

Enabling the system operator's Dispatch Service Enhancement project

Consultation paper

Submissions close: 22 May 2018

10 April 2018



Executive summary

The Electricity Authority (Authority) proposes amending the Electricity Industry Participation Code 2010 (Code) and the Approved Systems Document to allow the system operator to replace the existing GENCO system it uses to issue electronic dispatch instructions. Through its Dispatch Service Enhancement (DSE) project, the system operator intends to replace GENCO by adopting two alternate communication protocols, Inter-Control Center Communications Protocol (ICCP) and web services.

Current dispatch arrangements affect competition, reliability, and efficiency

In combination, the Code and the Approved Systems Document currently say the system operator can only use GENCO for issuing electronic dispatch instructions. These arrangements adversely affect:

- (a) competition, because the complex GENCO system presents a technical barrier to entry, making it harder for new technologies and business models to participate in dispatch
- (b) reliability, because the ageing GENCO system is subject to reliability issues, is difficult to service and maintain, lacks redundancy, and becomes unsupported in December 2020
- (c) efficiency, because the GENCO system adds cost for participants, prevents them from improving their own systems, and hinders innovation around the dispatch process.

Replacing GENCO with alternate communication protocols would improve competition, reliability, and efficiency

We propose enabling the system operator's DSE project by:

- (a) introducing the two alternate communication protocols as approved methods for issuing electronic dispatch instructions in the Approved Systems Document, and applying a sunset clause ending GENCO's status as an approved system on 31 December 2020
- (b) amending Part 13 of the Code to expand the rules around acknowledging dispatch instructions (allowing for automated responses), clarify alternate arrangements for dispatching ancillary service agents, and make a small number of minor improvements to related clauses.

We consider these proposed amendments would:

- (a) ensure secure and reliable delivery of dispatch communications
- (b) reduce technical barriers to market entry and participation, including for new technologies and business models
- (c) increase flexibility and reduce complexity of the dispatch service.

We expect the proposal would result in net benefits of around \$0.6 million, assessed over a period of 15 years. We also expect substantial qualitative benefits, such as improving resilience and facilitating innovation, and avoiding any delay implementing real-time pricing (if the Authority decides to proceed).

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1 What you need to know to make a submission

What this consultation paper is about

- 1.1 The purpose of this paper is to consult with stakeholders on two proposals:
- (a) amending the Approved Systems Document to provide for GENCO to be replaced as the system used for issuing electronic dispatch instructions
 - (b) amending Part 13 of the Code to increase the benefits from adopting a new electronic dispatch system.
- 1.2 We are treating these changes as a single proposal for the purposes of consultation because they are closely inter-related.
- 1.3 Currently, the system operator must use the 'GENCO' system to issue electronic dispatch instructions. The system operator proposes enhancing the dispatch service by replacing the current communication protocol and associated GENCO software.
- 1.4 The proposed amendments to the Code and the Approved Systems Document would have benefits for reliability. They would also promote competition and efficiency in the industry by reducing barriers to entry and innovation, as well as overall costs. The proposed amendments would enable the system operator's dispatch service enhancement, and broaden the potential benefits from replacing GENCO.
- 1.5 We have committed to consulting on material changes to the Approved Systems Document. Section 39(1)(c) of the Act requires the Authority to consult on any proposed amendment to the Code and corresponding regulatory statement. Section 39(2) provides that the regulatory statement must include a statement of the objectives of the proposed amendment, an evaluation of the costs and benefits of the proposed amendment, and an evaluation of alternative means of achieving the objectives of the proposed amendment. The regulatory statement is set out in section 3 of this paper.

How to make a submission

- 1.6 The Authority's preference is to receive submissions in electronic format (Microsoft Word) in the format shown in Appendix C. Submissions in electronic form should be emailed to submissions@ea.govt.nz with "Consultation Paper—Enabling the system operator's Dispatch Service Enhancement project" in the subject line.
- 1.7 If you cannot send your submission electronically, post one hard copy to either of the addresses below, or fax it to 04 460 8879.

