



ISO/TC 59/SC 13

Organization and digitization of information about buildings and civil engineering works,
including building information modelling (BIM)

Email of secretary: lla@standard.no

Secretariat: SN (Norway)

WG 13 responses to collated comments received on ISO CD 19650-3

Document type: Other committee document

Date of document: 2019-04-30

Expected action: INFO

Background: Dear all,
Please find enclosed WG 13 responses to collated comments received on ISO CD 19650-5.
According to the CD ballot result the project will proceed to the enquiry stage, see document N 693.

Committee URL: <https://isotc.iso.org/livelink/livelink/open/tc59sc13>



ISO/TC 59/SC 13/WG 13

Implementation of collaborative working over the asset lifecycle

Email of convenor: anne.kemp@atkinsglobal.com

Convenorship: BSI (United Kingdom)

ISO/TC 59/SC 13/WG 13 responses to collated comments received on ISO CD 19650-3

Document type: Other committee document

Date of document: 2019-03-25

Expected action: INFO

Background:

Committee URL: <https://isotc.iso.org/livelink/livelink/open/tc59sc13wg13>

Template for comments and secretariat observations

Date:2019-03-05

Document: ISO/TC 59/SC 13/WG 13
N 119

Project: ISO 19650-3 CD

MB/ NC ¹	Line number	Clause/ Subclause	Paragraph/ Figure/Table	Type of comment ²	Comments	Proposed change	Observations of the secretariat
CZ 001				ge	Many clause and figure titles simply repeat "Information management process".	Consider deleting where excessive (e.g. appears in a superordinate title).	Reject as this follows naming convention from ISO 19650-2
CZ 002				ge	The use of capital letters (in e.g. asset information model, common data environment, work in progress state, shared state, published state) is excessive in comparison with ISO 19650-2:2018.	Do not use capital letters in these terms (see their use in ISO 19650-2:2018).	Accept – will review but note that CDE states are capitalized. Be consistent with Parts 1 and 2
CZ 003				ge	The use of "definition" and "define" seems excessive (understood by many people as an indication of existence of a "like terminological" (brief) definition which is not the case).	Try to use "define" and "definition" only for defining a concept as in the Terms and definitions clause. Use other verbs (specify, agree, establish, set, describe etc.) for other meanings.	Review against parts 1-2 and be consistent
CZ 004				ge	Figures would better be referenced in a text provision than in a title of a clause. Statement on sequence (as in note to figure 3) could appear in each reference where relevant.	Add an introductory reference to figures and delete them from clause titles (see Internal regulations/directives, part 3, 28.4). Consider adding information on sequence of sub-processes where relevant.	Accept – change to Activities for XXXX (process stage)
CZ 005				ge	Sub-processes and activities are mixing substantive and verbal forms of expression.	Consider using only one form of expression for each, e.g. substantive forms for sub-processes and verbal form (imperative) for activities.	Believe this is similar to challenge of translation into German (noun and verb as same English word). But this comment is too general to respond to in detail. Need specific instances at next draft.
SE 006				ge	This document should not be a standard; possibly a technical report, preferably a national handbook.	Don't make this document a standard.	Disagree. Already approved as a standard by SC 13.
AU 007				ge	Comments being sent directly to the Secretary		Separate response sheet
FR 008				Ge	Approbation with comments to ensure the adaptability of the project to all type of projects and markets		Believe refers to specific definition of projects vs appointments which are raised in comments below and will address there.

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Template for comments and secretariat observations

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FR 009				Ge	How to adapt the project to ensure its utility in any regulatory environments?		As FR 008
SE 010			03.2	te	The concept of “organizational information requirements” is used in the document, so a definition should be included.	Copy definition from 19650-1: organizational information requirements OIR information requirements in relation to organizational objectives	Reject. ISO rule is not to repeat definitions from normative references. OIR is defined in ISO 19650-1.
SE 011			03.2.1	te	No need to change the definition “to stress that asset information requirements are appointment specific”. Definition should be change only in when their meaning needs to be substantially changed, not simply to make it specific to a certain context.	Keep the definition from 19650-1. Include definition of: information requirement specification for what, when, how and for whom information is to be produced This shows that asset information requirements are specific to any appointment.	Accepted. Not accepted. This is defined in ISO 19650-1
SE 012			03.2.2	te	No need to change the definition “to stress that exchange information requirements are specific to the delivery phase”. Definition should be change only in when their meaning needs to be substantially changed, not simply to make it specific to a certain context.	Keep the definition from 19650-1. Include definition of: information requirement specification for what, when, how and for whom information is to be produced This shows that exchange information requirements are specific to any phase, including the delivery phase.	Accept. WG 13 agreed to try alternative way of referring to AIR as exchange-related asset information requirements, and to remove altered definition in 3.2.2 2 nd point – see above.
SE 013			05.2.2	te	The bullet point “the classification of the information being captured” is unclear.	Clarify if the classification concerns the information delivery as such, or if it concerns classification of the assets.	Accept. Reword bullet point to “the classification system to be applied during information capture” and also consider reference to ISO 12006-2.
SE 014			A.4	te	The first two bullet point are dealing with reference designation of assets, as described in IEC/ISO 81346-1 and 81346-12. Many other methods for specifying location besides using GIS exists, so that example is superfluous.	Replace the first two bullet point with one new: - method for reference designation, providing identification and location of the assets	Reject. These are examples and need to be clear.

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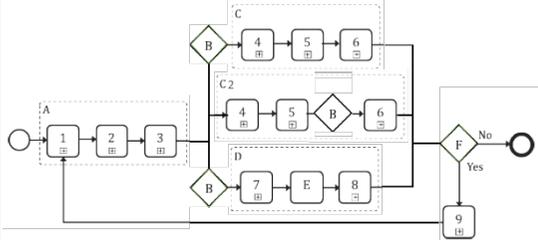
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Date:2019-03-05

Document: ISO/TC 59/SC 13/WG 13
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GB 015			Fig 1	te	Information may be sighted across PIM and AIM via aligned Key Decision Points and Trigger Events during the delivery phase not just at the start and end of the delivery phase. For example, decisions on revised cost and programme need information to consider the impact on an estate wide context across the AIM and PIM and not just the PIM.	Add a note 'Information may be sighted across PIM and AIM via aligned Key Decision Points and Trigger Events during the delivery phase not just at the start and end of the delivery phase. Also introduce need to reflect Key Decision Points as separate from Trigger Events.'	Accepted. Simplify proposed note.
GB 016			Fig 3	te	There may also be a number of appointed parties servicing the same trigger event type or classes on the same or similar assets at different times. The trigger events are not appointment specific.	Add a note ' There may be a number of appointed parties servicing the same trigger event (types or classes) on the same or similar assets, at different times.'	Agreed in principle. Consider in redraft of Figure 3.
GB 017			Fig 3	te	B is a particular type of trigger event that can have services procured and have information exchanged sometime after it has occurred – an unplanned breakdown. In asset management it is common to plan for these events and procure services in advance and have the information exchanged as part of servicing the trigger event either reactively or proactively. Trigger events and information exchanges may also occur many times in the appointment of an appointed party. This planned trigger event case should perhaps be added to the diagram or the diagram be made clearer that this case is covered.	Consider modifying the diagram to show an additional case C2 where procurement (4) and preparation (5) of appointed parties occurs before the trigger event (B) followed by producing the information (6) 	Agreed to redraft process offline and circulate to WG 13 for comments.
GB 018			Fig 3 Key 6	te	Should 'Produce information' be termed 'Information exchange' as in the remainder of the standard	Replace 'Produce Information' with either 'Information exchange' or 'Produce and exchange required information'	Accept 2 nd suggestion
GB 019			Fig 3 Key 8	te	Do we mean verify and validate when we say reconcile? We are procuring information even if via an implied contract and it is incumbent on both the appointed and appointing party to assure that information exchanged meets the specification and requirements before the appointing party's acceptance.	Change the item to read '8 Receive, reconcile and incorporate delivery phase information' and adjust 5.8 accordingly.	Review as part of clause 5.8 feedback look to E.

