waimauku 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Wairau Road MVA

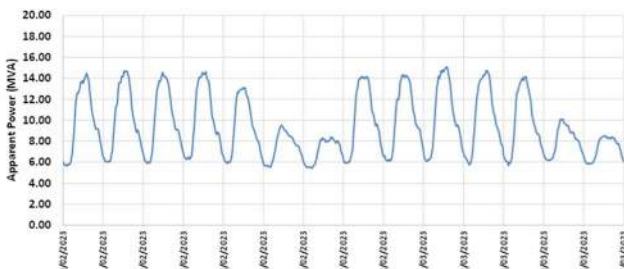
WAIR Zone Substation (2023 year) - Half hourly loading



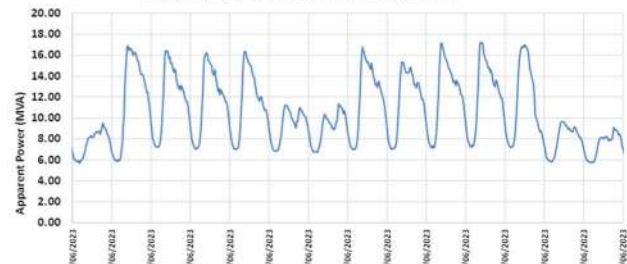
WAIR Zone Substation (2023 year) - Daily Maximum/Minimum



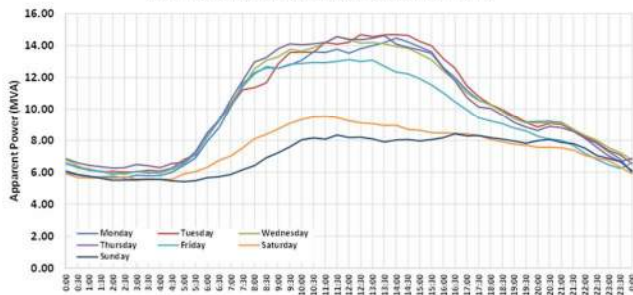
WAIR Zone Substation (2023 year) - Summer (February)



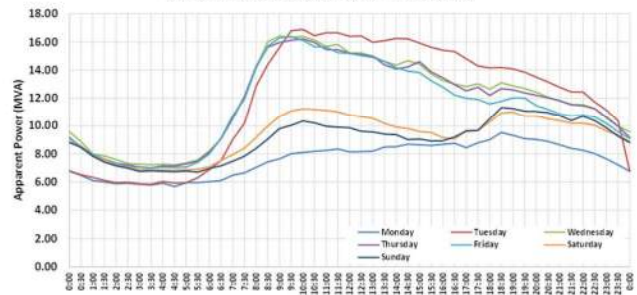
WAIR Zone Substation (2023 year) - Winter (June)



WAIR Zone Substation (2023 year) - Summer (February)



WAIR Zone Substation (2023 year) - Winter (June)



WAIR Zone Substation (2023 year) - Load Duration Curve

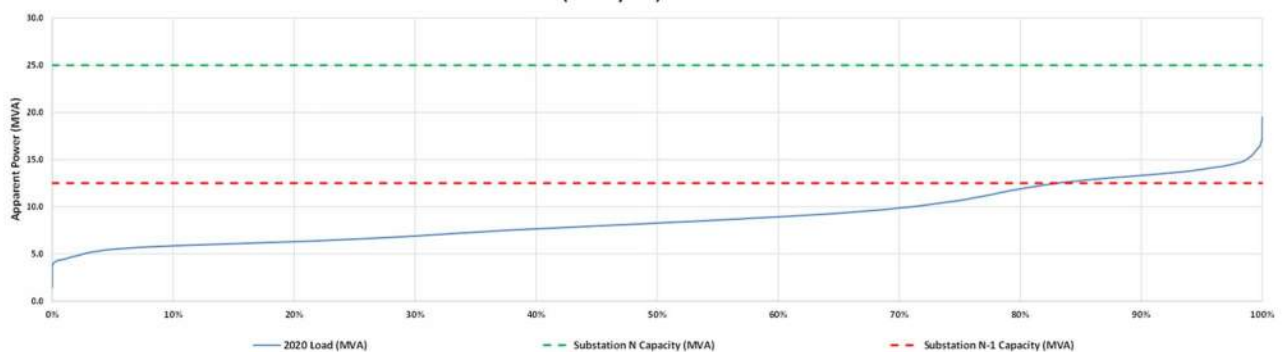
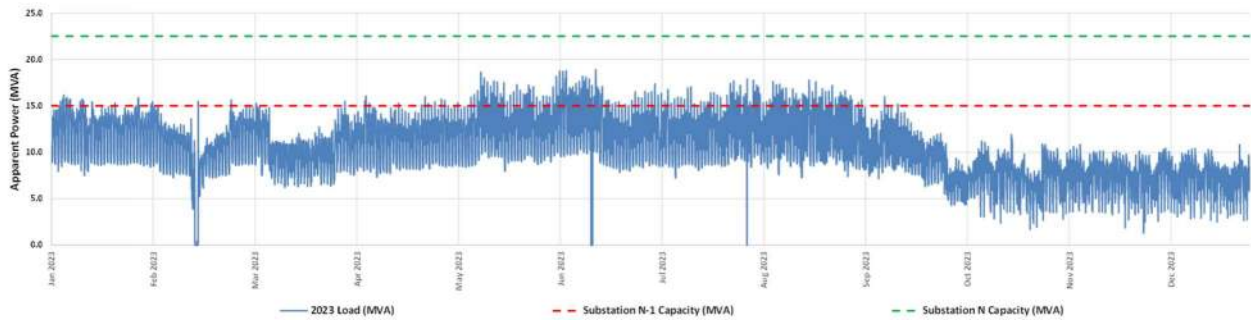


Figure 107. Wairau Road 110/11 kV zone substation: Apparent Power (MVA) load characteristics