Postal address

Submissions
Electricity Authority
PO Box 10041
Wellington 6143

Physical address

Submissions
Electricity Authority
Level 7, ASB Bank Tower
2 Hunter Street
Wellington

- 1.8 Please note the Authority wants to publish all submissions it receives. If you consider that we should not publish any part of your submission, please
- (a) indicate which part should not be published
 - (b) explain why you consider we should not publish that part

- (c) provide a version of your submission that we can publish (if we agree not to publish your full submission).
- 1.9 If you indicate there is part of your submission that should not be published, we will discuss with you before deciding whether to not publish that part of your submission.
- 1.10 However, please note that all submissions we receive, including any parts that we do not publish, can be requested under the Official Information Act 1982. This means we would be required to release material that we did not publish unless good reason existed under the Official Information Act to withhold it. We would normally consult with you before releasing any material that you said should not be published.

When to make a submission

- 1.11 Please deliver your submissions by **5pm** on **22 May 2018**.
- 1.12 The Authority will acknowledge receipt of all submissions electronically. Please contact the Submissions' Administrator if you do not receive electronic acknowledgement of your submission within two business days.

2 We propose enabling the system operator's Dispatch Service Enhancement project

Current arrangements mandate the system operator use GENCO for electronic dispatch

- 2.1 Part 13 of the Code includes specific provisions around dispatch communications between the system operator and participants. In particular, clause 13.76(1) specifies the system operator must issue dispatch instructions:
- (a) to generators only using a system approved by the Authority (an approved system)
 - (b) to dispatchable load purchasers (ie, dispatchable demand participants) via WITS
 - (c) to ancillary service agents verbally or in writing.¹
- 2.2 The Authority sets out the systems it approves for use—the approved systems, where required by the Code—in the Approved Systems Document, published on our website.²
- 2.3 GENCO is currently the only approved system the system operator may use in meeting its obligations under clause 13.76(1). That is, all electronic dispatch instructions must currently be issued via GENCO.

Restricting electronic dispatch to GENCO affects competition, reliability, and efficiency

- 2.4 GENCO is ageing, inflexible, proprietary software and mandating its use as the approved system for dispatch is adversely affecting competition, reliability, and efficiency:
- (a) Issues with GENCO currently lead to elevated incidence of phone dispatch, reducing the reliability of the dispatch service.
 - (b) Support for GENCO is limited to a single third-party provider, making it difficult for all users to service and maintain the platform.
 - (c) There are very limited options for redundant network connections to GENCO, so participants likely must resort to phone dispatch in the event of a communications failure. The fallibility of phone dispatch could create risks for reliability.³
 - (d) The proprietary SCADA InterSite Protocol (ISD) communication protocol employed by GENCO acts as a technical barrier to entry, reducing competition in the wholesale market.
 - (e) Changes to dispatch products must be coordinated with all participants using GENCO. This restriction hinders the ability to expand participation in dispatch or introduce new functionality, creating a barrier to innovation and efficiency in a changing market environment.
 - (f) The software platform on which GENCO is built will become unsupported in 2020 (causing potential operational security risks, as discussed from paragraph 2.11).

¹ Some ancillary services, such as instantaneous reserve, are currently also dispatched via GENCO.

² Available at <https://www.ea.govt.nz/code-and-compliance/the-code/definitions/>.

³ Note the use of phone dispatch in this context (communications failure for a participant) may be separate to the general fall-back to phone dispatch noted in item 2.4(a).

- 2.5 Combined, GENCO and the existing Code provisions therefore significantly reduce the potential to innovate around the dispatch process, and to accommodate a broader range of participants and technologies as the market evolves. For example, expanding the current system to allow the system operator to send electronic instructions to a distributor to shed or restore load would be difficult and costly.

The system operator proposes replacing GENCO with two alternate communication protocols

- 2.6 The system operator's Dispatch Service Enhancement (DSE) project is intended to address these concerns by replacing GENCO.⁴ We consulted on an initial business case for the project in December 2016 as part of our 2017/18 appropriations and strategic priorities consultation process.⁵ Submitters were broadly supportive of the proposal.
- 2.7 The Authority subsequently approved the system operator preparing a detailed business case and implementation project plan for enhancing the dispatch service. This detailed business case and project plan are due in mid-calendar year 2018. If the Authority approves the DSE business case and project plan, the system operator will receive the necessary funding to upgrade the dispatch service.
- 2.8 The DSE project would replace GENCO by adopting two alternate communication protocols: Inter-Control Center Communications Protocol (ICCP) and web services. The system operator stated these protocols would:⁶

...enable current dispatch participants who use ICCP to consolidate their communications, and to enable smaller participants, for whom ICCP is not cost-effective, to be able to participate fully in the market and use a protocol that best fits their dispatch operation and their level of investment.

