



## Flexibility Trial – Lincoln

### Responses to submitted questions

Question #	Question	Response
1	Can you please provide a list of all ICPs in the Lincoln area where the flexibility is needed? i.e. the map area in Appendix 1 of the EOI.	Yes. An excel list of all ICPs in the area is available. This can be obtained by emailing <a href="mailto:Stephen.godfrey@oriongroup.co.nz">Stephen.godfrey@oriongroup.co.nz</a> .
2	Can you please confirm if the ICP's in the area are all on Decabit or Telenerg injection (or a mixture of both).	All ICPs in the Lincoln area where flexibility is requested are on Decabit.
3	Is hot water control an option for the flexibility trial? i.e. hot water cylinders that would be heating during the times Orion indicates in the trial, would be turned off on Orion request?	<p>Hot water control would be considered as a flexibility solution, but only if the hot water cylinders included in the flexibility solution are not cylinders that currently respond to Orion's peak ripple signals. Any on an emergency ripple channel would be eligible subject to customer consent.</p> <p>This is because hot water cylinders that are currently, via non-emergency ripple signals, being managed (turned off/on) by Orion to reduce peak loading levels on our network are already contributing to the solution of trying to defer the build of the Greenpark zone substation. Consequently, any inclusion of management of these same cylinders – even if managed by a different technology to ripple – would not be making an additional contribution to deferral of Greenpark build.</p>
4	Our understanding is that Orion uses a GE ADMS system? Are you able to advise the protocols this platform uses for external communication e.g. REST API; DNP3; other...?	Orion's ADMS uses predominantly DNP3 to gather information from the field and Orion applies existing load control by using emails, texts, ripple signals, and customer REST-API mechanisms. Orion is also involved with trialling other protocols to gather information and request customer



		<p>response. A common approach is that Orion would use a known protocol to connect to a declared customer interface to request a load response.</p> <p>This trial is not intending to limit the respondent's or Orion's interface in any way, albeit we recognise some interfaces may require significant work. Please indicate what protocols your solution proposes to use, and what customer and Orion interfaces would be required.</p>
5	Do you have a registry LIS file extract for the ICPs in the Lincoln area?	Participants with access to the registry can download a LIS file extract.
6	<del>Is a recording of the 15 November supplier briefing session available?</del>	<del>Yes, the recording of the session can be accessed here.</del> The recording has now expired.
7	Is the full 500 kW of flexibility required for 4 consecutive half hour periods?	<p>No. Given the peaking nature of load in the Lincoln area, we do not require a constant 500kW of flexibility for 120 minutes. Orion would be happy with a total of 1 MWh of energy being able to be extracted from a battery(s) over the 4 consecutive half hour periods, provided the capability of the battery(s) is to provide a maximum discharge to the grid at any point in time of no less than 500kW.</p> <p>These figures are relevant to the 2025 year. For the 2024 year, half all the figures above.</p>
8	Do we envisage trialling different options of flexibility types, or is there a preference for any particular type of flexibility?	We are open to a range of options, however we will be placing emphasis on solutions with a high probability of being able to be reliably called upon.
9	What is the size of Orion's project budget?	No financial guidance can be provided at this stage as we are still working through likely total costs that could be deferred from the project – there are many moving parts and uncertainties unfortunately regarding growth in the area and infrastructure needs.



		Should financial guidance be able to be provided before 5 Dec, we will add a further question and answer at the bottom of this document.
10	How reliable is the ICP list and has it been subject to any validation or verification?	<p>An early learning from the EOI process for Orion is that it would have been helpful to have a verified ICP list available and released at the same time as the EOI was released. We will ensure this occurs in any future EOI/RFP process Orion undertakes.</p> <p>In relation to the Lincoln trial, the ICP list is verified as much as possible given the constraints/timescales we are working to (we cannot guarantee it is 100% accurate however, as much of the information used to establish the list is provided by other parties). This verified list will be provided to all parties who have requested it via question 1 above.</p>
11	If south Rolleston is also to be included, what is the scale of this?	<p>As mentioned in the supplier briefing (see video recording at Q6; discussed from 8 minute, 5 second mark) it is possible that at the RFP stage Orion will expand the target area for flexibility to the south Rolleston area, as Orion may need to shift some load from south Rolleston onto the Springston zone substation (this is still being considered in light of work being undertaken with Selwyn District Council on residential growth in the area).</p> <p>If this occurs our best estimate at the current time is that it could potentially add up to 250kW of flexibility need in the 2025 year, taking the total flexibility requirement to 750kW in 2025. However, it is likely that a similar uplift in the number of ICPs will occur (i.e. inclusion of the south Rolleston area would add around 50% more ICPs to the list/number of ICPs fed off the Lincoln and Springston zone substations).</p> <p>More details will be provided at the RFP stage, however at this stage we request that respondents respond to the EOI as if the area remains as per the EOI (i.e. not including south Rolleston). Respondents can in their EOI response, and we encourage this, indicate if their solution is broadly scalable up if the south Rolleston area was to be included.</p>



