Statement on battery self discharge

FCC ID : KLS-MCM330

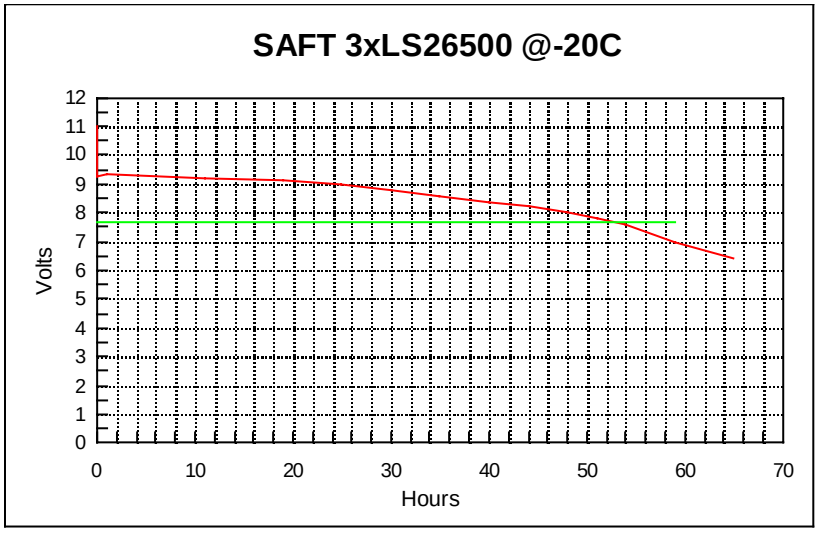
Purpose

This statement is made in response to 80.1053 (e). This was referred to on page 14 of our original type acceptance submission dated March 96 under the heading “Shelf life calculations”. This section would now read as follows…

Shelf life calculations

The battery consists of three Saft LS26500 cells, which are C-size (low rate) Lithium Thionyl Chloride cells running at nominally 9.2V with a rated capacity of 7.2Ah at +25°C. The manufacturer quotes 0.7% per annum self-discharge (see attached letter from Saft), which over 12 years (twice the 6 years we quote) represents an 8.4% loss in capacity.

A battery discharge curve was measured at –20°C and is shown below. This was measured on the same unit (9601-MAVIS-1) and in the same test fixture as the original test report. Total life achieved is taken to the same 7.7V end point which was proven to equate to the measured ERP dropping out of specification.



The result achieved was 52.4 hours to 7.7V. However, placing the radiating beacon in the environmental chamber increases the current from 48mA to 53mA which means the actual result if measured in free space would be (52.4x53/48=) 57.8 hours. (See original report).

Now 57.8 hours represents 19.6% capacity in hand to cover self discharge and self tests. Accumulated self-tests at 1 per week for 12 years adds up to 0.005Ah and can be ignored. The self discharge of 8.4% over 12 years is easily catered for within the 19.6% spare capacity available.

Summary

McMurdo testing has shown that there is sufficient spare battery capacity to cater for 12 years of shelf life, which is twice the 6 years we quote to in our product brochure.