Warkworth MVA

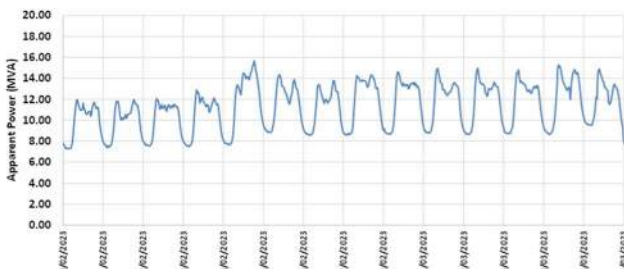
WARK Zone Substation (2023 year) - Half hourly loading



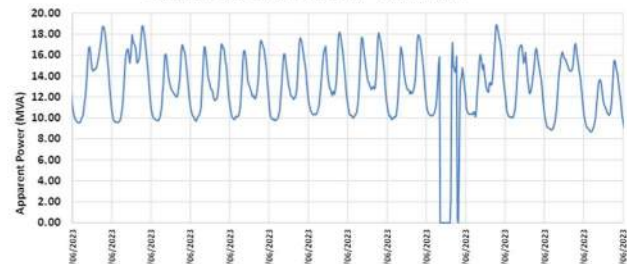
WARK Zone Substation (2023 year) - Daily Maximum/Minimum



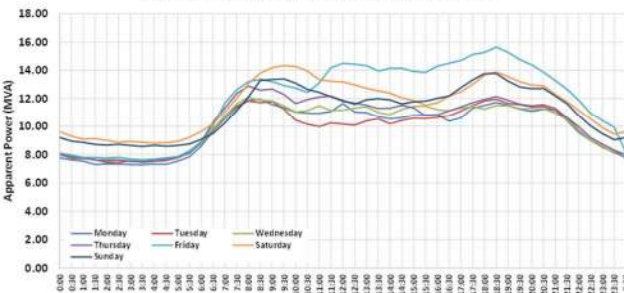
WARK Zone Substation (2023 year) - Summer (February)



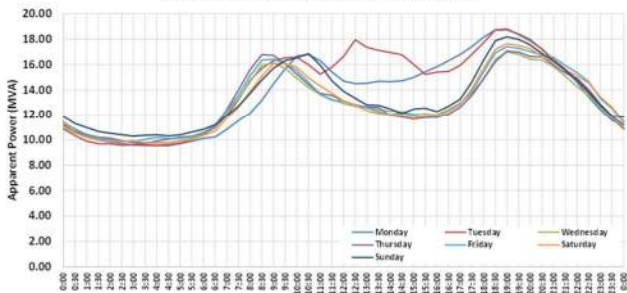
WARK Zone Substation (2023 year) - Winter (June)



WARK Zone Substation (2023 year) - Summer (February)



WARK Zone Substation (2023 year) - Winter (June)



WARK Zone Substation (2023 year) - Load Duration Curve

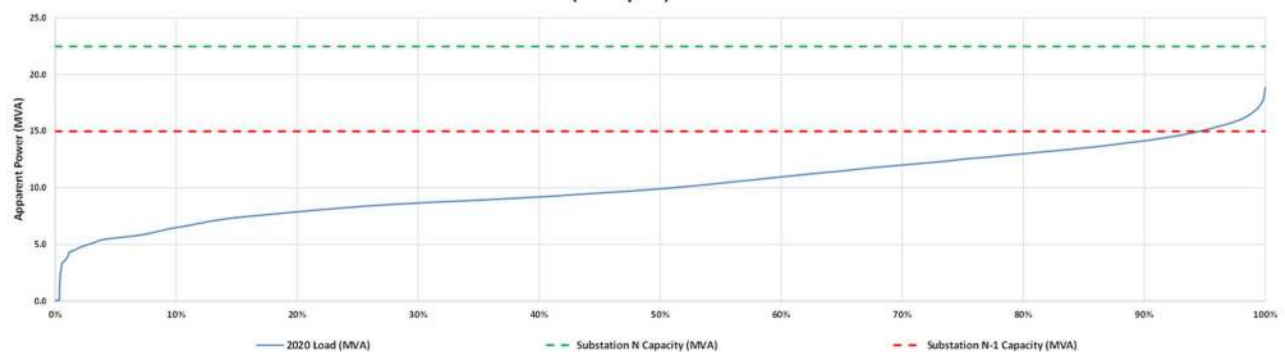
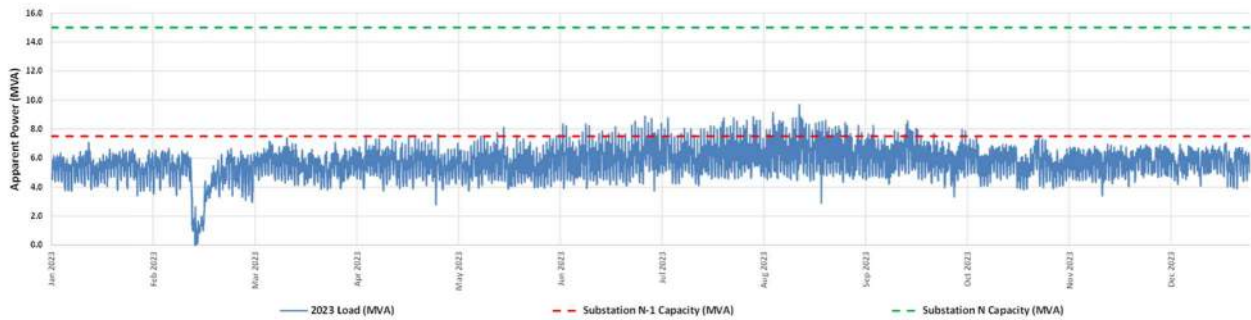


Figure 108. Warkworth 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Wellsford MVA

