Business Process

BP_SO_3.3 Manage Fail Sync/ Fail Min

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EIRGRID SONI

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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 15 minutes of the end of the relevant Imbalance Pricing 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 synchronise 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 ROLES AND RESPONSIBILITIES

5.1.1 REAL TIME

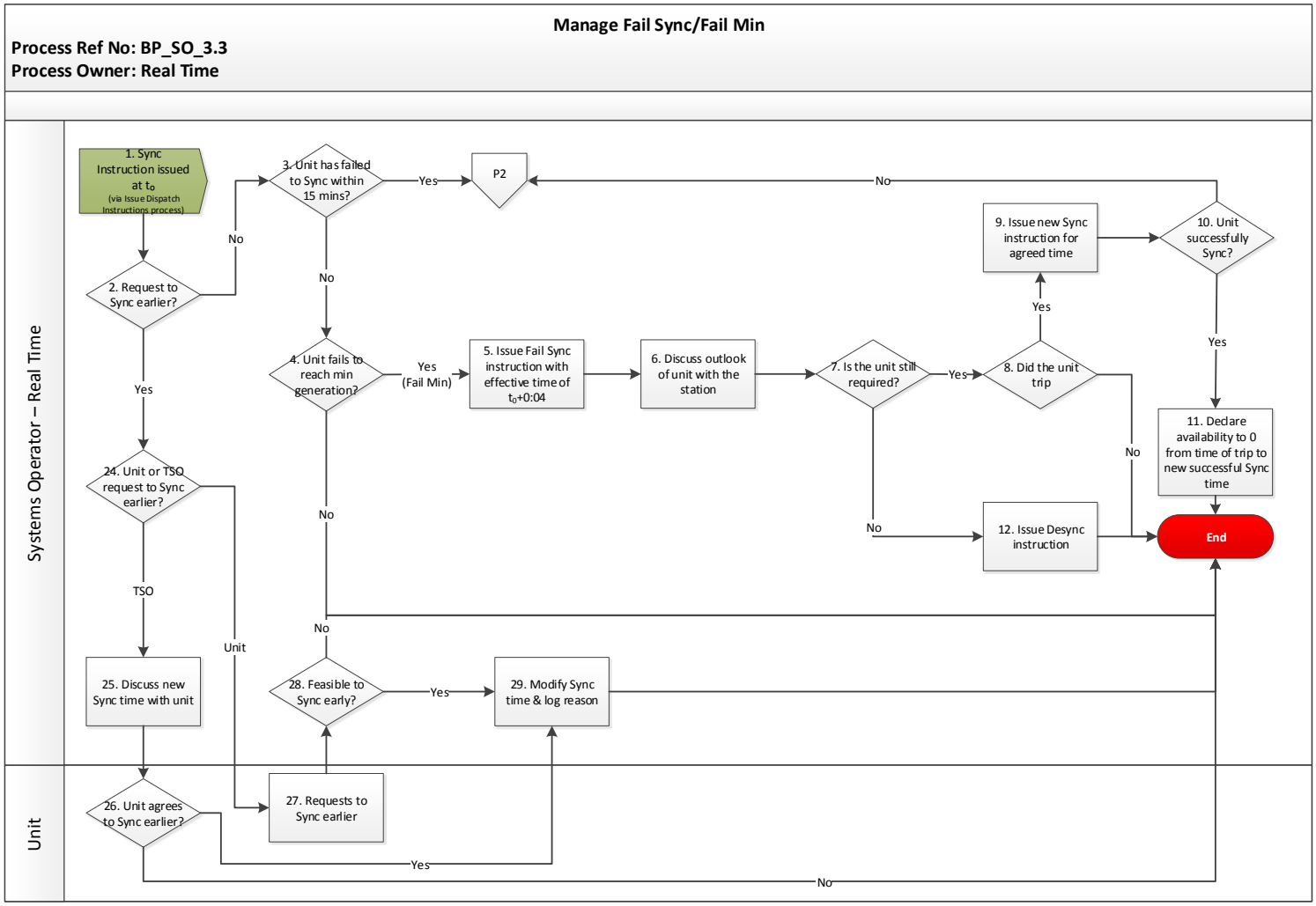
The following table provides a summary of the obligations of Real Time relating to Manage Fail Sync/ Fail Min process:

