Question 1

Do you have any comments on our proposals to:
- include additional milestones to provide evidence that the satellite project is on- going and that its frequency assignments will be brought into use within the seven year regulatory period;
- clarify what evidence we will accept to demonstrate milestones have been completed,
and
- set specific deadlines for milestones?

Do you have any comments on how these changes are worded in the proposed revised Procedures?

1. O3b always welcome the opportunity to respond to Ofcom's calls for input and consultations. In light of the tremendous recent growth in the commercial communications satellite industry, including numerous commercial services in Ka-band frequencies; several proposals for new non-geostationary constellations; and multiple technological innovations that have expanded the number of available applications and types of services that are being provided by the communications satellite industry to the UK public and the world, Ofcom's procedures may well need updating. However, O3b hope that Ofcom will wait until after the ITU's World Radio Conference in November before issuing new procedures. Decisions taken at WRC-15 could influence the procedures. It would be an administrative and resource burden to Ofcom to re-write procedures after WRC-15.

2. O3b commends the Consultation's express affirmation in its procedures of Ofcom's support of Channel Islands' filings at the same level as other UK filings, under new wording in Section 6.3: *"… UK networks … including those of a British Overseas Territory, the Channel Islands and the Isle of Man."* The text of the procedures now makes clear that "the UK government is responsible for the Crown Dependencies' international relations".[1] This change provides needed clarity that a "G" filing at the ITU does not distinguish among UK filers on this basis.

3. O3b's comments take into account the UK's stated goal to encourage investment in the space sector so as to "capture 10% of the global [space] market for the U.K. by 2030."[2] The U.K. has been aggressively searching for ways to become more "space friendly," as exemplified by the 2010 Space Innovation and Growth Strategy (IGS) which culminated in the 2014 Space Growth Action Plan. "Britain is open for business [and] space is a global market," as the Minister for Universities and Science said in the Foreword to the Government's Response to that Action Plan.[3]

Ofcom's proposals for revising the Procedures in some ways run counter to the above-mentioned Government initiatives:

   a. Adding redundant milestones and deliverables to Ofcom's satellite filing procedures can be expected to make UK filings overly-burdensome to potential applicants while not offering Ofcom tangible benefits in relation to its main responsibilities. Should potential entrepreneurs, seeing these burdensome procedures, choose to file through more

[1] "Government Response to the Justice Select Committee's Report: Crown Dependencies," U.K. Ministry of Justice, November 2010, page 3.

[2] Government Response to the UK Space Innovation and Growth Strategy 2014-2030 and to the Space Growth Action Plan April 2014, Foreword.
[3] Ibid.

space-friendly countries, it will have a negative impact on the Government's goal to capture 10% of the global market by 2030.

b. Any potential satellite operator may have a number of administrations from which to choose for the submission of its API to the ITU. Ofcom should take into account whether, rather than "simplifying and consolidating the reporting requirements on applicants" [p.1], these new milestones and more burdensome reporting requirements in fact will dissuade new applicants from applying through Ofcom and from locating their operations in the UK.

c. In order to capture 10% of the global space market by 2030, U.K. and Ofcom policies must be supportive of the commercial communications satellite operators, by far the most lucrative sector in the space market. In 2013, Innovate U.K. designated "satellite applications" as one of the seven industries that would "transform the U.K.'s capability for innovation."[4] The proposals as detailed in this consultation would appear to work at cross-purposes to this vision, to the extent they may lead to fewer, rather than more, UK satellite filings.

4. This Consultation references Ofcom's statutory duties under the 2003 Act and the Wireless Telegraphy Act 2006 ("2006 Act"), which O3b notes include:

a. the requirement to ensure that its regulatory activities are transparent, accountable, proportionate, consistent and targeted only at cases in which action is needed (section 3(3)(a) of the 2003 Act); and

b. the duty to consider the desirability of encouraging investment and innovation in relevant markets (sections 3(4)(d) of the 2003 Act and section 3(2)(c) of the 2006 Act).

c. However, if the UK is to create "the most competitive regulatory environment for space business,"[5] Ofcom's duties under the 2003 Act[6] must be interpreted to include a duty to represent the UK's spectrum-using space industry. Ofcom cannot further the "interests of citizens and consumers" if it does not further the interests of the industries that serve those citizens and consumers. And that may mean supporting new, small, different, or less obviously retail-oriented industries. For example, although consumers only see the phone in their hands, Ofcom sees all the potential technologies involved (wired and wireless; terrestrial and space-based). Ofcom has the unique perspective to champion all those industries, and to position the UK to be a viable player in the international marketplace.

d. The stature and reputation of the UK will only be enhanced by Ofcom's support for the UK's spectrum-using space industry in international fora such as CEPT or the ITU. It is in these meetings that regulators from other major countries in Europe and elsewhere vigorously pursue the interests of their national industries, and in many cases the national position is crafted to support those industries. The satellite industry welcomes Ofcom's support and endorsement at these fora.