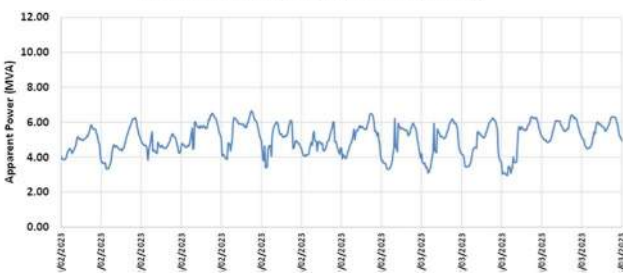
WELL Zone Substation (2023 year) - Half hourly loading



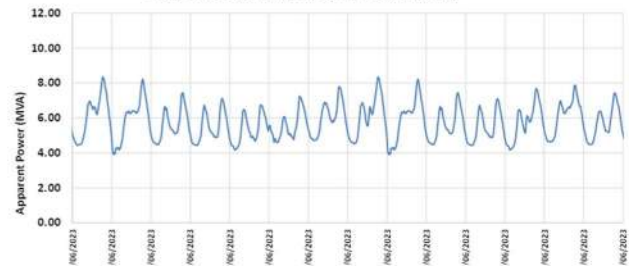
WELL Zone Substation (2023 year) - Daily Maximum/Minimum



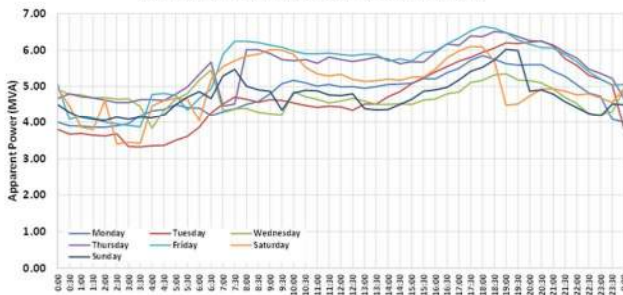
WELL Zone Substation (2023 year) - Summer (February)



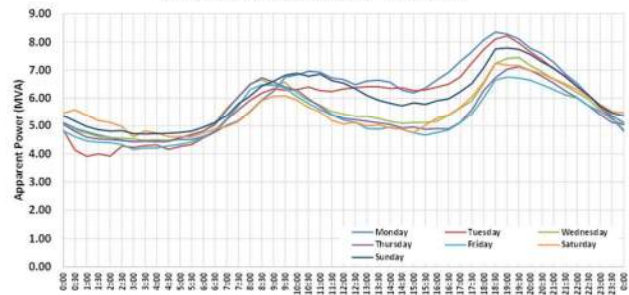
WELL Zone Substation (2023 year) - Winter (June)



WELL Zone Substation (2023 year) - Summer (February)



WELL Zone Substation (2023 year) - Winter (June)



WELL Zone Substation (2023 year) - Load Duration Curve

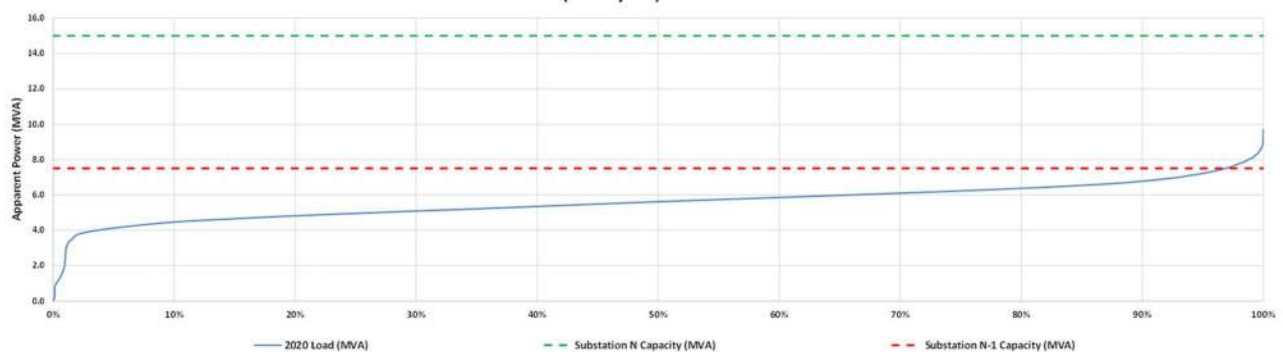
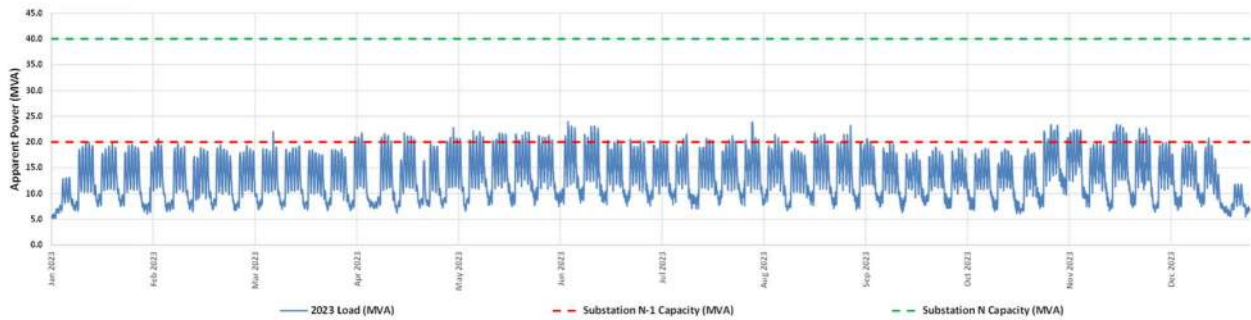


