



Demand Estimation Sub Committee

NDM Sample Update

13th December 2022

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Overview



- An overview of the Demand Estimation process and output can be found [here](#)
- Annual modelling cycle of activities are represented in diagram opposite
- This presentation relates to the “Input” phase of the Demand Model cycle

CDSP / DESC Obligations and Timetable: October 2022 to September 2023

Milestone	UNC H Ref	10/22	11/22	12/22	01/23	02/23	03/23	04/23	05/23	06/23	07/23	08/23	09/23
DESC Membership confirmed	1.12	✓											
NDM Sampling: Data Collection and Validation	1.6	✓						✓					
NDM Algorithm Performance for Gas Year 2021/22	1.8			✓								✓	
DESC Adhoc Workplan	1.7	✓		✓			✓						
DESC Modelling Approach – EUCs and Demand Models	1.7			✓			✓						
Single Year EUC Demand Modelling	1.7								✓				
Model Smoothing and Draft Gas Demand Profiles	1.7									✓			
Industry Consultation	1.8									✓	✓		
Gas Demand Profiles finalised and Core systems updated	1.9											✓	
Climate Change Methodology progressed (SN Review 2025)	1.4			✓			✓		✓		✓		

Objectives

- To provide a current view of the Demand Estimation sample following the collection of data for the period 1st October 2021 to 30th September 2022
- This sample data will then be used in Strand 3 NDM Algorithm Performance and provide a sense check of data ahead of next year's Demand Modelling process
- Summarise the volume and quality of data received
- Provide any other sample related updates

Background

- The Demand Estimation Team are responsible for ensuring there is a representative sample of the NDM population (c.25 million supply points) available for:
 - EUC demand modelling and;
 - Reviewing demand model performance (Strand 3)
- Data for the sample is sourced from:
 - Shippers (MOD654S – All EUCs) as per UNC H Ref 1.6.10 to 1.6.14
 - Transporters managed sample (Bands 2-8) as per UNC H Ref 1.6.1 to 1.6.9
 - Class 3 (01BPD Only)
- Data from the various sample sources is then cleansed and validated to remove/reduce data errors being used in the analysis set out above

How Validation is Performed

- The data from the various sources is consolidated and formatted ready for validation
- Any site that has too many missing days of consumption is removed prior to running validation
- The remaining data runs through c.15 validation checks that are summarised on the next slide
- Once all validation has been performed, a final set of checks, including high level linear regression analysis between weather (CWV) and daily demand can sometimes identify errors not picked up by the standard validation checks
- The cleansed data is passed over for modelling

