



UIG Task Force Recommendations

Investigation Item 13.2.5

Accuracy of NDM Algorithm - Use of Additional
Weather Data in the Composite Weather Variable

Background


What is the findings?

- 13.2.5 Accuracy of NDM Algorithm - Use of Weather Data (Basic Machine Learning)
- The Composite Weather Variable (CWV) calculation comprises numerous values, parameters and variables. It currently includes two-hourly Temperature and four-hourly Wind Speed
- Other weather data items are available as both forecasts and actual observations, and could be used to enhance the NDM Estimation Algorithm

How does it contribute to UIG?

- The Findings for item 13.2.5 (basic machine learning) highlighted that using all six of the common weather items (temperature, wind speed, precipitation, solar radiation, relative humidity and atmospheric pressure) reduced UIG volatility in a simulated model by 28%, compared to a 23% reduction using only the two current data *items* (e.g. a range of volatility of +/-10% would be reduced to +/-7.2%)
- Further work would be required to convert this finding into a new NDM Estimation Algorithm.

Options to address the finding

No.	Option	Likelihood of success	Implementation lead times
1.	No action (“Do Nothing” option) or Park	Very low	N/A
2. 	<p>Next DESC review of Composite Weather Variable (CWV) formula to include the four other commonly available weather data items. Process would include:</p> <ul style="list-style-type: none"> • Re-optimisation of the CWV formula would assess their relationship to NDM Demand • Seasonal Normal CWV (SN CWV) values would also need to be updated to use history for these weather items • Historic NDM demand models would need to be re-calculated for the purpose of AQ calculations • All AQs that did not recalculate would need to be re-stated to bring them into line with the new SN CWV definitions 	Medium/high – if more of the NDM fluctuation can be reliably explained by additional weather	Medium/long – may inform the current SNCWV review which will be implemented October 2020
3.	Replace NDM Allocation formula with a weather-based regression formula	Medium/high – if more of the NDM fluctuation can be reliably explained by a regression formula	Long – major change to CDSP and Shipper systems



The image features a light gray outline of a house with a triangular roof and a rectangular body. The body is divided into five vertical rectangular sections, resembling window panes. The word "xserve" is centered within the middle three panes. The "x" is a dark blue icon composed of two overlapping chevrons. The "serve" part is in a light blue, lowercase, sans-serif font.

xserve