# Performance Thresholds Review

## ****Performance Assurance Board (PAB)****

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| Summary | **Recommendations to change the thresholds in place to manage the Supplier performance standards** |

1. Background
	1. In October 2020, the PAB carefully considered the best approach to take to monitoring and managing issues associated with the Performance Standards, including the deployment of Error and Failure Resolution (EFR) following the pausing of the technique during the first lockdown.
	2. Since then, Elexon and the PAB has reviewed the approach on a quarterly basis. The papers for all the threshold review papers are public and available on the Elexon website. These set out the logic of past reviews and the previous thresholds agreed. The current principles agreed by the PAB are:
* There will be an ongoing quarterly review approach taken to managing performance standards and the application of EFR;
* These reviews will set the threshold for ‘focus Suppliers’ for the next quarter and provide an indication of what is likely for the subsequent one. The indication for the subsequent review would still require confirmation at the next quarterly review, but in providing this communication to the industry should help Suppliers to prepare for any changes and have forewarning of the potential of EFR at the next review;
* Elexon and the PAB’s efforts would be predominantly focused on Suppliers with the largest volume of non-compliant estimation (‘focus Suppliers’);
* Whilst there will be some fluctuation in the thresholds to take account of seasonal or significant external issues, the overall priority is to bring the industry performance in line with the relevant standards and to then manage outliers and early risk indicators; and
* That the PAB expected all Suppliers, not just the focus Suppliers, to work to meet or maintain the Settlement standards.
	1. At the last threshold review in May, the PAB agreed:
* The focus Suppliers should be those with a monthly non-compliant estimation volume of above 4,000MWh in Half Hourly (HH) Measurement Class (MC) C, HH Sub 100kW and Non Half Hourly (NHH) markets respectively for the quarter from May to July;
* That this threshold was likely to decrease to as low as 2,000MWh for the quarter from August to October for all of the above market areas at this August review. The Settlement Dates for these reporting months are May to July 2021 for HH R1, and May to July 2020 for NHH RF;
* That the EFR exit criteria should be for Suppliers that have less than 1,000MWh of non-compliant estimation in the monthly reporting from May to July and that this would be likely to remain the position from August to October reporting periods; and
* That Suppliers would be required to provide more detail in their EFR plans and a performance forecast for at least one quarter ahead from August.

* 1. This quarterly review provides:
* Updated analysis on the inaccuracy associated with estimated data;
* Confirmation of the threshold of non-compliant estimation for the focussed Suppliers and the current EFR exit criteria;
* Recommendations for the deployment of EFR to Suppliers as a result of the review, where required; and
* Recommendations for the likely performance approach that will be taken from November 2021.
1. Updated analysis on the impact of NHH estimation on Settlement

**Estimation inaccuracy by Settlement Runs and by year**

* 1. The NHH estimation inaccuracy reporting uses Data Transfer Network (DTN) analysis focussed on the NHH market in order to provide a view of the ongoing impact of estimation. We recognise that the DTN does not provide full coverage of the industry flows but provides us with insight. This analysis has been provided to the PAB previously but has been refreshed and updated using a new sample.
	2. This analysis aggregates estimated consumption and compares it to the subsequent actual consumption aggregated at a daily Metering System level. When assessing the inaccuracy we looked at the gross difference, i.e. ignoring the direction. The following table is a view of NHH estimation inaccuracy by Settlement Run:

| Period | Unique MPANs | No of EACs | % error |
| --- | --- | --- | --- |
| R1 | 119,103 | 1,774,129 | **22.95%** |
| R2 | 124,589 | 685,567 | **23.25%** |
| R3 | 87,942 | 209,704 | **26.17%** |
| RF | 52,836 | 100,369 | **30.27%** |
| Total | 157,302 | 2,769,769 | **24.90%** |

* 1. This analysis indicates that estimation inaccuracy increases as the estimate ages. This is even taking into consideration the netting aspect of NHH estimation, which uses looking forward consumption value (i.e. EAC).
	2. Elexon has also produced an updated view of NHH estimation inaccuracy changes over time (in aggregate for all Reconciliation Settlement Runs, i.e. R1 to RF). Please note we assign estimation inaccuracy to a yearly period based on the date the actual Meter read was entered into Settlement.

| Period | Unique MPANs | No of EACs | % error |
| --- | --- | --- | --- |
| 2018 | 114,130 | 660,352 | **24.41%** |
| 2019 | 120,198 | 775,639 | **23.80%** |
| 2020 | 124,235 | 865,443 | **25.53%** |
| 2021 | 120,774 | 468,335 | **26.42%** |

* 1. This shows that whilst estimation inaccuracy had reduced in 2019 (likely as a result of the in excess of 2.4m Smart Meters installed in the period), it increased in 2020 (likely as a result of Meters being read less frequently and being based on past consumption that did not reflect the lockdown volumes). This trend continued in 2021 (most likely because of the volatility of demand during this period).
	2. **The changing trends of estimation inaccuracy**
	3. It is also important to remember that estimation can both overstate and understate consumption. The directional aspect of estimation accuracy is apparent when looking at the distribution of estimation error in NHH Profile Classes one to four.



