



**Single Electricity Market  
(SEM)**

**Trading and Settlement Code**

**Scheduling and Dispatch Parameters 2022**

**Decision Paper**

**SEM-21-088  
18 November 2021**

## Table of Contents

1. Introduction .....	3
2. Background .....	4
3. TSOs' Proposals .....	4
4. Respondents' Comments .....	6
5. SEM Committee Response .....	8
6. SEM Committee Decision .....	9
7. Next Steps .....	9

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## 1. Introduction

Under Condition 10A of EirGrid's Transmission System Operator (TSO) Licence, and Condition 22A of SONI's Transmission System Operator Licence, the System Operator (SO) is required to report to the Regulatory Authorities (RAs) proposing values for parameters to be applied in the Scheduling and Dispatch process.

In June 2021 the RAs requested the TSOs to review the following parameters utilised in Scheduling and Dispatch:

1. Long Notice Adjustment Factor (LNAF)
2. System Imbalance Flattening Factor (SIFF)

On 30 July 2021, the RAs received a report from the TSOs outlining their recommendations for the proposed values for the above parameters. The RAs then published a consultation on 20 August 2021 (SEM-21-068) on the TSO's recommendations. This paper presents the SEM Committee's decision in relation to these parameters considering stakeholder comments, and is structured as follows:

**Section 2:** provides an overview of LNAF and SIFF.

**Section 3:** outlines the TSOs' proposal for 2022.

**Section 4:** provides a summary of respondents' comments.

**Section 5:** provides the SEM Committee's response to the feedback.

**Section 6:** details the SEM Committee's decision.

**Section 7:** outlines next steps.

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## 2. Background

The consultation paper (SEM-21-068) explained that LNAF and SIFF give effect to the objectives of Scheduling and Dispatch from the market design decisions, in particular, balancing the trade-off between ‘early’ energy-balancing actions and the cost of non-energy actions. LNAF is a multiplier applied to the start-up costs of Generator Units, which increases with increasing length of notice provided in any instruction to synchronise. SIFF is another multiplier applied to the start-up costs which reduces with reducing forecast system imbalance.

The consultation paper further explained that under Condition 10A of EirGrid’s Transmission System Operator (TSO) licence, and Condition 22A of SONI’s TSO licence, the TSOs are required, when directed to do so, to report to the Regulatory Authorities (RAs), proposing values for parameters to be applied in the Scheduling and Dispatch process.

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## 3. TSO Proposals

The TSOs’ report presents high level analysis carried out to evaluate the need to apply LNAF and SIFF values, as well as any potential risks of applying them based on existing market data. The TSOs’ analysis examines the functioning of the ex-ante markets in terms of volumes and prices traded, as well as the supplier clearance level, over the past year. It also considers the ratio of non-energy to energy volumes and the number of early actions actually taken by the TSOs over the review period. In addition, the TSOs’ analysis considers potential impacts on the system margin of setting non-zero LNAF and SIFF parameters, in the context of current and forecast tight generation capacity margins. The TSOs’ report also noted that the UK’s withdrawal from the EU has had an effect on the relative volumes traded in the ex-ante markets and that mitigation measures related to the Covid-19 pandemic may have given rise to a greater number of early actions.

One indication that there may be a need for non-zero values of LNAF and SIFF is whether there is sufficient liquidity in the ex-ante markets. As stated in the Balancing Market Principles Statement, “the scheduling and dispatch policy parameters are designed to weight the scheduling process towards shorter notice actions . . . by making longer notice actions appear more costly. This affords Participants more time to resolve the energy imbalance in the ex-ante markets”. Therefore, insufficient liquidity would indicate that Participants need more time to trade in the ex-ante markets. This could be encouraged through incentivising shorter notice units in the scheduling process through non-zero values of LNAF and SIFF. The TSOs’ report noted that sufficient liquidity may exist if prices in the Intraday markets follow the shape and magnitude of the Day-ahead market price profile. The TSOs’ analysis found the prices in these markets to be relatively convergent.

Another indication of the need for non-zero values of LNAF is whether there are major drivers of imbalances causing the market to be short in a way which is forecastable and therefore could be corrected through Intraday trading. Additional opportunity to trade in the Intraday markets could be encouraged through non-zero values of LNAF and SIFF. The need for additional Intraday trading can be measured by analysing whether bids to buy clear in the Day-ahead market. The analysis found that supplier purchases clear at very high levels in the Day-ahead market, indicating that there is not a high requirement for large volumes to sell in the Intraday markets.

