LIABILITY RISK SHARING REGIME OF THE BILL OF JAPAN'S LEGISLATION ON SPACE ACTIVITIES AND ITS COMPARISON WITH THE U.S. AND FRENCH LAW

Daisuke Saisho
Japan Aerospace Exploration Agency (JAXA), Japan, Saisho.Daisuke@jaxa.jp

The bill of the Legislation on Space Activities is currently being prepared, based on Japan's Basic Space Law which entered into force in August 2008. The Working Group for Legislation on Space Activities was formed under the Strategic Headquarter for Space Policy headed by the Prime Minister of Japan, to consider matters concerning the new legislation for space activities. In March 2010, the Working concluded a Final Report after inviting comments from the public. The bill is currently being drafted within the government mainly covering the authorization regime and the liability risk sharing regime. Furthermore, exchange of information on national legislation is an important topic in COPUOS Legal Subcommittee and a Working Group is being held in for 2008 to 2011. However, since the working group shares the current active laws, little has been introduced internationally concerning the liability risk sharing regime of this new bill.

Liability risk-sharing regime is the core of legal risk management in space activities, and thus clear understanding is essential for space operators.

In this paper the liability risk-sharing regime based on the Final Report of the Working Group of Legislation on Space Activities in Japan will be introduced and will be compared with the U.S. and French laws, based on a practitioner's point of view, and will describe items including the channelling of liability, financial responsibility requirements of space operators (insurance, etc.), and government indemnification, concerning launch, reentry and satellite operation on orbit.

I. THE REPORT OF THE WORKING GROUP FOR LEGISLATION ON SPACE ACTIVITIES

Japan's Basic Space Law enacted in August 27th, 2008, is a law that describes the basic concepts and the basic measures to realize the concepts of Japan's space development and utilization. In Article 35 it states to enact legislation with regard to space activities necessary to implement treaties and other international agreements with regard to regulations on space activities as well as other space development and use.

Based on this requirement, the Strategic headquarter, headed by the Prime Minister formed the Special Committee on Space Policy to consider matters concerning the Space Basic Law, and under this committee, the Working Group for Legislation on Space Activities was formed, to survey and consider matters requiring experience and expertise concerning the new legislation for space activities (herein after referred to as the "Space Activity Act").

This Working Group was organized by the Secretariat of Strategic Headquarters for Space Policy of the Cabinet Office, as the secretariat, and involved experts from the industry and academics, together with representatives from the related Ministries as observers, and held six meetings from November 2008 to August 2009. The result of discussions was formed into a report and was reported to the Special Committee on Space Policy, and invited comments from the public, and was finalized in March 2010 (herein after referred to as the "WG Report").[1]

This report mainly consists of licensing regime (authorization and supervision) and the liability regime, and with due regard to this report, a bill is currently being drafted at the Secretariat of Strategic Headquarters for Space Policy.

Especially, the liability risk-sharing regime is the core of legal risk management in space activities, and thus clear understanding is essential for space operators.

Therefore, in this paper, liability risk-sharing regime based on the WG Report will be introduced and will be compared with the U.S. and French laws, and will describe items including the channelling of liability, financial responsibility requirements of space operators (insurance, etc.), and government indemnification, concerning launch, reentry and satellite operation on orbit.

One should note that, the exchange of information on national legislation is an important topic in COPUOS Legal Subcommittee and a Working Group is being held from 2008. However, since the working group shares the current active laws, little has been introduced internationally concerning the liability risk sharing regime of this new bill.*

* The following has been presented in the U.N. Legal Subcommittee concerning the overview of Japan's Space Activity Act.
http://www.oosa.unvienna.org/pdf/pres/lsc2010/tech-07.pdf

II. THE LIABILITY RISK-SHARING REGIME OF THE WG REPORT AND ITS COMPARISON WITH THE U.S. AND FRENCH LAW

In this chapter, the liability regime in the WG Report will be introduced. First, the purpose of the liability regime and the scope of damage it covers shall be introduced, followed by introduction of strict liability and channelling of liability, and then explanation will be made on the financial responsibility requirements of space operators (insurance, etc.), and government indemnification. And finally, the means to save third party victims from damage not covered by insurance nor the government indemnification. Comparison with the U.S. and the French law will be done as appropriate.

