

The Minutes (unapproved) of TF Fall 2020 Meeting as Submitted:

TF Next Revision to C57.104: Guide for Interpretation of Gases Generated in Mineral Oil-Immersed

Monday, October 19th, 2020 3:45 PM (central time)

The virtual meeting was called to order by Chair Claude Beauchemin at 3:47 PM central time. Claude Beauchemin (chair) introduced himself, Norman Field (Vice Chair) and Hali Moleski (Secretary). There were 115 attendees at the start of the meeting. Since this was the first meeting of the TF, a pooling was performed to determine the membership. There were 58 requests for membership. This is 59 members including the Chair.

Attendees requesting membership are:

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| 1. Anand Zanwar | 31. Kris Zibert |
| 2. Anastasia O'Malley | 32. Kumar |
| 3. Bill Whitehead | 33. Larry Christodoulou |
| 4. Bob Rasor | 34. Lee Doyle |
| 5. Brad Staley | 35. Luiz Cheim |
| 6. Brady Nesvold | 36. Marco Espindola |
| 7. Cihangir John | 37. Markus Schiessl |
| 8. Claude Beauchemin (Chair) | 38. Michael Botti |
| 9. David Calitz | 39. Mickel Saad |
| 10. David Murray | 40. Monty Goulkhah |
| 11. David Wallach | 41. Nick Perjanik |
| 12. Diego Robalino | 42. Nitesh patel |
| 13. Dmitriy Klemptner | 43. Norman Field (Vice Chair) |
| 14. Don Dorris | 44. Oleg Roizman |
| 15. Donald Lamontagne | 45. Paul Boman |
| 16. Dwight Parkinson | 46. Roger Hayes |
| 17. Emilio Morales-Cruz | 47. Samraghi Dutta Roy |
| 18. Eric Doak | 48. Scott Reed |
| 19. Erich Buchgeher | 49. Shiva Rampersad |
| 20. Florin Faur | 50. Stacey Kessler |
| 21. Hali Moleski (Secretary) | 51. Stephanie Denzer |
| 22. James Dukarm | 52. Stuart Chambers |
| 23. Jayme Nunes | 53. Sukhdev Walia |
| 24. Jerry Murphy | 54. Susan McNelly |
| 25. Jim Graham | 55. Timothy Raymond |
| 26. John K John | 56. vbaniroula |
| 27. John Prunte | 57. William Boettger |
| 28. John Sinclair | 58. Zack Draper |
| 29. Jon Karas | 59. Zan Kiparizoski |
| 30. Juan Acosta | |

The copywrite policy was reviewed. History of C57.104 Gas Guide was mentioned as the 2019 version is published and in use with much effort from the last working group. During that work, improvements opportunities had been identified. The purpose of this task force is to start preparation for next C57.104 revision in the future, not to revise the existing standard.

A power point presentation was reviewed to show the objective of 'evaluating the way forward' and to address the lessons learned from the last revision. Many of these are listed in the Gas Guide Annex A. Scope is to address these topics from

Annex A and additional added topics and to evaluate how to address them for the next revision.

Annex A items were reviewed:

- Reduce number of 'investigate' transformers
- Better correlation between DGA results and actual faults
- Build database (data storage, access, legal implications, etc)
- Adapt guide to better apply to online monitors (data/sample frequency)
- Data handling protocol, including code/tools

And the virtual floor was opened for discussion:

- Paul Bowman: Benefit to see how existing guide works via feedback from utilities and end users. Norman suggested a survey with several open-ended questions to provide feedback.
- Luiz Chem: Weariness of data sharing is a continual issue, and questions will remain. Technology that could be considered and researched is BlockChain whereas data submittal is anonymous. Claude agreed a good idea, but first need to handle data security in general. Norman added that IEEE did not have an answer on disclaimer/waiver on data. And labs may not want others to have access to data set. Claude added that a nondisclosure agreement was started previously, but the data supplier and IEEE did not agree.
- Jerry Murphy: Suggest data provider analyze their own data prior to submittal to reduce issues. Claude said pros and cons to this. If this were done, only ranges could be published and must rely on each supplier that their analysis was done well. Norman added that identifying parameters of most importance would be difficult if data were analyzed separately.
- Don Dorris: Problem with some data is that there is an unknown with processing and/or transformer history and failure. Therefore 'clean' data is important. Claude agreed that is an issue and therefore very important. Normalizing the data collection is very important, and should also keep customer ID anonymous.
- Don Lamontagne: Don offered to help with online monitor interpretation
- Diego Robalino: IEEE SA has managed NDA and data acceptance in his group (PF Limits). This was good to hear. Michel Saad asked how long data would be kept. Diego replied it has been roughly 2.5 years with no discussion of data not being available.
- Muhammad Cheema: Requested membership and could also volunteered to assist in data handling tools.

- David Wallach: Requested timeframe for this task force. Claude responded that could be a couple years if not longer. Added that hopefully the end result is to suggest avenue or preliminary solution to the next group that revises C57.104.
- Luiz Chem: Asked if it would be appendix or new guide? Claude answered that it is too soon to tell.
- Norman added that progress must coordinate with C57.143. Don Lamontagne added that C57.143 does not go in-depth, so should be easier to coordinate the two guides.
- Kumar Mani: Will data in solar farms and windfarms be addressed? Claude said that it could be looked at and there is already realization that they are different and the current guide does not address it clearly. Kumar offered to share data and help.
- Muhammad Cheema: Windfarm data also seen and should consider harmonics and gassing. Offered to share and collaborate with data. Claude agreed that it is a large topic. Offered to run data in the tool used for C57.104 if it was helpful for those that have data.
- Alan Sbravati: C57.155 took advantage of progress in data analysis tools.
- Next meeting: Toronto April 24-29, 2021

Meeting was adjourned