We propose amending the Code and the Approved Systems Document to enable the system operator's DSE project

- 2.9 The Authority considers the system operator's proposed DSE project is timely, and it is appropriate to address the limitations in current dispatch arrangements now, because:
- (a) As detailed in paragraph 2.4, GENCO is ageing, inflexible, proprietary software, and the platform on which it is based will no longer be supported after 2020.
 - (b) Industry participants have requested the system operator enhance the dispatch service to use up-to-date electronic communication protocols.
 - (c) The electricity market environment in New Zealand is changing with emerging business models, increasing uptake of new technologies and evolving market arrangements. These trends are likely to require new functionality in the dispatch service.

⁴ The DSE project was formerly known as Electronic Dispatch Facility, Phase III (EDF III), referring to GENCO's role within the electronic dispatch facility the system operator uses to issue electronic dispatch instructions. Further information is available on the system operator's DSE project website at <https://www.transpower.co.nz/system-operator/so-projects/dispatch-service-enhancement-project>.

⁵ See the Authority's 2017/18 appropriation consultation at <https://www.ea.govt.nz/about-us/corporate-projects/201718-planning-and-reporting/consultations/#c16218>.

⁶ System operator, October 2016 (p. 9): *Service enhancement consultation information (Electronic Dispatch Facility Enhancement Project)*, Appendix B to the Authority's 2017/18 appropriation consultation, available at <https://www.ea.govt.nz/dmsdocument/21402>.

- (d) The Authority recently consulted on a proposal to introduce real-time pricing.⁷ Some proposed elements of that project would require broader dispatch functionality to be in place as a precursor. The system operator's proposed DSE project would meet those needs. The lead time to implement real-time pricing would likely be greater (if the Authority decides to proceed) if GENCO was not replaced as the only approved system.
 - (e) Failing to replace GENCO will likely also hinder other future projects affecting dispatch—and require incremental modifications to the existing dispatch service that would likely result in suboptimal solutions.
- 2.10 At a minimum, we must amend the Approved Systems Document to allow the system operator to use alternate systems to issue dispatch instructions. We consider additional proposed amendments to Part 13 of the Code would help realise the full benefits of the DSE project, by supporting broader dispatch functionality. The Authority and the system operator have also identified other minor changes to relevant clauses in Part 13 that we consider would better clarify the dispatch process.

Q1. Do you agree the issues identified by the Authority warrant amending the Code provisions for dispatch instructions and the Approved Systems Document?

We also propose including a sunset clause ending GENCO's status as an approved system on 31 December 2020

- 2.11 It would not be efficient to retain GENCO as an approved system for electronic dispatch once the two new communication protocols are in place. The system operator would continue incurring costs to operate and maintain GENCO, when the ultimate intent of its DSE project is to replace that system. Further, as discussed above, any changes to dispatch products may also require changing GENCO, incurring additional time and cost.
- 2.12 Critically, continuing to use GENCO beyond 2020 would also require upgrades to its underlying software platform, at likely significant cost. These upgrades would be unavoidable, because the current software platform will no longer be supported from 2020. Appendix D provides a statement from the system operator giving details of this expiring software support, and the risks it poses for operational security. Incurring these additional costs to upgrade the GENCO software platform would not be efficient.
- 2.13 At the system operator's request, we therefore propose inserting a sunset clause in the Approved Systems Document ending GENCO's status as an approved system. The system operator requests a sunset date for GENCO of 31 December 2020.
- 2.14 This sunset date would allow sufficient time for participants to transition to the new communication protocols, once they are available in about June 2019.⁸ If this sunset date is adopted, participants would no longer be able to receive electronic dispatch instructions via GENCO from 1 January 2021. GENCO would cease to be an approved system for dispatch and the system operator would cease to use it to issue dispatch instructions from that date.

⁷ See <https://www.ea.govt.nz/development/work-programme/pricing-cost-allocation/spot-market-settlement-on-real-time-pricing/>.

