Untying the Civil Nuclear Liability Knot in the Indo-US Nuclear Deal

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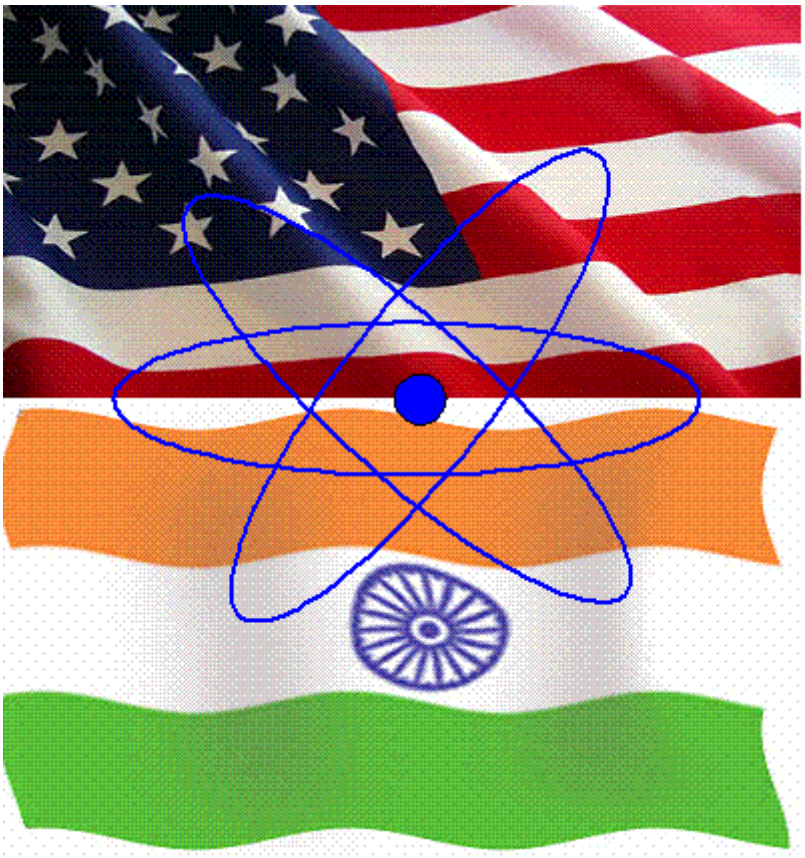

Recommended Citation

Kapil Patil, "Untying the Civil Nuclear Liability Knot in the Indo-US Nuclear Deal", NAPSNet Policy Forum, September 30, 2014, https://nautilus.org/napsnet/napsnet-policy-forum/untying-the-civil-nuclear-liability-knot-in-the-indo-us-nuclear-deal/

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30 September 2014

Nautilus Institute

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The successful and timely conclusion of the Indo-US nuclear cooperation agreement in 2008 had raised enormous hopes for rapid growth of India's nuclear energy sector. The nuclear accord took place at a time when the world was witnessing a renaissance in the nuclear power industry after the prolonged post-Chernobyl slowdown. The 'nuclear deal' lifted the more than two decade-old embargoes on the sale of nuclear reactors and fuel for India's nuclear programme, which had significantly hindered country's nuclear power sector from achieving the full-blown potential. The clearance of this long-standing hurdle was widely expected to unfold rapid expansion of India's nuclear energy programme. Six years on, India's nuclear energy programme, however, is far from taking any major leap with regard to nuclear energy expansion. On the contrary, a legal impasse over suppliers' liabilities after the enactment of India's Civil Liability for Nuclear Damage Act (CLNDA), 2010, has posed a new hurdle to India's nuclear energy expansion plans. Certain provisions of this act have strongly deterred U.S. and other major suppliers such as Russia and France from entering into commercial agreements for the supply of nuclear reactors to India.

The U.S. and India have held several meetings in the last few years to resolve the stalemate over supplier's liability issue in a mutually acceptable manner. With the new government taking office in New Delhi, the U.S. is hopeful that it can end the differences on the liability law with India. The upcoming summit between Prime Minister Modi and President Obama, scheduled for September 29-30, is thus considered as significant for the resolution of the pending issues in the Indo-U.S. nuclear cooperation. Prime Minister Modi is likely to hold discussions with representatives of U.S nuclear industry and to assuage their concerns over the liability issue, for early conclusion of techno-commercial agreement between Westinghouse and Nuclear Power Corporation of India Limited (NPCIL). In this context, this article maps the trajectory of India's nuclear industry in the aftermath of the nuclear deal, identifies the challenges posed by the CLNDA, and discusses the broad contours of the possible way-outs being considered for addressing the liability issue.

