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Nuclear Liability and Nuclear Liability Waiver Clauses

A Swedish Perspective

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INTRODUCTION

1. Increased Importance of Nuclear Liability Issues

The issue of nuclear liability and nuclear liability waiver clauses will likely gain increased importance in Sweden, as the construction of new nuclear power plants successively has become a strong political objective.

In 2010, the Swedish government's possibility to suspend or revoke the right to operate nuclear reactors was repealed by new legislation. Other nuclear legislation entered into force in 2011, which allowed for the construction of new nuclear reactors intended to replace a nuclear reactor which had been in operation after 31 May 2005. While the construction of new reactors became possible, only ten could be in operation at the same time.

In June 2023, the Swedish government referred a new proposal for consideration to the Council on Legislation.[1] It is there proposed that the current rules, hindering the expansion of the nuclear industry, are changed so that it becomes possible to construct new nuclear reactors at other locations than the existing nuclear installation sites. It is also proposed that it shall be allowed for more than ten reactors to be in operation at the same time. In November 2023, the Swedish government appointed an inquiry chair to consider existing legislation with the view of facilitating new nuclear energy in Sweden.[2]

Consequently, the nuclear industry in Sweden is successively becoming less restrained and if the new proposal comes into force, it may start a new era in the industry.

2. The Intention with this Exposition

For natural reasons, the topics of nuclear liability and how nuclear liability waiver clauses should be drafted are common in connection with all deliveries of equipment, components and services to nuclear power plants.

Nuclear liability waiver clauses are normally drafted as predetermined templates by specialist counsels at the corporate headquarters of the suppliers and nuclear power plants operators. In the typical situation that two different versions of waivers – both labelled as "mandatory contract requirements" - stand against each other, those specialist counsels do not always participate in the negotiations. Rather, it is other employees of the supplier and the operator who actually discuss the wording of such clauses. Those employees are often not familiar with the underlying regulatory framework. This creates problems and deadlocks.

The main intention with this exposition is to provide an overview of the Swedish nuclear liability rules, along with some suggestions on how to approach the issue of nuclear liability waiver clauses. It is recognized that the corporate instructions of suppliers to the nuclear industry and operators of nuclear power plants seldom allow other than specialist counsels to decide upon the final wording of nuclear liability waiver clauses. It is wise. However, this exposition may be used as guidance for discussions regarding such clauses, prior to submitting a compromise suggestion to both sides' specialist counsels for considerations, comments and perhaps approval.

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[1] *Lagrådet*. The proposal/referral is called: "New nuclear energy for Sweden – a first step". It may be accessed in Swedish at the Swedish Government Offices website: https://www.regeringen.se/rattsliga-dokument/lagradsremiss/2023/06/ny-karnkraft-for-sverige--ett-forsta-steg.

[2] *En särskild utredare*. The inquiry is called: "New nuclear energy in Sweden – a second step". It may be accessed in Swedish at the Swedish Government Offices website: https://www.regeringen.se/rattsliga-dokument/kommittedirektiv/2023/11/dir.-2023155 .

3. *Content*

This exposition is structured as follows:

CHAPTER I

THE LEGAL FRAMEWORK

1. General Overview

Swedish law is within the area of nuclear liability based on the Paris Convention on Third Party Liability in the Field of Nuclear Energy and the Brussels Supplementary Convention, as well as the latest protocols from 2004 amending the said conventions (together the "**Conventions**").

The reason for the additional protocols from 2004 was Chernobyl. Because of Chernobyl, claims that were not included in the existing definition of "nuclear damage" were made by injured parties, for example loss of turnover, crops, animals, fish, costs of reinstating the environment and loss of an economic interest in enjoying the environment (hotel owners losing income). The disaster in Chernobyl also made it obvious that more financial funds needed to be available to compensate injured parties.[3] It was concluded by the contracting states that the Paris Convention needed improvements.

At the same time as the latest protocols from 2004 entered into force on 1 January 2022, the Swedish legislation was updated by a new Act on Liability and Compensation for Radiological Damage (the "**LRO**").[4] The LRO replaced the former Nuclear Liability Act from 1968.[5]. The LRO is supplemented by an ordinance on Liability and Compensation for Radiological Accidents.[6]

Although this exposition is based upon Swedish law and reference often is made to the LRO, the described situations will generally be the same or similar in other countries that have acceded to the Conventions.[7] However, there may of course be differences depending on how the Conventions have been implemented in the national laws and because of each country's principles for contract interpretation etc.

It should be mentioned that there also is another international convention within the area of nuclear liability, the Vienna Convention. It is an alternative to the Conventions.[8]. For many years, there was no link between the Conventions and the Vienna Convention. Such link was created first after Chernobyl, by the so-called Joint Protocol.[9] It has the effect that the Conventions under certain circumstances will

