

**From:** Airihi Mahuika  
**Sent:** Monday, 4 March 2024 6:34 pm  
**To:** Sarah Gillies  
**Cc:** Saki Hannah; Sean Martin; Mark Herring; Sally Aitken; Andrew Millar; Grant Benvenuti  
**Subject:** RE: UTS - pricing update

Kia ora Sarah

Here is the proposed response to the Board on the Clearing Manager error. Grant has confirmed my draft email summary below. If useful you could also include the additional detail Grant has provided.

Please let me know if you need anything else.

Ngā mihi  
Airihi

----- Original message -----

From: Airihi Mahuika <s9(2)(a)>  
Date: 4/03/24 6:20 pm (GMT+12:00)  
To: Grant Benvenuti <s9(2)(a)>  
Cc: Saki Hannah <s9(2)(a)>, Sean Martin <s9(2)(a)>, Mark Herring <s9(2)(a)>, Sally Aitken <s9(2)(a)>, Andrew Millar <s9(2)(a)>  
Subject: RE: UTS - pricing update

Thanks so much Grant.

Here's my distilled version for you to check you're comfortable please. Is it worthwhile noting that it is important to let the process run in the circumstances in the normal/independent way?

#### Draft email response

- Ultimately this issue arose due to human error, but the finalising of prices for these 6 trading periods in this context is not straightforward. For SPD to solve for the pricing issues that arose due to the events of 9 August there were 4 files produced by Transpower. The fact that time has passed and staff turnover may have contributed to the wrong file being chosen by the pricing manager, which then resulted in higher than expected pricing.
- This is the clearing manager's role, and while their staff had performed checks, they did not initially spot the error.
- The normal way that any issues/potential errors in final pricing is identified is by notification of final prices to the market, participants are then able to raise any potential errors. Effectively this is what happened. Although in this case Authority staff were also waiting to see the finalised prices and we quickly raised concerns with the clearing manager alerting them to this issue. Participants also raised concerns separately. An investigation was then kicked off that day.
- The clearing manager issued a statement (about 5pm on Friday) to the market that they were investigating, and then a second statement making it clear that participants should not rely on the published prices until the investigation concluded.
- Monday morning the clearing manager re-ran pricing using the correct file and published.

More detail is included in Grant's email below.

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**From:** Grant Benvenuti s9(2)(a)  
**Sent:** Monday, March 4, 2024 5:55 PM  
**To:** Airihi Mahuika <s9(2)(a)>; Sally Aitken s9(2)(a) Andrew Millar s9(2)(a)>  
**Cc:** Saki Hannah s9(2)(a); Sean Martin s9(2)(a)>; Mark Herring s9(2)(a)>  
**Subject:** RE: UTS - pricing update

Thanks Airihi, I have appended Anna's comment/question to the email chain. My response below will need editing to distil the essence for a response to the Boad but feel free to use the detail if necessary.

Here is a description of what has happened ...

1. On 9 August 2021 there were two separate but related issues over the six trading periods that were instructed to remain interim. I am not a SME on the detailed pricing process but here is my understanding. The system operator produced four different pricing input files for these six TPs
  - a. As demand increased, the first response is for the system operator to use reserves as energy. This causes a reserve deficit, and the software (SPD) cannot solve so creates an infeasible solution for TP37 and 38, but normal pricing for TP39-42.
  - b. To make the solution feasible, the system automatically inserts very high prices (\$100k, or \$200k depending on the issue). These are called constraint violation penalties, and were required for TP37 and 38 to allow the solve. This caused high prices for some nodes for TP37 and 38, but normal pricing for TP39-42.
  - c. Where the constraint violations are caused by using reserves as energy, there is a process to for SPD to add a "virtual reserve provider" to replace the diverted reserves. This ensures prices are not inefficiently high. This occurred for TP37 and 38 but normal pricing for TP39-42
  - d. To reflect the artificially depressed prices during energy scarcity due to enforced demand reduction, scarcity pricing is applied. This happened for TP39-42. So the file produced had virtual reserve provider for TP37 and 38 and scarcity pricing for TP39-42. This was the file used on 10 August 2021 and was what prompted the pricing error claim by Haast and Electric Kiwi.

NOTE: the virtual reserve provider process and scarcity pricing process did not overlap. They applied to different TPs.
2. Transpower provided input files for each of the above four scenarios to the pricing manager (not the clearing manager) as part of the UTS investigation in 2021.
3. On 29 February, we sent a notice to the clearing manager revoking the 13.184 hold on prices for 9 Aug 2021. This triggered the clearing manager to remove the hold and run the process to finalise prices.
4. The clearing manager had the four different input files to select from to run the pricing process. Due to a combination of factors (staff turnover at NZX and the language used in the various emails and letters) the clearing manager selected the second file which included the constraint violation penalties. The file they should have used is the third file with the virtual reserve

provider. This is the 'human error' that caused incorrect prices to be published, and is likely a breach of the Code that was in force in August 2021.

5. When prices were published, I noticed the high prices within a few minutes and asked the clearing manager to check they had it right. Their staff checked, but did not realise they had the wrong file. There were additional calls from a range of people including Transpower and Haast. Haast also made a pricing error claim.
6. I initiated an email chain to the clearing manager and the pricing SMEs (Tuong, Roger Miller, Murray Henderson) asking for their views and advice. The clearing manager reviewed the responses to this email and came to the realisation they had used the wrong file. They issued a statement (about 5pm on Friday) to the market that they were investigating, and then a second statement making it clear that participants should not rely on the published prices until the investigation concluded.
7. Monday morning the clearing manager re-ran pricing using the correct file and published.

