

CIGRE Study Committee A3 (Substation Equipment) Report to CIGRE – UK for 20010-11.

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This is based on notes from the A3 Meeting held in Vienna, Austria on 9th September 2011.

Summary of Key Points:

A3 Symposium & Tutorial

This was held on 7th & 8th September and was hosted by the Austrian Committee. The event was a great success with interesting papers and open discussions. The presentations/papers from the symposium are available on the Austrian Committee website. If you wish to access these let me know and I shall supply the access codes.

CIGRE Technical Committee Report

Some important issues from the Technical Committee discussions were reported by the Chairman:

- The next chairmanship of SC A3 will be taken over by Hiroki Ito.
(The task of Secretary will be carried on by Kynast)
- A new set of promotion material is available from CO, e.g. a new master slide for promotion, which can be used for presenting of Cigre everywhere.
- The renewal of the Cigre website is under discussion.
- Cigre is going to write its own history and the first part is almost ready for publication.
- To get a best practice for WG Conveners proposals will be circulated by CO, based on the work of SC B2.
- A possibility to publish scientific papers in Electra exists and a review team has been established by CO. Contributions are encouraged. A suggestion from the floor was to start a trial with a paper from WG A3.06.
- Annual reports will be introduced again in Electra once a year from each SC.
- Poster Sessions for the Cigre-week in Paris will be started for all SCs. More detailed information will be given after the discussion during the next TC meeting.
- Following a legal challenge to a Cigre publication, it is more important than ever that Cigre focuses upon scientific & factual information and avoids any unsubstantiated opinions.

Strategic plan, action plan

A draft of the SC A3 Strategic Plan was circulated just before the meeting. Regarding previous discussions and comments it was written by Franz Heil to be in line with the technical directions of Cigre. Final feedback was requested by the end of September.

The SC A3 Action plan was discussed and will be revised after the meeting.

SC A3 web page – news, comments

The Secretary explained shortly the access to the members' area. The next update will be done with the results and minutes of this meeting; including an update respectively of the new version of Action and Strategic Plan.

Report of Working Groups

All presented new WG Members were approved by the SC.

8.1 WG A3.21 Application of non-ceramic insulators

WG A3.21 was disbanded with many thanks to Convener DeNigris and WG members. All work was completed last year and the Technical Brochure was published in April 2011:

- TB 455 Aspects for the Application of composite insulators to high voltage apparatus; WG A3.21_04-2011

8.2 WG A3.22 UHV Equipment

WG A3.22 was disbanded with many thanks to Convener Hiroki Ito and WG members. Two Technical Brochures have been published, especially to support the IEC standardization work in the UHV range:

- TB 362 Technical requirements for substation equipments exceeding 800 kV; WG A3.22_12-2008
- TB 456 Background of technical specifications of substation equipment exceeding 800 kV; WG A3.22_04-2011

Furthermore several papers have been published in the name of WG A3.22 (see Activity Report of the follow up WG A3.28)

8.3 WG A3.15 Non Conventional Instrument Transformers

A final draft TB was sent in the beginning of 2010. The Electra paper is still pending. Because no contact could be made to the Convener (Tantin) the Chairman suggested to handover the finalization of the nearly read TB and the writing of a summary for Electra to Farnoosh Rahmatian, a member of the WG. Since there were no objections from the floor the Chairman will ask Rahmatian. Hubert Mercure offered his support to the finalization of the WG A3.15 work.

8.4 WG A3.17 Surge Arresters

The situation was explained by Convener Richter: The Electra-summary is ready meanwhile and the TB will be finalized until the end of September. The drafts will be circulated for comments immediately after finalization to get a feedback as fast as possible.

8.5 WG A3.06 Reliability of HV equipment

The work of WG A3.06 is nearly finished. The large amount of data and results will be divided and published in 6 TBs. The first part with the description of the statistical methods is still under consideration. All other parts and Electra-articles are finished. They will be sent to the Secretary for circulation within the SC as soon as possible.

The Chairman emphasized the outstanding activity of the group over the long period with a lot of traveling, meetings and homework and thanks especially the Convener Sölver and his successor Runde.

One focus during the revision for comments by the SC members should be to find out subjects for future activities. One hint was given already from the floor: The secondary circuits are not well covered in this work.

8.6 WG A3.23 Guidelines and selection of FLC

The final draft of TB was circulated some days before the meeting. Based on the comments it will be finalized within this year. With writing the Electra summary in the beginning of next year all work will have been done.

Convener Schmitt explained, that the work describes the state of the art of FCLs and recommended no further activities.

8.7 WG A3.24 Simulating internal arcs and current withstand tests

Convener Uzelac explained some technical details of the activities. Due to the special topics some new members joined the WG. Aim of the WG is to finalize the work on the draft report until August 2012 for circulation within the SC.

8.8 WG A3.25 MO varistors and surge arresters for emerging system conditions

Richter presented the main subjects of the activities. Next year the TB will be prepared and end of 2012 the work will be finalized.

8.9 WG A3.26 Capacitor bank switching and impact on equipment

Yoshida, a member of the WG, reported according the Activity Report. The work is on a good way and it is expected that a first draft will be available after the meeting that will take place in spring 2012.

8.10 WG A3.27 Vacuum switchgear

Based on an international survey a detailed overview of HV VCB products is now finished. Analysis and first parts of a TB are under preparation. The draft TB is planned to be finalized late 2012.

8.11 WG A3.28 Switching and testing of UHV&EHV equipment

Ito presented in short the subjects of the three Task Forces. Due to the high interest further new members have announced their interest.

