Electricity Authority: UTS Preliminary Decision

Technical Briefing

17 July 2020

COMPETITION • RELIABILITY • EFFICIENCY

UTS TECHNICAL BRIEFING: AGENDA

- Welcome: James Tipping, Chief Strategy Officer
- Introduction: James Stevenson-Wallace, Chief Executive
- Technical briefing: Doug Watt, Manager Market Monitoring
- Q and As

UTS TECHNICAL BRIEFING: House Keeping

- Zoom etiquette
  - Please raise hand (physical or digital)
  - Please stay on mute (unless speaking)
  - Please wait for us to repeat your question into the mic
- Publication of:
  - Visual briefing materials
  - Recorded event
- Health and Safety

UTS TECHNICAL BRIEFING: SCOPE

- Context: South Island spilling in November and December 2020
- Authority's approach – estimating excess spill
- Timeframe for UTS
- Q&A session specific to these focus areas

UTS PROCESS

- Preliminary decision released on Tuesday 30 June 2020
- Six-week consultation period followed by three-week cross submissions
- Actions to correct to be considered if UTS is found – to be drafted and consulted on
- Separate compliance process underway to determine if there was a breach of the high standard of trading conduct (HSOTC) provisions

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Technical Briefing

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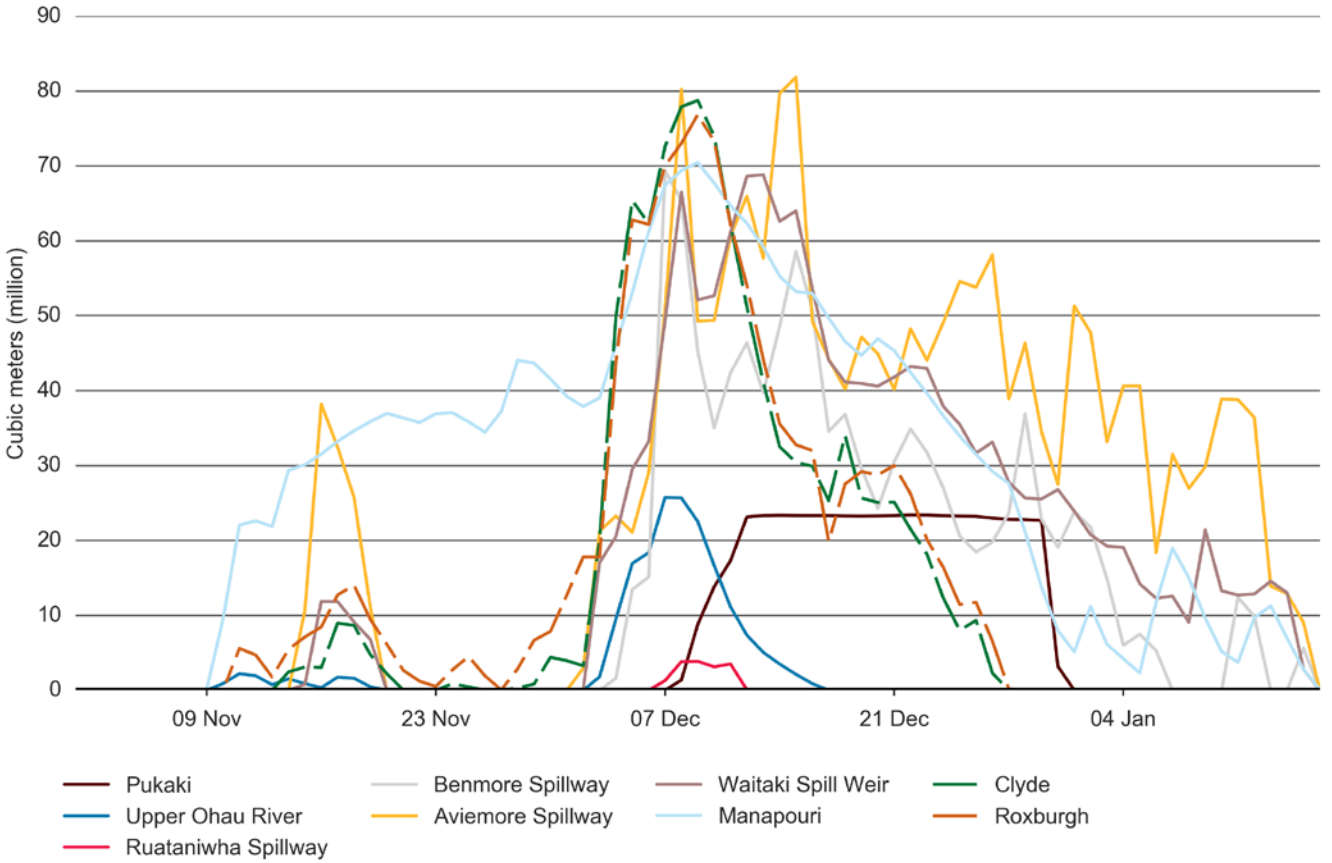
Overview

