

Study Committee A1

(Rotating Electrical Machines)

Tuesday 30th August 2022

SUMMARY

Chairman: Mr. Kevin Mayor, Switzerland

Secretary: Mr. Peter Wiehe, Australia (online)

Special Reporters: Mr. Howard Sedding, Canada
Mr. Johnny Rocha, Brazil
Mr. Steve Mitchell, United Kingdom

1. INTRODUCTION

The 2022 discussion meeting of Study Committee A1 was held on 30th August in room Havane at the Palais des Congrès in a morning and afternoon session.

The sessions were mainly face-to-face with online attendance via ZOOM. Sparkup used as the tool of local and online interactivity.

2. RUNNING OF THE MEETING

The meeting was chaired by the Study Committee Chairman, Kevin Mayor (Switzerland), with Mr. Howard Sedding (Canada), Mr. Johnny Rocha (Brazil) and Steve Mitchell (UK) as the Special Reporters. The Interactivity Coordinator was Bouchra Wahdame (France).

The Chairman opened the session welcoming the audience and presenting current overview of the scope and strategic directions of Study Committee A1. The audience was reminded of the format of the discussion group meeting, the compliance rules and how the contributions are to be presented during the session. The contributions and discussions were then chaired by the SC Chair and special reporters in subsequent sessions.

3. GROUP DISCUSSION MEETING

The meeting covered three preferential subjects, with the number of papers, prepared and spontaneous contributions as summarised in the table below:

Preferential subject	Accepted Papers	Questions raised	Prepared contributions
1. Generation mix of the Future	6	6	6
2. Asset Management of Electrical Machines	10	10	10
3. Developments of rotating electrical machines and operational experience	8	8	6
Total	24	24	22

The formal contributions were well prepared and addressed the questions raised in the special report.

Throughout the day around 40-70 delegates were present in the discussion meeting, and the participation and involvement resulted in around 50 spontaneous contributions on a variety of technical topics.

A prepared contributions submitted via the Next Generation Network (NGN) was presented. Several surveys were conducted, and questions received using Sparkup.

During the course of the day, the following themes were covered:

- Hybridised power generation and energy storage systems involving rotating machines
- Aspects of synchronous condenser applications with augmented inertia
- Partial discharge measurement and condition monitoring and assessment of electrical machines
- Machine learning and AI applied to rotating machine condition assessment
- Large generator design aspects related to water-cooling and nuclear power plant applications
- Identification & mitigation of sub-synchronous oscillations of large generator shafts

The presentations were well prepared and presented, and the authors were able to answer the resulting questions clearly and comprehensively.

There was a good involvement of the audience resulting in some in-depth, informative and interesting discussions.

6. CONCLUSION

The 2022 SC A1 discussion meeting comprised prepared and spontaneous contributions covering a wide range of technical topics associated with rotating electrical machines.

There were fewer prepared contributions than has been received in past Group Discussion Meetings, however this facilitated more in-depth discussions on specific topics of high interest.

The session was generally well received and attended including some new and younger participants.

If remote participation is to be a feature of future Paris Sessions, it would be good to facilitate online presentation of contributions and direct interactivity at least during the formal contribution presentations.