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Operators' pooling arrangement: a national and international perspective

by

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1. Operator Money – a Means to Provide Financial Security

The Paris Convention (PC) – and also the Vienna Convention (VC) and the Convention on Supplementary Compensation for Nuclear Damage (CSC) – provide for different options to secure financial security to cover the liability of the operator of a nuclear installation.¹ Most obviously and for good reasons, third party liability insurance is the main instrument to cover the operator's liability.² But in addition there is a variety of other means of financial security.³ This presentation will focus on direct financial commitments of the operator liable to secure that he will be able to satisfy claims for compensation. This may be either guaranteed through self-insurance of the individual operator or through joint coverage by a pool of operators.

Self-insurance of the operator liable has inherent drawbacks: As a rule, operating companies have the nuclear installation as the only significant asset value which will be damaged or even destroyed by a nuclear incident, and thus does not form a reliable asset to guarantee financial security. Hence, self-insurance, at least in most cases, is not an effective means to secure nuclear third party liability. As a consequence, operator's self-insurance does not play a major role if at all.⁴

If several operators join their money and their assets to jointly cover the claims for compensation of nuclear damage which one of them may be exposed to in the case of a nuclear incident, the described risks linked to self-insurance do not exist. Even if the assets of the operator liable are damaged or totally lost, the other operators still can step in. So a pool of nuclear operators may guarantee reliable financial security. Operators' pooling may be used to complement insurance cover with a view to increasing the amount of coverage. It may also cover that nuclear damage which insurance excludes from coverage.⁵

Joint provision of financial security for the nuclear risk of an individual operator may be organized at national and at international level. National organisation requires that in the

¹ Article 10 1960[Paris] Convention on Third Party Liability in the field of Nuclear Energy as amended 1964, 1982 and 2004 (<http://www.oecd-nea.org/law/Unofficial%20consolidated%20Paris%20Convention.pdf>); Article VII 1997 Vienna Convention on Civil Liability for Nuclear Damage (IAEA Doc. INFCIRC/566 Annex); Article 5 Annex to 1997 Convention on Supplementary Compensation for Nuclear Damage (IAEA Doc. INNFCIRC/567).

² For a general introduction to nuclear insurance see: *Sebastiaan M. S. Reitsma / Mark G. Tetley*, Insurance of Nuclear Risks, in: OECD/NEA (ed.), *International Nuclear Law: History, Evolution and Outlook*, 10th Anniversary of the International School for Nuclear Law, Paris 2010, pp. 387 – 412.

³ For a general overview of the alternatives see: *Julia Schwartz*, Alternative Financial Security for the Coverage of Nuclear Third Party Liability Risks, in: INLA/AIDN (ed.), *Nuclear Inter Jura 2007*, Proceedings, 1 – 4 October 2007, Bruxelles 2008 pp. 381 – 407.

⁴ Self-insurance may be accepted as an effective way of coverage if used for nuclear installations which are State-owned and State-operated: States do not go bankrupt.

⁵ See on international operators' pooling: *Norbert Pelzer*, International Pooling of Operators' Funds: An Option to Increase the Amount of Financial Security to Cover Nuclear Liability? in: *Nuclear Law Bulletin (NLB) No. 79* (2007/1) pp. 37 – 55; *Simon Carroll*, Perspective on the Pros and Cons of a Pooling-type Approach to Nuclear Third Party Liability, in: *NLB No. 81* (2008/1) pp. 75 – 97.

respective State a sufficient number of nuclear operators are available that can combine their financial capacities. Countries with only one or a few nuclear installations are, for obvious reasons, not qualified for this type of financial security.

National systems of operators' pools to cover liability exist in the US and in Germany. The US system is based on a statutory duty under the US nuclear legislation, while the German operators' pooling is based on a voluntary civil law contract among the parent companies of the operators the implementation of which is supervised by the regulatory body. In both systems no advance premiums have to be paid by the operator. There is a "retrospective" premium due which has to be paid only if a nuclear incident happens, and that premium is an amount which is fixed in accordance with the statutes and the contract respectively.

