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DESC Technical Workgroup

CWV Optimisation WN Results

17th November 2014

Results 3: WN LDZ – Fit between weather and demand

- Results of current vs NW Best are represented as **Green**: Better fit **Red**: Worse fit.

LDZ	Station
WN	ROS

Gas Years	2004/05 to 2013/14
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Parameters	Ranking	ET Range	Avg. Mean Abs. % Error	Avg. Adj. R-sq.	Average RMSE (MWHs)	Avg. % diff. in est. 1 in 20 peak demand
Current		4 to 15	5.40%	98.43%	1,046	
New: NW Best	1	2 to 15	4.94%	98.62%	983	2.72

- Rank 1 parameters (NW best) produced best fit in terms of Avge. Mean Absolute % Error, Avge. Adj. R-sq. and Avge. RMSE

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Results 4: WN LDZ – Quarterly MAPE and MPRE

- Results of Current vs Alternatives are represented as **Green**: Better fit **Red**: Worse fit

LDZ	Station
WN	ROS

			MAPE			
Parameters	Ranking	ET Range	DEC - FEB	MAR to MAY	JUN to AUG	SEP to NOV
Current		4 to 15	3.44%	6.01%	9.45%	6.07%
New: NW Best	1	2 to 15	3.23%	5.93%	7.65%	5.45%

			MPRE			
Parameters	Ranking	ET Range	DEC - FEB	MAR to MAY	JUN to AUG	SEP to NOV
Current		4 to 15	0.44%	0.27%	2.83%	-2.19%
New: NW Best	1	2 to 15	0.10%	0.17%	-0.67%	-0.02%

- On average, Rank 1 displays better seasonal fit for 4 quarters (MAPE)
- On average, Rank 1 displays better seasonal bias for 4 quarters (MPRE)

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Results 5: WN LDZ – Monthly MAPE

- Monthly MAPE - Results of Current vs Alternatives are represented as:
Green: Better fit **Red:** Worse fit

LDZ	Station
WN	ROS

Parameters	Ranking	ET Range	MAPE					
			DEC	JAN	FEB	MAR	APR	MAY
Current		4 to 15	3.34%	3.43%	3.52%	4.12%	6.19%	11.59%
New: NW Best	1	2 to 15	3.13%	3.18%	3.34%	3.94%	6.46%	11.20%

Parameters	Ranking	ET Range	MAPE					
			JUN	JUL	AUG	SEP	OCT	NOV
Current		4 to 15	10.20%	9.77%	8.40%	8.55%	7.22%	4.29%
New: NW Best	1	2 to 15	7.99%	7.67%	7.30%	7.27%	6.65%	3.87%

- On average across the 12 months, Rank 1 has the best seasonal fit in 11 months

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Results 6 : WN LDZ – Monthly MPRE

- Monthly MPRE - Results of Current vs Alternatives are represented as:
Green: Less bias; **Red:** more bias.

LDZ	Station
WN	ROS

Parameters	Ranking	ET Range	MPRE					
			DEC	JAN	FEB	MAR	APR	MAY
Current		4 to 15	0.03%	0.96%	0.24%	1.73%	-0.08%	-3.67%
New: NW Best	1	2 to 15	0.32%	0.79%	-0.69%	0.91%	0.09%	-2.02%

Parameters	Ranking	ET Range	MPRE					
			JUN	JUL	AUG	SEP	OCT	NOV
Current		4 to 15	0.65%	5.64%	2.30%	-1.11%	-2.26%	-2.57%
New: NW Best	1	2 to 15	-0.11%	0.15%	-2.03%	0.40%	1.10%	-0.97%

- Rank 1 showing better seasonal bias for 9 of 12 months

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Results 7: WN LDZ Parameters

- Comparison of NW Best CWV parameters with Current CWV parameters

LDZ	Station
WN	ROS

Gas Years	2004/05 to 2013/14
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Parameters	Ranking	ET Range	1 in 20 Peak CWV	L1	L2	L3	V0	V1	V2	Q
Current		4 to 15	-5.48	0.661	0.0149	0.26	3	15.5	18.5	0.41
New: NW Best	1	2 to 15	-6.58	0.697	0.0149	0.3	3	14.9	18	0.38

- Slightly more weighting applied to L1 parameter
- Slightly more weighting for Cold weather upturn now present
- Warm weather cut-off, V2, decreased

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