<u>**United Kingdom report to ISO TC20/SC13, April 2005**</u>

P Allan, 13 April 2005

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 working group 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. John Davey and Mike Grimmett at BNSC have the responsibility of overseeing international standards development. John Davey attends the meetings of the technical panels and so has a good view of where funding is needed.

The Electronic Document system used by BSi (http://ecommittees.bsi-global.com/) is now the sole means of distributing internal panel documents.

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

The UK has voted in favour of merging SC13 and SC14 with the corresponding creation of a new ISO technical committee.

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.

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. However, in recent years, the UK has started to fund small satellite missions through the Mosaic programme. TOPSAT is the first such satellite, jointly funded by BNSC and the Ministry of Defense. It is a technology demonstrator for low cost imaging (2.5m resolution, £15M total cost, including one year of operations). It is due for launch in the summer of 2005.

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. Now that the Radio Department at RAL, we are starting to use the 25m antenna at Chilbolton for satellite communication. The first project to do this is the Galileo test bed, a joint project with Surrey.

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
11103	1	Radio metric and orbit data
11104		Time code formats
11754		Telemetry channel coding
12171		Telecommand – Channel service
12172		Telecommand – Data routing service
12173		Telecommand – Command operations procedures
12174		Telecommand – Architectural specification for the data management service
12175	4	SFDUs Structure and construction rules
13419		Packet telemetry
13420	9	AOS Network and data links
13764	5	SFDUs Control authority procedures
14721		Open archival information systems – Reference model
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		Data description language. EAST specification.
15891		Protocol specification for space communications. Network protocol
15892		Protocol specification for space communications. Security protocol
15893		Protocol specification for space communications. Transport protocol
15894		Protocol specification for space communications. File protocol
17355		CCSDS file delivery protocol
17433		Packet telemetry services
21961		Data entity dictionary specification language (DEDSL). Abstract syntax.
21962		Data entity dictionary specification language (DEDSL). PVL syntax.
22643		Data entity dictionary specification language (DEDSL). XML/DTD syntax
22669		Space Link Extension (SLE) – Return all frames service

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.

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.