Orion

19 November 2025

Electricity Authority
PO Box 10041
Wellington 6143

Submitted via email to connection.feedback@ea.govt.nz

Consultation Paper – Maximising Benefits from Local Electricity Generation

Introduction

1. Orion welcomes the opportunity to submit on the Electricity Authority's (Authority) consultation paper 'Maximising benefits from local electricity generation'.[1]

2. No part of this submission is confidential.

3. Orion owns and operates the electricity distribution infrastructure in central Canterbury, including Ōtautahi Christchurch City and Selwyn District. Our network spans both rural and urban areas and extends over 8,000 square kilometres from the Waimakariri River in the north to the Rakaia River in the south, from the Canterbury coast to Arthur's Pass. We deliver electricity to more than 233,000 homes and businesses and are New Zealand's third largest Electricity Distribution Business (EDB).

Summary

4. Orion submits in support of the Authority's intent in the following areas:
   i. The intent to standardise connection assessment across EDBs.
   ii. The intent to have a default export limit where export assessments have not been completed for small-scale distributed generation (SSDG).
   iii. The intent to maximise exports within network operating limits.

5. While Orion supports the intent of this consultation, subject to our comments on this consultation in Appendix A, we do not support the implementation of the draft code amendments due to the following concerns:

   i. The intent discussed in the consultation paper does not always translate to the draft Code amendments. The draft Code amendments appear incomplete and are not ready for publication. For instance, there are draft Code amendments that are not discussed in the consultation paper.
   ii. It appears no technical review has been done on Australian inverter settings for the New Zealand context. Orion supports aligning with Australia in the short term to benefit from wider voltage bands. A technical review of AS/NZS4777.2 to determine an appropriate default for the New Zealand networks should be completed to ensure long-term suitability.

[1] https://www.ea.govt.nz/documents/8453/Maximising_benefits_from_local_generation_-_consultation_paper.pdf

iii. The consultation paper does not discuss in depth that the ELAM must only consider distributed generation that is currently connected to the distribution network or in the export approval process. This will create a first-mover advantage on our shared assets. This is a key issue in the draft amendments, and the Authority's reasoning for this drafting should have been discussed during the consultation. Orion supports equitable access to network capacity and therefore opposes the Authority's proposed Code update.

iv. The draft Code amendment only allows distributors to reduce export limits due to voltage issues and safety concerns; however, the network is not only constrained due to voltage. Distributors should be able to reduce export limits to ensure the network operates safely within all network limits, including thermal limits.

v. As written, the Code amendments would cause SSDG applications that ask for more than the determined maximum export limit (as set by the ELAM) on LV networks to use the BELAM assessment. We believe this is not the Authority's intention. Orion requests that the Authority provide a diagram outlining the Authority's intended process for SSDG applications. Our interpretation of the proposed SSDG process is shown in Appendix B.

Flexible Exports

6. Orion supports Vector's submission on flexible export limits. We believe a strong focus on flexible export limits will yield the greatest benefits for customers and the system as a whole. The Authority's proposed changes will codify static limits, likely slowing the implementation of dynamic limits in New Zealand and reducing the benefits outlined in this consultation. Dynamic exports provide significant benefits and should be prioritised by the industry, including the Authority, other regulators and EDBs. Some benefits include:

    i. **Fair access to network capacity:** The current proposal by the Authority will allow first movers to export at 10kW until all headroom on the LV circuit is used, resulting in lagging export connections getting 0kW export limits. Dynamic exports will allow first- and last-movers to be treated the same by enabling dynamic allocation of exports based on real-time network conditions.

    ii. **Reduced cross-subsidisation:** As mentioned above, the current position of the Authority will result in lagging export connections having 0kW export limits. 0kW export limits will put pressure on EDBs to upgrade LV circuits to support higher exports. The beneficiaries of upgraded networks for export are SSDG owners. But under Part 6, EDBs are unable to recover the upgrade costs associated with supporting more exports from SSDG owners. This will force load customers to pay for upgrades to enable exports. Additionally, SSDG customers, on average, import less electricity than customers without distributed generation (DG). Dynamic export limits allow more export capacity to be connected to the network, reducing the need for expensive network upgrades that load customers will have to pay for disproportionately.