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GB 020			Fig 3 Note1	te	This statement is unfounded. If it is to be made than it needs further justification. If this confirms that the majority of delivery phase information will already have been exchanged at the delivery phase aligned key decision points by the end of the delivery phase then it should say so.	Delete Note 1.	Agree note is too strong. Propose to reword by saying "This process is intended to reduce ..."
CH 021		00.01	Paragraph 2	ed	In the bullet list of people there is reference to those "delivering asset management and asset operation"	Amend this to read "those involved in delivering asset management, asset operation and <u>facility management</u> services during the operational phase of an asset;"	Accept and consider definition of overarching term to include all stakeholders instead of using both. Review ISO 44001.
CH 022		00.01	Paragraph 2	ed	In the bullet list of people there is reference to "management of assets". There are also important facility management services which are not specific to the asset but which need information provided through the BIM process. Missing this out marginalises a lot of the work done to support assets	Amend this to read "those involved in the management of an asset and <u>facility</u> management services"	As CH 021
GB 023	-	00.02	1	te	Speaks of relationship with ISO19650-5 however content of ISO1965-5 does not explicitly mention security management of information post-delivery. PAS1192-5 did include for this in Section 12. Clarify paragraph 3 – relates to management system for asset management	Expand on security requirements for post-delivery asset information in a new section or review ISO 19650-5 content to better reflect post-delivery asset information security requirements. Reword para 3 to "Information on a management system for asset management can be ..."	Discuss at Part 5 review. Accepted
JP-2 024		00.02	1 st para.	te	ISO 19650-5 is mentioned here, but it is not exist at this time. It has a possibility not to be published so that it should be rephrased.	Add a phrase "to be published" at the last of the sentence.	Noted. Review at final proof edit. Highlight text in document as reminder.
CH 025		00.03	Paragraph 1	ge	The use of information is related to the "operational phase of assets". Should this not also include the end of life of the asset when the BIM information maybe very important for decommissioning and deconstructing the asset	Amend the paragraph to read "The aim of this document is to support all parties towards achieving their business objectives through effective and efficient procurement, use and management of information during the operational and <u>end of life</u> phases of assets."	Accepted.

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CZ 026		00.04	1 st para.	te	"Parties and teams" appear in the title and Figure 2 while "parties in teams" in the paragraph.	Check the meaning and update as appropriate.	Accepted.
JP-3 027		00.04	3 rd para.	ed	The phrase "at any appropriate time" should be added in front of the phrase "during the life cycle of the asset". It will make the sentence much more reasonable.		Accepted.
CH 028		00.04	Figure 2	ed	<----> also to mention "lead appointed parties"	Amend the key to read: <----> If required, information coordination <u>between lead appointed parties</u> by appointing party	Accepted
CH 029		00.04	Figure 2	ed	Consider facility management team under key	Amend the key to read "1 asset <u>or facility</u> management and operation team"	See CH 021
CH 030		00.04	Paragraph 2	ed	The management of the asset maybe undertaken by an outsourced facility management organisation as opposed to asset manager	Amend the paragraph to read "The appointing party referred to in Figure 2 can be the owner of the asset, the operator of the asset (for example through a long-term concession agreement), or the outsourced asset <u>or facility</u> manager (typically appointed for a period of several years)."	See CH 021
CH 031		00.04	Paragraph 3	ed	Facility management teams should also be considered	Amend the paragraph to read "Delivery teams for the operational phase typically join and leave the asset <u>or facility</u> management and operation team during the life cycle of the asset".	See CH 021
CH 032		00.04	Paragraph 4	ed	Task teams should be mentioned not only in figure to but also in this paragraph	Amend the paragraph to read "Figure 2 shows that delivery <u>and task</u> teams for asset <u>or facility</u> management and operation activities can be ...".	See CH 021
CZ 033		01	2 nd para.	te	"Organization" would better appear in plural.	Change to "organizations" if appropriate.	Accept but reword to "by organizations of all sizes and types involved in ..."
CH 034		01	Blue Header	ge	The blue heading text is confusing in that implies		Author to review

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CZ 035		02		te	Note that normatively referenced documents shall have reached at least the enquiry stage.	Keep ISO 19650-5 provisionally marked as a CD (see Internal regulations/ directives, part 3, 10.2).	Noted. Highlight in text
CL 036		02	all	ge	Review normative references according to Directive ISO/IEC 2, particularly edition years. Additionally, delete added text in reference ISO 19650-2 "...is a normative reference in relation to any application of clauses 5.7 and 5.8 in this document"	Delete added text of reference ISO 19650-2.	Noted. Follow ISO editor rules.
CH 037		03.01	Definitions	ge	Reference to a definition of facility management would be useful	This can be cross referenced from the ISO 41001:2018 Facility management - Management systems - Requirements with guidance for use	Accept.
CZ 038		03.01.1		te	Source document with term number shall be dated.	Use ISO 55000:2014, 3.3.1 (see Internal regulations/ directives, part 3, 16.5).	Noted. Follow ISO rules
JP-5 039		03.01.1 3.2.1 3.2.2		ed	The term "Note N to entry" should be changed to "Note N" in accordance with the other parts.		Check with ISO editor.
CH 040		03.01.1	Note 3	ed	Execution is also an important activity	Amend the Note 3 to read "The term "activity" has a broad meaning and can include, for example, the approach, the planning, <u>the execution</u> , the plans and their implementation."	Accepted
JP-6 041		03.01.1	Note 3	te/ed	The phrase "the plans and their implementation" should be rephrased as it is not an activity in itself.	e.g. the implementation of a plan	Author to review
CZ 042		03.02.1		te	Abbreviation is missing but widely used. It may be better to reproduce the entry from ISO 19650-1:2018, 3.3.4, adding a note only to stress the specific interpretation for the operational phase.	Add abbreviation (on a separate line, see Internal regulations/ directives, part 3, 16.5). Consider using entry from ISO 19650-1:2018, 3.3.4, modified by adding a note only.	Definition deleted.

