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*Example: How to complete the comment form:*

<b>*Sect./ Subject.<sup>1</sup></b>	<b>*Sect. ID</b>	<b>Para./Table /Fig./Comm ./Note</b>	<b>*Page No.</b>	<b>*Comment Type<sup>2</sup></b>	<b>*Comment Detail</b>	<b>*Proposed Change</b>
Clause	2.3	Table 1	16	Editorial	"diagram" incorrectly spelt	Correct spelling error
Appendix	C15.6		62	Technical	AS 5100.7 incorrectly referenced	Reference should be AS 5100.2

<sup>1</sup> Options include: Clause, Title, Table of Contents, Preface, Foreword, Introduction, Appendix, Bibliography or Index.

<sup>2</sup> Options include: Editorial, General or Technical.

*Section <sup>1</sup>	*Section Identifier	Paragraph/ table/ figure/ commentary/ note	*Comment Type <sup>2</sup>	*Page No	*Comment Detail	*Proposed Change
Preface			General	2	<p>The EEC congratulates Committee EN-001 on the significant progress that has been made on the Energy Audit Standard revision. The technical component of the circulated draft is a significant improvement on the previous standard. We have noted specific issues that require refinement, but the EEC is broadly supportive of the technical content of the draft standard.</p> <p>However the EEC continues to have concerns about the accessibility of the standard for audit customers. The Council has put forward a proposal for addressing this issue in its comment on Clause 2 below. The EEC strongly encourages the Committee, Standards Australia and the Department of Resources, Energy and Tourism to ensure that this important opportunity to improve the accessibility of the Standard for audit customers is not missed.</p>	See comment
Foreword		Paragraph 1	Editorial	4	Phrasing - replace last sentence of Paragraph 1.	"An energy audit is an important step for an organisation, regardless of its size, type or area of operation. Organisations commission energy audits to improve their energy performance, reduce energy consumption and achieve economic and environmental benefits."

<sup>1</sup> Options include: Clause, Title, Table of Contents, Preface, Foreword, Introduction, Appendix, Bibliography or Index.

<sup>2</sup> Options include: Editorial, General or Technical.

Foreword		Paragraph 2	General	4	Given that there are a number of guidance documents around energy management, including the EEO protocols, it would be better to generalise the reference to energy management protocols.	Replace paragraph two with: "An energy audit is best undertaken within the context of an energy management system that complies with an appropriate industry Standard."
Foreword		Paragraph 3	Editorial	4	Issues with phrasing.	Replace paragraph 3 with "This Standard defines the attributes of an appropriate energy audit to enable the organisation commissioning the audit, and the energy auditor selected to conduct the audit, to reach a common understanding of the audit's scope, process and deliverables. It states the base requirements for energy audits and corresponding obligations within the energy auditing process necessary for compliance with the Standard."
Clause	2	(a) and (b)	General	5	<p>The EEC fully endorses the first and second listed objectives of the revised Standard - "To provide a guide for organisations commissioning energy audits" and "assist organisations to decide what type of audit is appropriate for their needs." While the current draft goes some way towards meeting these objectives, it could be improved on both counts. In particular, the language and structure of the draft standard is likely to be difficult for many novice audit customers to understand.</p> <p>It is noted that the content of the standard is intrinsically technical, and that guidance documents targeted at audit customers may be drafted in the future. However it is important that the core standard is itself an accessible document that does not require excessive reinterpretation or</p>	<p>It is the EEC's view that drafting a standard that is accessible and useful for audit customers is unlikely to be achieved through the current process, which relies on a group of dedicated volunteers.</p> <p>The EEC recommends engaging a consultant with relevant expertise to specifically address the need to improve accessibility for audit customers.</p> <p>The consultant's task would be to revise the standard's text and structure to ensure that it is an accessible document, and to advise the committee on any revisions or additions to the content of the standard that would facilitate such accessibility. Ideally this process would</p>