iii. **Maximise opportunities for DG to participate in the electricity system:** Home batteries and vehicle-to-grid chargers will provide significant benefits for the electricity system. The Authority's current proposals will constrain the benefits of DERs with controllable exports by imposing a static limit. The static limit will typically be set based on peak export times, usually the middle of summer on low-load days. Customers with batteries that can support the network by exporting energy during high load times would only be able to export up to this static limit. Dynamic limits would allow exports up to the fuse capacity per phase during high-load times, while constraining exports during low-load, high-export times. Dynamic limits, therefore, allow networks and the system to derive greater benefits from home batteries and other DG that can export at peak times. The Authority's recent changes to ensure distributors reward exports at peak times will mean customers are fairly compensated for this benefit. Benefits from the wholesale electricity market will also be greater for battery customers due to dynamic limits, which allow greater exports during price spike events, compared to static limits. Overall, dynamic limits will allow the system and customers to gain much larger benefits from DERs with controllable exports, supporting lower electricity prices, less network build and more intermittent renewable generation.

iv. **Higher export limits:** As alluded to in the above points, dynamic export limits would allow less conservative and higher export limits to be set. Orion and other EDBs could set export limits at the customer's fuse size per phase (~14kW). Three-phase residential customers could therefore export up to ~42kW, significantly more than the Authority's current proposed default of 10kW per ICP, with dynamic export customers only constrained at peak export and low import times. In Appendix B, we have diagrammed draft processes to increase export limits quickly to the fuse limit while EDBs build capability for dynamic exports.

General Comments

7. Orion generally supports the Authority's intent as outlined in the consultation paper, notwithstanding the comments in this response.
8. Orion is concerned with the current drafting of the code amendments as they are unclear and are not ready for publication.
9. The Code drafting that requires CEOs to personally approve all ELAMs involving export-limit changes below the 10kW default is not supported by Orion. This is a particularly technical domain that raises concerns about practicality and the proportionality of governance. Network companies deal with constraints on a day-to-day basis, and only large, capital-intensive projects typically require sign-off from CEOs. Orion requests that the Authority clarify their rationale for considering ELAMs sufficiently critical to necessitate approval at the CEO level.
10. Proposed clause 6.3A(7)(c) refers to repeating the ELAM where there has been a change on the network likely to alter the outcome of the ELAM. Our view is that this is too uncertain – a single change on one part of the network might require the entire study to be repeated. It would be clearer and more efficient to define a timeframe for reviewing these studies. In this regard, we favour referring to a review of the study, rather than repeating the study.

11. Orion submits that the Authority has not properly assessed the impacts of forcing ELAMs to be completed only considering the current distributed generation (DG) connected to the network. We recommend that the Authority remove Clause 6.3A(3)(b). As this section of the Code is drafted, those who connect DG to the network first will be able to export more than those who build DG later, penalising those who do not have the financial means to build DG before their neighbours do. We recommend that the ELAM assessment use a future uptake rate to ensure that first- and last-movers can export to the network. Dynamic export limits will help remove this issue by allowing first movers to export without curtailment while there are a few customers exporting to their LV circuit and still allowing last movers to export when they want to invest in DG.

12. Orion strongly disagrees with the proposed implementation timelines due to the following factors:
    i. Not having the same implementation dates for the ELAM and 10kW limit will cause inefficiencies. The urgency to implement a 10kW limit does not justify these inefficiencies.
    ii. The four-month implementation is too short to develop an industry-led and agreed ELAM and BELAM. Orion asks the Authority to consider extending the implementation timeframe to six months.
13. Orion submits in support of the ENA submission and the Vector submission. If you have any questions or queries on aspects of this submission which you would like to discuss, please contact us on 03 363 9898.

Sincerely,

Mitchell Davis
Flexibility and Markets Development Lead

Appendix A

Submitting organisation	**Orion New Zealand Limited ("Orion")**
Contact person	**Mitchell Davis**

