

Name	Category	Page	Subclause	Line	Comment	Proposed Change	Disposition
Sasha Levin	Editorial	ii	Abstract	4	Remove word "insulated" at the end of first sentence.	Change as suggested	Done
Roger Wicks	Editorial	ii	Abstract	6	This discussion should be expanded to cover whole scope	...loading high-temperature liquid-immersed power, distribution and regulating transformers, and....	Done
Sasha Levin	Editorial	ii	Abstract	6	Remove mentioning of "technical information on ...temperature rating and test procedure...".	...guidelines for loading high-temperature liquid-immersed transformers and qualifying new high-temperature solid and liquid insulating materials are required.	Done
Dave Stankes	Editorial	ix	Contents	5	Add text to Annex A	Annex A (informative) Insulation system testing guidance	Done
Sasha Levin	Editorial	vii	Introduction	9	Remove "and" after the comma.	Change as suggested	Done
Alan Sbravati	Editorial	vii	Introduction	10	The second paragraph of the introduction, lines 10 to 18 of page vii, brings some "new statements" never discussed in any working group meeting. Specially reading the last two phrases, one can infer from the phrase that IEEE C57.154-2012 has "non-suitable" content. This phrase seems not properly written. Our recommendation is to limit the text to what is covered by Std. 1276, not making any statements regarding other documents.	"This revision of IEEE 1276 expands the scope of high temperature insulation systems beyond those described in the 1997 version, which were limited to high temperature systems based on high-temperature solid materials in mineral oil power transformers, to include a wider range of liquid insulation system options as well as to cover distribution and regulating transformer applications. <b>Additionally, with the development of IEEE C57.154-2012, presenting options of insulation systems and different sets of temperature rise limits, this document, the IEEE Std. 1276 provides a place for offering guidance on the design and loading of high temperature transformers.</b> "	In Part
Kurt Kainerder	Editorial	vii	Introduction	10	Some discrepancy between introduction and Scope & Purpose – have to be aligned	Adjust Introduction	In Part
James McIver	Editorial	vii	Introduction	10-12	"...described in the 1997 version. <u>The 1997 scope was</u> limited to .... in mineral oil power transformers. The revised scope includes a wider scope..."	Change as suggested	Done
Kurt Kainerder	Editorial	vii	Introduction	17	Remove Last Sentence - not agreed to and not necessary	Remove sentence	Changed
Kurt Kainerder	Editorial	3	3	5	Most of the definitions are the same as in C57.154.	Reference to C57.154 and reduce to additional definitions or use same wording as C57.154 plus additional ones.	Done
Tom Golner	Editorial	3	3	6	I assume that there are no conflicts with the standard definitions as given in IEEE C57.12.80 (to avoid any terms having multiple definitions)	Fix as appropriate	Done
Rick Marek	Editorial	3	3.3	20	Remove specific mention to 65C rise - not important to the definition	Change to: ...that is suitable for use in liquid-immersed insulation systems.	Done
Tom Golner	Editorial	4	3.6	6	The definition of states that it operates at a <u>maximum</u> hottest spot – hottest is already a maximum	Remove word maximum	Done
Dave Stankes	Editorial	4	3.11	22	Period at end of sentence is missing	Change as suggested	Done
Marion Jaroszewski	Editorial	5	3.14	7	please add "they are used also for a temporary power supply and additional power for a seasonal load" (or something close to it with better English)	Change as appropriate	Done
Rick Marek	Editorial	5	4	19	Transformer properties, such as ratings, overload capability,....	Change as suggested	Done
Jinesh Malde	Editorial	5	4	20	effected is wrong	Replace effected with affected	Done
Rick Marek	Editorial	5	4	21	...and designing of transformers increases by using....	Change as suggested	Done
Jinesh Malde	Editorial	5	4	21	Sentence cumberson	The degree of freedom for specifying and designing transformers increase by using...	Done
Rick Marek	Editorial	5	4	24	...illustrate the results of increasing....	Change as suggested	Done
Rick Marek	Editorial	5	4	27	...a high number of technical parameters....	Change this typo	Done
Dave Stankes	Editorial	5	4	27	typo fix and rewording	Suggest "The figures will depend upon a high number of technical parameters, like rating, cooling type, etc."	Done
George Frimpong	Editorial	5	4	27	The figures depending on a high number of technical parameters, like rating, cooling type, etc.	The figures depend on a high number of technical parameters, like rating, cooling type, etc.	Done
Jinesh Malde	Editorial	6	4	1	Graph too fuzzy	Fix as appropriate	Done
Jinesh Malde	Editorial	6	4	3	Graph too fuzzy	Fix as appropriate	Done

Dave Stankes	Editorial	7	5.1	6	Replace the sentence "It should also be noted that, while the thermal capability of the individual materials may be satisfactory, the interaction of these individual elements in the system might render the system unacceptable." with wording used in introduction of C57.100	"Experience has shown that the thermal life characteristics of composite insulation systems cannot be reliably inferred solely from information concerning individual component materials." This sentence is much clearer and similar wording is used in other system related documents.	Done
Dave Stankes	Editorial	7	5.1	10	Eliminate the sentence "On the contrary, the thermal capability will often favor the highest temperature component." System performance may be higher or lower than predicted by individual component ratings.	Replace the sentence that is eliminated with "Insulating materials having different assigned temperature classes are able to be combined to form an insulation system having a temperature class that is higher or lower than that of any of the individual components."	Done
Stuart Chambers	Editorial	8	5.2	1	Page 8 , Table 1: The table itself is a bit blurry compared to tables later on. Could this be crisped up?	Fix as appropriate	Done
Jinesh Malde	Editorial	8	5.2	1	Table too fuzzy	Revised table provided by balloter	Done
Stuart Chambers	Editorial	9	5.3	1	Page 9 , Table 2: The table itself is a bit blurry compared to tables later on. Could this be crisped up?	Fix as appropriate	Done
Jinesh Malde	Editorial	9	5.3	2	Table too fuzzy	Revised table provided by balloter	Done
Dave Stankes	Editorial	9	5.4	12	correct to read "short-term and long-term"	correct to read "short-term and long-term"	Done
Attila Gyore	Editorial	9	5.4	15	This sentence uses "the maximum operating temperatures listed in Table 3, yet Table 3 only lists Thermal Classes"	Use consistent wording or a method of tying the two together in this text.	Done
Mike Franchek	Editorial	10	5.4	1	Table 3 Page 10 Thermal Classes: Why the minus (-) signs in front of the temperatures?	Fix as appropriate	Done
Stuart Chambers	Editorial	10	5.4	1	Page 10, Table 3: The table itself is a bit blurry compared to tables later on. Could this be crisped up?	Fix as appropriate	Done
Attila Gyore (ML)	Editorial	10	5.4	1	This table image is of poor quality and the notes are difficult to read. Should be improved.	Fix as appropriate	Done
Jinesh Malde	Editorial	10	5.4	1	Table too fuzzy	Revise as appropriate	Done
Rick Marek	Editorial	10	6.1	8	All accessories need to be demonstrated....	Change as suggested	Done
George Frimpong	Editorial	10	6.1	8	All accessories need to be demonstrating as being ...	All accessories need to be demonstrated as being ...	Done
Rick Marek	Editorial	10	6.1	10	...from the supplier of the insulating liquid, and/or the specific accessory supplier.	Change as suggested	Done
Tom Golner	Editorial	10	6.2	13	The paragraphs are somewhat confusing, and reference the thermal class as being dependent upon the temperature of the liquids, while later indicates that it is the insulation that it is the insulation that defines what temperature the cables can operate. This does also mean that at the point where conventional insulation is used, the temperature needs to be controlled for that system.	Revised section provided by balloter.	Done
Rick Marek	Editorial	10	6.2	16	In this whole section 6 (mostly from C57.154), shalls were changed to "clumsy language".	Replace this language back, but use "should" as this is a guide - For example: However, the temperature limits for the leads and cables should be defined by the thermal class....	Done
Rick Marek	Editorial	10	6.2	17	Delete the last sentence in the first paragraph	Delete the sentence	Changed
Rick Marek	Editorial	10	6.2	20	However, high temperature insulation is typically used for lead cables...	Change as suggested	Changed
Rick Marek	Editorial	11	6.3	13	RIP bushings (resin impregnated paper) are becoming common for such higher temperature applications	No input provided - will provide more detail upon request if chose to add to this document	Done
Rick Marek	Editorial	11	6.3	14	...are established in accordance with IEEE Std C57.19.00.	Change as suggested	Done
Rick Marek	Editorial	11	6.4	26	...high-temperature materials should be used....	Change as suggested	Done
Rick Marek	Editorial	11	6.5	32	...(LTC) are generally in accordance with....	Change as suggested	Done
James Mclver	Editorial	12	6.5	1	"...liquid of the transformer <u>would</u> need to be...."	Change as suggested	Done
Rick Marek	Editorial	12	6.5	1	...of the transformer shold be capable....	Change as suggested	Done
Rick Marek	Editorial	12	6.5	4	...C57.131 should be performed to verify	Change as suggested	Done
Rick Marek	Editorial	12	6.6	10	...top liquid temperature should be in accordance....	Change as suggested	Done
Rick Marek	Editorial	12	6.6	11	...indicator should have a scale that ranges from....	Change as suggested	Done