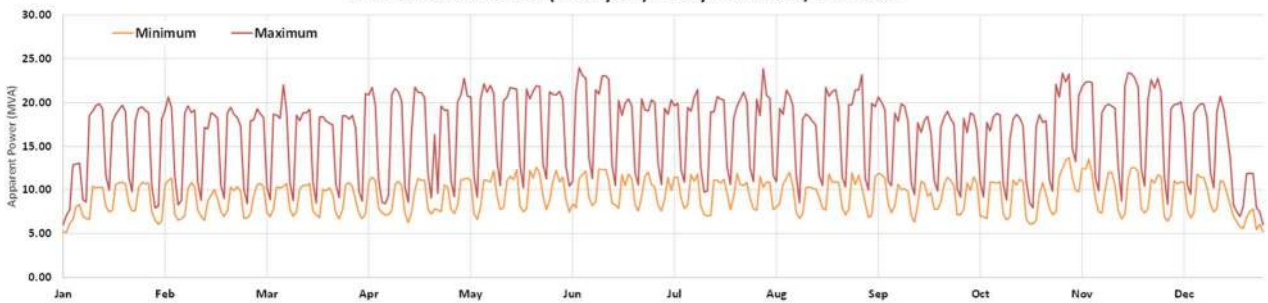
Figure 109. Wellsford 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Westfield MVA

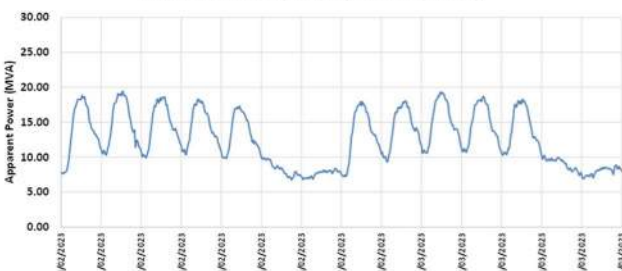
WEST Zone Substation (2023 year) - Half hourly loading



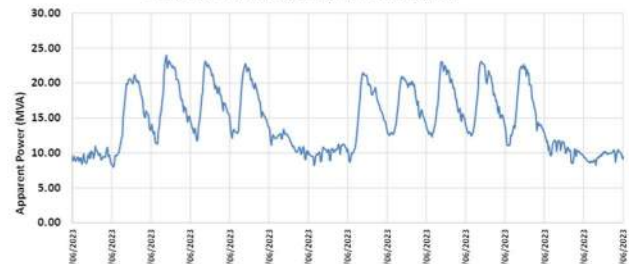
WEST Zone Substation (2023 year) - Daily Maximum/Minimum



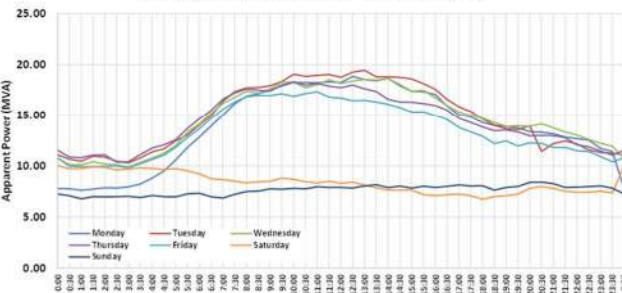
WEST Zone Substation (2023 year) - Summer (February)



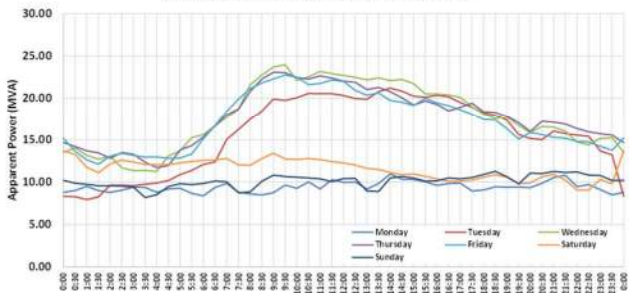
WEST Zone Substation (2023 year) - Winter (June)



WEST Zone Substation (2023 year) - Summer (February)



WEST Zone Substation (2023 year) - Winter (June)



WEST Zone Substation (2023 year) - Load Duration Curve

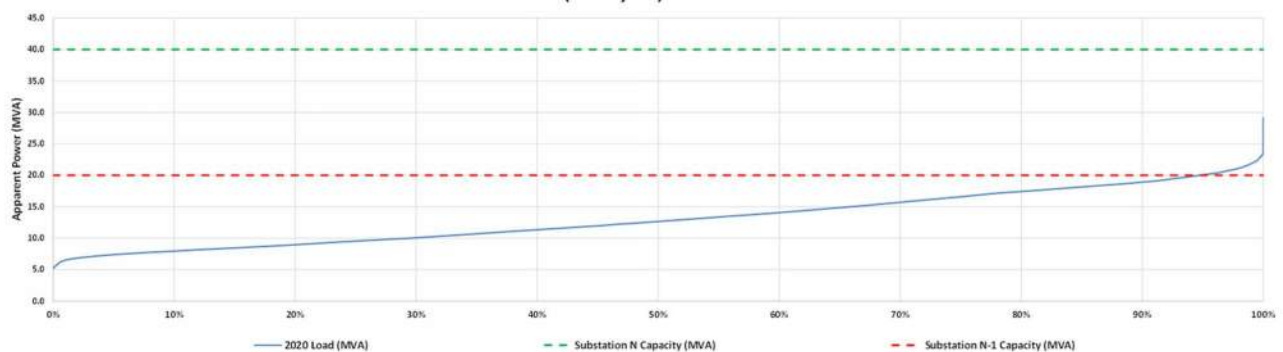
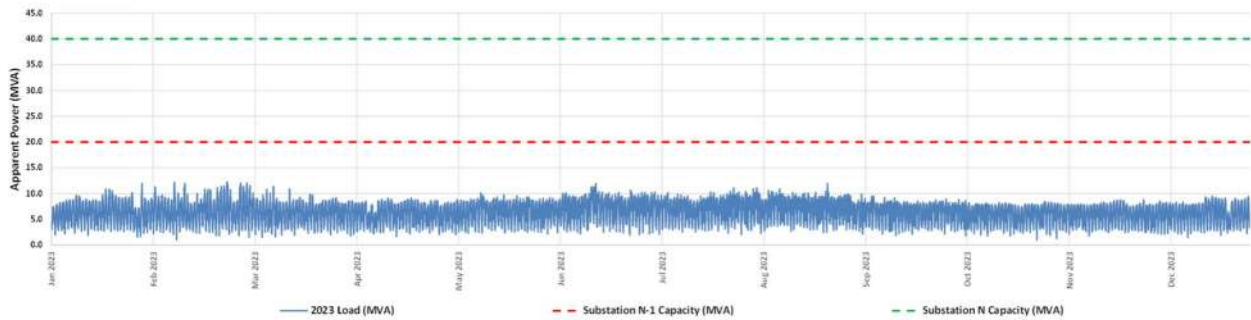


