



ISO/TC145/SC3-IEC/SC3C JWG 11 N 143

ISO
ORGANISATION INTERNATIONALE DE NORMALISATION
INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

IEC
COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE
INTERNATIONAL ELECTROTECHNICAL COMMISSION

Title:	Record of discussion in the virtual meeting of JWG 11 held from 2009-07-02 to 2009-07-17 with recommendation of project leader for IEC/1CD 80416-3 Amendment 1 Edition 1.0
Source:	Convener / Project Leader
Status:	Information
Date:	2009-07-26

Introduction

Document 1st CD on Project IEC 80416-3 Amd. 1 Ed. 1.0 was distributed among ISO members with document number ISO TC 145/SC 3 N 200 of 2009-04-08 as well as IEC members with document number 3C/1625/CD of 2009-04-10, comments on which were closed on 2009-06-09 and 2009-06-12, respectively.

All received comments were compiled as in doc JWG 11 N 142 with preliminary draft observation of convener.

Among other comments, the proposals identified by JP-1 (IEC), JP-2 (IEC) and ISO TC145/SC3 (on Clause 9) were highlighted for discussion and recommendation by JWG 11.

Virtual meeting of ISO TC 145/SC 3 – IEC TC 3/SC 3C Joint WG 11 was started on 2009-07-02 by the exploded e-mail [JWG11 1238] and continued up to 2009-07-17 by correspondence. Agenda item was to review received comments on the CD of IEC project 80416-3 Amendment 1.0 Edition 1.0 formulated in doc JWG 11 N 142.

This document is recommendations to the parent committees of JWG 11 to be considered as an input to observe each of the received comments on IEC/CD 80416-3 Amd. 1 Ed.1.

Annex A – Recommended observation on each of the received comments.

Annex B – Records of the statements of JWG 11 members

Recommendations

JWG 11 recommended to observe on each of the highlighted comments is as follows.

GB (IEC) and ISO/TC 145/SC 3 on 6.1 1st paragraph

Comment (GB): The wording "... it may be necessary and allowed" is inappropriate. The "may" applies to "necessary" but not to "allowed". The term "permitted" would be more precise than "allowed".

Proposed change (GB): Change "... it may be necessary and allowed" to "... it may be necessary and it is permitted" in both places.

Comment (TC145/SC3): Sentence is not good English usage.

Proposed change (TC145/SC3): Revise: To coordinate with the design requirements of equipment, it may be necessary and is allowed:

Recommendation: "To coordinate with the design requirements of equipment, it is allowed:"

JP-1 (IEC) on 6.1, e) and f)

Comment: We can not understand clearly meaning of item e) and f). Therefore example figures should be adopted.

Proposed change: [Null]

Recommendation: Comment was noted. However, there were no proposals of the examples. To stay as they were.

JP-1 (IEC) on 6.1, g)

Comment: Item g) should be deleted.

Reason: Modification of arrow should be restricted within narrow limits a)~f) and definition of arrow (ISO 80416-2) should be kept to be strictly.

Proposed change: [Null]

Recommendation: Not accepted, because of majority of JWG 1 members were in favor of keeping it as it was. See also recommendation on JP-2 (IEC) below.

JP-2 (IEC) on 6.6

Comment: Clause 6.6 should be deleted.

Reason: Modification of arrow should be restricted within narrow limits a)~f) and definition of arrow (ISO 80416-2) should be kept to be strictly.

Figure "with filled arrows" and "no arrow shafts" are not appropriate.

Figure "no arrow shafts" makes confuse with "IEC 60417-5107B: Normal run; normal speed".

Proposed change: [Null]

Recommendation: Not accepted, because of majority of JWG 11 members were in favor of keeping it as it was. See also the statement of the members annexed (Annex B).

ISO/TC145/SC3 on 9, 1st sentence

Comment: Is the intended statement that the meaning of a graphical symbol is allowed to depend upon its orientation or that the meaning of a graphical symbol is capable of depending upon its orientation? In the first case, "may" is the correct verb; in the second case, "can" is the correct verb.

Proposed change: Clarify whether the intended statement is permission ("may") or capability ("can").

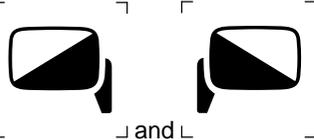
Recommendation: Accepted in principle. After discussion among JWG 11 members, the first sentence reads;

"If there is no conflict of meaning, the orientation may be changed or the graphical symbol or part of it may be presented in a mirrored position...."

