

Draft Regulator's Assessment Framework for licensing Spaceflight Activities under the Space Industry Act 2018

April 2021



1 Introduction

This is the regulator's internally targeted guidance on the granting of licences under the Space Industry Act 2018 (SIA) and the regulation of spaceflight and other licensed activities. It describes the framework within which the regulator will operate and the processes its staff should follow in assessing licence applications. It also introduces ongoing monitoring/oversight (and enforcement) activities, which will be addressed in detail in a subsequent internal guidance document, to be published separately. This guidance will also be supplemented by further internal guidance documents on assessment criteria.

Following this guidance enables the regulator to achieve consistency in its delivery of its regulatory functions specified within the SIA and the regulations made under it. Internal review and audit functions should refer to this guidance when evaluating the regulator's performance.

In this guidance an overview of the regulator's operating model and a summary of the assessment methods undertaken by relevant regulator staff will be provided. The process steps apply in broadly the same way to all spaceflight and associated activities, but the amount of effort and resource required will depend upon the type of licence and the relative risk posed by the activity.

It should be noted that this is a draft overview of the assessment framework, which will be subject to change as the spaceflight regulator matures and processes are tested.

The Space Industry Act 2018 (SIA) and the regulations made under it set out the responsibilities of the regulator which included:

- **Licensing**
 - All spaceflight activities carried out from the UK. Spaceflight activities encompasses both sub-orbital and space activities.
 - Associated activities including the operation of spaceports and provision of range control services.
 - Renewing, transfer, variation, suspension and revocation of a licence.
- **Approval**
 - Of the training manager (where one is required)
 - Of the relevant sections of the training manual
 - Of revisions to the safety case, and if there are human occupants, the risk assessment
- **Monitoring/oversight**
 - To securing compliance contained in and made under the SIA, conditions of licences under the SIA and the international obligations of the UK
 - To protect public safety and the national security of the UK

In addition to these responsibilities, the regulator can give directions to a regulated person in order to:

- Secure compliance with the provisions of the SIA and regulations made under the SIA, the conditions of licences and the international obligations of the United Kingdom; or
- In the interests of health or safety, spaceflight security, national security or relations with a country outside of the UK.

2 Regulatory Principles

The SIA requires the regulator to carry out its functions relating to spaceflight activities with a view to securing public safety (i.e., the health and safety of members of the public and their property). This duty has primacy over the other matters that the regulator must take into account in exercising its functions.

When exercising its functions, the regulator must also take into account:

- a) the interests of persons carried by spacecraft or carrier aircraft;
- b) the requirements of persons carrying out spaceflight activities;
- c) the interests of any other persons in relation to the use of land, sea and airspace;
- d) the requirements of persons with interests in property carried by spacecraft;
- e) any environmental objectives set by the Secretary of State;
- f) the interests of national security;
- g) any international obligations of the United Kingdom (these obligations are not limited to those in the UN Space Treaties, but include any obligation arising as a matter of international law);
- h) any space debris mitigation guidelines issued by an international organisation in which the government of the United Kingdom is represented (as captured in the guidelines issued by the Inter-Agency Debris Co-ordination Committee of which the UK is a member).

The regulator is committed to operating in accordance with the government's Better Regulation framework the [Regulators' Code](#), to which all UK regulators must comply. The Code's core principles are:

- **Proportionality** - Regulators should intervene only when necessary; remedies should be appropriate to the risk posed, and costs identified and minimised.
- **Accountability** - Regulators should be able to justify decisions and be subject to public scrutiny.
- **Consistency** - Government rules and standards must be joined up and implemented fairly.
- **Transparency** - Regulators should be open and keep regulations simple and user-friendly.
- **Targeting** - Regulation should be focussed on the problem and minimise side effects.

3 Operating Model

The regulatory operating model is built of four components– Engage, Authorise, Monitor and (where necessary) Enforce – which are set out in more detail in the following section and summarised in Figure 1.