⁸ See the system operator's DSE project timeline at <https://www.transpower.co.nz/system-operator/so-projects/dispatch-service-enhancement-project#Timeline>.

Q2. Do you agree with the proposed sunset clause ending GENCO's status as an approved system on 31 December 2020? If not, why not?

3 Regulatory statement for the proposed amendments

- 3.1 Sections 39(1)(b) and (c) of the Electricity Industry Act 2010 (Act) require the Authority to prepare and publish a regulatory statement on any proposed amendment to the Code, and to consult on the proposed amendment and regulatory statement.
- 3.2 Section 39(2) of the Act provides that the regulatory statement must include:
- (a) a statement of the objectives of the proposed amendment
 - (b) an evaluation of the costs and benefits of the proposed amendment
 - (c) an evaluation of alternative means of achieving the objectives of the proposed amendment.
- 3.3 The Authority has made a voluntary commitment to consult on changes to the Approved Systems Document, but as the Approved Systems Document is not part of the Code a regulatory statement is not required for that aspect of this proposal.
- 3.4 However, we consider the proposed amendments to the Approved Systems Document and the Code to be a package of changes—we would not proceed with one without the other. We have therefore treated the changes as one proposal in this regulatory statement.

Objectives of the proposed amendments

- 3.5 The objectives of the proposed amendments are to promote competition, reliability, and efficiency by:
- (a) ensuring secure and reliable delivery of dispatch communications
 - (b) reducing technical barriers to market entry and participation, including for new technologies and business models
 - (c) increasing flexibility and reducing complexity of the dispatch service.

Q3. Do you agree with the objectives of the proposed amendment? If not, why not?

The proposed amendments

- 3.6 The proposed amendment to the Approved Systems Document would:
- (a) introduce two new approved systems (ICCP and web services), for the purposes of the system operator meeting its obligations under clause 13.76 of the Code. This change is consistent with the GENCO replacement proposal the Authority consulted on in December 2016⁹

⁹ See the Authority's 2017/18 appropriation consultation available <https://www.ea.govt.nz/about-us/corporate-projects/201718-planning-and-reporting/consultations/#c16218>.

- (b) apply a sunset clause for GENCO's status as an approved system of 31 December 2020.
- 3.7 The proposed amendment to the Code would:
- (a) simplify clauses 13.71, 13.73, and 13.84 by removing unnecessarily repetitive or specific language
 - (b) improve clause 13.76 by clarifying that ancillary service agents should also be dispatched by an approved system, or by other means stipulated in an ancillary service arrangement (but without stating what they may be)
 - (c) introduce provisions in clauses 13.79 and 13.81 allowing the system operator to agree alternate dispatch acknowledgement arrangements with a participant (eg, automated, or no acknowledgement required)
 - (d) clarify that generators (13.83) and ancillary service agents (13.84) should have staff or facilities available to acknowledge dispatch instructions, subject to any alternate agreement with the system operator
 - (e) simplify clause 13.86, and clarify that instantaneous reserve and frequency keeping are not subject to the dispatch thresholds.
- 3.8 The proposed amendments will be subject to the Authority approving the system operator's detailed business case and implementation project plan for its DSE project.
- 3.9 The drafting of the proposed amendments is contained in Appendix A and Appendix B.

The proposed amendments' benefits are expected to outweigh the costs

- 3.10 The system operator provided a quantitative cost-benefit analysis (CBA) in its initial business case in December 2016 as part of our 2017/18 appropriations consultation. The Authority subsequently worked with the system operator to refine that CBA, incorporating feedback in submissions. The Authority considered this updated CBA when approving the system operator preparing a detailed business case and implementation project plan for its DSE project. The system operator's updated CBA is published on its website.¹⁰
- 3.11 Under this updated CBA, we expect the proposal would result in net benefits of approximately \$0.6 million (in present values). This estimate is based on expected benefits with a present value of around \$4.5 million outweighing expected costs with a present value of \$3.9 million. This analysis considers benefits and costs accrued over a 15-year period beginning in 2019, using a real discount rate of 6%.