12	Do you have a list of ICPs that may be included should the flexibility zone extend to south Rolleston?	At this stage we do not have such a list. We will provide such a list at the RFP stage if at that time we wish to include the south Rolleston area. For now, as per our answer at Q11, we ask respondents to the EOI to focus on their ability to provide flexibility solutions in the area discussed in the EOI.
13	What happens at the end of 2025?	<p>There is potential to extend the contract beyond 2025 if there is value in continuing to use flexibility to offset load to defer Orion's sub-transmission investment. However, as load increases in the area year-on-year, the following all increase:</p> <ul style="list-style-type: none"><li>- the amount of kW flexibility required to lower peak loading levels</li><li>- the kWh required in each flex period</li><li>- the length of time that flexibility is required for on a single day</li><li>- the number of days in a year the flexibility is required for.</li></ul> <p>Given the uncertainties that exist now, Orion is not able to predict with sufficient accuracy what the flexibility need is likely to be in 2026 and beyond in the Lincoln area. Consequently, we cannot state with certainty what will happen at the end of 2025. For instance, the lowest cost and/or best solution for our customers may be to build new network infrastructure.</p>
14	Has Orion approached Lincoln University in relation to their ability to provide a flexibility response?	Lincoln University is aware of the proposed trial. Any flexibility provider is welcome to contact Lincoln University, however, please note that any flexibility in relation to Lincoln University must be additional to load currently included in major customer load management.
15	Regarding the use of an aggregator – would Orion prefer to deal with an aggregator?	Orion would be very happy to work with an aggregator(s). Orion has no preference as to whether it directly, or indirectly, controls the flexibility assets. See section 3.3.3 of the EOI for our technology integration requirements.

<p>16</p>	<p>Does Orion have any land that could be used for locating battery options?</p>	<p>Yes – we have a large site available at our Springston zone substation. This site is on the corner of Shands Rd and Weedons Rd – it can be viewed on Google Maps. Orion is happy to work with potential providers to consider this location.</p> <p>We would recommend that details of the physical size of the battery solution and connection requirements etc be included in the EOI response. Alternatively, if a potential provider wished to provide these details to us prior to EOI deadline, we may be able to provide some guidance on the feasibility of locating the battery at Springston zone substation prior to 12 December.</p> <p>Please be aware that all costs to connect to the electricity network would be at the provider’s expense, and all work on site would need to be undertaken by an Orion authorised contractor. Orion may also be willing consider a longer dated occupation arrangement (i.e. beyond 2025) separate to the flexibility contract (i.e. if any flexibility contract finished in 2025, the battery could potentially continue to be sited at Springston zone substation).</p>
<p>17</p>	<p>How would a permanently shifted 100kW of load from peak to off-peak rather than 'on-call' demand response be viewed? Is it more favourable or are you specifically looking for instantaneous demand response?</p>	<p>Orion would consider a permanently shifted 100kW, or more, of load as a potential solution.</p> <p>We note:</p> <ul style="list-style-type: none"> <li>- As Orion wishes to ensure lower costs to our customers, we would need evidence to show that this permanent shift in load wasn't going to occur anyway, even without a flexibility payment being received via this project. Consideration would need to be given to the electricity tariffs available to the load customer(s), including the existing financial incentives to shift load away from peak times.</li> <li>- One of the benefits to Orion of this project is learning how to interact with third party flexibility providers on an ongoing basis,</li> </ul>



		and to develop systems and solutions that can deliver 'on-call' demand response (as the questioner calls it). We appreciate though that this benefit may be obtained from other potential participants (e.g. those that provide the remaining 400kW of flexibility resource).
18	A penalty for failure to provide contracted flexibility is mentioned in the EOI. Would this be applied in both the 2024 and 2025 years?	Our intention is that any penalty clause, if included in the final contract(s), would only be applied in the 2025 year. The 2024 year is intended as a test year to ensure systems are working correctly etc. Consequently, we recognise it would be unfair to apply penalties in 2024.