Indo-US Nuclear Rapprochement

With the grant of waiver for nuclear commerce from the Nuclear Supplier's Group (NSG) in September 2008, the Indian government set ambitious targets for development of nuclear generating capacity of about 20,000 MWe by 2020 and 60,000 MWe by 2030. These targets were to be achieved through progressive completion of indigenously-designed Pressurised Heavy Water Reactors (PHWRs), now standardised at 700 MWe per unit, and the use of imported Light Water Reactors (LWRs) constructed in collaboration with countries like the USA, France, and Russia through bilateral agreements. Additionally, India signed uranium import contracts, namely, in 2008 with Areva/France for 300 MT of uranium ore concentrate, in 2009 with JSC Tvel/Russia for 2000 MT of uranium oxide pellets and 58 MT of enriched uranium dioxide, in 2009 with NAC/Kazakhstan for 2100 MT of uranium dioxide concentrate, and in 2013 with NMMC Uzbekistan for 2000 MT of

uranium ore concentrate. India has also signed a uranium supply agreement with Australia on September 2014.

The uranium imports deals allowed the Nuclear Power Corporation of India Limited (NPCIL), to gradually increase the capacity factor of operating nuclear power plants from 50% in 2008-09 to 79% in 2011-12; record 83% in 2013-14. Despite this increase in the capacity factors of operating reactors, within four years of setting these targets, the Indian government was forced to scale down from the goal of 20,000 MWe of new nuclear capacity to 11,080 MWe by the year 2020. Prima facie, the Department of Atomic Energy (DAE), which is responsible for planning new capacity additions - appears to have buoyed by the success of nuclear deal and had set far higher targets than it could realistically achieve. But more importantly, the DAE could not conclude international agreements for large nuclear power capacity additions due to serious problems of suppliers' liability that have emerged after the enactment of country's civil nuclear liability act. The impasse over suppliers' liability is not only delaying the signing of techno-commercial agreements, but is in turn adversely affecting the DAE's plans for achievement of stipulated energy targets.

India & Civil Nuclear Liability

At the time of the signing of the Indo-U.S. nuclear cooperation agreement, India promised to put in place a robust regulatory framework to enhance nuclear safety, as well as a domestic liability law to govern any prospective purchase of reactors and components from foreign as well as domestic vendors and to ensure swift compensation to victims in the rare event of a nuclear accident. It was widely expected that India would put in place a domestic nuclear liability regime that *legally* protects both domestic and foreign suppliers in the event of an accident, and would incentivise the industry's participation in the country's planned nuclear expansion. As part of the Indo-U.S. nuclear deal, India also promised to sign and ratify the Convention of Supplementary Compensation (CSC), which requires the signatory state to pass a domestic liability law in conformity with a model text. The CSC fixes "absolute" and "exclusive" liability for the *operator* of a nuclear installation, thereby exempting the suppliers from any liability. Although, India signed the CSC on December 21, 2010, nearly four years have passed, and India has not ratified it as yet.

Name	**Type**	**Capacity**
Currently Operating Nuclear Power Plants in India		
Tarapur TAPS 1&2	BWR	320
Tarapur TAPS 3&4	PHWR	1080
Rajasthan RAPS 1-6	PHWR	1180
Madras MAPS 1&2	PHWR	440
Kaiga KGS1-4	PHWR	880
Narora NPS 1-2	PHWR	440
Kakrapar KAPS 1-2	PHWR	440
Kudankulam 1	PWR	1000
Total 5780		
Plants under construction:		
Kudankulam 2	PWR	1000
Rajasthan 7&8	PHWR	1400
Kakrapar 3&$	PHWR	1400
Kalpakkam PFBR	FBR	500

Total		**4300**
New NPPs and Pre-project activities planned during the XII plan period		
Gorakhpur, Haryana 1&2	PHWR	1400
Chutka MP 1&2	PHWR	1400
Mahi Banswara, Rajasthan	PHWR	1400
Kaiga 5&6	PHWR	1400
Kudankulam 3&4	PWR	2000
Jaitapur 1&2	PWR	3300
Kovvada AP 1&2	PWR	3000
Chaaya Nithi Virdi 1&2	LWR	2200
AHWR 1		500
Total		**17600**

Not only has India not ratified the CSC, but prior to signing it, on September 21, 2010, the Indian parliament passed the Civil Liability for Nuclear Damage Act (CLNDA), which allegedly goes beyond the requirements of the CSC, as well as the Paris and Vienna Conventions governing the nuclear technology purchases, by holding suppliers liable through the expressed *right of recourse* provided in Article 17(b) of the CLNDA. Article 17(b) stipulates that, "The operator…shall have a *right of recourse* - where the nuclear incident has resulted as a consequence of an act of supplier or his employee, which includes supply of equipment or material with patent or latent defects or sub-standard services."