- Context
- Excess spill estimation
- Timeframe of the UTS

Context: SI spill

- Spilling started at Manapouri on 9 November and stopped on 16 January
- During this time, all major South Island stations were spilling at some point
- Peak inflows were 200 GWh per day



Estimating excess spill

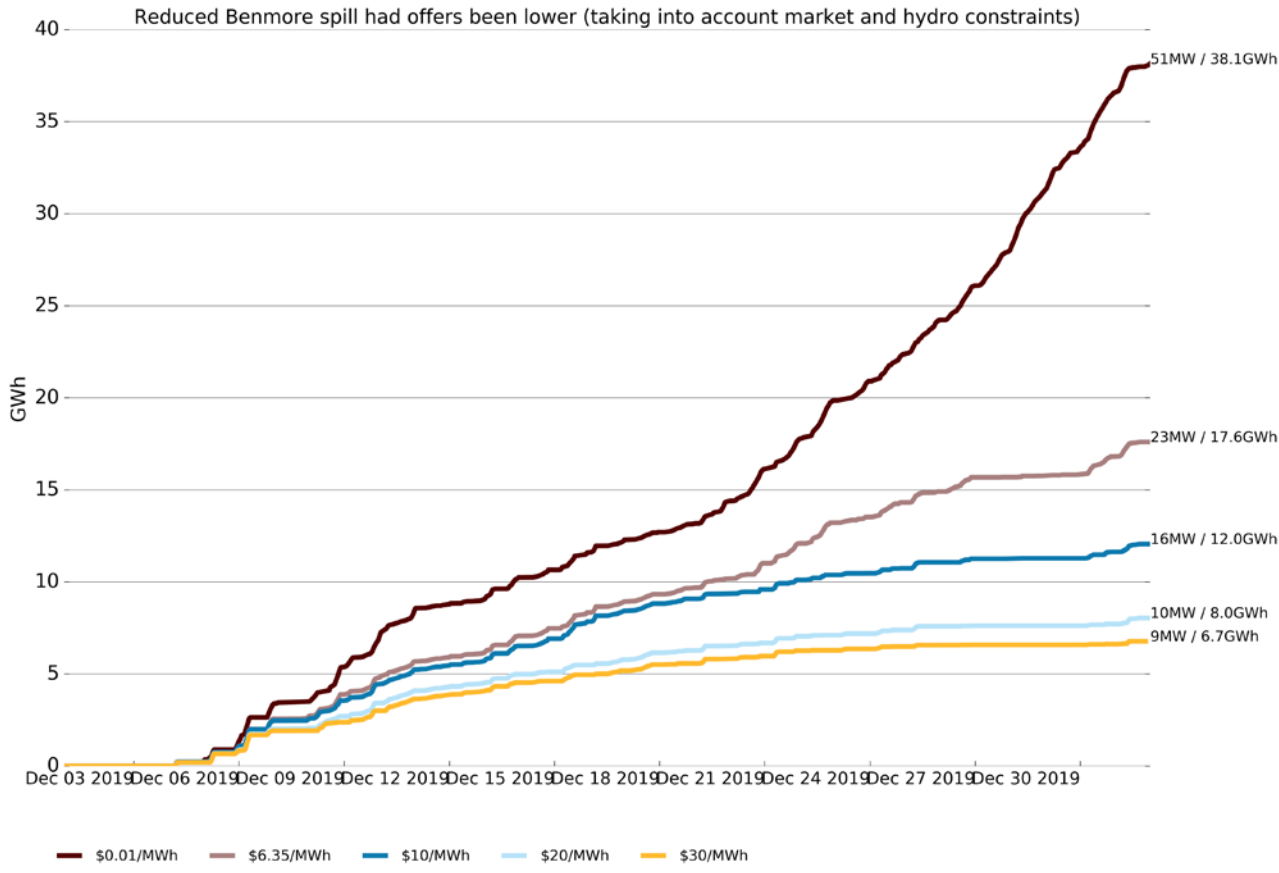
- We have no way to model both the hydrology of South Island rivers/lakes and the spot market at the same time
- Need a method to estimate excess spill while respecting the resource consent conditions and plant limitations faced by generators
- And we also needed to ensure that our simulation didn’t change the timing of how water flowed
- We estimate excess spill as the intersection between what extra generation is possible at Benmore within these constraints and what extra generation could have been absorbed by the market

