

LAUNCH UK

A rocket launch is depicted against a starry night sky. The rocket is a vertical column of white smoke and fire, ascending from a green, hilly landscape. The sky is a deep blue with numerous white stars. A vibrant green aurora is visible in the lower part of the sky, just above the horizon. The overall scene is a composite image used for a presentation slide.

Liabilities, Insurance and Registration Plenary
Virtual meeting | 20 May 2021

LAUNCH UK

A rocket launch is depicted on the right side of the image, with a thick plume of white smoke and fire trailing upwards into a dark blue, star-filled sky. A vibrant green aurora-like glow is visible in the background, adding a sense of wonder and technological advancement. The foreground shows a dark, silhouetted landscape with rolling hills under a twilight sky.

Welcome and introduction

Atika Thomson | UK Space Agency

Jeremy Ketley | Department for Transport

AGENDA

Agenda

LAUNCH
UK

11:00 Welcome and introduction

Atika Thomson | UK Space Agency and Jeremy Ketley | Department for Transport

11:05 Overview of liabilities and insurance approach

Steve Plant | UK Space Agency and Rob Garner | CAA

11:15 Overview of insurance aspects in the licensing approach

Steve Plant | UK Space Agency

11:30 Overview of the insurance and liabilities review

Steve Plant | UK Space Agency

11:40 Registration

Emily James | UK Space Agency

11:45 Q&A

11:55 Summary and closing remarks

Atika Thomson | UK Space Agency and Jeremy Ketley | Department for Transport



House Keeping

- We are happy to take questions throughout the session. Please type your question into the meeting chat section or raise your virtual hand.
- Please mute your microphones and turn off your video during the session. We may ask you to turn these on during your questions if you wish to follow up.
- We are recording this session and continuing to participate in this session indicates your agreement to this.

The small print: No part of the discussions held (unless otherwise noted) should be taken as a reflection of developing or future government policy or legislation, and any decisions taken by any individual or organisation on the basis of any information they hear or see at these meetings are taken at their own risk

Aims of today

- Recap on insurance and liabilities provisions in the Space Industry Act 2018.
- Recap the insurance and liabilities requirements.
- Clarifying the limits of liability under the SIA.
- Overview of UK Registration position.

Appointing the CAA as the regulator



- Following the Piper Alpha disaster, successive governments have followed a policy of separating safety regulation from sector promotion to ensure regulation is impartial.
- On these principles it is the Government's intention that the Civil Aviation Authority will undertake all Space Industry Act 2018 regulatory functions in addition to regulating in-orbit activities under the Outer Space Act 1986.
- With regard to the Space Industry Act 2018, the functions are conferred on the Civil Aviation Authority by regulations made under section 16 of the Space Industry Act 2018.
- Legislation will delegate certain functions of the Secretary of State to the CAA
 1. The Contracting Out (Functions in Relation to Space) Order 2021, which will allow the CAA to carry out specified regulatory functions including licensing under the OSA 1986 on behalf of the Secretary of State; and
 2. The Transfer of Undertakings (Protection of Employment) (Transfer of Staff to the Civil Aviation Authority) Regulations 2021, which will allow the transfer of staff from the UKSA to the CAA, who will be primarily carrying out the functions specified in the Contracting Out Order.
- The CAA is an experienced regulator with a strong track record in overseeing the aviation sector in the UK, one of the safest in the world. We are working collaboratively with the CAA and DfT to ensure that they have the capability, tools, resources and skills to effectively regulate under both the OSA 1986 and SIA 2018. This includes the intended transfer of experienced skills, a comprehensive training programme and ongoing engagement between Departments once the legislation is in force.

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A rocket launch is depicted against a night sky filled with stars. A vibrant green aurora-like glow is visible in the background. The rocket's trail of white smoke and fire extends from the bottom right towards the top right of the frame.

