

Authority Project Code:**TAS Number: 0XX****TAS SOW****Actions to settle the market now final prices are published for
9th August 2021****Requested By:** Grant Benvenuti**1. Background and Purpose**

- 1.1. Publication of final prices for trading periods 37-42 on 9 August 2021 were initially delayed by the Electricity Authority (the Authority) while a price error claim (PEC) and undesirable trading situation (UTS) claim were investigated.
- 1.2. The delay to final price publication remained while the Authority's PEC and UTS were appealed in the High Court.
- 1.3. On 16 February 2024 the High Court released their judgement deciding scarcity pricing had been incorrectly applied to trading periods 39-42 on 9 August 2021.
- 1.4. The Authority has instructed its service providers to:
 - a) Publish final prices with scarcity pricing removed for periods 39-42 on 9 August 2021, and
 - b) Settle 'the market' on this basis.
- 1.5. This SoW covers Transpower's required actions to comply with the Authority's instructions to settle 'the market' in our roles as system operator and grid owner.

2. Benefits Sought

- 2.1. Settlement of ancillary services for trading periods 37-42 of 9 August 2021.
- 2.2. Settlement of the grid owner loss and constraints excess (LCE) for August 2021.

3. Scope of Work

3.1. The scope of work:

- a) Calculation of the LCE for August 2021 by the grid owner.
 - Using the LCE methodology in place in August 2021.
- b) Calculation of the ancillary services settlement data for trading periods 37-42 of 9 August 2021 by the system operator, including constrained on payment values for instantaneous reserves.
 - For ease of processing by the clearing manager this will involve rerunning the ancillary services calculations for the whole month.
- c) Population of Transpower databases with the final prices for trading periods 37-42 of 9 August 2021 – required to deliver scope items a) and b).
- d) Reset of GSS database for the month August 2021 to allow the reprocessing of the ancillary service settlement data.
- e) Deliver a complete set of ancillary services settlement data to the clearing manager.
- f) Oversight of the processes above and coordination with the clearing manager (NZX).
- g) Progress updates and escalation, if necessary, with the Authority.

3.2. The scope of work for this TAS includes a close out report.

3.3. The scope of work excludes:

- a) Any non-Transpower actions required to effect the scope of work.

4. Deliverables

- 4.1. Transpower will deliver the scope of work detailed in section 3.

5. Assumptions

- 5.1. NZX clearing manager staff will be available to answer queries, the processing timetable is achievable and adhered to by all parties.

6. Communications

- 6.1. The Authority and the system operator points of contact for this work will be:

	Electricity Authority	System Operator
Name	Grant Benvenuti	Murray Henderson
Email	s9(2)(a)	s9(2)(a)@transpower.co.nz

7. Reporting

- 7.1. The system operator will provide every month, via email, a brief written report detailing the work in progress, issues identified, and work planned. This report is to be sent to the Authority Project Manager.
- 7.2. Note that the Authority also receives from the system operator a monthly consolidated dashboard report on TAS progress to the JWPT and a monthly report of hours expended by TAS for Financial tracking purposes.

8. Approach

- 8.1. The system operator will:
- Prepare a test plan, associated processing run sheet and test exit criteria.
 - Copy and archive the existing ancillary services settlement data for August 2021.
 - Upload the price data for periods 37-42 on 9 August 2021 to the relevant databases for testing.
 - Reset the GSS database for August 2021
 - Perform all necessary system testing for processing systems and provide supporting test evidence.
 - Rerun the ancillary services settlement process for August 2021, involves coordination with NZX as the Clearing Manager.
 - Provide revised ancillary services settlement information for August 2021 to the Clearing Manager.

- h) Run the grid owner's LCE calculation for August 2021, using the methodology in place at the time – pre-RTP and pre-SRAM changes.
- i) Include the LCE adjustments for August 2021 in the 'first feasible grid invoice date' after the LCE funds have been received from the clearing manager.