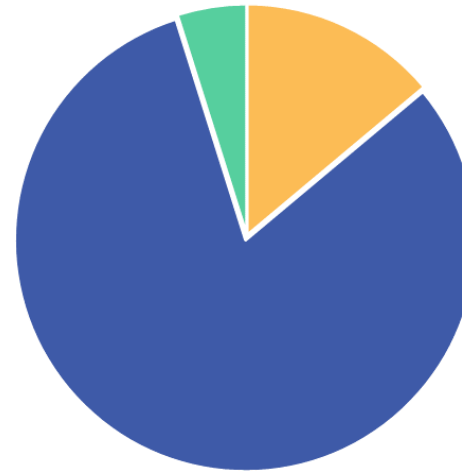
Validation Checks

Validation Check	Description
Consecutive Zeros	Any supply point that had 33 consecutive zeros during the winter period (1st Oct – 31st Mar)
Summer Reads	Any supply point that has 15 or more days missing over the summer period (1st Apr – 30th Sept)
Winter Reads	Any supply point that has 15 or more days missing over the winter period (1st Oct – 31st Mar)
AQ Ratio	A check against the AQ derived from the Sample data and the AQ held in UK Link
Min Reads	A pre check ahead of validation to ensure that there is sufficient daily values
Infills Rej	A validation to check on the number of infills
Multiple Prov	Any supply point that has been sent in via two or more providers
War Ratio	Any supply points with a supply point WAR ratio below 0.2 are excluded since this suggests a potentially unrealistically higher summer consumption than a winter consumption
No LDZ or SIU	Any supply point that does not have an assigned LDZ or Scottish Independent
No Correction Factor	Any supply point that does not have a live correction factor on UK Link
Band 9B Sum/Win Ratio	For supply points in the 09B consumption band a check is made of the overall winter/summer consumption ratio and any supply points for which this is less than 0.9 are excluded
Flex Gen	Supply points identified by the Networks as not having a typical consumption pattern for it's EUC
Consecutive Zero Infills	A secondary check for consecutive zeros post the infilling process
Hydrogen Deploy	Any supply point that is on a hydrogen test site
Twin Stream	A supply point that has 2+ meters but only one MPRN

Analysis – Sample Breakdown

Passed Validation Source Breakdown

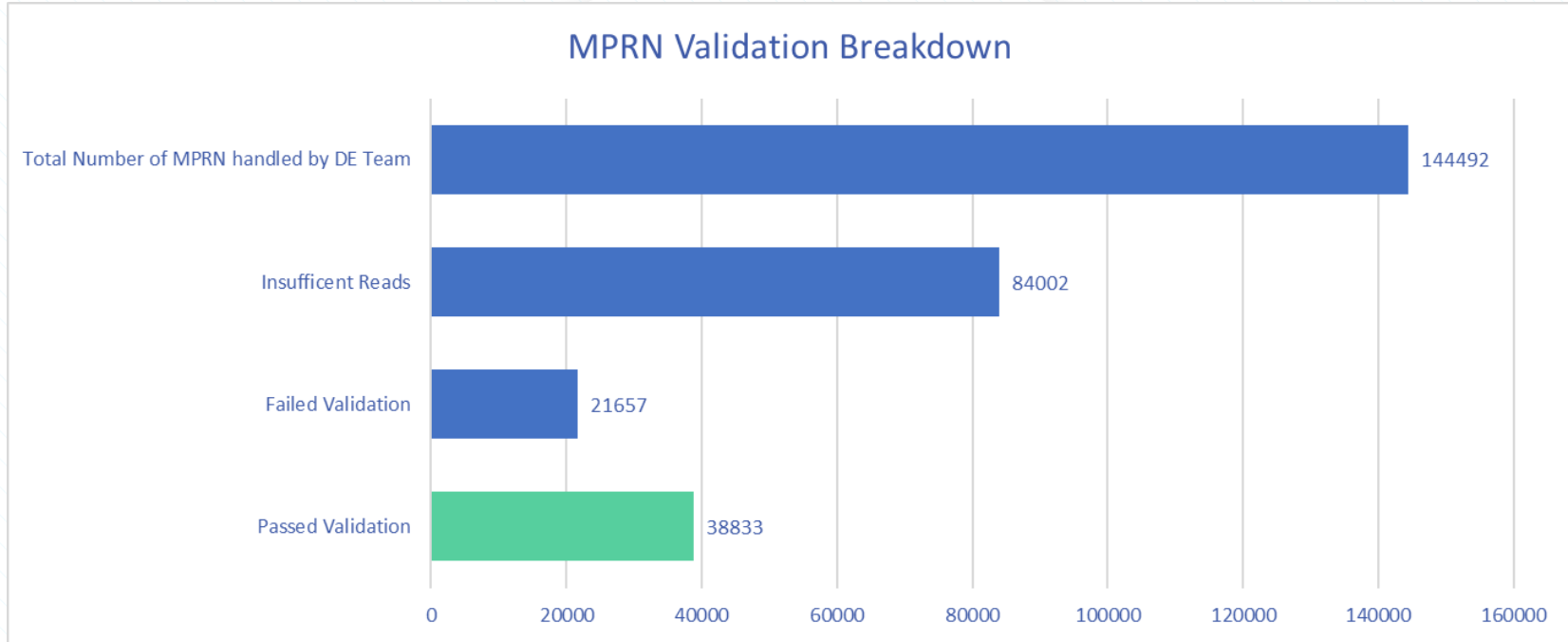
- The chart on the right shows the breakdown of meter points by source that passed validation
- Significant increase in the amount of Shipper data being used in the sample compared to last year
- The Xoserve's managed sample is no longer in use
- Decrease in number of Class 3 PPM sites passing validation