Rick Marek	Editorial	12	6.6	14	...alarm contacts should also need to be adjustable....	Change as suggested	Done
Rick Marek	Editorial	12	6.7	18	... the indicator should have a scale	Change as suggested	Done
Rick Marek	Editorial	12	6.7	21	...alarm contacts should be adjustable	Change as suggested	Done
Rick Marek	Editorial	12	6.8	30	...temperature class should be specified	Change as suggested	Done
Rick Marek	Editorial	12	6.9	33	...systems should be in accordance....	Change as suggested	Done
George Frimpong	Editorial	12	6.9	35	This sentence is a bit confusing because of the word, throughout - "In these systems, the interior of the transformer should be sealed from the atmosphere throughout a top liquid temperature range equal to ...."	In these systems, the interior of the transformer should be sealed from the atmosphere for top liquid temperatures ranging from ...	Done
Rick Marek	Editorial	13	7.1	21	In practice, the highest winding hottest-spot....	Change as suggested	Done
Rick Marek	Editorial	13	7.1	24	Consequently, the typical life of many power transformers is often some 30 years or more.	Change as suggested	Done
Roger Wicks	Editorial	13	7.2	29	This paragraph refers to the rest of the section, as as such should be under 7.2, which would allow 7.2.1.1 to become 7.2.1, 7.2.1.2 to become 7.2.2 and 7.2.2 to become 7.2.3.	Change as suggested	Changed
George Frimpong	Editorial	14	7.2.1.1	14	The winding materials do not mention conventional materials which form the bulk of insulation in this type of winding.	Types of material in winding are conventional materials, except in minor selected areas of the winding where high temperature materials are applied with specific intent.	Changed
Stuart Chambers	Editorial	16	8.1	11	Page 16, line 11: The second word "Transformer" has a capital "T" that should be lower case	Change as suggested	Done
Rick Marek	Editorial	16	8.1	19	Rewrite for clarity	....the most possibility for reduction of weight or size.	Done
Rick Marek	Editorial	16	8.1	20	English correction	...are also very important drivers for applying....	Done
Rick Marek	Editorial	17	8.1	5	This section is "mostly repetitive". Move this paragraph to be a second paragraph of 8, and reword sentence.	Move to 8 and use sentence as follows: Characteristics related to high temperature transformers can be expected to include the following:	Done
Rick Marek	Editorial	17	8.2	15	With the movement of characteristics to 8, editorial change	...where some of the transformer characteristics listed in Clause 8 are required.	Done
Rick Marek	Editorial	17	8.2	18	Similar for clarity	....will bring the most flexibility for reduction of weight or size.	Done
Rick Marek	Editorial	17	8.2	20	Remove this section as already placed this information in 8	Change as suggested	Done
Rick Marek	Editorial	17	8.3	32	Remove demanding	...based on customer specifications....	Done
Rick Marek	Editorial	18	8.3	1	Revised sentence for clarity	Mobile transformers usually operate at higher than standard 65C temperature rise, often using full hybrid insulation high-temperature systems described in 7.2.1.2.	Done
Rick Marek	Editorial	18	8.3	11	Remove this section as already placed this information in 8	Change as suggested	Done
George Frimpong	Editorial	18	8.4	20	... will create similar advantages like mentioned above.	... will create similar advantages as mentioned above.	Done
Stuart Chambers	Editorial	18	8.4	25	Page 18, line 25: The first word should be "increased" not "increase" to be consistent with the rest of the lists	Change as suggested	Done
Sasha Levin	Editorial	20	9.1	7	With addition of new figure 6, modify numbering of this figure	Change Figure 6 to Figure 7.	Done
Rick Marek	Editorial	20	9.2	21	Word missing	curve for the high-temperature insulation system....	Done
Attila Gyore (ML)	Editorial	20	9.2	21	temperature is missing	curve for the high-temperature insulation system....	Done
Rick Marek	Editorial	20	9.2	22	Editorial change	Annex A in this document will provide guidance on such testing and Annex B provides examples of high-temperature....	Done
Rick Marek	Editorial	21	9.2	7	Editorial change	test results are only pertinent to the manufacturer....	Done
George Frimpong	Editorial	21	9.2	7	Since the manufacturer is not identified, what value does this statement add to the document. I suggest a rewrite to emphasize only that such results are specific to the design tested.	Because these tests results are specific to the transformer design tested, the results may apply only to transformers of similar design characteristics.	Done
Rick Marek	Editorial	21	9.2	12	Editorial change	...but have proven to be useful tools to compare....	Done
Roger Wicks	Editorial	21	9.2	21	"While this guide" is vague	While IEEE C57.91 is specific to mineral oil....	Done