Figure 110. Westfield 22/11 kV zone substation: Apparent Power (MVA) load characteristics

Westgate MVA

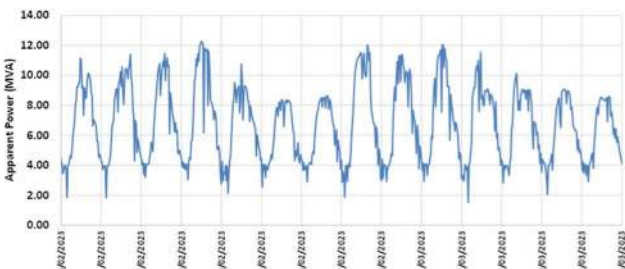
WGAT Zone Substation (2023 year) - Half hourly loading



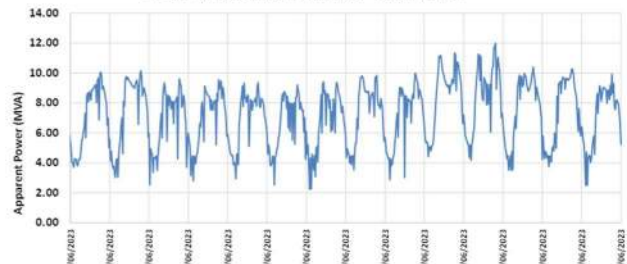
WGAT Zone Substation (2023 year) - Daily Maximum/Minimum



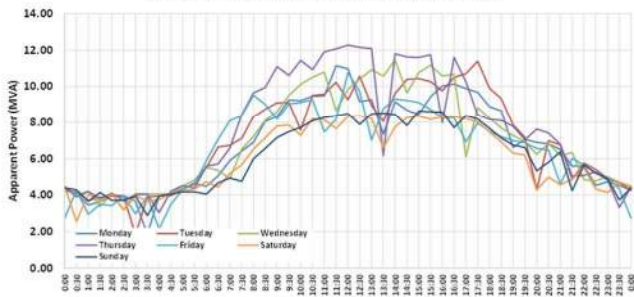
WGAT Zone Substation (2023 year) - Summer (February)



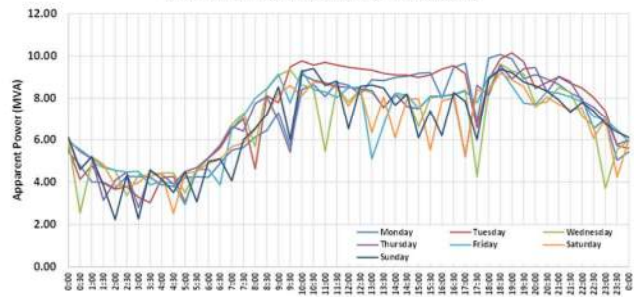
WGAT Zone Substation (2023 year) - Winter (June)



WGAT Zone Substation (2023 year) - Summer (February)



WGAT Zone Substation (2023 year) - Winter (June)



WGAT Zone Substation (2023 year) - Load Duration Curve

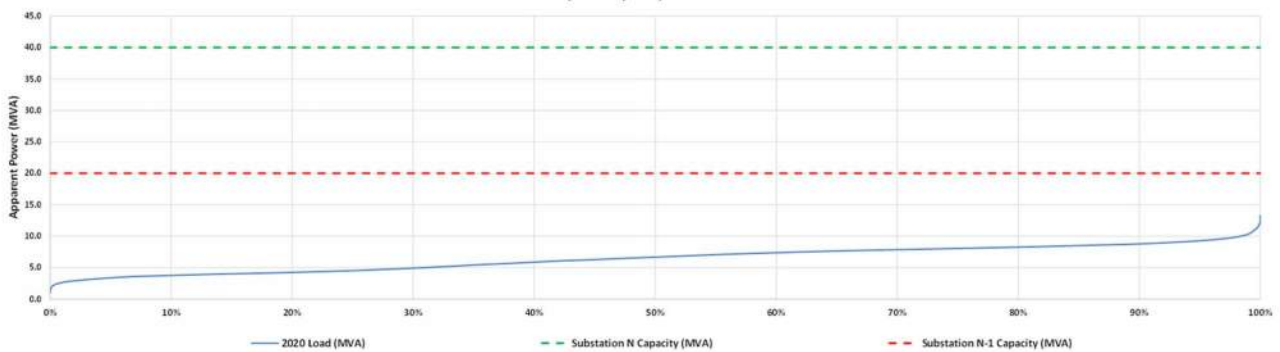
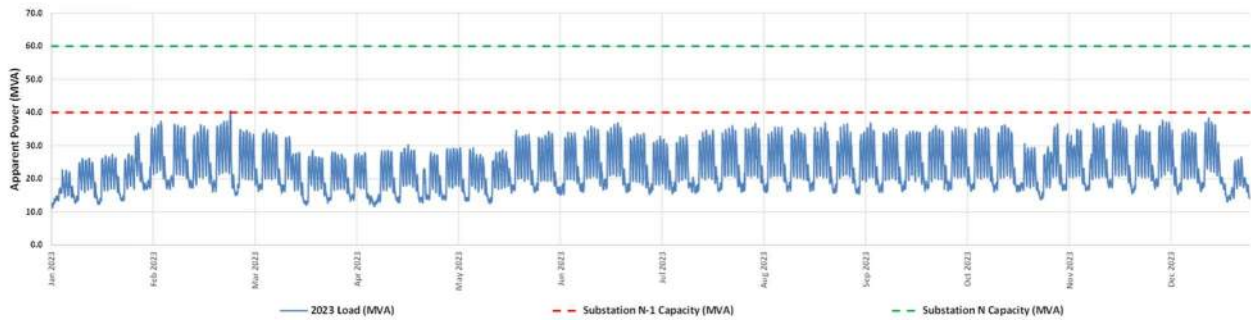