Aim of the WG is to finalize the TB in 2012.

Supplement to UHV:

Ken Edwards (BPA) explained the rising up of IEEE standards concerning UHV-Subjects and generally the way of standardization in IEEE. State Grid, China proposed three topics for standardization of UHV in IEEE. A first meeting was in June, the next will be held in October.

He emphasized that the work of Cigre and IEC should be considered in the IEEE work and collaboration with WG members is needed. Ito agreed to assist. Ikeda, who is dealing with UHV in IEC SG2, offers to exchange matters with Edwards.

8.12 WG A3.29 Ageing of substation equipment

The kick-off meeting was held in March 2011. A revised title of the working group was proposed, “Management of Ageing HV substation equipment”. To avoid any sensitivity with SC B3 over substation management the title “Deterioration & ageing of HV substation equipment” will be used.

Maheshwari presented the time line of planned work. Some further experts are needed especially equipment specialists from utilities and manufacturers for capacitors, reactors etc.

A close cooperation with A3.30 will be part of the work.

8.13 WG A3.30 Overstressing of substation equipment

Carvalho reported about the kick-off meeting in this Vienna week. The membership consist mainly out of experts from utilities. They discussed the aims of the WG and asked to change the WG-title to “Managing overstressing of substation equipment”. The word management will be deleted, as above, making the title simply “Overstressing of HV substation equipment”.

Concerning the detailed presentation of working topics the Chairman emphasized that the work should stick to equipment because system related matters are covered by other SCs.

8.14 WG A3.31 NCIT with digital output

The Terms of Reference had been approved in July and CO started the call for experts.

According the last message from Convener, Rahmatian, there are only five nominations up to the date of the meeting. Some more experts are very welcome and the SC members should look around for interested persons.

(Note of Secretary: An additional Call for Experts will be send around within the SC)

Report of Advisory Groups

AG A3.01 Strategic Planning

For information the Chairman explained in short the tasks of AG A3.01 which meets once a year in between the SC meetings. The WG-Convenors, some ex-members and experts are active in this group to give advice to the Chairman concerning interesting subjects for future work.

AG A3.04 - Tutorials

In the past Dave Peelo managed all matters concerning tutorials. Now he draws back from this job and the question comes up whether this will be done in the future again by one person or in a group. In the discussion the Chairman and the SC intend to have a group and Smeets, Runde and Glinkowski agreed to take over the task of managing the SC A3 tutorials. Inside the group it has to be found a system how is can run in the best way.

The latest version of Peelo’s tutorial list will be send to them by the Secretary.

The question concerning the copyright for the tutorial materials came up again. The Chairman will try to clarify this with the CO.

Information upon other Groups/Organizations

SC B3 activities

Kopejtkova gave an overview upon the activities of SAC B3 “Substations” (see presentation).

CIREN

Peter Kirchesch gave some general information upon CIREN organization and work. The last CIREN Conference was held in June in Frankfurt with 1350 papers. Beside other topics similar to A3 subjects have been presented for voltage levels of energy distribution.

Current Zero Club

The Chairman Rene Smeets gave in short some information about the SF6 and vacuum circle of the CZC.

Last year there were no meetings. The next will be held in October 2011 in Montpellier.

US National Committee

Meitek Glinkowski informed about the NC activities in the field of SC A3 and gave some explanations concerning the possibilities of information exchange between A3 and the IEEE switchgear committee.

IEC new advisory committee - ACTAD

Ikeda explained the organization and change from the former IEC SB1 (Sector Board 1) to ACTAD. ACTAD deals with all matters concerning electricity transmission and distribution which concern, or may potentially concern, more than one TC or SC. It recommends standardization activities and identifies technologies to be standardized.

New work items

In an open discussion some topics were gathered:

- Surge arresters were not covered in the reliability study: Reasons for this were discussed and the question came up whether it is possible to learn out of the process of the reliability study to take it over to surge arresters. Richter agreed to gather some items in this direction.
- Special applications of surge arrester e.g. for capacitor banks; an IEC FDIS is on the way: No big work area!
- General lack of knowledge: It is a topic for the tutorials. Johnnerfeldt will gather what kind of questions may be of highest interest.
- DC-circuit-breaker: An paper from Christian Frank of ETH was published in IEEE. He can be invited to give an overview at the next SC meeting to give some guidance.
- Circuit breaker with gas mixture for low temperature application: No deep interest, ecause nowadays these applications are covered by standardized test procedures.
- Delayed current zero: A proposal from last year; it is more related to generator cb's, hich may be a topic in combination with SC C4.

The following topics were just mentioned:

- Reactor and capacitor switching accompanied by mechanical failures
- Changing network conditions
- Impact of equipment on or out of Smart grids
- Safety of cb's: Following a general trend safety of cb's may be defined by quantities.

Future Events

CIGRE PARIS 2012

The list of selected papers will be send out by CO soon.

Preliminary dates:

- A3 group discussion Wednesday, August 29 . The team for the session will be as before (Waldron, Janssen, Giboulet, Kynast)
- A3 poster session Thursday, August 30 The rules for poster sessions will be discussed on the next TC meeting in November

Options for 2013

The SC has a couple of options (e.g. combination with a Symposium in Australia or invitation to China); up to now there is nothing fixed.

Miscellaneous

Ito asked for the procedures to publish A3.28 results in IEEE or elsewhere. There were no objections from the SC but it has to be clarified with CO.