[4] https://www.catapult.org.uk/en_US/about-us-text
[5] Space IGS Restack, Theme 6, December 2013.
[6] Communications Act (2003) section 3(1) sets out Ofcom's two main principal duties, which are directed at "citizens" and "consumers," but not industry.

5. Flexibility and regulatory discretion are the keystones which will empower Ofcom to ensure that Applicants have the required technical, financial, and legal credentials to construct, launch and operate the proposed satellite system.[7] Retaining these powers will ensure that Ofcom may apply its procedures on a case-by-case basis so as to create "the most competitive regulatory environment for space business"[8] possible, which will show the UK to be a highly efficient regulator that is welcoming to new applicants in the commercial space sector.

6. O3b were delighted at the recent announcement of the signing of the MOU between Ofcom and the UK Space Agency, which will allow Ofcom and the UKSA to work more closely on all proceedings pertaining to commercial communications satellites. As O3b have suggested before,[9] enhanced coordination between Ofcom and the U.K. Space Agency over the regulation and oversight of satellites will improve each agency's efficiency and reduce their administrative burdens. Each agency oversees different but critical aspects of a satellite operator's development at different times in their business lifecycles. A more consistent and integrated approach between Ofcom and the UKSA will help support Small and Medium Enterprises (SMEs) and other innovators in space, further promoting the UK government's "aim to provide wider access to space and remove barriers to further growth of the £11.3 billion sector,"[10] and truly position the UK as a global leader in the space industry.

7. O3b would also like to suggest that Ofcom consider providing some kind of confirmation that it has undertaken to support the applicant's API before the ITU. This would include confirmation of the following: receipt of an application; acceptance of an application (where applicable); and acknowledgement that the applicant has satisfied any milestones applicable at the time of this communication. There is also direct benefit to Ofcom in providing explicit acknowledgment of its role to applicants, in that it would confirm the UK's extensive supervision of the applicant's use of a UK filing to those with whom the applicant has financial, manufacturing, and market entry relationships, all of which are directly related to an applicant being able to effectively bring into use the filing.

8. <u>O3b's specific comments on the deliverables and Milestones are as follows:</u>

<u>Section 4 (Submission of applications to Ofcom)</u>

<u>4.1</u> – Ofcom should formally acknowledge receipt of the application, as it does for BIU data (see Section 7.10). This is particularly important where the Milestones and timescales are to be related back to the "date at which the relevant correspondence is received" by Ofcom.

<u>Section 5 (Ofcom's Due Diligence requirements)</u>

5.<u>x</u> – Ofcom's description of Due Diligence requirements should include reference to non-conforming uses and systems. For example, ESOMPs do not yet comply with existing ITU rules and regulations, but have already been adopted into the UK's own licensing procedures.[11] O3b suggest Ofcom add a second paragraph with text as follows: "<u>*Non-conforming uses shall be considered by Ofcom on a case-by-case basis."*</u> O3b suggest a similar phrase is inserted at the very end of Section 2.8 of the Procedures: <u>*"The ITU also*</u>

[7] Procedures Section 4.4.
[8] Space IGS Restack, Theme 6, December 2013.
[9] O3b's response to Ofcom's Draft Annual Plan 2014/15, page 2, 14 Feb. 2014.
[10] *See* "Making the UK a Place for Space," 20 May 2015, available at https://www.gov.uk/government/news/making-the-uk-the-place-for-space
[11] *Statement on the Authorisation of Earth Stations on Mobile Platforms*, 21 January 2014.

recognizes certain non-conforming uses, either that have an established regulatory framework at the ITU, such as earth stations on vessels ("ESVs") (Res.902), or for which a regulatory framework is being contemplated by the ITU and other regulatory bodies, such as Earth Stations on Mobile Platforms (ESOMPs)."

5.y –O3b believes that Ofcom should not be too keen to cancel filings, but rather should consider other ways of bringing that filing into use. An ITU filing is a sovereign asset, and Ofcom should work with the applicant to exhaust all practical remedies before reverting to the extreme measure of cancelling a filing. Alternately, Ofcom can decide to reclaim filings from applicants who are unable to meet the milestones and re-assign them to other operators who may be able to take advantage of these filings.