Questions	Comments
Q1. What are your views on the proposal to set a default 10kW export limit for Part 1A applications?	Orion supports the EA's proposal to implement a default export limit where ELAM assessments have not been completed. Before this consultation, Orion was considering a two-stage export limit for part 1A, similar to SAPN's approach. We were going to use a lower export limit per phase for non-dynamically controllable exports and a fuse limit (approximately 14kW) per phase if the customer agrees to allow curtailment during peak export times in the event of congestion (dynamic export control)[2]. This approach would have resulted in better outcomes for the system, EDBs, and customers than the Authority's proposed changes. Dynamic export limits would allow customers to export significant amounts of electricity at peak times when wholesale prices and network congestion are high, while curtailing exports during peak export periods to eliminate the need for non-economic LV network upgrades. Orion believes dynamic export curtailment is a pragmatic and future-proof approach to safely enable greater generation across New Zealand's electricity networks. This approach would support releasing the maximum amount of network capacity today, without providing an unfair advantage to first movers and without socialising the cost of additional export capacity to non-exporting customers. This view is consistent with findings from the Australian Energy Regulator, which observes that "static limits must be conservative to keep generation within a network's hosting capacity and share that network's capacity across all consumers, particularly during periods of high congestion." The AER also notes that "there are several potential benefits from flexible export limits such as dynamically maximising the availability of export capacity on networks and providing greater consumer choice."[3]

[2] South Australia Power Networks (https://www.sapowernetworks.com.au/industry/flexible-exports/)
[3] Australian Energy Regulator (2023). Flexible Export Limits – Final Response and Proposed Actions. July 2023. (Link)

		Orion encourages the Authority to draft changes to the Code to support the utilisation of dynamic exports. Many approaches can be taken to support dynamic export, some examples include mandating that inverters be installed CSIP-AUS-compliant or referring to many of the relevant approval lists of dynamically curtailable inverters. The Authority should engage other government bodies, if required, to ensure the system can benefit from dynamic exports as soon as possible. Without support for dynamic exports, the proposed Code amendments will codify static limits and, therefore, slow the development of dynamic limits in New Zealand as EDBs make the required changes to support the Authority's current proposals, reducing the benefits stated in this consultation. In summary, Orion supports the Authority's intent to increase static export limits to be less conservative where possible. Orion believes dynamic export limits would be a better long-term alternative and encourages the authority to make changes where possible to support dynamic exports.
Q2.	What are your views on the Code clarifying that a distributor cannot limit the nameplate capacity of a Part 1A application, unless the capacity exceeds 10kW?	Orion supports the Authority's proposal to clarify that the distributor cannot limit the nameplate capacity of the solar system under Part 1A applications.
Q3.	There are requirements for distributors in Proposal A1. Which of these do you support, or not support, and why?	Orion disagrees with the following requirement on distributors in Proposal A1: - Publish a signed statement by its CEO that export limits have been determined in accordance with the Code requirement and the ELAM This requirement is out of step with the matters that CEOs currently sign off on at New Zealand EDBs. A LV constraint assessment process should not require the CEO's sign-off, and would create process inefficiencies at operational and governance levels. The CEO's sign-off is not appropriate at this granular, day-to-day operational level or for the volume of assessments involved. Orion requests that the Authority clarify the rationale for considering ELAMs sufficiently critical to necessitate approval at the CEO level.
Q4.	What are your views on the proposal for industry to	Orion supports a standardised assessment methodology across EDBs to assess export limits.

develop an export limits assessment methodology?	Orion notes that constraint assessments are difficult and costly at the LV circuit level of the network. Parts of this consultation make it clear that the Authority may not fully understand the levels of complexity or the assumptions required to complete constraint assessments, especially when assessing emerging constraints such as the proliferation of solar generation. We estimate it will take about 2 months to complete the initial export assessment for approximately 12,000 of our LV circuits. The Authority cannot expect that constraint assessments will be completely standard, as different assumptions will need to be made on different networks e.g. - The maximum uptake per LV network assumption will change significantly depending on many factors. - After diversity, maximum export for a certain system size will differ significantly in different areas (for example, areas with lots of holiday homes have large exports per kW of installed capacity compared to areas with permanent residents). This complexity will also increase the time required to produce a standard assessment between EDBs. Orion believes the ELAM approach is the correct way to achieve increased exports from small-scale distributed generation when fixed limits are used. However, dynamic export limits will allow significantly better outcomes for New Zealand's electricity system. While Orion supports the intent behind the ELAM as communicated in the consultation, we do not support how it has been implemented in the Code amendment for the following reasons: 1. The draft amendment specifies that the ELAM can only take into account distributed generation that is connected to the network and applications that are being assessed to connect to the network. The authority does not discuss this amendment to the Code in depth in the consultation paper. This amendment will cause a first-mover advantage on the network. Orion recommends that the Authority remove this wording from the amendment. 2. The draft Code amendments only allow distributors to reduce export limits due to network safety concerns or voltage tolerances being breached. Networks must manage more than just voltage or safety constraints to ensure the reliable supply of