Team Name	Responsibility in relation to process	Timeline Associated
Real Time	• Identify if there has been a Fail Sync or Fail Min and take actions accordingly to resolve. A Fail Sync instruction is issued for both Fail Sync and a Fail Min.	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

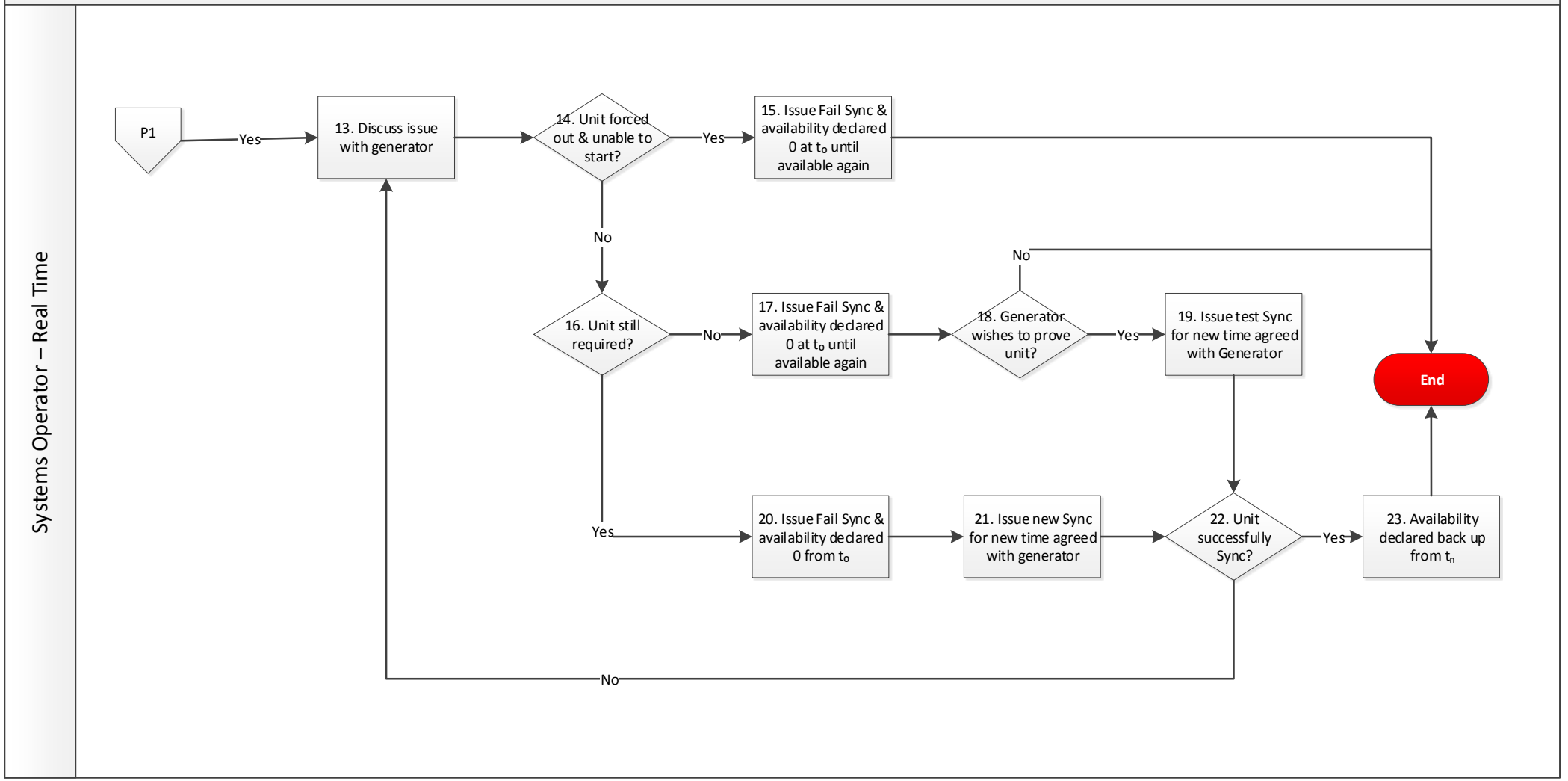
6.1 LEVEL 3 PROCESS

6.1.1 PROCESS MAP



Manage Fail Sync/Fail Min

Process Ref No: BP_SO_3.3
Process Owner: Real Time



6.1.2 PROCESS STEPS

#	Step	Step Description	Responsible Role	Outputs	Indicative Timing/ Frequency	System
1	Sync Instruction issued at t_o (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 earlier?	If there is a request to Sync earlier go to step 24.				
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 13. If no go to step 4.	Real Time	N/A	As required	EDIL
4	Unit fails to reach min generation?	Unit fails to reach minimum generation?	Real Time	N/A	As required	N/A
Fail Min						
5	Issue Fail Sync instruction with effective time of t_o+0:04 (must be less than 5 mins after original Sync time)	Issue Fail Sync instruction with effective time t_o+0:04	Real Time	Fail Sync issued	As required	EDIL
6	Discuss outlook of the unit with the station	Discuss the outlook for the generator with the station.	Real Time	Phone call	As required	N/A

#	Step	Step Description	Responsible Role	Outputs	Indicative Timing/ Frequency	System
7	Is the unit still required?	Ascertain if the unit is still required? If yes go to step 8 If no go to step 12	Real Time	RT decision	As required,	MMS
8	Did the unit trip?	Did the unit trip? If yes, go to step 9. If no, Process Ends.	Real Time	N/A	As required	EMS
9	Issue 'new' Sync instruction for agreed time	Issue a new Sync instruction for the agreed time with the station.	Real Time	New Sync instruction	As required	EDIL
10	Unit successfully Sync?	After new Sync instruction has been issued, check to see if the unit has synchronised successful.	Real Time	Sync Instruction issued	As required	EDIL
11	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	EDIL declaration to 0 MW	As required	EDIL
12	Issue Desync instruction	If unit is no longer required then issue Desync instruction and this ends the Process	Real Time	N/A	As required	EDIL
Fail Sync						
13	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
14	Unit forced out & unable to start?	If the unit was forced out and unable to start, go to step 16.	Real Time	N/A	As required	N/A

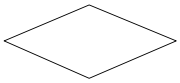
#	Step	Step Description	Responsible Role	Outputs	Indicative Timing/ Frequency	System
		If the unit's failure to synchronise was not as a result of being forced off or it was forced off but is able to start again, go to step 17.				
