



ISO/IEC JTC1/SC7  
Software & System Engineering  
Secretariat: CANADA (SCC)

## ISO/IEC JTC1/SC7 N2559

**2002-01-10**

<b>Doc. Type</b>	Comment Disposition Report
<b>Title</b>	Comment Disposition Report on FCD 15939: Software Engineering - Software Measurement Process.
<b>Source</b>	JTC1/SC7 Secretariat
<b>Project</b>	07.41
<b>Status</b>	Draft
<b>References</b>	N2489
<b>Action ID</b>	FYI or ACT
<b>Due Date</b>	
<b>Mailing Date</b>	2002-01-10
<b>Distribution</b>	SC7_AG, JTC1 Sec., ITTF Sec.
<b>Medium</b>	Encoded Acrobat
<b>No. Of Pages</b>	12
<b>Note</b>	

				Balloted	document:	ISO/IEC JTC 1/SC 7 N2410 - 15939 Software Measurement Process		
					Vote:	Approve, Disapprove, Abstain		
National Body ID	Formal / Informal	ID	Category (TH, TL, E, G)	Clause, Sub-clause	Paragraph, Figure, Table	Comment and rationale	Proposed new text	Comment Responses
AUS	Informal	AU-01	E	1.1	P2	"...that allows one to define a suitable set of measures that address specific information needs." is the only place in the standard which is forced to use the term "one" which reads awkwardly. Everywhere else the passive voice is used.	...that supports defining a suitable set of measures that address specific information needs	Accept.
AUS	Informal	AU-02	E	1.3	P1	"That result in a software measurement" is incorrect usage. The activities and tasks comprise, constitute, or make up the process rather than result in it.	"...that comprise a software measurement process..." or "...that constitute a software measurement process..."	Accept. Use "comprise".
AUS	Informal	AU-03	TH	2.39	p3, p4	The definition for interval scale and ratio scale are too similar. Does an interval scale allow negative values and if so could an example with negative values be used. Eg distance from a mean value, temperature, or similar		Accept: Add more explanation of the difference between interval and ratio in Annex A.
AUS	Informal	AU-04	TH	3.1	Bullets 5 & 8	At a minimum planning the measurement activities should precede collecting the data. These purposes and outcomes no longer match ISO 12207	Omit Bullet point 8. Change bullet point 7 to read "The measurement process and measures are evaluated and communicated to the process owner."	AIP: The first several bullets are directly from 12207, the last 2 or 3 are ones we added. Reorder - move bullet #8 to the 5th spot, and add the word "the identified" to the beginning of the block.
AUS	Informal	AU-05	TL	3.2	p. 7, 7th paragraph	At the end of the paragraph add the proposed sentence or something similar: Often when process requirements change it is possible to alter the existing data ie re-calibrate it, so that it continues to be useful.	"Subsequent iterations of the process model should consider the requirement to, where possible, recalibrate the data within the Measurement Experience Base in order to ensure that historical data is not lost but rather modified and able to be used in future information products."	Reject. The standard does not recommend or preclude the recalibration of data. The recommended sentence is very specific and not appropriate for an overview.

National Body ID	Formal / Informal	ID	Category (TH, TL, E, G)	Clause, Sub-clause	Paragraph, Figure, Table	Comment and rationale	Proposed new text	Comment Responses
AUS	Informal	AU-06	E	4.2.2.2	2	Replace "it is preferable to start small"	"It is preferable to initially implement a pilot project."	Reject. Start small could mean either implement a pilot or start with a small set of measures.
AUS	Informal	AU-07	E	4.2.2.3	2	Replace "a subset are selected"	"a subset is selected"	Accept.
AUS	Informal	AU-08	TL	4.2.3.2	P2	The sentence is unclear.	"...the programming language may be needed in order to make comparisons between between different systems which might not use the same language."	Accept. Change to "for example, when comparing LOC from different sources, the programming language must be specified."
AUS	Informal	AU-09	TL	4.3.2.2	P1	"...only a handful..." is colloquial.	"...only a few..."	Accept.
AUS	Informal	AU-10	E	4.4.2.1	P1	Should be changed to bullet points for clarity.		Reject. Items are not important enough to bulletize.
AUS	Informal	AU-11	E	4.4.2.3	P2	"Then it should be communicated that there were no potential improvements." is really awkward English.	If no potential improvements are identified then that should be communicated.	Accept.
AUS	Informal	AU-12	TH	A.1.3.1.2.1	p3,p4	As for 2.39 regarding examples of Interval scale.		Accept: Add more of an explanation of the difference between interval and ratio in Annex A.
AUS	Informal	AU-13	TL	A.2.2	Measurement Method	"Count the number of lines of text for each package" What a strange example this is. The number of lines of text on a page, depends upon font type and size, and page setup. How could this be an objective measure?		Reject. We are counting the number of lines of text in each package (not number of pages).
AUS	Informal	AU-14	TL	D.4	1	Change sentence structure to "The ease with which the indicators produced by the measurement process, and the interpretations of them, can be understood by the intended measurement user."		AIP: Remove "produced by the measurement process".
AUS	Informal	AU-15	E	Fig 2		Include space between "Measures resulting from ..."		Accept (by base measure)
AUS	Informal	AU-16	E	Fig 2		Remove space from "Relating the quantitative information in the indicator to"		Accept. Check spacing throughout diagram.