Excess spill or foregone generation

- Need to find the intersection between:
  - What Benmore could do without changing river flows on the lower Waitaki
  - What the market could have used
- Spilling SI generation simulated $0.01/MWh
- Subtract actual (reconciliation data) generation everywhere except BEN from total dispatch
- Difference is what BEN could do to satisfy market, ignoring consent conditions—truncated to BEN capacity
  - Now accounting for outages
- Actual BEN generation subtracted to get additional potential BEN generation
- Converted to cumecs, subtracted from spill
  - Remaining spill checked to determine if it fell into the Benmore's no-go spill zone
  - If so discard TP
- Remaining TPs with increased generation converted to MW and summed to GWh

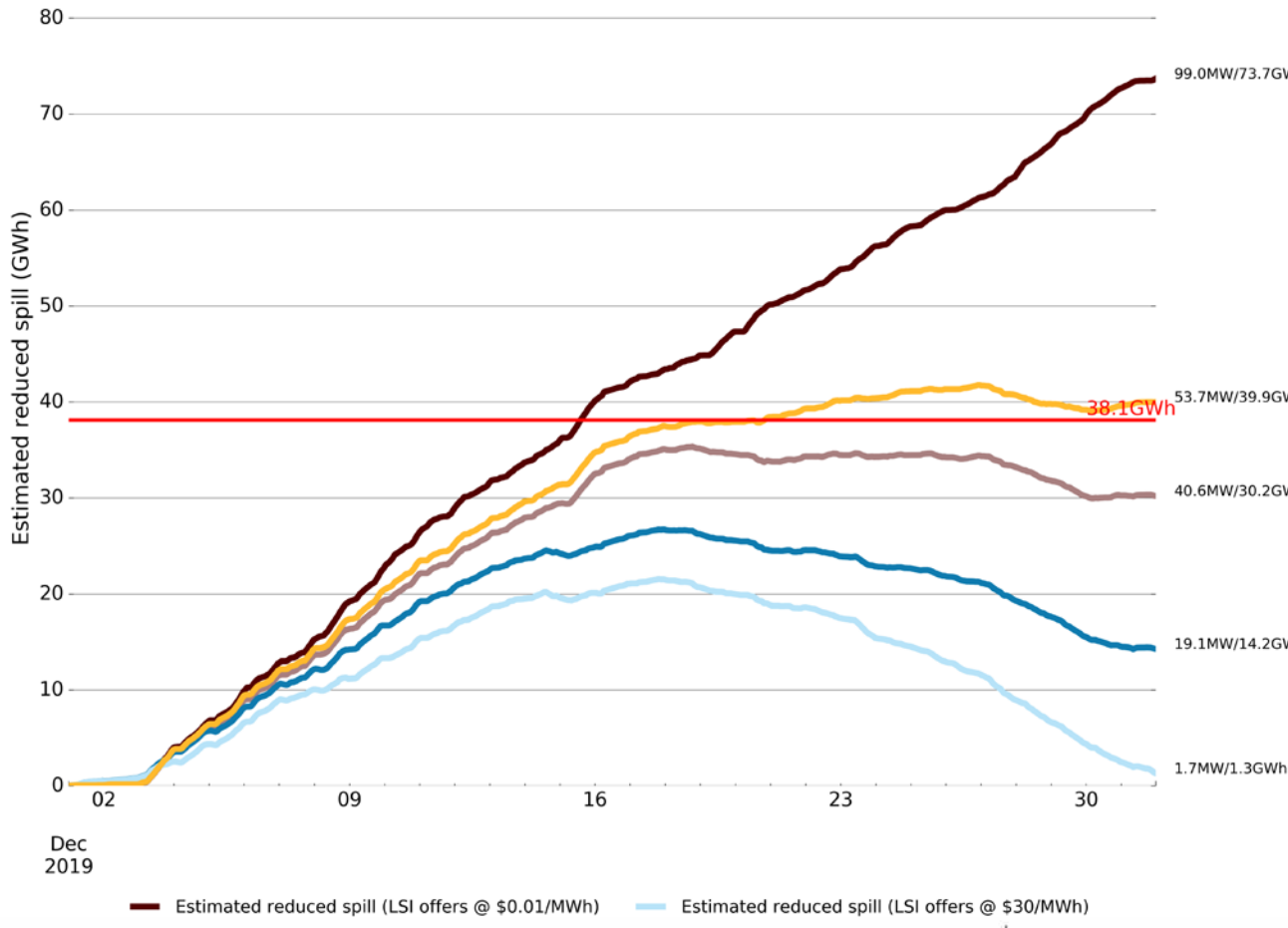
For December this gives 51MW

- Using our one cent simulation to calculate possible extra generation we get the 51 MW (55MW number in the paper)

