

# FUTURE OF JAPAN'S NUCLEAR POLICY

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## **Abstract**

*Japan has been the sole victim of the nuclear weapons on its soil as US dropped two nuclear weapons on its two cities Hiroshima and Nagasaki, which has caused the death of thousands of Japanese citizens. It was since then that Japanese people started to hate the nuclear weapons as a result Japan had formulated a policy which has restricted nuclear technology only for the civilian purposes such as producing the electricity. Since then Japan has been one of the major states of the world which is using electricity from nuclear technology. But suddenly the sentiments of Japanese people aroused against the nuclear reactors after the tragic incident of The Fukushima Daiichi nuclear disaster in 2011. As a result government announced to shutdown all nuclear reactors on Japanese soil until 2030, but the new government has denied the previous government policy due to the unavailability of resources. Although disaster has changed the future of nuclear policy of Japan and has caused the reduction to the use of nuclear technology for civilian purposes in Japan, but still it looks a distant dream to end the nuclear programme in Japan.*

## **Introduction**

Japan is an archipelago state which is composed of 6852 islands with an area of 377,944 km<sup>2</sup>, and population of over 127 million. It is one of the important countries of the Asia-Pacific region and is regarded as the Sheriff of the United States' interests in the region. Japan is the ally of the United States since the end of the Second World War and

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San Francisco Peace Treaty has ended the occupation of Japan in 1952, which resulted in the alliance with the United States.

Since the establishment of US-Japan alliance in 1951, they have been under the US extended nuclear deterrence against the Soviet aggression including Japan's enemies. That means that Japan has been guaranteed by the United States that they would be protected by the nuclear attack (nuclear umbrella).

Japan is one of the most enthusiastic nations of the globe which is against the proliferation of nuclear weapons as they themselves have seen the horrors of the nuclear weapons. Japan is the only state of the world which has felt the destruction of nuclear weapons and it was due to the destruction of the nuclear weapons the public opinion in Japan has always against the possession of nuclear technology for developing the nuclear weapons. In 1967, Prime Minister Eisaku Sato made this opposition official when he declared Japan's Three Non-nuclear Principles: The country would not produce, possess or allow nuclear weapons on Japanese territory. Japan has maintained a sophisticated civilian nuclear infrastructure, and despite its Nuclear Non-Proliferation Treaty (NPT) membership, it is believed that Japan could build nuclear weapons quickly if it chose to do so.<sup>1</sup>

Since then they have been the critical towards the transferring of nuclear technology to non-nuclear weapon states as they have witnessed that how India, Pakistan, Israel and North Korea have used this technology to built the weapons which can jeopardize the security of the non-nuclear weapon states. The more immediate concern to the Japanese security policy makers is their troublesome neighbour North Korea who has been in a state of war with its neighbours since the end of the Second World War, and from time to time they have taken such actions which have frustrated the Japanese efforts to bring the peace in the region. North Korea has tested its nuclear weapons in 2006 and they regard the America and its allies i.e., South Korea and Japan as its hot targets in case they

would be targeted by the US forces. In this scenario the security of the Japan looks vulnerable as they are the main target of the nuclear weapons of the North Korea.

### **Japan's Civil Nuclear Programme**

Japan has been regarded as one of the most advanced nations and has been one of the predecessors of the use of the nuclear technology for civilian purposes. The nuclear reactor in the country generates more than 47,000 megawatt of electricity which is 30% of Japanese needs. Japan is regarded as the third biggest country to produce electricity from the nuclear technology. As Japan has very small quantity of natural resources so it has heavily relied on the nuclear technology and the import of natural resources for meeting its energy demands.

The nuclear research programme of Japan started in 1954 as a result in 1955 The Atomic Energy Basic Law was passed which has put the strict limits on nuclear energy. The first reactor which produced electricity in Japan was Japan Power Demonstration Reactor (JPDR) in 1963. In 1966 Japanese first imported reactor Tokai-1 from UK was operated.

Until 1974 Japan relied on the oil for the energy demand as in 1974 they imported oil fuel of 66% mainly from the Middle East region. But due to the crisis in the Middle East region particularly in 1973 when Middle Eastern states banned the export of oil to the western powers and its allies have severally dented the energy demands in Japan as a result of this Japan began to turn to the other energy resources. During this time five nuclear reactors have been operational and their policy of diversification of energy resources has encouraged them to build the nuclear power reactors in the country. The nuclear programme has been continued under all the governments and has enhanced at an advanced level that currently Japan is one of the advanced nations to have possessed fifty nuclear reactors with advanced safety systems.

