



Procedures for the Management of Satellite Filings

Charges and amendments to procedures

Consultation

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Section 1

Summary

- 1.1 The purpose of this consultation is to set out and seek views on a number of options for a revised charging regime for the provision of services in support of the establishment and operation of UK satellite networks.
- 1.2 In the formal statement issued in response to the consultation on the procedures for the management of filings and international co-ordination for satellite filings¹, Ofcom agreed to consult further on the details of setting fees for the recovery of costs Ofcom incurs in carrying out activities as the notifying administration for the establishment and operation of UK satellite networks.
- 1.3 The original consultation sought the views on a number of procedural aspects on the authorisation of satellite networks including a proposal to recover the overall costs incurred in the provision of services associated with the submission of satellite network filings and the subsequent frequency co-ordination activities.
- 1.4 The object of that proposal was to seek views regarding the recovery of full costs for Ofcom activities with respect to the processing of satellite network applications for submission to the International Telecommunications Union (ITU) and the subsequent related frequency co-ordination efforts. Charging for such services falls within Section 28 of the Communications 2003 Act ("2003 Act"), under which Ofcom may provide a service to any person on such terms as they determine in advance or as may be agreed between that person and Ofcom. Services provided to United Kingdom (UK) satellite network operators in regard to the establishment and operation of UK satellite networks are considered to be included within this provision. Accordingly, when a frequency assignment for satellite network is in use or in the process of being co-ordinated, the operator will be subject to the relevant charging regime of Ofcom.
- 1.5 The majority of responses to the original consultation² accepted the principle of fees, provided these were set on a cost recovery basis, transparent, proportionate and subject to consultation on detail.
- 1.6 This document sets out four options for recovering its costs in relation to services provided in filing and coordinating UK satellite networks. These are: a single, one-off lifetime charge payable upon initial application; an hourly charge in respect of work on each network; a standard annual charge applicable to each UK network; a scaled fee which takes account of the stage in the lifecycle of each network
- 1.7 Each of these options is assessed against the key criteria of cost causation (i.e. that the costs should be borne by those causing the cost to be incurred) and practicability (ease of implementation).
- 1.8 Ofcom published its Procedures for the Management of Satellite Filings³ in March 2007 ("the Procedures") and held a workshop with stakeholders on 30 April 2007. As

¹ www.ofcom.org.uk/consult/condocs/satellite_networks/statement/

² www.ofcom.org.uk/consult/condocs/satellite_networks/satellite_networks2/

³ www.ofcom.org.uk/radiocomms/ifi/licensing/classes/satellite/procedure_manuals/spectrum_filings

a result of feedback received since publication, and at the workshop, Ofcom is seeking views on amendments to two specific sections of the Procedures.

Proposals

- 1.9 Ofcom has considered the cost recovery options available and taking into consideration the summary of assessments, Ofcom's preferred option is the 'Scaled Fee' option as it:
- meets the two prime objectives on the basis that it is both transparent and proportionate;
 - provides a simple and effective method of recovering costs as well as clarity and certainty for stakeholders over future costs;
 - provides a reasonable element of granularity in that the level of fees set would be broadly proportionate to level of activity involved in the particular phase of the satellite network filing;
 - fees set would cover all costs including staff costs, overheads, travel and subsistence;
 - is consistent with Ofcom's other cost recovery methods across other sectors. This includes the variable nature of the fee allowing easy redistribution/recovery of any over/under recovery of costs during a given financial year;
 - is consistent with the principles contained within Ofcom's Statement of Charging Principles in that we will recover costs each year based on our published budget.
- 1.10 Ofcom proposes to make two amendments to the Procedures:
- Amend the due diligence deliverables (section 5.5 Table 1) to be provided by operators before Ofcom will submit a request for co-ordination to ITU, to require applicants to submit to Ofcom copies of the relevant contracts or a plan indicating a firm date by which the contracts are expected to be signed; and
 - Amend section 12.3 of the Procedures to indicate that when an operator indicates to Ofcom that it wishes to relinquish a filing, Ofcom will take action to suppress that filing at the ITU.

Section 2

The International Framework for Satellite Networks

- 2.1 In order to operate a satellite network, it is necessary to obtain access to spectrum at a particular orbital location for the uplink (Earth to satellite) and the return path from the satellite to stations in the service area. The radio spectrum is a finite resource and its use has to be carefully planned in order to prevent interference in excess of accepted criteria.
- 2.2 It is also necessary to co-ordinate use of an orbital location for the satellite. The orbital location dictates the area of the Earth's surface that the satellite can 'see' (the coverage area). Certain orbital locations are in high demand. The majority of satellite networks are located in the geostationary orbit i.e. at an altitude of around 36,000 km in the plane of the equator. Satellites in this orbit rotate around the Earth at the same rate as the rotational speed of the Earth and thus appear to be stationary to an observer on the ground. Because of the concentration of satellites at locations that offer service to the major land masses, certain parts of the geostationary satellite orbit have become congested. This makes it increasingly difficult to accommodate new satellite networks without causing interference to existing networks.
- 2.3 The position in orbit and the frequencies at which satellites operate are managed and planned within a framework of international rules under the auspices of the International Telecommunication Union (ITU).
- 2.4 The ITU⁴ is a specialised agency within the UN system of organisations where representatives from governments and the private sector coordinate global telecommunications networks and services. The instruments of the ITU are the Constitution, Convention and Administrative Regulations (of which the Radio Regulations are a part). Together these three instruments form an international treaty governing the use of the radio spectrum to which the signatory ITU Member States (of which UK is one) are bound (subject to applicable EU obligations, which take precedence over the ITU instruments). These instruments contain the main principles and regulations governing the following major elements:
 - frequency allocations to different categories of radiocommunication services;
 - the rights and obligations of Member States in obtaining access to the spectrum/orbit resources; and
 - international recognition of these rights by recording frequency assignments and, as appropriate orbital positions used or intended to be used in the Master Register.
- 2.5 Member States are each represented by their national administration, which is the government department or service responsible for discharging the obligations set out

⁴ Information about the ITU and the Radio Regulations is available at <http://www.itu.int>

in these instruments and developing appropriate national legislation to implement these obligations.