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GB 043		03.02.1		ed	Asset information requirements also inform delivery phase Exchange Information Requirements. Only part of AIR may be appointment specific the detailed asset data requirements may be modelled across Key Decision Points and Operational Events as asset related AIR and therefore be cross appointment. The definition in ISO 19650-1 is sufficient and this clarification does not help clarify but restricts use.	Remove the definition and note. Add text/note to 5.1.2 to explain that organization-wide asset information requirements, linked to decision points, are used to identify information requirements for specific appointments. Put 19650-1 Figure 2 into Introduction with greyed out lower line of boxes (PIR – EIR – PIM).	Accept Consider as part of review of the Part 2, Part 3 crossover.
CH 044		03.02.1	Note	ge	Asset information requirements are something which are ongoing in nature – referring to them relating to a specific appointment can be confusing. The EIR is more specific to an appointment (or perhaps project might be a better word)	Suggest that the note is amended to reflect that an organisation may have information requirements across a portfolio and that the AIR might reflect this as well as specific needs for a specific project.	Definition deleted Consider as part of review of the Part 2, Part 3 crossover
CZ 045		03.02.2		te	Abbreviation is missing but widely used. It may be better to reproduce the entry from ISO 19650-1:2018, 3.3.6, adding a note only to stress the specific interpretation for the operational phase.	Add abbreviation (on a separate line, see Internal regulations/ directives, part 3, 16.5). Consider using entry from ISO 19650-1:2018, 3.3.6, modified by adding a note only.	Definition deleted. Consider as part of review of the Part 2, Part 3 crossover
CZ 046		03.03		ge	symbols and diagrams should be linked to a specific methodology, common for all BIM standards, see ISO 29481-1.2	add similar link to process modelling notation (BPMN) symbols, recommended BPMN symbols collected from the BPMN specification by the object management group (OMG).	Reject – see CZ 047
CZ 047		03.03		te	A note as in ISO 19650-2:2018, 3.2, is missing.	Add note and list ISO/IEC 19510 in bibliography.	Accepted.
CZ 048		04.01		te	4.1 shall not be a numbered subclause as there is no 4.2.	See Internal regulations/ directives, part 3, 22.3.2.	Accepted
FR 049		04.01	Fig 3 page 11	Te	What is the purpose of the figure? Does it represents : -the life cycle of a construction work?		Clarify that 4.1 para 1 is applying primarily to the appointing party. Also reinforce the intended links between parts 2 and 3.

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					<p>In that case the figure should be in EN ISO 19650-1 or at the beginning of this project. The figure should then also be harmonized with the life cycle of a construction work (as define in EN 15643-1 or ISO 21931-1.</p> <p>-the operating and maintenance contract?</p> <p>In that case the box F should be identify also as a trigger. In any case the section D is not consistent with EN ISO 19650-2</p> <p>In figure 3, the element 9 should not only be triggered by a change of situation of the asset.</p>		
JP-8 050		04.01	Fig.3	ed/te	The term "Define" should be added in front of the title in accordance with the titling convention.		Accept
CZ 051		04.01	Figure 3	te	The decision F is unclear in the context of the whole process – after taking care of all the sub-processes is seems inappropriate to ask about ownership etc., a change in such status would need to be reported anytime during the process.	Consider adding an explanation or possibly change to better express what may come at the end of the processes (maybe termination because of a lack of satisfaction or something alike). There may also appear some handover in case of "no".	Reword F to relate to information management process not asset life cycle/ownership
CL 052		04.01	Figure 3	te	Include Note 3 in Figure 3 for clarification of activities according to E.	Note 3 For activities according to E, see ISO 19650-2: 2018, Figure 3.	Accepted
FR 053		04.01 And 5.9.1	Figure 3	Te	Complete figure 3 according to part 5.9.1		Addressed by CZ 051
JP-7 054		04.01 All over the document	NOTE	ed	The tern "NOTE" shall be changed to "Note". So many mistyping "NOTE"s in this document shall be change to "Note"s.		Author to review and keep consistent with ISO 19650-2.

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GB 055		04.01	Para 3	ed	use of 'in relation to a new or refurbished asset' What other state of asset is there, this appears redundant	Omit 'in relation to a new of refurbished asset'	Reword – intended to give example of when a project is likely to be needed.
FR 056		05.01.1		Te	Note 2 is an extract form the PAS 1192-3 but could also relate ISO 55000: 2014 page 1&2 the benefit of asset management 2.2 : " <i>Improved financial performance, informed asset investment decisions, managed risk, improved services and outputs, demonstrated social responsibility, demonstrated compliance, enhanced reputation, improved organizational sustainability, improved efficiency and effectiveness.</i> "	The project should also rely on the works already done at ISO level, in particular ISO 55000	Accepted
GB 057		05.01.2		te	Suggest amending the order of the first sentence to better emphasise that the OIR covers the whole organisation and asset management/AIR is a subset	The appointing party shall define, document and maintain its requirements for information to meet the needs of its organizational functions and asset management system.	Accepted
CH 058		05.01.2	Paragraph 1	ge	The paragraph implies that OIR shall be created. It is possible that OIR from its stakeholders already exists as it is highlighted by the note 2.	Amend the first sentence to read "The appointing party shall <u>identify any existing OIR</u> or define, document and maintain ...".	Accepted but reword proposal. "... including any existing information requirements"
GB 059		05.02.1		te	Omit the 6 th bullet – asset condition will rarely be a trigger for information management activities, particularly at the level of each asset	Omit the 6 th bullet	Rejected. WG 13 did not agree with comment.
GB 060		05.02.2		te	'the format in which the information is to be provided by the appointed party, such that information exchange is compatible with the systems and processes already operated by the appointing party' – this is referred to as acceptance criteria in part 2.	Change to 'the acceptance criteria for the information to be provided by the appointed party'	Review Part 2 approach and adapt for Part 3 process.
GB 061	6	05.02.2		te	Whilst there may well be separate appointments, both sequentially and concurrently, they may well be appointed to exchange different mixes of trigger event AIR dependent on their capabilities and disciplines.	Replace 'separate the list of AIR accordingly' with 'allocate the trigger event AIR to be delivered by specific appointments'	Accepted

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					This is more an allocation exercise than a separation – picking trigger event AIR to be included in the particular appointments. The word allocate implies this rather than separate.		
JP-9 062		05.02.2	1 st bullet	ed/te	As the same reason with JP-2, the phrase “to be published” should be added. If JP-4 is accepted then it may stay as it is.		As above
FR 063		05.02.2	Page 6 Line 1	Te	"The classification of the information being captured;"	Are we talking about asset breakdown structure? If so, do we link this to ISO 12006-2: 2015?	See SE 013. Classification is already linked to IS O12006-2 in 19650-1
FR 064		05.03	page 6	Te	This part should be clarify on what is expected in term of need of Depository. How to illustrate the different visions without imposing them?	Add a note 2 (informative) with examples to illustrate the part.	Accept and base text on PAS 1192-3 diagrams.
GB 065		05.03.1	1	te	This repository shall be the asset information model (AIM) – surely the repository is the CDE?	Delete 2 nd sentence	Reject. But reword and clarify 2 nd sentence and bring in CDE concept.
JP-10 066		05.03.1	last para.	ed/te	As above.		As above
CH 067		05.03.1	Paragraph 1	ge	The paragraph implies that a repository shall be created. It is entirely possible one already exists as is highlighted by the note (e.g. a CAFM or ERP system)	Amend the first sentence to read “The appointing party shall <u>identify any existing information repositories, or</u> create an information repository for asset information specified in all AIR related to the asset or assets identified in 5.2.1”.	Accepted but replace “repository” as per GB 065.
CZ 068		05.03.2		te	Possibly excessive “are” in the sentence.	Check and update accordingly.	Accepted.