Benefits

- 3.12 The quantified benefits arise from:
- (a) avoided maintenance and operational costs for parties that currently receive dispatch instructions using GENCO (directly, or via an agency agreement). This benefit is estimated as \$120,000 per year, based on the results of a survey undertaken by the system operator which suggested GENCO support costs average \$10,000 per participant per year

¹⁰ Available at <https://www.transpower.co.nz/system-operator/so-projects/dispatch-service-enhancement-project#Related%20Information>.

- (b) avoided costs for reduced use of phone-based dispatch. The system operator assessed that phone dispatch is used for 546 hours per year, and could be reduced by 50%, giving an average of 273 hours per year. At an assumed cost of \$100 per hour each for both the system operator and the participant, this equates to a saving of \$54,600 per year
- (c) reduced participant costs for new market system enhancements from having a more flexible dispatch service. The system operator and the Authority expect GENCO users would realise operational efficiencies. We have assessed this as one third of the value of reduced GENCO maintenance costs (see paragraph 3.12(a)), or \$39,600 per year
- (d) reduced costs for large projects introducing new dispatch functionality. The system operator and the Authority estimate cost savings of approximately 10%. A large dispatch project would cost around \$5 million, hence realising cost savings of \$500,000. We conservatively assume half of this saving (\$250,000), and that new dispatch functionality would be delivered every three years in a fast-changing market environment
- (e) avoided costs that would otherwise be incurred to extend GENCO's life beyond December 2020. GENCO upgrade costs are estimated at an average range of \$360,000–\$540,000, based on 36 GENCO users at \$15,000 per user. This upgrade cost of \$540,000 is assumed to be spread over two years. Further, the system operator assumes GENCO would ultimately need replacing in 2034 (year-15) if it is retained beyond 2019. This replacement cost is assumed to be \$2.15 million.

3.13 We consider there are three other, unquantified, sources of benefit:

- (a) Reduced lead time for real-time pricing (RTP): replacing GENCO with alternate communication protocols and more flexible dispatch arrangements will ensure a timely transition to RTP. The Authority is currently considering the feedback from our August 2017 consultation on whether to introduce RTP. We proposed RTP would go live in 2021, which could only be achieved if GENCO is replaced. Delaying implementing RTP would lead to later or lower potential benefit, if the Authority decides to proceed.
- (b) Improved resilience: GENCO is a legacy system with a declining level of support. The DSE project would move dispatch communication to well-supported protocols used internationally, making the dispatch function more resilient. Although very difficult to quantify, some indication of the potential benefit can be gauged by considering the cost of a widespread power blackout and restart. Based on the recent experience in South Australia, a similar event in New Zealand is estimated to cost around \$2.3 billion. If reduced likelihood of such events was the sole benefit of the project (which is clearly not the case), the annual probability of an event would only need to reduce by 0.015% for the project to break even.
- (c) Competition and innovation: more flexible dispatch communication would help introduce new industry participants and business models, and would further strengthen competition in the electricity sector. While it is difficult to quantify these dynamic efficiency benefits, the Authority expects they would be material—and possibly among the largest sources of benefit over time.

Costs

- 3.14 The costs arise from:
- (a) the capital cost of building and implementing the alternate systems. The system operator assessed these costs as between \$2.85 million and \$3.9 million; the analysis here used the mid-point of \$3.375 million
 - (b) transition costs for moving participants from GENCO to the alternate systems. These costs are estimated at \$40,000 per participant—\$20,000 for Transpower and \$20,000 for the participant.¹¹ For 12 participants the total cost is \$480,000. There is also an assumed cost for the system operator of \$100,000 to decommission the existing GENCO interfaces. Total transition costs are then approximately \$580,000, incurred in the first year only as participants would not use GENCO beyond the sunset date of December 2020.
- 3.15 The system operator will need to support participants as they transition to the upgraded dispatch service. The system operator has stated it will provide test platforms and technical support to participants. These costs are covered under the standard support arrangements already allowed for under the system operator service provider agreement, and so they are not an additional cost.

Sensitivity analysis

- 3.16 The CBA also includes lower and higher costs case scenarios, using discount rates of 4% and 8% respectively. In the lower cost scenario, we estimate the project would yield net benefits of \$1.318 million. Under the higher cost scenario, we estimate net benefits of \$48,000.
- 3.17 Table 1 summarises the results of the CBA. Note that numbers in Table 1 may not add due to rounding (to whole thousands).