National Body ID	Formal / Informal	ID	Category (TH, TL, E, G)	Clause, Sub-clause	Paragraph, Figure, Table	Comment and rationale	Proposed new text	Comment Responses
Austria	Formal	AS-01		p. 6 S3.2	1st	What are 'normative tasks'. They are nowhere defined!		Accept. Remove the word "normative" from this sentence. (Any "shall" indicates a normative task - but this is not necessary to say in this sentence).
Austria	Formal	AS-02				Does every activity have to have a normative task?		Accept. See AS-01
Austria	Formal	AS-03		P.7	5th	The PERFORMANCE OF the activities....		Accept. Add the words "performance of" to the 1st sentence in the 5th paragraph.
Austria	Formal	AS-04		P. 24	Scale: item 2:	It is enough to postulate 'rational numbers', because the type of scale is a ration		AIP. The current text is retained for clarification purposes.
Canada	Formal	CA-01	General			Canada commends the project editor and project co-editors on the publication of this draft.		Accept. Thank you.
Canada	Formal	CA-02	TH			The document is missing a standard clause, which should be clause 2. 'Normative Reference(s)' and in this clause, it should include the 'ISO International vocabulary of basic and general terms in metrology' - 1993.		Accept. A normative reference section will be added, with the metrology document in it.

National Body ID	Formal / Informal	ID	Category (TH, TL, E, G)	Clause, Sub-clause	Paragraph, Figure, Table	Comment and rationale	Proposed new text	Comment Responses
Canada	Formal	CA-03	TH	Annex D		<p>Example criteria for evaluating an information product (informative). In this appendix, some of the criteria listed and described do not map to the <i>ISO Vocabulary of basic terms of metrology</i> nor to the content of PDTR-14143-3.</p> <p>Two specific examples:</p> <p>Example 1: D.6 Accuracy of a measurement procedure</p> <p>Example 2: D.7 Reliability of a measurement method: In CD 19539 'Reliability' is associated to 2 criteria: repeatability and reproducibility. Comment 1: 'reliability' is not defined in the ISO Vocabulary of basic and general terms in metrology, even though many criteria are defined individually. Comment 2: in PDTR 14143-3, there are multiple performance criteria about a measurement method, and not only repeatability and reproducibility; this concept of 'reliability' is not in PDTR-14143-3 and there is no a priori reason to restrict 'reliability' to these two single performance criteria for a measurement method, to the exclusion of the other criteria</p>	<p>Recommendation 1: either rename the property described in 15939 or align it with the other SC7 documents in progress in the related topic, that is PDTR 14143-3, in addition to the ISO Vocabulary on basic terms in Metrology.</p> <p>Recommendation 2: align the content of D7 with the content of PDTR14143-3 and with the ISO Vocabulary. Also, it is not necessary to label the combination of the two properties currently in the CD 15939 (that is (repeatability + reproducibility).</p>	<p>1: AIP: Change the term "accuracy" to "correctness of the implementation" (check definition).</p> <p>2: Accept: Split out repeatability and reproducibility into separate criteria.</p>