Table 1 (Due Diligence Requirements)

Stage 1 – (API)

Deliverable 1 (business plan) O3b proposes that Ofcom require only a brief, high-level description of planned services at the time of API, with a full Business Plan submitted within 6 months of the Coordination Request (CR), which would be at the first annual Due Diligence reporting.[12] The annual Due Diligence reports can provide Ofcom with a range of information on business and operational plans, allowing Ofcom to see the evolution of these plans as system development progresses. Thus for applicants who are existing operators with demonstrable track records, Ofcom could expect that fewer of its resources need to be directed toward evaluation of either the API or the CR submission.

Although we do not oppose the requirement that NGSO systems indicate the "minimum number of satellites needed to be deployed" at the time of CR, we do not believe this information should definitively determine "*whether the non-GSO system can deliver the intended service and therefore can be declared as brought into use." (Table 1 Due Diligence Requirements, Stage 1)*. The minimum service quality and minimum number of satellites to support a viable commercial service could well change over time without negatively impacting the applicants' ability to deliver the intended service and be declared as brought into use. Ofcom should avoid Due Diligence requirements that would force a commercial entity to adhere to an outdated business plan in a rapidly changing marketplace.

O3b proposes the following modified language:

"In the case of non-GSO systems, the business plan must indicate the minimum number of satellites needed to be deployed in order to provide the intended service. ~~to at least the minimum quality.~~ Ofcom should ensure that its procedures allow NGSO systems to bring into use a commercially-viable service, but remain sufficiently flexible to permit NGSO systems to take advantage of new developments in satellite technology and to remain responsive to evolving market demands. Therefore, Ofcom should not, as it proposes in Section 6.8 of the Consultation, condition the declaration of bringing into use solely upon the operator having placed in orbit the minimum number of satellites declared at

[12] Of course, as Ofcom itself notes in Section 2.13(ii) of the Procedures, not all networks and systems require coordination; thus, the Business Plan would either have to be submitted at the time of API, or within a period of time comparable to the two year limit for submitting a Coordination Request.

CR/C. Ofcom should use this information as one data point in making its determination as to whether the system has been brought into use. Ofcom should rely on the most up-to-date business plan, rather than information provided at the CR stage, to determine if a system is in fact brought into use.

Ofcom retains its authority to require an interfering network or system to cease transmissions; notification should not be withheld to solve a coordination or interference dispute. Ofcom's Due Diligence procedures will reveal any coordination challenges among UK operators long before notification would be timely.

With respect to any assessment of harmful interference, Ofcom should take into account the actual frequencies in use, as filed by the operators in their business plans and annual due diligence, without prejudice to the status of the notified assignments of the senior filing at the ITU.

It is worth noting that CR notices for GSO satellite networks are often submitted with global beams and all-encompassing frequency plans that may not reflect the actual satellite being implemented. Ofcom does not require that GSO operators scale back the scope of their initial filings to reflect the actual coverage and frequency usage either at CR submission or at the notification stage. It would thus be unwarranted and imbalanced to expect that NGSO operators know definitively and exactly what their constellation would be like at the time of bringing into use, many years after the submission of the CR notice. Ofcom's concerns are more appropriately addressed in the wider context of the annual diligence process whereby Ofcom gains visibility into the progress of satellite programs for both GSO and NGSO systems.

In general, Ofcom should avoid Due Diligence requirements that limit its own ability to remain flexible. Plans for any satellite system change as the project evolves; therefore Ofcom's decisions related to Due Diligence should be on the basis of ongoing discussions and all relevant circumstances.

Del. 2 (evidence of financial ability) –Funding for a traditional GSO network can require over a billion pounds, and is quite often not fully secured at the API or even the CR stage. The finance community typically seeks evidence of access to orbit-spectrum resource, in the form of API and even CR filings, as *prerequisites* for funding discussions.

O3b suggests modification of this requirement, to better reflect typical funding mechanisms for satellite projects and to provide a more level playing field for new entrants. Specifically, evidence of "financial ability" currently requested at Stage 1, Deliverable 2, should not be required until submission of the manufacturing contract. Thereafter, a continued discussion of financing, and balance sheets can be submitted with each annual Due Diligence report.

Del. 3 (evidence of 3 years' resources) – This provision could be particularly onerous for start-ups, and exemplifies how a well-meaning Due Diligence requirement can actually act as a barrier to entry. At a minimum, this requirement should not be imposed until after the signing of a manufacturing contract, a stage at which funding would be well underway. Ofcom should also consider either

moderating the Stage 1 Deliverable 3 requirement to require evidence of financial resources to operate for a shorter than three-year period, or requiring such a showing at a stage closer to launch, or both.