2. The US Pooling System

Pursuant to Section 170 subsection b (1) of the US Atomic Energy Act of 1954, as amended,⁶ the licensee of a reactor with a rated capacity of 100.000 electrical kilowatts or more, *i. e.* the operator of a nuclear power plant, has to provide financial security to cover its liability in two layers. The first layer, the "primary financial protection", has to be provided by an insurance contract and currently amounts to USD 375,000,000. "In addition to such primary financial protection, private liability insurance available under an industry retrospective rating plan providing for premium charges deferred in whole or major part until public liability from a nuclear incident exceeds or appears likely to exceed the level of the primary financial protection required of the licensee involved in the nuclear incident."⁷ The current amount of the deferred premium to be provided by each operator of a nuclear power plant is fixed at USD 121,255,000 "with respect to any nuclear incident"⁸ and which is "subject to adjustment for inflation under subsection t" at least every five years as of 2003.⁹ Since at the 65 US nuclear plants currently 104 reactors are operated,¹⁰ the total amount of coverage is USD 12.61 billion plus USD 375 million primary financial protection = USD 12.985 billion (≈ EUR 9.54 billion). This amount at the same time forms the liability limit.¹¹ The amount includes legal costs.¹²

⁶ Atomic Energy Act of 1954, as amended (Public Law 83-703, 68 Stat. 919, 42 USC 2011), available at: <http://pbadupws.nrc.gov/docs/ML1327/ML13274A489.pdf#page=23>.

⁷ Section 170 subsection b (1) sentence 3 Atomic Energy Act (fn. 6).

⁸ 10 Code of Federal Regulations (CFR) 140.11, available at: <http://www.nrc.gov/reading-rm/doc-collections/cfr/part140/part140-0011.html>. See also: Federal Register Volume 78, Number 134, 12 July 2013, p. 41835, available at: <http://www.gpo.gov/fdsys/pkg/FR-2013-07-12/html/2013-16732.htm>

⁹ Section 170 subsections b (1) and t Atomic Energy Act (fn. 6).

¹⁰ See US Energy Information Administration (EIA) at: <http://www.eia.gov/tools/faqs/faq.cfm?id=207&t=3>.

¹¹ Section 170 subsection e Atomic Energy Act (fn. 6). – On short information about the US system see the fact sheet of the Nuclear Energy Institute (September 2012), at: <http://www.nei.org/Master-Document-Folder/Backgrounders/Fact-Sheets/Insurance-Price-Anderson-Act-Provides-Effective-Li>; National Association of Insurance Commissioners (NAIC), Nuclear Liability Insurance (Price-Anderson Act), at: http://www.naic.org/cipr_topics/topic_nuclear_liability_insurance.htm; John L. Quattrocchi, Nuclear Liability Insurance in the United States: An Insurer's Perspective, in: OECD/NEA (ed.), Reform of Civil Nuclear Liability, Budapest Symposium 1999, Paris 2000, pp. 383 – 398 (386 – 388); from an academic point of view

3. The German Pooling System

The German Atomic Energy Act¹³ requests the operator of a nuclear power plant to have and maintain financial security up to the amount of EUR 2.5 billion. The Act does not prescribe in which way the coverage has to be provided. Currently, the amount of EUR 2.5 billion will be provided by two tiers: EUR 255.645 million by insurance to be complemented up to EUR 2.5 billion by an operators' pooling system.