					translation for audit customers.	include consultation with likely audit customers, particularly those that have not previously commissioned an audit.  Given the infrequency of standard revisions, taking this opportunity to make the new standard as accessible to audit customers as possible is critical, and justifies a modest additional funding allocation for this project.
Clause	2	(g)	General	5	Reference to specific systems unnecessary.	Replace sentence with "complement existing energy and other management and quality systems."
Clause	8.2	Last sentence	Editorial	9	Confidentiality should be referred to as a requirement, not a concept.	Replace "concept" with "requirement".
Clause	9.5	Introductory sentence	Editorial	11	Replace intro sentence.	"Type 2 defines a more detailed level of audit when compared with a Type 1 audit. Type 2 audits have the following features:"
Clause	9.5	(d)	Technical	11	Efforts should be made to document the theoretical energy requirements of the processes, based on physical, chemical theory, to provide a context for 'best practice' and actual performance.  [Comment also relevant to Clause 9.6 (d)]	Amend to include creation of baseline 'best practice' performance.
Clause	9.6	Introductory sentence	Editorial	11	Replace intro sentence	"Type 3 defines a more detailed level of audit when compared with Type 1 and Type 2 audits. Type 3 audits are aimed at quantifying the business case for energy saving measures, and have the following features:"
Clause	9.6	(g)	Technical	11	Should refer to value of benefits as well as cost estimates.	Add reference to value of benefits.

Clause	10.1	Second sentence	General	12	Reference to specific systems unnecessary.	Generalise reference to energy management standards.
Clause	10.2		Technical	12	The previous version of this Standard includes a more comprehensive list of pre-audit activities. The addition of an 'are you ready for an audit?' checklist for energy users (tailored for each level of audit) would be useful, and could be the basis for the 'data collection plan' agreed with the auditor.	Prepare checklists for inclusion in appendices.
Clause	10.2.2	Last sentence	Editorial	12	Wrong terminology.	Replace "consultant" with "auditor".
Clause	11	Table 1 Type 1: Data collection	Technical	15	Should specifically include comparison of different energy usage scenarios.	Amend sentence to include seasonal, shift by shift and business hours / after hours comparisons of energy use.
Clause	11	Table 1 Type 1: Opportunities identification	Technical	15	Walkthrough should specifically include consultation with operations and other staff	Amend sentence to include staff consultation and comparison of energy usage in different circumstances.
Clause	11	Table 1 Type 2: Analysis	Technical	16	Additional detail required in Level 2 analysis	Include multiple regression analysis, inspection of start-up and shut-down transient data, system performance in varying ambient conditions and levels of operation.
Clause	11	Table 1 Type 2: Opportunities identification	Technical	16	Non-energy gains should include "productivity".	Add "productivity" to non-energy gains.
Clause	11	Table 1 Type 2:	Technical	16	Engagement with in-house staff required	Include dialogue with in-house staff to ensure that they accept cost and benefit estimates, or put in place processes to

		Opportunities evaluation				develop consensus
Clause	11	Table 1 Type 3: Data collection	Technical	17	The term BMS (Building Management System) is only relevant to commercial sector.	Replace reference to BMS with a generic term, or "BMS / DCS / SCADA"
Clause	11	Table 1 Type 3: Analysis	Technical	17	Should acknowledge likely components of a more detailed analysis methods	Amend to include reference to internal rate of return, net present value, and sensitivity studies at varying discount rates and future energy pricing assumptions
Clause	11	Table 1 Type 3: Analysis	Technical	17	Need to ensure key energy flows that are not part of energy/electricity sub-metering system are considered.	Replace opening words of third sentence with "Detailed energy balance reconciled with sub-metering <b>and process</b> data..."
Clause	11	Table 1 Type 3: Opportunities evaluation	Technical	17	Engagement with in-house staff required	Include dialogue with in-house staff to ensure that they accept cost and benefit estimates, or to put in place processes to develop consensus
Clause	11	Table 1 Opportunities evaluation (all types)	Technical	16 - 18	Auditor should be required to provide information on relationship between business decisions and change in energy use at a level appropriate to the audit type.	Amend to include requirement to provide strategic advice on likely changes in situation such as equipment replacement, expansion. Possible format: a simplified timeline of key decisions with explanations of how organisation can influence energy use, and how appropriate timing of decisions and actions can minimise costs of measures.
Clause	11	Table 1 Opportunities evaluation	Technical	16 - 18	Peak energy demand issues should be considered at increasingly sophisticated levels for levels 1-3.	Amend to include strategies to minimise demand charges as a specific output of audit.