		electricity to their customers. One example is thermal constraints. As the draft reads, networks cannot reduce exports due to thermal constraints because thermal constraints are not a network safety or voltage issue. Orion urges the Authority to revise the wording of the draft Code amendment to allow distributors to reduce export limits due to network constraints. 3. The draft Code amendment regarding the ELAM and BELAM needs to be reconsidered. The draft amendment requires SSDG applications exceeding the LV network's export limit (as set by the ELAM below the 10kW per ICP default) to undergo BELAM assessment. We believe this is not the Authority's intention. If this is the Authority's intention, we disagree, as bespoke methodologies for SSDG will lead to significant inefficiencies.
Q5.	What would you do differently in Proposal A1, if anything?	1. Remove the requirement for CEO certification. 2. Create an environment that supports the future shift towards dynamic limits based on real-time network constraints through future-proofed code amendments and network assessment methodologies. 3. Other comments discussed in our answer to Q4 and Q3.
Q6.	What concerns, if any, do you have about requiring the 2024, rather than 2016, version of the inverter installation standard for Part 1A applications?	Orion supports the ENA's submission on this question.
Q7.	Do you support amending the New Zealand volt-watt and voltvar settings to match the Australian values for Part 1A applications - why or why not – what do you think are the implications?	The Authority is suggesting the Region A setting to be used for Part 1A applications. Orion would like to understand the technical review that the Authority has completed to decide that Region A settings are appropriate for New Zealand. Orion has reviewed all regional settings and, at a high level, believes that Region C and some parts of Region A settings are appropriate for New Zealand. Without a proper technical review conducted by the industry, it is impossible to know if these settings are fully appropriate for New Zealand. For example, Orion notes that Region A's frequency response settings are outside the range Transpower considers optimal. It is unclear whether the Authority is proposing to

	include the Region A protection settings as well as the Volt Watt and Volt Var response modes.
Q8. What would you do differently in Proposal A2, if anything?	No comment.
Q9. Do you have any concerns about the Authority citing the Australian disconnection settings for inverters when high voltage is sustained?	No comment.
Q10. Do you have any concerns about the Authority requiring the latest version of the inverter performance standard for Part 1A applications?	No comment.
Q11. What are your views on the proposal that where distributors set bespoke export limits for Part 2 applications, they must do so using the industry developed assessment methodology?	Orion supports, in principle, the intent of an industry-developed assessment methodology.
Q12. What are your views on the several requirements that must be adhered to regarding the distributors' documentation (see paragraph 5.96) relating to setting export limits under Part 2?	No comment.
Q13. Do you agree it is fair and appropriate that where distributors set export limits for Part 2 applications, applicants can dispute the limit? If so, what sort of process should that entail?	Yes, applicants should be able to dispute the limit. This dispute should require an applicant to provide independent verification or challenge the export limit, and the applicant should bear the associated costs. Orion also supports the ENA's submission on this question.
Q14. What would you do differently in Proposal B, if anything?	We support the ENA's response to this question.
Q15. What are your thoughts on requiring the inverter performance standard (AS/NZS	No comment.

4777.2:2020 incorporating Amendments 1 and 2) for low voltage DG applications in New Zealand?	
Q16. Do you consider the transitional arrangements workable regarding requirements and timeframes? If not, what arrangements would you prefer?	The transitional arrangements are unworkable, especially considering the change we are currently navigating for the connection price and process on 1st April 2026. Orion believes the following amendments should be made: - Transitional dates should be the same. Having two different dates that trigger different processes for short periods is inefficient. The need for a 10kW limit does not justify temporary, inefficient processes. Orion submits that all timelines for part 1A changes align to the same date to reduce the development of temporary processes. - A four-month period to develop a standard assessment is not workable. We submit that all timelines be extended to 6 months from the date the code amendments are made. This will still be a tight timeline, given the number of embedded systems that will need to be changed to adopt a standardised approach.
Q17. What are your views on the objective of the proposed amendments?	Orion agrees with the intended objective.
Q18. Do you agree the benefits of the proposed amendments outweigh their costs? If not, why not?	The benefits likely outweigh the costs, assuming networks can constrain exports at peak export times. Orion believes these benefits need to be available to all consumers, and the adopted approach to increasing export capability should reflect this. Currently, the Authority's proposal will only benefit the first movers on LV circuits.
Q19. What are your views on the Authority's estimate of costs of lost benefits from a 5kW export limit?	The costs of delays in implementing dynamic export limits resulting from the proposed changes have not been accounted for in the cost-benefit analysis.
Q20. Are there costs or benefits to any parties (eg, distributors, DG owners, consumers, other industry stakeholders) not identified that need to be considered?	We align with Vector's view that the Authority should produce a cost-benefit analysis and compare dynamic vs static export limits.