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FR 069		05.03.2		Te	<p>"If existing enterprise systems are used to store asset information then the appointing party shall maintain that information quality and information security processes within those systems are compliant with the requirements of this International Standard, irrespective of wherever or however the information is stored."</p> <p>The formulation seems rather constraining for the appointing parties.</p>	<p>Replace by "If existing enterprise systems are used to store asset information then the appointing party shall maintain ensure that information quality and information security processes within those systems are compliant with the requirements of this International Standard, irrespective of wherever or however the information is stored."</p>	Accepted and use instead of AU comment.
GB 070		05.03.2 Notes		te	<p>The AIM should also be structured and classified in order that information generated at key decision points during any delivery phase or from third party operational appointments with a separate PIM, can be integrated or linked to the AIM to enable cross estate and cross project querying and reporting.</p>	<p>Add new paragraph to normative text 'The AIM shall be structured and classified in order that information generated at key decision points during any delivery phase or from third party operational appointments with a separate PIM, can be integrated or linked to the AIM to enable cross estate and cross project querying and reporting.'</p>	Accept in principle, but as part of review of Part 2 vs Part 3
GB 071		05.03.3		te	<p>List of bullets does not mention security aspects, yet this is an obvious place to include it</p>	<p>Add a bullet "ensure the AIM complies with requirements for security as defined in ISO 19650-5"</p>	Accept
FR 072		05.03.3		Te	<p>"An appointing party that is not the owner of the asset shall establish a process to transfer the AIM maintenance requirements to a successor organization."</p>	<p>Replace by: "An appointing party that is not the owner of the asset shall establish ensure that a process to transfer the AIM maintenance requirements to a successor organization is set up."</p>	Accepted
GB 073		05.03.3	Bullet 3	te	<p>Update step is missing</p>	<p>Add "and update AIM as appropriate"</p>	Accepted
CH 074		05.03.3	Notes	ge	<p>The AIM should really be maintained over the life of an asset as opposed to just ownership. Otherwise when assets are transferred the information could easily be lost. Shouldn't there be a note to cover transfer of ownership.</p>	<p>Suggestion: add text/note to reflect that the AIM should ideally be kept up to date over the life of an asset and the responsibility when assets are transferred from one owner to another. This should cover the transfer or set up of a new AIM.</p>	Accepted

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Date:2019-03-05

Document: ISO/TC 59/SC 13/WG 13
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Project: ISO 19650-3 CD

MB/ NC ¹	Line number	Clause/ Subclause	Paragraph/ Figure/Table	Type of comment ²	Comments	Proposed change	Observations of the secretariat
GB 075		05.03.3 Note 1		te	The period can also be constrained by strategic, contractual, statutory, legal, regulatory, health & safety, environmental, social as well as fiscal constraints	Add a note The period can also be constrained by strategic, contractual, statutory, legal, regulatory, health & safety, environmental, social as well as fiscal constraints'	Accepted
GB 076		05.03.3. Last para after Note 2		te	The contractual relationship between the appointing party and the asset owner must dictate, with the transfer of the AIM being part of that contract. It has proven very difficult to transfer complete information from one contracted party to a successor unless this is assured by the ultimate appointing party and transferred to the successor as part of their start up process or to have a competent transfer agreement. This is particularly so if the appointed party ceases trading for example. It is better to plan for an abrupt unplanned termination with the owner receiving regular updates of appropriate information at its own planned trigger events throughout an appointment to manage the risk.	Replace 'to the successor organisation' with 'to the owner or a successor organization. This will be dependent on and be defined by the contractual relationship with the owner the current and successor organisations.'	Accept and make clearer. Maybe simplify 2 nd sentence.
CH 077		05.04		ge	The procurement process (5.4.2 to 5.4.5) depends on various aspects like private or public organization, scale and complexity of the procurement etc. Shouldn't there be a note to cover this aspect.	Suggestion: add text/note to 5.4.1 to reflect that various aspects for the individual procurement process should be considered.	Not accepted. Covered in paragraph 4 of 5.4.1
FR 078		05.04		Te	Replace " <i>procurement</i> " by " <i>appointments</i> "		Accept and try to replace « procure » throughtout text as well.
JP-12 079		05.04	Fig.7	ed/te	The term "procurement" in the figure title should be changed to "procure appointed party/parties" in accordance with the titling convention.		See FR 078
CZ 080		05.04	title	te	While other titles respect the names of sub-processes as in Figure 3, the titles of 5.4 and 5.5 do not.	Consider updating titles to match sub-processes 4 and 5 as in the case of other sub-processes.	Accepted

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JP-11 081		05.04	title	ed/te	The title should be changed to “Procure appointed party/parties” in accordance with the titling convention.		Accepted but see FR 078
JP-13 082		05.05	Fig.8	ed/te	The term “by appointed party/parties” should be added after the term “preparation” in the figure title in accordance with the titling convention.		Accepted
GB 083		05.06.1		ed	Information being incorporated into the Asset Information Model shall be in the Published state	Information to be incorporated into the Asset Information Model shall be in the Published state	Accepted
GB 084		05.06.1		te	Wording in para 1 has correct meaning to cover different scale projects, but may be worth adding specific note for clarity	“Note 1: Depending on the scale of the appointment the CDE approach will vary.”	Reject. Approach will be the same – the tools used can vary.
GB 085		05.06.1		te	Exchanged Information into the AIM from the lead appointed party may be of either shared – exchanged for information (or review and mark-up), or published state for assurance, acceptance and integration. Both these states may exist in the AIM. It may be appropriate to maintain shared state information for later information but only accepted published state information can be commercially relied upon as meeting the information requirements.	Add a note Exchanged Information into the AIM from the lead appointed party may be of either shared – exchanged for information (or review and mark-up), or published state for assurance, acceptance and integration. Both these states may exist in the AIM. It may be appropriate to maintain shared state information for later use but only accepted published state information can be commercially relied upon as meeting the information requirements, provenance and purpose’.	Review as part of Part 2 vs Part 3 alignment.
GB 086		05.06.3		te	Information exchanged into the AIM that fails verification and validation should be ‘Archived’ and ideally held with a ‘Rejected’ state to clearly denote this status, The lead appointing party should be notified with a full record of the basis for rejection.	Add ‘and Archived clearly marked as rejected notifying the lead appointed party of the full basis of the rejection’.	Accept and reword.
FR 087		05.06.4		Te	<i>“The appointing party shall be in overall control of the process to incorporate verified and validated information from any lead appointed party into its Asset Information Model and, where appropriate, into its existing enterprise systems.”</i>	<i>“The appointing party shall be in overall control of responsible for the process to incorporate verified and validated information from any lead appointed party into its Asset Information Model and, where appropriate, into its existing enterprise systems.”</i>	Accepted

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					The formulation may seem too intrusive from the appointing party.		
GB 088	-	05.06.4	-	te	Legal requirements of storing information not referred to (with particular reference to individual persons).	Add note to cross-refer to Part 5 Clause 10 (Compliance with other legislation and standards)	Accept importance of comment – consider placing earlier in document
FR 089		05.07	Title of 5.7	Te	" <i>briefing the delivery phase of the asset</i> " Which delivery phases are we talking about?	Clarify the note and the goal of the 5.7	Accept and incorporate in Part 2/Part 3 alignment and hierarchy of assets
FR 090		05.07.1		Te	" <i>The requirements in this clause 5.7 shall apply to any delivery phase where information management is governed by ISO 19650-2.</i> "	So this should be handle in EN ISO 19650-2 ? To clarify	This is correct. Accept and incorporate in Part 2/Part 3 alignment and hierarchy of assets
CZ 091		05.07.1	note	te	The note should also explain the use of delivery phase (lead) appointing/appointed party etc.	Consider explaining more precisely the distinctions made in 5.7 and 5.8.	As above
FR 092		05.07.2		Te	" <i>Note For the purposes of this document, these AIR are referred to as "asset-related EIR" and represent the downward arrow from AIR to EIR in ISO 19650-1 Figure 2.</i> "	To clarify	As above
CZ 093		05.07.2	note	te	The note is hard to understand and it doesn't make the successive clauses any clearer.	Consider making the note more explanatory and limit it to certain clauses only.	As above
CH 094		05.07.2 and 5.7.3	Note and text	ge	Is the note about the timing of required information required more relevant to the EIR as opposed to the AIR>	Consider if the timing element should be reflected in the EIR	As above
GB 095		05.08.1	para 1	ed	use of 'test' ISO 9000 refers to the inspection in relation to verification and testing in relation to validation.	change to 'inspection'	Accept comment. Suggest change wording to "review" and this being successful or unsuccessful (similar to

