

Spectrum Framework Review: Response from the ARCC Representative and member of UKSAR Communications Working Group

The MoD currently provides the majority of airborne Search and Rescue (SAR) cover over the United Kingdom Search and Rescue Region which extends to over 1 million square miles. In line with other SAR providers, its assets must intercommunicate on a number of levels with national and international SAR and Emergency Services agencies. The radio spectrum, from MF up to SHF, is heavily relied upon to provide compatible, reliable and resilient communications for SAR and public safety purposes. To fulfill the national need and comply with international statutory agreements, dedicated and declared MoD SAR assets, including helicopters, fixed wing aircraft and mountain rescue teams, are strategically deployed around the UK. These MoD-provided assets are an important and integral part of the overall UK SAR structure.

In partnership with the other UK and international SAR organisations, MoD SAR assets operate during all weathers in the full range of land, sea and air environments and communicate with national and international SAR agencies and the Emergency Services. So as to routinely maintain air safety, they must additionally have parallel radar, data and voice communications with Air Traffic Control and the Maritime and Coastguard Agency.

The need for radio spectrum efficiency is supported on the basis of carefully planned and co-ordinated stepped change that provides significant improvements and does not disadvantage the voluntary SAR agencies. But this takes time.

The Cospas-Sarsat transition model, from the analogue 121.5 / 243 MHz satellite distress beacons to the 406 – 406.1 MHz data-burst beacons, is cited as a good example of the period of time that is needed for significant change in international SAR. It has already taken more than ten years to phase in 406 MHz beacons and even after the long-heralded changeover date in 2009 when the satellites will monitor only 406 MHz, we will still be left for the foreseeable future with 121.5 / 243 MHz homing, largely because of the legacy homing equipment installed on the majority of the world's SAR aircraft.

On the home front, UK Land-SAR radio communications have greatly benefited from hard won change in the last seven years, mainly gained through the offices of the UK SAR organisation and Ofcom. A state of communications isolation from other SAR agencies only a few years ago has been transformed and Land-SAR teams are now compatible throughout the UK with other teams, SAR agencies and with at least some of the Emergency Services. Here again, and this has direct relevance to spectrum utilization, the comparative advantages and disadvantages of analogue and digital radio use have been revealed. On the operational front, the relative inefficiency of analogue point-to-point radios when compared with the digital Emergency Services equivalent has been balanced by their reliability, flexibility and resilience.

With SAR, the rush to embrace new technology with narrower bandwidth must not be at the expense of diversity and resilience. We have a recent example in SAR where this has occurred and a vital 'all-informed' capability has been lost.

All the SAR agencies should be consulted during the spectrum management improvement process; a change by one will usually have implications for the others, both at home and abroad.

The answers to specific consultation questions are as follows:

Question 1: Do you agree with Ofcom's proposed overall approach to improving the management of public sector spectrum holdings and, in particular, with Ofcom's conclusion that it will generally be preferable for public sector bodies to interact directly with the market?

Answer 1: The concept of improved spectrum efficiency is welcomed but qualified with the proviso that no existing SAR frequencies / channels are removed until a comparable provision is properly in place.

Question 2: What factors do you consider Ofcom should take into account in determining the programme of reform in the framework for managing public sector spectrum holdings?

Answer 2: Confining the response to SAR, it is considered that the following should be factored into such a programme;

- a. Public Safety and the health and safety of SAR providers
- b. Frequency and Mode compatibility with all the relevant national and international land, sea and air agencies. These include SAR and Emergency Service agencies
- c. SAR radio equipment compatibility with national and international land, sea and air agencies
- d. Affordability by voluntary SAR providers
- e. The need to provide sufficient time to allow all relevant SAR users to change equipment
- f. Network, equipment and communications link resilience
- g. Network and link traffic capacity
- h. Geographical network coverage required by SAR agencies – 100%
- j. Diversity/redundancy provision

Question 3: Do you consider that the proposals should be phased in?

Answer 3: Yes, but frequent small changes would be counter-productive. Provided that sufficient time is given for changing equipment and procedures, major phased changes, bringing significant improvement would be supported.

Question 4: Do you agree with Ofcom's proposals about the frequency bands that offer the greatest potential benefits from band sharing? Are there other frequency bands where the facility to trade or lease spectrum from public sector bodies would be particularly attractive?

Answer 4: A guarded Yes – with the caveat that no compromises are made with the communication provision for SAR

Question 5: Do you agree with Ofcom's proposed approach to awarding public sector licences and RSA?

Answer 5: This question falls entirely outside my experience

Question 6: Should public sector spectrum trading be introduced at this stage in the Channel Islands and the Isle of Man?

Answer 6 : Because of the proximity to the UK of Northern Ireland, the Isle of Man and the Channel Islands, great care must be taken that frequencies/channels allocated there, on whatever basis, do not interfere with or compromise the mainland UK SAR provision.

Question 7: Should there be additional grounds, eg safety-related, for Ofcom to refuse consent to a proposed trade in certain frequency bands or for certain applications?

Answer 7: Yes. No compromises to the SAR spectrum provision should be permitted and public safety and security factors should be paramount. It is to be hoped that all the SAR agencies will be consulted whenever SAR spectrum is in question.

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