■ Xoserve ■ Networks ■ Shippers ■ Class 3 PPM

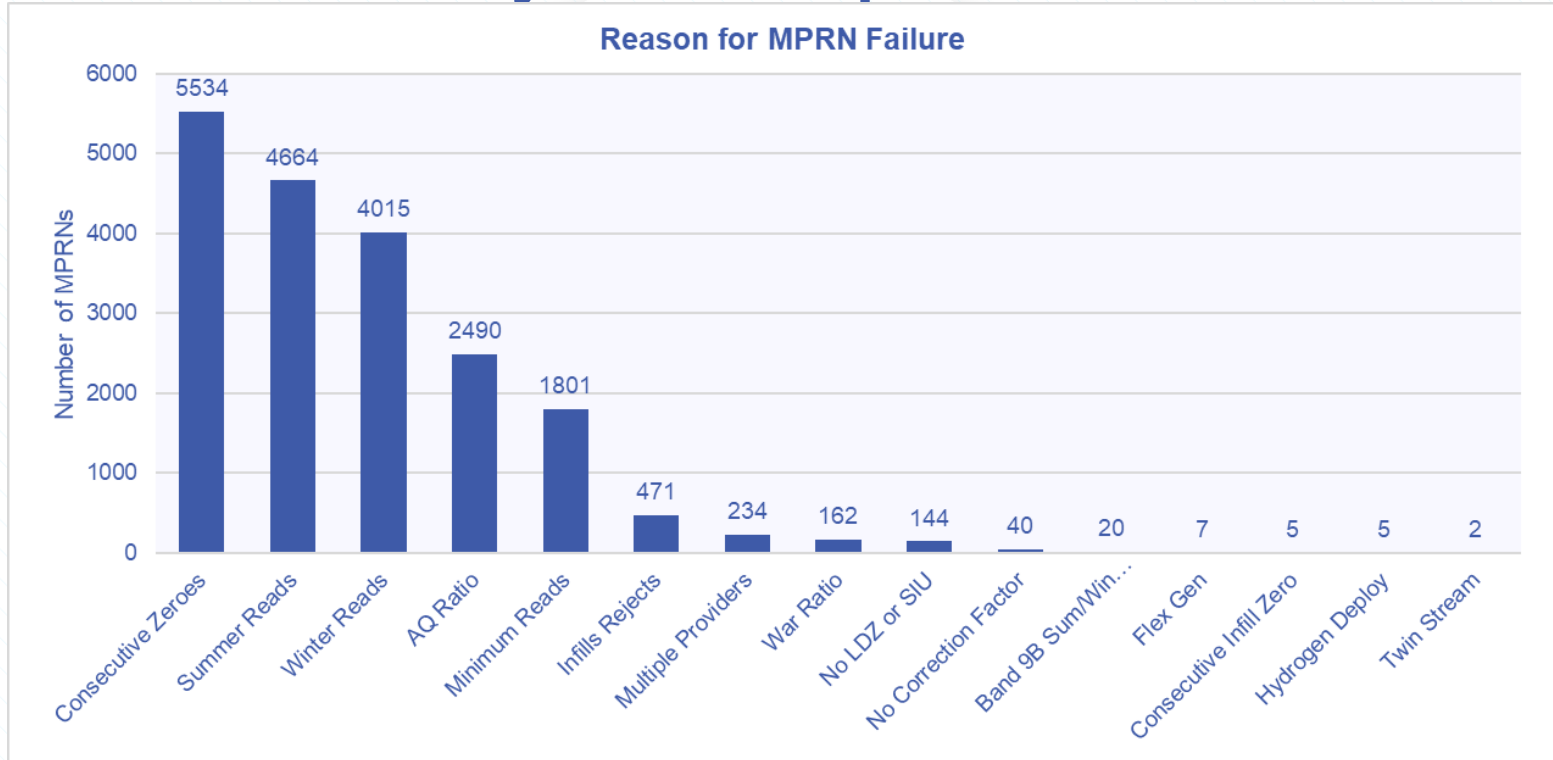
	Xoserve	Networks	Shippers	Class 3 PPM
2022	0	5,165	32,135	1,533
2021	1,598	6,137	16,597	3,481

