

# Nuclear liability in China

**Ximena Vásquez-Maignan of Gide Loyrette Nouel provides an overview of the development of the nuclear sector in China, examining the country's legal framework for nuclear liability.**

One of the major challenges for humanity this new century is to meet our growing need for energy while also minimising the climate change problems this creates. A possible solution, and alternative to fossil-fuel energy sources, that has long been considered is nuclear power as it emits virtually no air pollutants or greenhouse gases. Indeed, studies have shown that the life-cycle emissions from nuclear energy are comparable to renewable forms of energy such as wind and hydropower.

There are currently 53 nuclear power stations under construction world-wide, according to the International Atomic Energy Agency (IAEA). Around 51 reactors are under construction or are planned in China as part of efforts to enlarge its nuclear power capacity. Although the high safety standards of the nuclear industry mean that the risk of an accident is very low, the potential consequences of a nuclear accident are such that China, as any other State engaged in nuclear power-related activities, has set up a legal regime to deal with the associated liabilities issues and compensation of victims.

This article provides an overview of the development of the nuclear sector in China and considers the country's legal framework for nuclear liability.

**The development of China's nuclear industry**  
China's nuclear power program began in 1985

with the construction of the Qinshan Phase I nuclear power plant. Today the country has 11 reactors in operation which generate 9 GW of total installed capacity and are mainly owned by two large-scale state-owned companies.

The first of these, the China National Nuclear Corporation (CNNC), owns (either alone or as a majority shareholder) seven reactors based on different technologies (either Canadian, French, Russian or indigenous). The second, China Guangdong Nuclear Power Holding Corporation Ltd. (CGNPC) owns or holds a majority stake in four reactors. Unlike the CNNC, which has a pool of different technologies, CGNPC acquired its first nuclear power plants from the French group AREVA and then developed its own technology, the CPR 1000, which is based on the French technology.

The Mid-Term Long-Term Nuclear Power Development Plan for 2005-2020 issued by the National Development and Reform Commission (NDRC) sets out a target for nuclear power to provide around 5 percent - or 86 GW - of the expected country's total power capacity by 2020. To reach this goal, China will have to build around five new reactors a year, over the next 11 years.

However, the CNNC and CGNPC's resources alone are insufficient to reach such an ambitious target and some of the five State-owned power companies (i.e. China Huaneng Corp., China Datang Corp., China Huadian Corp., China

GuoDian Corp. and China Power Investment Corp.) have entered the nuclear market, albeit slowly as previously they had been limited to conventional and renewable power projects. China's third nuclear champion is likely to become China Power Investment Corporation (CPI), which has teamed up with the CNNC and CGNPC for several projects under construction, including one AP1000. For the time being, CPI, as well as the other power companies, holds minority stakes in China's nuclear power projects. In this way the Government seems to be ensuring that they can acquire the necessary know-how to develop nuclear power projects alone at a later stage.

The designs which will be used for the future reactors (announced or currently under construction) include AREVA's EPR (France), Westinghouse's AP1000 (U.S.A.), AtomStroyExport's VVER 1000 (Russia), CGNPC's CPR 1000 and the CAP 1400 (the Chinese AP 1000 derivative).

## Legal basis of the nuclear liability

China is not a party to any of the international conventions on nuclear third party liability, for which the basic international instruments are:

- the 1960 Paris Convention on Nuclear Third Party Liability
- the 1963 Vienna Convention on Civil Liability for Nuclear Damage
- the 1997 Convention on Supplementary Compensation for Nuclear Damage (not yet in force)

This is possibly because its immediate neighbouring countries (except Russia and the Philippines) have not yet ratified any of these conventions.

However, as mentioned above, China has provided a legal regime to ensure that those who suffer damages as a result of a nuclear accident have recourse to adequate compensation.

In the early '80s, there was not specific legislation on nuclear third party liability. The concerns of the foreign suppliers who were to work on the construction of China's second nuclear power plant at the Daya Bay site (Guangdong province) on the matter were addressed in March 1986 by the "Reply to the Ministry of Nuclear Industry, the National Nuclear Safety Bureau and the State Council Atomic Energy Board in respect of Handling Nuclear Third Party Liability" (the "1986 Reply") issued by the State Council. In two decades, the involvement of the foreign suppliers decreased steadily as the CNNC and CGNPC improved their mastering of the Generation 2 technologies. But in 2007, China was ready to introduce the latest nuclear design (Generation 3) developed by AREVA and Westinghouse. On June, 2007 the State Council issued a "Reply to Questions on

## THE CHINESE GOVERNMENT IS AWARE OF THE LEGAL ISSUE



the Liabilities of Compensation for Damages Resulting from Nuclear Accidents” (the “2007 Reply”) once again in response to the concerns of foreign suppliers who were waiting for this update of the Chinese nuclear liability regime before signing the contracts for the EPR and AP1000 nuclear power plants.