[3] For a further account of the background to the latest protocols, see Third Party Nuclear Liability: The Case of a Supplier in the United Kingdom, Anthony Thomas and Raphael J. Heffron, February 2012, EPRG Working Paper 1205, Cambridge Working Paper in Economics 1207.
[4] *Lag (2010:950) om ansvar och ersättning vid radiologiska olyckor.*
[5] *Atomansvarighetslagen 1968:45.*
[6] *Förordning (2021:1142) om ansvar och ersättning vid radiologiska olyckor.*
[7] Thirteen countries have acceded to the Conventions, mainly Western European countries. Three more countries have acceded to the Paris Convention but not to the latest protocols from 2004. For a full list of countries which have acceded to the Paris Convention and its additional protocols, see https://www.oecd-nea.org/jcms/pl_31798/paris-convention-latest-status-of-ratifications-or-accessions.
[8] 33 countries have acceded to the Vienna Convention, mainly Eastern European and Latin American countries.
[9] 24 countries have acceded to the Joint Protocol.

apply also to nuclear damage suffered in non-convention countries that have acceded to the Vienna Convention and the Joint Protocol. However, such application of the Conventions in non-convention countries is subject to different pre-conditions which fall outside the scope of this exposition. The same generally applies with respect to non-Swedish injured parties' possibilities to argue that other liability rules than those of the Conventions shall apply.

2. Different Terminologies

The LRO introduced a new terminology for some key expressions in connection with nuclear liability. The expressions "nuclear incident" and "nuclear damage" used in the Conventions were not correspondingly translated to Swedish. Because of this, there is a particular problem when writing in English that initially must be addressed.

The expression "nuclear incident" in the Conventions has been translated to *radiologisk olycka* in the LRO, which in English corresponds to "radiological accident". Similarly, the expression "nuclear damage" in the Conventions has been translated to *radiologisk skada* in the LRO, which in English corresponds to "radiological damage". The reason for this deviating translation between the Conventions and the LRO was a desire to align the terminology in the LRO with the terminology in other Swedish legislation.[10]. No difference in the underlying meaning of these expressions, compared to the meaning of the expressions in the Conventions, was intended.

In continuation, we will use the expressions "**radiological accident**" and "**radiological damage**". They shall in this exposition be understood in the same way as *radiologisk olycka* and *radiologisk skada* in the LRO.

The deviating translation between the Conventions and the LRO is unfortunate when it comes to nuclear liability waiver clauses in English. When drafted by Swedish lawyers, such clauses will typically use a direct translation of the Swedish terms, i.e. radiological accident and radiological damage. It is also recommendable if the nuclear liability waiver clause is governed by the laws of Sweden. However, those expressions may be unknown to lawyers from other jurisdictions, used to the expressions in the Conventions. For the non-Swedish reader, it shall again be emphasized that no difference in the underlying meaning of the Swedish expressions, compared to "nuclear incident" and "nuclear damage", has been intended by the Swedish legislator.[11]

From a pure Swedish perspective, it is with the new terminology in the LRO hardly correct to use the title nuclear liability and nuclear liability waiver clauses for this exposition. However, these expressions correspond better to the expressions in the Conventions and are so well established that it would probably cause confusion if others were used.

CHAPTER II

INTRODUCTION TO THE LRO

1. The Purpose of the LRO

The main purpose of the LRO is to align the Swedish legislation with the Conventions, as they were amended by the additional protocols from 2004.

The main purpose of the Conventions is to provide adequate compensation to the public for radiological damage resulting from a radiological accident and to ensure that the growth of the nuclear industry is not hindered by bearing an intolerable burden of liability.

In all material respects, the LRO contains the same regulations as the Conventions. The preparatory work for the LRO also frequently refers to the Conventions.[12]

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[10] Mainly *Kärntekniklagen* and *Strålsäkerhetsmyndighetens föreskrifter och allmänna råd om säkerhet i kärntekniska anläggningar*.
[11] See for example Prop. 2009/10:173 p. 72 and 86.
[12] *Prop. 2009/10:173 Kärnkraften – ökat skadeståndsansvar.*

Most of the provisions in the LRO are mandatory, which means that they apply regardless of contractual provisions to the contrary.[13]

In line with the rules introduced by the additional protocols from 2004, the major differences between the LRO and the former Nuclear Liability Act from 1968 can be summarized as follows:

- the liability of the operator of a nuclear installation is no longer limited,
- an operator of a nuclear installation, containing a nuclear reactor in operation, is now obliged to have liability insurance for an amount of 1 200 million EUR,
- the types of damage that can be compensated in case of a radiological accident have been substantially expanded, and
- the liability of the operator of a nuclear installation now also includes ”late” damage with respect to personal injuries, i.e. personal damage or loss of life incurred more than ten years from the date of the radiological accident.

2. Key Expressions

Certain key expressions are used in the LRO. The defined content of these expressions must be known for a correct understanding of the substantive rules of the LRO.

A few more translation issues must initially be mentioned, in addition to those mentioned in Chapter I.

The expression “nuclear installation” in the Conventions has in the LRO been translated to *kärnteknisk anläggning*. No difference in the underlying meaning of this expression, compared to the expression in the Conventions, has been intended. In continuation, we will use the expression “**nuclear installation**”.

The expression “operator” in the Conventions has in the LRO been translated to *anläggningshavare*. No difference in the underlying meaning of this expression, compared to the expression in the Conventions, has been intended. In continuation, we will use the expression “**Operator**”.

After having clarified those translation issues, the following key expressions in the LRO and their respective defined content should be known by the reader for a proper understanding of the remainder of this exposition:

Nuclear installation: It is only nuclear installations that fall within the scope of the LRO. Several types of installations are considered to be nuclear installations:

- nuclear reactors,
- factories for the manufacture or processing of nuclear substances (including nuclear fuel),
- installations for the disposal of nuclear substances or waste,
- installations for the storage of nuclear substance or waste unless the storage is only incidental to the transport of such substance or waste, and
- any such installation, factory or reactor which is in the course of being decommissioned.