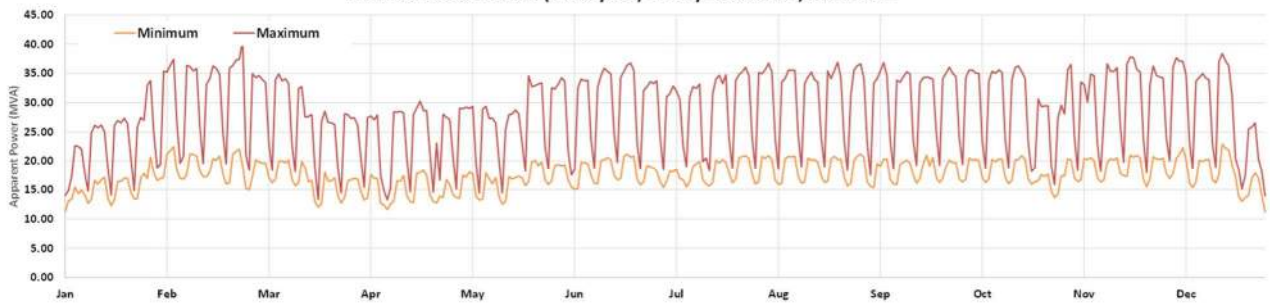
Figure 111. Westgate 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Wiri MVA

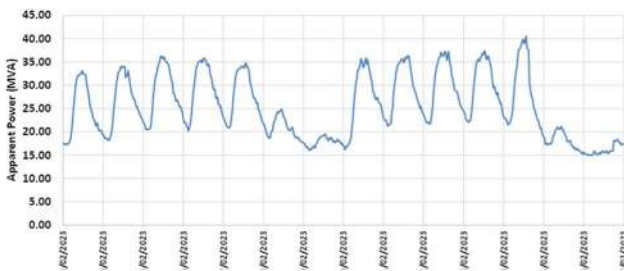
WIRI Zone Substation (2023 year) - Half hourly loading



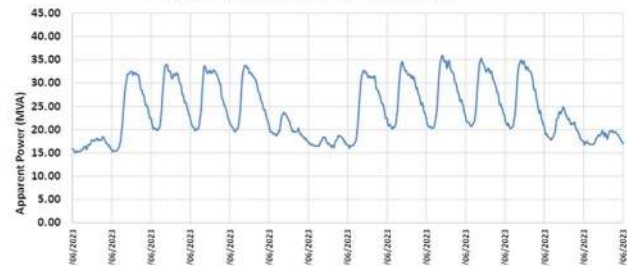
WIRI Zone Substation (2023 year) - Daily Maximum/Minimum



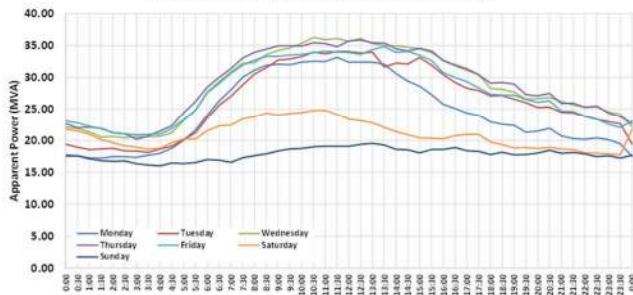
WIRI Zone Substation (2023 year) - Summer (February)



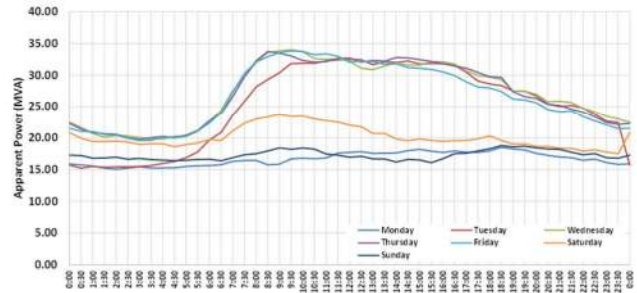
WIRI Zone Substation (2023 year) - Winter (June)



WIRI Zone Substation (2023 year) - Summer (February)



WIRI Zone Substation (2023 year) - Winter (June)