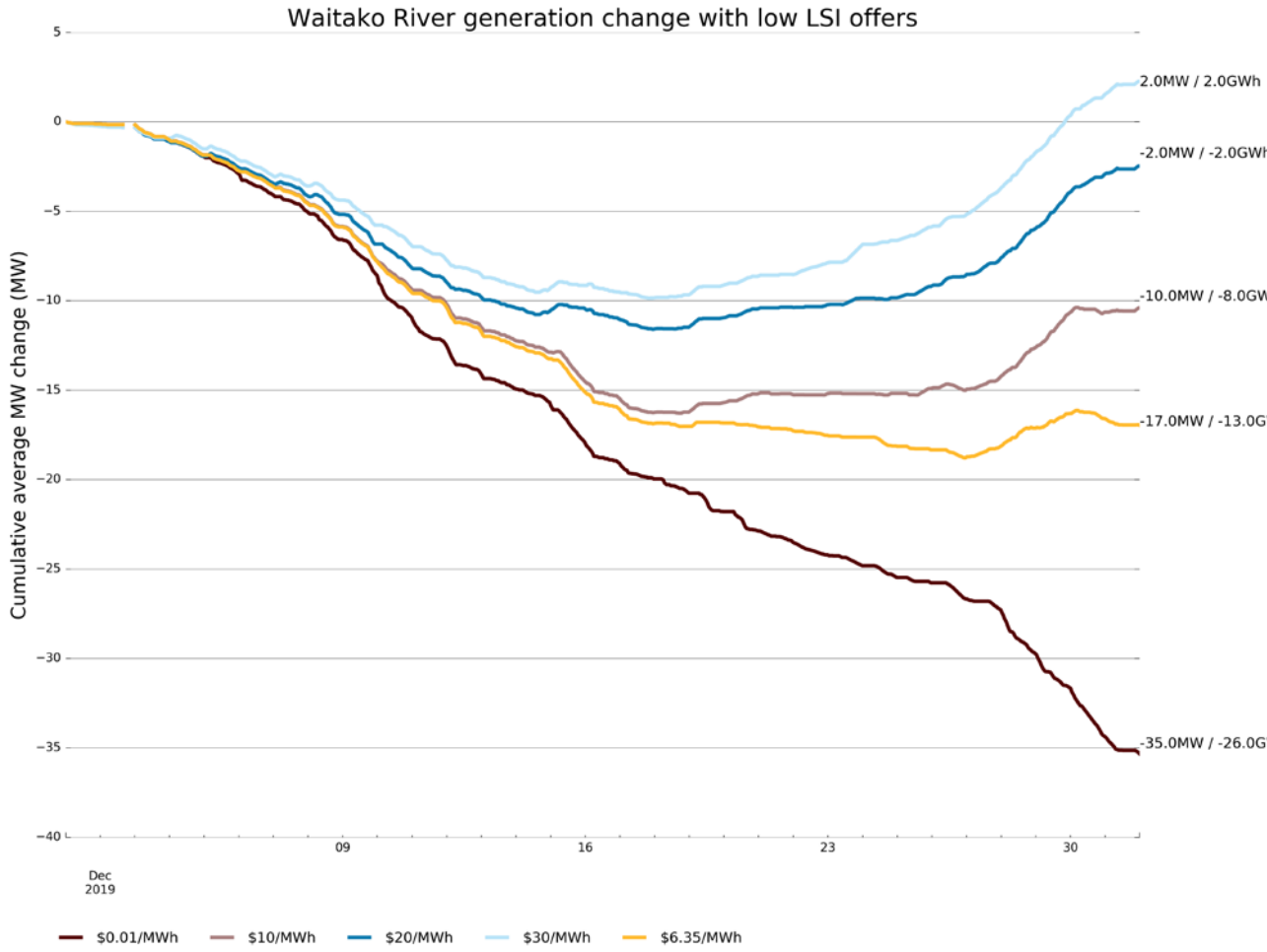


Trial and error to estimate the clearing price

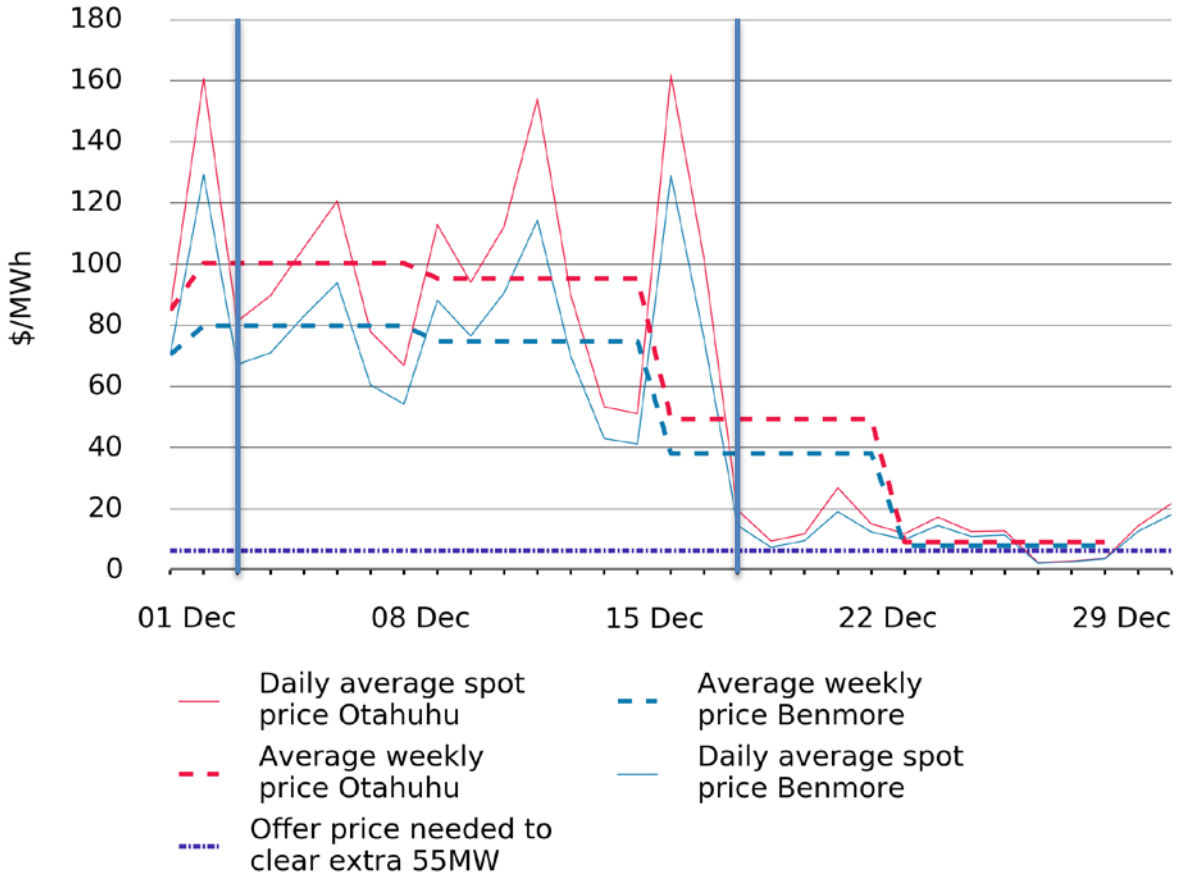
- To estimate the SI price necessary to clear the 51MW we ran multiple simulations
- Approximately $6.35/MWh
- As set out in the paper this is estimated by a simple universal SI offer price
- It is a big change to what actually happened and has all the modellin issues—competitive response, hydrology