If several installations have the same Operator and are located within close proximity to each other, two or more nuclear installations shall be considered as one and the same installation. In line with this, each of the nuclear reactor areas in Oskarshamn, Forsmark, Ringhals and the decommissioned reactors in Barsebäck constitute a single nuclear installation.[14]

Radiological Accident: Radiological accidents comprise any occurrence or series of occurrences having the same origin which causes damage by ionizing radiation from a nuclear installation or as a result of

[13] See 9 § in the LRO, which states: "*om inte annat följer av denna lag, **ska** lagen tillämpas på radiologiska skador*". Roughly translated into English: ‘*unless otherwise set out herein, the act **shall** apply to radiological damage*’. It is further mentioned in the preparatory work (prop. 2009/10:173 s. 41) that rules in the Paris Convention, which the LRO is based upon, are mandatory.
[14] Prop. 2009/10:173 p. 125.

radioactive properties in nuclear substance or waste in themselves or in combination with toxic, explosive, or other dangerous properties in such material or waste.

As soon as radioactive properties of nuclear substance or waste has contributed to the causal chain, leading to damage, a radiological accident may be at hand.[15]

Radiological damage: Radiological damage includes any damage caused by or resulting from a radiological accident and comprise:

1. personal injury or property damage,
2. economic loss that is a direct consequence of personal injury or property damage,
3. loss of income not included in the above-mentioned but which, because of a substantial deterioration of the environment, has caused damage to an economic interest that is directly linked to the environment,
4. costs for restoring the environment or compensating for lost environmental assets, if it is a case of environmental damage that is not insignificant and the measure(s) to which the cost refers has(ve) been approved as reasonable by the authority designated by the government, and
5. following a radiological accident or in the event of severe and immediate danger of such an accident, costs for taking reasonable measures to prevent the kind of damage listed in items 1-4 and damage ensuing from such preventive measures.

The definition of radiological damage under the LRO means that more types of damage are compensable than otherwise would be the case under general Swedish tort law.

Operator: The proprietor of a nuclear installation.

Although not defined in the LRO, we will below refer to the party providing equipment, components, materials and/or services (including installation work, engineering and project management) to a nuclear installation as the "**Supplier**".

CHAPTER III

THE OPERATOR'S LIABILITY

1. Strict and Unlimited Liability for Radiological Damage

Under the LRO, a main rule is that the Operator is strictly liable for all radiological damage resulting from a radiological accident at the Operator's nuclear installation.[16]. Another main rule is that all such liability shall be channeled to the Operator, regardless of who caused the radiological accident (see further below).

The aforesaid liability of the Operator is unlimited.[17]

While this legal framework undoubtedly gives rise to a considerable risk and increased costs for Operators of nuclear installations, the unlimited and strict liability regime has been motivated as being consistent with the "polluter-pays-principle"; a fundamental principle in environmental law. Another motivation is that such regime will strengthen the driving forces for safety work in the nuclear industry.[18]

[15] Prop. 2009/10:173 p. 119.
[16] Strict liability means that the Operator can be held liable without having caused the radiological accident by intent or negligence. Under general Swedish tort law, the existence of negligence is otherwise a requirement for liability.
[17] Under the former Nuclear Liability Act from 1968 (*atomansvarighetslagen*), an operator's liability was limited to approximately four billion SEK.
[18] Prop. 2009/10:173 p. 53.

The fact that the liability of the Operator is unlimited does not mean that the liability can be extended to include companies within the Operator's company group. Thus, the parent company of the Operator is not under the LRO liable for radiological damage that cannot be paid by the Operator (or its insurers).[19]

Although the Operator's liability is unlimited, an injured party claiming compensation must still prove that any radiological damage suffered has been caused by a radiological accident at the Operator's nuclear installation. In other words, an Operator will only be liable to provide compensation under the LRO if an injured party has:

- proven that it has suffered radiological damage, and
- established a causal link between this damage and a radiological accident at the Operator's nuclear installation.[20]

The few exceptions to the main rule that the Operator is strictly liable for all radiological damage resulting from a radiological accident at the Operator's nuclear installation are discussed in Chapter IV.

2. The Channelling of Liability

The channelling principle (*kanalisationsprincipen*) means that liability for radiological damage always shall be channeled to the Operator of the nuclear installation in which the radiological accident occurred.[21]

Thus, even if the radiological accident was caused by faulty deliveries from a Supplier, it is the Operator who is liable to third parties for the resulting radiological damage. None other than the Operator (or in the background the Operator's insurer) may by third parties be held liable for radiological damage. As discussed in Chapter IV, it is however possible for a Supplier to contractually allow the Operator a right of recourse. This does not affect the Operator's initial liability to third parties.

Although the channelling principle at first glance may appear harsh on the Operators, there are several advantages with it. All victims of radiological damage will know against whom they shall direct their claims. It also simplifies insurance matters, since only the Operators will need specific insurance for radiological damage.