Section 3

The role of Ofcom

- 3.1 In the UK, Ofcom is the national administration by direction of the Secretary of State under section 22 of the 2003 Act and acts as the UK notifying administration⁵ under ITU procedures in relation to international management of the spectrum and orbit resources. Further provisions of the 2003 Act also relevant to Ofcom's international functions, such as satellite filings, include the following:
- Section 1 of the Wireless Telegraphy Act 2006 confers spectrum management functions on Ofcom, including the provision of advice and services and the maintenance of records with respect to the use of the electro-magnetic spectrum at places within and outside the UK. The Secretary of State may require Ofcom to exercise these functions for the purpose of complying with the UK's international obligations; and
 - Section 5 of the Communications Act 2003 gives the Secretary of State power to give directions to Ofcom for the purpose of securing compliance with international obligations, as well as for other specified purposes such as in the interests of national security.
- 3.2 Ofcom's services with respect to satellite network filings involve the submission of satellite network filings to the ITU and the subsequent frequency co-ordination activities. These processes are intended to ensure that new satellite networks can be brought into service without causing harmful interference to, or receiving harmful interference from, existing or planned services.
- 3.3 Ofcom provides these services in accordance with:
- procedures established by the ITU and specified in the Articles and Appendices of the Radio Regulations; and
 - procedures set up by Ofcom and specified in "Procedures for the Management of Satellite Filings".
- 3.4 Since 29 December 2003, when Ofcom assumed its powers and functions under the 2003 Act, Ofcom has represented the UK in certain bodies concerned with the management of the radio spectrum. In addition to this representation, as part of its role as the UK administration in the ITU, Ofcom provides the service of processing filings for satellite networks in accordance with the procedures set out in the ITU Radio Regulations for the co-ordination, notification and recording of frequency assignments used by satellite networks in order for those frequency assignments to gain international recognition.
- 3.5 Ofcom checks, validates and submits satellite network details to the ITU which are then circulated to other administrations. Ofcom then engages with other

⁵ The British Overseas Territories, the Channel Islands and the Isle of Man are not sovereign states and, therefore, cannot become ITU Member States in their own right. Ofcom therefore fulfils the role of notifying administration for the British Overseas Territories, the Channel Islands and the Isle of Man.

administrations, as necessary, to coordinate the satellite networks. Prior to 29 December 2003, the Radiocommunications Agency (RA), a government agency within the DTI, performed this role.

- 3.6 Following the transfer of spectrum management functions from the RA to Ofcom a review of processes was initiated to encompass the changes and amendments brought about by the transfer of functions and the introduction of the 2003 Act. The review revealed that changes were necessary to the existing satellite authorisation procedures set out in RA301, Revision 1 - Procedures of the United Kingdom Administration in Relation to Satellite Networks – dated February 2000.
- 3.7 The RA document summarised the requirements of the UK administration (represented by the RA) for the notification, co-ordination and operation of satellite networks and stated that any costs incurred by the UK administration in carrying out these procedures for an applicant would be charged to the applicant at standard Civil Service rates (§ 3.6 of RA301).
- 3.8 The revised charging regime proposed in this consultation would apply only to the services and facilities provided by Ofcom to UK satellite network operators in relation to activities with the ITU, other administrations and other satellite network operators in the establishment and operation of satellite networks filed through the UK.
- 3.9 The activities that lead to the permanent establishment and subsequent operation of a UK satellite network primarily comprise 2 formal stages; co ordination and notification / recording. Once established, co-ordination continues but in respect of junior networks.

Co-ordination

- 3.10 Submission by the UK administration to the ITU of the applicant's general description (filing) of the proposed satellite network followed by detailed co-ordination data.
- 3.11 The UK administration is also required to facilitate co-ordination with other administrations that may be affected by the operation of the network. The co-ordination procedure, which is an obligatory process of negotiation between administrations, is progressed with the aim of achieving efficient use of the orbit/spectrum resource through a controlled interference environment in which satellite networks can operate while satisfying actual requirements.
- 3.12 Both administrations and satellite operators undertake satellite co-ordination activities and generally speaking, satellite co-ordination activities take place between:
 - The ITU and administrations;
 - Administrations;
 - Administrations and satellite operators; and
 - Satellite operators.

Notification and Recording

- 3.13 The UK administration notifies the ITU when co-ordination is complete or the network is about to be brought into use. Subject to the ITU finding that the operation of the

network will not cause harmful interference, the frequency assignments of the network are then recorded in the Master Register.

- 3.14 The ITU maintains a Master International Frequency Register, also known as the Master Register, of frequency assignments used by Radiocommunications networks. This includes frequency assignments used by satellite networks. Once the details of a network are permanently recorded in the Master Register, other administrations must take them into account when planning their own assignments, in order to avoid causing harmful interference.
- 3.15 The process and activities resulting in the permanent record of a satellite network in the Master Register are referred to as the 'establishment' of a satellite network. Only Ofcom acting as the UK administration can establish a UK satellite network and only when recorded in the Master Register can a satellite network be considered established⁶. As a rule, the procedures envisage that the satellite networks will commence operation after they are established.

Co-ordination after establishment

- 3.16 Once a satellite network has been established and the frequency assignments have been brought into use, co-ordination activities continue to be necessary in order to protect the operational characteristics of the network from proposals for new or modified networks. For example, another administration may propose a satellite network that has the potential to cause harmful interference to an established UK satellite network. If this is the case, Ofcom advises the proposing administration of its concerns and requests co-ordination in order to ensure that technical compatibility is achieved.
- 3.17 The services and facilities provided by Ofcom in support of the establishment and operation of a UK satellite network are maintained for the life of the satellite network. This is the period of time from the ITU filing date of receipt until the end of operational period of validity or until the network's frequency assignments are cancelled (i.e. the frequency assignments are no longer taken into account) through the regulatory and procedural process.

⁶ This summary is a very brief overview of the process used to establish a satellite network and is not intended to provide authoritative advice or guidance about the process. Any person interested in the establishment of a satellite network should refer to the ITU Radio Regulations and the Ofcom document - Procedures for the Management of Satellite Filings.

Section 4

Existing satellite filing fees and reasons for change

4.1 The current fees for satellite filings incorporate two elements:

- UK Administration travel and subsistence costs; and
- ITU cost recovery.

UK administration travel and subsistence costs

4.2 Under RA301 any costs incurred by the UK administration in implementing the 'Procedures of the United Kingdom Administration in Relation to Satellite Networks' are charged to the applicant at standard Civil Service rates. RA301 has now been superseded by the published Procedures for the Management of Satellite Filings,

4.3 Costs currently recovered are travel and subsistence incurred by Ofcom staff when acting as the UK administration at international satellite co-ordination meetings held overseas.

