

Nuclear Power: The Limits of Liability

Professor Yamaguchi Mitsutsune considers the limited liability scheme of nuclear plant operators in Japan when it comes to compensating for major accidents.

In the wake of the accident at the Fukushima Daiichi Nuclear Power Station, the Japanese government at the end of last June announced three options for the nation concerning energy and environmental policy. The options focus on the share of nuclear energy in Japan's energy mix as of 2030, namely whether that share should be 0%, 15% or 20%–25%. Even if the choice is to be 0%, taking all nuclear plants offline immediately would be impossible, and Japan will continue using nuclear power for nearly twenty years at least.

In Japan, the liability of nuclear plant operators to compensate for damages is covered by the Act on Compensation for Nuclear Damage, which provides for channeling liability to nuclear plant operators and holds the operators liable without fault (no-fault liability). On these points, the Act is in line with legislation in other nations. But operators assume unlimited liability under the Act. Operators are covered by private insurance up to 120 billion yen for a single business location and enter into an indemnification agreement for the same amount with the government with regard to earthquake, volcano and tsunami damage which cannot be covered by insurance. In both cases, compensation exceeding 120 billion yen is the operators' liability, but in the event it is deemed necessary, the state will step in to help operators compensate for damages. However, when damages arise owing to catastrophic natural disasters or social upheavals, nuclear plant operators are exempted from liability. In this case, the state, without bearing liability, will take only the necessary measures to assist victims and to prevent any spread of the damage.

Given the foregoing, if the cause of the Fukushima accident had been deemed a "catastrophic natural disaster," the operator would have been freed from liability. But in the initial stages of the

accident the Government declared that it did not fall under the exemption provision and, therefore, operators must assume legal liability. After considering the various circumstances, the operator raised no objection to this declaration. In a nation governed by the rule of law, however, this process must surely be regarded as extremely obscure. The result was that Tokyo Electric Power Company, the operator, ended up bearing unlimited liability. The amount of damage has been estimated to be about 6 trillion yen at the outset, but this is still a minimum. The damage could mount as high as about 20 trillion yen. Under existing law, then, operators stand liable to compensate for damages of from 6 trillion yen to about 20 trillion yen once an accident occurs. Even if insurance covers up to 120 billion yen of this amount, the state is not obliged to provide support for the excess but would do so only at its discretion. Under these circumstances, nuclear power plant operators cannot conduct a rational business as private companies, which is not desirable from the perspective of relief for the victims either.

Nationalization of Power and Relief for Victims

One proposed policy solution is to provide legal liability insurance of 6 trillion yen or more. However, this would be totally unrealistic. Insurance companies throughout the world attempt to diversify the risk of insuring against nuclear power accidents through reinsurance, but the insurance coverage in Japan, 120 billion yen, though it is the biggest among other countries, is not enough. The insurance coverage of other countries is the equivalent of about 30 billion yen in the United States, 25 billion yen in Germany, with amounts in the United Kingdom and France being lower still (see table).

Under the system adopted in the United States, there exists second-level coverage maintained through retroactive assessments on all reactors on top of primary insurance coverage. The total amount of this two-tier coverage, at this moment, is 12.6 billion dollars (about 1 trillion yen), which is still far from adequate.

It is here that some observers propose nationalizing nuclear power. In that case, would the state be able to undertake unlimited liability to compensate victims?

The short answer is no. In Japan, homeowners' earthquake insurance is provided jointly by private insurance companies and (through reinsurance) the state. The insurance coverage for a single accident, however, is limited to 488 billion yen for private insurers and 5.712 trillion yen for the state, which amounts to a total of 6.2 trillion yen. This amount was set taking into consideration the maximum damage if the Great Kanto Earthquake that hit the Greater Tokyo area in 1923 occurred today, but it does not necessarily follow that the government would automatically raise this limit when an even larger earthquake is newly predicted. Nor is there any guarantee that the state would pay unlimited amounts if two or more earthquakes were to occur in different places in a given year. What this means is that even the state cannot undertake unlimited liability owing to fiscal considerations, especially in view of the current huge government deficit. In fact, there is no government among the world's major industrialized nations that has undertaken unlimited liability with respect to nuclear accidents. A further disadvantage of nationalization is the lack of efficiency.