George Frimpong	Editorial	21	9.2	19-23	The part of sentence beginning .."and likely should be developed..." is a recommendation that should be made to the IL subcommittee and not necessary to put in this document.	End the paragraph at Full details of such an analysis is beyond the scope of this document.	Done
Dave Stankes	Editorial	22	Annex A	1	This section is in need of editing to help reinforce conclusions/guidance/advice.	Sorry, no recommendations at this time, but I will look at it more closely.	Done
Rick Marek	Editorial	22	A.1	43	Editorial change	This is the most common method...	Done
Rick Marek	Editorial	23	A.1	6	Editorial change	...time that has passed since....	Done
Rick Marek	Editorial	23	A.2	15	Editorial change	The test tubes may be of stainless steel, glass or aluminum.	Done
Rick Marek	Editorial	24	A.2	4	Editorial change	A minimum of three samples are to be aged...	Done
George Frimpong	Editorial	24	A.2	4	Sentence is missing "to"... "A minimum of three samples are be...."	A minimum of three samples are to be ...	Done
Attila Gyore (ML)	Editorial	24	A.2	4	Editorial change	A minimum of three samples are to be aged....	Done
Rick Marek	Editorial	24	A.3	40	Remove unnecessary sentence	Remove sentence starting with : One additional paper was considered.....	Done
George Frimpong	Editorial	24	A.3	43	Word or "more in detail" should be "in more detail"	...and will be discussed in more detail below.	Done
Alan Sbravati	Editorial	25	A.3	2	Tables in this section have tensile data which has too many significant digits, implying a false precision of tensile strength measurements.	Modify to less significant digits	Done
Stuart Chambers	Editorial	25	A.3	2	Page 25, Table A.2: Two decimal places are used for % tensile. Is having 2 decimal places the appropriate amount of significant digits to use?		Done
Stuart Chambers	Editorial	25	A.3	2	Page 25 and Page 26: % Tensile is being referred to as a metric. Does this mean change in % tensile strength or % tensile elongation? This should be defined in the text. From the meetings, and later in the appendix, we know it's tensile strength, but this should be defined before these tables.		Done
Rick Marek	Editorial	25	A.3	18	Editorial change	One additional point is important to note.	Done
Rick Marek	Editorial	25	A.3	23	Sentence clumsy	...are different than that which would be expected in a transformer.	Done
George Frimpong	Editorial	25	A.3	23	Repeated word "that" should be replaced with "than"	...aging characteristics are different than would be expected in a transformer.	Done
Rick Marek	Editorial	25	A.3	37	Editorial change	Next, let's look at more data from....	Done
George Frimpong	Editorial	25	A.3	37	Missing "at" in "Next, let's look more data..."	Next, let's look at more data....."	Done
Stuart Chambers	Editorial	26	A.3	2	Page 26, Table A.3: Two decimal places are used for % tensile. Is having 2 decimal places the appropriate amount of significant digits to use?		Done
Rick Marek	Editorial	26	A.3	4	First sentence clumsy	Again, a number of observations can be made by looking at the results from the first two temperatures (of the three point test), which have been reported by both laboratories.	Done
James McIver	Editorial	26	A.3	6	"...DP readings, <u>there</u> was a wider..."	Change as suggested	Done
Rick Marek	Editorial	26	A.3	6	Editorial change	For the DP readings, there was a....	Done
George Frimpong	Editorial	26	A.3	6	Typo, "three" instead of "there"	For the DP readings, there was a ....	Done
Rick Marek	Editorial	26	A.3	14	Remove future state sentence	Remove sentence starting with : When the additional....	Done
Rick Marek	Editorial	26	A.3	20	Revise paragraph to be less "preachy/conversational"	Revision per Attached Document (Editorial Change to Page 26-27)	Done
George Frimpong	Editorial	27	A.3	11	Sentence is missing some words. See proposed change.	..., in fact here is some data comparing a couple of papers which have <b>been</b> tested .. Remove sentence if no data available	Done
Rick Marek	Editorial	27	A.3	16	Missing words in sentence	200 psi have been seen in experiments outlined in this procedure.	Done
George Frimpong	Editorial	27	A.3	16	Sentence is missing some words. See proposed change. Aslo - data seems to be missing, so remove sentence if not available.	... seen <b>in</b> experiments outlined in this procedure.	Done
Rick Marek	Editorial	27	A.3	17	Editorial change	Other laboratories use some sort....	Done

Rick Marek	Editorial	27	A.3	19	Editorial change	... that were set to relieve at 10 psi.	Done
Rick Marek	Editorial	28	A.3	1	Editorial change	Research papers were found that confirmed...	Done
Rick Marek	Editorial	28	A.3	7	Revise sentence to be less "conversational"	A similar experiment was then conducted using thermally upgraded kraft papers in combination with natural ester liquids. Table A7. shows the results from this experiment.	Done
Rick Marek	Editorial	28	A.3	18	Revise paragraph to be less "conversational"	This then raises the question whether to test with or without a pressure relief system. If the testing is done without such a system, this then makes the different from the real application. Additionally , it should be noted....	Done
George Frimpong	Editorial	28	A.3	1-2	Need to provide references to these research papers for completeness	Either reference the research papers or remove this sentence, since it is unsupported by a reference.	Done
Alan Sbravati	Editorial	30	A.5.1	1	does not specify which end-of-life criterion is used. There should be three separate end-of-life points per temperature, not one.	Document EOL criteria used in table.	Done
Rick Marek	Editorial	30	A.5.2	16	Editorial change	below shows the example from....	Done
George Frimpong	Editorial	30	A.5.2	16	Typo, "shos" instead of "shows"	..shows the example from IEEE Std C57.100	Done
Stuart Chambers	Editorial	31	A.5.2	1	Page 31, Figure A.1 and Figure A.2: The images appear to be in lower resolution. If possible, it would be beneficial to use a higher resolution	Fix as appropriate	Done
Stuart Chambers	Editorial	34	B.1	1	Page 34, Figure B1: The image is a bit blurry compared to other images. Could this be crisped up?	Fix as appropriate	Done
Rick Marek	Editorial	34	B.1	5	Editorial change	Trying to compare this data to the IEEE C57.100....	Done
Rick Marek	Editorial	34	B.1	10	Editorial change	Annex A), while invalid as a life curve per the new IEEE C57.100 procedure, the data does provide some useful information.	Done
Dave Stankes	Editorial	34	B.1	13	Eliminate this paragraph, as it does not meaningfully contribute to the content in this section. No need to reference additional testing that is not included or reviewed in the annex due to time constraint, as information that is provided is sufficient.	Change as suggested	Done
George Frimpong	Editorial	34	B.1	13-15	If this data is not included in this document, this sentence is not needed.	Remove the sentence beginning "Additional testing of the aramid-mineral oil insulation system ..."	Done
Rick Marek	Editorial	34	B.2.1	22	Editorial change	...time of the experiments although the calculation method....	Done
Rick Marek	Editorial	34	B.2.1	24	Remove future state sentence at end of paragraph	Remove sentence starting with : When the additional....	Done
Roger Wicks	Editorial	36	B.2.3	1	Numbers from Draft 9.2 of C57.154. Need to change to match this document	Change to match bibliography when document goes to editor.	On Hold
Stuart Chambers	Editorial	36	B.2.3	5	Page 36, Figure B.2 title: the dash in the figure description is shorter than other dashes used in other figure captions	Fix as appropriate	Done
Stuart Chambers	Editorial	38	B.2.3	7	Page 38, Figure B.4 title: there is a space between the "B.4" and first word "Tensile" in the caption where there shouldn't be one	Fix as appropriate	Done
George Frimpong	Editorial	40	B.3	12	Mis-matched brackets around reference [D36]	[D36]	Done
Rick Marek	Editorial	44	C.1	8	Missing closed parenthesis	...that document at the time).	Done
Rick Marek	Editorial	44	C.1	9	Editorial change	No additional information from this type of transformer nor the transformers covered by the broader scope of this document have been collected.	Done
Stuart Chambers	Editorial	46	C.4	1	Page 46, Table C.1 and C.2: Both tables should have "Carbon Monoxide" and "Carbon Dioxide" capitalized to be consistent with the rest of the table	Fix as appropriate	Done
Stuart Chambers	Editorial	46	C.4	3	Page 46, Table C.2: The numbers are left justified in the table, instead they should be right justified	Fix as appropriate	Done
Stuart Chambers	Editorial	46	C.4	3	Page 46, Table C.2 title: An space exists between the numbering and title	Fix as appropriate	Done