4.4 The recovery of these costs is made against UK satellite network operators and calculated per co-ordination meeting as follows:

$$\frac{\text{Total UK administration travel and subsistence costs}}{\text{Total number of UK satellite network operators on the meeting agenda}} = \text{£X}$$

4.5 Each UK satellite network operator with one or more agenda items is invoiced for £X.

4.6 These fees take no account of the administrative and other costs incurred in relation to making filings or co-ordination activities.

ITU Cost Recovery Charges

4.7 In accordance with the provisions of ITU Council Decision 482⁷, as amended, the ITU charges fees for processing satellite network filings on a cost recovery basis.

4.8 The ITU cost recovery charges apply to satellite network filings received by the ITU Radiocommunication Bureau for the production of Special Sections concerning the co-ordination and notification of the received networks.

4.9 The administration is ultimately responsible for the payment of these charges and any default on payment will result in the cancellation of the satellite network by the ITU Radiocommunication Bureau. Ofcom has asked the ITU to raise invoices for fees incurred in processing a satellite network filing directly against the satellite network applicant/operator concerned.

⁷ ITU Radiocommunications Bureau Cost Recovery Document – BR Circular Letter CR/2454 dated 27 October 2005 – Administrative arrangements for the implementation of cost recovery for satellite network filings in accordance with Decision 482 (modified, 2005)

Other administrations' practice on satellite filing fees

- 4.10 A number of other administrations, in accordance with their own regulations and procedures, charge for the services they provide in the establishment and operation of satellite networks. A brief overview of the practices employed by the Australian and the United States of America (USA) administrations is shown in Annex 6.

Reasons to change the satellite filing fees

- 4.11 The current level of fees recovers less than 5% of the total costs incurred by Ofcom. This is inconsistent with the general principle and requirement for the sector to fund its costs. Total costs for satellite filings are approximately £400,000 per year of which £380,000 are staff costs and associated overheads whilst £20,000 is travel and subsistence costs. This is the full cost in carrying out the entire range of services in respect of filings and assignments associated with UK satellite networks. This costing is consistent with the method set out in the Statement of Charging Principles.
- 4.12 The present under-recovery derives from the fact that cost recovery by the RA was based on the recovery of overseas travel and subsistence costs incurred by RA staff in their role as the UK administration. This matter was under review by the RA but the work was not completed before the establishment of Ofcom. Now that Ofcom has published its revised satellite filing procedures², it is timely to review the fees.
- 4.13 Ofcom has already consulted on the principle of introducing satellite filing fees on a cost recovery basis⁸. The majority of responses accepted the principle of fees, provided these were set on a cost recovery basis, transparent, proportionate and subject to consultation on detail. Ofcom agreed in its policy statement to consult further on the details of cost-recovery fee proposals and this is the purpose of the present consultation.

⁸ www.ofcom.org.uk/consult/condocs/satellite_networks/satellite_networks2/

Section 5

Proposed Options for Cost Recovery

Nature of Costs

- 5.1 The costs incurred by Ofcom in satellite filing and co-ordination work are primarily staff costs (currently 6 people are engaged in this work), overheads, travel and subsistence incurred through Ofcom staff attending overseas co-ordination meetings. Currently these costs amount to approximately £400,000 per year.
- 5.2 Ofcom has the ability to charge fees for this function under section 28 of the Act and where Ofcom is allowed to charge fees for the carrying out of a particular function, it has a duty to ensure that those fees are at least sufficient to enable Ofcom to meet the costs of carrying out that particular function (paragraph 8 (1) schedule to Office of Communications Act 2002). Therefore fees levied will be maintained under a charging scheme that will recover the expected costs incurred by Ofcom in providing this service. Ofcom will publish these fees in its Tariff Tables by the end of March each year.

Cost Drivers

- 5.3 The principal determinants of the workload are the volume of activity in satellite filing and co-ordination which is related to individual network filings and which varies by both:
- the complexity of the network filing (factors affecting the complexity are the type of system, the number of frequency bands in the network, the orbital location and the intended coverage area); and
 - by the stage in its life-cycle (initial application, co-ordination phase or post-notification phase).
- 5.4 There is a peak of work at initial application, since the business plan and supporting documentation has to be examined and evaluated.
- 5.5 The workload during the co-ordination phase, from the submission of the application to the ITU, up to the point the notification of the network is received by the ITU, is around double the workload post-notification. This is because requests for co-ordination and the notification submissions require detailed examination for technical and regulatory correctness, and considerable effort is expended in initiating and preparing for co-ordination meetings and pursuing agreements required from other administrations in order to complete co-ordination for UK networks.
- 5.6 However, a significant part of the staff activity is not directly attributable to specific satellite filings or network operators (e.g. the work on the fortnightly published ITU Space Services International Frequency information Circular [BRIFIC]). Moreover, since Ofcom costs incurred in satellite filing and co-ordination are mainly staff costs and associated overheads, there is little year on year change in overall cost unless the changes in satellite filing activity are sufficiently substantial and sustained as to warrant a change in the number of staff required for the work.

Activity Factors

- 5.7 There are currently 206 satellite networks (17 October 2007) filed through the UK administration and 15 registered UK satellite network operators. Of these, 48 were new applications in this calendar year, 162 are in the co-ordination phase and 44 are notified (as shown in tables 5.7.1 and 5.7.2.). The filing of satellite networks has increased at a steady rate over the years and the average net increase over the last 4 years has been approximately 11 networks per year.

	Total Live Filings	Suppressed Filings in year	New Filings in year	Increase / Decrease in year
1 January 2004	163	23	13	- 10
1 January 2005	153	14	30	+ 16
1 January 2006	169	5	16	+ 11
1 January 2007	180	22 to 17/10/07	48 to 17/10/07	+ 26 to 17/10/07
Total 1/1/2004 - 17/10/07		64	107	+ 43
Average Per Year		16	27	+11

Table 5.7.1 Change in overall filings year by year

	Notified Filings	Filings in Co-ordination	Total UK Filings
1 January 2004	18	145	163
1 January 2005	22	131	153
1 January 2006	30	139	169
1 January 2007	38	142	180
17 October 2007	44	162	206

Table 5.7.2 Breakdown of lifecycle stage for existing filings year by year

- 5.8 This variation, and the fact that there are currently 191 ITU member states eligible to submit satellite network filings, does not provide Ofcom with any certainty about future demand for the services and support it provides to facilitate the establishment and operation of UK satellite networks.
- 5.9 In line with Ofcom's cost recovery principles and the practicality of implementation we propose to base fees charged on Ofcom's planned expenditure in this area.