Del. 4 (balance sheets and financial plan) – As noted above, balance sheets can be submitted with each annual Due Diligence, but should not be required at API, and the "financial plan" should not be required until CR.

Stage 2 – (CR)

Del. 1 (progress report due at CR) – Although some kind of progress report might be due at CR, as suggested above a full Business Plan submission should not be required until the first annual Due Diligence reporting, which would be six months after any required CR, and one year after the API submission.

Ofcom is of course aware that many of the new NGSO systems may not need coordination, and thus O3b would recommend that Ofcom consider adding a short sentence under Sections 2.13(b)(ii) and 2.20(b) of the new Procedures, perhaps along the lines of: "other non-GSO systems for which only the advance publication procedure is necessary (see section 2.20(b) below) *such as those operating under the epfd limits in Article 22."*

Furthermore, the list of affected administrations (coordination list) is established by the ITU after it finishes its examination of the CR notice. In fact, the definitive list is only known when the ITU publishes the CR/D notice several months after the submission of the CR notice. Therefore, a satellite operator can only provide an estimate of the administrations that are likely to be affected by its CR notice, but cannot provide such list at the time of submission of the CR notice.

Stage 3.1 – ("before the submission of a CR and not later than …") *(O3b query whether the title should be "AFTER the submission of the CR …"?)*

Milestone 1 (satellite construction contract – 36 months before end of regulatory period) – For this and each subsequent milestone, Ofcom should be wary of committing itself to treating the procedures as legally binding requirements as opposed to recommended guidelines. Ofcom should do its utmost to retain its power as a regulator to use discretion and to be allowed flexibility to adjust milestones where appropriate.

On this deliverable specifically, Ofcom should retain the express power to allow flexibility on the timing. Flexibility may be warranted, for example, because satellites are often delayed in construction or launch, and in-orbit assets can be been moved in a matter of a few months, rather than needing a year's notice. These issues can be discussed by Ofcom with the applicant during the annual "Due Diligence" reports. In addition, innovation in manufacturing technology continues to lessen the length of time needed to make a traditional satellite, and the smaller, newer nanosats can be manufactured in much less than 36 months' time. Therefore Ofcom should retain the flexibility to adjust milestones for such innovative systems. Requiring applicants with such systems to produce a manufacturing contract so far in advance of when it might actually be needed and signed would not be warranted.

Given that an actual copy of the satellite construction contract would contain highly sensitive, confidential, and potentially export-controlled proprietary information, as well as information not directly targeted to enabling Ofcom's regulatory oversight, Ofcom should clarify that a "letter (signed by appropriately authorised persons on behalf of the parties) confirming that a contract has been entered into" will suffice for purposes of Milestone 1.

As a final thought, since an operator may opt to use an existing in-orbit asset to meet Ofcom's requirements and/or the ITU regulatory deadlines, the proposed language does not appear to allow for such flexibility.

Milestone 2 (Critical design review completed – 24 months before end of regulatory period) Given that a copy of (or extracts from) the actual CDR would contain highly sensitive, confidential, and potentially export-controlled proprietary information, as well as information not directly targeted to enabling Ofcom's regulatory oversight, Ofcom should clarify that a letter (signed by appropriately authorised persons on behalf of the parties) confirming that the CDR results were nominal would suffice for purposes of Milestone 3. If there were non-nominal results from the CDR regarding material issues likely to affect the bringing into use of the filing, Ofcom could request a more detailed briefing from the applicant.

Milestone 3 (launch services contract – 24 months before end of the regulatory period) – Given that an actual copy of the launch services contract would contain highly sensitive, confidential, and potentially export-controlled proprietary information, as well as information not directly targeted to enabling Ofcom's regulatory oversight, Ofcom should clarify that a "letter (signed by appropriately authorised persons on behalf of the parties) confirming that a contract has been entered into" will suffice for purposes of Milestone 3.

