Break Out Session III

Testing and Standardization Group. The following standards were suggested for the standardization and testing of Aqueous and non-aqueous flow batteries respectively.

Aqueous RFB

Cell size 25 cm^2 or higher
Membranes- PFSA or derivatives; thickness – 2-7 mils
Electrolyte solubility - 5 M or higher
Cycle life/degradation – 0.0005% per cycle; test at 100%, 50 % and 0 % state of charge
Power density - 500 mW/cm2 or higher
Cell/hardware compatibility – not significant

Non-aqueous redox flow batteries
Standard test cell size/area can be between 2.5, 10 or 25 cm^2
Hardware compatibility with solvents/chemicals- tubing, gaskets preferably polypropylene
Standard flow field with serpentine geometry with paper
Membranes- Porous separators for example Celgard, Daramac, thin ceramic
Standard Electrolyte volume – 10 mL to 50 mL
Number of cycles – 100 cycles and 100 hrs
Current density > 10 mAh/cm2 or 25 mW/cm2