National Body ID	Formal / Informal	ID	Category (TH, TL, E, G)	Clause, Sub-clause	Paragraph, Figure, Table	Comment and rationale	Proposed new text	Comment Responses
Czech Republic	Formal	CZ-01	TH			<p>It is the terminological inconsistency between this draft and WG6 documents 9126-1,2,3,4 and 14598-1, which must be clarified. The definition 2.15 measure (noun) in 15939 “A rule for assigning a quantitative or category value from the defined scale to one or more attributes. ... “ is in the sense of WG6 document the definition of “metrics”.</p> <p>We recommend defining “measure (noun)” according to the WG6 documents as an assigned value to attribute of the entity and the content of clause 2.15 defined as “metrics”.</p> <p>The respective revision of the text of draft shall be made.</p> <p>In case of problems with accepting this comment a short common discussion of WG6 and WG13 experts in the time of Nagoya meeting will be useful.</p>		AIP. Terminology will be joint discussed with WG6, 12, and 13. The agreed to terms will be used.
Germany	Formal	GE-01	E	General		<p>Formatting of all Annex titles, Reformat all titles, e.g..</p> <p>Annex A (informative) The measurement information model</p> <p>and centralise the three lines.</p>		<p>Accept. Center titles and change it to 3 lines:</p> <p>Annex A (informative) Measurement Information Model</p> <p>Do the same for Annex B-G</p>
Germany	Formal	GE-02	E	General		<p>Hanging paragraphs</p> <p>Annex A,D,E These all contain "hanging paragraphs" (see Directives Part 3:5.2.4)</p> <p>Give the first paragraphs a number and title (for example General, or Introduction) and increment following clauses by 1.</p>		Accept. Give the first paragraphs a number (e.g. A.1 - Introduction)

National Body ID	Formal / Informal	ID	Category (TH, TL, E, G)	Clause, Sub-clause	Paragraph, Figure, Table	Comment and rationale	Proposed new text	Comment Responses
Germany	Formal	GE-03	E	General		Cross references to clauses within the standard (see Directives Part 3: 5.2.6) All sections etc are called clauses. When referring to "sections" or "subsections" within the standard , replace by clause or subclause, particularly in the annexes.		Accept (multiple instances).
Germany	Formal	GE-04	E	Forword		Reference to SC7 as developer is missing		Accept.
Germany	Formal	GE-05	E	Introduction	last line	Rewrite as "Annexes A to G are for information only."		Accept.
Germany	Formal	GE-06	E	Introduction	3rd para	Move to Scope. This paragraph explains what the standard does. It in not additional information about why standard was written.		Reject. This is just a brief introduction to the standard.
Germany	Formal	GE-07	E	1	Scope	ISO Template does not suggest subclauses for Scope. Delete subclause numbers and titles. Delete last sentence of 2nd paragraph (of 1.1) and replace with paragraph moved from Introduction. Rational tortology.		Reject. The directives do not preclude subclauses.
Germany	Formal	GE-08	E	1.4	Confomance	This should be a clause in its own right and not a subclause of scope. Replace clause number with "2". 2nd paragraph: This sentiment was deleted in IS 15910 by ISO ITTF. It is a recognised feature of all ISO Standards. Delete 2nd paragraph.		Reject. Conformance is not a clause in the directives, so it was made a subclause of scope. While the 2nd paragraph is redundant, it was included for clarification.
Germany	Formal	GE-09	E	2	Definitions	Use introductory paragraph supplied by ISO (see ISO Directives Part 3: 6.3.1)		Accept.
Germany	Formal	GE-10	E	3.2	11th para	When cross-referencing within this standard refer to clause numbers. Replace ' "Definitions" section ' with appropriate clause number, i.e.3.		Accept. Update throughout standard.