From the same simulation we estimate the displaced NI hydro



Timeframe for UTS



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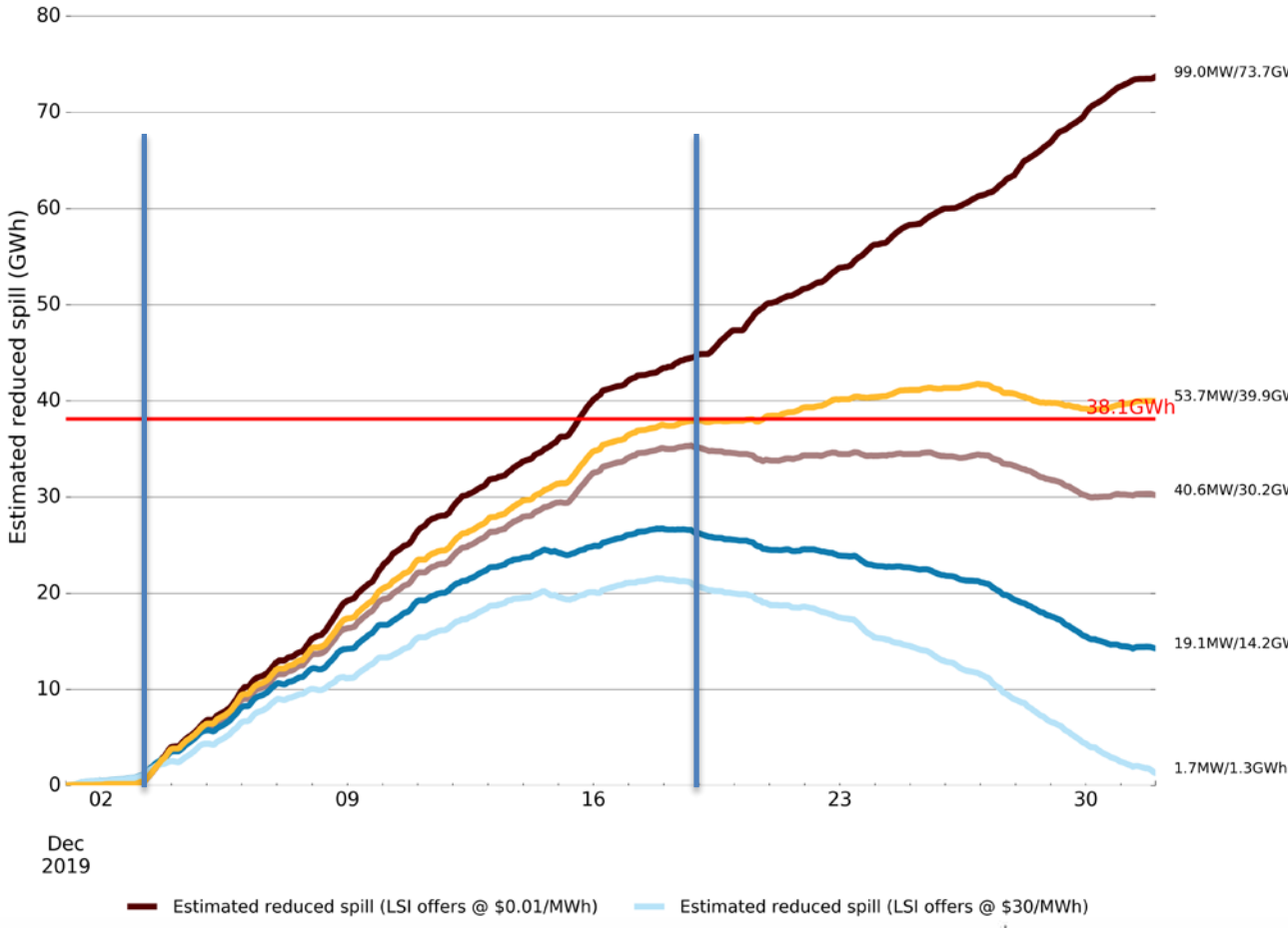
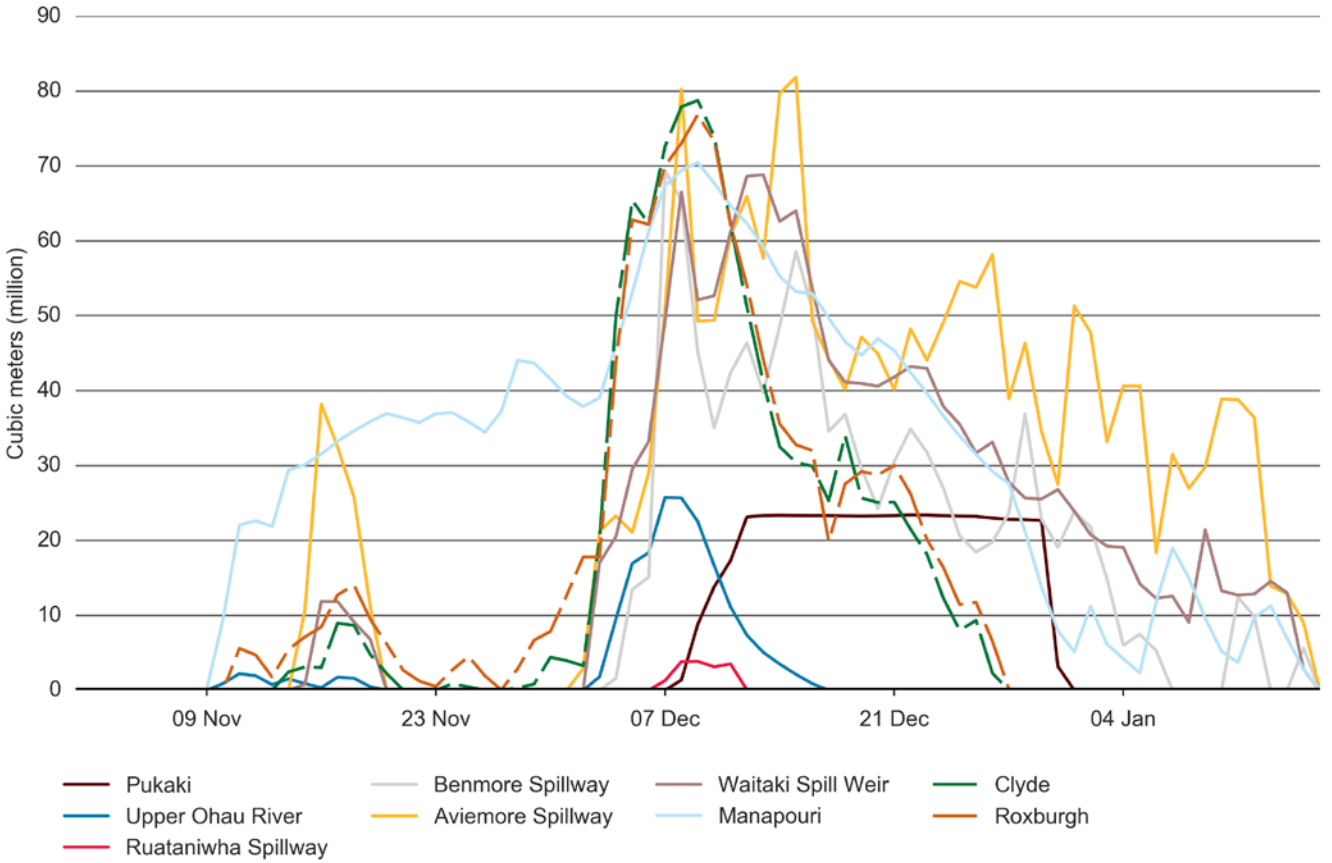
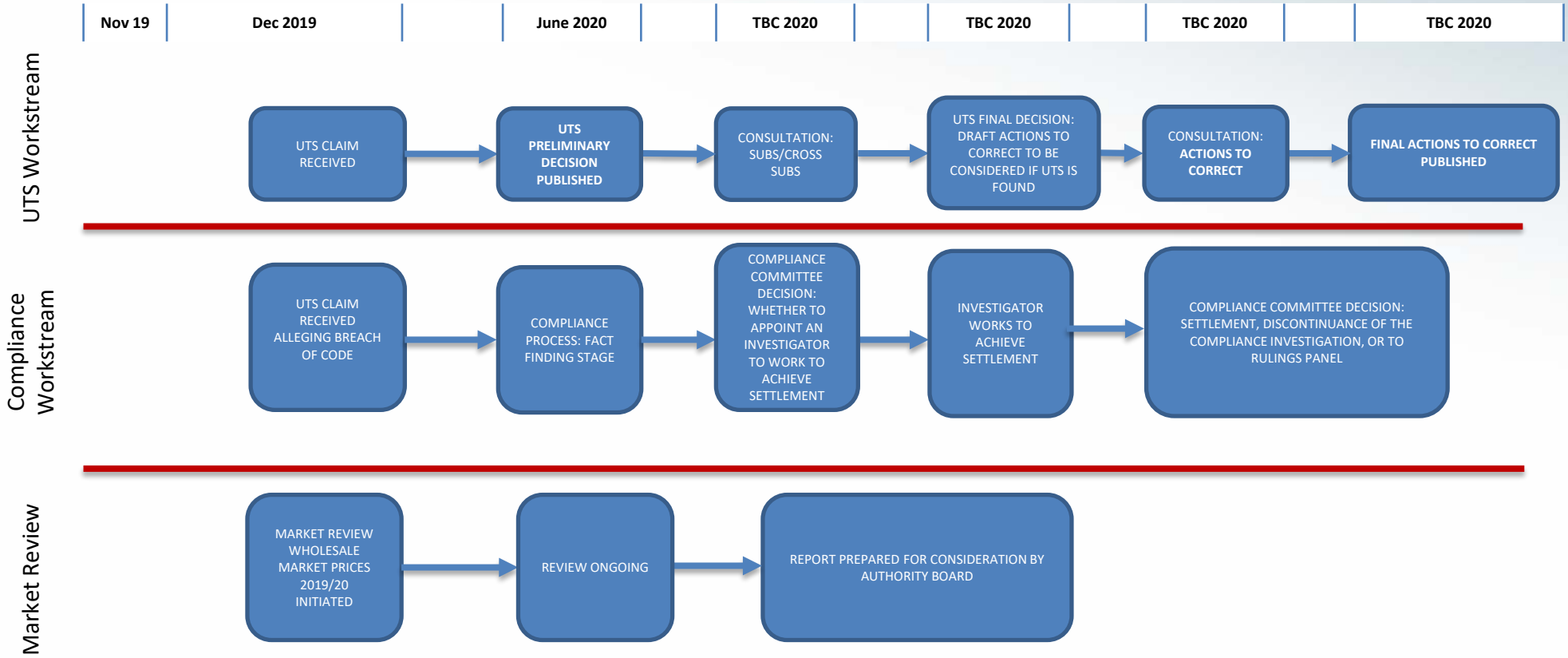