Charts 1 to 3 show the liability regime of each country concerning launches and reentry.

II.I Purpose of the liability risk-sharing regime and the scope of liability under the regime

II.I.I Purpose of the Liability risk-sharing regime

In the study of the Space Activity Act, the purpose of the liability regime is considered as (1) saving the victim, by applying strict liability and channelling liability to the launch and reentry operator, and by requiring obligatory insurance or other proof of payment together with government indemnification. And (2) nurture robust space industry and promote commercial use of space by exempting liability to component and other parts provider by channelling liability to the operator, and turning operator's risks into stable expenditure by buying insurance and by clarifying that the government shall indemnify the liability above the liability.

Such purposes as securing compensation for possible victims and giving expectation to commercial operator to enhance development and use of space are common to the purposes the U.S. and the French laws have, although the means may differ.

II.I.II The scope of damage to be secured

The damages subject to the liability regime of the Space Activity Act are damages caused by space objects on the surface of the Earth or to aircraft in flight (herein after referred to as "Ground Damage") by launch or reentry, and damages being caused elsewhere than on the surface of the Earth or to aircraft in flight (herein after referred to as "Space Damage"), such as on orbit by space objects.

Therefore, this paper will focus on this scope of damage.

II.II Strict liability principle and channelling of liability

II.II.I WG Report

(a) Strict Liability

In the WG Report, strict liability, meaning liability without fault with some exceptions, is applied to Ground Damage. It is because, in order to save possible victims, those who execute ultra hazardous activities, including launch or return of space objects, should be liable for the result caused by such activity even with utmost care. Also to save possible victim from the difficulty of proving fault or wilful misconduct of launch and return providers.

The exception for the providers' strict liability should be considered as a result of a balance between saving possible victims and avoiding overburden to the providers. The WG Report recommends that the Japanese Act on Compensation for Nuclear Damages (Law No.147, 1961. Herein after referred to as "Nuclear Compensation Act") article 3would be an example to refer as it has the similar kind of article. In this act, damage caused by anomalously huge natural disaster and social convulsion (such as war, civil war or insurrection etc.) are considered as exceptional.

On the other hand, for Space Damage, fault liability principle is applied since it is an area where damages occur between professional space operators and not the general public, thus there is no need to apply strict liability between these people by regarding the activity as an ultra hazardous activity.

(b) Channelling of third party liability to the launch (and reentry) provider

The provider shall be exclusively liable for damage arising from liability arising from launch or return of a space object. And the right to obtain reimbursement from other joint obligators is limited to the case of wilful misconduct. This closes the possibility of the possible victim to make claim against the component or parts providers and protects them, and at the same time helps the possible victim specify who to make claims against. In order to ensure this channelling of liability to the launch or return provider, the application of Product Liability Act (Law No.85 1994) shall be excluded as the Nuclear Compensation Act Article 4, Paragraph 3.

(c) Third Party Liability concerning Space Damage to satellite operators

Concerning damage caused by satellite operation, as mentioned in (a), in the WG Report, strict liability applies to Ground Damage and fault liability applies to Space Damage.

In the WG Report, for the foreseeable future, satellite operators will not have channeled third party liability nor be required measures to secure payment of liability in ways such as obtaining

insurance. The reason is because third party liability risks are considered to be extremely lower than that for launch or return of a space object, and because requiring measures to secure payment of liability is yet to become an international standard.

II.II.II U.S. Commercial Space Launch Act

(a)Application of strict liability

In the U.S. Law, any article clearly stating that strict liability shall apply to a launch does not exist. The Commercial Space Launch Act (49U.S.C. Subtitle IX, Chapter 701, hereinafter referred to as "CSLA") requires launch operators to gain insurance and mentions about government payment to a certain amount, but it does not define the conditions or the scope of liability of a launch provider. One could say that this is an area of civil tort liability. In the U.S. law, an ultra hazardous activity is defined as an act or course of conduct which necessarily involves a risk of serious harm to others which cannot be eliminated by the exercise of utmost care and is not of common usage (American Law Institute Third Restatement Article 519, 520. A professional's view in regarding a launch as ultra hazardous can be found [2]), thus when a claim is filed in the U.S. the court will decide whether a launch is an ultra hazardous activity and if so strict liability shall apply, and if not fault liability shall apply.
As a conclusion, even if strict liability shall apply, the court shall decide its scope.