8.2. A more detailed description of the approach is contained in the appendix.

9. Timetable

Milestone	Completion Date	Status
Perform all necessary system testing		
Provide revised ancillary services settlement data to the clearing manager		
LCE Invoices issued for August 2021		
Complete LCE resettlement process		
Close out report		

10. Resources and Cost

10.1. The forecasted spend below is an estimate only. The forecast will be reported on as per clause 7.2.

10.2. Final Cost depends on TAS retainer usage across other TAS requests.

Role	Resource Name	Estimated Hours
SME support	Murray Henderson	s9(2)(h)
Senior Market Analysts - Ancillary Services	Various	s9(2)(h)
DBA	Jeff Neave	s9(2)(h)
Data Engineer	Paul Lundon	s9(2)(h)
Grid owner Pricing Specialist	Budi Wijaya	s9(2)(h)
Total Hours		s9(2)(h)
Sub Total – s9(2)(h)		s9(2)(h)
Other personnel - Red Rock Limited - DBA Services (including 12% handling fee)		s9(2)(h)
Total Cost		\$19,725.82

11. Dependencies

- 11.1. This TAS is dependent on the clearing manager (NZX) being able to fulfill their role in the resettlement of ancillary services.

12. Constraints

- 12.1. Nil

13. Risks

- 13.1. There is a risk to timeframes if resources are not available.

14. Contract Conditions

- 14.1. Services are to be provided under the terms and conditions set out in the system operator Service Provider Agreement (SOSPA) dated February 2016.

15. Confidentiality

- 15.1. Nil.

16. Attachments

- 16.1. The cost estimation previously provided to the Authority is attached as an appendix to this SoW.

17. Confirmation

17.1. The above Scope of Work is agreed:

Signature

Signature

Name

Name

Date

Date

Electricity Authority

System operator

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Appendix – detailed scope of work / approach

System operator Ancillary Services settlement

Steps, first in TEST, then in PROD (NB TEST environment needs population with the relevant data)

- Parse the “..._VP” (81112021081200786) SPD casefile to extract the relevant data
- Back-up existing GSS calculations
- Delete existing GSS calculations for Aug 21
- Populate GSS with data for periods 37-42
- Recalculate GSS values
- Compare ‘new’ Aug 21 GSS with ‘old’ Aug 21 values
- Work with NZX re the ‘back-and-forth’ data transfers required to perform ancillary services settlement [sending whole month files]

Testing needs

- Check correct data is loaded to GSS
- Spot check GSS calculations
- Check original GSS values plus GSS values for periods 37-42 9 Aug 21 = recalculated Aug 21 GSS values

Estimated effort

GSS developer s9(2)(h) (external developer, incl. GST and 12% handler fee per SOSPA)

Analyst testing s9(2)(h)

GSS processing s9(2)(h)

Grid owner LCE settlement

Steps, first in TEST, then PROD (NB TEST environment needs population with the relevant data)

- Set the existing final price data for periods 1-36 and 43-48 to not be ‘final prices’ [Update existing final pricing type cases from F to N (81112021081200429 and 91112021080900728)]
- Set the final pricing flag to F for periods the “..._VP” final pricing case, periods 1-48 [Update existing final pricing type case from N to F (81112021081200786)]
- Modify pre RTP branch flow price procedure to reload LCE (Xrentals) data for 9th Aug 2021
- Run the Xrentals calculations
- Feed the outcome of Xrentals calculations into grid owner customer billing process – NB this requires use of legacy systems due to subsequent TPM changes to LCE processing.

NB prices in periods 1-36 and 43-48 are the same across all ‘feasible’ final pricing cases for 9 Aug 21. The approach described above has been determined to be lower risk and effort than inserting prices for periods 37-42 only.

Testing needs:

- Check case details are updated correctly

- Check fact records are linked correctly to the new final price type F case (81112021081200786)
 - Check periods 1-36 and 43-48 data is unchanged
 - Check periods 37-42 updated as expected
- Check LCE data is updated for affected day and prices are correct
- Spot check branch records calculated correctly with updated data in Xrentals calculations
- Check original Aug 21 Xrentals values plus Xrentals for periods 37-42 9 Aug 21 = recalculated Aug 21 Xrentals

Estimated effort

Data engineer – [REDACTED] [updating data and database tests]

Elapsed time 3 weeks

Analyst testing – [REDACTED] [Xrentals calculation testing]

Grid owner pricing specialist – [REDACTED] [running grid owner LCE in legacy systems – pre-RTP and TPM changes]

DRAFT

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