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							19650-2) and make similar change in 5.6.3
JP-14 096		05.09	Fig. 12 Key 9.1	ed/te	The term "Process review" should be changed to "review process" in accordance with the titling convention.		Accepted
JP-4 097		2 Normative references		te	Same problem as JP-2. Add a phrase "to be published" at the last of the description.		To review at final edit/proof.
FR 098		3 and 5.02.1		Te	Define the term "Trigger" and/or add a dedicated section in §5.2 to illustrate the term (similarly as done in 5.2.1)		Definition is in ISO 19650-1. And already accepted to separate 5.2.1 into 2 clauses.
GB 099		A.2	Para 2 bullet 2		use of 'digital model'	change to 'digital representation'	Propose "information model" instead as this is the defined term.
GB 100	-	A.2, A.3, A.4, A.5	-	te	In applying new standards those applying them may well view the lists contained in Annex A as gospel, complete and the only items for consideration in application of the standard.	Improve clarity that the current lists are not exhaustive.	Accept. Add more text to A.1. And add "example" to all following clause titles where it does not currently appear.
FR 101		A.3		Te	<i>"Major works on an asset such as major repairs, refurbishments or major upgrades (in which case ISO 19650-2 can be used to specify additional information management processes);"</i> This part comes rather late in the project and moreover in an informative annex.	Clarify the links with EN ISO 19650-2 in the beginning in of the project and in a normative part.	Will be captured and amended in discussion around Part 2/Part 3.
GB 102		A3		te	Trigger events may also need to be planned to cover the capture targeted information at key asset lifecycle stages say asset inspections or condition surveys. Trigger events will also need to be mapped against specific utilisation or performance measurement cycles.	Add additional trigger event <ul style="list-style-type: none"> Planned interventions e.g. asset inspections, condition or other surveys, utilisation or performance monitoring 	Accept in principle – review alongside IE comment and insert text as appropriate.

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CH 103		Activities sections	Various Paragraphs	ge	It might help to clarify for some points who is responsible for what e.g. "4.3 Describe the proposed approach" – is this from the client side or from appointed parties but many people might not read it that way	Add responsibilities in terms of the "appointing party" or "appointed parties" to be very clear about roles and responsibilities.	Accept in principle that targeted actors need to be clearly stated. Check and review.
GB 104		ALL		ge	There are a number of clauses that have multiple requirements. From a responsibility assignment perspective, it is much easier if there is one requirement per clause.	For example reword 5.3.1, 5.3.3, 5.4.2, 5.4.4. Also maybe use the "shall consider ..." structure in some of these clauses (5.3.1).	Accepted, and also proposed to include responsibility assignment matrix as informative annex which would be referenced from a new requirement in 5.1.
CH 105		Annex 2	Paragraph 1	ge	The wide range of activities should include facility management activities as well as asset management activities	Amend paragraph to read "A wide range of organizational activities, including <u>facility management and asset management</u> activities, can"	Accepted.
CH 106		Annex 3	Paragraph 1	ge	Trigger events could be categorised like organizational, commercial, financial, technical, risk and legal related events. This would help to give a clear structure to the appointing party.	Amend paragraph to read " <u>Trigger events could be categorised like organizational, financial, technical, risk and legal-related events.</u> Example trigger events are listed as follows:"	Rejected following discussion.
GB 107		Bibliography		te	Refer to ISO 8000 series for standards relating to data quality management	Add reference to ISO 8000 series	Accept
GB 108		Clause 2	n/a	ed	Shouldn't ISO 55000 be a normative reference?	Include ISO 55000 as a normative reference in clause 2	Author to review whether 55000 is used normatively in the text.
GB 109		Figure 11		te	Information may be passed into the AIM from a delivery phase PIM at intermediary key decision points aligned to AIM trigger events. This will also need verification and validation against asset related EIR and before acceptance and ingratiation into the AIM and to any linked systems. This will enable cross project and cross estate information integration and support cross project cross estate information queries and decisions.	Add a note 'Information may be passed into the AIM from a delivery phase PIM at intermediary key decision points aligned to AIM trigger events. This will also need verification and validation against asset related EIR and before acceptance and ingratiation into the AIM and to any linked systems. This will enable cross project and cross estate information integration and support cross project cross estate information queries and decisions.'	Accept and insert similar note to that referred to in GB 015

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CL 110		Foreward	Heading		Document part 3, not part 1	ISO/DIS 19650-3:YYYY	Accepted
JP-1 111		Introduction	4 th para. above Fig.1	te	The last sentence "The ISO management system standards....." denotes that ISO 19650 is also not a requirement for applying this document. It is unreasonable.	Rephrase	Accepted
GB 112		Introduction	Para 2	ed	Use of 'If it is intended to apply this document in relation to a particular asset'. This sentence doesn't appear to be structured correctly.	Change to 'if this document is intended to be applied to a particular asset'.	Accepted – will reword and simplify.
GB 113	NA	Overall		ge	The standard does not consider legacy data stored in asset systems such as those listed in A5. The records within these systems should be updated against the AIR standards determined in 5.2.2 during asset condition surveys, routine maintenance or capital works. However, a significant proportion of records will not be impacted and yet still be valuable in ongoing O&M.	Some recommendation for using legacy information is required. Suggest Note 3 added to 5.1.1 that need to understand quality of legacy data and refer to ISO 8000-61. Also to assess capability of legacy systems (refer to A.2). Add text to 5.3.2 to state need to assess, maintain legacy systems.	Accept and discuss at UK for detail/support to include in draft.

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ISO_CD 19650-3_AFNOR.doc: Collation successful

ISO_CD 19650-3_BSI.docx: Collation successful

ISO_CD 19650-3_INN.doc: Collation successful

ISO_CD 19650-3_JISC.docx: Collation successful

ISO_CD 19650-3_SA.doc: Collation successful

ISO_CD 19650-3_SIS.doc: Collation successful

ISO_CD 19650-3_SNV.doc: Collation successful

ISO_CD 19650-3_UNMZ.doc: Collation successful

Collation of files was successful. Number of collated files: 8

SELECTED (number of files): 8

PASSED TEST (number of files conformed to CCT table model): 8

FAILED TEST (number of files conformed to CCT table model): 0

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IE		4.1	Fig. 3	ed	Note 1 states "This document reduces ...". This is not correct.	Change Note 1 to state "Effective application of this document reduces ...".	Accepted
IE		5.3.1	Note	te	The note states "dynamically linked". This term should be defined.	Add a definition to Clause 3.2 for "dynamically linked information". A suitable definition may be "information linked such that a change in one system results in an automated, associated change in another system".	Agreed to replace dynamically with "appropriately"
IE		5.3.2		ed	Missing word in paragraph.	Remove "... within those systems are compliant ..." and insert "... within those systems that are compliant ..."	Accepted.
IE		5.5.1		te	With reference to the fourth bullet point, in some cases the lead appointed party may not be responsible for appointing other appointed parties.	Replace the fourth bullet point with "confirm that appointments of the appointed parties are made accordingly".	Reject but add explanation of lead appointed role – reference to Figure 2
IE		A.2		te	In some cases, asset information is required for public consumption. This should be addressed in the list.	Add a bullet point for "publication of asset information for public consumption".	Accept
IE		A.3		te	The bullet point list should include inspection.	Add bullet point for "inspection of an asset"	Accept and place below bullet on performance evaluation
IE		A.4.1		te	The first bullet point states "unique asset identification numbers". Based on other work at CEN and ISO, such identification may be provided by means other than numbers. ISO/DIS 23386 Clause 3.16 refers, for example.	Change first bullet point to state "unique asset identifiers".	Accept.