Table 1: Estimated benefits and costs

Item \$m (present value)	Lower case	Base case	Higher case
Benefits			
Avoided maintenance and operational costs	1.527	1.352	1.208
Reduced participant costs for new market system enhancements	0.504	0.446	0.399
Reduced costs for large projects introducing new dispatch functionality	0.921	0.802	0.706
Avoided GENCO upgrade costs	1.723	1.422	1.198
Reduced use of phone-based dispatch	0.576	0.508	0.450

¹¹ Note, the system operator has advised participants who currently use ICCP would not need to purchase new ICCP connections if they switch from GENCO to ICCP for electronic dispatch.

Costs			
Capital investment cost	-3.375	-3.375	-3.375
Transition cost in first year	-0.558	-0.547	-0.537
Net benefits	1.318	0.608	0.048

Q4. Do you agree the benefits of the proposed amendment outweigh its costs?

The Authority has identified one alternative method for addressing the objectives

- 3.18 The Authority notes that retaining GENCO as the only approved system for issuing electronic dispatch instructions would not achieve the objectives of the proposed amendment. The status quo is therefore not a viable alternative.
- 3.19 We have identified one alternative method that would achieve the objectives.
- 3.20 This alternative would not include a sunset clause in the Approved Systems Document ending GENCO’s status as an approved system. Including the 31 December 2020 sunset date would help ensure all participants transition to the new communication protocols in a timely manner. Importantly, the sunset date ensures the costs of operating and maintaining GENCO are minimised (see paragraphs 2.11 to 2.14). It would also minimise the risk of unnecessary delay to the Authority’s real-time pricing project (should we decide to proceed). This helps assure net benefits from the proposed amendments.
- 3.21 However, the December 2020 timeframe may be too restrictive—it may prove impractical or high-cost to transition all GENCO users to the new system before that date.
- 3.22 The Authority could instead apply a later sunset date, or retain GENCO as an approved system indefinitely. However, this risks participants choosing not to transition to the new communication protocols in a timely manner, increasing overall costs and reducing benefits. Given this risk, the Authority prefers the proposal to the alternative.

The proposed amendment is preferred to the other option

- 3.23 The Authority has evaluated the other means for addressing the objectives and prefers the proposal.

Q5. Do you agree the proposed amendment is preferable to the other option? If you disagree, please explain your preferred option in terms consistent with the Authority’s statutory objective in section 15 of the Electricity Industry Act 2010.

The proposed amendment complies with section 32(1) of the Electricity Industry Act 2010

- 3.24 The Authority’s objective under section 15 of the Act is to promote competition in, reliable supply by, and efficient operation of, the electricity industry for the long-term benefit of consumers.

3.25 Section 32(1) of the Act says the Code may contain any provisions that are consistent with the Authority's objective and are necessary or desirable to promote one or all of the following:

Table 2: How the proposal complies with section 32(1) of the Act

(a) competition in the electricity industry;	The proposed amendments will improve competition in the industry because it will enable reduction of a technical barrier to participation, given the complexity of using the proprietary GENCO system. It will also reduce barriers to new technologies and business models, which cannot currently be easily accommodated by GENCO or the existing Code provisions.
(b) the reliable supply of electricity to consumers;	The proposed amendments will improve the reliability of supply by ensuring the resilience of dispatch communications and hence, adherence with those instructions. It does this by enabling a dispatch process that is less subject to reliability issues, can be more easily serviced and supported, and incorporates redundancy.
(c) the efficient operation of the electricity industry;	The proposed amendments will increase the efficient operation of the industry by avoiding costs associated with operating and maintaining the GENCO system for all users. It also enables innovation by introducing communication protocols that can interact more readily with other systems; allowing flexibility in how participants acknowledge dispatch instructions; and reducing the costs and lead time of other projects that influence dispatch communications, such as the Authority's real-time pricing project. The proposed amendments will therefore result in both productive and dynamic efficiency gains.
(d) the performance by the Authority of its functions;	The proposed amendments will not materially affect the performance of the Authority.
(e) any other matter specifically referred to in this Act as a matter for inclusion in the Code.	The proposed amendments will not materially affect any other matter specifically referred to in the Act for inclusion in the Code.