Liabilities and Insurance for Launch Space Industry Act 2018

Steve Plant | UK Space Agency

Rob Garner | Civil Aviation Authority

Approach to third-party liability insurance requirements and third-party liability

Launch

- Implementing a Modelled Insurance Requirement approach to setting third-party liability insurance requirements for launch.
- Third-party liability insurance amounts based on the specifics of each mission.
- Third-party liability will be set generally at the same amount as the MIR value

Operator limits of liability

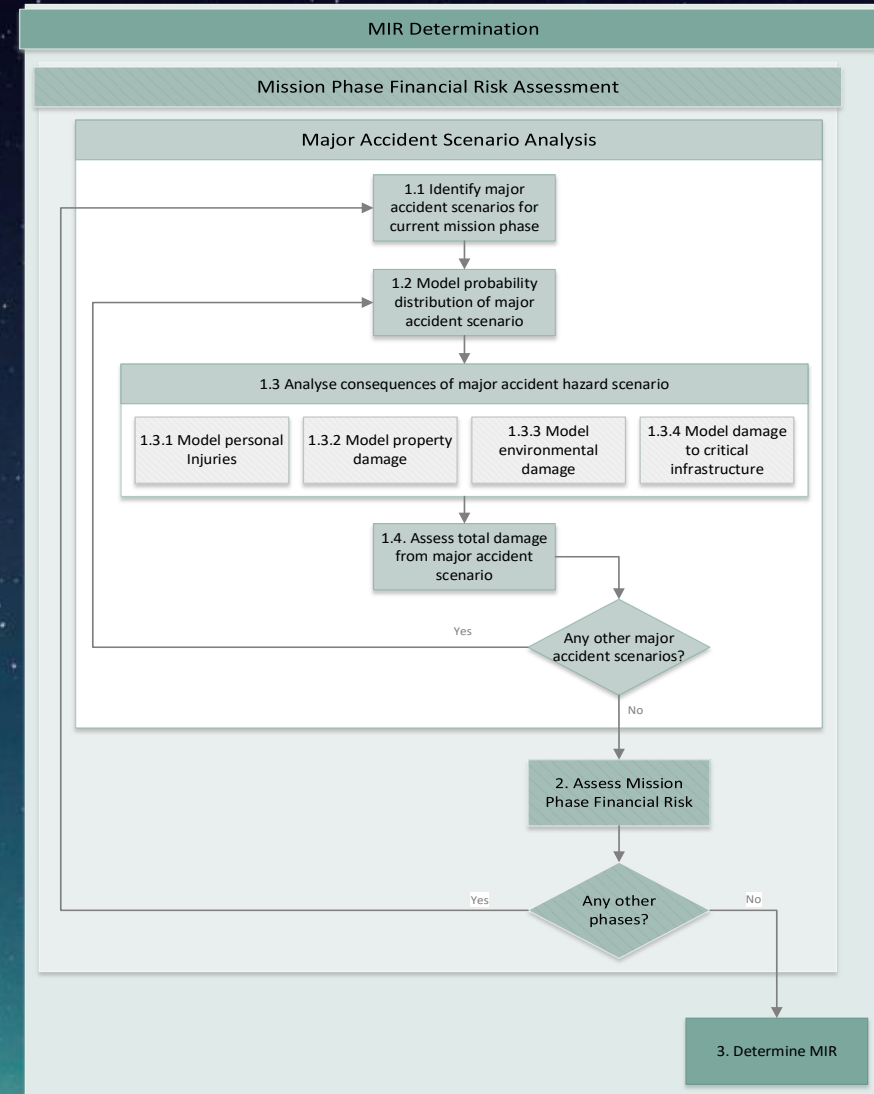
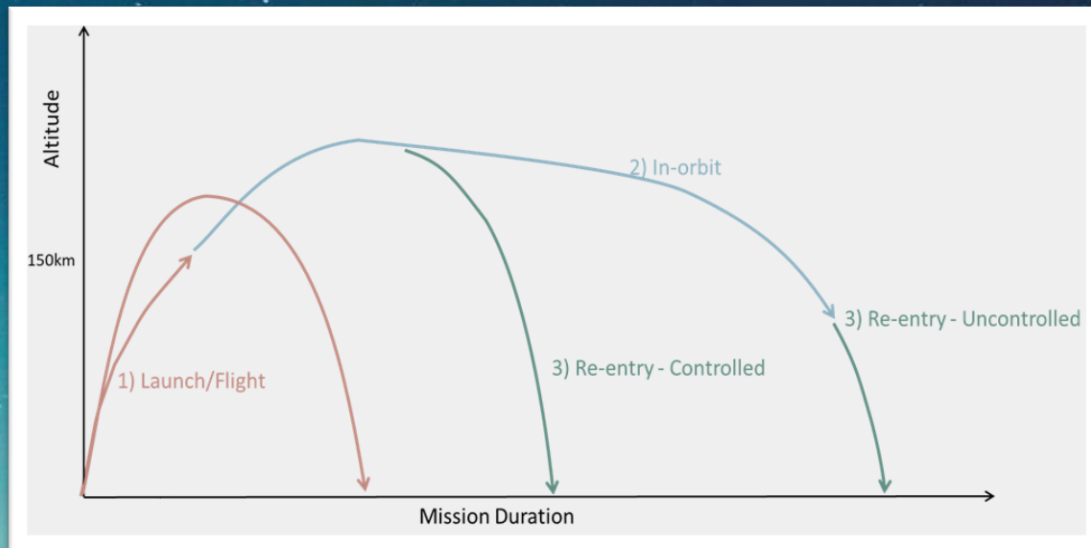
- Was a key issue for industry and Parliament during the passage of the Space Industry Bill.
- Limits of operator liability (for s34(2) and any third-party liability not covered by s34(2) and 36) will be included in all operator licences
- Operators will not face unlimited third-party liability in so far as third-party liability and liability under s36 is concerned – insurance is not available to cover unlimited liability
- No further regulations other than those proposed in the Space Industry Regulations are required to implement our proposed approach.
- Review of issues raised in the liability, insurance and charging consultation is underway.

