United Kingdom report to ISO TC20/SC13, April 2002

P Allan, 11 April 2003

Management

Organization / Changes

Within the UK, the British Standards Institute panel ACE/68/-/7 handles organization of CCSDS activities including the discussion of which activities should be supported by having people attend panel meetings and contribute to the development of CCSDS recommendations, as well as the organization of the review of draft ISO standards. ACE/68/-/7 is a sub-panel of technical committee ACE/68, which deals with all space related standards activities, which includes liaison with bodies such as ECSS. Peter Allan remains as the chair of the panel although it is the chair of ACE/68 who signs off new BSi standards.

Part of the CCSDS and BSi standards work is funded by BNSC. At the time of the last meeting, a new person had just been appointed at BNSC with the responsibility of overseeing standards development. This person is now involved in all the relevant technical panels and so has a good view of where funding is needed.

An Electronic Document system (http://edd.bsi.org.uk/) has been adopted for many committees, and is now the sole means of distributing internal panel documents.

Meetings of the ACE/68/-/7 panel are held twice a year and meeting of the technical committee ACE/68 are held approximately four times per year.

Areas of Agency Involvement

Funding for these activities in the current financial year is provided jointly by BNSC and the Particle Physics and Astronomy Research Council (PPARC).

Manpower Allotted

The manpower allotted to this area is mixed in with the funding provided to support CCSDS activities. The total funding amounts to approximately half a staff-year, although only a small part of this goes directly to SC13 and ACE/68/-/7 activities.

Implementation Activities

Spacecraft Utilizing SC13 Standards

ACE – the RAL ground station is a major part of the ground system for this NOAA satellite.

Although the STRV-1c/d satellites failed in orbit, it is worth noting that the collaboration forged between RAL and QinetiQ in order to obtain some useful data from them is being taken forwards in the implementation of SLE services in both of their ground stations. It is our intention to set up a co-operative ground station, which both organizations can use to their advantage.

TOPSAT is a satellite funded through the BNSC Mosaic programme and jointly funded by the Ministry of Defense. It is a technology demonstrator for low cost imaging (2.5m resolution, £15M total cost, including one year of operations). Others (e.g. EarthSHINE) are planned as a result of the next round of the Mosaic programme.

Most spacecraft that have a UK involvement are part of international consortia. Hence it is difficult to highlight ones that might be considered UK spacecraft.

Ground Facilities Utilizing SC13 Standards

RAL ground station
QinetiQ ground station
Surrey Satellites Ltd

The above do not use all of the available standards, although the usage is increasing with time. In addition, staff who manage the 25m antenna at Chilbolton and other large antennae operated by QinetiQ have expressed an interest in becoming involved in satellite operations and data reception.

Documentation Activities

All of the draft standards from SC13, are reviewed by ACE/68/-/7, and have been approved and passed on for issue as BSi Standards.

The ISO standards currently issued as BSi standards are as follows:

ISO	BS Z	Document
	6	Withdrawn – replaced by ISO 14961:2002
	12	Withdrawn – replaced by ISO 12171:2002
	13	Withdrawn – replaced by ISO 12174:2003
	14	Withdrawn – replaced by ISO 12173:2003
	15	Withdrawn – replaced by ISO 12172:2003
11103	1 **	Time Code Formats
11104	2 **	Radio Metric and Orbit data
11754	3	Telemetry Channel Coding
12172		Telecommand – Data Routing Service
12173		Telecommand – Command Operations procedures
12174		Telecommand – Data Management Service
12175	4	SFDUs Structure and construction rules
13419	8	Packet Telemetry
13420	9	AOS Network and data links
13764	5	SFDUs Control authority procedures
14721		Open Archival Information System
14961		Parameter Value Language specification
14962	7	ASCII encoded English
15395	10	SFDUs Control authority data structures

15396	11	Cross Support Reference Model – SLE
15887	17	Data systems – Lossless data compression
15888	18	Standard formatted data units – Referencing environment
15889	19	Protocol specification for space communications **
15891		Space data and information transfer systems. Protocol specification for space communications. Network protocol
15892		Space data and information transfer systems. Protocol specification for space communications. Security protocol
15893		Space data and information transfer systems. Protocol specification for space communications. Transport protocol
15894		Space data and information transfer systems. Protocol specification for space communications. File protocol
17355		Space data and information transfer systems -- CCSDS file delivery protocol
17433		Space data and information transfer systems -- Packet telemetry services

Note that BSi no longer gives ISO documents additional BS Z numbers as is indicated in the above table. As time goes by, old BS Z documents will be replaced by updated ISO ones.

** The table has been derived from information available from the ISO web site and from BSi. The items marked ** are inconsistent between these two sources.

The names of the documents ISO 11103 and ISO 11104 are transposed between the two sources. This is a simple typographical error that I will get resolved.

The ISO web site gives the name of document ISO 15889 as "Data description language – EAST specification". I will resolve the difference with BSi.

Technical Activities

Status of Action Items

There are no action items that currently apply.

Status of On-Going Assignments

The on-going assignment is to receive documents through the British Standards Institute and to ensure that it is reviewed for BSi and to then approve it (or not) for issuance as a British Standard.

Status of Liaison Activities

The chair of ACE/68/-/7 (Peter Allan) attends meetings of ACE/68, which processes standards relating to space systems and operations. In addition, ACE/68 shadows the work of the European Co-operation for Space Standardization (ECSS) committees.