Q6. Do you agree the Authority's proposed amendment complies with section 32(1) of the Act?

The Authority has given regard to the Code amendment principles

- 3.26 When considering amendments to the Code, the Authority is required by its Consultation Charter to have regard to the following Code amendment principles, to the extent the Authority considers they are applicable. Table 3 describes the Authority's regard for the Code amendment principles preparing this proposal.¹²

Table 3: Regard for Code amendment principles

Principle	Comment
1. Lawful	The proposal is lawful, and is consistent with the statutory objective (see paragraph 3.24) and with the empowering provisions of the Act.
2. Provides clearly identified efficiency gains or addresses market or regulatory failure	The efficiency gains are set out in the evaluation of the costs and benefits (see paragraph 3.10 to 3.15).
3. Net benefits are quantified	The Authority considers the evaluation of the quantified costs and benefits set out in paragraph 3.10 to 3.15 shows positive net benefit.

- 3.27 Principles 4 to 9 are not included in Table 3. They apply only where a cost-benefit analysis of Code amendment options demonstrates a positive net benefit, but is inconclusive about which is the best option (refer clause 2.5 of the Consultation Charter). At this point, the Authority considers it is clear the proposed option is the best.

¹² The consultation charter is one of the Authority's foundation documents and is available at <http://www.ea.govt.nz/about-us/documents-publications/foundation-documents/>.

Appendix A Proposed Code amendment

Q7. Do you have any comments on the drafting of the proposed amendment to the Code?

Appendix B Proposed Approved Systems Document amendment

Q8. Do you have any comments on the drafting of the proposed amendment to the Approved Systems Document?

Appendix C Format for submissions

Submitter	
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Question	Comment
Q1. Do you agree the issues identified by the Authority warrant amending the Code provisions for dispatch instructions and the Approved Systems Document?	
Q2. Do you agree with the proposed sunset clause ending GENCO's status as an approved system on 31 December 2020? If not, why not?	
Q3. Do you agree with the objectives of the proposed amendment? If not, why not?	
Q4. Do you agree the benefits of the proposed amendment outweigh its costs?	
Q5. Do you agree the proposed amendment is preferable to the other option? If you disagree, please explain your preferred option in terms consistent with the Authority's statutory objective in section 15 of the Electricity Industry Act 2010.	
Q6. Do you agree the Authority's proposed amendment complies with section 32(1) of the Act?	
Q7. Do you have any comments on the drafting of the proposed amendment to the Code?	
Q8. Do you have any comments on the drafting of the proposed amendment to the Approved Systems Document?	

Appendix D System operator statement on support status of GENCO platform

D.1 The system operator has provided the following statement explaining that the software platform underpinning GENCO becomes unsupported in December 2020.

The software platform on which ISD-GENCO is built, Visual Basic 6 (VB6), is under current operational support, but the vendor no longer provides extended support for this product, i.e. for the development tools to modify VB6. Furthermore, the newer version of the ISD protocol does not work with GENCO, which means that effectively the ISD protocol is unsupported, and any support provided is chargeable under the Transpower vendor support agreement.

This means that if a participant were to hold out [ie; try to keep using GENCO], we could continue to dispatch them for existing dispatch products compatible with ISD/GENCO at significant ongoing operational costs. Furthermore, if we were to change the way dispatch products are dispatched (as proposed through the Transpower/industry stakeholder requirements) this would not be possible.

Also, as the VB6 development tools are out of support, and we can't run a newer version of ISD on the GENCOs, we effectively would need to replatform the dispatch system to accommodate future dispatch changes, which we are effectively doing as part of the DSE project at the moment.

Increased operational risks

Further, in January 2020 the current Windows version that the dispatch system is built on, will also run out of support. An upgrade to a newer version of Windows may pose incompatibilities with the ISD proprietary communications protocol. Operating our critical systems on unsupported software poses an increased risk to the ability to provide an effective dispatch service through the operation of our critical systems and would not support the introduction of dispatch changes to accommodate emerging technologies in the future.

We propose avoiding this increased risk by offering ICCP and Web Services as alternative communication protocols to the current GENCO system. We believe providing 12-18 months from completion of the DSE project [in mid-2019] for participants to transition to one (or both) of these new protocols, we would avoid inefficiencies in continuing to support obsolete technology.