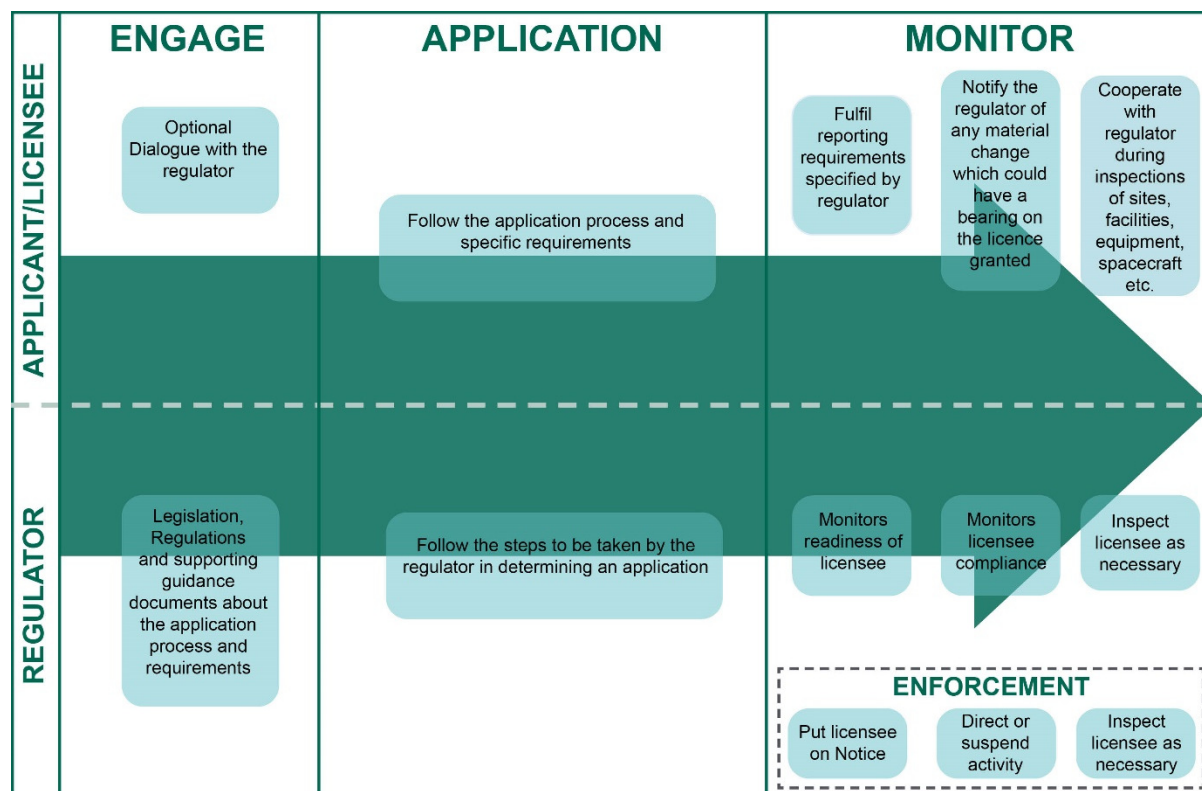


Figure 1 – Summary of the regulator’s target operating model.

3.1 Engage

The regulator publishes guidance on how to comply with the SIA and the regulations made under it. Where possible, they publish internal guidance to ensure their approach to regulation is transparent. Industry and other key stakeholders are encouraged to work together and with the regulator to develop recognised standards and good practice guidance.

Potential licence applicants are encouraged to meet with the regulator to discuss their plans before applying.

3.2 Application

The regulator uses a structured assessment approach to examine licence applications and applications for training approvals.

Licence applications

A judgment whether to grant a licence based on an assessment of the licence application and supporting evidence plus any additional information requested from the applicant or obtained through inspection or independent analysis or through the interview. The minimum requirements for any licence application are set out in the Regulator's Licensing Rules.

In granting a licence, subject to licence conditions, the regulator must be:

- Satisfied national security is not impaired
- Satisfied International obligations are met
- Satisfied that it is not contrary to the national interest
- Satisfied Financial & Technical resources are in place
- Satisfied that the eligibility criteria are met and that Fit & Proper persons test is satisfied

In addition, depending on the licence type, the regulator must also be:

- Satisfied Health & Safety risks are as low as reasonably practicable (ALARP), and if a launch vehicle has a human occupant, that the risk assessment meets the specified requirements
- Satisfied with draft Security Programme and Cyber Security Strategy

And have:

- Taken account of Assessment of Environment Effects (for spaceport and launch licence applicants)

The regulator must seek the consent of the Secretary of State before granting or renewing a licence.