#### *Significance of the Replies*

When the 1986 Reply was issued, the State Council was the highest administrative authority and there was no hierarchy of laws and regulations—thus, there was no concern about the binding nature of the Reply.

The legal situation changed with the entry into force of the Legislation Law in July 2000, which set up the following hierarchy:

1. Constitution of the People’s Republic of China (“PRC”);
2. Laws enacted by the National People’s Congress;
3. Administrative regulations formulated by the State Council;
4. Local regulations formulated by the people’s congresses of the provinces, autonomous regions and municipalities directly under the Central Government.

The Replies did not fit in this new hierarchy as they are not “administrative regulations” but are normative documents the State Council uses to release official positions to address certain issues or questions raised by a lower level government body and which function as administrative rules. Therefore the question of their binding force arose, especially with regard to the prevalence of laws which may apply in case of a nuclear incident such as the General Principles of Civil Law, the Product Quality Law, the Environmental Protection Law or the Law on the Prevention of Environmental Pollution Caused by Solid Waste.

Even though we may wonder why the State Council took the decision to address the nuclear third party liability issue in a Reply in 2007, one may assume that it was in order to be efficient (so as to be able to sign the contracts with the foreign suppliers in a timely manner). It seems clear that the Chinese government is aware of the legal issue and expects it to be only temporary as the 2007 Reply itself provides that the “Atomic Energy Law of the People’s Republic of China (Draft) shall be drafted to expressly provide for the foregoing matters”.

For the time being, the State Council and the Chinese nuclear industry consider that the Replies set forth binding rules and it is commonly believed that the PRC courts will enforce the 2007 Reply as an “administrative regulation” as there is no other legal provision specifically addressing nuclear third party liability in case of a nuclear accident in China and the Reply has been issued by the State Council, the highest administrative authority.

#### *Interaction between the 1986 and the 2007 Replies*

As the 1986 Reply has not been officially re-



voked, and according to the general principle of law pursuant to which a new law shall prevail over the old one, the provisions of the 2007 Reply should override those of the 1986 Reply when addressing the same issue.

However, some issues such as the statute of limitations and jurisdiction (see below) have not been addressed in the 2007 Reply and we can consider that in case of a nuclear accident, the provisions of the 1986 Reply should supplement the 2007 Reply as necessary in order to avoid any legal void.

#### **Nuclear Liability Principles**

The Replies aim to reflect the main principles of the international conventions on nuclear third party liability but provide fewer details.

#### *Definition of Operator*

Usually the international conventions define the key terms of nuclear third party liability such as “operator”, “nuclear incident”, “nuclear installation”, “nuclear fuel”, “nuclear material”, and “nuclear damage”.

However, the 2007 Reply only provides for a definition of “Operator” as Chinese legal entities “that [operate] nuclear power stations, civil research reactors and/or civil engineering test reactors, or that are engaged in the production and transportation of civil nuclear fuel and the storage, transportation and reprocessing of spent fuel, and have nuclear installations, are considered operators of such nuclear power stations or nuclear installations”.

This definition does not specify, as in the 1986 Reply and the international conventions, that the Operator must be designated or recognised by a public authority.

However, China is a Party to the IAEA’s 1994

Convention on Nuclear Safety and accordingly has set up a system of licensing with regard to nuclear installations, prohibiting the operation of a nuclear installation without a license. The Operating License shall be issued by the National Nuclear Safety Administration (the “NNSA”) in accordance with other nuclear regulations and the entity holding such Operating License should therefore be considered as the Operator under the 2007 Reply.

The 2007 Reply provides furthermore that:

- if an Operator operates several nuclear installations at one site, these nuclear installations shall be deemed as one single nuclear installation; and
- when two or more Operators are involved in a nuclear accident and their respective liability cannot be clearly determined, such Operators shall be jointly and

severally liable for the damages.

#### *Exclusive Liability*

According to the 2007 Reply, in case of a nuclear incident, the Operator is exclusively liable for nuclear damage, except if a nuclear accident directly results from armed conflict, hostile action, war or riot, in which case the relevant Operator shall not be liable to compensate for the related damages.

The 2007 Reply did not duplicate the additional exception in the 1986 Reply: a “grave natural disaster of an exceptional character”, which is also an exception to the Operator’s exclusive liability under the international conventions.