The channelling principle further facilitates the possibility of Suppliers to be able to provide equipment, components and services to nuclear installations. Without the channelling principle, a Supplier would be subject to substantial risk exposure in connection with each minor delivery to a nuclear installation. A party suffering radiological damage would have been able to sue the Supplier on the basis that the Supplier's equipment, components or services caused or contributed to the radiological damage. The existence of such a possibility would have significantly reduced the willingness of Suppliers to deliver to nuclear installations, particularly since the risk of liability is not dependent upon or correlative to the size of the contract price. That this actually is the case has also been shown in connection with safety and modernization projects in countries that had not acceded to the Paris or Vienna Conventions.

In the early 90's, Western companies refused to accept contracts for much needed safety improvement projects at Eastern European nuclear installations. The reason was that the relevant Eastern European countries had not acceded to the Paris Convention or the Vienna Convention and in consequence did not have the channelling principle. The Western companies were afraid that if a radiological accident occurred, the injured parties might sue the Western company instead of the Operator.[22]

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[19] Prop. 2009/10:173 p.52.

[20] It may sometimes be difficult for an injured party to prove the existence of a radiological damage and causal links. In order to mitigate these difficulties for injured parties, Section 10 of the LRO regulates that where nuclear damage is caused jointly by a radiological accident and another incident, that part of the damage which is caused by such other incident shall, to the extent that it is not separable from the radiological damage caused by the radiological accident, also be considered radiological damage; see prop. 2009/10:173 p. 124.

[21] The channelling principle is expressed in Section 26 of the LRO.

[22] See "Potential Liability of Contractors Working on Nuclear Safety Improvements Projects in Central and Eastern Europe" in Nuclear Law Bulletin No. 53, June 1994.

The basic premise for the reasoning above is that the radiological damage occurs in a country in which the channelling principle applies. Ionizing radiation from a radiological accident at a nuclear installation in Sweden may very well result in radiological damage in many different countries. A Supplier must therefore also consider that the channelling principle may not apply in an affected country. As further discussed in Chapter VII, this is a root cause for the use of indemnifications in nuclear liability waiver clauses.

3. Liability Insurance

Under the LRO, an Operator is obliged to have and maintain liability insurance or some other financial security that corresponds to:

- EUR 1 200 million, if the installation contains a nuclear reactor in operation, or
- EUR 700 million, if the installation does not contain nuclear reactors in operation.

Other financial security than insurance may not consist of property on which nuclear activities are conducted and must – separately or combined with other security – be satisfactory for its purpose.[23]

The total liability to be insured, or covered by other security, by all Swedish Operators amounts to 6 260 million EUR (2023). Of this amount, 93.8 % is covered by insurance provided by Nordic Nuclear Insurers (NNI), European Liability Insurance for the Nuclear Industry (ELINI) and WAGRAM Insurance Company (WAGRAM). Only 6.2 % is covered by other securities.[24]

The requirement for liability insurance or other security may under certain circumstances be set to a lower amount.[25] None of the Swedish nuclear installations have such lower limits.

4. Liability in Connection with Transportation

With respect to liability in connection with transportation of nuclear substance or waste, the following shall briefly be mentioned.

The Operator sending nuclear substance or waste on transportation is liable for any radiological accidents occurring during such transportation, as well as during temporary storage thereof in connection with the transportation. The sending Operator's liability ends when the Operator of another nuclear installation has taken charge of the nuclear substance or waste. There are exceptions to this general rule.

CHAPTER IV

EXCEPTIONS TO THE OPERATOR'S LIABILITY

As we have seen in Chapter III, the main rules are that an Operator is strictly liable for radiological damage and that such liability shall be channeled to the Operator. However, there are some exceptions to these main rules.

1. The Operator's Right of Recourse

If the Operator has paid compensation to a third party for radiological damage, the Operator is, with deviation from the channelling principle, entitled to a right of recourse in the following cases:

- If the radiological accident results from an act or omission by a natural person with the intent to cause damage. The Operator, or the Operator's insurance company, then has a right of recourse against the individual in question.

[23] Ordinance 2021:1142 on liability and compensation for radiological accidents.
[24] The Swedish nuclear installation operators have all chosen to provide insurance, see *Ersättningsansvar vid Radiologiska Olyckor, Riksgäldens bedömning av försäkringar och säkerheter 2023* of 2023-11-30.
[25] Section 31 of the Radiological Liability Act. An operator which desires such a lower limit may make a written application to the Swedish Radiation Safety Authority. The Swedish Government may then decide, on a case-by-case basis, if the requirement for liability insurance or other security may be lowered.

- If a Supplier in a written contract with the Operator has undertaken to pay compensation for radiological damage. The Operator, or the Operator's insurance company, then has a right of recourse against the Supplier in accordance with the terms of the written contract. Such terms can include a limited or unlimited obligation for the Supplier to pay compensation for radiological damage.

With respect to a natural person who intentionally causes a radiological accident, the Operator's right of recourse is only against the individual, not against his or her employer. There is no vicarious liability for the employer. This applies without any contractual agreements in the form of a nuclear liability waiver clause.

Nuclear liability waiver clauses often include provisions stating that the employees of the Supplier always shall be excluded from liability for radiological damage. Since the LRO is mandatory, such provisions do not mean that the Operator's right to recourse against the relevant individual is affected, if he or she intentionally has caused the damage.