Q21. Do you agree the proposed Code amendments are preferable to the other options? If you disagree, please explain your preferred option in terms consistent with the Authority's main statutory objective in section 15 of the Electricity Industry Act 2010	No. We do not believe the proposed code amendments are the preferred option. Static limits are not efficient and are not a good long-term solution for New Zealand. Dynamic export limits are a better long-term solution for the New Zealand electricity system.
Q22. Do you agree the Authority's proposed amendments comply with section 32(1) of the Act?	As currently drafted, we do not consider that the proposed amendments will comply with section 32(1)(c) of the Electricity Industry Act 2010. In their current form, we do not consider that they will promote the efficient operation of the electricity industry.
Q23. Do you have any comments on the drafting of the proposed amendment?	We refer to our comments made throughout this submission about the draft Code amendments proposed. We also make the following comments. Proposed clause 6.3A(3) refers to "section of network that carries electricity from the ICP or group of ICPs to the network." The meaning of this phrase is not clear. Is it one section of line or many sections? Is it however big you wish it to be? Later at subclause (7) it refers to publishing easily accessible lists or maps of "**areas** on the network" rather than referring to sections of network. Are areas the same as sections? These terms should be consistent. Proposed clause 6.3A(7)(c) refers to repeating the network study where there has been a change on the network likely to alter the outcome of the network study. Our view is that this is too uncertain – one small change on part of the network might require the whole study to be repeated. It would be clearer and more efficient to have a defined timeframe for these studies to be reviewed. In this regard we favour referring to a review of the study, rather than repeating the study. As previously noted in this submission, proposed clause 6.3A(8) refers to a requirement for the CEO, or a person holding an equivalent position, publishing a signed statement where a distributor undertakes a network study to determine a maximum export power threshold under subclause (3). Orion does not support the need for the CEO's signature and we refer you to our answer at Q3, Q5 and Q12.

Proposed clause 1E(1) of Schedule 6.1 refers to the distributor assessing an application in good faith. Is there a suggestion that distributors would not assess such applications in good faith? Again, we would like to know the Authority's reasoning for this requirement, and the issue it is attempting to resolve. Our submission is that the reference to "good faith" should be removed.

Proposed clause 1E(2) of Schedule 6.2 could be written in a much clearer way. It refers to a network study being undertaken as part of an assessment under subclause (1). However, of itself, clause 1E(1) does not require a network study to be undertaken. This may only be required if you trace through the earlier provisions in Part 6. Our suggestion for this provision would be to clearly set out all of the requirements that must be complied with rather than cross-referring to other provisions of the Code. In addition, current interpretations of this drafting are discussed in our answer to question 4. Put simply, this should be as clear as possible.

We also note that clause 6.3A(7) and clause 1E(2) are incomplete. The punctuation at the end of each paragraphs have not been finished. While this is only a draft and we appreciate that it will be tidied up, it would have been more helpful for these clauses to have been drafted with the correct punctuation and it made clear whether the paragraphs are cumulative or alternatives. We also note that clause 1E(2) is incomplete in that paragraph (b) does not follow appropriately from the opening words of the subclause (2). These drafting errors need to be corrected. The name of part 1 applications will also need to be changed in the Code.

Clause 1G dealing with the disputes mechanism would also benefit from a number of clarifications. There should be a timeframe inserted in the provision so there is a clear time by which disputes must be notified under subclause (1). Subclause (2)(b) should make it clear whether one or both parties may escalate the dispute to CEOs. Subclause (2)(c) should make it clear that a dispute may only be referred to mediation if the CEOs are not able to resolve the dispute. Presumably subclause (2)(d) only applies if the dispute is not able to be resolved via mediation? This should also be made clear in the clause (unless the intent that the parties may select either mediation or arbitration?). Orion also supports the comments the ENA submitted on this point in their response.