National Body ID	Formal / Informal	ID	Category (TH, TL, E, G)	Clause, Sub-clause	Paragraph, Figure, Table	Comment and rationale	Proposed new text	Comment Responses
Germany	Formal	GE-11	E	3.3		The terms "4.a", 4.a.b" and 4.a.b.c" are confusing. Replace with "4.n", "4.n.n" and "4.n.n.n"		Reject. "n" does not make it any more clear.
Germany	Formal	GE-12	E	5		Informative references should appear as a bibliography. Remove to appear after the last Annex and title it "Bibliography". The list should be in ascending order of number (9126 and ISO vocabulary are mispositioned).		Accept. Remove section 5. Move info to Bibliography (after Annex G). Re-order in ascending order.
Germany	Formal	GE-13	E	Annex A	3rd para	Cryptic! What does "Section 2" refer to? If A.2, then replace "section 2" with "clause A.2 Avoid "must". Replace with "has to" (ISO preference).		Accept. Replace with clause 2. Change "must" to "has to" or "needs to". Change each occurrence.
Germany	Formal	GE-14	E	A.2.1 / A.2.2 / B		The tables have no title nor number. Please insert accordingly In the text in A.2.1 and A.2.2 and A.2.3 replace (see table below) with respective table number. In B please refer to the table in the text.		Accept. Number them Figures 3, 4, and 5. Label Figure 6 in Appendix B.
Germany	Formal	GE-15	E	A.2.1 / A.2.2		Format of Tables are unclear to read, the indenting appears arbitrary and difficult to read. Insert tab settings and keep text left adjusted.		Accept. Left align titles as well as text.
Germany	Formal	GE-16	E	Annex B		Is this really informative? when we read that all tasks ... are normative?		AIP. Remove 2nd paragraph (normative material is already covered in the normative sections). Remove *'s from diagrams.
Germany	Formal	GE-17	E	Annex D		Here is reference to PDTR 9126-2. Please include this in Bibliography.		AIP. Editors will check all references.

National Body ID	Formal / Informal	ID	Category (TH, TL, E, G)	Clause, Sub-clause	Paragraph, Figure, Table	Comment and rationale	Proposed new text	Comment Responses
Germany	Formal	GE-18	E	Annex D and F		List in D.6 and in F. Please follow directions in Directives Part 3: 5.2.5 Example 2, i.e. close last bullet with period and the previous ones with semicolon.		Accept.
Japan	Formal	JP-01	TH	P2	3.2	The term “measure (noun)” is too much widely defined and has contradiction in itself. “Measure” is defined as a rule for assigning value from a defined scale to one or more attributes, and a rule may be a measurement method, function or model in the Definition. “Measure” is also defined as the collective term of base measure, derived measure and indicator. Therefore, most components in the Measurement Information Model are regarded as “measures”. Besides, some strange results can be derived from this definition such that a derived measure, for example, may be also function.	Every measure should be regarded as variables to which measured values are assigned. Therefore, the term “measure” should not be defined as a rule but at most as the collective term of base measure, derived measure and indicator to which measured or combined values are respectively assigned.	Accept: Remove the 1st 2 sentences from the definition of measure (2.15). Insert the agreed definition of measure. See the agreed to terms at the end of these comments responses.
Japan	Formal	JP-02	TH	P2	3.2	The term “base measure” should be also more clearly defined according to above comment (JPN-01).	The definition of term “base measure” should be changed, for example, as follows: “A measure to which value is assigned resulting from applying the measurement method to one attribute” as described in Figure 2.	AIP: Change the definition of “base measure” as agreed with WG6. See the agreed to terms at the end of these comments responses.
Japan	Formal	JP-03	TL	P7	3.2	The term “sponsor” should be defined in the Definitions.	Add the definition of term “sponsor” in the Definitions	Accept.
Japan	Formal	JP-04	TL	P13	4.2.3.3	It may be difficult to understand “a product coupling measure”.	Add some examples to be easily understandable.	AIP: Choose a different example - size.

National Body ID	Formal / Informal	ID	Category (TH, TL, E, G)	Clause, Sub-clause	Paragraph, Figure, Table	Comment and rationale	Proposed new text	Comment Responses
Japan	Formal	JP-05	E	P.14	4.2.7.1	“Static analyzer” is an unfamiliar word.	Change term “static analyzer” to “static code analyzer” as shown in 4.3.2.1 to use the same term. Also, add some examples such as test coverage tool and cyclomatic number counting tool.	Accept.
Japan	Formal	JP-06	E	Annex A	P.19	“Levels of measure” is a little ambiguous. Does it mean indicator, derived measure, and base measure? Or, does it have the same meaning of “type of measure”?		Accept. Remove last sentence of 2nd paragraph. Remove last part of next sentence.
Japan	Formal	JP-07	E	Figure 2	P.20	The figure shows that the symbol of algorithm combines two base measures. The explanation of algorithm written beside the symbol is, however, as follows: “algorithm for combining two or more base measure and/or derived measure.” The similar contradiction is found between the symbol and explanation of “derived measure.”	To resolve the contradiction, for example, change the explanation of algorithm as follows: Algorithm for combining two or more base measure. Derived measures can be included with at least one base measure..	Accept.
Netherlands	Formal	NE-01				Approval, provided that an informative reference is included to <a href="http://www.gqm.nl">www.gqm.nl</a> and to the publication The Goal Question Metric Method		AIP. The standard is consistent with GQM, but no specific method is included in the standard.