Options for Cost Recovery

5.10 We have considered the following four fee options (the 'Do nothing' option was considered but discounted, as the principle of setting fees was agreed through the Procedures consultation - Para 4.13 refers), which cover a range of possibilities. The exact amounts that would be charged under each option cannot be determined at this stage but indicative levels are given where possible.

- A single, one-off lifetime fee per network
- Fixed hourly charge for work done on a network
- Annual charge for each network
- Scaled fee for each network

One-off Lifetime Fee

5.11 The lifetime fee option would involve a single one-off payment upon initial application to cover the regulatory life of the satellite network. Ofcom would review the level of the fee annually. It would be charged for each single satellite network filing.

Example of possible fee:

- Ofcom costs to be recovered \approx £400,000
- Anticipated new satellite network filings in one year \approx 27

Then the fee would be $\text{£}400,000/27 \approx \text{£}14,800$ per network

Hourly charge

5.12 Under this option Ofcom would charge an hourly rate for the services provided in filing and co-ordinating a UK satellite network subject to a minimum annual fee. This charge would essentially be timesheet based, with the cost of non operator specific work being apportioned across all operators on a pro rata basis.

Example of possible hourly rate:

- Ofcom costs to be recovered \approx £400,000
- Total number of staff hours \approx 8000

Then the hourly charge would be $\text{£}400,000/8000 \approx \text{£}50$ per hour

This option would be subject to a minimum fee equivalent to 20 hours \approx £1,000 per annum per filing.

Annual charge

5.13 Ofcom would charge an annual fee for the services provided during the establishment and operation of a UK satellite network. The annual charge would be levied against each live UK satellite network filing as at 1 April and for each year throughout its regulatory and operational life.

Forecasted Ofcom Annual Costs = £ A per satellite network filing
 Number of UK Published Satellite Networks

Example of possible fee:

- Ofcom costs to be recovered \approx £400,000
- Existing satellite network filings in co-ordination \approx 162
- Existing satellite network filings post notification \approx 44

Then the fee would be £400,000 / 206 \approx £2,000 per network per year.

This fee would be payable in advance, in respect of all live UK satellite network filings as of 1 April each year.

Scaled Fee

5.14 This option is similar to the annual charge option above, but Ofcom would charge fees depending on the stage reached in the life cycle of the satellite filing and would be based on 3 stages: initial application; co-ordination phase; and post notification phase - in the period when the satellite network is operational. The charges would be scaled to reflect the different levels of support required during the life of the satellite network.

- 1st stage - Initial Application

Evaluation and submission of the satellite network application.

This would be a one-off charge, payable with the initial application and cover all activities until the beginning of the financial year (currently 1 April) following receipt of the application by the ITU.

- 2nd stage – Co-ordination Phase

Co-ordination after submission of the satellite network application until the satellite network is notified (period from the date of receipt of the application by the ITU to the date of ITU publication of the Part 1S notification)

First payment due at the beginning of the financial year (currently commencing 1 April) following the submission of the initial application and thereafter annually on 1 April until the notification of the satellite network.

- 3rd stage – Post Notification Phase

Post notification of the satellite network filing, the period from the publication of the Part 1S notification when the network is operational.

The first payment would be due on 1 April following the ITU publication of the Part 1S notification and then annually throughout its operational life.

Example of possible fees:

Taking to account the previously identified figures:

- Ofcom costs to be recovered \approx £400,000
- Existing satellite network filings in co-ordination \approx 162
- Existing satellite network filings post notification = 44

With an activity weighting of 2:1 between co-ordination phase and post-notification phase, then the predicted costs per satellite network filing would be as follows:

- Initial application \approx £3500
- Co-ordination Phase (annual charge) \approx £2000
- Post Notification Phase (annual charge) \approx £1000

Ofcom would review periodically the ratio of effort associated with these stages and adjust the weighting accordingly.

Cost over / under recovery

- 5.15 Inclusion of the charge in the Ofcom Tariff Table would mean that at the start of a year Ofcom would need to set fees for the forthcoming year based on the costs and estimated number of filings. If the resulting costs or number of filings were different to these estimates then there would be some under or over-recovery across the year. Ofcom would conduct a periodic review of fees and adjust their levels to take account of this.

Question 1: Are there any other options for cost recovery we should consider? If so, what are they?

Section 6

Evaluation of Options

6.1 The two criteria appropriate for the assessment of options for cost recovery drawn from the Statement of Charging Principles⁹ are:

- **Cost reflectiveness:** the cost should be recovered from those whose actions cause the costs to be incurred at the margin;
- **Simplicity:** the mechanism for cost recovery needs to be practicable and relatively easy to implement.

6.2 Given the relatively low level of Ofcom cost per filing in relation to both the ITU charges and the overall cost of setting up a satellite network, we have placed more emphasis on simplicity. Our assessment of the advantages and disadvantages of each option is as follows:

One-off Lifetime fee (per network)

Advantages:

- Known up-front total costs for the published life of the satellite, providing the applicant with certainty as to the level of charge that they should budget for.
- Discourages speculative filings.

Disadvantages:

- Relatively large initial outlay compared to other options
- Would tend to disadvantage those satellite network filings suppressed before the end of their regulatory life
- All charges would fall on new applicants whereas existing networks would pay no fee
- Once levied on a particular filing, the charge would not be subject to any adjustments (lower or higher charges) that may be introduced to reflect changes to the costs involved, therefore may not be closely related to the actual costs over the lifetime of the filing

Hourly Charge

Advantages:

- Closely related to the costs involved and likely to track costs more precisely than pre-set fees.

⁹

http://www.ofcom.org.uk/consult/condocs/socp/statement/charging_principles.pdf

- More equitable to satellite network operators with low co-ordination requirements.
- Reflects the complexity of the satellite network applications.

Disadvantages:

- Relatively costly process to administer and track; the cost of administering may be disproportionate compared to the extra accuracy obtained.
- Does not provide the applicant with certainty about the overall level of charges that they should budget for.
- Would be subject to a minimum fee.
- Does not fall within Ofcom's current Statement of Charging Principles that fees are charged in advance on the basis of budgeted costs.
- Significant part of costs are not related to specific satellite networks.

Annual Charge (per network)

Advantages:

- Relatively easy to calculate and administer
- Transparent and flexible.
- Does not penalise early cancellation / suppression of satellite network application.
- Even cost distribution (subject to changes to Ofcom's total costs) throughout the life of the satellite network filing.