* 1. The boxplots above set out the distribution of daily EAC error for each of the Profile Classes one to four in 2018, 2019 and 2020 respectively for a random sample of NHH Metering Systems. The middle horizontal dotted line at zero represents where there was no inaccuracy from the EACs. The solid lines within each box show the median average whereas the solid dots show the mean average for daily EAC error for that Profile Class in that year.
	2. A median above the dotted line outlines a tendency for the estimation to overstate consumption whereas a median below the dotted line outlines a tendency for the estimation to understate consumption.
	3. As you can see above, in 2018 and 2019 estimation on average tended to overstate consumption across all four of the Profile Classes. However, in 2020 this changes.
	4. For the domestic Profile Classes (one and two) during 2020, the direction of average estimation inaccuracy flipped and tended to understate consumption as the lockdown has resulted in more people being at home and using more energy, i.e. not reflective of historical consumption on which looking forward EACs were based.
	5. For the domestic Profile Classes, in the first part of 2021 the direction of inaccuracy flipped again in our May update and indicated an overstatement in estimation that was greater than prior to the pandemic. Elexon and the PAB noted that a change in direction would be likely, as restrictions eased. However, since the update in May, this appears to have settled and the median line is now closer to the pre-pandemic position than it was in May. The significantly skewed mean in the Profile Class 2 boxplot is as a result of an erroneously large AA for a Metering System which formed part of this sample and which the Supplier has informed us has now been resolved.
	6. The small and medium business site Profile Classes (three and four) during 2020 still showed that estimation, on average, tended to overstate consumption. This became more pronounced/skewed in 2020 and in our May report this occurred to an even greater extent for the first quarter in 2021 where there were more likely to be larger overstatements of consumption in estimates for sites that had been closed. However, since the update in May, as with the domestic Profile Classes, this appears to have settled and be far nearer the pre-pandemic position.
1. Performance overview, changes over the last quarter and potential impacts in the next which we need to consider

Looking at the volume of non-compliant estimation of Suppliers under the standard in all three of the market areas and based on PAB’s August reporting (which reports on Settlement Days in May 2021 at R1 and Settlement Days in May 2020 at RF), we can see that 55% is currently within the NHH market.

| Market Area | Settlement Run and standard used for current view | Settlement month used in current view | Industry Average | Volume of non-compliant estimation in MWh for Suppliers not meeting the standard | % of the impact per market area |
| --- | --- | --- | --- | --- | --- |
| HH MC C | R1 99% (standard required at SF but assessed due to risk based approach at R1) | May 2021 | 98.38% at R1 | 58,736MWh | 26% |
| HH MC E,F and G | R1 99% | May 2021 | 95.40% at R1 | 35,611MWh | 16% |
| NHH | RF 97% | May 2020 | 96.12% at RF | 133,619MWh | 58% |
| Total: | 227,966MWh |  |

* 1. The following table shows the key changes that have taken place since the last review:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | HH  | Sub 100kW | NHH |
| Industry Average performance | September 2020 | 97.87 % at R1 | 94.23% at R1 | 95.98 % at RF |
| February 2021 | 98.02% at R1 | 94.60% at R1 | 95.01% at RF |
| May 2021 | 98.08% at R1 | 94.51% at R1 | 95.07% at RF |
| August 2021 | 98.38% at R1 | 95.40% at R1 | 96.12% at RF |
| Difference from September 2020 to August 2021 | **+0.51%** | **+1.17%** | **+0.14%** |
| Difference from May 2021 to August 2021 | **+0.3%** | **+0.89%** | **+1.05%** |

**Half Hourly performance considerations for this quarter**

* 1. The HH MC C market has increased performance slightly at R1 since the May 2021 report. The sub 100kW market has improved performance significantly at R1 over that same timespan. However, SF performance for Settlement Days from June 2021 has been dropping.
	2. Over the next quarter we are not expecting announcements of further government restrictions which would impact the ability for site visits to take place. The total volume of energy will also be relatively low due to the summer season which in turn reduces the volume of non-compliant estimation if the performance remains the same.
	3. However, Suppliers have highlighted that access to rectify faults can still be challenging due to self-isolation requirements and new on-site health and safety requirements, which can result in visits taking longer and impacting the speed at which backlogs can be reduced.
	4. There is a significant issue with the stock levels for CT Meters as a result of the global shortage of semi-conductors as a consequence of the pandemic. This is likely to considerably impact the fault resolution process and potentially new connections into the Half Hourly market and may have a significant impact on performance.
	5. The extent of this issue is not yet clear but the PAB noted at its July meeting that the impact of this issue will vary from Supplier to Supplier and would need to be assessed on a case by case basis rather than built into the performance threshold directly.
	6. Instead, impacted Suppliers already within the process can provide Elexon with evidence and information on this issue as part of their root cause breakdowns in the plans and can keep us updated on progress as the issue develops. Suppliers that are not yet in EFR can highlight that this issue is impacting them and provide details as part of their performance discussions with their Operational Support Managers (OSMs). This can then be considered by Elexon and the PAB as we make decisions regarding EFR.