The operators' pooling system is based on the so-called Solidarity Agreement of 2001 ("Solidarvereinbarung")¹⁴ concluded among the four parent companies¹⁵ of the operators of the German nuclear power plants. The parties to the Agreement undertake to provide the operators of the nuclear power plants listed in Annex I to the Agreement with the necessary financial means to make available coverage up to EUR 2.5 billion. Each party accepts liability vis-à-vis the other parties, according to a complicated key, to contribute to the total amount which is needed. The joint contributions are only due if neither the operator liable nor its respective mother company is in a position to provide the coverage. The regulatory body requests the parties to annually submit a certificate of a public accountant that solvent means are available to reliably fulfil the obligations under the Agreement.¹⁶

The total amount of coverage to secure compensation of victims thus made available is considerable, and this amount does – unlike in the US – not include legal costs,¹⁷: EUR 2.5 billion compulsory financial security provided by the operator liable plus EUR 300 million under the third tier under the Brussels Supplementary Convention¹⁸ = EUR 2.8 billion (≈ USD 3.8 billion) plus, because the operator's liability is not limited in amount, any other assets of the operator which may include financial means to be made available by the respective parent company.¹⁹

see, e.g.: *Taylor Meehan*, Lessons from the Price-Anderson Nuclear Industry Indemnity for Future Clean Energy Compensatory Models, in: *Connecticut Insurance Law Journal* 18 (Fall 2011) pp. 339 – 371 (343 *et seq.*).

¹² Section 11 subsections k, w, jj US Atomic Energy Act (fn. 6). See also *Pelzer* (fn. 5) p. 42 at fn. 18.

¹³ Section 13 paragraph 3 of the Atomic Energy Act = Gesetz über die friedliche Verwendung der Atomenergie und den Schutz gegen ihre Gefahren (Atomgesetz – AtG) of 23 December 1959/15 July 1985 as last amended on 28 August 2013 (Bundesgesetzblatt (BGBl.) 1985 I p. 1565; 2013 I p.3313).

¹⁴ The text of the Agreement is reproduced in: *Herbert Posser / Malte Schmans / Christian Müller-Dehn*, Atomgesetz, Kommentar zur Novelle 2002, Köln, etc. 2003 pp. 242 *et seq.*

¹⁵ Energie Baden-Württemberg AG (EnBW), E.ON Energie AG, Hamburgische Electricitätswerke AG (HEW) (later replaced by Vattenfall Europe AG), RWE AG.

¹⁶ On details of the German system see: *Pelzer* (fn. 5) pp. 43 – 45; *Malte Schmans*, Deckung der nuklearen Haftpflicht durch Betreibermittel in Deutschland, in: Norbert Pelzer (ed.), Brennpunkte des Atomenergierecht – Nuclear Law Problems in Focus, Tagungsbericht der AIDN/INLA-Regionaltagung in Wiesbaden 2002, Baden-Baden 203 pp. 163 – 168; *Axel Vorwerk*, The 2002 Amendment to the German Atomic Energy Act Concerning the Phasing-out of Nuclear Power, in: *NLB* No. 69 (2002/1) pp. 7 – 14 (14).

¹⁷ Article 7 paragraph h PC.

¹⁸ Article 3 paragraph b (iii) 2004 [Brussels] Convention Supplementary to the Paris Convention, available at: <http://www.oecd-nea.org/law/Unofficial%20consolidated%20Brussels%20Supplementary%20Convention.pdf>.

¹⁹ If the operator and its parent company are linked through a domination or profit transfer contract, under Section 302 paragraph 1 German Stock Corporation Act (Aktiengesetz of 6 September 1965, BGBl. I p. 1089; 2013 I p. 2586) the parent company is obliged to balance the account of the operator if it is not balanced. That

4. General on operators' pooling

The US and the German systems give evidence that operators' pooling works well. Pooling systems may considerably increase the amount of financial security beyond the amounts insurance industry offers today, and if insurance industry offers comparable capacity it will be costly for the operator, let alone that insurance still excludes certain risks from coverage.²⁰ Insofar, coverage through operators' pooling is superior to insurance. Both national pooling systems are organized in a way which ensures that the financial means will reliably be available if needed. They guarantee the same level of security like an insurance contract.