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MB/NC ¹	Line number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table/ (e.g. Table 1)	Type of comment ²	Comments	Proposed change	Observations of the secretariat
AU		Whole document	N/A	ed	The use of the acronym AIR in lieu of AIRs. Is it correct to state Asset Information Requirement or Requirements when discussing this term in plural. Suggest this is considered at next review.	AIR or AIRs – example below. The appointing party shall create an information repository for asset information specified in all AIR(s) related to the asset or assets identified in 5.2.1.	Will check consistency with Parts 1 and 2 and agreement reached with ISO editor.
AU		Foreword		ed	Table of Contents missing	Add Table of Contents before Foreword	Accepted. To be added.
AU		0.1	Para 2	ed	This line refers to a person whereas the whole principle of ISO 19650 is the appointed team. This should be changed to note 'appointed team'.	This document makes use of the phrase "shall consider", particularly in Clause 5. This phrase is used to introduce a list of items that appointed party must think about carefully in connection with the primary requirement described in the sub-clause.	Rejected. Follows wording in Part 2 and correct as is.
AU		0.1	Para 4	ed	Missing words	"Figure 1 also shows how ...which itself takes place within the context of organizational management."	Accepted.
AU		0.1	Fig 1	ge	Area 'A' also includes the setting of appropriate requirements	Key: 'A': "Start of delivery phase – communication of requirements and transfer of relevant information from AIM to PIM"	Reject. Requirements communicated throughout delivery phase at each appointment.
AU		0.1	Para 6	ed	Unnecessary word on line 5	"The amount of thought involved ... will depend on ... national policy on introducing building information modelling."	Accepted.
AU		0.1	Para 8	ge	ISO standards document best practice at the time they are written. Regular review and revision of standards is part of ISO processes and, as for many other standards, need not be explicitly stated.	Remove the last para in 0.1	Accepted.
AU	24	0.2	Paragraph 3	ge	"Information on asset management systems can be found in ISO 55000" this is very generic and lacks any context.	"General information on asset management, and information on the terminology applicable to asset management can be found in ISO 55000."	Accepted.

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AU		0.3	Para 1	ge	Should the benefits be specifically related to building information modelling?	“... during the operational phase of assets, where building information modelling is used. ” (or similar)	Accepted
AU		0.3	Para 2	ed	This sentence is too long. Needs to be condensed in order to make more sense.	International cooperation in the preparation of these documents has identified a common information management process that can be applied to the broadest range of assets. This applies to the broadest range of organizations, across the broadest range of cultures, under the broadest range of appointment routes.	Accepted.
AU		2		ed	Dates for ISO 19650-1 and 2 missing	Add 2018 date to ISO 19650-1 and 2.	Author to review
AU		3.2.2		ed	There are two related aspects to these comments: The term ‘delivery phase’ becomes very ambiguous when used in the context of the operational phase. The term ‘delivery phase’ is clearest and most useful when used to describe one of the main phases of the project life cycle. Using the same term for activities that take place within the operational phase is ambiguous and will lead to misinterpretation and confusion. The definition of exchange information requirements (EIR) that they are the “information requirements in relation to an appointment during the delivery phase of an asset” is inaccurate. EIRs such as the managerial and commercial aspects of information (file types, naming conventions, etc) would still need to be defined for the delivery of assets that take place during the operational phase of assets, e.g. upgrades, refurbishments.	As a general principle use ‘delivery phase’ exclusively for describing the said phase within the overall project life cycle and use terms such as ‘delivery activities’ or simply ‘delivery’ for activities of this type during the operational phase. As this Part of ISO 19650 pertains to the operational phase of an asset, it can be generally assumed that any delivery activities mentioned are ones taking place in the operational phase, not the preceding delivery phase. The use of the term ‘delivery team’ in this Part, e.g. clause 5.6.1 and 5.6.2, is consistent with the application of this principle. Amend the current definition to “information requirements in relation to an appointment for the delivery of an asset”.	This will be considered in the general review of the crossover between ISO Part 2 and Part 3 – see collated comments responses. But there is already a note in 4.1 about delivery and operation phase activities potentially happening in parallel.

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AU		3.3		ed	The symbol for collapsed process is not clear. The plus sign is missing.	Add clear symbol	Author to review
AU		4.1	3 rd para	ed	Reduce ambiguity associated with the use of the term 'delivery phase'. See comments on 3.2.2.	Amend paragraph to: Where it is decided that the delivery of a new or refurbished asset is required within the operational phase, then the requirements of ISO 19650-2 shall also apply (see D and E in Figure 3). The appointing party (or appointing parties in relation to the delivery and operation of an asset, if different) shall make sure that delivery requirements and operational phase requirements are consistent with each other. NOTE: If a delivery is planned for part of an asset while the rest remains in use (for example, an extension to an asset, or a partial refurbishment) then activities identified in C and D in Figure 3 can be carried out over the same timescale.	See above
AU		4.1	Fig 3	te	Step 8 does not discuss rejection of information from the delivery team.	Add dashed arrow from 8 to E and consider text 'rejection'.	Accept and consider what text needs to be added to clarify the relationship between parts 2 and 3.
AU		4.1	Figure 3, Key item 7	ed	Remove ambiguity associated with the use of 'delivery phase' in this context.	Amend to 'Briefing the delivery of the asset'.	Draft words for Introduction to explain relationship and hierarchy of assets/projects etc.
AU		4.1	Figure 3, Key item 8	ed	Remove ambiguity associated with the use of 'delivery phase' in this context.	Amend to 'Accept, incorporate and reconcile delivery information'.	See above.
AU		4.1	Figure 3, Key item D	ed	Note that the use of 'delivery phase' is appropriate in this instance.	No change	No response required.

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AU		4.1	Figure 3	ed	This diagram shows all processes collapsed, which is appropriate. However, it would be helpful if a fully expanded version was provided that showed all sub-processes to give the reader a comprehensive overview.	Add a fully expanded diagram similar to the attached diagram (ISO19650-3_RevisedInformationManagementProcess) to the Annexes and add another note to Figure 3 referencing it, e.g. Refer to A.5 (or preferably A.2) for a diagram showing all sub-processes.	Accept.
AU		5.1.2	1 st para, 2 nd sentence	ed	The normative requirements for OIR are indicated by the use of shall in the first sentence. The first sentence describes what is required. The second sentence advises what they are called, so 'shall' is redundant. OIR are also defined in ISO 19650-1.	Amend the sentence to "These requirements are the organizational information requirements (OIR)" or "These requirements are referred to as organizational information requirements (OIR). Also consider making this sentence a note.	Accepted.
AU	5.2	5.2.1	All	ge	5.2.1 in this version has merged the activities of identifying assets and identifying trigger events into a single step – these were separate process steps in the last version. I think these work better as separate steps, as identifying assets for which info should be managed, and identifying the type of trigger event, are two quite different activities with different considerations.	Revert back to two separate steps for these two activities.	Accept and put clauses as parallel in flowchart
AU		5.2.1	Note 1	ed	Check spelling of net. Is it 'net' or nett' in ISO standards?		Author to review
AU		5.3		ge	There appears to be an assumption that the appointing party is capable of carrying out the tasks noted in this section. This may not be the case, due to the capability / capacity of the appointed party.	ISO 19650-1 Section 8 Delivery team capability and capacity deals specifically with this issue for the <u>delivery</u> team. Perhaps we propose the inclusion of a statement here or in the Introduction something like: "In a similar way that it is suggested that the appointing party should review the capability and capacity of the prospective delivery team to meet the information requirements in ISO 19650-1 Section 8, they should do the same	Check that notes elsewhere include for the appointing party getting help/assistance from others to discharge their requirements.

