



**UNC Workgroup 0754R**

**Action 0301**

April 2022

# Action 0301 - task

- Correla (JL) to provide an indication of how the data set looks and clarify the difference between using the Mean and the Median figure.
- The following slides discuss the calculation and the use of the Mean figure



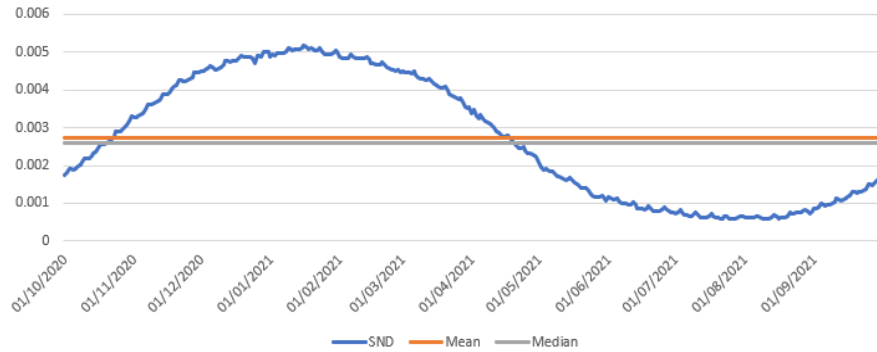
# Action 0301

- The calculation that was presented is the 'Live' formula for calculating average Seasonal Normal Demand (effectively the daily SND).
- The next slides show the Mean and Median calculated from the Neural Networks (NNGLM) and Gradient Boosted Models
- The charts show the values for each of the test EUCs.

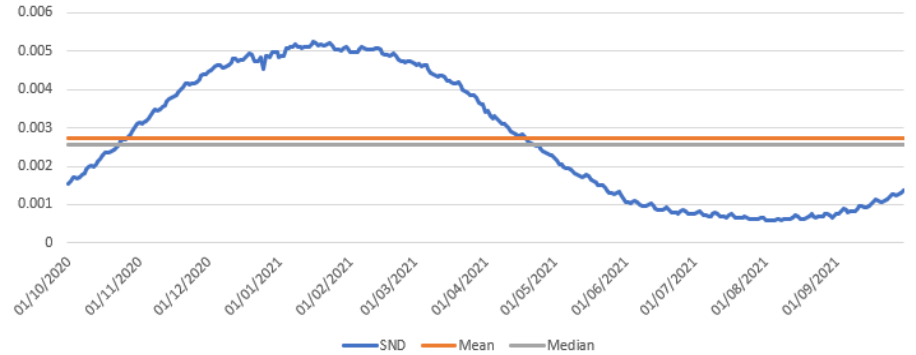


# 01BND Mean and Median

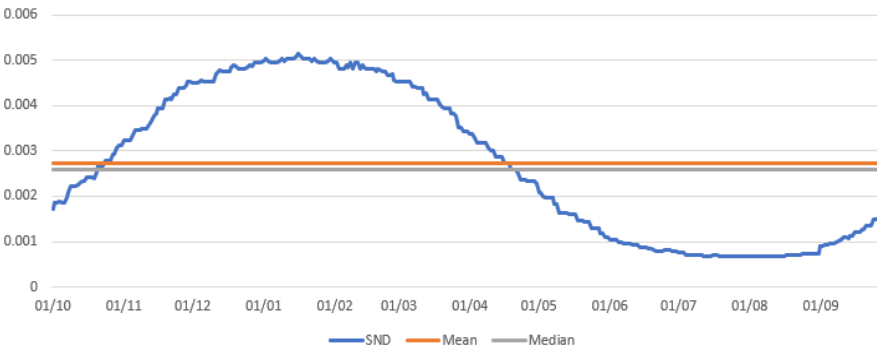
NNGLM SND, Mean and Median values- EUC NW01BND for a 12 month period