Analysis – Sample Breakdown



- Over 140,000 MPRN run through the validation system
- From MPRNs with sufficient data to perform validation 64.2% passed

Analysis – Sample Errors



- There were 105,659 MPRN Failures. 84,002 were due to insufficient days 2,063 were due to failure of the 2nd validation procedure. The remaining failure reasons are charted.
- Please Note: it is possible for an MPRN to have multiple failure reasons but is only recorded for the first validation check it fails.

Passed Validation – EUC Breakdown

- The table below shows a breakdown of the sites that have passed validation spilt by EUC and LDZ

EUC	SC	NO	NW	NE	EM	WM	WN	WS	EA	NT	SE	SO	SW	Total
01BND	586	620	647	628	684	568	408	434	613	646	620	633	644	7,731
01BNI	801	587	1,050	616	639	479	60	565	540	662	710	454	645	7,808
01BPD	308	307	659	337	392	312	99	132	224	211	317	125	115	3,538
02BND	21	20	19	16	15	16	3	3	15	33	32	12	11	216
02BNI	1,269	483	1,449	606	925	956	70	654	617	830	700	647	643	9,849
03B	892	180	455	247	375	351	38	210	332	424	380	278	277	4,439
04B	588	186	286	251	217	256	39	144	220	305	375	273	187	3,327
05B	196	88	115	111	96	114	13	43	76	129	128	96	46	1,251
06B	59	37	40	44	47	35	4	18	29	34	27	46	26	446
07B	21	10	14	21	25	19	1	2	6	7	13	6	8	153
08B	10	8	2	5	9	6	0	5	6	7	8	4	5	75
Total	4751	2526	4736	2882	3424	3112	735	2210	2678	3288	3310	2574	2607	38,833

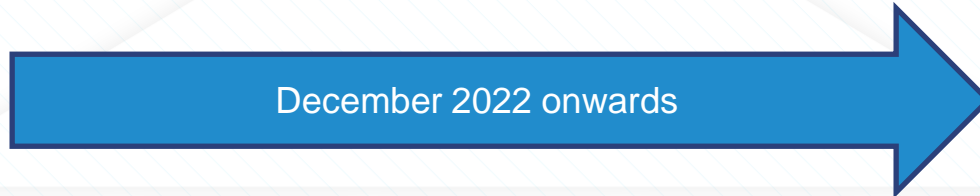
Analysis – Feedback

- All Shipper that are required to send data in through MOD654S will be contacted in December 2022 with feedback on the data within their submissions
- One of the requirements of MOD654s is to provide analysis to The Performance Assurance Committee (PAC) to advise which Shippers are meeting the obligation
 - If you were unable to meet your obligation, then PAC will be in touch
 - Please contact the Demand Estimation Team should you need any assistance establishing this process
- We will continue to provide the quarterly feedback to each of the DNs

Conclusions

- The number of MPRNs we receive has significantly increased, but the number passing validation appears low, however this was caused by a single Shipper who has corrected the issues mid-way through the sampling year
- MOD654S data is continuing to improve, however there are still a few Shippers that are not sending in data
- Class 3 Data has once again been used in the sample for this year's Algorithm Performance and has meant that we can test the Pre-Payment models
- Shipper data sufficiently replaced the Technolog data (Domestic and Small I&Cs) following the contract coming to an end in April 2022.

Next Steps



Sample Provider
Feedback

December 22

Adhoc Workplan
Item and UNC
Workgroup 754R
recommendations

December 22
Onwards

Sample Validation
for Modelling

April 23