



Proposal Form – Standards Development Projects

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Please click [here](#) for guidance on the proposal submission process.

Proposal title	Heat pump water heater performance assessment standards development
Your name	Raniero Guarnieri
Preferred contact number	
Email address	raniero.guarnieri@stiebel-eltron.com.au
Name of employer	
Job title or position	
Postal address	
Suburb	
State	
Postal code	
Web address	

If you are submitting on behalf of an organisation that is different than your current employer, please fill out the information below.

Nominating organisation	
Primary contact name	
Primary contact position	
Primary contact email	
Primary contact phone	

Section 1: Scope

1A: Provide details of the proposed documents				
#	Title (e.g. <i>Masonry cement</i>)	Project type (e.g. <i>revision, amendment¹ or new²</i>)	Designation (e.g. <i>AS 1316:2003</i>) ³	Product type (e.g. <i>AS, AS Int, SA TS, etc...</i>) ⁴
1	Heat pump water heaters – Testing and rating for performance for water heating and cooling.	Modified adoption of an international standard	AS/NZS 19967.2 (Modified adoption of ISO 19967.2:2019)	AS/NZS
2	Heat pump water heaters – Testing and rating at part load conditions and calculation of seasonal performance for water heating and cooling.	Modified adoption of an international standard	AS/NZS 21978 (Modified adoption of ISO 21978:2021)	AS/NZS

¹ An amendment is usually only possible for small changes to recently created documents. See Section 4 of Standardisation Guide [SG-003: Standards and Other Publications](#) for more details.

² If you are proposing to create a new document, please provide a suggested Title.

³ Use the [Standards Australia Webstore](#) to obtain the full designation and name of existing documents.

⁴ Standards Australia mainly develops Australian Standards (AS) but it also develops the following Product types: Australian Interim Standard (AS Int), Australian Technical Specification (SA TS), Australian Technical Report (SA TR), Handbook (SA HB), Miscellaneous Publication (SA MP), Supplement (Normative), Supplement (Informative), Australian Standard Certified Reference Material (ASCRM). For guidance, see Standardisation Guide [SG-003: Standards and Other Publications](#).

1B: Write a clear and concise statement of the nature of the issue to be addressed by your proposal.

Describe who is affected e.g. businesses, community organisations or individuals affected by the problem. What are the consequences of no action?

The transition to a decarbonised and sustainable economy has brought about the need for energy-efficient processes, systems and solutions using renewable energy, resulting in widespread energy-efficiency and decarbonisation programs and schemes at state and federal levels, in Australia and New Zealand, with new ones being proposed and considered.

Hot water heat pumps for space heating, cooling and sanitary hot water production for domestic and non-domestic applications in Australia and New Zealand form part of these programs and schemes, however, there is no way to properly assess their efficacy at this moment.

There is currently nothing available for proper, standardised, performance characterisation and performance assessment of hot water heat pumps intended for other than domestic sanitary water heating. This means heating and cooling for thermal comfort is currently unassessed for performance and energy use, especially when compared to standard heating and cooling technologies. Likewise, other heating applications are not

assessable either, such as large-scale sanitary water heating for residential and non-residential use and commercial and industrial heating processes.

Without proper, standardised, performance assessment, it is not possible to adequately quantify energy efficiency measures and benefits from the many programs and schemes that include hot water heat pumps, nor compare systems for their merits and incentivise and reward their use appropriately, as the case may be.

Product performance claims of all sorts abound at this moment and those in the built environment industry engaged in solution & design work attempting to use the technology, lack legitimate information of product performance.

Overall, this means that the impact of this technology simply cannot be assessed correctly, its efficacy cannot be assessed and there is a real risk of product and system deployment not meeting expectations, therefore not contributing as expected and planned with decarbonisation and energy efficiency outcomes, affecting society as a whole, plus not able to be truly compared on an equal level basis within itself and with other technologies such as reverse cycle air conditioning (RCAC), for which performance standards already exist and MEPS are in place.

The work to be undertaken will resolve this matter as the objective is to produce adequate performance assessment standards, allowing proper product assessment, that can be used in the same way as existing heating and cooling technology performance assessment is used and compared, potentially by the many energy efficiency and energy rating tools, schemes, programs and even allowing a pathway for recognition in the National Construction Code in the near future.

1C: Write a clear and concise proposed scope that will outline how to address the identified issue(s). Unless this is a proposal for a new document, this should not be a scope of the document, but a scope of the work which you propose to undertake.

Include what is going to be changed from the status quo and summarise the specific intent of the change.

If you wish to include proposed revisions as tracked changes in the Standard, or an outline of a new Standard, please summarise the scope and note the attachment here, and include the document as an appendix to this form.

The working group tasked with this project, EL-056-00-01, (aka WG1) has undertaken a review of international ISO and EN performance assessment standards for hot water heat pumps, to serve as the basis for AU and NZS similar standards.