On the other hand, the 2007 Reply clearly allows the Operator to have recourse against a third party, after compensating the victim, if:

- such recourse is provided in a written con-

## **THE REPLIES AIM TO REFLECT THE MAIN PRINCIPLES**

## OPERATOR'S LIABILITY UNDER THE 2007 REPLY

	LIABILITY CAP	STATE INDEMNITY
Operators of nuclear power stations, spent fuel storage, transportation and post-treatment	RMB 300 M (USD 44 M)	ABOVE RMB 300 M UP TO RMB 800 M (USD 117.36 M)
Other operators	RMB 100 M (USD 14.67 M)	ABOVE RMB 100 M UP TO RMB 800 M (USD 117.36 M)

tract (i.e. with a supplier);

- the nuclear accident is due to a natural person's wilful act or omission, in which case the Operator shall have a recourse against such person.

Finally, the operator usually cannot be held liable under legal provisions other than the one governing the nuclear third party liability. This is not certain in China as neither Reply explicitly excludes such possibility nor should they technically prevail over laws which may apply in case of a nuclear incident pursuant to the legal framework set up by the 2000 Legislation Law.

### Strict Liability

The 1986 Reply clearly stated that the Operator was absolutely liable for nuclear damage, i.e. it will be held liable for the nuclear damage suffered by third parties as a result of a nuclear accident at its installations or during the transportation of nuclear material to the installation when in the possession of the Operator, without the need to prove that the Operator was negligent or at fault. Even though the 2007 Reply is silent on this matter, it should be considered that the 1986 Reply supplements it as China's position has always been to reflect the main international principles of nuclear liability.

### Limitation of liability by amount

The Operator shall be liable to compensate for personal casualties, property losses or environmental damages arising out of nuclear incidents. The Operator's liability under the 2007 Reply is capped and if the total amount of compensation for the damages caused by the nuclear ac-

cident exceeds the cap, the State shall provide a financial indemnity as summarised in the table above.

If the damages to be indemnified exceed the above caps, the State Indemnity may be increased following appraisal by the State Council.

Even though these caps are still very low compared to the international standards, the increase has been very substantial for Chinese operators.

## A CLEAR, DETAILED AND FIXED LEGAL FRAMEWORK IS NECESSARY

### Limitation of liability in time and unity of jurisdiction

The 2007 Reply does not provide for a limitation of liability in time nor determines which Chinese court has jurisdiction to deal with claims arising out of a nuclear incident. The 2000 Legislation Law clearly states that

such matters can only be provided under a law, which explains why the 2007 Reply states that they shall be expressly provided for in the future Atomic Energy Law.

If a nuclear incident arises before the new Atomic Energy Law is enforced, the 1986 Reply will surely apply to these matters and therefore:

- the victims of a nuclear incident occurring in the territory of the PRC shall be entitled to claim compensation from the Operator within three years after the date when the victim has knowledge or should have had knowledge of the nuclear damage arising therefrom and no later than ten years after the date of occurrence of the nuclear incident; and
- only the People's Court which has jurisdiction over the place where the nuclear inci-

dent occurs in accordance with the PRC laws shall have jurisdiction to hear such claims.

### Congruence of liability and coverage

In line with the international principles, the 2007 Reply requires that the Operator:

- maintains "sufficient insurance" before the Operator starts operating the nuclear power station or carrying out storage, transportation or post-treatment of spent fuels activities; and
- provides "appropriate financial guarantees and arrangements" to ensure timely and effective payment of the amounts it shall be liable to pay to the victims in case of a nuclear incident.

Even though "sufficient insurance" and "appropriate financial guarantees and arrangements" are vague terms, the principle is for the Operator to maintain insurance or provide financial security covering its liability for nuclear damage in an amount at least equal to its liability cap under the 2007 Reply.

### Transborder nuclear damage

In the midst of an ambitious nuclear program, instead of joining an international convention, China has taken a singular approach of addressing the issue of trans border nuclear damage by providing in the 2007 Reply that where a nuclear accident causes damages across the borders of the PRC, such damages shall be handled in accordance with the treaty or protocol between the PRC and the relevant country or, if there is no treaty or protocol, in accordance with the principle of reciprocity.

There is no explicit language under the Chinese law explaining the exact meaning of the principle of reciprocity; therefore, the principle set forth in the international legal system should apply, i.e. the favours, benefits or penalties that are granted by one State to the citizens or legal entities of another should be returned in kind.

In particular, it is not clear how the principle of reciprocity should be applied if the content of the foreign law is different from that of the 2007 Reply.

### The future of nuclear liability in China

The current legal regime in China for nuclear third party liability is only temporary and reflects the continuous efforts of the Government to try and incorporate the main international principles of nuclear liability into legislation while trying to accommodate domestic companies' requirements.

In order to achieve the nuclear expansion, a clear, detailed and fixed legal framework is necessary in the near future to provide legal visibility to all domestic and foreign companies participating in Chinese nuclear projects.

Hopefully the future Atomic Energy Law, which is in the process of being finalised (a first draft was issued late 2007 in order to seek opinions from the nuclear industry and public administrations), will bring such comfort when finally promulgated.