		(all types)				
Clause	12.3	3. (f)	Technical	21	<p>The suggested method of establishing simplified rates for savings calculations is ambiguous.</p> <p>Based on this wording, it is not clear whether the rates used for energy costs should be the use of 2-3 averaged rates of electricity per day (e.g. one for peak period, one for shoulder period and one for off peak period) or one single averaged rate based on 2-3 rates (peak, shoulder or off peak).</p> <p>If the intention is for a single averaged rate, this would not be consistent with Section 12.3 6 (a) (vi), which states that cost savings shall be calculated with representation of tariff rate differences including variation in cost with time of day and the separation of energy use and peak demand.</p> <p>[Comment also relevant to 12.4 3. (e)]</p>	<p>Edit to clarify that "energy cost calculations should be carried out using the time of use electricity rate that is applicable to the operation of each load." This will reflect the variation of electricity costs depending on the time of the day when the equipment is used.</p>
Clause	12.3	4. (b) (ii)	Technical	22	<p>Should consider other energy sources in addition to electricity, especially gas.</p>	<p>Broaden to all energy sources.</p>
Clause	12.3	4. (c)	Technical	22	<p>Unclear what is mean by 'significant' product flows.</p>	<p>Define significant.</p>
Clause	12.3	6. (b) (i) & (ii)	Technical	23	<p>Requiring half of the recommendations with a payback period longer than 4 years be quantified means that half of the recommendations would not have any quantified figures on potential energy savings, cost savings or capital cost.</p> <p>In addition, to determine which options have a payback period longer than 4 years, some calculation of energy cost savings and capital cost is required. Otherwise there is no way to determine which options are within the 4 year period and which are not.</p>	<p>Edit to clarify that all opportunities should be quantified to some extent, independent of their payback period. To avoid the use of a percentage figure for accuracy, a rating system could be used to give the client an indication of the auditor's confidence in certain figures:</p> <p>A: High accuracy</p> <p>Quantified to the extent necessary for the organisation to make a decision about the implementation (as stated in Section 12.3</p>

					<p>There is also no reference to how the opportunities to be quantified will be chosen. This could lead to the quantification of minor opportunities while major opportunities are not quantified, potentially because they are more complex for the auditor.</p> <p>Some indicative figures should be provided to the organisation on each option. These figures may not be as accurate as the ones required for other options, however they will provide some indication of the relative merits of particular options.</p> <p>[Comments also relevant to Clause 12.2 6.]</p>	<p>6 (a).</p> <p>B: Medium accuracy</p> <p>Quantified to a relatively high degree of accuracy however additional measurements (e.g. data logging) or input from third party (e.g. quotes) is required.</p> <p>C: Low accuracy</p> <p>Quantified based on similar projects previously implemented at a similar site or based on engineering calculations/estimations to a lower degree of accuracy.</p>
Appendix	A2	(c)	Technical	29	No reference to informing audit customers of potential delays.	Add a new requirement to inform the organisation of 'the source of potential delays during the proposed audit process'.
Appendix	A3	(a) (iv)	Technical	29	Broaden the organisation's disclosure requirements.	Replace sentence with "disclose any unusual conditions, maintenance or capital works, operational changes or other activities scheduled or likely to occur during the energy audit."
Appendix	A4	Introductory sentences	Technical	30	Some of the information in this section should be provided by the organisation at the outset. Given that, suggest a clarification in the opening sentences.	Replace second introductory sentence with "When determined necessary and in agreement with the organisation, the energy auditor shall collate the information listed below. (At the planning stage, the auditor and the organisation shall clearly delineate between data collated by the auditor and data provided by the organisation).

Appendix	A7.2	(f)	Technical	33	There is likely to be more than one energy indicator.	Amend to acknowledge possibility of multiple indicators.
Appendix	A8.2	(d) (vii)	Technical	36	Not clear whether this requires a spreadsheet model that can be adjusted by the client (as with the previous Level 3 audit) or simply the results from the spreadsheet analysis showing the calculations used for the sensitivity analysis.	Amend to clarify that the client should be provided with the results of the spreadsheet analysis including calculations used, rather than a spreadsheet model.
Appendix	B6		General	41	Development of the business case is essential - a process for reaching consensus with relevant in-house staff on the business case for recommended actions should be specified.	Include process for addressing business case needs in Appendix A.