

SIS-GCS

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The Schlumberger logo, consisting of the word "Schlumberger" in a bold, black, sans-serif font.

Mr. Cliff Mason  
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**SCHLUMBERGER OILFIELD UK Ltd RESPONSE TO THE  
OFCOM CONSULTATION ON THE FREEDOM4 LICENCE VARIATION**

Dear Mr Mason

Schlumberger Oilfield UK Ltd (SOUK) welcomes the opportunity to comment on Ofcom's consultation on the proposed variation of Freedom4's licence in the bands 3605-3689 MHz and 3925-4009 MHz.

Global Connectivity Solutions, a business unit of SOUK, is a leading supplier of technology, project management, and information solutions to the oil and gas industry. We supply a variety of connectivity solutions, both global and local, using both satellite and terrestrial wireless technologies. SOUK operates major teleport facilities in the Aberdeen area, as well as on off-shore drilling platforms in the North Sea, and have a number of earth stations operating in the frequencies covered by the licence variation. These and other international facilities enable us to provide mission-critical communications solutions on a global basis, at the same time making a strong contribution to the UK economy and industries important to its development such as oil and gas.

Following its explanation of why the Freedom4 licence variation is justified, Ofcom asks the following question:

*Are there any reasonable grounds why Ofcom should not grant Freedom4's request to vary its licence as soon as practicable? If so, please explain your reasoning for this.*

SOUK believes that the licence variation as it stands creates a number of risks for existing users of licensed earth stations, and is also not in line with international commitments made by the UK. These matters are vital to the continued operations of earth stations such as ours as well as to the economic interests of existing users of spectrum who have deployed networks based on current allocations and international agreements. SOUK therefore requires further clarity on these issues before it could consider supporting a proposed variation of Freedom4's licence conditions.

## **THE REQUIREMENT TO COORDINATE**

In both the lower and upper bands licensed to Freedom4, coexistence with existing and future users can only be achieved if coordination ensures that existing users can continue to operate and provide their users with a satisfactory level of service. The licence variation proposed by Ofcom leaves uncertainty as to how coordination will be carried out, and leaves open the possibility that Ofcom could modify the coordination process for the relevant bands without notifying stakeholders. SOUK asks that Ofcom clarify this situation to the satisfaction of existing licensed users, taking note of comments from stakeholders, before any licence variation is granted.

SOUK believes that the best solution would be to include the required coordination procedure as part of the Freedom4 licence. Certainty concerning the coordination procedure would benefit not just Freedom4, but also stakeholders interested in deploying new earth stations. Prior knowledge of the coordination process will allow stakeholders to clearly identify where earth stations can be sited to ensure they are safe from harmful interference.

SOUK would like to note that, to date, the Ofcom coordination process has ensured that all base stations deployed in the bands under discussion have been successfully coordinated. However, the wide ranging changes proposed in the licence variation mean that the existing coordination requirements will need to be modified to take into account the new services permitted under the proposed licence conditions. SOUK asks that Ofcom involve stakeholders in the process of modifying the existing coordination process, and that this be completed before any licence variation is adopted.

## **OUT OF BAND INTERFERENCE**

The licence variation would significantly modify the out of band emission restrictions placed on Freedom4. Ofcom note in the consultation that if Freedom4 maintains its current block edge mask, while varying the licence conditions, this will result in a change from the current interference environment. This is due both to the higher absolute power levels which would be permitted to Freedom4 post-variation and to the higher density of deployment which can be expected from a successful mobile deployment. These changes will increase the power being transmitted into the adjacent spectrum blocks.

To mitigate this change in the interference environment SOUK requests that all base stations be required to coordinate with any earth station situated within 10km, regardless of the frequency at which the earth station is currently operating. SOUK emphasises that this requirement should apply to all earth stations as the precise frequencies an earth station operates on at any given time is determined by the satellite operator and not by the earth station operator. Satellite operators maintain the right to change the operating frequency at short notice. SOUK believes that without this mitigation earth station operators will be unable to guarantee to their customers that the current quality of service can be maintained.

## **EXISTING INTERNATIONAL AGREEMENTS**

Following the EC Decision (2008/411/EC) the band 3400-3800 MHz is harmonised for the use of BWA in EU Member States. However, work is still ongoing in the Radio Spectrum Committee (RSC) to ensure that existing and future deployments of earth stations are protected from interference. The final decisions taken at this level will have a major impact on the coordination procedures required to ensure coexistence between earth stations and BWA base stations in the 3400-3800 MHz band. SOUK therefore believes that Ofcom should not grant the variation of the licence until this work has been completed to the satisfaction of all parties, and the requirements that will be placed on Freedom4 and earth station operators are more clearly defined.

Ofcom also plan to vary the licence for the upper part of the band licensed to Freedom4, 3925–4009 MHz. This band is not included in the current EC Decision, and there are no plans for the Decision to be extended to cover these bands in the foreseeable future. SOUK is also concerned that allowing mobile services in this band puts Ofcom in conflict with international commitments made by the UK. The ITU Radio Regulations show that the band 3600-4200 MHz is allocated on a secondary basis to the mobile service in Region 1, requiring it to provide protection both for existing and future Fixed Satellite Service (FSS) deployments. FSS has a primary allocation for the band 3600-4200 MHz in Region 1.

Finally, the UK National Frequency Allocation Plan (NFAP) does not include mobile services for the band including 3925–4009 MHz. Before any operator is allowed to deploy mobile services in the upper part of the band SOUK would expect Ofcom to consult openly with interested parties before modifying the NFAP. Spectrum users must be able to continue to rely on the UK NFAP as a tool on which their investment decisions can be based and on which regulatory certainty can continue to rest.

In addition to these issues, the changes Ofcom suggest are particularly unjustified given the lack of evidence of sufficient market demand for mobile broadband services in the band, most clearly proven by the failure of previous owners of the licence to successfully commercialise the spectrum.

## **CONCLUSION**

SOUK is greatly concerned by the uncertainty that Ofcom proposes to create by varying the licence of Freedom4. Such a variation would impact our existing operations and investments in proven sectors of importance to the UK economy.

SOUK suggests that once Ofcom has successfully dealt with the concerns of stakeholders, and has taken onboard the continuing work on the protection of earth stations at an EC level, the lower part of the band could be considered for licensing mobile services. However, in light of existing international commitments, licensing the upper part of the band – for which there is no international precedent – will create uncertainty in the marketplace and hinder investment decisions made by earth station operators, without the possibility of mobile services being successfully deployed in the band in the medium term.

SOUK is available for comment if Ofcom have any further questions on this submission.