O3b also note that an in-orbit asset might well be available with a shorter time scale than 24 months. As for the timing of the manufacturing contract Milestone, the procedures should allow Ofcom discretion to show flexibility on the timing of this deliverable. Flexibility and regulatory discretion are the keystones which will empower Ofcom to ensure that Applicants have the required technical, financial, and legal credentials to construct, launch and operate the proposed satellite system.[13]

Milestone 4 (earth station construction contract) – 24 months before end of the regulatory period) – Whether or not an applicant has access to earth station facilities is not likely of value in assessing the applicant's progress to bringing into use the spectrum. The speed or ease with which earth station access is acquired or licensed can be a function of corporate relationships or ease of licensing in a particular jurisdiction, rather than an indication of progress toward bringing into use a satellite network or system. The limited utility of the Milestone knowledge must be weighed against the additional risk to applicants of unintentional disclosure of confidential commercial information via contract submission. In any event, Ofcom's Due Diligence process allows for regular dialogue on the status of such peripheral elements of a satellite project. It should be noted that such arrangement can be made in a matter of weeks or months, so it would be

[13] Procedures Section 4.4.

unrealistic to expect that that such arrangements are in place two years prior to bringing into use. Finally, construction of earth stations plays no role in ITU procedures to bring into use any frequency assignments, so this information has no regulatory value in the context of the ITU.

Milestone 5 (TT&C licence issued) - 12 months before end of regulatory period) – Milestones 4 and 5 should be deleted for the reasons stated above. For this milestone as well, Ofcom's proposed time frame does not align with industry experience in terms of licensing time frames. In any event, there will not always be a direct nexus with the TT&C ground station licence and satellite operator due to the structure of commercial arrangements for ground segment operations.

Milestone 6 (coordination status) – 6 weeks before the end of the regulatory period) A coordination update should be part of each annual "Due Diligence" report, to be discussed between the applicant and Ofcom as the process continues. Creation of a "milestone" for such reporting seems unnecessary and redundant to existing Due Diligence requirements.

Stage 3.2 – before BIU

Del. 1 – confirmation in writing of a successful launch. This Deliverable would be the appropriate place for a parallel requirement for the use of an in-orbit satellite for bringing into use.

Del. 2 – confirmation in writing of the number of satellites required to BIU. Consistent with O3b's proposal at Stage 1, Deliverable 1 above, Ofcom should use its discretion to account for changes or updates to service offerings that can be implemented within the time frame for Bringing Into Use of either a GSO or an NGSO system. Where a constellation can be successfully operated with fewer satellites than indicated at the time of the API filing, NGSO systems should be deemed to have fulfilled Due Diligence requirements. Similarly, to the extent that all satellites referenced in the API filing are not deployed prior to expiry of filing, the applicant should be able to discuss with Ofcom any further plans the applicant may have to operate a complete constellation.

Stage 3.3 – at BIU

Deliverables include

(a) the commercial name of the satellite;
(b) a certified frequency plan, block diagrams, TWTA power, orbital mission life;
(c) results of in-orbit testing;
(d) the "satellite network operator's licence application to the administration";
(e) the transponder lease contracts.

Ofcom's proposed Deliverables for the end of the 90-day bringing into use period extend well beyond a determination of whether the satellite network or system is providing the service indicated in the API filing. In other words, they are not "targeted only at cases in which action is needed."[14]

[14] Communications Act 2003, Section 3(3)(a).

Deliverable (b)'s "certified frequency plan" could be useful to determine actual frequencies and coverages implemented (as opposed to all those indicated in the API). However, the other items listed are redundant to existing Due Diligence requirements that allow Ofcom to fully assess post-launch operational capabilities of a satellite network or system.

Deliverable (c) Ofcom should more narrowly tailor a request for basic assurance about the health of a satellite network or system by seeking a simple certification as to whether the satellites are capable of using the frequency assignments contained in the filing. As O3b suggested for the CDR Milestone, reports to Ofcom need only include non-nominal results that relate to material issues affecting BIU.

Deliverable (d) has no clear nexus to the fulfillment of Due Diligence obligations and should not be required as evidence for any Deliverable or other Due Diligence obligation. Most administrations have "open skies" policies for market access or landing rights, and accordingly do not require a licence application by the satellite operator (the United Kingdom is one such administration). Moreover, the lack of such a licence at the end of the bringing into use period is not determinative of whether a satellite operator can be successful in obtaining such authorization where necessary.

Deliverable (e) addresses commercial arrangements that are irrelevant to Ofcom's objectives, and should not be required as evidence for any Deliverable or other Due Diligence obligation. Providing the information available in transponder lease contracts risks inadvertent disclosure of highly confidential and commercially sensitive information.

Although Ofcom might request Deliverables (b) or (c) for "cases in which action is needed"[15] such as in coordination disputes between UK operators so as to confirm frequency usage and beam coverage, Deliverables (d) and (e) are otherwise not targeted or pertinent to whether the applicant can provide the service indicated in the API filing. These Deliverables could therefore be construed as not "proportionate"[16] and Ofcom should likely not require them in annual reporting or Due Diligence. In cases of coordination disputes, O3b would suggest a separate reference to Deliverable (b) and (c) with the following phrasing: "*In cases where a dispute has arisen, Ofcom may request* the following non-exhaustive list:"

Stage 3.4 – before submission of Res. 49 data

O3b agrees with the clarification that the Deliverables are due before the Res. 49 data will be submitted.