Insurance requirements in licence conditions

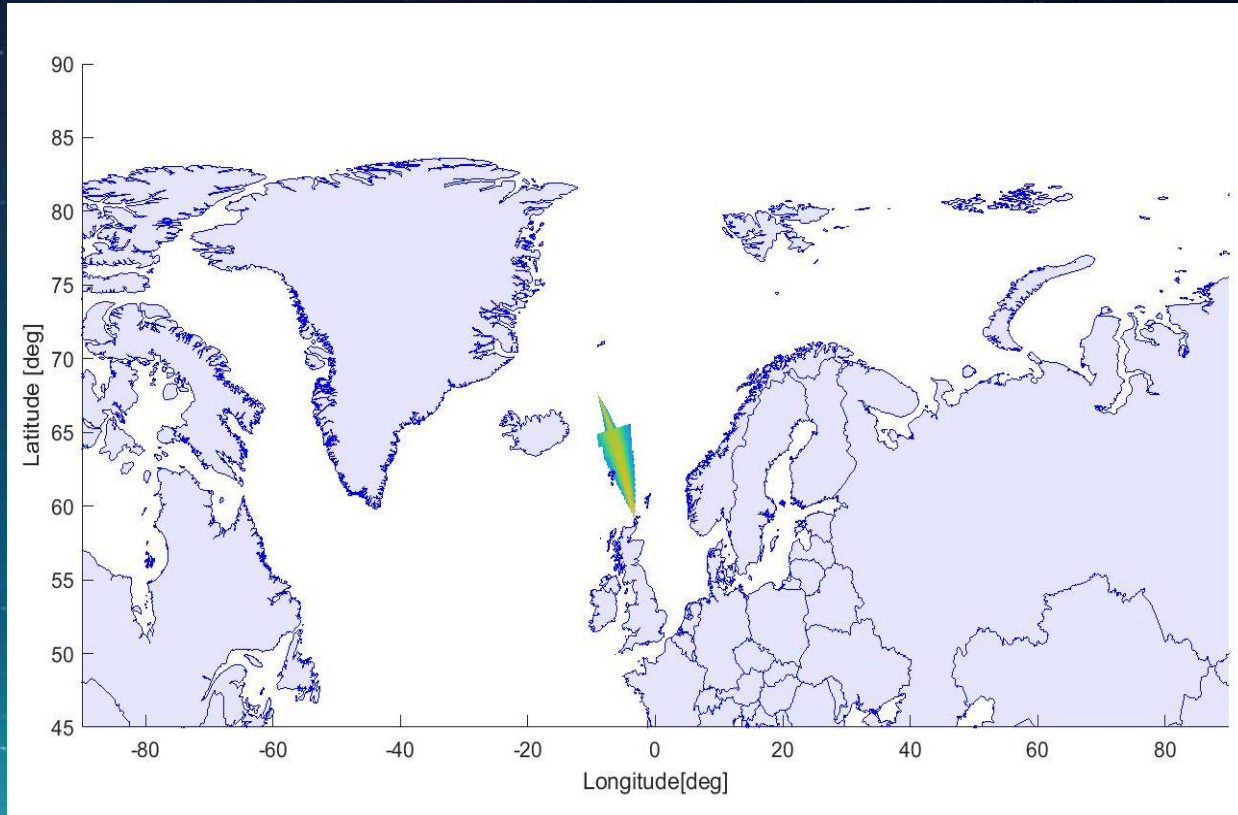
- No insurance regulations – requirements will be set out in licence conditions