The other exception from the channelling principle is of great importance to Suppliers and one of the root causes for nuclear liability waiver clauses. Many standard conditions of contract include provisions generally stipulating that the Supplier is liable to the Operator for physical loss or damage to property or persons. They often also include an obligation for the Supplier to indemnify and hold the Operator harmless from third party claims for loss or damage to physical property or personal injury. Such provisions can be interpreted as an undertaking by the Supplier to be liable for radiological damage. This issue is further discussed in Chapter VII.

2. The Nuclear Installation and on-site property

Under the LRO, there are two types of damage that are excluded from an Operator's liability:

- Damage to the nuclear installation itself and any other nuclear installation, including a nuclear installation under construction, near the installation where the radiological accident occurred; and
- Damage to property on the nuclear installation site where the radiological accident occurred, if such property is used or shall be used in connection with the nuclear installation ("on-site property").

The purpose of these exclusions is to avoid that the Operator uses its economic resources to compensate damage to its installation and on-site property to the detriment of injured third parties.[26] The purpose seems odd with respect to the nuclear installation; the Operator cannot claim damages from itself.

The exclusions are another root cause for nuclear liability waiver clauses. It is because of them not only possible for a Supplier to contractually undertake to be liable for radiological damage to a nuclear installation or on-site property. There is a risk that such liability, in an unforeseen manner, arises by the use of standard conditions of contract commonly used in connection with deliveries to nuclear installations. Such terms not only include an obligation for the Supplier to indemnify and hold the Operator harmless from third party claims for loss or damage to physical property or personal injury. They typically also include an obligation for the Supplier to be liable for loss or damage to the Operator's property.

It should be mentioned that according to the preparatory work for the LRO, the aforesaid exclusions together with the channelling principle means the following: Unless the damage to the nuclear installation or on-site property has been caused by a natural person with intent, nobody can be held liable for the damage.[27] This statement seems to ignore the possibility of the Supplier to contractually

[26] Prop. 2009/10:173 p. 127. See also the Exposé des Motifs, paragraph 55. The Exposé des Motifs are preparatory work for the Paris Convention.
[27] Prop. 2009/10:173 p. 127.

agree to be liable and is in contradiction with statements in the Exposé de Motifs to the Paris Convention, see further in Chapter VII.

3. Force Majeure

The strict liability of the Operator for radiological damage is not subject to normal exemptions such as force majeure. However, there is one situation in which the Operator will be exonerated from liability. An Operator may not be held liable for radiological damage resulting from a radiological accident directly caused by acts of war or similar acts during armed conflicts, civil wars, or insurrections.

In the former Nuclear Liability Act from 1968, Operators were not liable if the radiological accident was caused by natural disasters. This is no longer the case under the LRO. It is in the aftermath of Fukushima and the stricter requirements that subsequently have been placed on the nuclear installations now assumed that nuclear installations shall be built to also withstand events of exceptional character.[28]

4. Adjustment of the Compensation in Case of Contribution to the Radiological Damage

Compensation to an injured party shall be decided in accordance with general principles of tort law. However, in case an injured party has contributed to the radiological damage by intent or gross negligence, the compensation can be adjusted as may be reasonable under the circumstances.

Negligence of a normal degree does not mean that an injured party's right to compensation shall be adjusted.

5. Time-Bars for Claims

An injured party wishing to claim compensation under the LRO must submit a claim to the responsible Operator within three years from the date on which the injured party had knowledge, or from the date at which that person ought reasonably to have known, of both the damage as such and the liable Operator.

If such claim has been made, the injured party must thereafter initiate legal proceedings against the Operator:

- Within ten years from the date of the radiological accident, other than in respect of personal injury or loss of life, and
- Within thirty years from the date of the radiological accident if the claim concerns personal injury or loss of life.

If an injured party does not comply with the above-mentioned, the right to compensation under the LRO is time-barred.

CHAPTER V

THE SWEDISH STATE'S LIABILITY

If an Operator or its insurance company cannot satisfy a claim for compensation for radiological damage, there is under the LRO a subsidiary liability of the Swedish state, provided that the radiological accident occurred at a nuclear installation in Sweden. Such situation could potentially arise if the Operator's insurer adjudges into bankruptcy.

The maximum liability of the Swedish state is for each radiological accident limited to EUR 1 200 million.

If an injured party still has not received full compensation for radiological damage, after receiving any possible compensation from the Operator, its insurer and/or the Swedish state, there is a further joint liability for the contracting states to the Conventions. This joint liability is limited to EUR 300 million.

For any compensation paid by the Swedish state, it has a right to recourse against the Operator.

[28] Prop. 2009/10:173. See also *Strålsäkerhetsmyndighetens föreskrifter om konstruktion och utförande av kärnkraftsreaktorer SSMFS 2008:17*.

CHAPTER VI

THE SUPPLIERS' LIABILITY

The account under this Chapter VI is a brief mirror image of the rules described in Chapters III and IV. It is included for the reader's convenience.

A "third party" shall below be understood as all other persons, be it a natural person, a company or other entity, than the Operator who is the Supplier's contractual counterpart.

1. No Liability of the Supplier to Third Parties

Under the LRO, a Supplier cannot be held liable to third parties for any radiological damage incurred by them. This applies even if a Supplier, by errors or omissions in the manufacturing of equipment or components or by faults in connection with installation of them, has caused the radiological accident.[29] All liability to third parties shall be channeled to the Operator.

