

Business Process

BP_SO_3.3 Manage Fail Sync/ Fail Min

EirGrid and SONI support the provision of information to the marketplace by publishing operational data, processes, methodologies and reports. This information is key to a well-functioning market and as a transparency measure, assisting understanding of our decision making processes. It is recognised that the detailed elements of our operational processes need to remain agile in the context of service priorities and technical considerations of the new market. Consequently, as operational documents these are subject to change. EirGrid and SONI therefore make no warranties or representations of any kind with respect of this document, including, without limitation, its quality, accuracy and completeness, neither do EirGrid or SONI accept liability for any loss or damage arising from the use of this document or any reliance on the information it contains.



Table of Contents

1	Assumptions	3
2	Process References	3
2.1	Related Rules References	3
2.2	Related Documents	3
3	Process Context	3
3.1	Business Model Relationship	3
3.2	Background and Scope	4
4	Process Objective	4
5	Roles and Responsibilities	5
6	Process Description	6
6.1	Level 3 Process	6
7	Appendices	13
7.1	Process Flowchart Key	13

1 ASSUMPTIONS

Assumptions made during the design of this process include:

- This is an All- Island business process, meaning the same process will be used across both jurisdictions on the island, Ireland and Northern Ireland. It can be conducted by the relevant team in either Dublin or Belfast;
- The following business processes addresses all requirements, including roles, tools, and activities that will enable the TSO to achieve scheduling objectives; and
- All required systems, including MMS are in place. They offer all required functionalities to support business needs.

2 PROCESS REFERENCES

2.1 RELATED RULES REFERENCES

The following table provides references to the documents that govern the design of this business process.

Document Title	Relevant Section	Description
SONI Grid Code	SDC1 Scheduling and Dispatch Code No. 1 & 2	The SONI Grid Code sets out the principles governing SONI's relationship with users and technical standards to be complied with by SONI and users. The Code specifies procedures for planning, connecting to and operating the transmission system during both normal and exceptional circumstances.
EirGrid Grid Code	SDC1 Scheduling and Dispatch Code No. 1 & 2	The EirGrid Grid Code sets out the principles governing EirGrid's relationship with users and technical standards to be complied with by EirGrid and users. The Code specifies procedures for planning, connecting to and operating the transmission system during both normal and exceptional circumstances.

2.2 RELATED DOCUMENTS

The following table provides a list of documents that are related to this business process.

Document Title	Relationship	Description
Balancing Market Principles Statement	Information	Public guide to the scheduling and dispatch process.
MMS User Guide for System Operations	System Guide	Includes detailed procedures on how to implement process steps in MMS.

3 PROCESS CONTEXT

3.1 BUSINESS MODEL RELATIONSHIP

The 'Manage Fail Sync/ Fail Min process sits within 'Dispatch' process group within the Systems Operator processes. Dispatch is the process of balancing supply and demand in real-time. In general this happens after gate closure. Given the final PNs and the actual status of units, the dispatch process modifies the

output of units in accordance with inc/dec offers to ensure system balance while meeting all the security constraints and maximising the output from priority units.

The scheduling processes which look at the positioning of available resources to enable the system to be securely dispatched are a key input into this process. The Perform Long Term and Short Term Scheduling processes will generate indicative schedules which will then be refined in the dispatch process.

3.2 BACKGROUND AND SCOPE

Background

After the TSO has issued a dispatch instruction to a Generator, there may be situations where the Generator fails to follow this instruction or may fail to follow it within the specified time to synchronise (either it fails to do it within timeframe or requests to do so earlier). In these circumstances the TSO must issue further instructions and/ or update availability to reflect the fact that the Generator has not been able to follow the original instruction or amend the time of the original instruction. The Scheduling and Dispatch Code no.2 within the Grid Codes sets out the rules for dealing with these scenarios.

It is important to note that the steps outlined in the process must be completed within 30 minutes of the end of the relevant Trading Period. The reason for this being that dispatch instructions issued by the TSO will impact the setting of the Imbalance Price in the Balancing Market. In I-SEM Imbalance Prices will be determined for each Imbalance Pricing Period (a 5 minute period). The Imbalance Settlement Price for an Imbalance Settlement Period (a 30 minute period) is then calculated based on the time weighted average of the 6 Imbalance Prices within that period. The Imbalance Settlement Price for the Imbalance Settlement Period is used in Balancing Market settlement and is to be published within 1 hour of the trading period. Thus in I-SEM it will be critical to ensure that information is corrected in time to generate a correct Imbalance Settlement Price for the Imbalance Settlement Period to publish to the Market and use in the settlement process.