Annex A

Date 2009-07-26	Document 3C/1625/CD	Project Nr. IEC 80416-3 A1 Ed.1.0
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National Committee	Line number	Clause/ Subclause	Paragraph Figure/ Table	Type of comment (General/ Technical/Editorial)	COMMENTS	Proposed change	OBSERVATIONS OF THE SECRETARIAT on each comment submitted
GB(IEC)		6.1	1 (before the list) and 3 (after the list)	Editorial	The wording "... it may be necessary and allowed" is inappropriate. The "may" applies to "necessary" but not to "allowed". The term "permitted" would be more precise than "allowed".	Change "... it may be necessary and allowed" to "... it may be necessary and it is permitted" in both places.	Accepted in principle. See also ISO/TC145/SC3 proposal below.
ISO/TC145/SC3		6.1	1st paragraph	ed	Sentence is not good English usage.	Revise: To coordinate with the design requirements of equipment, it may be necessary and is allowed:	Accepted in principle. The comment and proposed change was discussed by JWG 11. Revised text reads, "To coordinate with the design requirements of equipment, it is allowed:"
ISO/TC145/SC3		6.1	Item a)	te	The term "line thickness" is replaced by the term "line width" in IEC 80416-1. The same change should be made here and anywhere else in IEC 80416-3 where the term "line thickness" now occurs.	Revise: a) to change the line width;	Accepted.
JP-1 (IEC)		6.1	e) , f),g)		e),f): We can not understand clearly meaning of item e) and f). Therefore example figures should be adopted. g): Item g) should be deleted. Reason: Modification of arrow should be restricted within narrow limits a)–f) and definition of arrow(ISO 80416-2) should be kept to be strictly.		The comment on 6.1 e) and f) was discussed by JWG 11. The comment was not accepted, however the examples were not given. The comment on 6.1 g) was also discussed by JWG 11, which was not accepted. See also the observation on JP-2 (IEC) on 6.6 and Figure 5.
ISO/TC145/SC3		6.1	2 nd paragraph	ed	Sentence is not good English usage. Also, the word "centre" does not have a clear meaning in this context.	Revise: If..., it may be necessary and is allowed to adjust their relative sizes and positions....	Accepted in principle.

National Committee	Line number	Clause/Subclause	Paragraph Figure/ Table	Type of comment (General/ Technical/Editorial)	COMMENTS	Proposed change	OBSERVATIONS OF THE SECRETARIAT on each comment submitted
JP-2 (IEC)		6.6			<p>Clause 6.6 should be deleted. Reason: Modification of arrow should be restricted within narrow limits a)-f) and definition of arrow(ISO 80416-2) should be kept to be strictly.</p> <p>Figure "with filled arrows" and "no arrow shafts" are not appropriate.</p> <p>Figure "no arrow shafts" makes confuse with "IEC 60417-5107B: Normal run; normal speed".</p>		<p>The comment was discussed by JWG 11 members, majority of whom were in opinion to keep 6.6 as it was.</p> <p>Regarding Figure 5, based on discussion among JWG 11 members, the arrows in the middle example will be replaced by IEC 60417-5107A concatenated (see below).</p> 
ISO/TC 145/SC 3		7	1st paragraph 2nd sentence		If a specific clause in another standard is referenced, a specific edition of the that standard should be referenced.	Revise: ...should be in agreement with 7.9 of IEC 80416-1:2008.	Accepted.
ISO/TC1 45/SC3		8			<p>The graphical symbol shown in Figure 9 has been revised in ISO 7000. The new ISO 7000-2674 is:</p> 	Revise: 	Accepted.
ISO/TC1 45/SC3		9	1st sentence	ed	Is the intended statement that the meaning of a graphical symbol is allowed to depend upon its orientation or that the meaning of a graphical symbol is capable of depending upon its orientation? In the first case, "may" is the correct verb; in the second case, "can" is the correct verb.	Clarify whether the intended statement is permission ("may") or capability ("can").	The comment and the question were discussed by JWG 11, which recommended as follows. "If there is no conflict of meaning, the orientation may be changed or the graphical symbol or part of it may be presented in a mirrored position...."