5.6 – Yearly progress reports. O3b agrees with Ofcom's proposal to reduce the "Due Diligence" reporting to annually (from every six months), as a simplification and streamlining of Due Diligence requirements. O3b would suggest that Ofcom further its intent for simplification by requesting only to be informed of material changes in status (either pre-operational or operational) likely to affect the use of the filing. So long as the

[15] Communications Act 2003, Section 3(3)(a).
[16] Ibid.

Business Plan is updated and the operations are nominal, reports to Ofcom on non-material events would be burdensome both to applicants and to Ofcom itself.

O3b suggests that Ofcom rephrase section 5.6 (c) to read "Information about any *material* changes or updates to the Applicant's business plan."

Table 2 For planned bands (Appendices 30,30A and 30B)

O3b seeks confirmation that what is meant by "technical characteristics conform with those of the relevant plan" is that the applicant operates within the interference envelope (i.e. in the case of Appendices 30/30A), amongst other things ΔOEPM is met.

5.z – potential to cancel a filing for missing a deadline. As noted above, Ofcom should retain the power to show discretion and to be able to be flexible in adjudging each applicant's situation. Rather than the extreme measure of cancellation, Ofcom should require Applicants to explain the reasons for delay. Ofcom might then consider possible alternative arrangements to continue the filing.

5.7 – Ofcom's assessment of the yearly reports. O3b respectfully requests that Ofcom take on the obligation to send a written response to Applicants within 30 days after each yearly report confirming that Due Diligence obligations have been met (or not, if Ofcom is considering cancelling the filing.)

5.9 - Yearly reporting after BIU.

Regarding deliverable (c), operational or testing activities undertaken to show that the satellite is (still) capable of operating on the frequencies notified or brought into use, for clarity, O3b suggest that this Deliverable be worded to reflect the ITU's Radio Regulations regarding BIU (11.44 et al.): "operational or testing activities undertaken to show the *capability of transmitting or receiving the frequency assignment has been deployed and maintained at the notified orbital position."*

As with Ofcom's proposed Deliverables for Stage 3, Deliverables (e) and (g) seek data well beyond what would be required to determine whether the satellite network or system is providing the service indicated in the API filing. In other words, they are not "targeted only at cases in which action is needed."[17]

As for deliverable (i), a copy of the company's Annual Report and Financial Statements, O3b notes that privately-held and/or start-up entities may not produce the referenced documents in the format used by public companies, or may not produce such reports as a matter of course. Ofcom should use its discretion to identify alternative means of requesting similar information which do not compromise the confidentiality requirements applicable to the operations of such non-public entities.

[17] Communications Act 2003, Section 3(3)(a).

Question 2

Do you have any comments on our proposals to clarify the information required when there is a change to the business plan?

Do you have any comments on how these changes are worded in the proposed revised Procedures?

1. O3b suggest the following wording for Section 5.5: "Any *material* change to the business plan *that would threaten the Bringing into Use of the filing,* or the operation of the satellite network or system, or the key milestones, must be communicated to Ofcom *within 30 days*."

    a. We suggest this wording because in most instances of "change to the business plan," the annual reporting will be sufficient for keeping Ofcom abreast of the project. However, the proposed wording of Section 5.5 now reads that "[*a]ny* change to the business plan … be communicated to Ofcom by the applicant *immediately."*

    b. O3b suggest that the only change or update that Ofcom would need to know about "immediately" would be a "material change", and that Ofcom define the phrase "material change" to mean only a change that is likely to affect the bringing into use of the filing.

    c. This wording comports with Ofcom's intent to streamline annual reporting, since non-material changes to the business plan would not warrant the resources or urgency of "immediate" reporting. Ofcom's resources should not be expended on assessing every non-material change to a seven-year, multi-million Pound project. Non-material deliverables unnecessarily increase Ofcom's administrative burden.

2. O3b stresses the importance of Ofcom's commitment in sections 4.6 and 4.9 of the Consultation to ensuring a dialogue on changes or delays on a project, and to allowing the possibility of extending the timeline on a case-by-case basis.

3. Additionally, O3b believe that the detailed business plan and financial documents that Ofcom is requesting are more appropriately delivered at the first annual Due Diligence (1 year after API), not at the submission of the API. Although it is clear that some high-level business plan should be submitted at API, it would be unusual for a financing and the related highly detailed business plan to be already completed when the API is submitted. In fact, often the existence of the API is a prerequisite to securing significant financing commitments.