Earlier in the year three ISO standards were reviewed as they were flagged for potential adoption by Standards Australia and the EL-056 committee. The recommendation at the time was to not proceed with identical adoption and further investigate as adoption with modifications seemed plausible and useful, given the situation mentioned in the previous point.

Work progressed from there, expanding coverage to other similar and potentially helpful standards; EN standards and other ISO standards.

The working group determined that the ISO standards identified in section 1A of this proposal, which were two of the three reviewed earlier in the year, would satisfy the objectives of the proposal if adopted with modifications and will embark in a detailed literature review of other international standards, which may

provide helpful information for this work.

Additions and modifications to the ISO standards proposed for adoption will be necessary to suit AU and NZ conditions, mostly related to climate conditions, and the need for additional testing procedures (more on this below).

Adoption of existing overseas standards with modifications is the best way forward whenever possible, for leveraging the work with existing and verifiable solutions and keeping in line with Standards Australia goal of harmonisation with international standards where possible. This has been done already with air-to-air heat pumps, or reverse cycle air conditioners, with the AS/NZS 3823 series, where ISO standards have been adopted for product testing and modifications added for seasonal performance assessment related to AU and NZ climate conditions.

Part of the working group task will be to include the following modifications:

- Changes to the air temperature and humidity range of the test conditions
- Addition of new test conditions for higher temperature applications
- Addition of new test conditions for cooling applications
- Changes to the climate temperature bin method for seasonal performance assessment

The scope of works may be curtailed or expanded as project timelines and work management allow.

1D: Are you proposing an adoption of an International Standard (i.e. ISO or IEC)?	
If so answer the following: ⁵	
Is it a Modified or Identical Adoption? Note: if Identical please use the Proposal Form – Identical Adoption	Modified Adoption
What is the designation? e.g. ISO 10303.212-2004	ISO 19967.2:2019 ISO 21978:2021
Reasons for non-identical adoption? <i>Why can't the current international standard be adopted identically?</i>	The climate conditions used in the assessment procedures of the international standards are not applicable to Australia and New Zealand.

⁵ Use the [Standards Australia Webstore](#) to obtain the full designation and name of existing documents.

1E: Is the existing document referenced in Australian State, Territory or Commonwealth legislation or regulatory framework?	
For joint documents, also consider New Zealand legislation. ⁶	
Yes (List all legislation or regulation that refer to the existing document. ⁷) Note: For National Construction Code (NCC) and WaterMark proposals, the Australian Building Codes Board (ABCB) needs to be consulted prior to submission.	
No (Go to 1F)	N

⁶ To search for Standards in Australasian legislation, use our search function [here](#), under 'Standards and the Law'.

⁷ Use the full formal designation for the relevant legislation, e.g. Explosives Regulation 2013 (NSW). If more than four items of legislation are affected, provide a list as an attachment to this proposal form.

Note: All relevant regulatory authorities must be consulted in the stakeholder consultation.

1F: Is there an ISO/IEC document that also covers the issues in question?	
Yes (Go to 1G)	Y
No (Go to 1H)	

1G: If there is an existing International Standard that covers the scope of this proposal, is it being adopted?	
Yes (Go to 1H)	Y International standards exist that cover most of the scope of the proposal. As mentioned before, adoption with modifications is the desired pathway to follow.
No (Please clarify this position explaining why the existing International Standard is not being adopted)	

1H: Will the proposed document include any conformity assessment requirements?⁸	
Yes	
No	N

⁸ See Standardisation Guide [SG-006: Rules for the structure and drafting of Australian Standards](#). Note that conformity assessment requirements are rarely permitted in a Standard. If you selected “yes,” please discuss with the relevant [Engagement Officer](#) prior to submission.

Section 2: Net benefit

2A: What will be the impact of the proposed project in the below categories? Explain this in terms of a positive or negative impact on the following “Net Benefit” criteria.⁹
Public health and safety (max 200 words)
At a large scale, there will be positive impact on public health as a result of having realistic performance assessment for technologies that can contribute to decarbonising our economy, as such assessments will be more accurate and closer to estimated and predicted outcomes, which can inform and influence the decarbonisation pathway.
Social and community impact (max 200 words)
There will be positive social and community impact as confidence in the energy-efficiency and decarbonisation programs and schemes that recognise heat pump technology will ensue from proper assessment procedures used to quantify performance, especially when such programs and schemes are used for incentives, and also for end-users looking to select and compare amongst alternative heating and cooling solutions as it will provide accurate and credible information on which they can base an informed choice.
Environmental impact (max 200 words)
Similar to the public health impact, a direct positive impact will be had by being able to assess performance of this technology accurately, as this will allow quantifying the energy savings and greenhouse emissions reductions, or curtailment, for domestic and non-domestic heating and cooling applications, which can inform and influence the decarbonisation pathway.
Competition (max 200 words)
This will result in fair and equal assessment grounds for the marketplace; for end-users and industry, where hot water heat pumps, along with all other heating and cooling technologies, can truly be compared appropriately for their merits, which will foster healthy competition.
Economic impact (max 200 words)
Credible performance assessment of all technologies will foster realistic comparisons and healthy competition which can only have a positive impact on the economy at large.