Annex B – Statements and comments posted during Virtual meeting of JWG 11 held during 2009-07-02 and 2009-07-17

Mr. Josef Rymus wrote in [JWG11 1239]:

after due consideration of the submitted comments I offer the following:

JP-1(IEC) I agree with Secr. observation (see also JP-2(IEC))

JP-2(IEC) Cl. 6.6 should be deleted – I agree. To show examples of arrows and their applications in this Standard is superfluous because the application of arrows is covered in ISO 80416-2 quite adequately.

ISO TC145 Cl. 9 – I propose to change the wording of Cl. 6.1 as follows: "If there is no conflict ... or part of it can be presented in mirrored position in order to take..."

Dr. Manfred Kratzat wrote in [JWG11 1240]:

since the major point of discussion is related to the possible modification of arrows as proposed by the german NC, let me concentrate on this point.

Let me start with 2 statements:

- 1. There is a difference between arrow modification because of different meaning (Part 2) and because of design considerations (Part 3).**
- 2. An arrow is an arrow**

In more detail:

1. There is a difference between arrow modification because of different meaning (Part 2) and because of design considerations (Part 3).

Part 2 just describes how arrows may be modified for the creation of symbol originals. This is for technical committees asking for registration of a symbol and for the IEC SC3C and IEC TC145 SC3 WG1 experts who register the symbols. This is not for design modifications made by the user of the symbol. The current Part 3 gives the impression that such modification is possible if the rules of Part 2 are adhered to, but in practice this means that no modification is possible since such changes cannot be made without changing the meaning of a symbol!

Part 3 currently does not allow any other arrow modifications on the side of the manufacturer. It also does not allow any other modification in relation to relative proportions of symbol elements inside a symbol (the latter we wanted to address by new 6.1 e. and f). As a result, there is nearly no possibility* for the manufacturer (or a technical committee) to adopt the graphical symbol style to any equipment design style. But that is wanted and needed, and I see no good reason why this should be prohibited.

*Yes, a change in line width is allowed, but for many symbols, changing the line width would only be possible when also changing symbol element proportions. And it is not clear, if that would be allowed.

2. An arrow is an arrow

To our experience the typical user of equipment does not differentiate between different arrows. Despite our long-term efforts to make the differences between the arrow shapes very clear, practical experience shows that the typical user sees no difference whether we draw a "functional arrow", a "movement arrow" or a "speed arrow". Even among experts we often had long discussions, which would be the right type of arrow inside a symbol and whether that matters. Philips has been using an arrow similar to the "speed arrow" as a substitute to all arrows since more than 20 years on all our products, and we have never received any complaints that a symbol would not have been understood because of using

a "wrong" arrow shape. For me that proves that a strict insisting on the shapes as given in Part 2 serves no practical purpose.

Let me summarize: there is a need and strong wish on the side of the industry (at least from the industry I represent) that symbols are allowed to be reasonably modified for adaptation to a company's design style or the design style of a product line. The current version of the Part 3 standard is in contradiction to this industry need, and the proposed modifications are intended to remedy this situation. The German NC has only voted for an amendment to the Part 3 standard because of the intention to change this.

So, my proposal would be to reject JP-2 and the second part of JP-1. I would also ask Josef to reconsider his position in this respect.

Considering the first part of JP-1, I personally thought that this is obvious and no example is needed. But I could provide a few examples that show a modification of proportions. This will take some time: I am just heading for my summer vacation and am very busy at the moment. I could provide a few examples at the end of August, if this is deemed necessary by the majority of WG11 experts.

Dr. Gerhard Nentwich wrote in [JWG11 1241]:

I followed the discussion and support Manfred statements.

Mr. Fred Brigham wrote in [JWG11 1242]:

I note Manfred's comments and I agree that the distinction between Movement, Speed and Function/Force arrows is little understood. It is also often difficult to judge which type of arrow is appropriate during registration because the distinctions are fuzzy and there is considerable overlap.

I also agree that the purpose of 80416-2 and 80416-3 are quite different. However, if we allow alternative forms of arrow to give "special emphasis" or to "distinguish between two or more meanings" in Part 2, it seems inappropriate to ignore this in Part 3.

I therefore support the "liberalisation" of arrows but I do not agree to the inclusion of 6.1 g) and 6.6 unless the apparent conflict between Part 2 and Part 3 is resolved.

With regard to clause 9, meaning "can" depend on orientation although 80416-1 recommends that graphical symbols are designed so they preserve their meaning in any orientation..In such cases the orientation "may" be varied.

Mr. Richard D. Gast wrote in [JWG11 1243]:

Arrows [6.1 g), 6.6, Figure 5]. Reference comment JP-1(IEC) and responses by Manfred Kratzat and Fred Brigham.