(b) Channelling of liability

Also, the U.S. law does not require channeling of liability to the launch or return provider. Therefore, a launch provider and all its related entities have the risk of being filed a claim. However, as mentioned later on, the licensee (who is usually the launch or return provider), is required to obtain third party liability insurance that will include the related entities as persons insured, thus within the insurance coverage (in other words, within the amount of the insurance obtained and not in the case of insurance policy exclusion), the related entities will be protected.

(c) Third Party Liability for damage caused by satellite operation

The U.S. CSLA does not restrict damage arising from satellite operation and not from this law or from the Federal Communications Commission (FCC) authorization based on U.S. Communications Act[†] third party liability insurance is required and this damage is not subject to government indemnification.

II.II.III French Space Operations Act

(a) Strict Liability

Absolute liability shall be applied to the operator for damage on ground an in air space.
(French Space Operation Act (Law No. 2008-518 of June 3rd, 2008. Hereinafter referred to as "FSOA") Article 13 paragraph 1)

This absolute liability shall end when all the obligations set out in the authorization or the license are fulfilled, or at the latest one year after the date on which these obligations should have been fulfilled, except in the case of wilful misconduct. The Government shall be liable in the operator's place for damages occurring after this period. And as it states "in the operator's place", the liability itself transfers to the government instead of remaining to the operator (Article 13, paragraph 2).

(b) Channelling of liability

For the damage caused to third parties, the law applies channelling of liability by stating that "the operator shall be solely liable". (Article 13, paragraph 1)

(c) Third Party Liability for Space Damage from satellite operation

The French law includes satellite operations in the liability regime together with the launch and return.

II.III Means to ensure the payment of Third Party Liability

II.III.I WG Report

The WG Report requires launch and return providers to take measures to ensure the payment of the third party liability caused from launch and reentry. The expected measures include purchase of Third Party Liability insurance or deposit of the money required. The government decides the amount of liability required to be ensured by considering the amount sufficient to save the victims, availability of the insurance market, and related foreign examples.

II.III.II U.S. Commercial Space Launch Act

In the CSLA, the Licensee is required to obtain third party liability insurance or demonstrate financial responsibility in amounts to compensate for the maximum probable loss (MPL) from claims by a third party for death, bodily injury, or property damage or loss resulting from an activity carried out under the license (70112(a)(1)). There is an upper limit of $500M to the amount of insurance or

[†] Communications Act of 1934 as amended (47 U.S.C. 214, et seq.)

financially responsibility the Licensee needs to demonstrate.

The exceptions of the insurance is reviewed by the FAA when they review the insurance policy thus in case when such damage occurs, it would be subject to government indemnification.

II.III.III French Space Operations Act

The French law requires obtaining insurance or other financial guarantee approved by the Government, to cover third party liability that may occur during the launch phase or the command (operation) phase (FSOA article 6). The amount of insurance required is the amount set out in article 16 and 17. The Finance Act states 60M Euros for launch phase and 50 to 70 M Euros for the command phase.

The Ariane Declaration also sets out 60M Euros for all the launches planned to take place under the French Space Launch Act, which is the launch of Ariane, Vega, and Soyuz launch vehicles.

II.IV Government Indemnification

II.IV.I WG Report

As recognized in the former section, there are damages that cannot be covered by the measures required to secure payment of liability, such as damage exceeding the amount of insurance. These damages shall be indemnified to the launch or return providers by the government.

The rationale is to provide a level playing field for the launch or return providers under the circumstance that it is common the governments aid their launch providers for damage over the third party liability insurance, securing payment to the victims as well as to give economic stability to the launch /return providers that implement space development which is promoted by the government.

The Nuclear Compensation Act states that the government may indemnify liability of the Nuclear operators when the government regards necessary to achieve the purpose of this act. Compared to this, the large difference is that the WG Report mentions the government indemnification without conditions when the amount of damage is higher than the insurance.

II.IV.II U.S. Commercial Space Launch Act

(a) Government Payment of Excess Claims

For successful claims of a third party above the amount of insurance or demonstration of financial responsibility required by the Government, the Government shall provide payments. This payment is made up to $1.5 billion (plus additional amounts necessary to reflect inflation occurring after January 1989) above that insurance or financial responsibility.

