

A STUDY ON AMERICAN NUCLEAR SAFETY LEGAL SYSTEM  
FROM THE PERSPECTIVE OF INTERNATIONAL LAW\*  
国际法视阈下美国核安全法律制度研究

by Ran Guo  
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China has 27 nuclear power plants which are already in operation and 24 more are in construction phase. By 2020, it is expected that its nuclear capacity will reach to 40,000 megawatts (mw), which will generate a total of 260-280 terawatt-hours of electricity. In the post-Fukushima era, how to ensure China's nuclear safety is the top priority for both China and the international community. Dr. Ran Guo's excellent work, *A STUDY ON AMERICAN NUCLEAR SAFETY LEGAL SYSTEM FROM THE PERSPECTIVE OF INTERNATIONAL LAW* 国际法视阈下美国核安全法律制度研究, has covered a thorough study regarding the best practice of the US and in consequence, provides a comprehensive solution towards both practical and theoretical values for China.

In order to implement its Active Nuclear Energy Development Strategy and "Go Global" Strategy, China needs to create domestic and international regimes by learning from international practices and participating in international governance of nuclear safety. Being the first country to operate nuclear power plants with the biggest nuclear capacity in the world, the US has established the most advanced legal system, regulatory structure and international coordination

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\* RAN GUO, *A STUDY ON AMERICAN NUCLEAR SAFETY LEGAL SYSTEM FROM THE PERSPECTIVE OF INTERNATIONAL LAW* 国际法视阈下美国核安全法律制度研究 (Wuhan: Wuhan University Press, 2016)

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mechanism in relation to nuclear safety. The author aims to fulfill two goals. One is to help China strengthen its domestic governance of nuclear safety by taking lessons from the US' advanced legal system and regulatory structure. The other is to help China increase its voice in international governance regimes and create a favorable environment for its "Go Global" strategy by learning from the American interaction with international nuclear safety regimes.

The book is composed of four chapters along with Introduction and Conclusion. Chapter One devotes to a normative analysis of America's nuclear safety legal system. This comprehensive system includes Congress legislation, authorized legislation, the Nuclear Regulatory Commission ("NRC") regulations, and the supportive norms, such as regulatory guides, technical documents, and safety standards. Besides, it also includes relevant case laws and international conventions. This legal system is produced by a unique legislation system, which is characterized by the combination of congress and authorized legislation. This combination can "ensure the separation and balance of legislative and administrative powers on the one hand, and secure a professional, independent and authoritative regulatory authority on the other." The US nuclear safety laws and regulations have become the model for international nuclear safety legislation.

Chapter Two carries out a historical study on the US regulatory structure. In 1954, the Automotive Electronics Council, a civil administration, replaced the exclusive military administration to promote civil nuclear energy development. However, its two conflicting functions - promoting the development of nuclear energy and supervising its safety - became so tense that the Energy Reorganization Act of 1974 eventually laid down the principle of the separation. Finally, the promotion function was transferred to Electrical Research and Development Association and Department of Energy ("DOE") and the regulatory function was transferred to NRC. After the Three Mile Island Accident in 1979, the NRC struggled to maintain its independence and improve its regulations on accident preparedness and response, radiation safety, and license renewal. In the 1990s, the US finally established a modern nuclear safety regulatory structure that includes NRC as the federal regulatory authority for nuclear safety, whereas other agencies, such as EPA, DOE, Department of State, Department of Transportation, Department of Labor, and state government took supportive responsibilities. It is characterized by 'independent institutions,' 'unified regulation,' "the separation

and balance of powers,” and “governance by law.”

As an international lawyer, Dr. Guo has dedicated himself to depict how the US has masterfully internationalized its nuclear safety laws in Chapter Three. The US has taken the initiative to establish the International Atomic Energy Agency (“IAEA”), which has subsequently become a leading international organization and set the international legal regime. However, it refuses to undertake any compulsory legal obligations and is strongly against any proposals to grant enforcement powers to IAEA, to make nuclear safety standards binding, or to strengthen IAEA’s peer review function. The US maintains the leading position in international nuclear safety coordination system like in the IAEA and the Nuclear Security Summit. The author argues: “The ultimate goal for US participation in international nuclear safety regime is to prevent nuclear proliferation by inducing other countries, with peaceful use of nuclear energy, to give up the production of nuclear weapons or weapons-grade uranium and plutonium.”

Chapter Four investigates if China can learn from the US nuclear safety legal system. With its 30 years of development in the nuclear energy industry, China has established a preliminary legal system and a regulatory structure on nuclear safety. However, the explosive growth of nuclear energy has placed much stringent requirement for China’s domestic governance of nuclear safety. Therefore, the author proposes three constructive suggestions. First, China should enact its basic atomic energy law with supporting laws and regulations, which will enable it to establish a complete legal system in line with China’s domestic features and international practices. Second, China should set up an independent, authoritative and professional regulatory body, and integrate all precautionary, regulatory and remedial mechanisms, including information transparency, public participation, safety culture, emergency response, and compensation for nuclear damage, etc. Third, China should prioritize nuclear safety in its international nuclear initiatives, and uphold the incentive nature of international nuclear safety legal system, while improving nuclear safety standards. China should participate in international coordination institutions to gain more say in international lawmaking on nuclear safety.

In summary, this book has made a systematic and thorough exploration on the US nuclear safety laws and practices, as well as its interaction with international nuclear safety regimes. More importantly, it has drawn valuable lessons for

China's nuclear safety regime and its relevant international governance, which can provide positive references for future research, management and regulation.