

Notes of meeting held on 6 July 2011, 0900 – 1400 hrs

Ecoplus Centre – N W GmbH,
1Z No-Sud, Strasse 3, Objekt M19,
2355 Wiener Neudorf

Information session on a CENELEC Workshop Agreement for flow batteries

Attendees and apologies are listed at [Annex A](#)

1. Opening and Welcome: Martha Schreiber of Cellstrom Cellstrom, who were the hosts for the meeting, welcomed delegates to Vienna and introduced Guido de Jongh from CENELEC.

2. The CEN and CENELEC organisations: Mr Guido de Jongh of CENELEC reviewed the work of CEN and CENELEC and the process for instigation of the Workshop Agreement. His presentation slides are attached at [Annex B](#). Mr de Jongh introduced Professor Winkler of Hamburg University and Secretary to IEC TC 105 and also Dr Permann from AIT.

Prof Winkler was invited to introduce the work of IEC TC 105 to the meeting. The primary role of TC 105 is to look at fuel cells. TC 105 had identified that some characteristics of fuel cells were common with those of flow batteries. As a result of this commonality a small working group comprising Professors Zhang, Biswajit and Winkler as secretary, had been formed 6 months ago to examine flow batteries. Prof Winkler's presentation slides are attached at [Annex C](#).

Anthony Price of IFBF gave a brief introductory presentation of flow batteries, the slides of which are attached at [Annex D](#), based on a presentation that had been given at the IEEE Power Engineering Society in 2000.

There was then discussion on whether flow batteries should be considered as a separate class of electro chemical device. There were a significant number of technical differences between the definition of fuel cells and practise in flow batteries. For example, flow batteries could encompass those electrolyte systems where the flow is either continuous or intermittent. The definition of a flow battery should not be reliant on the use of pumps or tanks. Flow batteries were agreed to be closer to secondary batteries than to fuel cells because even if circulation of electrolyte is stopped the electrochemical process can be continued. It was argued that it is not easy to imply within a definition whether there is a reversible electrochemical process or not.

Overall, the meeting agreed that the purpose of forming a Workshop Agreement was to concentrate on the practicalities of bringing products to market rather than the detail of academic or technical differences at the component or subsystem level. In considering the scope of IEC TC 105's work and the proposed scope of the flow battery workshop agreement there was sufficient distance between the activities which would avoid any overlap between the groups.

In addition as two members of the IEC working group were present at the meeting it was agreed that effort should continue to develop the Workshop Agreement as a separate activity.

A preliminary definition of a flow battery was presented to the meeting, and this was agreed to be suitable as a working definition for the time being, see [Annex E](#).

3 /4 . **Starting a CENELEC Workshop: the basics and European /International standard:**

The draft business plan was discussed and revised. The objective is to produce a further revision which will need to be published for public comment. The present working document is at [Annex F](#).

The content of the Workshop Agreement was discussed. Dr Bjorn Jonshagen presented a draft proposal for the Workshop Agreement which had been based on other existing standards. In summary it was agreed that the overall goal of this Workshop is to provide guidelines in the form of a CENELEC Workshop Agreement to include:

- definitions
- criteria for measuring the battery performance, including efficiency
- performance criteria
- criteria for defining and specifying actions at the end of life
- battery maintenance criteria
- evaluation criteria
- service life guideline for technical description of the flow battery
- etc

Further details of the topics which the CENELEC Workshop Agreement should address are given in the Draft Business Plan (*refer to Annex A of the Business Plan.*)

Mr de Jongh has approached all the European National Standards organisations and invited them to submit tenders to provide the secretariat for the Workshop Agreement. A proposal had been received from the Netherlands standards authority and the Austrian standards authority has also expressed interest. Other national standards bodies will be reminded of the request. Participants to the Workshop Agreement would nominate members for a small project team and a working group chairman who would support the secretariat.

The work would need to be financed by the participants, who would have to pay the cost of the secretariat and the service fee of CENELEC. Participants at the meeting were asked to indicate whether they would be willing to support the Workshop Agreement financially and whether they would wish to join the working group. Eight companies indicated a commitment to finance the group. It was agreed that members of the working group should be named as individuals rather than as companies. Details of participants and the working group are shown in [Annex G](#).

Mr de Jongh explained that at the “kick off” meeting for the Workshop Agreement the Chairman would be elected. He also explained that it was possible for the working group to undertake advanced preparatory work before the “kick off” meeting as this would considerably shorten the timescale for the project. He proposed that the provisional working group should nominate a provisional chairman. Participants proposed that Anthony Price act as provisional chairman until the “kick off” meeting.

The meeting was adjourned.

Optional meeting to discuss more detailed financing of the Workshop Agreement

1. Cost sharing:

There was discussion as to the method of financing the agreement and alternatives were discussed, such as direct funding paid to the secretariat, formation of a special association with all participations as members or appointment of a managing company to coordinate and process payments and monitor performance by the secretariat and working group.

In the interest of time, it was agreed that the IFBF should prepare a proposal for management of the project, together with an indication of the IFBF, staff fees and circulate this for discussion to participants.

Participants acknowledged the substantial work which had already been undertaken by Bjorn Jonshagen and requested that he should continue to develop his proposals for the Workshop Agreement. He would work with other members of the group to prepare a revised draft.

2. Summary :

From the two meetings, it was agreed that notes of the meeting would be circulated to all participants; a revised business plan would be published and intentions to join the Workshop would be published. Mr de Jongh would attend to the co ordination efforts of working with the other standardisation activities. Members of the interim working group would be responsible for selection of the appropriate secretariat for the national standards organisations.

The meeting closed at 14.00. Delegates visited the assembly area of Cellstrom to see the assembly of large scale battery systems.