Disadvantages:

- Does not reflect complexity of the satellite network or the different levels of Ofcom effort involved at different phases in the lifecycle of the network filing.
- Does not recover any charges in relation to new applications during the year.

Scaled Fee (per network)

Advantages:

- Fairness as tracks costs as they vary over life-cycle of satellite
- Transparent and flexible.
- Relatively easy to calculate and administer
- Does not penalise early cancellation / suppression of satellite network application.
- Approximate reflection of variation in costs over the life of the filing

Disadvantages:

- May not fully reflect complexity of the satellite network filing greater than or less than the average satellite network filing.

Criterion Option	Cost causation (costs recovered from those causing them to be incurred)	Practicability (and ease of implementation)
One-off Lifetime fee (single standard upfront fee to recover all costs)	<ul style="list-style-type: none"> - cost causation not achieved as existing filings are not charged - charges unlikely to reflect costs caused by individual filings, particularly because lifetime of filings may differ widely - if filings that end early are given rebates, charges are more cost reflective but administration is more complex - average life of filings may vary over time. Any changes in fees due to under/over recovery will only affect new filings and not those who have already paid a lifetime fee - provides no incentives for operators to relinquish filings for which they no longer have use 	<ul style="list-style-type: none"> - simple for stakeholders because only have to pay once - certainty for stakeholders over level of future fees - Not consistent with other charging methods in terms of timings. Ofcom's statement of charging principles states that we will set a budget each year & recover costs based on that. A lifetime charge covering 10-20 years is not aligned with this statement
Hourly charge (annual fee based on hours spent on activity for particular satellite)	<ul style="list-style-type: none"> - high granularity: in principle, fees would be directly related to work undertaken on behalf of filings 	<ul style="list-style-type: none"> - high costs to implement in terms of recording time, allocating hours worked across common activities - difficult to implement through charging in advance as Ofcom would have to estimate the hours worked on each filing - administrative difficulties in charging on a retrospective basis. It is likely that a higher volume of invoices would result and thus higher administrative burden and cost - Ofcom's Statement of Charging Principles states that we will charge based on our budgeted costs, not on actual costs

Annual charge (annual fee based on total Ofcom costs in year divided by number of extant filings)	<ul style="list-style-type: none"> - fees would reflect differences in the lifetime of filings; incentives to suppress filings no longer needed - not cost reflective because workload on filings will depend on the lifecycle stage of each filing 	<ul style="list-style-type: none"> - simple to implement; one annual fee - if the number of new filings varies substantially, could lead to significant under/over recovery. Fees could subsequently be adjusted to account for this
Scaled fee (annual fee based on total costs but varying through lifetime of satellite depending on stage of life-cycle)	<ul style="list-style-type: none"> - fees would reflect differences in the lifetime of filings; incentives to suppress filings no longer needed - the fees charged to each filing would broadly reflect costs caused in different stages of the life of the filing 	<ul style="list-style-type: none"> - relatively simple to implement; three components, filings would only be liable for one component in any one year - application fee should limit the extent to which annual fluctuations in the number of new filings leads to under/over recovery of costs.

Table 6.1: Assessment of options

Preferred Option

6.3 Ofcom has considered the options available and taking into consideration the summary of assessments detailed in Table 6.1 Ofcom's preferred option is the 'Scaled Fee' as it:

- meets the objectives of transparency and proportionality.
- provides a simple and effective method of recovering costs as well as clarity and certainty for stakeholders over future costs.
- provides a reasonable element of granularity in that the level of fees set would be broadly proportionate to level of activity involved in the particular phase of the satellite network filing.
- fees set would cover all costs including staff costs, overheads, travel and subsistence.
- is consistent with Ofcom's other cost recovery methods across other sectors. This includes the variable nature of the fee allowing easy redistribution/recovery of any over/under recovery of costs during a given financial year.
- Is consistent with the principles contained within Ofcom's Statement of Charging Principles in that we will recover costs each year based on our published budget.

Question 2: Do you agree with Ofcom's choice of preferred option for the basis of setting cost-recovery fees for satellite filings and co-ordination? If not, what alternative would you propose and why?

Section 7

Specific amendments to procedures for the management of satellite filings

- 7.1 In February 2005 Ofcom consulted on the revised procedures for the management of satellite filings. At the end of the consultation period Ofcom issued a statement of intent in March 2005 followed by the publication of the new Procedures in March 2007. Shortly after the publication of the Procedures, Ofcom held a 1 day workshop with stakeholders on 30 April 2007. During the workshop a number issues were discussed and as a result of these discussions and, in the light of experience since the publication of the Procedures, Ofcom has reviewed its practices and requirements and now proposes specific amendments to two areas of the Procedures.

Due diligence requirements at or before submission of a request for co-ordination

- 7.2 In Table 1 of Section 5 of the published procedures, Ofcom requires operators to submit copies of the construction and launch contracts before we submit a request for co-ordination to the ITU. Since the request for co-ordination may occur 6 months into the 7 year regulatory period (i.e. the maximum period from receipt by the BR of an API to notification) and can be made concurrently with the Advance Publication Information submission right at the outset, it is sometimes not possible to supply launch contracts with this co-ordination data. It can also be the case that financial institutions, on which satellite operators sometimes rely in order to finance the project, require certainty that the proposed satellite system has commenced the regulatory processes before underwriting the project. This can be a requirement on the operator to prove that the co-ordination data has been received at the ITU. In these circumstances therefore, to insist on sight of construction and launch contracts before submission of a request for co-ordination could erect a regulatory barrier that could prevent viable satellite systems from being launched.
- 7.3 Ofcom proposes to amend the procedures to require applicants to provide Ofcom with either the contracts, or evidence of their existence, or a firm date on which the contracts are expected to be signed. This date will be considered as a regulatory milestone and failure to adhere to it will trigger further action as outlined in section 5 of the procedures.

Question 3: Do you agree with the proposal that the Procedures should be amended so that, before submitting a request for co-ordination to the ITU, Ofcom should accept evidence of the existence of construction and launch contracts, or a firm date on which they are expected to be signed as a sufficient basis for submission of a request for co-ordination to the ITU?

Ofcom action when an operator relinquishes a filing

- 7.4 Sections 12.2 and 12.3 of the Procedures indicate that, when an operator wishes to relinquish an existing filing, Ofcom will publish a notice indicating that the filing has become available and invite expressions of interest from other eligible operators.

Where more than one such expression of interest is received then Ofcom may conduct an award process.