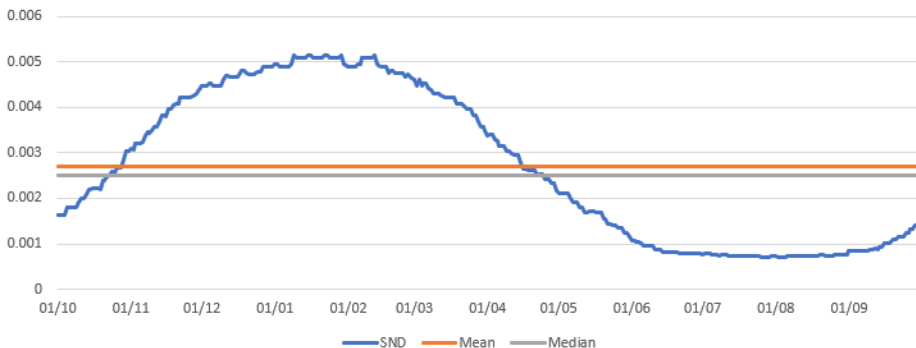
NNGLM SND, Mean and Median values- EUC SE01BND for a 12 month period



Gradient Boost SND, Mean and Median values- EUC NW01BND for a 12 month period

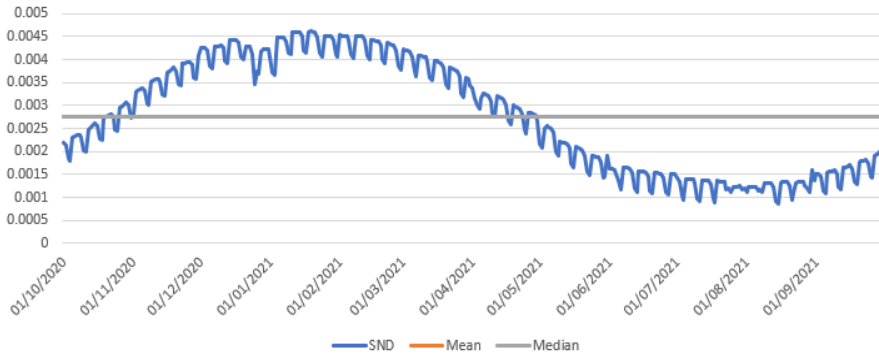


Gradient Boost SND, Mean and Median values- EUC SE01BND for a 12 month period