The aforesaid applies even if an employee of the Supplier has caused the radiological accident with intent. Such individual can under the LRO be held personally liable, but the Supplier does not have a vicarious liability for him or her.

However, ionizing radiation from a radiological accident at a nuclear installation in Sweden may very well result in radiological damage in many different countries. A Supplier must therefore also consider that the channelling principle may not apply in an affected country. This is a root cause for the use of indemnifications in nuclear liability waiver clauses.

2. The Supplier's Liability to the Operator for Third Party Claims

Even though a third party cannot direct a claim for radiological damage to the Supplier, the Operator may by a contractual arrangement with the Supplier be entitled to recourse against the Supplier. This is a root cause for nuclear liability waiver clauses.

3. Liability For Damage to the Nuclear Installation to On-Site Property

Radiological damage to the nuclear installation itself and damage to on-site property are excluded from the main rules that it is the Operator who is strictly liable for radiological damage and that all such liability shall be channeled to the Operator.

This does not by itself mean that the Supplier who has caused the radiological accident is liable for damage to the nuclear installation or on-site property. It means that a Supplier contractually can undertake to be liable for such damage. This is another root cause for nuclear liability waiver clauses.

Since the Operator is not liable for radiological damage to on-site property, it is the Supplier that carries the risk of loss or damage to its own equipment and installations that have not yet been taken over by the Operator (meaning that the risk has not yet passed to the Operator). This is an additional root cause for nuclear liability waivers clauses.

CHAPTER VII

NUCLEAR LIABILITY WAIVER CLAUSES

1. Is there a Need for Nuclear Liability Waiver Clauses?

Before we discuss if there is a need for nuclear liability waiver clauses, let us assume the following.

Supplier A delivers and installs equipment at Operator B's nuclear installation. During the tests on completion of the equipment, it malfunctions and causes a radiological accident. Third parties incur radiological damage. Also the nuclear installation and on-site property (Supplier A's equipment not yet taken over by Operator B) suffer radiological damage. The contract between A and B is silent in matters

[29] Prop. 2009/10: 173 p. 131.

regarding radiological accidents and radiological damage and does not include general provisions stipulating that the Supplier is liable to the Operator for physical loss or damage to property or persons.

In the example above, the situation will according to the LRO be as follows:

- Operator B will be strictly liable to third parties for all radiological damage incurred by them because of the radiological accident at B's nuclear installation.
- All liability shall be channeled to Operator B and no third party is entitled to claim compensation from Supplier A for radiological damage.
- If Operator B or its insurance company pays compensation to third parties, B or the insurance company will not have a right of recourse against Supplier A.
- Supplier A will not be liable to Operator B for the radiological damage to the nuclear installation.
- Supplier A will not be able to claim compensation from Operator B for the radiological damage to the equipment not yet taken over (on-site property).

Thus, even if the radiological accident was caused by Supplier A and there is no specific nuclear liability waiver clause in the contract, there will be no liability for Supplier A to third parties or to Operator B. The only effect on Supplier A is that A must absorb the cost of its damaged on-site property. Operator B cannot be held liable for damage to such on-site property.

Now, let us instead assume the following.

The chain of events is the same as in the first example. However, this time the contract between Supplier A and Operator B states that A shall be liable for all radiological damage caused by A.

In this alternative example, the situation will according to the LRO be as follows:

- Operator B will be strictly liable to third parties for all radiological damage incurred by them because of the radiological accident at B's nuclear installation.
- All liability shall be channeled to Operator B and no third party is entitled to claim compensation from Supplier A for radiological damage.
- However, if Operator B or its insurance company pays compensation for radiological damage to third parties, B or the insurance company will have a right of recourse against Supplier A.
- Supplier A will be liable to Operator B for the radiological damage to the nuclear installation.
- Supplier A will not be able to claim compensation from Operator A for the radiological damage to the equipment not yet taken over (on-site property).

The outcome for Supplier A is very different in the two alternative examples and this demonstrates why it is important for a Supplier to have a specific nuclear liability waiver clause in contracts with an Operator of a nuclear installation.

Prudent Suppliers do not want to take the risk that a contract may be interpreted in such manner that the scenario in the second example can be actualized. As we have seen above, many standard conditions used for deliveries to nuclear installations include provisions that generally make the Supplier liable to the Operator for loss and damage to physical property or injury to persons, often combined with indemnifications to the benefit of the Operator for third party claims regarding such loss or damage. Although radiological damage may not be specifically mentioned in such standard conditions, the provisions could be interpreted to also include such damage.[30] The situation then becomes very different for Supplier A, as its liability situation shifts from the outcome of the first example to the outcome of the

[30] For a further account of this issue, although from a British perspective, see Third Party Nuclear Liability: The Case of a Supplier in the United Kingdom, Anthony Thomas and Raphael J. Heffron, EPRG Working Paper 1205, Cambridge Working Paper in Economics 1207, p. 21 – 22.

second example. It is to exclude any possibility to interpret the contract in such manner that Suppliers demand nuclear liability waiver clauses in contracts with Operators of nuclear installations.