The right of recourse provided in section 17(b) is by far unique to the Indian act and goes beyond the requirement of all the three conventions - Paris, Vienna, & CSC. This has created considerable unease among domestic and international suppliers. The nuclear industry has strongly questioned the rationale of suppliers' liability, and U.S firms such as General Electric and Westinghouse have especially expressed serious reservations about engaging in nuclear commerce with India under such onerous conditions. The Indian government, although, significantly reduced both suppliers' liability and the time period for exercising *right of recourse* when it clarified theCivil Liability for Nuclear Damage Rules 2011; the suppliers' fear that the law carries along with it potential legal and financial risks that might lead to significant escalation in cost of nuclear projects.

As a result, six years after the exemption from the Nuclear Supplier's Group (NSG), India has not been able to sign a single contract for import of reactors from international suppliers. The Indian suppliers too have been wary of supplying equipment/components for the planned PHWRs. Ironically, therefore, India is in a unique situation where it can import as much uranium as it requires from the international market, but cannot procure components for setting up new reactors either internationally or domestically. Without resolving the liability issue, India's nuclear energy programme, as well as Indo-U.S. nuclear cooperation, is unlikely to make any meaningful progress in the next few years at least.

Indo-US Nuclear Cooperation and Liability Concerns

Eminent American and international analysts have suggested amending the CLNDA as a possible

way-out for resolving the liability impasse. Despite the international insistence, however, amending of the law appears to be a difficult prospect, since the present ruling party has ruled out such a possibility, being the strongest votaries of the act and, in particular, of insertion of Article 17(b) providing the right of recourse to the operator. Also, given the strong public sentiment over the 1984 Bhopal Gas Tragedy, which influenced the parliamentary debate over civil nuclear liability, it appears unlikely that the present BJP-led government will amend the law in its present form. Any further U.S. insistence on amending the Indian law would therefore be considered tantamount to disregard of the democratic process would not find favour with the Indian parliament. Any possible solution will therefore have to take into account article 17(b) of the CLNDA.

The US has also been pressing for India's early ratification of the CSC, which, according to many U.S. experts, will provide a level playing field for American firms in nuclear reactor commerce with India. India's CSC ratification would automatically protect the American suppliers from any liability since the CSC provides for exclusive liability of the operator, and under the CSC, the U.S. does not recognise any right of recourse by the operator of the CSC signatory country against American suppliers. Signing the CSC would place India in a difficult position vis-à-vis other international suppliers who would demand a similar waiver on right of recourse. Given the fact that India will have to forgo the right of recourse under the CSC vis-à-vis the U.S suppliers as opposed to others, it has been visibly reluctant to ratify the CSC.

Given India's unwillingness to either amend the CLNDA or to ratify the CSC, a possible solution in the form of an insurance package by an Indian operator for American nuclear equipment suppliers covering a risk for maximum liability amount of INR 1500 Crore (approximately $250 million) stipulated in CLNDA is widely being considered as a way-out for addressing Indian nuclear liability requirements. The insurance cover would protect the suppliers from operator's exercise of right of recourse in the event of a nuclear accident. The U.S. and particularly, Westinghouse, however, need to clarify their concerns in accepting an insurance package from NPCIL that would indemnify Westinghouse in the event of a claim under Section 17(b) of CLNDA. The acceptance of an insurance formula by Westinghouse, together with a suitable clause in the contract agreement that guarantees to provide additional coverage for any future increase in the maximum liability amount (INR 1500 Crores) could in many ways facilitate the early conclusion of negotiations for signing the techno-commercial agreement for the Mithi-Virdi project. The upcoming summit between President Obama and Prime Minister Modi offers a window of opportunity to assuage the concerns of the U.S. nuclear industry on the liability issue.

Nuclear energy cooperation was the core element of the Indo-US strategic engagement that began in 2005. Although the impasse over suppliers' liability does not adversely impinge on the larger strategic partnership between the two democracies, nuclear cooperation is important for a variety of other reasons. Key decision makers in both India and the U.S. view nuclear power as a clean energy source and a panacea for climate change mitigation. A mutually acceptable framework that not only upholds the public safety concerns but also offers adequate incentives to the industry is thus needed to untie the Gordian Knot over liability and take the Indo-U.S nuclear cooperation to the next level.

References and Further Readings

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