Scope

The 'Instruct Post-Dispatch' covers the steps which should be taken if a fail sync or fail min scenario arises:

- **Failure to Synchronise – Fail Sync**

This is to be followed in the situation where a generator fails to synchronise within the +/-15 minute window around its Sync instruction (as allowed for under the Grid Code). The generator may fail to sync within this window due to a forced outage, have synchronised early at the request of the TSO, have synchronised early at their request or have been delayed in their run-up. Depending on the scenario this business process outlines, in flow diagram format, the steps which should be taken in terms of Fail Sync instructions and/or availability declarations.

- **Failure to Reach Minimum Generation – Fail Min**

This following all island business process is to be followed in the situation where a generator has successfully synchronised to the system but has tripped or been forced off load before reaching minimum load. Typically this unit would be asked to re-synchronise which has historically resulted in multiple start payments without significant energy production. Under Grid Code a Fail Min instruction should be issued to negate the original Sync instruction and avoid a start payment unless min load had been achieved. Depending on the scenario this business process outlines, in flow diagram format, the steps which should be taken in terms of Fail Min instructions and/or availability declarations.

4 PROCESS OBJECTIVE

The objective of this Business Process is to meet the following obligations under the EirGrid and SONI Grid Code, namely:

- SDC1 Scheduling and Dispatch Code No.1
- SDC2 Scheduling and Dispatch Code No.2

5.1.1 REAL TIME

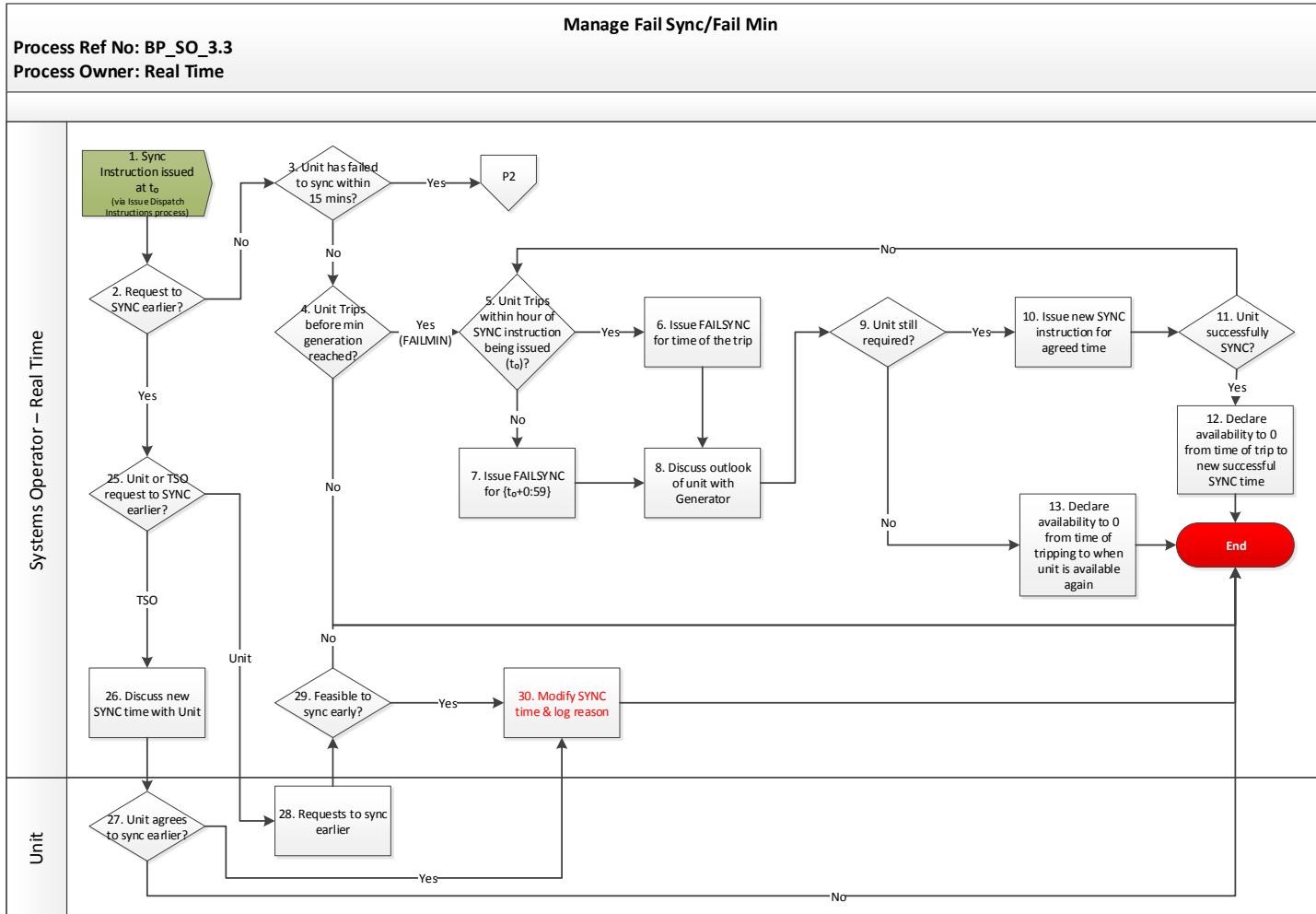
The following table provides a summary of the obligations of Real Time relating to Manage Fail Sync/ Fail Min process:

Team Name	Responsibility in relation to process	Timeline Associated
Real Time	<ul style="list-style-type: none"> Identify if there has been a fail sync or fail min and take actions accordingly to resolve 	This will be as required and as either scenario arises. Once a scenario has arisen the actions will need to be taken by Real Time within 30 minutes

6 PROCESS DESCRIPTION

6.1 LEVEL 3 PROCESS

6.1.1 PROCESS MAP

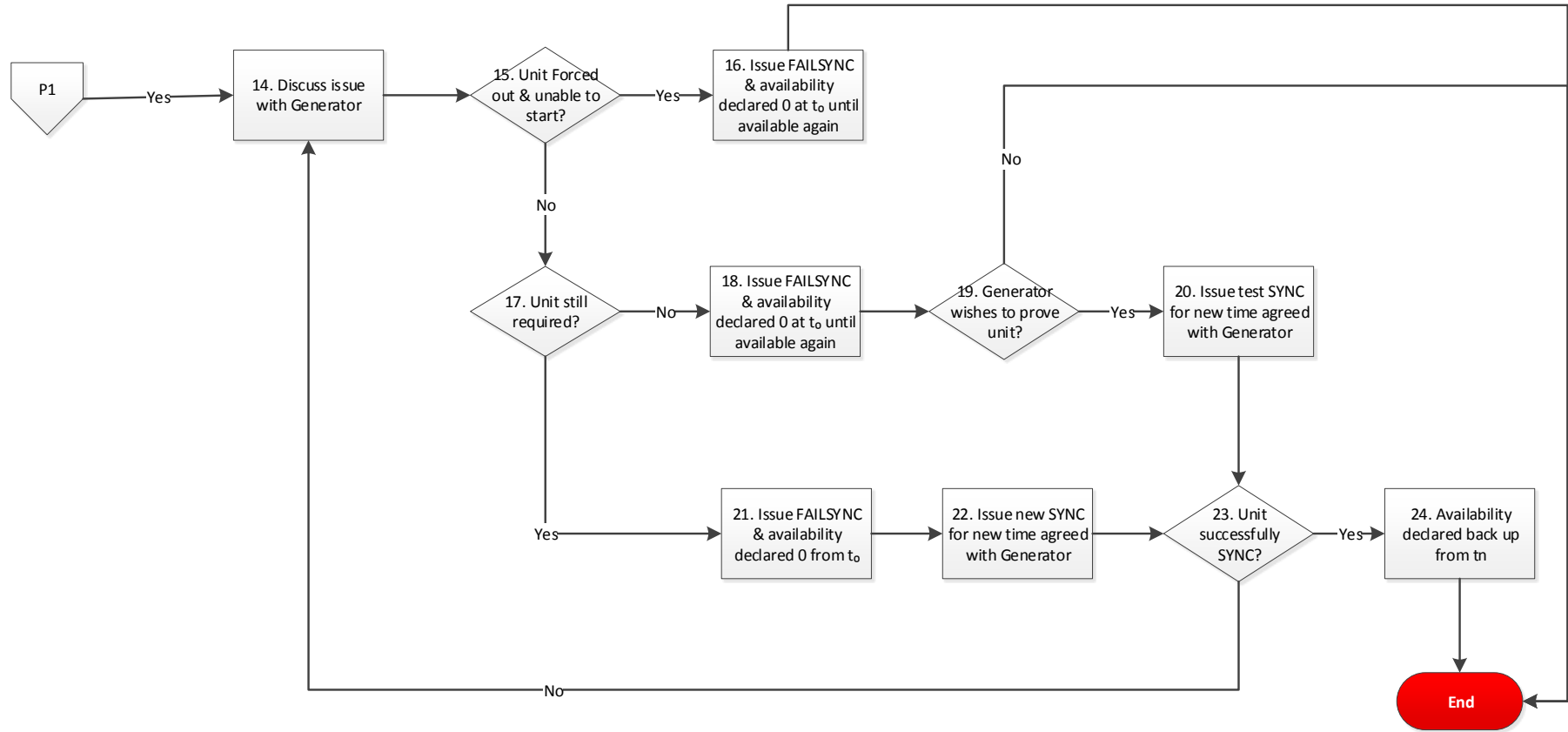


Manage Fail Sync/Fail Min

Process Ref No: BP_SO_3.3

Process Owner: Real Time

Systems Operator – Real Time



6.1.2 PROCESS STEPS

#	Step	Step Description	Responsible Role	Outputs	Indicative Timing/ Frequency	System
1	Sync Instruction issued at t_0 (via Issue Dispatch Instructions process)	Process can only be triggered following a Dispatch Instruction being issued following the 'Issue Dispatch Instruction' process.	Real Time	Sync Instruction issued	As required	RD/ EDIL
2	Request to sync early	If there is a request to sync earlier go to step 25.				
3	Unit has failed to sync within 15 mins?	Has the unit failed to sync within 15 minutes since instruction issued? If yes go to step 14. If no go to step 4.	Real Time	N/A	As required	EDIL
4	Unit Trips before min generation reached?	Has the unit tripped before it has reached minimum generation? If yes, go to step 5 to follow the fail min process. If no, process ends.	Real Time	N/A	As required	N/A
Fail Min						
5	Unit Trips within hour of SYNC instruction being issued (t_0)?	Has the unit tripped within an hour of the SYNC instruction being issued? If yes, go to step 6. If no, go to step 7.	Real Time	N/A	As required	N/A
6	Issue FAILSYNC for time of the trip	If the unit has tripped within the hour of the SYNC instruction being issued, issue a FAILSYNC instruction for the time that the trip occurred; this will	Real Time	FAILSYNC Instruction issued	As required, but within 15 mins of event	EDIL