4. Furthermore, existing UK satellite operators should be relieved from some of the reporting duties since their credibility and viability are already established.

Question 3

Do you have any comments on our proposed changes to the reporting requirements illustrated in paragraphs 4.18 – 4.25 above?

Do you have any comments on how these changes are worded in the proposed revised Procedures?

1. O3b agrees with Ofcom on the benefits of its proposed reduction of the Due Diligence reporting to only once yearly (and consolidating the reporting of all ITU filings to be at the same time). This will truly simplify and streamline the Procedures and alleviate administrative burden for both Ofcom and the industry.

2. O3b suggest that Ofcom clarify the simplification as noted above, by limiting the reports only to material changes likely to affect the use of the filing (either pre-operational or operational).

3. Specifically, Ofcom should rephrase section 5.6 (c) to read "Information about any *material* changes or updates to the Applicant's business plan."

4. Also, as noted above in answer to Question 1 about Milestones, the new deliverables being proposed make the Procedures more onerous, and overburden both the applicant and Ofcom.

5. Ofcom has asked for yearly copies of the company's Annual Report and Financial Statements; however, these particular documents are typically produced only if the Operator is publicly held. As noted above in our answer to Question 1 regarding Section 5.9, privately-held and/or start-up entities may not produce such reports as a matter of course. Ofcom should use its discretion to identify alternative means of requesting similar information which do not compromise the confidentiality requirements applicable to the operations of non-public entities.

Question 4

Do you have any comments on our proposal that a request for notification under No. 11.41 must be supported by evidence of efforts to coordinate with the other operator(s)/administration(s)?

Do you have any comments on how these changes are worded in the proposed revised Procedures?

1. O3b support Ofcom's modifications to Section 6.x and 6.xx in which Ofcom proposes to use its discretion to notify a filing under RR 11.41 even if coordinations with other operators are not complete. Ofcom's Due Diligence process should have garnered all the information Ofcom would need regarding frequencies and coverages, and it is assumed that Ofcom will encourage a dialog between the operators concerned; thus Ofcom will be a position to assess the good faith of the efforts to effect coordination.

Question 5

Do you have any comments on our proposal to clarify the Procedures to set out that we may, at our discretion, allow UK satellite networks with junior filings to be notified to the ITU without requiring completion of all frequency coordination with UK networks having senior filings, and the conditions on which we would proceed with notification in such cases?

Do you have any comments on how these changes are worded in the proposed revised Procedures?

1. O3b support Ofcom's modifications to Section 6.3 and 6.xxx in which Ofcom proposes to use its discretion to notify a filing under RR 11.41 even if coordinations with other UK operators are not complete.

2. O3b notes that Ofcom's Due Diligence process should have garnered all the information Ofcom would need regarding frequencies and coverages. Ofcom should take into consideration (and keep in confidence) the data submitted by the senior filing during its Due Diligence process when assessing the Notification of the junior filing. It is assumed that Ofcom will encourage a dialog between the operators concerned; thus Ofcom will be a position to assess the good faith of the efforts to effect coordination.

Question 6

Do you have any comments on our proposal to change the text of the Procedures to clarify that, in order to make the declaration of bringing into use for GSO networks, we may require a range of information from the operator, including that set out in CR/343?

Do you have any comments on how these changes are worded in the proposed revised Procedures?

1. The range and type of information required by Ofcom is onerous for operators, particularly considering that ITU Circular Letter CR/343 of January 2013 has met with much industry criticism. More importantly, O3b do not believe that separate language is required for different types of satellite networks and systems. Thus O3b would suggest that Ofcom consider this wording for 7.10:

   "Operators will be required to provide Ofcom with a range of information in order to confirm the capability of the satellite deployed. ~~This may include, but is not limited to, the information about the satellite network specified in the ITU in CR/343. For non-geostationary satellite systems, if the minimum number of satellites required to deliver the service have not been placed in orbit within the regulatory period.~~ *After reviewing the information,* Ofcom may consider whether it is appropriate to submit the declaration of bringing into use to the ITU-BR."

2. It is helpful to bear in mind that the services envisioned in the early stages of any satellite program often evolve; therefore it would be unrealistic to use data provided at the first stage of a program – for a GSO network or an NGSO system - as the basis for verifying that a system has in fact been brought into use. In any case, the information that the operator provides to Ofcom throughout the annual Due Diligence process will capture the evolution of the program. Therefore, Ofcom should rely on the most up-to-date business plan, rather than information provided early on, to determine if a system is in fact brought into use.