Jinesh Malde	General	vii	Introduction	18	In my opinion, information from one IEEE document to another should not be copied. It should be referenced rather than copied.	Recommendation is for the Annex A from IEEE C57.100 not be copied into this document.
Jinesh Malde	General	vii	Introduction	29	Regarding Annex C, it should be discussed by the group before it is placed in this document because DGA is an important issue in the industry. There might also be data available on natural and synthetic ester filled hybrid transformers that may be included in the guide. It is difficult to gather all the information to add to this document in the short time that we have to ballot on it.	Add information or reference to ester systems into Annex C.
Jinesh Malde	General	13	7.2	27	This section appears in C57.154 and now in IEEE 1276. I would prefer that this section refer to C57.154	Modify as suggested
Jinesh Malde	General	22	Annex A	1	Annex A,B & C have information from C57.100 and C57.154 and new information. All this information should probably reviewed by the group and should be determined where it belongs.	Review these sections by the working group
Sasha Levin	Technical	ix	Contents	5	Remove Annex A and re-name Annex B, C and D.	Remove Annex A
Alan Sbravati	Technical	vii	Introduction	19	This paragraph was never discussed in any working group meeting. In fact, the discussions of the working group during the Spring meeting of 17 defined: The document would include examples of temperature rise limits developed for the different options of materials and the document should include guidance on how to develop a loading guide for any of the new proposed solutions, including one practical example.	
Sasha Levin	Technical	vii	Introduction	25	Remove all about C57.100 and Annex A. Annex B becomes Annex A.	Remove Annex A
Sasha Levin	Technical	vii	Introduction	29	Annex C becomes Annex B.	Remove Annex A
Clair Claiborne	Technical	1	1.2	14	As we discussed, with IEEE C57.154-2012, with differing temperature rise limits and different insulation systems, this IEEE C57.1276 provides a place for the design and loading of high temperature transformers, which raises a conflict between the two standards.	No suggested change provided
Alan Sbravati	Technical	3	3	5	The definition of "conventional insulation system" has been removed, which is inconsistent since many other definitions which are already covered by IEEE C57.154 have been maintained. Other definitions from the D1.3, which were repeated but with different texts have been removed. Some of the texts are not aligned with the definitions found in IEEE C57.154. Our suggestion would be to add in Std. 1276 only additional definitions, which are not already included in C57.154. The draft needs a lot of improvement in this session.	
Rick Marek	Technical	3	3	11	Very risky having "identical" definitions in multiple documents.	Remove 3.1 and 3.2
Rick Marek	Technical	4	3.5	1	Definitions are not consistent through range	relook at chosen definitions and use just what is needed for "guidance"
Rick Marek	Technical	4	3.7	8	Clause 3.7 and 3.8 are duplicates	Likely need to remove 3.8
Rick Marek	Technical	4	3.9	15	Not sure why this definition is needed - carry over from old document	relook at chosen definitions and use just what is needed for "guidance"
Rick Marek	Technical	4	3.11	21	Again - not sure why 3.11 and 3.12 are included	relook at chosen definitions and use just what is needed for "guidance"

Rick Marek	Technical	5	3.16	11	Not sure why this definition is needed - carry over from old document	relook at chosen definitions and use just what is needed for "guidance"	
					The remaining text of Clause 4 seems completely out of context, presenting concerns for high temperature operation prior to the presentation of the high temperature configurations. As per the definitions of IEEE C57.154, the main difference between a "hybrid" transformer and a "high temperature" transformer is that a hybrid allows the combination of both conventional and high temperature materials for both solid and liquid insulation, while a high temperature transformer only uses high temperature insulations, both for solid and liquid. Even a transformer using all solid insulation of thermal class superior to conventional, will still be classified as a hybrid if the liquid insulation is conventional. The differentiation of such configurations is one a very frequent question regarding IEEE C57.154. We would suggest using this session to present the motivations for considering high temperature systems and to present some clarification regarding the alternatives. The following text is suggested to be included (redlined for allowing the easy revision of the group):	rename title to "motivations for considering high temperature systems", and replace the first three paragraphs with the following five paragraphs: Selecting a transformer for matching the peak demand, which may happen only for a short period of time and during a few days of the year, and also including in this estimated peak the potential future grow, typically for next 10 or 15 years, may lead to nameplate ratings much superior to the effective existing average demand. The main side effects of such are the high initial investment and the extra value of no-load losses added to the system. The capacity of the transformer can be increased if the allowable temperature rises (top liquid/winding average/winding hottest spot) are increased beyond the IEEE Std. C57.12.00 limits, for given quantities of active materials (core steel and conductor). Transformer properties, like rating, overload capability, weight, dimensions, aging, cooling equipment, losses, cost, etc., can be optimized by using high temperature insulation systems. The degree of freedom for specifying and designing of transformers increase by using higher temperature limits. With the growing availability of both high-temperature solid and liquid insulation materials, this degree of freedom continues to expand. Initially, materials of high thermal class have been used targeting the extension of the transformer life expectation. Superior performance solid insulation materials were used at the hottest regions of the windings aimed in preventing the early degradation of this region. Gradual increases of the application of this solid insulation in the coils lead to the development of the different alternatives of hybrid insulation systems. However, the essential aspect for classifying an insulation system as a hybrid is the upgrade of the solid insulation associated with conventional temperature rise limits for the liquid insulation. As the liquid insulation may be exposed to the high temperature regions despite the fact the top liquid	
Alan Sbravati	Technical	5	4	16			
Rick Marek	Technical	5	4	25	remove the Delta Theta sub w/o notation throughout the document - not additive	Change as suggested	
Rick Marek	Technical	5	4	27	These last two sentences should be as a note below figures 1 & 2	Change as suggested	
George Frimpong	Technical	5	4	28	The sentence "These figures are general in nature, and only intended to show the principle." is not really needed. The first sentence sets the parameters for demonstration by the figures.	Either reiterate what principle is being demonstrated or remove this sentence	
Rick Marek	Technical	5	4	30	With change mentioned above - need to use words vs. symbols	Change here, line 26/27, etc.	
Kurt Kainerder	Technical	6	5	6	Section <u>Insulation materials</u> is mainly a copy of the annex A of C57.154. I would propose to give only a general statement to the material, to duplicate the data is not appropriate.	Reference to C57.154 and reduce to additional definitions or use same wording as C57.154 plus additional ones.	
Jinesh Malde	Technical	7	5.2	17	In reference to data for materials tested in air.	This document is to discuss the performance of solid in liquid insulation systems. It would be important to update the table 1 with values of the testing that has been done in accordance with IEEE C57.100 because currently table 1 is based on dry air testing. Several insulation manufacturers have done some testing that has been published and can be included in the table.	