Training

For some licenced activities, the regulator is required to approve an applicant or licensee's appointment of a Training Manager and the relevant section of the training Manual. This approval process may run in parallel to a licence application.

3.3 Monitor

Licensing alone does not ensure that the necessary measures have been taken to secure public safety. Actual on-site conditions can only be verified through ongoing monitoring/oversight and inspection. All licences may be subject to licence conditions and all licensees will have an oversight plan setting out planned ongoing monitoring/oversight. It should be noted that under the Outer Space Act 1986 (OSA) orbital licensees will likely already have monitoring/oversight arrangements in place.

The regulator will carry out periodic monitoring/oversight to ensure compliance with:

- The regulations and the Act
- The national security of the UK

- Performance standards specified in the licence application (safety case/risk assessment/security programme/AEE/Training Manual)
- The UK's international obligations
- Any licence conditions and
- Ensuring that public safety is protected

The frequency of this monitoring/oversight will depend upon the levels of risk and the performance of the licence holder. The regulator may carry out reactive monitoring/oversight in response to the reporting of an occurrence or a complaint.

In addition to the periodic monitoring/oversight, the regulator will carry out mission specific monitoring/oversight. This will include checks, review, and inspection during mission preparation, launch and post launch activities. These monitoring/oversight activities are likely to include multi licence holder inspections. The level of scrutiny will be proportionate to the level of risk and the performance of the licence holders.

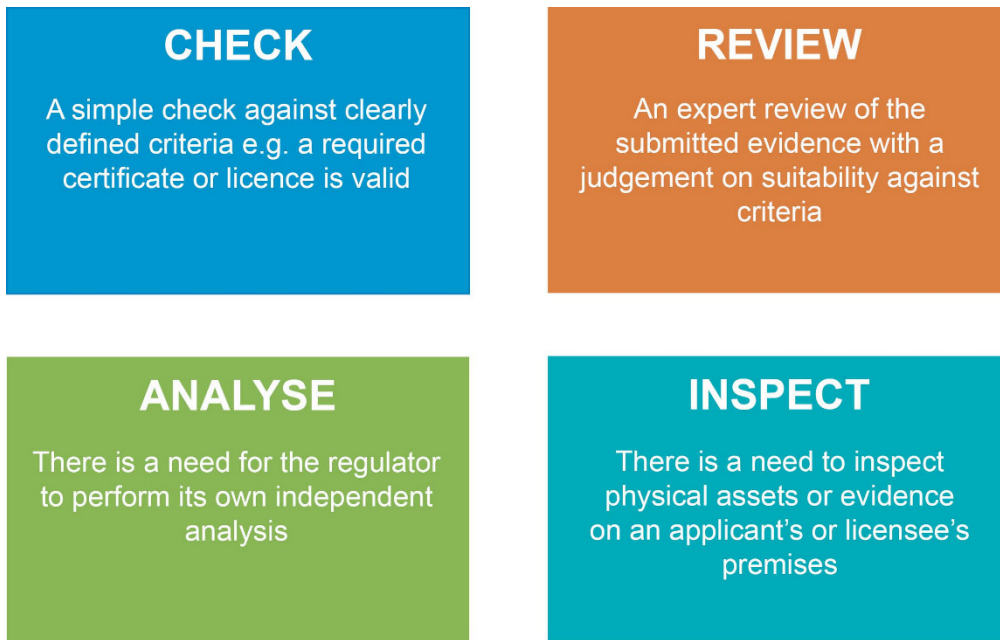
Operators also have an ongoing responsibility to provide information to the regulator on any material change which impacts on their activities, notifiable event, or other types of information set out in licence conditions, legal requirements or directions from the regulator. The regulator will review this information and undertake any related monitoring/oversight or action it deems necessary.