Timeframe for UTS: November

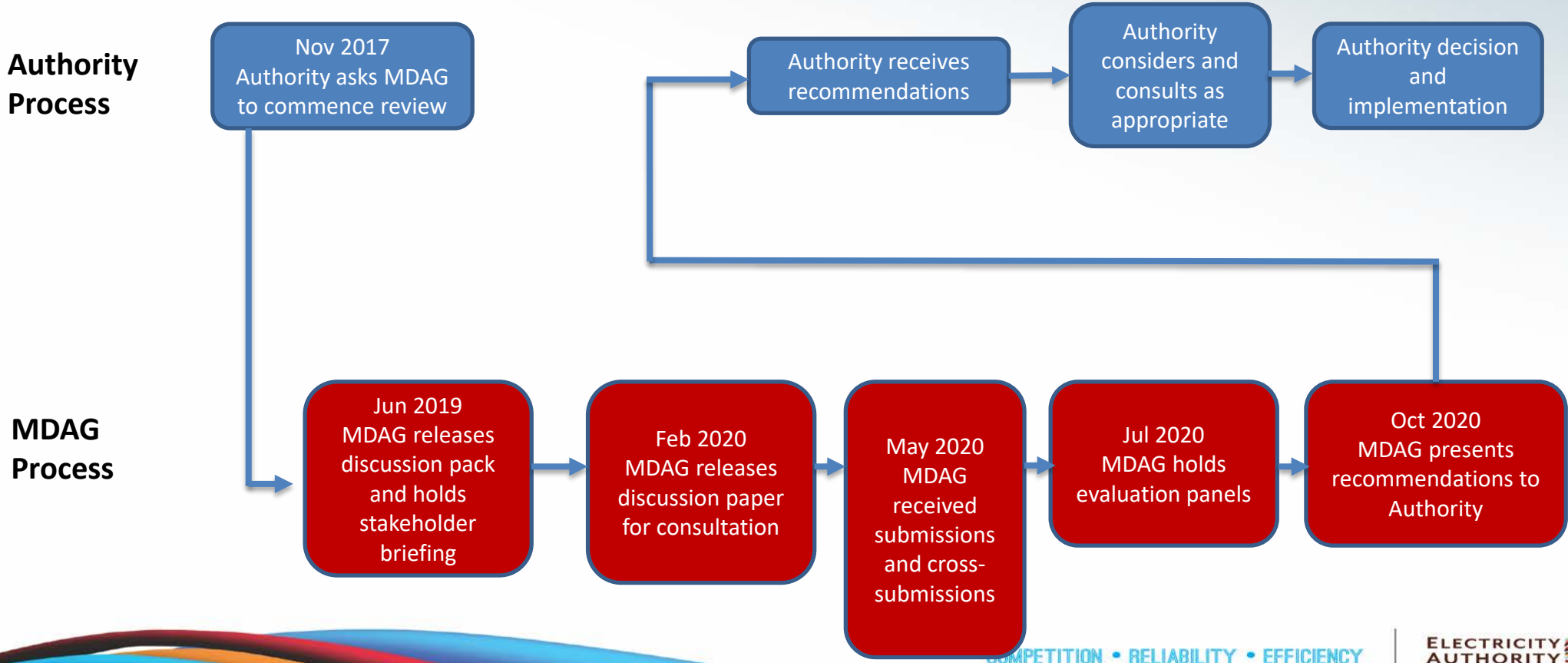


Process Slides

The Authority has multiple work-streams to address separate issues



The Authority is also conducting a review of high standard of trading conduct provisions



The Authority will keep industry and media up to date as our work progresses

UTS Workstream