How the MIR is Modelled

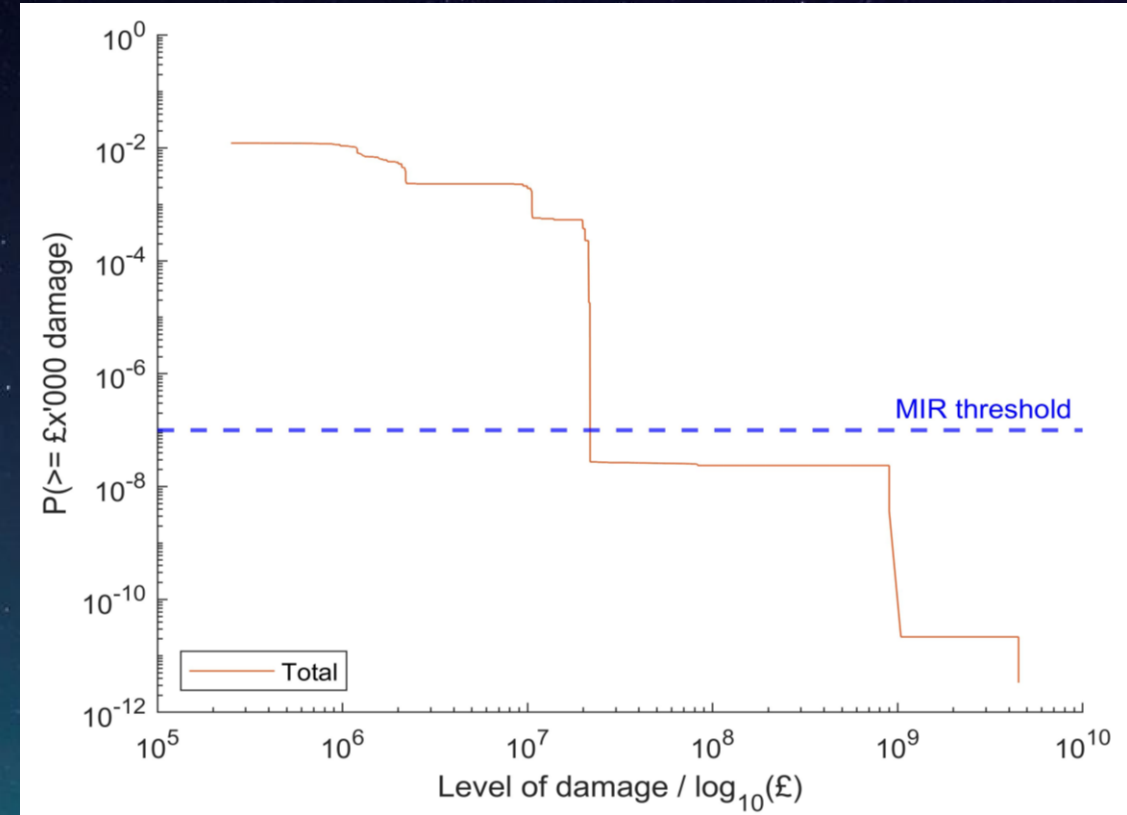
- Further detail to be provided with the consultation
- Based on the major accident hazards identified by the applicant in the safety case for each phase
- Three stage process:
 - Identify major accident scenarios
 - Mission phase risk assessment
 - Insurance requirement determination
- Different types of damage are included (i.e. personal injuries, property damage, environmental damage etc)
- May be a need for separate MIR calculations for different mission phases