3.4 Enforce

Where there is evidence of non-compliance the regulator will consider enforcement and take appropriate action. This may include giving directions to the regulated person in the interests of health and safety, spaceflight security, national security, or international relations. In some instance enforcement action may result in a licence being suspended or revoked. The regulator also has the power to appoint inspectors to act on their behalf. An inspector is able to issue a notice to the licensee if they believe that a licensee has contravened, is contravening, or is conducting an activity that is likely to contravene licence conditions or provisions of the Act or a regulation made under the Act.

4 Assessment Framework

The regulator will follow the same approach to assessing all licence applications made under the Act.



To determine whether to grant a licence the regulator will carry out assessments under the following themes:

- Eligibility criteria
- Fit & Proper Persons
- Technical & Financial Resources
- Safety
- Environment
- Physical/Personnel Security
- Cyber Security
- National Security
- National and International Obligations
- Liability and insurance requirements

Work to examine licence applications and their component parts is undertaken by staff from the regulator¹ who are trained in and competent to work through the application cycle which consists of six blocks as summarised in Figure 2 below.

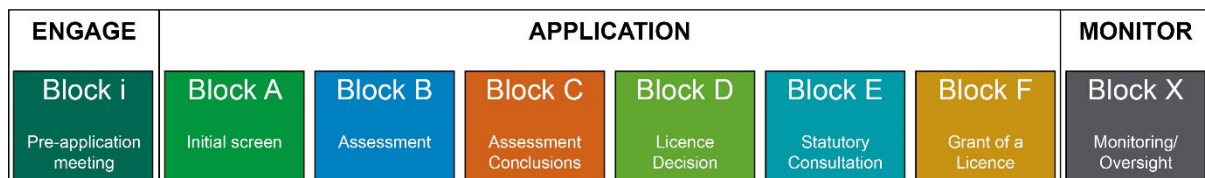


Figure 2 – Summary of the authorise cycle

¹ The Spaceflight Regulator may require a qualifying health and safety authority to provide advice or assistance with the assessment of safety related elements of the application (Section 21, Space Industry Act 2018).

Each block must be completed before moving on to the next, though the amount of work required by the regulator and the timescales within which it should be completed will depend upon the nature of the licence application and the type of additional information which is submitted.

For Block A to C each theme will be assessed independently from the others but there will be crossover and dependencies between the themes. For example, to avoid nugatory effort, the assessment of safety, security & environment themes (Block B) should not begin until the initial screen for national & internal obligations, technical & financial and fit and proper persons has been completed successfully (Block A).

This section provides an overview of the process steps to be followed when considering a licence application. The relevant steps should also be followed when a licensee submits updated information which underpins the basis of the licence, for example changes to individuals in prescribed roles or a revised safety case.

Further information on the information requirements for a licence can be found in the Regulator's Licensing Rules and the Guidance which accompanies the secondary legislation.²

4.1 Engage

Block i - Pre-application meeting

Although not a legal requirement, where possible the regulator should meet with potential licence applicants before an application is submitted.

The purpose of this meeting is to ensure a shared understanding of the applicant's spaceflight ambitions and the regulator's expectations. It may be necessary to have more than one meeting.

The desired outcome of these meetings is to understand the potential scope of the licence and relative timescales and to ensure that the applicant's licence application contains sufficient information to allow the regulator to carry out a thorough assessment. **A pre-application meeting does not pre-empt any licensing decision.**

Pre-application meetings allow the regulator to carry out pre-receipt activities including preparing the draft assessment plan and identifying the appropriate assessment teams for each theme.

4.2 Application

Block A - Initial Screen

On receipt of a licence application the licensing team will carry out the necessary administrative steps to:

² Consultation stage documents can be found here:

<https://www.gov.uk/government/consultations/spaceport-and-spaceflight-activities-regulations-and-guidance>

- Notify (or identify) the assessment teams. This may include discipline specialists from external organisations.
- Finalise the **assessment plan**.
- Inform the applicant of how shared information can and should be accessed

For each theme, a completeness **check** will be carried out to confirm:

- a) The application form is complete
and
- b) The additional information is included and meets minimum requirements specified in the Regulator's Licensing Rules (applicants will be encouraged to demonstrate this by completing self- assessment questionnaires).