- 7.5 During the workshop held after the publication of the Procedures, several operators expressed the view that Ofcom should not offer to other operators any filings that were no longer required by the original applicants. It was explained that many satellite operators are global in scope and in competition with each other. There was perceived to be little merit in the idea of keeping the filing as a UK asset, and the prospect of a filing on which co-ordination effort had been expended falling into the hands of such a competitor was a disincentive for operators to relinquish filings voluntarily. It was also explained that there are scenarios in which allowing a relinquished filing to be acquired by another operator could make it more difficult for the original operator to pursue other filings. This was a further disincentive to relinquish filings. Workshop participants expressed the desire that should they voluntarily relinquish a filing, Ofcom should take action to suppress that filing if requested by the operator to do so instead of inviting expressions of interest.
- 7.6 There is an argument that offering the filing in these circumstances to another UK operator would be in the interests of the UK. On the other hand, if this acts as a disincentive to relinquish filings that are no longer needed, then that sterilises the orbital resource and acts as a barrier to the introduction of new satellite services to the possible detriment of consumers. Ofcom therefore proposes to amend its policy and to take action to suppress a UK filing at the ITU, without inviting expressions of interest in the filing from other eligible operators, if the operator concerned wishes to relinquish it.

Question 4: Do you agree that Ofcom should suppress filings at the ITU if operators request it to do so without inviting expressions of interest from other UK operators?

Annex 1

Responding to this consultation

How to respond

- A1.1 Ofcom invites written views and comments on the issues raised in this document, to be made **by 5pm on 20 December 2007**.
- A1.2 Ofcom strongly prefers to receive responses using the online web form at <http://www.ofcom.org.uk/consult/condocs/filings/howtorespond/form>, as this helps us to process the responses quickly and efficiently. We would also be grateful if you could assist us by completing a response cover sheet (see Annex 3), to indicate whether or not there are confidentiality issues. This response coversheet is incorporated into the online web form questionnaire.
- A1.3 For larger consultation responses - particularly those with supporting charts, tables or other data - please email stephen.limb@ofcom.org.uk attaching your response in Microsoft Word format, together with a consultation response coversheet.
- A1.4 Responses may alternatively be posted or faxed to the address below, marked with the title of the consultation.
- Stephen Limb
Floor 03.123
Space Services Unit
Riverside House
2A Southwark Bridge Road
London SE1 9HA
- Fax: 020 7981 3208
- A1.5 Note that we do not need a hard copy in addition to an electronic version. Ofcom will acknowledge receipt of responses if they are submitted using the online web form but not otherwise.
- A1.6 It would be helpful if your response could include direct answers to the questions asked in this document, which are listed together at Annex 4. It would also help if you can explain why you hold your views and how Ofcom's proposals would impact on you.

Further information

- A1.7 If you want to discuss the issues and questions raised in this consultation, or need advice on the appropriate form of response, please contact Stephen Limb on 020 7981 3091.

Confidentiality

- A1.8 We believe it is important for everyone interested in an issue to see the views expressed by consultation respondents. We will therefore usually publish all responses on our website, www.ofcom.org.uk, ideally on receipt. If you think your response should be kept confidential, can you please specify what part or whether all

of your response should be kept confidential, and specify why. Please also place such parts in a separate annex.

- A1.9 If someone asks us to keep part or all of a response confidential, we will treat this request seriously and will try to respect this. But sometimes we will need to publish all responses, including those that are marked as confidential, in order to meet legal obligations.
- A1.10 Please also note that copyright and all other intellectual property in responses will be assumed to be licensed to Ofcom to use. Ofcom's approach on intellectual property rights is explained further on its website at <http://www.ofcom.org.uk/about/account/disclaimer/>

Next steps

- A1.11 Following the end of the consultation period, Ofcom intends to publish a statement 1 February 2008.
- A1.12 Please note that you can register to receive free mail Updates alerting you to the publications of relevant Ofcom documents. For more details please see: http://www.ofcom.org.uk/static/subscribe/select_list.htm

Ofcom's consultation processes

- A1.13 Ofcom seeks to ensure that responding to a consultation is easy as possible. For more information please see our consultation principles in Annex 2.
- A1.14 If you have any comments or suggestions on how Ofcom conducts its consultations, please call our consultation helpdesk on 020 7981 3003 or e-mail us at consult@ofcom.org.uk . We would particularly welcome thoughts on how Ofcom could more effectively seek the views of those groups or individuals, such as small businesses or particular types of residential consumers, who are less likely to give their opinions through a formal consultation.
- A1.15 If you would like to discuss these issues or Ofcom's consultation processes more generally you can alternatively contact Vicki Nash, Director Scotland, who is Ofcom's consultation champion:

Vicki Nash
Ofcom
Sutherland House
149 St. Vincent Street
Glasgow G2 5NW

Tel: 0141 229 7401
Fax: 0141 229 7433

Email vicki.nash@ofcom.org.uk

Annex 2

Ofcom's consultation principles

A2.1 Ofcom has published the following seven principles that it will follow for each public written consultation:

Before the consultation

A2.2 Where possible, we will hold informal talks with people and organisations before announcing a big consultation to find out whether we are thinking in the right direction. If we do not have enough time to do this, we will hold an open meeting to explain our proposals shortly after announcing the consultation.

During the consultation

A2.3 We will be clear about who we are consulting, why, on what questions and for how long.

A2.4 We will make the consultation document as short and simple as possible with a summary of no more than two pages. We will try to make it as easy as possible to give us a written response. If the consultation is complicated, we may provide a shortened version for smaller organisations or individuals who would otherwise not be able to spare the time to share their views.

A2.5 We will normally allow ten weeks for responses to consultations on issues of general interest. In this case, we are reducing this period to six weeks since the number of affected stakeholders is small, the stakeholders are aware that we are consulting on these issues, and the financial impact to the stakeholders is small when compared with the overall costs of constructing, launching and operating a satellite network

A2.6 There will be a person within Ofcom who will be in charge of making sure we follow our own guidelines and reach out to the largest number of people and organizations interested in the outcome of our decisions. This individual (who we call the consultation champion) will also be the main person to contact with views on the way we run our consultations.

A2.7 If we are not able to follow one of these principles, we will explain why. This may be because a particular issue is urgent. If we need to reduce the amount of time we have set aside for a consultation, we will let those concerned know beforehand that this is a 'red flag consultation' which needs their urgent attention.

After the consultation

A2.8 We will look at each response carefully and with an open mind. We will give reasons for our decisions and will give an account of how the views of those concerned helped shape those decisions.