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						for prospective appointed teams in this standard.”	
AU		5.3.1	1	te	<p>Referring to the creation of an information repository implies that such a repository MUST be created. There are many situations where all that may be needed is to identify information to be populated in existing systems, and the information pathways to do this (e.g. Saving of data in specified formats, import of data into specified systems).</p> <p>There appear to be a few steps missing, which are: Identify existing source of asset information (e.g. Software, versions, information contained) Data format requirements to interface with any existing systems Identify any new data that needs to be captured beyond what is already contained in the existing systems</p> <p>Only once these things are known could the need for a new repository (or extensions to these existing systems) be determined.</p>	Include steps to assess the state of existing asset information prior to determining the requirements for future information management.	Dealt with at CH 067 Consider all these points in review of Part 2 and Part 3 process.
AU		5.3.1	1 st para, 2 nd sentence	ed	Similar comment to that made about 5.1.2.	Amend the sentence to “This repository is the asset information model (AIM)” or “This repository is referred to as the asset information model (AIM)”.	Change from “shall be” is accepted. See also GB 065
AU		5.3.1	1	te	The appointing party may not be the party that implements a solution for asset information management.	Change the clause to provide flexibility in terms of who creates the information repository.	As above – add note on delegation to 0.4
AU		5.3.1	1	te	The concept of a ‘repository’ and ‘model’ should be more clearly articulated. They	The AIM is the whole collection of asset information for operation and maintenance.	Accept principle of comment but not

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					<p>current appear to be used interchangeably, which may cause confusion. E.g. The repository may be one or more proprietary systems. The 'repository' is arguably not the 'model'.</p> <p>Note that the term repository is not used in ISO 19650-1 or 2.</p> <p>Although the term federation is defined in ISO 19650-1 clause 3.3.11, when federated is used as an adjective with model it implies a 3D model.</p>	<p>It would be more consistent to use the term container (if this is what is intended) from ISO 19650-1. See clauses 3.3.11 and 3.3.12. Change the second sentence to 'This repository (or container) shall form part of the Asset Information Model.'</p> <p>If a Repository is different to a container, it needs defining. Is it the IT infrastructure to hold the AIM or is it the information itself?</p> <p>Remove the word 'federated' from the third sentence.</p>	proposal – covered in response to GB 065.
AU		5.3.1	Para 1	ge	Why is there a parenthesis around BIM according to ISO 19650. Does this refer to a specific document?	If this refers to a document provide guidance to it. (Possibly footnote). Otherwise, remove the parenthesis.	The inverted commas are as used in ISO 19650-1
AU	Lines 3-4	5.3.1	Para 1	te	The use of the term 'information providers' in lieu of appointed parties.	The appointing party shall create an information repository for asset information specified in all AIR related to the asset or assets identified in 5.2.1. This repository shall be the asset information model (AIM). In "BIM according to ISO 19650", the AIM shall be a federated information model with contents from different information providers (appointed parties and others).	Accepted but just "appointed parties" is sufficient, according to its definition.
AU		5.3.1	Para 3	ge	Purpose and meaning of the sentence is not clear.	<p>Change to "...in such a way that the occurrence of a trigger event does not inhibit unrelated use of the information."</p> <p>Consider adding "This is to avoid unnecessary obstructions to accessing asset information."</p>	<p>Accepted</p> <p>Accepted</p>
AU		5.3.2	1	ed	Word 'that' missing between 'those' and 'systems'.	Insert word 'that' between 'systems' and 'are'.	Accepted.

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AU		5.3.2	1	te	Assumes that the appointing party is in control of all such systems. This may not be the case.	Change the word 'maintain' to 'implement or maintain'.	Add "to ensure they" into line 2 after "systems". And redraft – refer to others who may be in control of the systems.
AU		5.3.2	1	ed	Consider altering sentence as it currently does not make sense. If existing enterprise systems are used to store asset information then the appointing party shall maintain information quality and information security processes within those systems are compliant with the requirements of this International Standard, irrespective of wherever and however the information is stored.	If existing enterprise systems are used to store asset information then the appointing party shall maintain information quality and information security processes within those systems <i>to ensure they</i> are compliant with the requirements of this International Standard, irrespective of <i>the location or method of information storage</i> .	Accepted – take with other comments on this clause.
AU		5.3.3	1 st sentence	ed	"... maintain the AIM over the relevant period of time." is a bit vague.	Amend the sentence to "... maintain the AIM for the duration of its use."	Not accepted – the note explains the phrase.
AU		5.3.3	Note 1	ed	"The relevant period of time" is a bit vague.	Amend the sentence to "The duration of the AIM's use can depend on an expected period of ownership, the length of"	Author to review in line with other comments on this note.
AU	12 and 13	5.3.3	Para 8	ed	A little confusing and can be misconstrued. Not clear enough. There should be a further note on how the physical asset has been captured. This could be quite variable (in terms of its state).	— maintain the agreed level of alignment between the contents of the AIM and the state of the physical asset.	Proposed change is as per the current text, so not sure what is meant to be changed.
AU	19 and 20	5.3.3	Final Paragraph on page 7	te	Wouldn't the appointing party that is not the owner refer to the AIR to establish a process to transfer the AIM maintenance requirements to a successor organisation?	An appointing party that is not the owner of the asset shall establish a process to transfer the AIM maintenance requirements to a successor organization. The handover process must be agreed by the owner.	Accept and combine with GB 076
AU		5.3.4		te / ed	The diagram currently does not include the creation of the AIM repository, which may be the best approach at this point. All other	3.1 definition in figure: "Define the requirements for the asset information model"	Diagram key is the list of sub-clause headings – as per Part 2. It is not

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					tasks appear to be focussed on defining requirements, which seems appropriate to be done by the appointing party. Also, for consistency, start all sentences in the key with an imperative verb.	3.3 definition in figure: "Define the requirements to maintain the AIM"	necessary (or possible) to include all actions in the heading of a clause. But will review that have correct emphasis.
AU		5.3.4	Caption	te	Suggest that this could be titled something like 'define asset information repository requirements'.		Rejected. Follows clause title
AU		5.4.3	Note 2	ed	Misspelt word: 'if'.	The lead appointed party can add some of its own information requirements to any AIR passed on to an appointed party.	Accepted.
AU	21-24	5.6.3	Para 1	ed	This paragraph should clearly state that checks would be made by the appointing party against the AIR rather than stating that relevant 'test' would be made. This is a little confusing and may confuse the appointed party as they may not understand what tests are required	The appointing party shall verify and validate information received from each lead appointed party against the relevant AIR. Information that does not comply to the AIR (that fails to pass these tests) shall be identified and returned to the Work in Progress state. The information shall be revised or additional information shall be provided by the lead appointed party.	Conclusion of another comment is to use "review" and reword accordingly. Will also refer to this comment in revising the text.
AU		5.6.3	3 rd sentence	ed	The sentence could be more precise or specific about what is expected.	Amend the sentence to "The lead appointed party shall provide revised or additional information as required for it to pass verification and validation processes."	Accepted.
AU		5.7		ed	Remove ambiguity associated with the use of 'delivery phase' in this context.	Amend heading to "Information management process – briefing the delivery of the asset" or "Information management process – briefing for the delivery of the asset"	See above.
AU		5.7.1	1 st sentence	ed	Remove ambiguity associated with the use of 'delivery phase' in this context.	Amend 'delivery phase' to 'delivery of the asset'.	See above.
AU		5.7.1	2 nd sentence	ed	Remove ambiguity associated with the use of 'delivery phase' in this context.	Omit 'phase'.	See above.
AU		5.7.1	Note	ed	Remove ambiguity associated with the use of 'delivery phase' in this context.	Amend 'delivery phase' to 'delivery of the asset'.	See above.