This particular issue cannot occur again as the Code has since changes. RTP has different, and automated processes so there is no judgement needed when running the pricing process. There is still the possibility of error in the automated process so the pricing error claim process still exists (see next para)

Regarding ongoing confidence in the clearing manager. Human error is a factor that always needs to be considered. Processes and controls are designed to catch this but are not foolproof. All three critical processes (invoicing, reconciliation, and pricing) have an element of third party independent review in that "interim" results are published for participants to check they meet their expectations. There is dispute processes to resolve issues. Confidence can be gained by the fact there are very few disputes despite tens of thousands of results being published each year. There are also regular audits that pick up issues and these are resolved.

**Grant Benvenuti**  
Principal Advisor  
Electricity Authority

s9(2)(a)

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**From:** Airini Mahuika s9(2)(a) >  
**Sent:** Monday, March 4, 2024 4:50 PM  
**To:** Grant Benvenuti <s9(2)(a)>  
**Cc:** Andrew Millar s9(2)(a); Saki Hannah s9(2)(a)  
**Subject:** FW: UTS - pricing update

Kia ora Grant

As discussed, we need to provide a response for Sarah G back to our Board members.

Grateful for your help.

Ngā mihi  
Airihi

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**From:** Paula Rose <s9(2)(a)>  
**Sent:** Monday, March 4, 2024 3:43 PM  
**To:** Sarah Gillies <s9(2)(a)>  
**Cc:** Anna Kominik <s9(2)(a)>; Cristiano Marantes <s9(2)(a)>;  
Allan Dawson <s9(2)(a)>; Lana Stockman <s9(2)(a)>; Katie Bunker  
<s9(2)(a)>; Airihi Mahuika <s9(2)(a)>  
**Subject:** Re: UTS - pricing update

Hi Sarah  
Thanks and Noted.

The Energy News headlines is not helpful.

I see Anna's question which reflects what I was thinking. Also what checks and balances are there in place to ensure that pricing finalisation is always accurate?

Ngā mihi  
Paula

**From:** Anna Kominik <s9(2)(a)>  
**Sent:** Monday, March 4, 2024 2:48 PM  
**To:** Sarah Gillies <s9(2)(a)>; Cristiano Marantes <s9(2)(a)>;  
Allan Dawson <s9(2)(a)>; Paula Rose <s9(2)(a)>; Lana Stockman  
<s9(2)(a)>  
**Cc:** Katie Bunker <s9(2)(a)>; Airihi Mahuika <s9(2)(a)>  
**Subject:** Re: UTS - pricing update

Thanks Sarah, the Q&A following your speech on Wednesday could get quite interesting!

Just to be super clear – this is being presented as human error alone? I understand that this is a rare event – but could this also be read that possibly they have a step missing to check things? Overall, doesn't do much for confidence in the systems/ processes. Interested in your thoughts and what the clearing manager is doing/ should be doing to review/ amend their processes?

A

Sent from my iPad

On 4/03/2024, at 2:26 PM, Sarah Gillies <s9(2)(a)> wrote:

Kia ora koutou

I wanted to let you know about an error the clearing manager made regarding the 9 August pricing finalisation last week. This has been picked up today and Energy News is likely to run a story shortly so I wanted to let you know. I haven't included Erik due to his conflict although I think this is more an update on something that has happened rather than a decision for the Board.

#### **Summary**

1. The clearing manager, using incorrect data input, published incorrect finalised prices for trading periods 37-42 on 9 August 2021 on Friday (1 March).
2. The Authority notified the clearing manager as soon as we became aware of a potential issue.
3. The clearing manager on Friday advised participants of the potential issue and then followed up with a subsequent notice identifying the error and advising participants to disregard prices until further notice.
4. On Monday (today) the clearing manager corrected the prices using the correct input data and published the prices as interim.
5. Prices will be finalised on 5 March (Tuesday).

#### **What happened?**

The clearing manager used the incorrect input data to finalise prices which resulted in the wrong finalised prices being published. There were four sets of data covering the 6 trading periods in question and the incorrect data was applied by the clearing manager. Prices had been finalised without a virtual provider element which resolves pricing infeasibilities.

#### **What could we have done to prevent this?**

The clearing manager had the correct data from Transpower but selected the wrong data file when finalising prices. We had communicated to the clearing manager of the Board's decision to remove the existing hold on prices and finalise interim prices and it appears in their haste to finalise the prices they chose the wrong file to input. The real time pricing reforms introduced in November 2022 fundamentally changed the process by which spot prices are calculated which means this process for finalising prices is no longer used.

#### **What's the impact on participants, consumers?**

There is no financial impact on participants. While the publication of the incorrect finalised prices is not helpful, there is still work to do to on the settlement process. The Authority is working with its service providers on this settlement process which is expected to take a number of weeks.

#### **Does this change our approach re UTS investigation?**

Our approach to the UTS investigation is unchanged. This investigation into a possible UTS is related, but separate to the finalisation of prices for the six trading periods.

Ngā mihi  
Sarah

**Sarah Gillies**  
Chief Executive

s9(2)(a)

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Level 7, AON Centre, 1 Willis Street  
PO Box 10041, Wellington 6143, New Zealand  
**[www.ea.govt.nz](http://www.ea.govt.nz)**

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