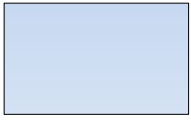
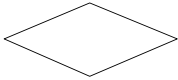




#	Step	Step Description	Responsible Role	Outputs	Indicative Timing/ Frequency	System
		cancel the original SYNC instruction.				
7	Issue FAILSYNC for {t _o +0:59}	If the unit has tripped after the hour of the SYNC instruction was issued, issue a FAILSYNC instruction for {t _o +0:59}, this will cancel the original SYNC instruction.	Real Time	FAILSYNC Instruction issued	As required, but within 15 mins of event	EDIL
8	Discuss outlook of unit with Generator	Real Time User must then contact the Generator to discuss the outlook for the Unit and whether it is still required.	Real Time	N/A	As required	Phone
9	Unit still required?	If the unit is still required, go to step 10. If the unit is not still required, go to step 13.	Real Time	N/A	As required	N/A
10	Issue new SYNC instruction for agreed time	Issue new SYNC instruction for new agreed time with the Generator.	Real Time	Sync Instruction issued	As required	EDIL
11	Unit successfully SYNC?	After new SYNC instruction has been issued, check to see if the unit has synchronised successful. If yes, go to step 12. If no, go to step 5.	Real Time	N/A	As required	EDIL
12	Declare availability to 0 from time of trip to new successful SYNC time	Declare availability to 0 from time of trip to new successful SYNC time. Process ends.	Real Time	N/A	As required	EDIL
13	Declare availability to 0 from time of tripping to when unit is available again	If the unit is no longer required, then declare availability to 0 from time of tripping to when unit is available again. Process ends.	Real Time	N/A	As required	EDIL