Appendix B

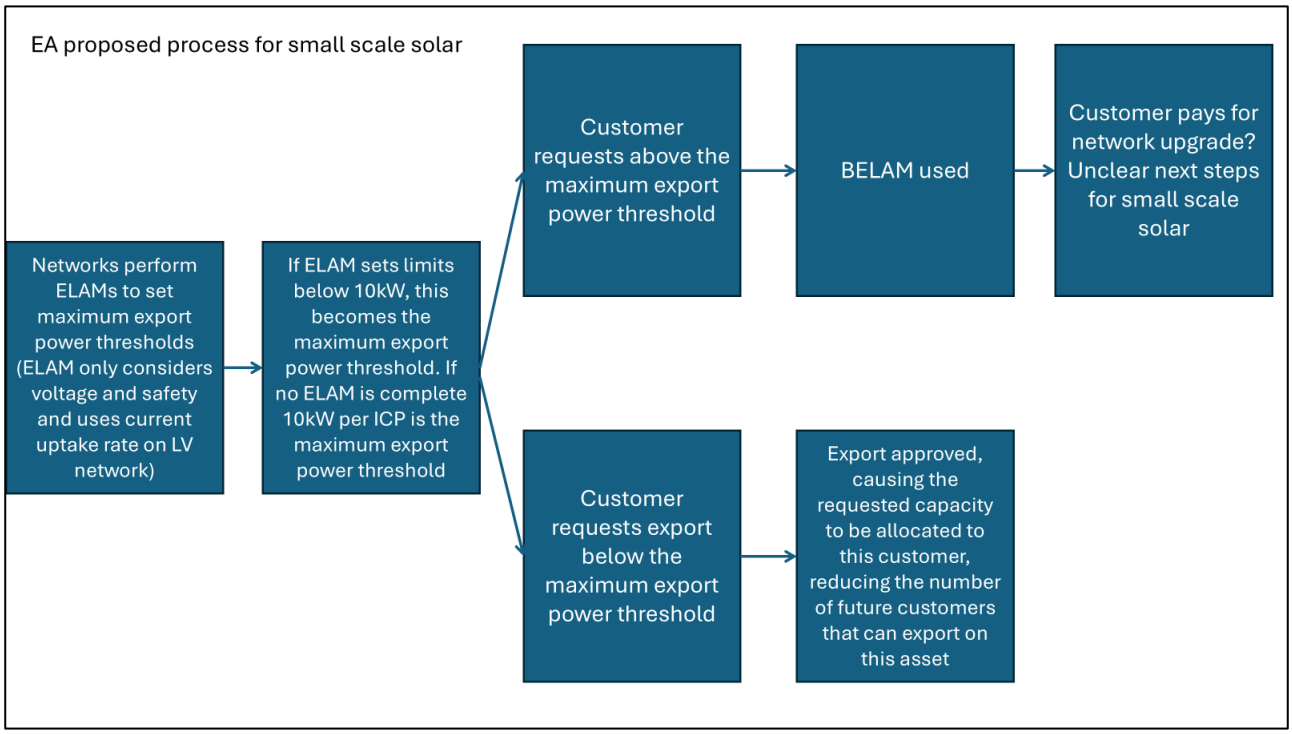

Figure 1: Orion's understanding of the proposed process for SSDG

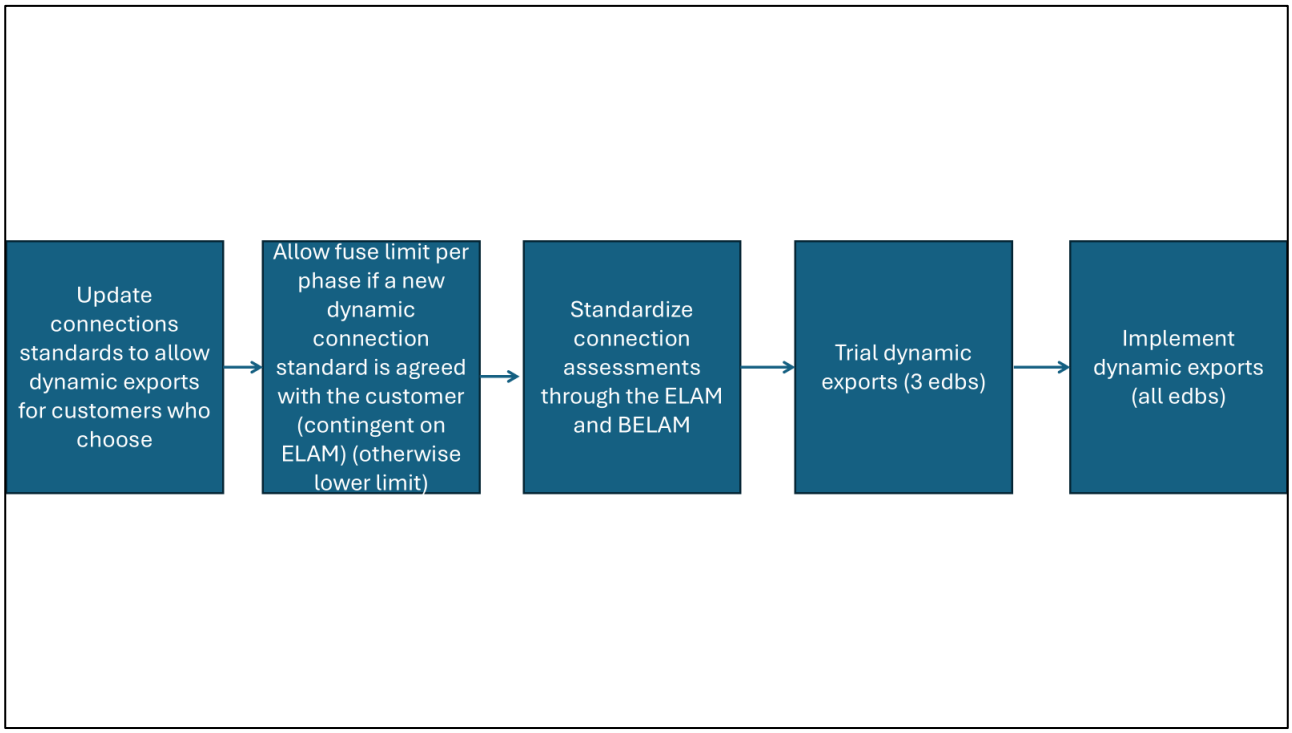

Figure 2: Orion's proposed high-level process to work toward dynamic limits (DRAFT)