Annex 3

Consultation response cover sheet

- A3.1 In the interests of transparency and good regulatory practice, we will publish all consultation responses in full on our website, www.ofcom.org.uk.
- A3.2 We have produced a coversheet for responses (see below) and would be very grateful if you could send one with your response (this is incorporated into the online web form if you respond in this way). This will speed up our processing of responses, and help to maintain confidentiality where appropriate.
- A3.3 The quality of consultation can be enhanced by publishing responses before the consultation period closes. In particular, this can help those individuals and organisations with limited resources or familiarity with the issues to respond in a more informed way. Therefore Ofcom would encourage respondents to complete their coversheet in a way that allows Ofcom to publish their responses upon receipt, rather than waiting until the consultation period has ended.
- A3.4 We strongly prefer to receive responses via the online web form which incorporates the coversheet. If you are responding via email, post or fax you can download an electronic copy of this coversheet in Word or RTF format from the 'Consultations' section of our website at www.ofcom.org.uk/consult/.
- A3.5 Please put any parts of your response you consider should be kept confidential in a separate annex to your response and include your reasons why this part of your response should not be published. This can include information such as your personal background and experience. If you want your name, address, other contact details, or job title to remain confidential, please provide them in your cover sheet only, so that we don't have to edit your response.

Cover sheet for response to an Ofcom consultation**BASIC DETAILS**

Consultation title:

To (Ofcom contact):

Name of respondent:

Representing (self or organisation/s):

Address (if not received by email):

CONFIDENTIALITY

Please tick below what part of your response you consider is confidential, giving your reasons why

Nothing

☐

Name/contact details/job title

☐

Whole response

☐

Organisation

☐

Part of the response

☐

If there is no separate annex, which parts?

If you want part of your response, your name or your organisation not to be published, can Ofcom still publish a reference to the contents of your response (including, for any confidential parts, a general summary that does not disclose the specific information or enable you to be identified)?

DECLARATION

I confirm that the correspondence supplied with this cover sheet is a formal consultation response that Ofcom can publish. However, in supplying this response, I understand that Ofcom may need to publish all responses, including those which are marked as confidential, in order to meet legal obligations. If I have sent my response by email, Ofcom can disregard any standard e-mail text about not disclosing email contents and attachments.

Ofcom seeks to publish responses on receipt. If your response is non-confidential (in whole or in part), and you would prefer us to publish your response only once the consultation has ended, please tick here.

☐

Name

Signed (if hard copy)

Annex 4

Consultation questions

A4.1 The following questions were asked.

Question 1: Are there any other options for cost recovery we should consider? If so, what are they?

Question 2: Do you agree with Ofcom's choice of preferred option for the basis of setting cost-recovery fees for satellite filings and co-ordination? If not, what alternative would you propose and why?

Question 3: Do you agree with the proposal that the Procedures should be amended so that, before submitting a request for co-ordination to the ITU, Ofcom should accept evidence of the existence of construction and launch contracts, or a firm date on which they are expected to be signed as a sufficient basis for submission of a request for co-ordination to the ITU?

Question 4: Do you agree that Ofcom should suppress filings at the ITU if operators request it to do so without inviting expressions of interest from other UK operators?

Annex 5

Impact Assessment

Introduction

- A5.1 The analysis presented in this annex represents an impact assessment, as defined in section 7 of the Communications Act 2003 (the Act).
- A5.2 Impact assessments provide a valuable way of assessing different options for regulation and showing why the preferred option was chosen. They form part of best practice policy-making. This is reflected in section 7 of the Act, which means that generally we have to carry out impact assessments where our proposals would be likely to have a significant effect on businesses or the general public, or when there is a major change in Ofcom's activities. However, as a matter of policy Ofcom is committed to carrying out and publishing impact assessments in relation to the great majority of our policy decisions. For further information about our approach to impact assessments, see the guidelines, Better policy-making: Ofcom's approach to impact assessment, which are on our website:
http://www.ofcom.org.uk/consult/policy_making/guidelines.pdf

The citizen and/or consumer interest

- A5.3 The outcome of this consultation is not expected to have a direct impact on citizens and consumers, because it is focused on the fees Ofcom should levy on a particular group of service providers. We do not expect any of the options for cost recovery charges to have an impact on either the prices charged to end users, services or investment because the overall amounts to be recovered is relatively small compared to the other costs that stakeholders will incur.

Ofcom's policy objective

- A5.4 Our objective in making the proposals in this document is to establish a mechanism for recovering the full costs we incur in the management of filings and international co-ordination for satellite networks which best meets our twin criteria that
- our costs are recovered from the persons who cause them to be incurred.
 - the method is practical to implement and does not place an undue administrative burden on stakeholders or Ofcom.
- A5.5 Ofcom could monitor on a yearly basis, to what extent it had fully recovered its costs and could adjust its fees in the light of any systematic under or over recovery of costs.

Options considered

- A5.6 The issue of whether or not Ofcom should fully recover the costs it incurs in the management of satellite filings was covered in a previous Ofcom document, Procedures for the Management of Satellite Filings¹⁰ published March 2007. Feedback from stakeholders after publication of the document and at a stakeholder workshop supported our proposal to fully recover costs.

¹⁰ www.ofcom.org.uk/radiocomms/ifi/licensing/classes/satellite/procedure_manuals/spectrum_filings

A5.7 As a result, we are only considering the options for full cost recovery in this document and the main options we have considered are listed below:

- One-off Lifetime fee - i.e. a one-off payment upon initial application for a satellite filing.
- Fixed hourly charge - an hourly charge for all existing and new satellite filings covering services and facilities provided by Ofcom in support of a satellite filing.
- Annual charge - a single annual fee charged for all existing and new satellite filings.
- Scaled fee - a fee charged each year for all existing and new satellite filings reflecting the different levels of support required depending on the stage (one of three) which the satellite filing has reached in the typical lifecycle.

Analysis of the different options

A5.8 The table below summarises the options that have been discussed in the main body of this Consultation. The options are assessed against two main criteria:

- cost reflectiveness: costs are charged to those who cause them to be incurred.
- simplicity and ease of implementation.

A5.9 These criteria are drawn from Ofcom's Statement of Charging Principles.