Coverage of nuclear liability does not only mean to provide money. Compensating of claims for compensation includes also organising claims handling. Insurance industry includes claim handling as part of its service for the insured clients without charging, at least up to a certain level, an additional premium for that service.²¹ This service, however, is only provided within the ceiling of the insurance coverage, it is not available for that part of nuclear damage which is covered by operators' pool money or by any other financial security. It follows that an operator pool has to organize claims handling either by doing it itself or by entering into a contract with a third entity which is entrusted with that task. This third party should preferably be the insurer because insurers are designed to and experienced in claims handling. The German operators' pool educated and established the skeleton of an internal staff for claims handling and prepared its basic organisation which in the case of a nuclear incident may be activated and may deploy a great number of qualified lawyers from the companies' legal departments.

It has to be stressed that operators' pooling should not be understood as an alternative financial security which shall replace insurance. Compensation of nuclear damage is a difficult and sensitive task. The expertise and the experience of the third party liability insurance industry are needed to cope with those challenges. Nuclear liability law cannot afford to refrain from using that expertise and that experience. Operators' pooling is a complement to insurance which has specific advantages as compared to insurance cover and which should be used but it should not aim at replacing insurance. It should also be mentioned that operators' pooling is a challenging competition for the insurers which might initiate new approaches on their part.

means the parent company has to step in if there are compensation claims still unsatisfied. However, irrespective of this legal situation, for political reasons it would be most difficult if not impossible for the parent company to evade stepping in in the event of a major accident having caused nuclear damage exceeding the total amount of coverage the operator liable is in a position to provide.

²⁰ See: *Mark Tetley*, Revised Paris and Vienna Conventions – Challenges for Nuclear Insurers, in: NLB No. 77 (2006/1) pp. 27 – 39; *Sebastiaan M. S. Reitsma*, Revised Nuclear Liability: A Challenge for Insurers, in: Norbert Pelzer (ed.), Bausteine eines globalen Atomrechtsregimes – Elements of a Global Nuclear Law Regime, Tagungsbericht der AIDN/INLA-Regionaltagung in Goslar 2006, Baden-Baden 2007, pp. 217 – 224.

²¹ For the German law see Sections 100 and 101 *Versicherungsvertragsgesetz* (Act on Insurance Contracts) of 23 November 2007 (BGBl. 2007 I p. 2631; 2013 I pp. 932, 2584).

5. International Operators' Pooling

If more operators take part in pooling regimes, obvious advantages can be expected. Either higher amounts of coverage can be raised or, without increasing the amount, the share to be charged from each individual participating operator will be lower. A high number of participating operators is desirable. This fact advocates pooling the operators' financial means at the international level because the national numbers of operators may not suffice. Transboundary pooling is complex; numerous problems have to be solved. Nevertheless, pooling is an attractive option for operators if it is organized in an adequate way and takes into account that international pooling has to meet specific requirements.

5.1. *Mandatory and Voluntary Pooling*

The two existing national pooling systems show two approaches: While the US system establishes a statutory duty to pool, the German system is based on a voluntary civil law contract. Operators' pooling means that private money of the operator shall be used to contribute to paying compensation for a nuclear incident which is caused by another operator. If this contribution were made mandatory under law, it would clearly be defined as an interference with the respective operator's right to property. While under US law this interference does not seem to cause legal problems, under German constitutional law it would be most difficult to justify, if at all. The examples of only two States probably mirror the facets of the legal situation in most other States in a nutshell.

It follows that mandatory operators' pooling is not an option to be successfully aimed at at the international level. International pooling has to be voluntary.²²

5.2. *Trust*

Mutual transborder assurance of the availability of financial security requires mutual trust in the reliability of the agreed financial guarantees. The partners are subject to different legal, economic and social environments which have an impact on how they look at, and deal with, a possible pooling arrangement. This situation is not necessarily helpful for easily embarking on international pooling; defined and undefined objections have to be overcome. Hence, mutual trust has to be gained and maintained and is a basic prerequisite of any voluntary pooling system.