Where relevant, discipline specialists will complete an initial **review** of technical reports (e.g. quantified risk assessments) to determine whether an appropriate depth of analysis has been carried out by the applicant.

Possible outcomes

1. The application is incomplete, and any technical reports are seriously deficient – the application will be returned. The application process ends.
2. The application is missing some key information – send letter requesting missing information to be provided by the applicant. The application process is paused until the additional information is submitted.
3. The application is largely complete. The application process proceeds to Block B

Block B - Assessment

Discipline specialists will carry out a thorough assessment of the material submitted as part of the application in accordance with the assessment plan. The nature of the assessment will depend upon the licence type and will vary for each of the themes.

Additional **checks** should be completed to verify the accuracy of declarations made in the application form. The outcome of these checks and any proposed licence conditions (including the reasons for them) will be recorded by the assessor.

A **review** of supporting documentation (safety case, security programme, assessment of environmental effects) against specified assessment criteria should be completed.

Individual assessors should record:

- Whether the assessment criteria have been **met** or **not met** and the reasons for their judgement. It should be clear from the assessment records where the outputs of **analysis** and **inspection** have informed this judgement.
- Proposed licence conditions and the reasons for them
- Proposed matters to be included in the oversight plan

Analysis should be completed to verify the assumptions in technical reports. The outputs of this analysis should be recorded and used to inform the **review**.

Inspections may be carried out to address matters of concern arising from the **review** or to verify critical elements of the application. The regulator can request the production of documents and records and interview employees and other officers as well as carrying out inspections of sites, the launch vehicle or equipment as deemed necessary. Again, the outputs of this monitoring/oversight should be recorded and used to inform the **review**.

Requests for further information

During the assessment process, individual assessors may form the opinion that significant information has been omitted from licence application and its supporting information which needs to be addressed before the assessor can make a judgement on whether assessment criteria have been met. Requests for further information should be made on the basis that the information is either readily available or can be provided by the applicant.

The case manager should co-ordinate requests for further information and typically make just one (combined) request to the applicant for each theme. If the additional information is still not sufficient or further gaps are identified consideration should be given to addressing the matter by inspection or, where appropriate, licence conditions.

Possible outcomes

1. The application is missing significant information – send letter requesting further information to be provided by the applicant. The application process is paused until the additional information is submitted.
2. The assessment is complete. The application process proceeds to Block C

Block C - Assessment Conclusions

There must be a conclusions meeting for every theme assessed which seeks to peer review the individual assessments and achieve a consensus from assessment team members on:

- Whether they are satisfied that the licence should be granted
- Which assessment criteria have been **met** or **not met**
- Licence conditions and the reasons for them
- Matters to be included in the oversight plan and the reasons for them.

The purpose of the assessment is to establish that for each theme the relevant requirements of the regulations have been appropriately addressed and as far as can be reasonably determined from the assessment of the application, that the assessment team is satisfied that a licence can be granted.

The assessment may be concluded with issues arising from the assessment remaining unresolved at the time of conclusion. Depending on the seriousness of each issue and the potential for resolution, these issues may be addressed through licence conditions. Alternatively, they may result in the recommendation to reject a licence application.

The timing of the conclusions meetings will vary between themes depending on the assessment plan and whether the application process was paused whilst waiting for additional information. Where appropriate, conclusions meetings may be combined. The outcome of the conclusions meeting must be recorded in the **decision dossier**.

The **decision dossier** will include:

A recommendation on whether to grant a licence

A summary of all the assessment records (checklists, review assessment records, analysis and inspection reports)

Details of proposed licence conditions and the reasons for them

Details of matter to be included in the oversight plan and the reasons for them

Possible outcomes

1. Assessment criteria are **not met**. There are serious deficiencies in the application which cannot be addressed by the applicant therefore assessment team recommend the licence application is refused. The evidence supporting this judgement is recorded in the decision document. The application process proceeds to Block D.
2. Assessment criteria are largely **met**. Licence conditions and matters for the oversight plan have been defined. The assessment team recommend the licence is granted. The evidence supporting this judgement is recorded in the decision document. The application process proceeds to Block C.