However, damage resulted by willful misconduct by the licensee is an exception to government payment (70113(a)(2)).

Also, damage arising from causes insurance is not available to cover because of an insurance policy exclusion that the Secretary decides is usual, the Secretary of Transportation shall provide payment for such loss. (The legislation states this to be discretion of the Secretary （70113(a)(2)） but the regulation makes is mandatory (CFR440.19(c))

The procedure for the payment is done by the President, on the recommendation of the Secretary of Transportation, submitting a compensation plan to the Congress for approval.

Additionally, when the court decides that the launch provider and its related entities are not liable to the third party, there could be no government payment based on the CSLA. However, as mentioned later, in order to save the victims, the government could cover such damage based on other laws as reliefs.

(b) Payment of damage above the government payment mentioned in (a)

See “II.V Coverage of areas not covered by government indemnification”

II.IV.III French Space Operations Act

When an operator has been condemned to compensate a third party for a damage, the government guarantees for the part of the compensation exceeding the amount set out in the conditions set out in the French Finance Act. However, such government guarantee is limited to space activities that has been undertaken from the French territory or from the territory of another Member State of the European Union or from the territory of a State party to the European Economic Area Agreement, or from means or facilities falling under the jurisdiction of France or another Member State of the European Union or of a State party to the European Economic Area Agreement (FSOA Article 15).

Also, damage caused by wilful misconduct is excluded from the government guarantee.

Furthermore, damage caused by an authorized space activity as a result from acts targeting governmental interests, such as war and terrorism, could be considered to be subject to government guarantee. When a state makes payment based on the Outer Space Treaty and the Liability Convention, usually the government presents a claim to reimburse the amount paid to the space operator having caused the damage. However, the FSOA

states that the government shall not claim for indemnification to the operator if the damage was caused as a result from acts targeting governmental interests. Therefore, as a balance to this article, one could consider this damage to be part of the government guarantee. Whether such damage arising from war and terrorism is covered by the government indemnification is important because the FSOA sets strict liability on the operator and there are no clear text excluding this loss, and such damage is not subject to the third party liability insurance.

For insurance exclusion other than war and terrorism, the French law is not clear since it only divides the area the government guarantees by the amount of money. However, one could consider that from the rationale the liability regime is made in this law being steady management of the launch providers and it being parallel with the U.S. law, it is likely that the law will be interpreted that the government covers such loss if it ever occurs.

Additionally, the liability of the operator shall end when all the obligations set out in the authorization or the license are fulfilled, or at the latest one year after the date on which these obligations should have been fulfilled.

The government will be liable in the operator's place for damages occurring after this period (Article 13). Since the liability does not remain in the operator this may not be considered as an indemnification. However, this is pointed out here for comparison, since it is common in terms of the government taking financial burden.

II.V Coverage of damage the government does not indemnify

II.V.I WG Report

(a) Damage which launch or return providers are not liable for

The WG Report covers the scope where the operator is liable for. Therefore, even if damage occurs from space activities, the government indemnification shall not apply to the damage the launch providers are excluded from being liable.

According to the WG Report, the scope of liability launch providers are excluded should be determined by considering not to over burden the launch providers and balance appropriate protection to the possible victims, thus Nuclear Compensation Act article 3 paragraph 17 should be a reference when determining such exclusion. According to this law, damage caused by anomalously huge natural disaster（Earthquake, etc.） and social disorder (War, Civil War or Insurrection etc.) are excluded from the provider's liability.

For such damage, government coverage in ways such as relief is expected to take place.

(b) Liability of satellite operators

The WG Report mentions that for the foreseeable future, satellite operators shall not be channeled third party liability, nor any mandatory measures to secure payment such as TPL insurance. As a result, there is no government indemnification and the satellite operators must pay all damage by themselves.

II.V.II U.S. Commercial Space Launch Act

For damage above the MPL and the government indemnification ($1.5 billion (plus additional amounts necessary to reflect inflation occurring after January 1989) above that insurance or financial responsibility, the launch provider and its related entities incur the damage.[3] However, some views explain that in such cases the congress may make special legislation to make payments for such damage.[4]

Also, for damage caused by wilful misconduct is excluded from government payment (70113(a)(2)). Such damage is not covered by TPL insurance thus the related entity who caused the wilful misconduct shall be liable for all damage.