Alan Sbravati	Technical	8	5.2	1	In the second paragraph of section 5.2, lines 23 to 27 of page 7, an interesting description originally from the Annex A of IEEE C57.154 is included, describing the impact of the fluid for the thermal class of the solid insulation. So, for the title of Table 1, at line 1 of page 8, it would be essential to mention the described thermal class refers to the materials immersed in Mineral Oil. I would also suggest adding a note to the table with this clarification.	So, for the title of Table 1, at line 1 of page 8, it would be essential to mention the described thermal class refers to the materials immersed in Mineral Oil. I would also suggest adding a note to the table with this clarification.
Dave Stankes	Technical	8	5.2	1	add "in Air" to end of table title. This is a very important point, and could be missed by user of the document if he/she fails to look at NOTE 1.	Table 1—Typical properties of solid insulation materials in air
Dave Stankes	Technical	8	5.3	8	ASTM D-3455 is described as a test for compatibility with "insulating Oil of Petroleum Origin". Perhaps we can say that the procedure has been shown also to be useful for compatibility of materials in other insulating liquids.	ASTM D-3455 is described as a test for compatibility with "insulating Oil of Petroleum Origin". Perhaps we can say that the procedure has been shown also to be useful for compatibility of materials in other insulating liquids.
Dave Stankes	Technical	9	5.3	1	Add MW35	Add MW35, as appropriate
Tom Golner	Technical	9	5.3	1	There does not seem to be a reference to the bonding epoxy layer used many times on enamel coated CTC	Add appropriate reference, if available or discuss in text.
Sasha Levin	Technical	9	5.3	2	Add comment (a) after Table 2 in reference to Polyvinyl acetal enamel: "Although polyvinyl acetal enamel insulation is classified as a 105 °C material when tested in air, it has in practice been applied in the systems of 120 °C thermal class along with thermally upgraded paper insulation in most liquids based on the proven service experience for more than 50 years".	Add footnote
Tom Golner	Technical	10	5.4	1	Since – as noted – there is no generally accepted method for determining the thermal class for insulating liquids, I would recommend that the thermal class be removed from the chart	Remove themal Class from table 3
Jinesh Malde	Technical	10	5.4	1	For the synthetic ester, the draft standard has been completed and in ballot. Expectation is for the document to be approved by October 2018.	Include reference if available in time
Kurt Kainerd	Technical	10	6	3	Section <u>Transformer accessories</u> : This section more or less a copy of the C57.154. The P1276 should focus on additional data, such as the request, that the compatibility data should be in the responsibility of the liquid supplier (see section 6.1 "Typically, this compatibility information should be available from the supplier of the insulating liquid.")	revise/update descriptions
Jinesh Malde	Technical	10	6.1	11	Add additional paragraph after first one (prior to Note)	For high temperature application, it is recommended that the accessories be tested at the top liquid temperature of the transformer.
Tom Golner	Technical	11	6.3	12	There are some bushings (not oil filled) that are appropriate for temperatures much higher than normal top oil temperatures. I'm not certain how this paragraph covers those type(s) of bushings	Include discussion of such bushings if available.
Rick Marek	Technical	11	6.3	18	Question related to above 65C?	Need to discuss with balloter
Attila Gyore	Technical	11	6.3	20	The Resin Impregnated (RIP) one should be a preferable bushing	Add as appropriate
Kurt Kainerd	Technical	13	7	1	Section <u>Insulation system</u> : This section has the same content as C57.154 section 4. The wording is a bit different. P1276 should focus on additional information like what's available on the market and what's beneficial for which application.	revise/update descriptions

Kurt Kaineder	Technical	13	7	1	Section <u>Insulation system</u> : A reference to the thermal classes could be used and a definition on high temp. material based on the classes.	revise/update descriptions	
Alan Sbravati	Technical	13	7	1	Clause 7 should include a draft discussed with and approved by the working group, to include text which was agreed to be improved by Mr. Kaineder and me (Alan Sbravati sent a proposal to Mr. Kaneider prior to the meeting of Fall/17) is missing. As per our understanding this is the opposite of what the working group decided.	Clarify the definitions of both hybrid and high temperature insulation systems to make sure they describe situations with (or without high-temperature liquids in addition to the use of high-temperature solids.	
Jinesh Malde	Technical	13	7.1	2	Conventional insulation system can be 55C or 65C as mentioned in the next line	Omit "for 65C rise systems"	
Rick Marek	Technical	13	7.1	11	Section from 11-20 - not sure the purpose here - is this really needed?		
Rick Marek	Technical	13	7.1	23	Is this exponential or logarithmic?	Look at the way this is described in C57.91,etc.	
Rick Marek	Technical	13	7.1	25	Discussion on last sentence needed. Need to reference 120C insulation system vs. 65 rise to be consistent with C57.154		
Clair Claiborne	Technical	13	7.2	27	The difference between a hybrid transformer and a high temperature transformer needs some clarifications. A hybrid transformer causes the combination of both conventional and high temperatures for both the solid and the liquid insulation while a high temperature transformer only uses high temperature for both the liquid and the solid. The document needs some clarification of the two different types of transformers.	Provide more clarity on the insulation systems, such as noting in 7.2.2 that both solids and liquids will be high temperature such as is noted in 3.7.	
Rick Marek	Technical	15	7.2.1.2	4	Remove Note below figure 4		
Sasha Levin	Technical	16	7.2.3	3	Add discussion and figure for insulation systems for distribution transformers consistent with discussion in last working group and enclosed figure.	After Figure 5, add Section 7.2.3 "Distribution transformer insulation" and use Figure 6 and Table 4 provided in the file attached to the e-mail on these comments.	Done
Mike Franchek	Technical	16	7.2.3	3	It would have been nice to include distribution examples of insulation systems.	I believe that Sasha Levin may have some examples of these.	Done
Rick Marek	Technical	16	8	9	Missing "general" information	Add at the end of the paragraph additional sentences: High temperature transformers are often dual rated. For example, 65/75 or 65/95 average winding rise.	
Rick Marek	Technical	16	8.1	15	Omit this last sentence	Change as suggested	
Attila Gyore (ML)	Technical	17	8.1	4	Should we include some mention of safety aspects here?	Perhaps saying that the flash point of mineral oil is minimum 135degC, so sufficient safety margin should be maintained?	
Attila Gyore	Technical	17	8.2	15	add traction transformers	Add if within scope of document	
Rick Marek	Technical	17	8.2	18	Remove last sentence	Change as suggested	
Rick Marek	Technical	18	8.4	18	Remove this section as already placed this information in 8	Change as suggested	
Dave Stankes	Technical	18	8.4	19	Are reactors included in scope? If not, eliminate reactors in this sentence.	Change as suggested	
Marion Jaroszewski	Technical	19	8.4	7	repeats line 33 from page 18. Please remove radiators from line 7, page 19.	Discuss - separate function - might be OK to leave.	
Jinesh Malde	Technical	19	9	18	Parts of this section has been copied from C57.100 standard. The loading information presented by John Luksich on natural ester should be reviewed by the members. We should provide better guidance for end users on how to determine the loading guidelines for high temperature transformers since C57.100-2012 testing has not been done with all available insulation systems for high temperature transformers.	Incorporate portions of John Luksich's document into this section	