²² In the course of the negotiations on the revision of the Vienna Convention there were efforts to establish a mandatory international pooling regime. The efforts failed. See *Pelzer* (fn. 6) p. 45; The 1997 Vienna Convention on Civil Liability for Nuclear Damage and the 1997 Convention on Supplementary Compensation for Nuclear Damage – Explanatory Texts, IAEA International Law Series, 3, Vienna 2007, p. 63, particularly at fn. 202. See on the preference for voluntary pooling in greater detail *Pelzer* (fn. 6) pp. 49 – 50.

Trust is not only needed on the part of the operators but it also has to be built among the national regulatory bodies. Regulatory bodies have to decide whether they accept and agree to financial security which is jointly ensured by a private law arrangement concluded by operators under different national jurisdictions. It might be an even more difficult task to convince national bureaucracy that a sound regime of coverage may be based on a voluntary agreement of international operators.

Trust is composed of various elements. They shall be looked at more closely.

5.3. Political Background

The task of establishing a reliable international operators' pooling is easier to be implemented if operators from like-minded States cooperate, preferably States with which good political and economic relations exist also in other areas. Operators do not want to put their money at risk. It is therefore a condition that the partner operators have their seats in democratic States under the rule of law and with a free market economy. This seems best to be ensured if the respective States are party to an organisation of regional integration like, *e. g.*, the EU. It follows from this requirement that regional operators' pooling is more realistic than continent wide or worldwide pooling.

5.4. Legal Requirements

There is no need to emphasize that equal nuclear liability legislation has to be in place within the States of the operators. They should be party to the same nuclear liability convention or if they are party to different conventions, they should also be party, as the case may be, either to the 1988 Joint Protocol²³ or to the 1997 Convention on Supplementary Compensation for Nuclear Damage²⁴ in order to link the conventions. Attention has also to be paid to whether the Conventions are properly implemented at the national level, in particular regarding the establishment of a liability amount.

Moreover, comparable legal provisions in the field of trade, company and tax law should exist. Operators, their parent companies and their shareholders need knowledge about the legal background of their pooling partners in order to assess the potential risks of pooling.

International pooling of operators could be facilitated if the installation States promote this way of providing financial security for nuclear risk, for example by granting tax concessions.

5.5. Nuclear Safety, Nuclear Security, Safeguarding

Perhaps the most decisive element of creating trust to embark on international operators' pooling is that all nuclear installations are subject to a sound regime of nuclear safety including radiation protection, nuclear security and safeguarding. In other words, the famous

²³ 1988 Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention (IAEA Doc. INFCIRC/402).

²⁴ See fn.1.

“Three S” (= Safety, Security, Safeguarding) have to be implemented. The States whose operators are eligible for an international pooling system have to be party to, and apply respectively, at least the following international instruments:

- 1994 Convention on Nuclear Safety (CNS);²⁵
- 1997 Joint Convention on the Safety of Spent Nuclear Fuel Management and on the Safety of Radioactive Waste Management;²⁶
- 1986 Conventions on Early Notification of a Nuclear Accident;²⁷
- 1986 Convention on Assistance in the case of a Nuclear Accident or a Radiological Emergency;²⁸
- 1980 Convention on Physical Protection of Nuclear Material as amended 2005;²⁹
- 1968 Treaty on the Non-Proliferation of Nuclear Weapons (NPT)³⁰ including bilateral agreements based on IAEA Document INFCIRC/153 (corrected);
- national application of the latest version of the IAEA International Basic Standards for Protection against Ionising Radiation and for the Safety of Radioactive Sources (BBS).³¹

These international instruments have to be properly implemented at the national level. The financial obligation under an international operators’ pooling system justifies that the pooling partners have a specific interest in correct and full implementation of these instruments. If the nuclear installations of a pooling candidate are known as being operated at a low safety level and thus appear to be accident-prone, nobody will be ready to pool with them. The same will apply if a State or operators are negligent in matters of security or safeguarding. Pooling partners therefore should agree on mutually monitoring the situation in the partner States. Through a thus established peer review they may contribute to ensuring that Three-S-issues “as an overriding priority...receive the attention warranted by their significance”.³² If that goal can be achieved, a main pillar of trust to enter into pooling contracts is available. The pooling partners at the same time strengthen an operation of nuclear power plants which complies with the legal and political requirements of the community of States.