Victim Relief and Sound Development of Nuclear Power

Relief for victims and the sound development of the nuclear power business are goals prescribed by law, and I believe these ends would be best served by keeping nuclear power plants in private hands, limiting operator liability to a certain amount and letting the Diet decide on measures to be taken if that limit is exceeded. A look at situations around the world shows that, excepting the four countries of Japan, Germany, Switzerland

Comparison of major countries' liability compensation scheme

	Japan	USA	Germany	France	UK
Operator's liability (limit of liability) (A)	Unlimited	Limited (\$12.594B.)	Unlimited ¹⁾	Limited	Limited
Liability-insurance or financial guarantee (B)	¥120B.	\$12.594B. ²⁾ (¥1 trillion ³⁾ (Primary Insurance \$375M. + Secondary Financial Protection \$12.219B.)	€2.5B. (¥250B. ³⁾ (Primary Insurance €256M. + Financial Guarantee €2.244B.)	€91.5M. (¥9.2B. ³⁾	£140M. (¥175B. ³⁾
Amount of financial security (Limit of government compensation) (C)	If liability exceeds (B) above, Government support operators to pay when authorized by the Diet,	If liability exceeds (B) above, Congress becomes the insurer of last resort.	Up to €2.5B only when above insurance etc. will not be activated.	If liability exceeds (B) above, up to 300M. SDR ⁴⁾ (¥36B.).	Same as France
Exemption	Social disturbance, extraordinary huge natural disasters	Act of war	None	Armed conflict etc. & exceptional grave natural disaster	Armed conflict
International Conventions that have taken effect	None	Convention on Supplementary Compensation for Nuclear Damages (not took effect yet)	Paris Convention, Brussels Supplementary Convention and Joint Protocol	Paris Convention, Brussels Supplementary Convention	Same as France

1) Operator's liability is limited to €2.5B in case of war, extraordinary natural disaster etc., and the operator is exempted from liability if their insurance does not cover particular damages caused by war, extraordinary huge natural disaster etc. However, in these cases, Government must compensate up to €2.5B.

2) Calculated based on the existing 104 reactors

3) Exchange rate: \$1=¥80, €1=¥100, £1=¥125, SDR1=¥120

4) If new Protocol under Brussels Supplementary Convention will be effectuated, this will be increased to €1.5B. ¥150B.)

Source: Compiled by the author based on the paper presented to the 10th Government committee to review Japan's energy policy, Feb. 1, 2012

and Sweden, all nations limit operator liability to a certain extent. The limits on liability in France at 91.5 million euros (about 9.1 billion yen) and the U.K. at 140 million pounds (about 17.5 billion yen) are quite low indeed. The state would compensate for damages exceeding this amount, but the limit in both countries is 300 million in special drawing rights (SDR) (about 36 billion yen), and in neither country does the state undertake liability exceeding this amount (see table). This amount, including state compensation, will be raised to 1.5 billion Euros (150 billion yen) if the revised Paris Convention of 2004 and the revised Brussels Supplementary Convention of 2004 enter into force, but this too will be inadequate still, and there is little prospect of these conventions entering into force in the near future.

The United States, meanwhile, has taken a different approach. The Price-Anderson Act limits the amount of compensation by operators to about 12.6 billion dollars (about 960 billion yen) based on the number of nuclear power plants. Specifically, it provides for private sector primary insurance coverage of up to 375 million dollars, with the nuclear power operator making up the difference if this amount is insufficient. Although the government would not bear legal liability to compensate for damages exceeding 12.6 billion dollars, the law does provide for the President of the United States to

submit a plan for compensation to the Congress, which would then take necessary measures. Then, certain measures for the relief of victims are taken under which operators and the state, though not legally liable, provide relief for victims if damages exceed 12.6 billion dollars. In contrast, in the U.K. and France, 300 million SDR is the absolute limit for the relief of victims. Germany, incidentally, provides for unlimited liability, and operators are obliged to carry liability insurance or a financial guarantee up to 2.5 billion euros (250 billion yen). In cases where for some reason insurance and/or financial guarantees are not enough or do not cover, the state would provide compensation up to this amount. Any relief to victims for damages exceeding this amount would not come from the government. Rather, it would depend on the financial wherewithal of operators and would not be guaranteed.

As already indicated, nuclear power stations will remain in operation for nearly twenty more years regardless of which option Japan chooses. They will be essential for a number of reasons: the need for energy security; the control of electricity rates that can be sharply raised by the increasing use of renewables, which will impact the international competitiveness of Japanese companies; and for the continuation of efforts to combat global warming. The British and French approaches fall well short of providing relief to victims, and

strict application of the German unlimited liability approach would just put operators in danger of bankruptcy without really providing relief for victims. Meanwhile, the assumption of unlimited liability by the state through nationalization would be unprecedented and impose grave difficulty for the government. Taken as a whole, these considerations indicate that adopting the U.S. approach would be realistic and would contribute not only to relief for victims but also for the sound development of the industry. Future consideration should therefore focus on the scope and limits of operator liability, and to what extent private insurance will have a role to play in that context.

As Japan faces the task of drastically overhauling energy and nuclear power policy, now more than ever, serious consideration should be given to empowering the Diet to determine the question of limited operator liability and the measures which should be taken if damages exceed that limit. ■

Note: Though the Cabinet decided on a revolutionary energy and climate strategy in September 19, 2012, no fixed figure on nuclear generation ratio or its timing have been adopted. These are left for future discussions.

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