WIRI Zone Substation (2023 year) - Load Duration Curve

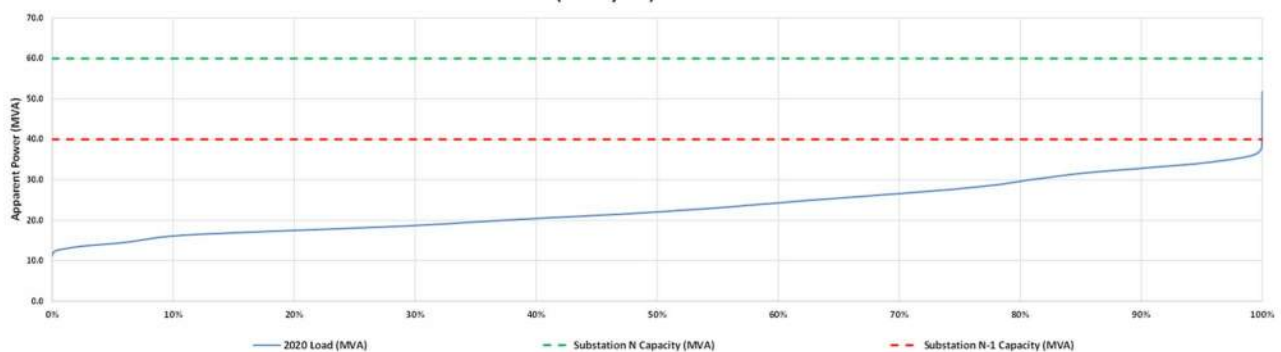
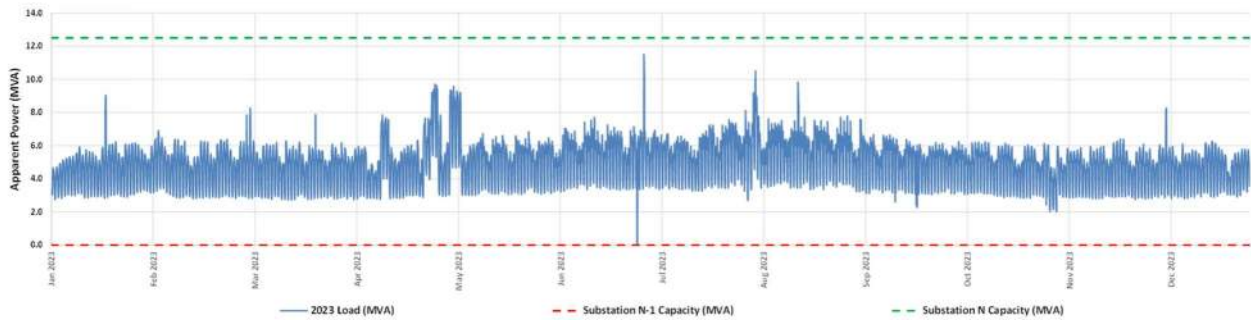


Figure 112. Wiri 33/11 kV zone substation: Apparent Power (MVA) load characteristics

Woodford MVA

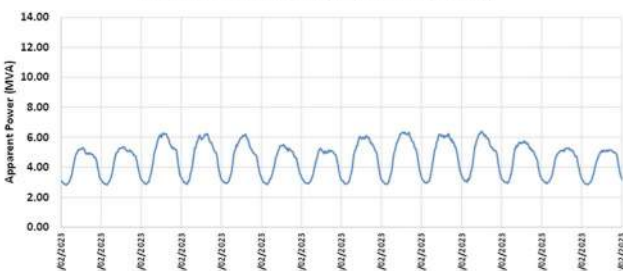
WOOD Zone Substation (2023 year) - Half hourly loading



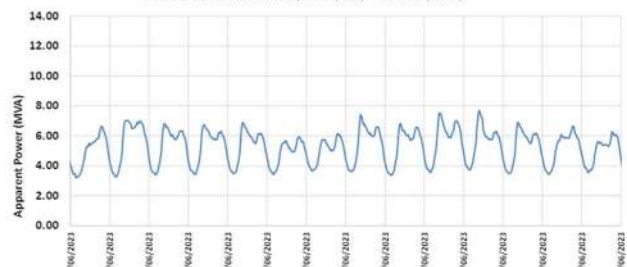
WOOD Zone Substation (2023 year) - Daily Maximum/Minimum



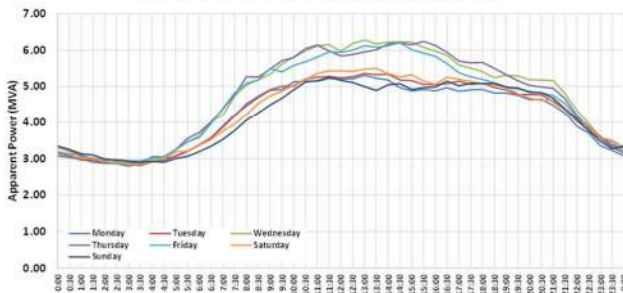
WOOD Zone Substation (2023 year) - Summer (February)



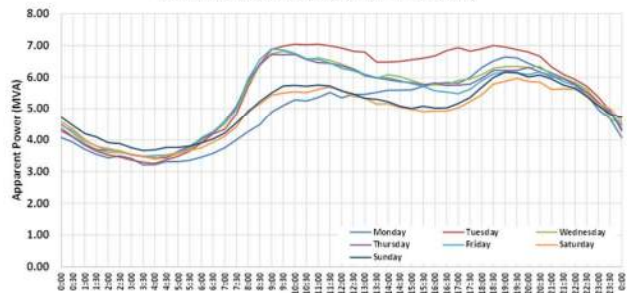
WOOD Zone Substation (2023 year) - Winter (June)



WOOD Zone Substation (2023 year) - Summer (February)



WOOD Zone Substation (2023 year) - Winter (June)



WOOD Zone Substation (2023 year) - Load Duration Curve

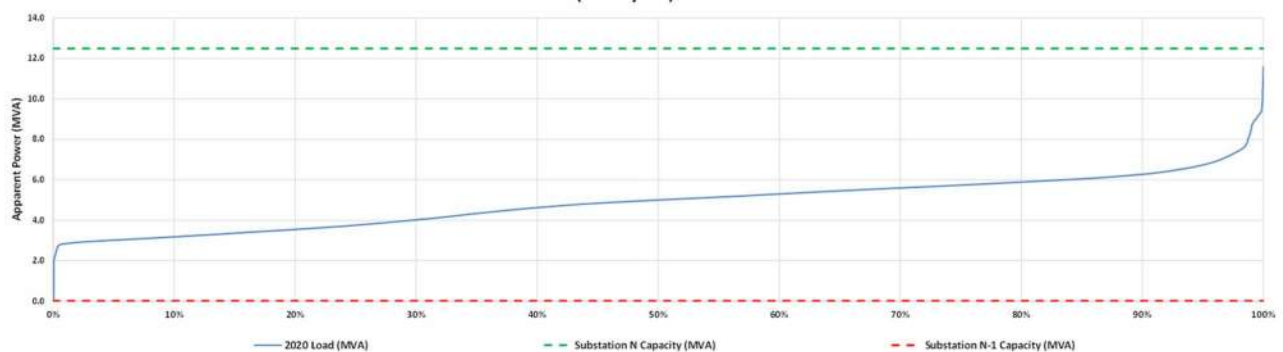
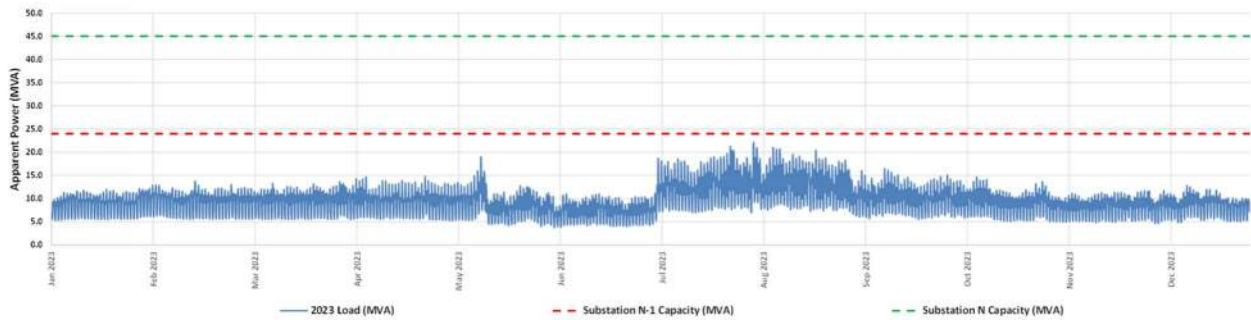