5.6. Nuclear Installations Covered

The US and the German pooling systems apply to nuclear power plants only. Other nuclear installations are excluded. Those other installations suffer from shortcomings of the classical insurance cover, too. So, at first glance, it seems to be a convincing approach to extend operators’ pooling to all nuclear installations including transport of nuclear material. However, a closer look reveals differences. The types of other nuclear installations are manifold and range from small research reactors, nuclear waste repositories to reprocessing

²⁵ IAEA Doc. INFCIRC/449

²⁶ IAEA Doc, INFCIRC/546.

²⁷ IAEA Doc. INFCIRC/335.

²⁸ IAEA Doc. INFCIRC/336.

²⁹ IAEA Docs. INFCIRC/274 Rev. 1; GOV/INF/2005/10-GC(49)/INF/6.

³⁰ IAEA Doc. INFCIRC/140.

³¹ The currently applicable 1996 version is published in IAEA Safety Series 115.

³² This quotation is part of the definition of the concept of safety culture, see: International Nuclear Safety Advisory Group, Safety Culture, IAEA Safety Series No. 75-INSAG-4, Vienna 1991, p. 4.

plants. This entails different risk scenarios, in many cases with regard to the magnitude of possible damage. There also is a variety of operators as, *e.g.*, universities, other public entities, commercial operators.

It therefore seems to be most difficult if not impossible to reconcile all of those scenarios in a joint pooling organisation. One has to look at each nuclear installation and its operator. One could, for instance, imagine that storage facilities operated by the operators of nuclear power plants could be included in the pooling system of the operators of nuclear power plants. This extension would leave pooling “within the family” and probably could be accepted by the operators. In any other case it has to be cautioned against efforts to expand the system to nuclear installations other than nuclear power plants.

6. Summary

Operators’ pooling is an acceptable instrument to provide financial security to cover nuclear liability. The examples in Germany and in the USA demonstrate that operators’ pooling may provide high amounts of money. Unlike the insurers, operator pools do not exclude certain risks from coverage. No regular advance premiums have to be paid. The premium is deferred and is only due after a nuclear incident has occurred. So pooling is cost-efficient.

Pooling arrangements have to organize claims handling. The operators may either decide to do it themselves or they may charge another entity with this task. If the operators do it themselves, they have to deploy and educate manpower. If there is a “primary” level of coverage provided by insurance, it is reasonable to entrust, against a fee, the insurer with claims handling because that is the insurer’s profession.

Operators’ pooling can be arranged at both the national and the international level. Since not in all States a sufficient number of nuclear power plants are operated, national pooling is limited to defined States only. International pooling of operators is attractive because of the high number of potentially participating operators which may create either high coverage amounts or low deferred premiums.

International pooling of operators is a most sensitive matter. International pooling has to be organized as an obligation under a voluntarily concluded agreement of the operators of nuclear installations. Mandatory pooling may interfere with the operators’ right to property. Voluntary pooling needs trust among the respective operators.

Trust may build on a number of elements. The most important are:

- Political Background: It is easier to pool with operators from like-minded States than with others. Operators from parties to an organisation of regional organisation are ideal partners, *e.g.* EU.

- Legal background: Operators need to be based in States that are party to the same nuclear liability convention. There should also be comparability of other relevant legislation.
- “Three S” conventions are properly implemented.

Operating Pooling should be limited to nuclear power plants. Including other nuclear installations would be too complex.