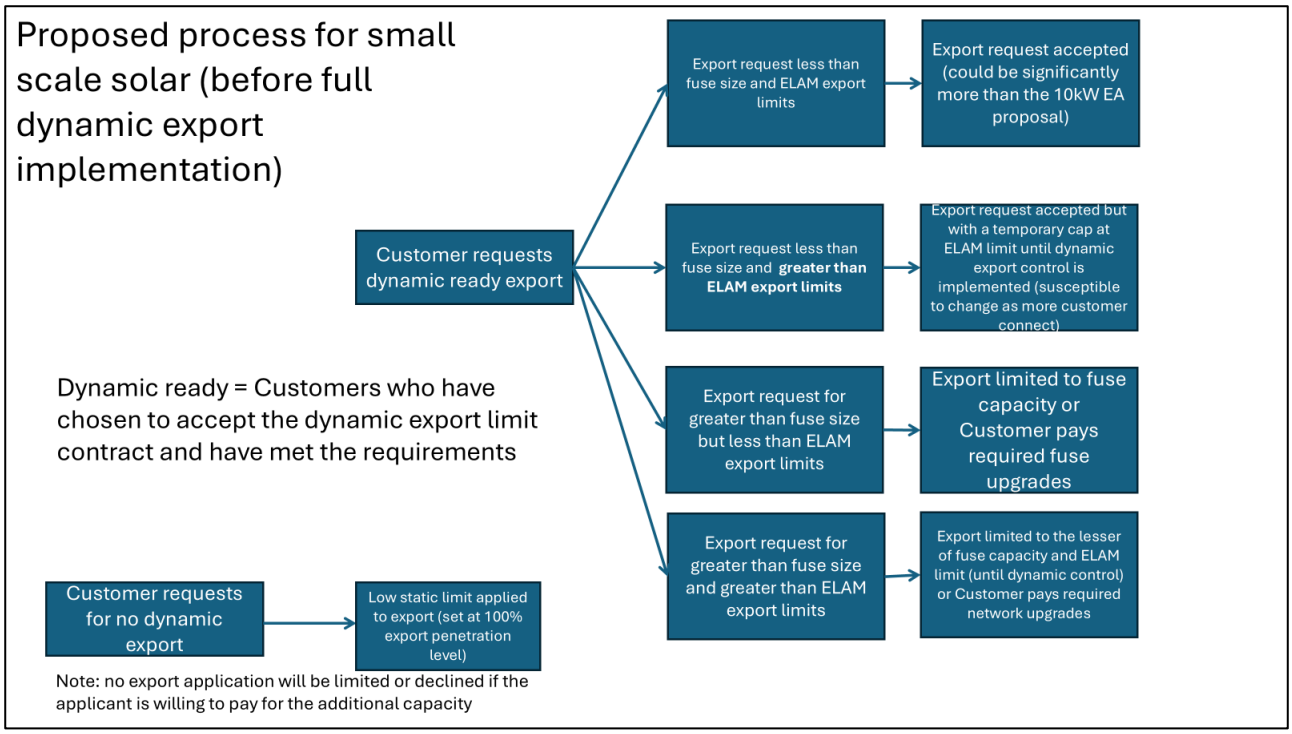

Figure 3: Orion's proposed temporary process before dynamic limits are functional (DRAFT)