	Advantages	Disadvantages
One-off Lifetime fee	<p>Practicality, simplicity and certainty for stakeholders:</p> <ul style="list-style-type: none"> - under this option stakeholders only pay once for each filing. 	<p>Charges poorly related to how costs are incurred:</p> <ul style="list-style-type: none"> - few incentives for stakeholders to act in ways which make best use of finite resources at Ofcom's disposal. For example, no incentive for operators to relinquish filings that they no longer need. - charges may not be equitable since work carried out on different filings can vary greatly (although the impact on profits is limited because the charges will comprise a small proportion of overall costs). <p>This disadvantage could be partly mitigated by giving rebates if filings are suppressed earlier than the <i>typical</i> lifetime; however, this then reduces simplicity and certainty for stakeholders. It also introduces some arbitrariness in the calculation of typical lifetimes of filings.</p>

Hourly charge	<p>Charges are fully related to the activities which cause Ofcom to incur costs in managing filings:</p> <ul style="list-style-type: none"> - provides incentives for stakeholders to act in ways which make best use of finite resources for managing filings. - charges are equitable since they relate closely to work undertaken on behalf of each filing (although impact on different parties in relation to other costs likely to be limited). 	<p>Significant and ongoing costs of implementation:</p> <ul style="list-style-type: none"> - Ofcom would incur a relatively high overhead (compared to other options) in collecting and processing the information necessary to determine the number of hours worked in support of each filing, including allocating the costs of common activities across filings.
Annual charge	<p>Practicality and relative simplicity and certainty for stakeholders:</p> <ul style="list-style-type: none"> - one annual charge every year the filing is active provides simplicity. There will not be complete certainty because the future level of fees will fluctuate with the number of filings. <p>Partial relation of charges to activities which incur costs:</p> <ul style="list-style-type: none"> - provides incentives to suppress filing when no longer needed, but does not provide close link between charges and underlying causation of costs. 	<p>Limited linkage between charges and the activities which cause Ofcom to incur costs in managing filings:</p> <ul style="list-style-type: none"> - limited incentives for stakeholders to make best use of Ofcom's finite resources for managing filings - equity concerns arise because work carried out on different filings can vary greatly (although impact on different parties in relation to other costs likely to be limited).
Scaled fee	<p>Charges are closely, but not fully, related to the activities which cause Ofcom to incur costs in managing filings:</p> <ul style="list-style-type: none"> - provides incentives for stakeholders to act in ways which make best use of finite resources for managing filings. - charges are equitable since they relate closely to work undertaken on behalf of each filing (although impact on different parties in relation to other costs likely to be limited). <p>Practicality and relative simplicity for stakeholders:</p> <ul style="list-style-type: none"> - stakeholders will only be charged one fee and will know which fee will apply depending on which phase of the lifetime their filing is in. 	<p>Lack of full certainty:</p> <ul style="list-style-type: none"> - charges may vary over time because charges will need to be re-adjusted as the number of filings in each phase varies.

The preferred option

A5.10 Our preferred option is the scaled fee option. We consider that this option is likely to best satisfy our objectives that cost recovery charges are both practical to implement and reflect cost causation (charges are based on the activities that cause costs to be incurred).

- A5.11 The hourly charge option also meets our objectives to a certain extent, however it is not our preferred option because of the additional burden of costs and resources it would place on Ofcom, and which would have to be charged to stakeholders.
- A5.12 We consider that the remaining two options, the lifetime fee and the annual charge, meet our objectives to a significantly lower degree than the others, primarily because our charges under these options, while simple and practical, would not be very reflective of cost causation.

Annex 6

Other administrations' practice on satellite filing fees

Australia

- A5.1 In Australia, the Australian Communications and Media authority (ACMA) regulates the use of the radio frequency spectrum by space services and the operation of space based networks as telecommunications carriers.
- A5.2 The ACMA regulatory framework for operating space services in Australia is based on whether the space object is Australian or foreign and the ACMA can only regulate foreign space objects to the extent the Australian spectrum is being used.
- A5.3 The main way that a satellite network meets these regulations for using Australian spectrum is by acquiring the appropriate operating licence from the ACMA and any satellite network operating to places in Australia must be authorised by a radiocommunications licence issued by the ACMA.
- A5.4 For the operation of space services there are basically two license fee routes:
- satellite networks already co-ordinated; and
 - new satellite networks.

Satellite networks already co-ordinated

- A5.5 If you want to use an existing satellite network that has already been brought into use by the ACMA or by the administration of another member state of the ITU then authorisation involves getting the right licence.
- A5.6 When licensing a space based system the ACMA takes into account:
- its configuration; and
 - the nature of its use of Australian spectrum.
- A5.7 For satellite-based communications systems both uplink and down link frequencies generally need to be licensed. Both space segment (satellites) and/or ground segment (earth stations) are licensed with choice of option depending on the satellite, or satellite system, the nature of its use and preferences of the satellite operator or service provider.

New satellite networks

- A5.8 If you want to establish a new satellite network and bring an Australian satellite network into use you need to file an application with the ACMA.
- A5.9 Recognising the time needed to conduct an assessment varies according to the complexity of the proposed satellite network, a **non refundable fee of \$13,200**

(AUS) - (approx £5,300) must be paid by the new operator, to the ACMA, along with the request to file a satellite network with the ITU.

- A5.10 Other charges apply from there on as detailed in the 'Apparatus Licence Fee Schedule'. For services where no pre-determined charge has been set, established satellite operators are charged out on an hourly rate/ expenses incurred basis.

United States of America (USA)

- A5.11 The Federal Communications Commission (FCC) regulates the radio frequency spectrum within the USA.
- A5.12 All FCC processes and procedures are based on the rules and regulations contained in Title 47 of the Code of Federal Regulations (CFR) with Part 25 of the CFR dealing specifically with satellite communications.
- A5.13 In accordance with FCC regulations and procedures, licences or authorisation are issued for the establishment and / or operation of space related services. The licences range from the authority to launch a satellite to the operation of a mobile satellite terminal. Both space segment (satellites) and/or ground segment (earth stations) are taken into account and the appropriate licence or authorisation issued to the applicant.
- A5.14 Details of all fees are available in the FCC 'International and Satellite Services Fee Filing Guide' (unofficial compilation based on Title 47 of the CFR). A typical example of the fee for the initial application for authority to launch and operate a geo-stationary space station would be in the region of **\$110,580.00 (US)** – (approx £55,200).
- A5.15 In addition to the above example fee the licensee is expected to post a bond as a requirement of their licence. The bond would be payable on failure to meet milestones and its purpose is to create a disincentive for parties to apply for satellite licences for speculative reasons. For a typical geo-stationary satellite licence the bond would be in the region of **\$5 million (US)**.