**Non Half Hourly considerations for this quarter**

* 1. The NHH market has increased performance at RF significantly since the May 2021 reporting period. The May 2021 reporting period marked the lowest performance point (as it covered the period of the first lockdown).
	2. R2 and R3 performance has increased for the Settlement Days that will form part of the RF performance for this quarter and therefore does not indicate that there are any issues that need to be considered based on the previous runs when determining the thresholds.
	3. Whilst some Suppliers are still reporting access issues, many Suppliers are indicating that these are now starting to improve, which should lead to further performance improvements.
1. Recommendations for the threshold for Focus Suppliers and EFR for the next quarter
	1. Elexon has considered the following points in order to set the thresholds for the next quarter:
* The current number of Suppliers that fall above a number of different potential thresholds for each market area (below);
* The relative volume of non-compliant estimation between each of the market areas; and
* The performance considerations coming up in the next three months (set out in section three).
	1. Following engagement from a Supplier, Elexon recommends that when the PAB reduces the non-compliant estimation thresholds, it apply the new threshold from the following month’s PAB reporting. Elexon will also provide EFR assessments and recommendations at that time. This means that the PAB has formally approved the threshold adjustment prior to Elexon making EFR recommendations and allows additional time for Suppliers to provide information to Elexon. For this quarter, the reduced threshold will first apply from September 2021 and in relation to the September PAB reporting which aligns to Settlement Days in June 2021 for Half Hourly R1 performance and June 2020 for NHH RF performance.

**HH MC C – 26% of all non-compliant estimation**

* 1. Elexon considered the effectiveness of the following thresholds for the HH MC C market:

| **Threshold (MWh)** | **No of Suppliers** | **Vol of non-compliant energy** | **% coverage of non-compliant energy in this market** |
| --- | --- | --- | --- |
| 1,000 | 12 | 49,508 | 84% |
| 2,000 | 7 | 42,528 | 72% |
| 4,000 | 4 | 34,487 | 59% |
| 5,000 | 4 | 34,487 | 59% |

* 1. Elexon concluded that lowering the threshold back to 2,000MWh (as it was prior to the second lockdown) and a market coverage of 72% of the non-compliant estimation would:
* Cover the majority of non-compliant estimation whilst ensuring the number of focus Suppliers is proportional to the level of impact for that market area; and
* Keep the level of market coverage and number of Suppliers under focus at a similar level to that agreed as sensible during the last quarterly review in May 2021, which reflects the fact that the overall percentage of non-complaint estimation from Suppliers in this market relative to the other market areas has not significantly changed.
	1. There is currently a Supplier in EFR with volumes under 2,000MWh that has not yet met the EFR exit criteria that adds to further coverage of this market area.

**HH Performance Sub 100kW – 16% of all non-compliant estimation**

* 1. Elexon considered the effectiveness of the following thresholds for the HH Sub 100kW market:

| **Threshold (MWh)** | **No of Suppliers** | **Vol of non-compliant energy** | **% coverage of non-compliant energy in this market** |
| --- | --- | --- | --- |
| 1,000 | 10 | 26,739MWh | 75% |
| 2,000 | 5 | 19,759MWh | 55% |
| 3,000 | 3 | 13,725MWh | 39% |
| 4,000 | 1 | 5,977MWh | 17% |

* 1. Elexon concluded that lowering the threshold back to 2,000MWh (as it was prior to the second lockdown) and a market coverage of 55% of the non-compliant estimation would:
* Cover the majority of non-compliant estimation whilst ensuring the number of focus Suppliers is proportional to the level of impact for that market area; and
* Increase the level of market coverage and number of Suppliers under focus for the levels at the quarterly review in May 2021, which reflects the fact that the overall percentage of non-complaint estimation from Suppliers in this market relative to the other market areas has increased since the last quarter.