Example – illustrative only



- Assumption here is that an intact vehicle explosion is the worst case
- The probability of a damaging event occurring is based on failure probability of the vehicle and the geographical probability of impact distribution



- The damage profile shows the relationship between the probability of an accident and the cumulative damage
- The MIR threshold is where the insurance requirement is set

Approach to third-party liability insurance requirements and third-party liability

In-orbit

- Third-party liability insurance for in-orbit operations will remain the same as currently under the Outer Space Act 1986 (60m Euros for standard missions)
- Regulator may allow a single € 60 million ‘any one occurrence’ insurance policy and aggregates where an operator has more than one standard mission
- For missions deemed to be higher-risk, the indemnity limit may be set at a higher level.

Waiver of in-orbit TPL insurance

- Applies to “low risk” in-orbit activities
- This waiver is subject to a satisfactory risk assessment.

In-orbit phase – launch vehicle components

- Policy on this still being developed.

Re-entry phase

- Policy on this still being developed.

Approach to third-party liability insurance requirements and third-party liability

Cross waivers – reciprocal waivers of liability

- Intention is that the parties involved in spaceflight and associated activities essentially agree to bear their own losses.
- Waiver will not apply to individuals taking part in spaceflight activities in a role or capacity prescribed under section 17(1) of the Act.
- Condition on cross waivers to be included in all licences.

Other forms of financial security – parent guarantees

- Other forms of financial security may be acceptable, e.g. parent guarantee
- Applicants should signal intention to use such financial securities at an early stage.

Government response to issues raised in the consultation

Section 12(2)

- If another suitable piece of primary legislation is brought forward, the Government may seek to amend the wording in section 12(2) from "may" to "must".

Section 34

- Section 34 was included in the Act because the Government wanted to ensure that any members of the uninvolved general public in the UK who suffer injury or damage from spaceflight activity are entitled to the same compensation (without having to prove fault) as foreign nationals are entitled to under the UN Convention on International Liability for Damage Caused by Space Objects, the "Liability Convention".
- We do not consider that the liability arising from section 34 poses an additional cost burden for satellite operators in general. In summary, this is because damage sustained during launch and uncontrolled re-entry would be covered by launch or in-orbit policies. Depending on the specifics of a particular mission however, there may be cases where an additional cost burden might arise for satellite operators. The Government will consider how to minimise the risk of an additional cost burden as part of the review of liability mentioned above.

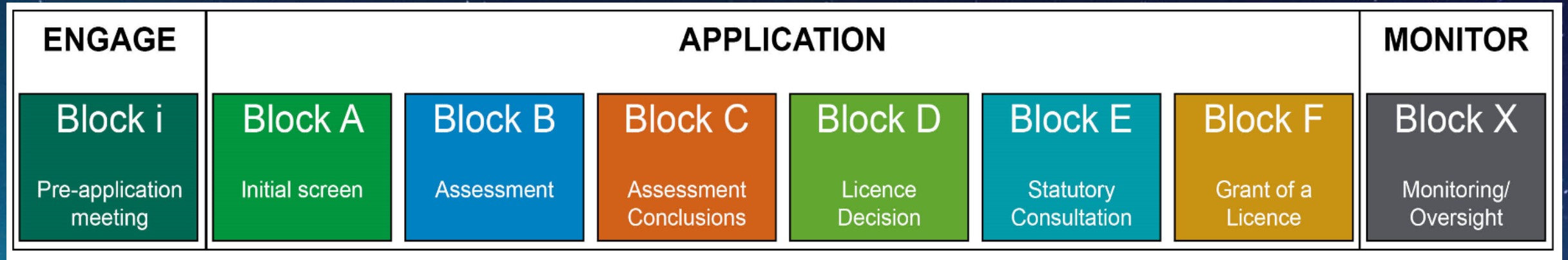
Insurance requirements for those conducting associated activities (e.g. spaceport, range control)