Jeff Valmus	Technical	19	9	18	It was a decision of the working group to include examples of temperature rise limits and loading guides into 1276. I would like to see this included back in this guide.		
Sasha Levin	Technical	20	9.2	22	Remove reference to Annex A and re-name Annex B in Annex A.	Remove Annex A	
Rick Marek	Technical	21	9.2	16	At this time, this information is not useful in this guide	Remove this last paragraph (cannot propose work to another document, etc.)	
Sasha Levin	Technical	22	Annex A	1	Remove Annex A - I don't think it belongs to this document; the options are to move it in the Annex to IEEE C57.100 or publish a respective paper and reference to that paper.	Remove Annex A	
Jeff Valmus	Technical	22	Annex A	1	Annex A of this has not been agreed upon. Many people even wonder if this should be part of this document or any standard or more appropriately be included in C57.100 rather than 1276.		
Alan Sbravati	Technical	22	A.1	27	add The unit life equation for the industry standard system of mineral oil and thermally upgraded Kraft paper is given in C57.91.	Add this sentence	
Rick Marek	Technical	23	A.2	16	Technical change - need mechanist for venting/pressure relieve	The tubes have gasketed caps or bolted-on gasketed flanges and should be fitted with a valve for venting and/or pressure relief.	
Alan Sbravati	Technical	23	A.2	25	(copper) should be changed to (copper and aluminum)	Add aluminum	
Alan Sbravati	Technical	23	A.2	33	add copper and aluminum with surface area (not volume), specified to table A.1	Add metal surface area	
Tom Golner	Technical	23	A.2	33	I assume that the sealed tube ratios is intended to describe just that – the relative ratios of liquid, paper & board and does not limit the actual total volume. Typically I would use 2 – 2.5 liters of insulating liquid. This allows for DGA and oil quality tests as well as mechanical or electrical tests on the solid insulation.	Include some discussion on this aspect of the testing.	
Alan Sbravati	Technical	24	A.3	10	Page 23, Line 10: cellulose aging depends mainly on heat and water, and less so on oxygen. Mineral oil aging depends on heat and oxygen, and less so from water. [Transformerboard II, Weidmann].	Revise as proposed	
Attila Gyore (ML)	Technical	24	A.3	26	I think this clause is potentially confusing. One way to interpret this is that the distribution ratio is unnecessary since water will always have an influence on aging. In fact this document already says that water has a key influence on aging in line 10.	Remove this sentence	
Attila Gyore (ML)	Technical	24	A.3	38	Does this mean unpublished data which is not peer-reviewed is being used to create this document? Is this acceptable?	Remove reference to unpublished data	
Attila Gyore (ML)	Technical	27	A.3	1	What is the reference for this data? Is it published?	Remove this data as it is not published.	
Attila Gyore (ML)	Technical	27	A.3	24	What is the reference for this data? Is it published?	Remove this data as it is not published.	
Attila Gyore (ML)	Technical	28	A.3	1	What is the reference for this data? Is it published? You mention references - what are they	Remove this data as it is not published. Add references noted in text.	Ref Added
Attila Gyore (ML)	Technical	28	A.3	11	The low moisture in the NE may be due to consumption by hydrolysis. It is impossible to say without having the acdi value data. The conclusion made here is flawed.	Remove this discussion, it may be incorrect.	
Alan Sbravati	Technical	31	A.5.2	1	per Transformerboard II, the data should be fit to a double exponential, not a polynomial.	Change the calculation method to match Transformerboard II rather than IEEE C57.100	Modify

Alan Sbravati	Technical	31	A.5.2	4	When a data fitting is performed using the minimum quantity of points required for defining a curve, the correlation is 100%. Two points define a straight line, a polynomial equation of first degree, and three points define precisely a parabolic curve, a polynomial equation of second degree. It is very likely to have a high value of correlation when performing a data fitting having only one point in excess of the minimum required, such as using four points to adjust a second degree equation.	Improve the discussion to take number of data points into consideration when selecting method of fitting data.	
Alan Sbravati	Technical	32	A.5.3	1	A unit life equation should be used as in C57.91 so that a single equation is valid for all three end-of-life points rather than a separate equation needed for each end-of-life points.	Change the calculation method to match IEEE C57.91 rather than IEEE C57.100	
Sasha Levin	Technical	33	Annex B	1	Re-name the Annex B to Annex A and revise all following Sections and Annexes respectively.	Remove Annex A	
Jeff Valmus	Technical	33	Annex B	1	Annex B is very similar to the content of C57.154. It should remain as a part of C57.154 and just referenced in 1276. It was determined at the Task Force during the F17 meeting in Louisville that Annex B would remain as is in C57.154 until further revision of that document decides differently. No need to repeat the same info in an annex of 1276 which is just a guide.		
Tom Golner	Technical	33	Annex B	1	I assume that these are meant to give examples of tests done in the past as opposed to indication of the expected performance. Further, it is assumed that these types of tests would be run using processing and sealing/blanketing procedures that are suitable for the manufacturer.	May need to clarify how these materials were processed if that information is available.	
Kurt Kaineder	Technical	34	B.2	16	Section B.2 to B4 Natural ester liquid based insulation systems is a copy of C57.154. Please delete the B2 part in the P1276 – no duplicates	Delete B.2 in 1276	
Attila Gyore (ML)	Technical	34	B.2.1	24	This guide should not be published until this data is available, unless it requires a long wait. Just including the data available in C57.154 does not move things forward.	This guide should not be published until this data is available, unless it requires a long wait. Just including the data available in C57.154 does not move things forward.	
Rick Marek	Technical	35	B.2.1	7	Editorial change	Remove the last part of the sentence (stop the sentence at expectancy.	
Kevin Biggie	Technical	41	B.4	8	Regarding Section B.4 and the recent discussions about removing this section from the IEEE C57.154 standard because the thermal limits were not determined according to the method described in IEEE C57.100 (if I understand the nature of those discussions correctly), I am OK to move it to the IEEE 1276 guide as informative information.	However, as those same concerns remain, and until additional data is presented, I would recommend adding words to this effect somehow in the paragraph starting on line 8 of page 41. If the testing was done prior to the latest IEEE C57.100 2011 version and this is the reason, then I recommend words be added to that effect as well.	