#	Step	Step Description	Responsible Role	Outputs	Indicative Timing/ Frequency	System
Fail Sync						
14	Discuss issue with Generator	Contact the Generator Operator to understand why the unit has not synchronised to identify the right course of action.	Real Time	N/A	As required	Phone
15	Unit Forced out & unable to start?	If the unit was forced out and unable to start, go to step 16. If the unit's failure to sync was not as a result of being forced off or it was forced off but is able to start again, go to step 17.	Real Time	N/A	As required	N/A
16	Issue FAILSYNC & availability declared 0 at t _o until available again	Issue FAILSYNC & availability declared 0 at t _o until available again. Process ends and no further action required.	Real Time	FAILSYNC issued and availability corrected	As required	EDIL
17	Unit still required?	Is the unit still required? If yes, go to step 21. If no, go to step 18.	Real Time	N/A	As required	N/A
18	Issue FAILSYNC & availability declared 0 at t _o until available again	Issue FAILSYNC & availability declared 0 at t _o until available again.	Real Time	FAILSYNC issued and availability corrected	As required	EDIL
19	Generator wishes to prove unit?	Does the Generator wish to prove the unit (even though it is not required)? If yes, go to step 20. If no, the process ends and no further action is required.	Real Time	N/A	As required	N/A

#	Step	Step Description	Responsible Role	Outputs	Indicative Timing/ Frequency	System
20	Issue test SYNC for new time agreed with Generator	Issue test SYNC instruction for new time agreed with Generator, then go to step 23.	Real Time	Test SYNC instruction issued	As required	EDIL
21	Issue FAILSYNC & availability declared 0 from t_0	If the unit is still required after failing to follow original SYNC instruction, issue FAILSYNC & availability declared 0 from t_0 to cancel original instruction.	Real Time	FAILSYNC instruction issued and availability corrected	As required	EDIL
22	Issue new SYNC for new time agreed with Generator	Once original instruction has been cancelled, issue a new SYNC instruction for the new time that has been agreed with the Generator.	Real Time	SYNC instruction issued	As required	EDIL
23	Unit successfully SYNC?	Has the unit synchronised successfully following the reissuing of a new SYNC instruction? If yes, go to step 24. If no, revert to step 14.	Real Time	N/A	As required	N/A
24	Availability declared back up from t_n	Declare the availability back up from the time the unit has synchronised successfully. Process ends and no further action is required.	Real Time	Availability corrected	As required	EDIL
25	Unit or TSO requests to SYNC earlier?	Has the unit itself or the TSO requested that the unit sync earlier than the instructed time? If the unit has requested, go to step 28. If the TSO has requested, go step 26.	Real Time	N/A	As required	N/A
26	Discuss new SYNC time with unit	If the TSO wishes the unit to SYNC earlier, they must contact them to discuss and agree new time.	Real Time	N/A	As required	Phone
27	Unit agrees to sync	If the unit agrees to sync earlier, go to step 30.	Real Time	N/A	As required	N/A

#	Step	Step Description	Responsible Role	Outputs	Indicative Timing/ Frequency	System
	earlier?	If the unit does not agree to sync earlier, the process ends and no further action is required as TSO must wait for unit to sync as per original instruction.				
28	Requests to sync earlier	Generator requests to sync earlier than time instructed to.	Unit	N/A	As required	Phone
29	Feasible to sync early?	Is it feasible for the unit to sync earlier? If it is feasible for the unit to sync earlier, go to step 30. If it is not feasible, the process ends and no further action is required and unit must wait to sync as per instructed time.	Real Time	N/A	As required	N/A
30	Modify SYNC time & log reason	If the unit can sync earlier, modify the sync time to the newly agreed time and log reason for doing so.	Real Time	SYNC time modified	As required	EDIL/ Control Centre log

7.1 PROCESS FLOWCHART KEY

FLOWCHART KEY	
 Trigger	Trigger
	Process step
	Process decision / question
	Reference to another process
	Another business process to be implemented following current step (current step is a trigger for another process)
 End	Process end
	System (automatic step)