The TSOs note that one of the risks of assigning a non-zero value of LNAF and SIFF is the potential impact on constraint costs, or the costs of non-energy actions. A non-energy action can be defined as a balancing action taken by the TSOs to move a unit away from its ex-ante market position for system security reasons. An energy action can be defined as an action required to satisfy system demand that hasn't been met in the ex-ante markets. The ratio of non-energy to energy action volumes is an important metric to determine the potential impact applying LNAF could have, because part of the intention is to apply the LNAF in situations where the energy imbalance is relatively high, while attempting not to increase the cost of non-energy actions. If there are situations where the energy action volumes are consistently greater than the non-energy volumes, then there would be a clear case where the application of LNAFs should not overly impact the non-energy volumes. From the analysis carried out by the TSOs, between June 2020 and May 2021 there was a daily average ratio of 5.6 non-energy volumes to energy volumes, with a maximum daily ratio of 24.6 and a minimum of 1.1. Given this, the TSOs' report noted that the application of an LNAF at any level of imbalance would very likely have the unintended consequence of increasing the cost of the larger relative volume of non-energy actions in the market. This could lead to an increase in the Dispatch Balancing costs for the TSOs and ultimately increase the cost for consumers.

The TSOs note that a main driver for implementing LNAF and SIFF is to avoid the propensity for early synchronisation of units by the TSOs. The TSOs analysed the synchronisation instructions issued from June 2020 to May 2021 to quantify whether the early issuance of instructions to synchronise was evident by comparing the issue time of these instructions with their effective time. Out of a total of 7,199 synchronisation instructions (covering all dispatchable units from June 2020 to May 2021) 96% were issued within 1 hour of the notification time or last time to instruct. The TSOs' report noted that there had been an increase of synchronisation instructions issued for Long Notice Units issued greater than 4 hours in advance of the notification time (29 instances compared to 18 seen in the previous reporting period). However, the report also listed the factors which can give rise to early dispatch instructions, including Covid-19 pandemic measures that were in place for the entire reporting period, long-term forced outages amplifying binding system constraints and long notice generation being required to ensure there is sufficient generation to meet the load and reserve requirement on days where capacity margins are very low.

The interaction between applying an increase in start-up costs through applying non-zero values of LNAF and SIFF and the generation margin is discussed in the TSOs' report, noting that the application of LNAF will tend to utilise more short notice units to provide energy and reserve, reducing the availability of spare short notice units. If the notification time then passes for the longer notice units, these units are effectively unavailable. The TSOs' analysis demonstrates that the application of a non-zero value of LNAF would have had the effect of further increasing the risk to the margin during the winter 2020-21.

Based on the TSOs' analysis, they recommend that the LNAF and SIFF should remain at zero. The TSOs' report notes that for subsequent years if there are any changes to the metrics for determining whether the LNAF and SIFF are needed then a more detailed analysis of suitable values for LNAF and SIFF can be carried out.

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## 4. Respondents' Comments

### General Overview

There was a total of four responses to this consultation<sup>1</sup>, with the majority of respondents agreeing with the proposed values contained within the consultation paper. One respondent disagreed with the proposed values and proposed that further analysis is required on the impact of early unit commitment actions on renewable generation and carbon emissions.

### Summary of Responses who Agree with Proposed Values

Bord Gáis Energy supported the proposed zero values of the LNAF and SIFF parameters for 2022. The respondent noted that in principle LNAF and SIFF should be non-zero given that was what was expected when they were being considered in the market design process. The respondent also noted that given the current pricing process, applying non-zero values of LNAF and SIFF could end up unpredictably increasing prices.

Energia recommended keeping LNAF and SIFF at zero for 2022 since "no justification or supporting evidence has been provided for introducing any changes at this time and as such it is prudent to keep these parameters at zero and review again at a future date".

PPB agreed with retaining the zero values for LNAF and SIFF while stating in their submission their concern that "the TSOs are clearly reluctant to properly consider any change to LNAF and SIFF" based on security of supply reasons. The respondent acknowledged this short-term concern but noted that it "perpetuates the situation as it creates no incentive to shorten the

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<sup>1</sup> Bord Gáis Energy, Energia, Wind Energy Ireland & Renewable NI, PPB

long notice times and deliver the flexibility that the system will require to meet low carbon targets". In addition, the respondent raised some queries on the analysis in the TSOs' report.

Specifically, this respondent queried what the "material correlation" is between liquidity in the ex-ante markets and the need for LNAF and SIFF. The focus by the TSOs on short-term impacts on Dispatch Balancing Costs rather than on overall efficiency of the markets was also raised by this respondent.