Comments of a "general" nature related to the procedure followed. Separated out here, as they do not apply to a specific part of the document and as such they cannot be resolved in a normal sense of the way. These comments should however be provided to the subcommittee along with discussion as they consider if the correct procedure has been followed when they consider allowing the IEEE-SA ballot to move forward.

Date	Name	Email	Comment
4/12/2018	Marion Jaroszewski	marion.jaroszewski@deltastar	I think that the guide is very informative, should be useful for young engineers and not only, directs to standards and explains what's in standards which are by the nature rather "dry".
4/17/2018	Alan Sbravati	alan_sbravati@cargill.com	Prior to March/2018, the last version the working group received was the D1.3, from March/2016. This is the only version available on the website. The minutes of the previous meetings have also not been uploaded since the Spring/2016, despite the large quantity of fruitful discussion during the last two years (4 meetings). The new proposed draft is not consistent with the discussions had by the working group during the meetings in Vancouver (Fall/16), New Orleans (Spring/17) and Louisville (Fall 17).
4/17/2018	Alan Sbravati	alan_sbravati@cargill.com	I have reviewed the last revision sent after the Spring/18 meeting last week. Please note we believe that a 15 day WG balloting process is insufficient to evaluate a version that is 100% rewritten and which was never presented nor discussed during any past working group meeting. Here are our preliminary comments, as the time was very short for a more detailed revision:
4/17/2018	Alan Sbravati	alan_sbravati@cargill.com	The fourth paragraph of the introduction, lines 25 to 29 of same page, includes a completely different subject, pertinent to IEEE C57.100, which was also never agreed to be included in IEEE Std. 1276. Additionally, the proposed content for the new and never discussed "Annex A" is highly questionable, presenting the point of view of a single group of researchers, even including references to unpublished results. The paragraph should be removed. The content of the Annex demands much further discussion / consolidation prior to being included in any standard.
4/17/2018	Alan Sbravati	alan_sbravati@cargill.com	The Scope and Purpose have been modified from the last version shared with the group, which is the D1.3, from March/2016. There are conflicts between the "new introduction" and these two sessions. These are core sections and should be discussed and agreed by all members of the WG.
4/17/2018	Alan Sbravati	alan_sbravati@cargill.com	Section four had the name changed and no more subitems. The sub sessions 4.2, 4.3 and 4.4 were moved to session 8, while 4.5 and 4.6 were partially merged and modified into the session 8.4. This final version was never discussed with the group. Our suggestion would be to include the proposed sets of temperature rise limits, which were sent prior to the Fall/17 meeting, in each of the transformers, keeping alignment with the group decision from previous meetings.
4/17/2018	Alan Sbravati	alan_sbravati@cargill.com	Section 6 is a copy and paste from IEEE C57.154. Moving this entire session from one standard to the other was never agreed by none of the WG. In our point of view it is important to have this session as part of IEEE C57.154, as the information must be taken in consideration when the user is evaluating the alternative. Moving to a different standard, creates an opportunity of having these aspects not considered.
4/17/2018	Alan Sbravati	alan_sbravati@cargill.com	Section 7 (previously was session 5) has a large number of modification which were never discussed in the working group. Adding the figures from IEEE C57.154 seems to be a good option, but they should also be maintained in the original standard.
4/17/2018	Alan Sbravati	alan_sbravati@cargill.com	Sections 5.4 to 5.6 from D1.3 have been removed in the latest revision. The draft D1.3 included a statement pointing out the need of a complete revision of these sections. Excluding the statements instead of revising is a different approach, never approved by the working group.
4/17/2018	Alan Sbravati	alan_sbravati@cargill.com	Section 9 . A relevant guidance of IEEE Std. 1276 for the high temperature transformers, which was clearly an expectation of the working group, was the description of how to produce a loading guide based on the chosen set of materials. It has been decided by the working group revising the IEEE C57.91 that it will ONLY include conventional insulation system loading guides. A very clear and detailed description of how to develop a loading guide has been prepared by John Luksich, which was discussed and approved during two previous working group meetings. The exclusion of this session represents an individual point of view of the chair, which does not resonate with the positioning of the working group during the previous meetings. We disagree with this exclusion and we would like to have the loading guide included in the draft.

4/17/2018	Alan Sbravati	alan_sbravati@cargill.com	Annex A has been inserted without any discussion with the working group. It includes investigations which have not even been completed yet. An IEEE standard is a place for consolidated information, validated by different sources, not for presentation of a "working in progress", which may lead to different conclusions.
4/17/2018	Alan Sbravati	alan_sbravati@cargill.com	The following comments should be taken in consideration prior to the inclusion of this annex: Page 22, Line 17: 180,000 hours is the minimum life for production transformers only, not material properties. 65,000 hours, 135,000 hours and 150,000 hours are the nominal (not minimum) life expectancies based on the material properties of 50% retained tensile strength, 25% retained tensile strength, and 200 degrees of polymerization, respectively.
4/17/2018	Alan Sbravati	alan_sbravati@cargill.com	The following comments should be taken in consideration prior to the inclusion of this annex: The arguments presented by the author are not confirmed by the presented data, as the spreading of the results is on the range of claimed difference between the two compared methods.
4/17/2018	Alan Sbravati	alan_sbravati@cargill.com	As a general comment, the content of Annex A needs much further discussions, experts revisions, improvement and consolidation. The presented concepts must be validated by additional researchers. Additionally, the discussion is much more pertinent to the IEEE C57.100 instead of the IEEE Std. 1276.
4/17/2018	Alan Sbravati	alan_sbravati@cargill.com	The information included in the Annex B is, again, a partial reproduction of what has been consolidated into IEEE C57.154 Annex B. Non redlined modifications have been made along the text, which were not discussed with the group. More than this, a task force was created to evaluate the need of amendment of the original annex and the decision of the group was to disband the task force identifying no need of any amendment. The performed action seems to be directly in contradiction with the decision of the referred task force, as the revision of the complete standard is in the scope of a different WG. The inclusion of this Annex is in direct conflict without any discussion or approval from any working group, justified by the chair as a "better fit" to the IEEE Std. 1276. The IEEE C57.154 has a very close relation with the corresponding IEC 60076-14, which does include the same annex, with some additional information. This Annex pertains to IEEE C57.154. Moving this from one standard to the other is not a decision which can be taken just between the chairs of the two groups, but rather must be discussed in the forum of the subcommittee, as a decision extrapolating the scope of each individual working group.
4/17/2018	Alan Sbravati	alan_sbravati@cargill.com	The Annex B (Transformer Active Components and Test Procedures for Higher Temperature Application) of the D1.3 version has been removed without any discussion with the working group. We require the return of the content until an official analysis of the working group, with reasonable time, is performed.
4/19/2018	Mike Franchek	mfranchek@charter.net	The informative indexes are ok but a little long no changes recommended.
4/19/2018	Stuart Chambers	Stuart.Chambers@powertechl	The language in annex A and annex B is a little less formal than typically used in standards. However, they are appendixes, not the main document, and the information contained in them is very valuable.
4/19/2018	Stuart Chambers	Stuart.Chambers@powertechl	I've gone through the document, front to back, a couple of times, and I like the content. Seeing the document evolve over the last 1-2 years that I've been involved in the group (now as a member), I think it's become a stronger document.
4/19/2018	Stuart Chambers	Stuart.Chambers@powertechl	I don't feel people say it enough to the chairs and people that actually do things on committees (by that I mean, not the people that just sit on the committees as observers and don't contribute much), but I think utilities and manufacturers will appreciate this document. I also think many will not realize (and likely not recognize) even a tenth of the effort you and others have done on this. However, I want to say I think it's a good document with a lot of info and I appreciate the efforts taken to make it a good document.
4/20/2018	Attila Gyore	AttilaGyore@mimaterials.com	Section A3 in particular presents a lot of data without any reference to where it originates, along with information derived from Rick Marek's paper and yet to be published paper. This offers little opportunity for peer review. There are also conclusions drawn about natural esters which do not present a full understanding of the chemistry, especially with regard to hydrolysis.
4/20/2018	Attila Gyore	AttilaGyore@mimaterials.com	And it looks like there is no efficient amount of added value in this document, but I know this is an additional source of information for the colleagues.
4/20/2018	Attila Gyore (ML)	AttilaGyore@mimaterials.com	The wording in the introduction related adding the tutorial information from C57.154 is unexpected. Does this mean they intend to take the ester information out of C57.154 in the future?