Block D - Licence Decision

A 'Licence Decision meeting' must take place for all applications. Based on the decision dossier for each of the themes, the regulator must decide whether to grant a licence. Typically, the meeting will be held once all the assessment conclusions meetings have been completed. In exceptional circumstances where it is clear that a licence will not be granted (i.e. where the risks to the public will not be acceptable regardless of any proposed mitigation) the assessment meeting can be brought forward to avoid investing unnecessary regulatory effort in assessing other themes.

In granting a licence, subject to licence conditions, the regulator must be:

- Satisfied national security is not impaired
- Satisfied International obligations are met
- Satisfied that it is not contrary to the national interest
- Satisfied Financial & Technical resources are in place
- Satisfied that the eligibility criteria are met and that Fit & Proper persons test is satisfied

In addition, depending on the licence type, the regulator must also be:

- Satisfied Health & Safety risks are as low as reasonably practicable (ALARP), and if a launch vehicle has a human occupant, that the risk assessment meets specified requirements
- Satisfied with draft Security Programme and Cyber Security Strategy

And have:

- Taken account of an Assessment of Environment Effects

Possible outcomes

1. The licence application is **refused**. The regulator writes to the applicant to explain its reasons including a consolidated copy of the decision dossier. The application process ends.
2. The regulator is minded to **grant** the licence, subject to statutory consultation on the licence conditions and the consent of the Secretary of State, and matters for the oversight plan have been defined. The application process proceeds to Block E

Block E - Statutory Consultation (Licence Conditions)

Under section 13(6) of the Act the regulator must consult the following on the proposed licence conditions and take account of their views:

- Secretary of State
- Health & Safety Executive
- Office of Nuclear Regulator
- Defence Safety Authority
- other appropriate persons if the proposed licence gives rise to any issues regarding trade controls or national security.

In addition to this statutory consultation the regulator may also choose to consult with the relevant local planning authority, environmental regulators and where appropriate, devolved Governments.

Statutory consultees will be sent a copy of the draft licence and the licence conditions including the reasons for them and asked to provide comments within a set number of days, to be agreed. A copy of the consolidated decision dossier may be available on request. The regulator will seek to resolve any issues by amending the licence conditions where appropriate or clarifying their rationale. The consultation could lead to the regulator varying the licence conditions, removing conditions or including additional conditions, or indeed, reviewing whether it is minded to grant the licence or not.

Once complete, the consolidated decision dossier will be updated to reflect the outcome of any consultation.

Block F - Grant of Licence (Secretary of State consent)

Alongside Block E, the Statutory Consultation, a submission will be sent to the Secretary of State seeking consent to grant a licence. The submission will include:

- a copy of the licence
- details of attached licence conditions and the reasons for them
- a copy of the consolidated decision dossier
- any relevant supporting documentation

After receiving information from the regulator regarding the application, the decision dossier and the results of the statutory consultation, the Secretary of State will be asked to consent to the grant of a licence.

Once the Secretary of State has given their consent, the regulator will notify the applicant in writing including:

- a copy of the licence
- details of attached licence conditions and the reasons for them
- details of ongoing monitoring/oversight process
- a copy of the consolidated decision dossier

Where the Secretary of State does not give consent, the regulator will notify the applicant in writing and set out the reasons for this decision.

4.3 Monitor

Block X – Monitoring/oversight

For all licences, periodic **checks** and **inspections** will be conducted in line with the oversight plan generated during the application process. The oversight plan should be kept up to date and new items added where appropriate to reflect the outcome of ongoing monitoring/oversight and any other new information. The regulator may take enforcement action, based on the results of its monitoring/oversight activities, as it deems fit.

Mission-specific monitoring/oversight

For all missions, the regulator will **check** key activities during mission planning, launch and post launch based on information submitted by the licensees. This **check** phase could also include orbital health or checks on the positions of orbital objects. These checks may be supplemented by proportionate **inspections** and (where appropriate) independent **analysis** of any technical reports.

Where a licence application is tied to a specific mission the necessary **checks** for mission planning may be carried out as part of the assessment process (Block B).