So, the question if there is a need for nuclear liability waiver clauses can, from an objective perspective, be answered with a clear yes. It is not reasonable that a Supplier, for a contract price that may be fractional compared to the revenues of the nuclear installation, should risk the liability situation which is the outcome of the second example above.

2. The Reasonable Content of a Nuclear Liability Waiver Clause

Having established that there from an objective perspective is a need for nuclear liability waiver clauses, the next question is what such clauses reasonably should contain. This issue can initially be divided into three areas: (i) in relation to the Operator's third-party liability, (ii) in relation to damage to the nuclear installation itself, and (iii) in relation to on-site property. These areas are separately addressed below.

(i) Nuclear Liability Waiver Clauses in relation to the Operator's Third-Party Liability

If a Supplier in a written contract with the Operator has undertaken to be liable for radiological damage, the Operator or the Operator's insurance company has a right of recourse against the Supplier.

In case the parties agree that there shall be no such rights of recourse, the purpose of the nuclear liability waiver clause is to make this clear, notwithstanding any general liability clauses in the contract to the contrary. This is often made by wording which initially and generally stipulates that the Supplier has no liability for radiological damage incurred by third parties. As the LRO is construed, this should be sufficient to exclude any rights of recourse. However, the wording thereafter normally also clarifies that the Operator, or the Operator's insurance company, has no right of recourse against the Supplier. Such addition is recommendable.

According to our experience, it is normal contract practice that Suppliers to nuclear installations are granted provisions in line with the aforesaid. In our objective opinion it is also reasonable since Suppliers normally do not, if ever, have insurance cover for radiological damage.

(ii) Nuclear Liability Waiver Clauses in Relation to Damage to the Nuclear Installation

The LRO stipulates that an Operator of a nuclear installation is not liable for radiological damage to the nuclear installation itself. It is according to the preparatory works to the LRO then only a natural person who has caused the damage with intent that can be held liable for radiological damage to the nuclear installation.[31] In such case, there would be no need of a nuclear liability waiver clause.

However, the statement in the preparatory work to the LRO seems to ignore the possibility of the Supplier to contractually agree to be liable for damage to the nuclear installation itself. It is also in contradiction with statements in the Exposé de Motifs to the Paris Convention. It is there stated that where a right to compensation for damage to property exists *by virtue of contractual arrangements*, such right remains unaffected by the Paris Convention.[32] The LRO is based upon the Conventions and its purpose is to align Swedish legislation with the Conventions. This suggests that a contractual arrangement, in which a Supplier undertakes a liability for radiological damage to a nuclear installation, is valid and enforceable.

From the Supplier's perspective, there is therefore a reason to clarify in a nuclear liability waiver clause that the Supplier has no liability to the Operator for radiological damage to the nuclear installation itself and that this shall apply notwithstanding any general liability clauses in the contract to the contrary. The fact that many standard conditions used for deliveries to nuclear installations include provisions that generally make the Supplier liable to the Operator for loss or damage to physical property must also here be considered.

[31] Prop. 2009/10:173 p. 127.
[32] Paragraph 27(c) in the Exposé des Motifs.

From an Operator's perspective, the interest is the opposite. Since it is clear from the LRO that the Operator is not liable for radiological damage to the nuclear installation itself, there is of course an interest for the Operator to try to hold the Supplier liable.

However, it is according to our experience normal contract practice that Suppliers to nuclear installations are granted provisions which stipulate that the Supplier has no liability for radiological damage to the nuclear installation itself. In our objective perspective, it is not reasonable that a Supplier, for a contract price that may be fractional compared to the value of the nuclear installation, should risk such liability.

(iii) Nuclear Liability Waivers in Relation to On-site Property

The issue of nuclear liability waivers in relation to on-site property, and the problems attached to it, is basically the same as in connection with the nuclear installation. It should be assessed and handled in the same manner. It is according to our experience also normal contract practice that Suppliers to nuclear installations are granted provisions which stipulate that the Supplier has no liability for radiological damage to on-site property. This is particularly important for a Supplier if there are major on-going installation projects at the nuclear installation conducted by other suppliers.

However, there is with respect to on-site property also another situation that must be considered.

Let us assume that the Supplier has delivered new turbines to the nuclear installation and is in the process of installing them when a radiological accident occurs. The turbines and its auxiliary equipment will then be regarded as on-site property. On-site property is excluded from the Operator's liability. This means that the Operator cannot be held liable to the Supplier for the radiological damage to the turbines and its auxiliary equipment. It is therefore a customary request by Suppliers that the nuclear liability waiver clause not only shall state that the Supplier has no liability for on-site property but also state that the Supplier shall be entitled to compensation for its on-site property, if damaged by radiological damage (e.g. an indemnification clause).

It is according to our experience normal contract practice that Suppliers to nuclear installations are granted provisions which stipulate that the Supplier has no liability for radiological damage to on-site property belonging to other parties. With respect to on-site property owned by the Supplier, it is not unusual, but not self-evident, that the Operator agrees to indemnify the Supplier for such loss or damage of on-site property.

3. *The Issue of Indemnifications*

In addition to the three areas described above in (i)-(iii), there is in connection with nuclear liability waiver clauses also a separate issue regarding indemnifications. Many nuclear liability waivers include wording like (shortened example):

"*The Operator shall indemnify and hold the Supplier harmless from and against any claims by third parties based upon radiological damage...*"

Why do nuclear liability waiver clauses not only regulate that the Supplier shall not be liable for radiological damage, but also stipulate that the Operator shall *indemnify* the Supplier for third party claims regarding radiological damage?