4/20/2018	Jeff Valmus	jeff_valmus@cargill.com	Since you sent the draft document out the Sunday prior to the meeting, I believe that the group did not have ample time prior to our meeting to review the document and be prepared to discuss it during the meeting.
4/20/2018	Jeff Valmus	jeff_valmus@cargill.com	Much of the text was created without "in a vacuum" without the Working Groups input and there was little to no discussion during the meeting on the specifics. This was voiced by many in the group. The overall feeling was that this document was being rushed to meet a deadline verses being a consensus document.
4/21/2018	Clair Claiborne	ccclaiborne@bellsouth.net	Annex A has been included without to my knowledge any discussion with the working group. It includes investigations which have not been conducted yet, to my knowledge.
4/22/2018	Patrick McShane	Patrick_McShane@cargill.com	Alan Sbravati has shared with me his formal 5 page comments regarding his negative vote. I fully agree with his detailed comments.
4/22/2018	Patrick McShane	Patrick_McShane@cargill.com	In addition to those comments, I would have voted negative on serious procedural and IEEE policy issues alone. That is why I am copying the SCIL Chair on this.
4/22/2018	Patrick McShane	Patrick_McShane@cargill.com	Some of the key procedural and policy objections include:
4/22/2018	Patrick McShane	Patrick_McShane@cargill.com	The lack of openness in the Draft formation. The draft you proposed what issued just a few days ahead of the WG meeting, days when most of the WG Members are totally occupied by other TC S18 meeting activities.
4/22/2018	Patrick McShane	Patrick_McShane@cargill.com	Past key discussions at the WG level meetings appear ignored.
4/22/2018	Patrick McShane	Patrick_McShane@cargill.com	Per the presentation by the TC Standards Coordinator at the Monday Luncheon, the WG and TF Chairs are meeting "facilitators", and should limit their technical discussion. However at your meetings in general, the majority of the discussion is from you. For example, F17 the suitability of using PRDs during accelerated aging was raised, and you replied that their use are "more representative of the conditions of the transformer in operation". This is a critical issue, yet you did not encourage discussion from the floor. At the S18 meeting, Sasha suggested that distribution transformers be clearly included in the Guide, you responded "un huh, un huh". Again you did not encourage discussion.
4/22/2018	Patrick McShane	Patrick_McShane@cargill.com	At the F16 meeting, you gave the floor to a presentation on Annex B of C57.154. That discussion should be a part of future C57.154. In that discussion, Rick Marek implied that the data used in that Annex was flawed. This assertion heard and was repeated by a TF member, Robert Thompson, at the SCIF meeting in New Orleans. The disparagement of data provided for by Cargill/Cooper and the independent test references listed in Annex B is very unfair and disconcerting.
4/22/2018	Patrick McShane	Patrick_McShane@cargill.com	At the S18 meeting, you mentioned that you plan to coordinate what sections should remain or shift between C57.100 and C57.154. I question your authority and note that all three are chaired by person with the same affiliation, DuPont.
4/22/2018	Patrick McShane	Patrick_McShane@cargill.com	Finally, it appears to me, this is my personal perception, that the thread that ties that the DuPont affiliations push to make the previous changes to C57.100, the push to exclude Annex B in C57.154, and the current rush to push the complete revision of P1276 has a commercial interest basis. After Cooper Power Systems shared with the Insulation Life Committee (when it was requesting data to help quantify TUK from convention Kraft paper) the results of its accelerated life testing per the existing C57.100, both Lockie method and sealed tube test method, methods that served the transformer industry for many decades in establishing the change from 55 C rise to 65 C rise, there has been a relentless push by you and your colleagues to modify it. It appears there is connection that this effort could related to your companies commercial interests, in that, the test results shared by CPS showed a significant reduction in cellulose insulation aging rate with natural esters. If such a commercial interest is the main driver of the deviation of proper standard development procedures and policy, that could result in a violation of multiple IEEE policies, most seriously Section 9.8, Conflicts of Interests.
4/22/2018	Patrick McShane	Patrick_McShane@cargill.com	I strongly suggest that this draft be revised and send to the WG and Interested Guest as a Straw Vote, and resolved prior to WG voting on it for forwarding to SCIL, as requesting another PAR extension. IEEE prides itself in requiring open, fair, and consensus standard making process. I intend to do my best to see that P1276, C57.100, and C57.154 revisions all comply.
4/22/2018	Brian McBride	Brian_McBride@cargill.com	Prior to the last meeting of the 1276 Working Group in Pittsburgh, PA at the IEEE Transformer Committee Meeting (March, 2018), the last version the working group received was the D1.3, from March, 2016.

4/22/2018	Brian McBride	Brian_McBride@cargill.com	Realistically and for an important ballot vote such as this, a 15 day WG balloting process is insufficient to evaluate a version that is 100% rewritten and which was never presented to, nor properly discussed by the working group at any past working group meetings.
4/22/2018	Brian McBride	Brian_McBride@cargill.com	Additionally, the draft document (IEEE 1276 D2.0 for Circulation R1.pdf) to be discussed during the last meeting on March 27th, 2018 from 3:15pm to 4:30pm (EST) was not completed and emailed to the members of the working group until after 9:00pm on Sunday, March 25 <sup>th</sup> , 2018, thereby leaving very little and unrealistic time for anyone to thoroughly read, evaluate and make notes for discussion during the meeting.
4/22/2018	Brian McBride	Brian_McBride@cargill.com	The recommendations made in the P1276™/D2.1 Draft Guide are extremely one-sided and do not provide the best and most accurate information available regarding high-temperature insulation materials, especially liquid insulation. I believe that the best solution is to request an extension of the PAR for C57.154, which would allow more time for the submittal and evaluation of relevant data pertaining to High-Temperature Insulation Materials, especially liquid insulation materials.
4/22/2018	Kurt Kainerder	kurt.kainerder@siemens.com	It was a very short time for reviewing the document, especially based on the totally new text in some parts.