Figure 113. Woodford 33/11 kV zone substation: Apparent Power (MVA) load characteristics

White Swan MVA

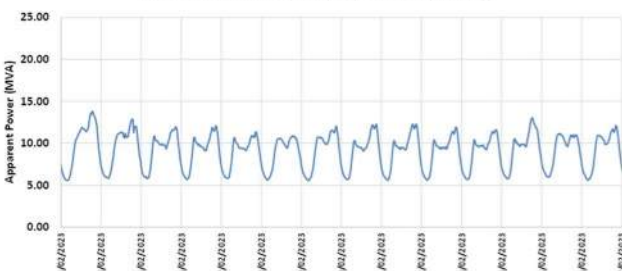
WSWA Zone Substation (2023 year) - Half hourly loading



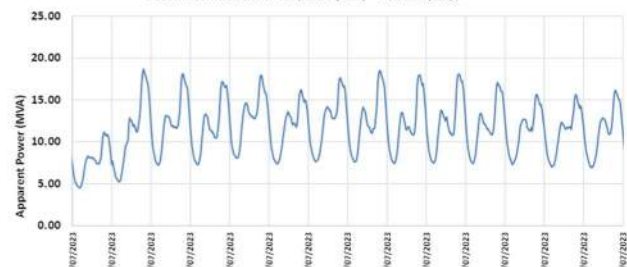
WSWA Zone Substation (2023 year) - Daily Maximum/Minimum



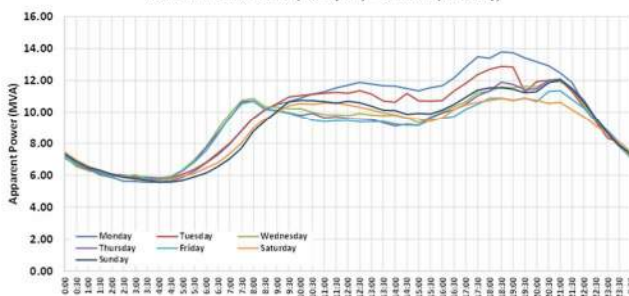
WSWA Zone Substation (2023 year) - Summer (February)



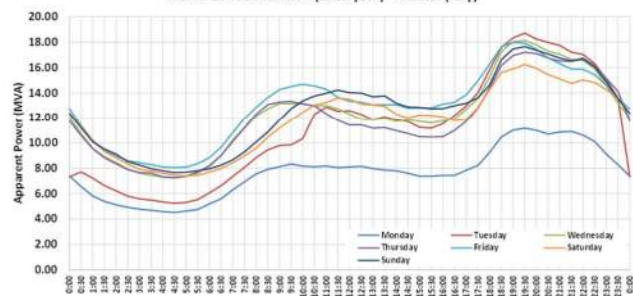
WSWA Zone Substation (2023 year) - Winter (July)



WSWA Zone Substation (2023 year) - Summer (February)



WSWA Zone Substation (2023 year) - Winter (July)



WSWA Zone Substation (2023 year) - Load Duration Curve

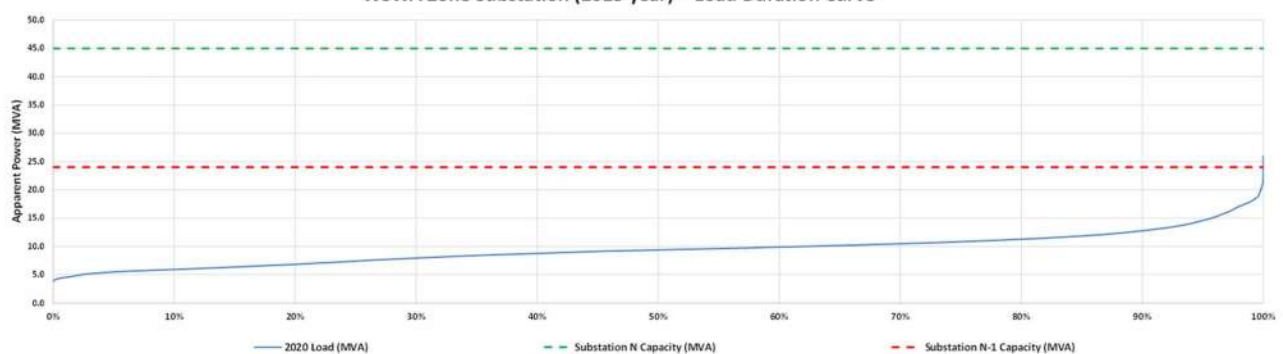


Figure 114. White Swan 22/11 kV zone substation: Apparent Power (MVA) load characteristics