The respondent further noted that the initial intent of LNAF was to favour shorter "last time to instruct" units rather than focusing on how far dispatch notices are given in advance of the "last time to instruct", while also asking why dispatch instructions would be issued hours before a unit's "last time to instruct". The respondent also questioned how non-zero values of LNAF and SIFF would impact scheduler solve times. The SEM Committee response to these queries is provided in Section 5.

### **Summary of Response which Disagreed with Proposed Values**

Wind Energy Ireland & Renewable NI disagreed with the TSOs' proposal to apply a zero value to the LNAF and SIFF. The respondent was of the view that setting a non-zero value for LNAF and SIFF would "help send the correct signal to the market regarding the need for additional system flexibility and network investment to meet our decarbonisation goals". In addition, the respondent suggested that further analysis is required on the impact of early actions by the TSOs on renewable generation and carbon emissions. The respondent set out their view that the reason why TSO actions and early unit commitment decisions are required is that the system is highly constrained due to network limitations and operation constraints, and that increased system flexibility and network investment are required to alleviate such constraints. Noting that applying LNAF and SIFF may increase the cost of non-energy actions and therefore lead to an increase in Dispatch Balancing Costs, the respondent states that these costs would create a "much-needed investment signal in system flexibility and network development". The respondent is also of the view that the TSOs should be monitoring and reporting on emissions produced from the scheduling and dispatch process, and that incentives should be put in place to reduce such emissions and seek low-carbon solutions to alleviate operational constraints.

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## 5. SEM Committee Response

In response to the queries raised in relation to the consultation paper, the SEM Committee notes the following points. The connection between market liquidity and the scheduling and dispatch parameters is explained in Section 3 of this paper, with insufficient liquidity in the ex-ante markets indicating that participants might benefit from more time to trade. This could be facilitated by incentivising shorter notice units in the scheduling process through non-zero values of LNAF and SIFF. Regarding the focus by the TSOs on short-term impacts on Dispatch Balancing Costs rather than on overall efficiency of the markets, it should be noted that under the current arrangements the TSOs are incentivised to minimise Dispatch Balancing Costs.

The TSOs' explanation as to why dispatch instructions may be issued in advance of a unit's "last time to instruct" is that it can become obvious that a unit will be required by a certain time of day and in some cases the TSOs will not wait until the last time to instruct as this could risk the unit not making it on the system by the required time. Further detail in relation to the circumstances in which the TSOs may call on units before their "last time to instruct" is given in the section on Early Actions in the TSOs' submission (SEM-21-068a).

The TSOs stated that the impact of non-zero values of LNAF and SIFF on scheduler solve times was "an empirical observation based on schedules that are heavily constrained taking longer solve times. Introducing a factor that would increase a unit's start-up cost . . . could have the potential to require further iterations of the scheduling optimisation tool thus slowing down the publication of the schedule".

The SEM Committee acknowledge the comments that were raised from respondents pertaining to the need for system flexibility to meet low-carbon targets. The SEM Committee also note the respondents' comments relating to the application of non-zero values of the LNAF and SIFF to send the correct signal to the market regarding the need for additional system flexibility and network investment to meet our decarbonisation goals. However, the SEM Committee is conscious in particular of the increased risk to security of supply of applying non-zero values of LNAF and SIFF, as highlighted by the TSOs.

Upon evaluation of the TSOs' submission and of the responses to this consultation, the SEM Committee has decided that retaining the existing LNAF and SIFF parameter values is appropriate at this time, given in particular concerns regarding the system margin and security of supply.

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## 6. SEM Committee Decision

A summary of the decision made by the SEM Committee in relation to the LNAF and SIFF are displayed in Table 1.

Parameter	Current SEM Value	TSOs' Proposal for 2022	SEM Committee Decision
LNAF	0	0	0
SIFF	0	0	0

*Table 1: LNAF and SIFF Values for 2022*

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## 7. Next Steps

These parameters will apply from 1<sup>st</sup> January until 31 December 2022. A consultation may be carried out in 2022 to determine the values to apply from January 2023. The Trading and Settlement Code provides for the RAs amending the values of parameters where necessary outside the normal parameter-setting process. While this would only arise in exceptional circumstances, the SEM Committee has obligations to balance regulatory certainty with ensuring that no unnecessary consumer harm arises. On this basis, the RAs will keep these parameters under observation and may propose changes in the interim if necessary, via consultation.