⁹ Add specific facts and examples if possible. Refer to the [Guide to Net Benefit](#). Not all categories may be affected, in which case, leave these blank.

Section 3: Evidence of support — Stakeholder support

3A: Describe the process taken to gain stakeholder support for your proposal (max 100 words)

Consultation with key stakeholders started in 2021 from the requests from Standards Australia to explore adoption of existing standards as part of the EL-056 mirror committee functions to the ISO TC 86 /SC6 /WG12 work on heat pump water heaters.

Most stakeholders, which include the largest manufacturers of water heaters in Australia and New Zealand, as well as other manufacturers and importers, and academic, government and industry bodies, participate already as members in the EL-056 and CS-028 committees, representing various nominating organisations, and have a keen interest in credible performance assessment of these technologies.

An expression of interest (EOI) was sent out to these two committees and government institutions/bodies, asking for participation, not just from members but from individuals knowledgeable, interested and willing to assist in this work. Several requests for joining the EL-056-00-01 were received.

The objectives of this proposal have been thoroughly discussed amongst all, with preliminary work and literature review already done, with all in agreement to proceed as planned.

3B: Identify the Australian stakeholder organisations that you have consulted with.

Evidence of stakeholder support MUST be provided in a letter (on company letterhead) or email (company email only).

At least two New Zealand-based stakeholders must be included for projects relating to joint AS/NZS Standards. Include those that do, and those that do not, support the proposal.

Key stakeholder groups	Organisation Name	Contact name	Position	Letter or email evidence is attached: Y/N	Interested in membership of standards committee: Y/N
<i>Research and academic organisations</i>					
<i>Research and academic organisations</i>					
<i>Government and regulatory agencies</i>					
<i>Government and regulatory agencies</i>					
<i>Manufacturer associations</i>					
<i>Manufacturer associations</i>					

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<i>Manufacturer associations</i>					
<i>Manufacturer associations</i>					
<i>Manufacturer associations</i>					
<i>Manufacturer associations</i>					
<i>New Zealand stakeholders</i>					
<i>Employer and industry associations</i>					
<i>Supplier associations</i>					

Section 4: Declaration

Please check that your proposal is complete and all fields have been filled out. Read and complete the declaration, then forward this proposal and any attached documents to Standards Australia at SEM@standards.org.au. The named proponent is deemed to have approved the information contained within this proposal and this declaration.

This declaration is a mandatory requirement and proposals will not be considered without it.

I consent to Standards Australia making information relating to Standards development projects public, including information contained within a proposal form I have submitted in part or in full. In the event that Standards Australia publishes proposals on its website, proponent details at page 1 and stakeholder contact details provided at Section 3 will not be included. However, with prior agreement, my contact details may be provided to interested parties wishing to contribute or comment on the proposal or the proposed project.

The information provided in this application is complete, true and accurate to the best of my knowledge. I believe the proposed document will result in Net Benefit¹⁰ to Australia. I have consulted with, and have the support of, national organisations with a relevant interest in this project.

Name of proponent	Raniero Guarnieri
Date of declaration	26/Aug/2022

¹⁰ As defined in the [Guide to Net Benefit](#)

Privacy notice: Standards Australia reserves the right to make information relating to Standards development projects public, including information contained within submitted proposal forms in part or in full. In the event that Standards Australia publishes proposals on its website, proponent details at page 1 and stakeholder contact details provided at Section 3 will not be included. However, with prior agreement, your contact details may be provided to interested parties wishing to contribute or comment on the proposal or the proposed project.

See the Standards Australia [Privacy Policy](#) for more information.

Section 5: Instructions and notices

To submit this proposal for Standards Australia consideration:

1. You must complete every section of this form and then submit your initial proposal draft to an [Engagement Officer](#). Use simple, non-technical and concise language and do not use jargon of any kind. For additional information, visit the "[Submitting a Proposal](#)" page on our website.
2. The Engagement Officer will conduct the preliminary review of this form and then guide you as to the next steps.
3. Final submissions, along with evidence of stakeholder support, have to be provided electronically to Standards Australia (SEM@standards.org.au). Please note: you should circulate your proposal to stakeholders and collect evidence of support before submitting this form to SEM@standards.org.au.

If you have any trouble with the form, you can contact us on (02) 9237 6000, 1800 035 822, or email us at SEM@standards.org.au.

For identical adoptions of International Standards please complete the [Proposal Form – Identical Adoptions](#).