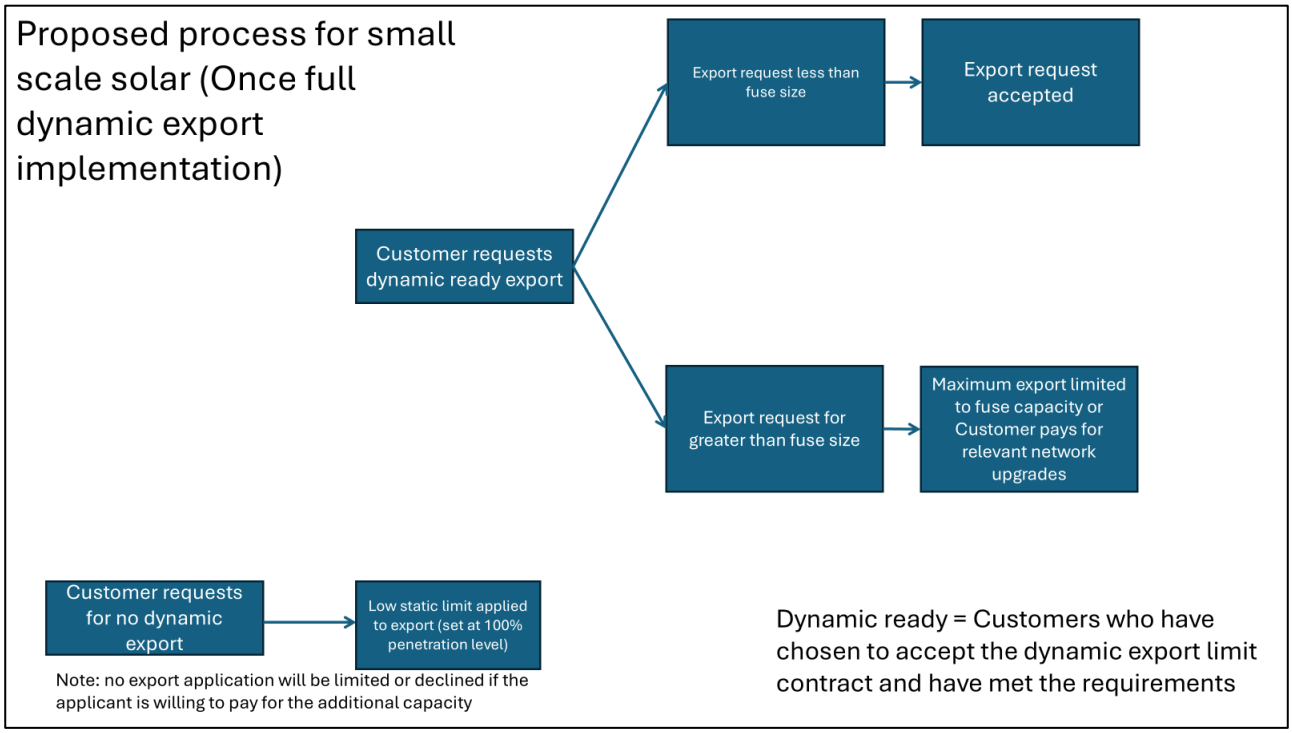

Figure 4: Orion's proposed process once dynamic limits are implemented (DRAFT)