I agree that:

- There is a conceptual difference between arrow modification because of different meanings (ISO 80416-2) and arrow modification because of design considerations (ISO 80416-3).
- For most users of equipment, an arrow is an arrow, and the distinctions among arrow types (movement, speed, function, dimension) according to ISO 80416-2 are either unknown or ignored.

I would add:

- It is not always clear whether a movement, speed, or function arrow is the most appropriate for a given symbol, even for ISO 7000 or IEC 60417 registration.

The question is whether the importance of maintaining consistency in differentiating arrows (the first statement) outweighs the difficulty of applying those symbols consistently and the fact that those distinctions are meaningless to most users (the second statement) and the occasional uncertainty about which arrow is the most appropriate (the third statement).

In my opinion, the most important distinction is between movement arrows and function arrows, even though many "functions" involve movement. My guideline is to use a movement arrow to represent significant spatial movement (that is, when the arrow represents a significant change in the location of a physical object) and to use a function arrow when the movement is relatively small or the arrow represents movement to adjust the operating position of equipment. Admittedly, this guideline is imperfect and somewhat subjective, but it works in the great majority of cases. We apply the same guideline both to symbols for ISO 7000 or IEC 60417 registration and to symbols as they are used in the application of symbols on actual equipment.

That said, I do not think it is appropriate for IEC 80416-3 to be overly prescriptive or restrictive in the modifications of symbols that the standard "allows". Its title, after all, is "Guidelines for the application of graphical symbols". In actual practice, companies will modify symbols in whatever ways make sense to them. The real goal is to provide reasonable guidelines that, if followed, will result in modified symbols which do not cause confusion with other symbols and the meaning of which is not changed by the modifications. For that reason, I think the proposed clause 6.1 g) is an appropriate statement.

Which brings us to clause 6.6 and Figure 5, the examples of arrow modification. I question whether the middle example should show an arrowhead of only 40° (approximately) rather than perhaps simply filling the open arrowhead in the symbol original IEC 60417-5964. I also question whether the right-hand example should show an arrowhead without a tail, particularly when the arrowhead in question is separately registered as IEC 60417-5107B (normal run). Unfortunately, I do not have any alternative examples to offer at this time.

Text [6.1]. Reference comments GB(IEC) and ISO/TC145/SC3.

Although the US contributed the ISO/TC 145/SC 3 comments on clause 6.1, upon reflection it seems to me that further improvement is necessary beyond what the US proposed.

The difficulty stems from what the ISO/IEC Directives, Part 2, say about the verbal forms "may" and "can". To say, as the first paragraph of the proposed clause 6.1 and its proposed revisions do, that "it may be necessary" is the same as saying that "it is allowed or permitted to be necessary"; that sentence conveys no meaning. An improvement would be to revise the first sentence of clause 6.1 to: "To coordinate with the design requirements of equipment, it might be necessary and it is allowed:". In this case "might" is a conditional that neither recommends nor requires nor gives permission; permission is given by "it is allowed".

The same change should be made in the second paragraph of the proposed clause 6.1: "If several graphical symbols are applied together, it might be necessary and is allowed...."

Alternatively, it is acceptable to me if, in both cases, the offending phrase ("may be necessary and" or its revision "might be necessary and") is simply deleted and the remaining words "it is allowed" are used.

Text [9.1]. Reference comment ISO/TC145/SC3 and responses by Fred Brigham and Josef Rymus.

I agree with Fred Brigham's response and with most of Josef Rymus's response to the comment from ISO/TC 145/SC 3. I therefore propose the following revised sentence: "If there is no conflict of meaning, the orientation may be changed or the graphical symbol or part of it may be presented in a mirrored position...."

Mrs. Sue Hooker wrote in [JWG11 1244]:

I agree with what Dick Gast info below and Fred Brighams earlier email since they have both covered all concerns I had in both their emails.

Mr. Motoya Mohri wrote in [JWG11 1245]:

I note comments of Manfred and Fred regarding clause 6.1g) and 6.6. Generally I can understand as Manfred' comments of the industries' needs "modification according to design" and the function of Part-3.

But I am afraid of confusion about "using of arrows". Therefore I support Fred and JNC comments.

Regarding 6.1e), and 6.1f) in JNC comments, my personal opinion, if there are no appropriate examples, I think that we can understand the meaning of these without examples.