The main reason is that the effect of a radiological accident can – and most likely will – be international. Ionizing radiation from a radiological accident at a nuclear installation in Sweden may very well result in radiological damage in another country. A Supplier must therefore also consider that the channelling principle may not apply in an affected country. If the Supplier has caused or contributed to the radiological accident, the Supplier can be held liable for the resulting radiological damage in such affected country's courts. The LRO or the Conventions will then not provide any protection for the Supplier.

This cross-border risk is why Suppliers require that Operators also shall indemnify the Supplier for third party claims regarding radiological damage. In case the situation above occurs, the Supplier then can turn to the Operator (and its insurance) for protection. From a pure Swedish perspective, an indemnification for third party claims does not add much. If the LRO is applicable, the Operator is

strictly and solely liable to third parties for radiological damage. A Supplier cannot be held liable to third parties for any radiological damage. However, the cross-border risk must and should also be considered by a prudent Supplier.[33]

It is according to our experience normal contract practice that Operators of nuclear installations provide indemnifications to Suppliers with respect to third party claims for radiological damage. It is in our objective opinion also reasonable.

However, it is in connection with such indemnifications important for the Operator to regulate that it does not mean that the Supplier simply can accept claims from third parties and send the bill to the Operator. As with all indemnifications, it is important for the indemnifying party to have control over the claim and how it shall be handled. A general example of such wording can be found in Yellow FIDIC Book (1999) Sub-Clause 17.5, last paragraph.

4. When the Definition of Radiological Damage is different from the Definition in the LRO

As demonstrated by the types of damage that were claimed in connection with the Chernobyl disaster, there was prior to the additional protocols from 2004 and the LRO reasonable cause for Suppliers to extend the definition of "nuclear damage" in nuclear liability waiver clauses. Many types of damage were not included in the former definition and a mere reference to it in a nuclear liability waiver clause would have left the Supplier exposed. This was particularly true for the indemnifications protecting the Supplier from third-party claims from non-convention countries.

One of the reasons for the additional protocols from 2004 was to include further types of damage in the definition of "nuclear damage". This has been transferred to the LRO and its corresponding expression "radiological damage". If seen from an Operator's perspective, the need for a Supplier to extend the defined content of the expression radiological damage in a nuclear liability waiver clause has therefore largely disappeared.

However, it is still so that when Suppliers draft nuclear liability waiver clauses, they tend to define the expression "*radiological damage*" more broadly than what follows from the LRO. If seen from a Supplier's perspective, it is of course so that it from many different perspectives can be beneficial with such expansion. There may be types of damage in connection with radiological accidents that have not been included in the definition provided by the additional protocols from 2004 and the LRO.

When the parties discuss this issue in connection with a nuclear liability waiver clause, the following must be considered: If other types of damage, that are not really radiological damage, are included in the nuclear liability waiver clause, non-presupposed effects can occur. Liability for certain damage that perhaps should lie with the Supplier may also by the broader definition of radiological damage be shifted to the Operator.

From an Operator perspective, it is best if a nuclear liability waiver clause simply states something like the following:

"*For the purposes of this Clause, the expression "Radiological Damage (in Swedish: radiologisk skada) shall have the same meaning as in the LRO*."

If this is not acceptable to the Supplier, a starting point for the discussions could be that the Supplier clarifies which types of damage that the Supplier deems to be missing in the definition of radiological damage in the LRO and seeks protection from.

In our objective opinion, the parties should in connection with nuclear liability waiver clauses be careful about using home-grown definitions of radiological damage that significantly deviates from the underlying ideas behind the additional protocols and the LRO. It is not only the Operator that can be disadvantaged by it. Also the Supplier may be negatively affected.

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[33] For a further account of this cross-border issue, although from a British perspective, see *Third Party Nuclear Liability: The Case of a Supplier in the United Kingdom*, Anthony Thomas and Raphael J. Heffron, EPRG Working Paper 1205, Cambridge Working Paper in Economics 1207, p. 25 – 30. See also *Potential Liability of Contractors Working on Nuclear Safety Improvements Projects in Central and Eastern Europe* in Nuclear Law Bulletin No. 53, June 1994, p. 37-41.

CHAPTER VIII

FINAL REMARKS

This exposition is a short summary of a complex legal framework with international dimensions. Thus, the account above is not complete and there are other issues to consider in connection with nuclear liability and nuclear liability waiver clauses.

It is the intention of the authors to follow up this exposition with in-depth studies on some other issues. One such study will cover the liability situation if the following circumstances are at hand: A Supplier and an Operator enters into a contract regarding deliveries of equipment to a nuclear installation. In connection with the installation of the equipment, the Supplier causes a radiological accident. The Operator is then liable to all third parties for radiological damage incurred by them. The Supplier has substantial manufacturing facilities nearby the nuclear installation. Those facilities are destroyed. Is the Operator then, according to the channelling principle, also liable for the radiological damage incurred by the Supplier?

This exposition shall not be regarded as legal advice, neither generally, nor in any specific matter. Readers are asked to contact Per Mildner or Adam Boije before acting on or relying upon the information herein.

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