**NHH Performance – 58% of all non-compliant estimation**

* 1. Elexon considered the effectiveness of the following thresholds for the NHH market:

|  |  |  |  |
| --- | --- | --- | --- |
| **Threshold (MWh)** | **No of Suppliers** | **Vol of non-compliant energy** | **% coverage of non-compliant energy in this market** |
| 1,000 | 17 | 117,396 | 88% |
| 2,000 | 12 | 110, 179 | 82% |
| 3,000 | 7 | 97,579 | 73% |

* 1. Elexon concluded that lowering the threshold back to 2,000MWh (as it was prior to the second lockdown) and a market coverage of 82% of the non-compliant estimation for Suppliers under the standard would:
* Cover the majority of non-compliant estimation whilst ensuring the number of focus Suppliers is at a manageable level sufficient to maintain sufficient focus; and
* The slight decrease in market coverage this quarter also reflects the fact that the overall percentage of non-complaint estimation from Suppliers in this market relative to the other market areas has decreased since the last quarter.
* There are currently two Suppliers in EFR with volumes under 2,000MWh that have not yet met the EFR exit criteria that add to further coverage of this market area.

**Requirements for EFR plans.**

* 1. Since the pandemic, performance forecasts have not been mandatory as the PAB understood that forecasting would be challenging whilst restrictions were in place and without an understanding of likely response and access rates. Suppliers are now likely to have a better understanding of the response and resolution rates. Therefore, Elexon recommends that, in line with the expectations set in May, Suppliers in EFR should now submit an end of quarter performance target, which they update for the following period at the end of each quarter. Suppliers can provide longer-term forecasts if they prefer.
	2. Given that we can expect some continued uncertainty and volatility because of the pandemic and recovery from it for some time to come, Elexon does not recommend that PAB escalation take place if Suppliers miss these performance targets and, instead, Elexon will provide the reasons for the missed targets and any lessons from it in the risk report. The PAB will apply its escalation process however, if there is a lack of co-operation within the EFR process or if the PAB believes a Supplier is not undertaking a reasonable level of action to improve its performance.
1. Review of EFR exit requirement and EFR exit recommendation
	1. In October 2020, the PAB agreed that Suppliers were no longer required to maintain a performance average above the relevant standard for three months to exit EFR and agreed that that an EFR exit threshold for performance standards issues would be set and reviewed on a quarterly basis.
	2. This threshold was initially set so that Suppliers with a volume of below 1000MWh of non-compliant energy would be able to exit EFR so that Elexon and the PAB’s focus could remain on the Suppliers with the largest Settlement impact. The PAB agreed this exit threshold should remain in place in February and May 2021.
	3. Elexon does not recommend changing the EFR exit criteria for this quarter.
2. Likely changes as a result of the next threshold review in November 2021
	1. The assessment of the threshold review in November will consider analysis for the Settlement Days in August 2021 at R1 for HH and August 2020 for NHH.
	2. At the time of writing, we are not expecting any further restrictions to be applied during that period. This period is before we would expect to see significantly increased total volumes (as a result of the winter season), which in turn could be expected to lead to higher volumes of non-compliant estimation for Suppliers under the standard.
	3. Therefore, Elexon is likely to recommend a further gradual reduction of the threshold across all market areas in October, potentially to 1,500MWh. Alongside this, Elexon is also likely to recommend a consequential reduction to the EFR exit criteria, potentially to as low as 700MWh.
	4. As set out in section 4.2, if the PAB does agree a further threshold reduction and a reduction to the exit criteria, this will be applied from the following month’s PAB reporting in December which aligns to Settlement Days in September 2021 for Half Hourly R1 performance and September 2020 for NHH RF performance.
3. EFR Considerations
	1. All but one of the Suppliers with a non-compliant estimation volume above 2,000MWh within the HH MC C market have EFR applied. Elexon has provided an update on this Supplier within the Party Performance section of the Confidential Risk Report. Since the last performance review update, one Supplier has exited EFR.
	2. Three Suppliers with a non-compliant estimation volume above 2,000MWh within the HH Sub 100kW market currently have EFR applied. Elexon will provide an EFR assessment for the two Suppliers that do not yet have EFR applied within the Party Performance section of the Confidential Risk Report in September. Since the last performance review update, one Supplier has exited EFR.
	3. All but one of the focus Suppliers within the NHH market have EFR applied. Elexon will provide an update and EFR assessment for this Supplier within the Party Performance section of the Confidential Risk Report in September. In the period from June to August, one Supplier has exited EFR.
4. Recommendations
	1. Elexon recommends that the PAB:
		* 1. **NOTE** the contents of the paper;
			2. **AGREE** that a 2,000MWh threshold for the focus Suppliers in the HHMC C, HH Sub 100kW and NHH market is applied coming into effect in the September 2021 PAB reporting period (for Settlement Dates June to July 2021 for HH R1, and June to July 2020 for NHH RF);
			3. **AGREE** that Suppliers in EFR will now be required to provide quarterly performance targets; and
			4. **AGREE** the likely changes to the thresholds at the next review in November whilst noting that Elexon will confirm or amended these indicative approaches in November.

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