3. O3b respectfully reminds Ofcom that it has the power, always, to require an interfering network or system to cease transmissions; however, "Notification" should not be withheld to solve an interference dispute. Ofcom's Due Diligence procedures will raise any interference issues long before Notification would be timely.

4. In the case of harmful interference, Ofcom should take into account the actual frequencies in use without prejudice to the status of the notified assignments of the senior filing at the ITU.

Question 7

Do you have any comments on our proposals that, for non-GSO systems, operators are asked to indicate, at CR/C stage, the minimum number of satellites needed to be deployed in order to provide the intended service to at least the declared minimum quality of service, and that this information (i.e. the minimum number of launched satellites) is used to verify that the system has been brought into use?

Do you have any comments on how these changes are worded in the proposed revised Procedures?

1. As noted above, the minimum number of satellites declared at the CR/C stage should not be a definitive criterion for Ofcom's decision to notify an NGSO system. O3b supports the gathering of a "range of information" as proposed by Ofcom under its modified Section 7.10, but we do not believe that separate language is required for different types of satellite networks or systems. Thus O3b would suggest that Ofcom consider this wording for 7.10:

   "Operators will be required to provide Ofcom with a range of information in order to confirm the capability of the satellite deployed. ~~This may include, but is not limited to, the information about the satellite network specified in the ITU in CR/343. For non-geostationary satellite systems, if the minimum number of satellites required to deliver the service have not been placed in orbit within the regulatory period~~ *After reviewing the information,* Ofcom may consider whether it is appropriate to submit the declaration of bringing into use to the ITU-BR."

2. It is helpful to bear in mind that the services envisioned in the early stages of any satellite program often evolve; therefore it would be unrealistic to use data provided at the first stage of a program – for a GSO network or an NGSO system - as the basis for verifying that a system has in fact been brought into use. In any case, the information that the operator provides to Ofcom throughout the annual Due Diligence process will capture the evolution of the program. Therefore, Ofcom should rely on the most up-to-date business plan, rather than information provided early on, to determine if a system is in fact brought into use.

3. As in our answer to Question 6, O3b respectfully reminds Ofcom that it has the power, always, to require an interfering network or system to cease transmissions; however, "Notification" should not be withheld to solve a coordination or interference dispute. Ofcom's Due Diligence procedures will reveal any coordination challenges among UK operators long before Notification would be timely.

4. And again, in the case of harmful interference, Ofcom should take into account the actual frequencies in use, as filed by the operators in their business plans and annual Due Diligence, without prejudice to the status of the notified assignments of the senior filing at the ITU.

Question 8

Do you have any comments on our proposal to include provisions in the Procedures for the transfer of an application at API stage, subject to certain conditions being met?

Do you have any comments on how these changes are worded in the proposed revised Procedures?

O3b support Ofcom's modifications, which provide flexibility to Ofcom and operators alike. More flexible rules regarding transfer of control to another applicant or operator will help maintain a healthy UK's space industry.

Question 9

Do you have any comments on our proposals to set out the requirements on operators and the consequent actions that we may take in cases where assignments are no longer in use?

Do you have any comments on how these changes are worded in the proposed revised Procedures?

1. O3b believes Ofcom already has the guidance and wherewithal it needs in its current procedures, and fails to see how the modifications improve upon Ofcom's current flexible and efficient approach. Ofcom itself notes in the Consultation that when assignments are no longer in use, "such events are currently treated case by case, with the decision on the course of action to be taken being based on the particular circumstances and the information provided by operators." (Consultation at Section 8.3) Sections 12.11 and 12.12 of the current Procedures already give Ofcom the power to suspend or cancel an assignment if it is "operating outside … its characteristics as recorded in the Master Register." This wording seemingly covers both situations proposed by Ofcom to be added as new Section 12.z (anomalies or relocations).

2. O3b also query whether Ofcom's Section 13.10 may have an incorrect reference to ITU RR 11.49; we believe the suspension period is "THREE" years not "two":

   "11.49 Wherever the use of a recorded frequency assignment to a space station is suspended for a period exceeding six months, the notifying administration shall, as soon as possible, but no later than six months from the date on which the use was suspended, inform the Bureau of the date on which such use was suspended. When the recorded assignment is brought back into use, the notifying administration shall, subject to the provisions of No. 11.49.1 when applicable, so inform the Bureau, as soon as possible. The date on which the recorded assignment is brought back into use shall be not later than three years from the date of suspension. (WRC-12)"