- No strict liability under section 34.
- Need to be covered by third-party liability insurance during licensed activities.
- Must have conditions included within their licences on access to TPL insurance (e.g. will be covered by launch licensee's insurance).
- Do not need to be covered by TPL insurance outside of the period covered by the launch licence. This includes for pre-launch activities.

Proposed losses and values included in the MIR

<p><u>Death</u></p> <p>£221,000 per fatality modelled</p>	<p><u>Property Damage</u></p> <p>Two separate rates</p> <p>Residential / commercial property - £1843/m²</p> <p>Agricultural land - £1.95/m²</p> <p>Commercial and agricultural land includes business interruption costs</p>	<p><u>Infrastructure costs</u></p> <p>Highest level of estimated loss</p> <p>Destruction of oil rig - £4.5bn</p>
<p><u>Injury</u> - £199,000 per injury modelled</p>	<p><u>Environmental clean up costs</u></p> <ul style="list-style-type: none"> • £250,000 flat rate 	

Overview of insurance aspects in the licensing approach



Licensing process

ENGAGE Block i pre-application meeting	AUTHORISE						MONITOR Block X Monitoring/ Oversight
Block i pre-application meeting	Block A Initial screen	Block B Assessment	Block C Assessment conclusions	Block D Licence Decision	Block E Statutory Consultation	Block F Grant of Licence	Block X Monitoring/ Oversight
<p>While not a legal requirement, the Regulator encourages early engagement to set out the scope of the mission.</p> <ul style="list-style-type: none"> ➤ Regulator advising on insurance activities that must be concluded before granting of the licence. ➤ Advising early engagement with insurance providers, in order to secure an insurance policy as soon as possible once the insurance amount is known. ➤ Consideration of alternatives to insurance and the process for agreeing these. ➤ Consideration of other L&I regimes in other jurisdictions to agree handling - if a licence is needed from another jurisdiction. 	ASSESSMENT			EXTERNAL SCRUTINY AND CLEARANCES			Ongoing oversight:
	<ul style="list-style-type: none"> ➤ If the insurance amount is known, operator will submit proof of insurance to the Regulator. ➤ If the insurance amount is unknown and will require MIR calculation (for launch) or risk-based assessment (for in-orbit), the operator will need to submit proof of engagement with insurance providers. ➤ Proof of engagement with other jurisdictions that also need to issue a licence for the mission (if needed). ➤ If the mission is uninsurable, please contact Regulator for further advice 	<ul style="list-style-type: none"> ➤ Calculation of the insurance requirements for the relevant activity: <ul style="list-style-type: none"> ✓ using the MIR approach (for launch); ✓ determining whether the insurance for in-orbit operations is a standard mission, higher risk mission or could be subject to a waiver of insurance. ➤ Regulator to ensure that: <ul style="list-style-type: none"> ✓ the licence contains the relevant conditions on insurance (including cross waivers). ✓ there is no gap in coverage between the licensed activities (e.g., between the end of policy coverage for the launch phase and the start of the in-orbit insurance policy coverage). 	<ul style="list-style-type: none"> ➤ Regulator will secure agreement in principle to the calculated MIR value (for launch) or as per the policy for in-orbit insurance, and ensure that all licence include a limit of operator liability under both sections 34 and 36 of the Act. ➤ SoS agrees in principle on MIR amount and liability limits. ➤ <u>Regulator notifies applicant/ operator of intended insurance amount and liability limit.</u> ➤ Operator starts securing insurance policy for MIR amount (for launch) provided by Regulator (and for in-orbit insurance if not already secured). 	<ul style="list-style-type: none"> ➤ Operator provides necessary insurance documentation* ➤ The policy documents may need to be send to contracted insurance advisers to determine whether the policy covers all the requirements. ➤ Operator provides necessary documentation from other jurisdictions if they are issuing a licence/ if needed. ➤ Senior clearance (sign off) ➤ *Operator provides necessary insurance documentation to the Regulator at the earliest possible opportunity, including at application if available. Relevant documentation must be provided to the regulator and reviewed before the licence is granted. 	Copy of draft licence and conditions + reasons provided for comment: SoS, Health & safety Executive, Office of Nuclear Regulator, Defence Safety Authority. Legal review. (general for all assessments)	<p>Submission to SoS seeking consent. Includes:</p> <ul style="list-style-type: none"> ✓ A copy of the licence ✓ details of licence conditions and reasons. ✓ Consolidated decision dossier <p>(general for all assessments)</p>	<ul style="list-style-type: none"> ➤ Regulator to carry out: <ul style="list-style-type: none"> ✓ annual renewal of insurance policies, ensuring that insurance coverage is maintained through the duration of the licensed activity. ✓ changes to insurance and liability limits required following monitoring of the licensed activity. ✓ whether additional insurance is required if the mission fails to meet its intended objectives. ✓ other issues which necessitate a material change in the insurance policy. ✓ To take any further enforcement action needed if L&I provisions / requirements are not met.