National Body ID	Formal / Informal	ID	Category (TH, TL, E, G)	Clause, Sub-clause	Paragraph, Figure, Table	Comment and rationale	Proposed new text	Comment Responses
Sweden	Informal	SW-01	TH			<p>We think that the definition and use of the term "indicator" is a big step forward. However, the term "derived measure" and "base measure" is not enough consistent with the term "indicator", as we would like to have. We understand the need to have different type of "indicators" depending on how well established (enough measurements and statistics for an indicator) an indicator is.</p> <p>Instead of having "base measure" and "derived measure", we would like to propose "basic indicator" and "mature indicator". If the word "basic" and "mature" is not what our editors have in mind, we can accept to change these words for more appropriate words.</p> <p>Important is, that we use the term "indicator" as the general term for a measure, and try to avoid both the noun measure and the verb measure (verb). We need to simplify the terminology and reduce the number of terms that is used. The term "indicator" is today a very common term, that can be used as the basic term. Then we have a measurement method that always defines what to measure with an indicator.</p>		<p>AIP: Will keep "base measure" and "derived measure" since they are from the metrology standard. Add more explanation in the text of the terms. Look at amplifying the definition of "indicator" in the definition section (relationship between indicator and model). Also need to change the words in Figure 2 to match the definition.</p>

National Body ID	Formal / Informal	ID	Category (TH, TL, E, G)	Clause, Sub-clause	Paragraph, Figure, Table	Comment and rationale	Proposed new text	Comment Responses
Sweden	Informal	SW-02	TH			We are also unsure about Annex A, if that really is a "model". Figure 2 is more the flow of information using the defined terms, there could be a risk to introduce a model that can make things more complicated than necessary. It is better to promote a "Software Measurement Process" and explain the process as clear as possible.		AIP: Change the term "model" to "analysis model" (associated with indicator). Leave Annex A "information model".
UK	Informal	UK-01	TL			The word function on Figure 2 is not sufficiently definitive. Under the explanatory text (p. 22 A.1.4.1) it is defined as "Function (mathematical)".	Propose put on the diagram the same convention is adopted and the corresponding bubble is call "mathematical function".	AIP. Change the term to measurement function.
UK	Informal	UK-02	TH			Input to the bubble labeled "model" may be "base measures" only, hence the diagram showing "derived measures" may be confusing. Probably a line connecting base measures box to model bubble would cover this requirement or from another attribute box a line shown directly to "model" bubble.		Reject. We discussed this at previous meetings, and decided not to add additional arrows on the diagram (the definition of model does discuss that it can go directly to base measure). We do not want to redo this decision.
UK	Informal	UK-03	TL			It is not clear if the diagram is meant to be a relationship or process flow diagram. If the latter, than the normal input/output conventions should be adopted.		AIP: It is not a process diagram. In Brazil, we agreed that a entity relationship was too complicated.
UK	Informal	UK-04	TL			The word "model" is not sufficiently definitive, and doesn not express its role. Suggest to add "relationship model" (I.e. relationship between measurement results and decision criteria).		Accept. Change to "analysis model".

National Body ID	Formal / Informal	ID	Category (TH, TL, E, G)	Clause, Sub-clause	Paragraph, Figure, Table	Comment and rationale	Proposed new text	Comment Responses
UK	Informal	UK-05	TL			The shown examples oversimplify the relationships between decision cycle and the measurements used. E.g. A.2.2 example compares defects found during inspections with respect to size. However, it completely ignores the effect of the design complexity, reusable objects, which may be integrated into the design, etc. These points should be clarified and the limits of the evaluation should be stated.		Much more could be added to the examples, however, it was intended to be very simple examples to give people an idea of what is covered.
Vocab WG	Informal	V-01	TH			The definitions need to be resolved between WG6, WG12, and WG13.		Agreement was reached on terminology. See the file entitled "CD 15939 Terminology" for the agreed to definitions.