And for the third party damage the court decides that the launch provider and its related entities are not liable for (for instance, when the third party victim fails it claim) shall not be subject to government payment. However, in order to save possible victims, there is a possibility for government payment to be made. Such payment will be based on other laws from the CSLA, such as the Stafford Act (Public Law 93-288) for Federal Government payment to damage caused by natural disasters.

For damage caused by satellite operators, the government has no indemnification measures. The government does not require insurance when licensing such space operations thus the operator shall be liable unlimitedly.

II.V.III French Space Operations Act

Damage caused by wilful misconduct is not subject to government indemnification. Usually, such damage is not covered by insurance thus the space operator shall incur liability with no upper limits nor time limits.

II.VI Liability between related entities to space activities (Cross-waiver of liability)

II.VI.I WG Report

The WG Report does not mention about liability between related entities to a certain space

activity. For matters between related entities, the government understands that it is better not to interfere and apply the principle of private autonomy. Like other nations, in Japan the practice is to agree to cross-waiver of liability between the related entities for launch, return and satellite operations no matter if it is the government or private body. Thus one could say that if cross-waiver is stated in the law, it would further smooth contract practices in Japan.

II.VI.II U.S. Commercial Space Launch Act

The CSLA requires cross waiver of liability between the related entities including customers and the U.S. Government as a license condition (70112(b)). This mandatory cross waiver of liability protects licensee and its related entities from unquantifiable damage, and facilitates the purchase of insurance. For Government property, another insurance or demonstration of financial responsibility is required (70112(a)(1)(B)), and the damage exceeding this is subject to cross waiver of liability.

II.VI.III French Space Operations Act

The FSOA requires a cross-waiver of liability between any person taking part in a space operation or the production of a space object that caused damage (Article 19 when the damage occurs to people other than the related people, and Article 20 for damage occurring within the related people). However, the law makes an exception for the case of wilful misconduct. Compared to the U.S. law making cross-waiver a requirement for the license, the FSOA requires it directly in clear text of the law.

II.VII. Wrap up of the comparison

The following could be mentioned about the liability regime mentioned in the WG Report compared to the U.S. and French Law.

- There is no clear text in the U.S. law applying strict liability to Ground Damage and the liability will be decided by the court, while the French law states absolute liability for such damage. For the Japanese new law, the WG Report mentions strict liability to apply to Ground Damage.

- Although the French law and the WG Report both apply liability without fault to Ground Damage, the French law does not limit liability of the operators. Compared to this, the WG Report mentions exceptions to be made for damage caused by anomalously huge natural disaster （Earthquake, etc.） and social disorder (War, Civil War or Insurrection etc.)

- On the other hand, the French law limits the liability of the operator when all the obligations set out in the authorization or the license are fulfilled, or at the latest one year after the date on which these obligations should have been fulfilled, and the liability transfers to the government. Such a limit to liability by period for operators do not exist in the U.S. law and in the WG Report

- Channelling of liability does not exist in the U.S. law (CSLA), but is applied in the French law and the WG Report. The French law requires channelling not only to launch, return operators but also satellite operators. The WG Report only requires to launch and return providers.

- For measures to secure payment capability, in the French law not only the launch and return is required to obtain insurance or other financial guarantee approved by the Government, but also the satellite operation also requires such measurements. It is together with government indemnification. Such requirement for satellite operation cannot be found in the U.S. Law. In the WG Report, like the U.S. no measurements are required for satellite operation and thus no government indemnification exists as well.

- There is an upper limit to the amount of Government indemnification in the U.S. CSLA. For damage over that, the payment remains with the operator, or legally liable party, and existing laws do not cover such loss. But in the French law and the WG Report, there are no upper limits.

- It is clear in the U.S. law and the WG Report that Government indemnification covers damage to which exclusion of insurance policy applies. The French law does not have such clear text and will depend on the interpretation of the law.

- The claims between the related entities are required to be waivered by law in the U.S. and France but the WG Report leaves it to the contracts by applying the principle of private autonomy.