Key points on insurance for the licensing process

- Engage early with the CAA, insurers and other regulators – evidence of engagement with insurers, other parties and other regulators where licences required will be required before your application is accepted and processed
- CAA will inform you of the insurance to be secured at the block C stage of the process – enables sufficient time to finalise insurance policy
- Insurance documents need to be provided to the regulator:
 - Insurance certificate (unredacted)
 - Signed policy wording (unredacted)
 - Schedule of security (underwriter list)
 - Any amendments or endorsements to the policy
- Insurance documents must be provided by operators before the licence is issued (exception for those named as additional insureds on a policy e.g. spaceports)
- Documents need to be provided no less than 4 weeks before the licence is required
- Post-issue of licence, licence conditions on insurance can be varied to reflect changed insurance requirements – same process adopted before variation agreed.

Government review of liabilities and insurance

No policy agreed but the review is covering the main issues raised in responses received to the consultation:

- development of an alternative model to traditional insurance to address issues around current insurance provision for small satellite.
- lowering the limit of operator liability for in-orbit operations
- including a maximum limit of insurance for the launch MIR
- use of alternatives to insurance as forms of security to meet an operator's liability obligations (e.g. decommissioning bonds, escrow accounts, performance and surety bonds).

It will explore further the use of the MIR approach and whether it could extend to in-orbit operations.

Will look at an holistic approach to insurance and liabilities for the mission.

Will consider competitiveness and the Government's evolving approach to maintaining the sustainability of the orbital environment.

UN Registration

- When a space object is launched into Earth orbit or beyond, the launching State¹ is required to include basic information about the space object, including orbital parameters and details of the launch, on a national register. This applies for both satellites and launch vehicles/rocket bodies.
- Each signatory to the UN registration convention is required to keep a national register of space objects for which it is responsible and has a duty to inform the Secretary General of the UN of details of objects kept on their national register.
- If there is more than one launching State, the launching States must agree between them which of them shall also be the State of registry.
- The UK should not register satellites if we are not in a position to assume jurisdiction and control. For example, if there is another launching State in a better position to register because they have operational control, then we may request that that State be responsible for registering the satellite after the launch.

1. In Article I(a) of the Registration Convention, a launching state is defined as: a state which launches or procures the launching of a space object; or a state from whose territory or facility a space object is launched.

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A rocket launch is shown on the right side of the image, ascending vertically into a dark blue night sky filled with stars. A vibrant green aurora is visible in the background. The foreground shows a dark, silhouetted landscape with rolling hills and mountains under a twilight sky.

Closing remarks

Atika Thomson | UK Space Agency

Jeremy Ketley | Department for Transport