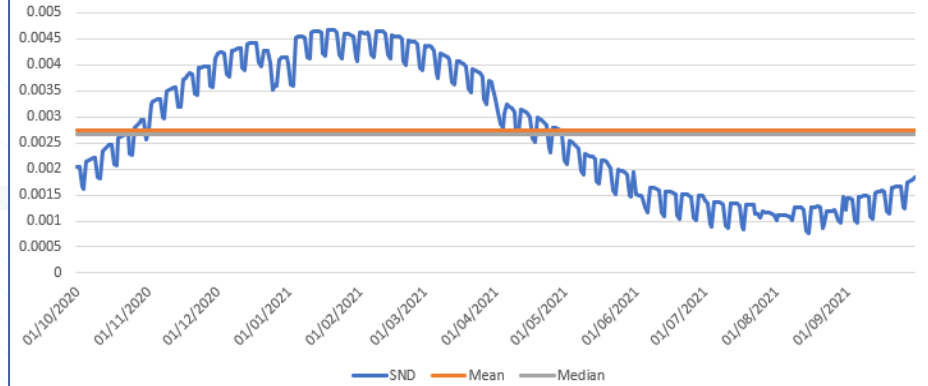


# 02BNI Mean and Median

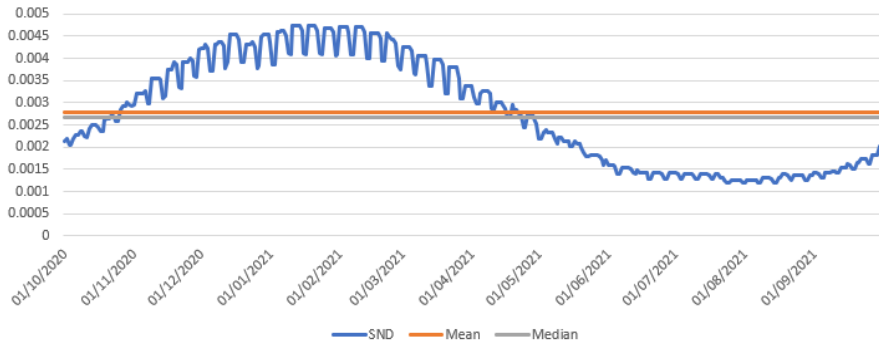
NNGLM SND, Mean and Median values- EUC NW02BNI for a 12 month period



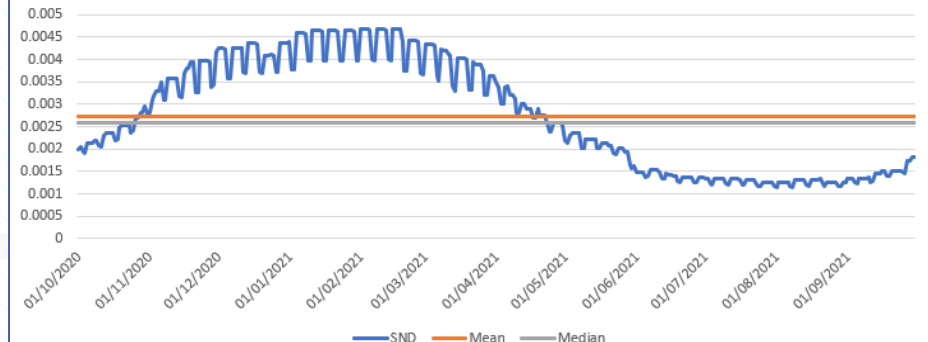
NNGLM SND, Mean and Median values- EUC SE02BNI for a 12 month period