III. CONCLUSION

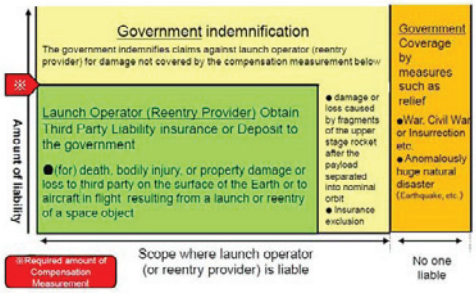
The commercial launches that take place today in Japan have a certain involvement of Japan Aerospace Exploration Agency (JAXA) and is done based on the JAXA law. This law states that if special agreement mentioned in article 22 of the JAXA law (Law No.161 2002) is concluded with JAXA with authorization from the government, and the damage exceeds the TPL insurance caused by the launch, JAXA will pay for such damage. Thus third party indemnification regime already exists in Japan for commercial launches such as

the Mitsubishi Heavy Industry (MHI)'s commercial launch service.

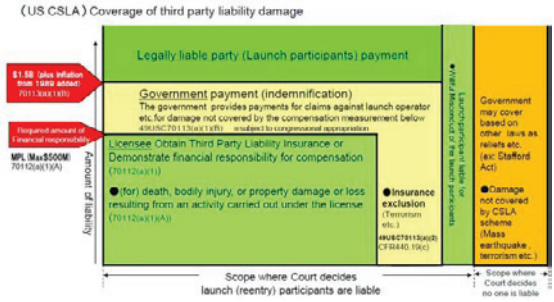
In the WG Report of the Space Activities Law, the liability regime covers launches that may have no involvement of JAXA. The employment of strict liability, channelling of liability, requirements for measures to secure payment capability and government indemnification to damage exceeding such measures with no ceiling makes the launch operator liable to the extent the purchased insurance covers, unless in the case of wilful misconduct. Although different from the French Law, like the majority of foreign practice, there is no government indemnification to damage caused by satellite operations but also has no insurance requirements as well. Therefore, it is fair to mention that the liability regime described in the WG Report is as good as that of the U.S. and France in terms of saving the victims and promoting space activities of the private entities. I hope such legal regime will be established in near future.

This WG Report is the result of the debate concerning matters related to the Space Activity Act that requires expertise, and the drafting of the bill itself is currently taking place in the government. The Japanese Space Activities Act is being designed using the Act on Compensation for Nuclear Damages as a reference. It is too early to evaluate the influence of the nuclear disaster in Fukushima to the bill. Thus in this paper, I will go no further than objectively comparing the WG report with the U.S. and the French regime.

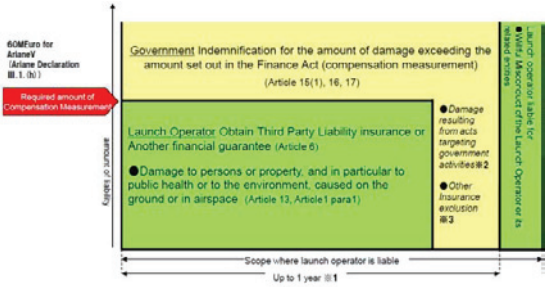
[Chart 1]
(Japan's Draft Space Activities Act)
Coverage of liability for third party's damage on the surface of the Earth or to aircraft in flight caused by the launch (or return)



[Chart 2]



[Chart 3]
(French Space Operations Act)
Coverage of third party liability damage



※1 Liability of Launch Operator shall end when all the obligations set out in the authorization or the license are fulfilled, or at the latest one year after the date on which these obligations should have been fulfilled.
The government will be liable in the operator's place for damages occurring after this period. (Article 13)
※2, ※3 Assumed by author

[1] The Report of the WG for Legislation on space activities
http://www.kantei.go.jp/jp/singi/utyuu/katudo/houkokusho.pdf

[2] Captain George D.Schrader "Space Activities and Resulting Tort Liability" Oklahoma Law Review, Vol.17, 139 (1964) p.148

[3] U.S. DoT/FAA "Liability Risk-Sharing Regime for U.S. Commercial Space Transportation". April 2002 p.ES-2, p1-11

[4] Francis Lyall & Paul B. Larsen"Space Law", Ashgate, (2009) pp.492-493