15	Issue Fail Sync & availability declared 0 at t_o until available again	Issue Fail Sync & availability declared 0 at t_o until available again. Process ends and no further action required.	Real Time	Fail Sync issued and availability corrected	As required	EDIL
16	Unit still required?	Is the unit still required? If yes, go to step 20. If no, go to step 17.	Real Time	N/A	As required	N/A
17	Issue Fail Sync & availability declared 0 at t_o until available again	Issue Fail Sync & availability declared 0 at t_o until available again.	Real Time	Fail Sync issued and availability corrected	As required	EDIL
18	Generator wishes to prove unit?	Does the Generator wish to prove the unit (even though it is not required)? If yes, go to step 19. If no, the process ends and no further action is required.	Real Time	N/A	As required	N/A
19	Issue test Sync for new time agreed with Generator	Issue test Sync instruction for new time agreed with Generator, then go to step 22.	Real Time	Test Sync instruction issued	As required	EDIL
20	Issue Fail Sync & availability declared 0 from t_o	If the unit is still required after failing to follow original Sync instruction, issue Fail Sync & availability declared 0 from t_o to cancel original instruction.	Real Time	Fail Sync instruction issued and availability	As required	EDIL

#	Step	Step Description	Responsible Role	Outputs	Indicative Timing/ Frequency	System
				corrected		
21	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
22	Unit successfully Sync?	Has the unit synchronised successfully following the reissuing of a new Sync instruction? If yes, go to step 23. If no, revert to step 13.	Real Time	N/A	As required	N/A
23	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
24	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 27. If the TSO has requested, go step 25.	Real Time	N/A	As required	N/A
25	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
26	Unit agrees to Sync earlier?	If the unit agrees to Sync earlier, go to step 29. 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.	Real Time	N/A	As required	N/A
27	Requests to Sync earlier	Generator requests to Sync earlier than time instructed to.	Unit	N/A	As required	Phone

#	Step	Step Description	Responsible Role	Outputs	Indicative Timing/ Frequency	System
28	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 29. 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
29	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 APPENDICES

7.1 PROCESS FLOWCHART KEY

FLOWCHART KEY	
	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)
	Process end
	System (automatic step)