Gradient Boost SND, Mean and Median values- EUC NW02BNI for a 12 month period

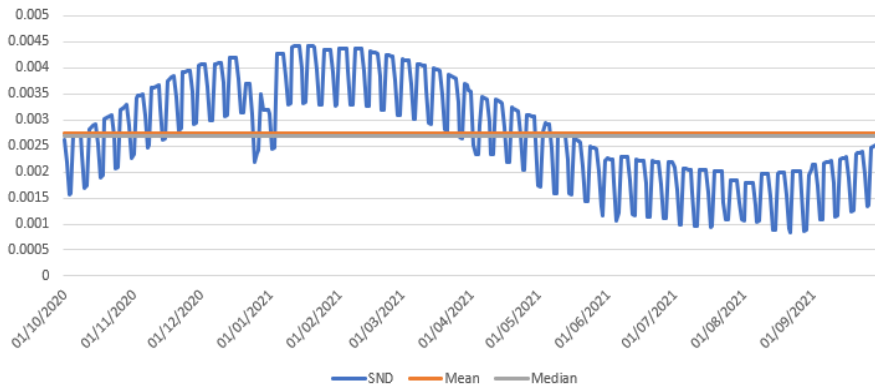


Gradient Boost SND, Mean and Median values- EUC SE02BNI for a 12 month period

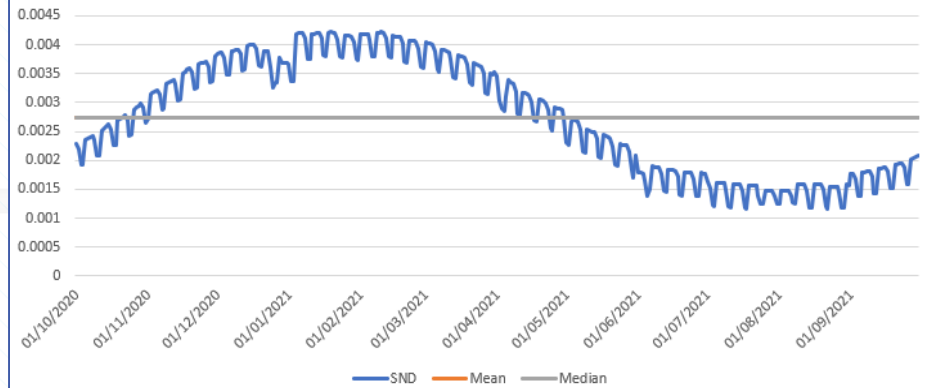


# 05B Mean and Median

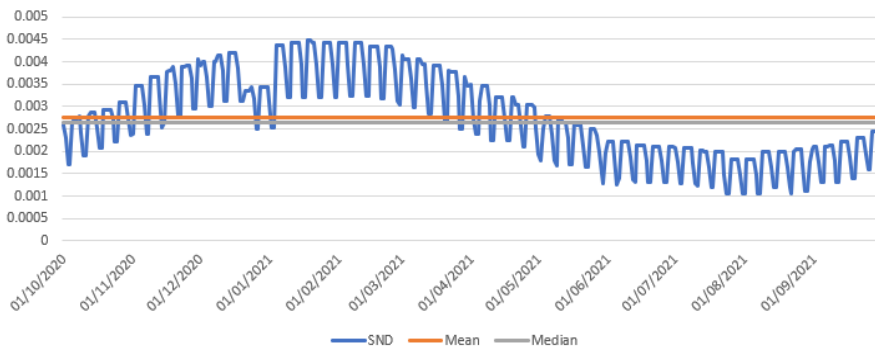
NNGLM SND, Mean and Median values- EUC NW05B for a 12 month period



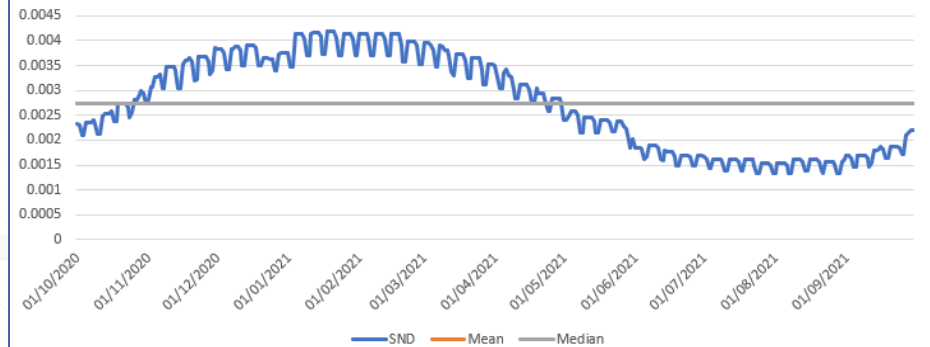
NNGLM SND, Mean and Median values- EUC SE05B for a 12 month period



Gradient Boost SND, Mean and Median values- EUC NW05B for a 12 month period



Gradient Boost SND, Mean and Median values- EUC SE05B for a 12 month period



# Action 0301 – Historic use of the Mean

- ‘Mean’ has been used in the Demand Attribution calculation since its inception.
- The attribution calculation uses the Seasonal Normal Demand (i.e. the AQ) divided by the number of days (which for an AQ is 365).
- This is to support downstream calculations, as any calculation using the ALP value will only work with the Mean (as it needs to add up to the total SND value).
- The values wouldn’t add up to the total SND value if the Median was used



# Action 0301 - Conclusion

- The use of 'Mean' and 'Median' produces very similar values and some are almost identical
- 'Mean' has been used in the Demand Attribution calculation as:
  - Some datasets do not have a set of daily demands to allow calculation of a Median.
  - Downstream process rely on the use of the Mean so that values balance and add up to the correct starting point.
  - If you used the Median, each day individually would not add up to the total SND value
- This ILF is a theoretical value which is only used in the modelling process for assessment between models.