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AU	3	5.7.1	2	ed	Opportunity to improve clarity of terminology	Suggest to include "Appointing Party" as a term under section 3 "Terms and Definitions" However, where this definition has already been supplied in related ISO docs, an appropriate cross-reference will suffice.	Appointing party is defined in ISO 19650-1. No need to repeat.
AU	20-21	5.7.2	Para 1	ed	Punctuation	The operational phase appointing party shall identify the AIR, relevant to the delivery phase of the asset. The AIR shall indicate when, during the delivery phase , the asset information is required.	Accepted.
AU		5.7.3		ed	Remove ambiguity associated with the use of 'delivery phase' in this context.	Omit 'phase' wherever it follows 'delivery'.	See above.
AU	1	5.7.3	1	ed	"be responsible to ..." Reads awkwardly.	Consider rewording to: "report to" or "assist"	Rejected. Responsible is the correct word.
AU	Page 12 26-27	5.7.3	Para 1	ed	The language is a little confusing here.	The operational phase appointing party shall provide the asset-related EIR to the delivery phase appointing party. <i>Note: The EIR should relate to the Asset Information Requirements anyway and there should be one consolidated document to relate back to how the Asset is to be managed/ operated. This suggests there may changes to the EIR during the delivery phase?</i>	Author to review
AU	Page 13 Lines 1-3	5.7.3	Para 3	ed	The words 'shall be responsible' don't quite make sense. The delivery phase appointing party shall report to the operational phase appointing party may be a better way to phrase it. This suggests that an appointed party during delivery phase may potentially need to report to more than one source during this phase.	The delivery phase appointing party shall be responsible to the operational phase appointing party for the day-to-day oversight of the information management process for asset-related EIR during the delivery phase.	Author to review
AU	N/A	5.7.4	Figure 10	ed	Arrow hangs awkwardly	Consider adding Process "F". If this is acceptable, add F and associated descriptor to the Key information below the diagram.	Accepted. But will be part of revision of whole flow chart.

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AU		5.7.4	Figure 10 title	ed	Remove ambiguity associated with the use of 'delivery phase' in this context.	Omit 'phase'.	See above.
AU		5.7.4	Figure 10, Key item D	ed	Remove ambiguity associated with the use of 'delivery phase' in this context.	Omit 'phase'.	See above.
AU		5.7.4	Figure 10, Key item 7.2	ed	Remove ambiguity associated with the use of 'delivery phase' in this context.	Amend 'delivery phase' to 'delivery of the asset'.	See above.
AU		5.7.4	Figure 10, Key item 7.3	ed	Remove ambiguity associated with the use of 'delivery phase' in this context.	Omit 'phase' and add 'the' before 'delivery'.	See above.
AU		5.7.4	Figure 10, Key item 8	ed	Remove ambiguity associated with the use of 'delivery phase' in this context.	Omit 'phase'.	See above.
AU		5.8		ed	Remove ambiguity associated with the use of 'delivery phase' in this context.	Omit 'phase'.	See above.
AU		5.8.1		ed	Remove ambiguity associated with the use of 'delivery phase' in this context.	Omit 'phase' wherever it follows 'delivery'.	See above.
AU	3	5.8.1	1	ed	Grammatical error	Consider deleting "by"	Accepted
AU	6	5.8.1	2	ed	Grammatical error	Consider deleting "by"	Accepted
AU	3	5.8.2	1	ed	Omission	Add a comma "," between "appropriate" and "this"	Accepted
AU	N/A	5.8.3	Figure 11	ed	Arrow hangs awkwardly	Consider adding Process "F". If this is acceptable, add F and associated descriptor to the Key information below the diagram.	Accepted
AU		5.8.3	Figure 11 title and Key items D and 7	ed	Remove ambiguity associated with the use of 'delivery phase' in this context.	Omit 'phase'.	See above.
AU	5	5.9.1	1	te	Opportunity to provide further clarity to "financial impacts"	Consider elaborating on the nature of the financial impacts under consideration - current, past, or projected Often, appointing parties find reliable information regarding future implications of information management quite useful	Accept and put in note.

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AU	6	5.9.1	1	te	Opportunity to provide further clarity to "performance"	Consider specifying, if possible, an overarching performance criteria e.g. "overall performance as determined by the appointing party"	Accept and put in note
AU	6	5.9.1	1	te	Opportunity to further clarify the implied meaning of "satisfaction or otherwise"	Consider rewording to, "the extent of satisfaction or dissatisfaction" This way, the entire spectrum of feedback from all applicable parties is covered. This gets rid of the ambiguity associated with an intangible term like "otherwise"	Accepted in principle but replace proposal with "the level of satisfaction of the ..."
AU	2	5.9.1	2	te	Point for further clarification: "no recommendations are being made as a result of the review" To forestall the possibility of reviewers relying on this clause to consistently avoid making necessary recommendations, it may be important to determine a suitable range of conditions under which no recommendations are valid	Change from 'or shall state that no recommendations are being made 'to'...or shall justify why no recommendations are being made...'	Accepted
AU	N/A	5.9.3	Figure 12	ed / te	Suggested alternative to Figure 12: If and only if the assumption that the relationships and dependencies between all processes are strictly linear. Same recommendation applies to Figure 3.	Consider revising this diagram to enable users see the interconnections between the main and sub-processes. Show all expanded sub-points. And loop back from 8 to E.	See above
AU		5.9.3	Figure 12, Key item 7, 8 and D	ed	Remove ambiguity associated with the use of 'delivery phase' in this context.	Omit 'phase'.	See above.
AU		A.2	Para 1	ge	The sentence explaining that 'organizational views on how to group activities differ' is a fair comment, and worth including while the document is drafted, but it should be removed prior to final publication.	Change the sentence "Organizational views on which activities below to which group ..." to an author's note, and delete from final publication.	Rejected. WG 13 concluded this text is important and should be strengthened but that the lists themselves should not be categorised.

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AU		A.2	Para 2	ge	No need to mention about grouping into strategic, tactical or operational if the grouping is not done in the standard.	Change reference to grouping to an author's note, and delete from final publication.	As above
AU		A.3	1 st dot point	ed	Remove ambiguity associated with the use of 'delivery phase' in this context.	Amend 'delivery phase' to 'delivery of the asset'.	Author to review in light of comments on delivery phase and Part 2/Part 3 relationship.
AU		A.3	Para 1, 2 nd sentence	ed	Could be expressed more directly.	Suggest 'Examples of trigger events include:'	Accepted.
AU		A.3	Bullet list	te	Suggest one further addition/change to the bullet: 'change in regulations applying to an asset'	Suggest change to: 'change in regulations applying to an asset, or in response to demand for information from an appropriate regulator'.	Accepted.
AU		A.4.1	Bullet list	ed	The following bullet is repeated: 'historical record of planned and unplanned maintenance tasks performed'	Remove second instance of bullet.	Accepted
AU		A.5	Para 1, 2 nd sentence	ed	Could be expressed more directly and consistently with A.3.	Suggest 'Examples of functionality provided by enterprise systems include:'	Accepted.

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