### Power reactors operational in Japan

Reactor	Type	Net capacity	Utility	Commercial Operation
Fukushima I-5	BWR	760 MWe	TEPCO	April 1978
Fukushima I-6	BWR	1067 MWe	TEPCO	October 1979
Fukushima II-1	BWR	1067 MWe	TEPCO	April 1982
Fukushima II-2	BWR	1067 MWe	TEPCO	February 1984
Fukushima II-3	BWR	1067 MWe	TEPCO	June 1985
Fukushima II-4	BWR	1067 MWe	TEPCO	August 1987
Genkai-1	PWR	529 MWe	Kyushu	October 1975
Genkai-2	PWR	529 MWe	Kyushu	March 1981
Genkai-3	PWR	1127 MWe	Kyushu	March 1994
Genkai-4	PWR	1127 MWe	Kyushu	July 1997
Hamaoka-3	BWR	1056 MWe	Chubu	August 1987
Hamaoka-4	BWR	1092 MWe	Chubu	September 1993
Hamaoka-5	ABWR	1325 MWe	Chubu	January 2005
Higashidori-1 Tohoku	BWR	1067 MWe	Tohoku	December 2005
Ikata-1	PWR	538 MWe	Shikoku	September 1977
Ikata-2	PWR	538 MWe	Shikoku	March 1982
Ikata-3	PWR	846 MWe	Shikoku	December 1994
Kashiwazaki- Kariwa-1	BWR	1067 MWe	TEPCO	September 1985
Kashiwazaki- Kariwa-2	BWR	1067 MWe	TEPCO	September 1990
Kashiwazaki- Kariwa-3	BWR	1067 MWe	TEPCO	August 1993
Kashiwazaki- Kariwa-4	BWR	1067 MWe	TEPCO	August 1994

Reactor	Type	Net capacity	Utility	Commercial Operation
Kashiwazaki-Kariwa-5	BWR	1067 MWe	TEPCO	April 1990
Kashiwazaki-Kariwa-6	ABWR	1315 MWe	TEPCO	November 1996
Kashiwazaki-Kariwa-7	ABWR	1315 MWe	TEPCO	July 1997
Mihama-1	PWR	320 MWe	Kansai	November 1970
Mihama-2	PWR	470 MWe	Kansai	July 1972
Mihama-3	PWR	780 MWe	Kansai	December 1976
Ohi-1	PWR	1120 MWe	Kansai	March 1979
Ohi-2	PWR	1120 MWe	Kansai	December 1979
Ohi-3	PWR	1127 MWe	Kansai	December 1991
Ohi-4	PWR	1127 MWe	Kansai	February 1993
Onagawa-1	BWR	498 MWe	Tohoku	June 1984
Onagawa-2	BWR	796 MWe	Tohoku	July 1995
Onagawa-3	BWR	796 MWe	Tohoku	January 2002
Sendai-1	PWR	846 MWe	Kyushu	July 1984
Sendai-2	PWR	846 MWe	Kyushu	November 1985
Shika-1	BWR	505 MWe	Hokuriku	July 1993
Shika-2	BWR	1304 MWe	Hokuriku	March 2006
Shimane-1	BWR	439 MWe	Chugoku	March 1974
Shimane-2	BWR	791 MWe	Chugoku	February 1989
Takahama-1	PWR	780 MWe	Kansai	November 1974
Takahama-2	PWR	780 MWe	Kansai	November 1975
Takahama-3	PWR	830 MWe	Kansai	January 1985
Takahama-4	PWR	830 MWe	Kansai	June 1985
Tokai-2	BWR	1060 MWe	JAPC	November 1978
Tomari-1	PWR	550 MWe	Hokkaido	June 1989

Reactor	Type	Net capacity	Utility	Commercial Operation
Tomari-2	PWR	550 MWe	Hokkaido	April 1991
Tomari-3	PWR	866 MWe	Hokkaido	December 2009
Tsuruga-1	BWR	341 MWe	JAPC	March 1970
Tsuruga-2	PWR	1110 MWe	JAPC	February 1987
Total: 50 reactors		44,396 MWe		

Fukushima I = Fukushima Daiichi, Fukushima II Fukushima Daini

**Source:** Nuclear Power in Japan, [http://www.world-nuclear.org / info/inf79.html](http://www.world-nuclear.org/info/inf79.html), accessed on 4/1/2013

### Nuclear Policy of Japan

The nuclear policy of Japan took long time in the written shape as Japan has been the sufferer of the nuclear weapons in the Second World War. Japanese nuclear policy reflects their thinking of nuclear weapons destruction during the Second World War and their public opinion has also been opposing the development of the nuclear weapons.

Article 9 of the Japanese Constitution is a clause in the National Constitution of Japan that prohibits an act of war by the state. The Constitution came into effect on May 3, 1947, following World War II. In its text, the state formally renounces war as a sovereign right and bans settlement of international disputes through the use of force.<sup>2</sup> The article 9 of the constitution prohibits the maintenance of armed forces for the war except for the Self defence forces, which clearly shows the Japan's reluctance to use the forces as war machines and avoid the conflicts with other states.

As a result of their renouncement of the war Japanese opted for the US nuclear umbrella rather than producing their own nuclear weapons, as a result they felt secured in the nuclear world and on

the other hand they continued to take benefits of the nuclear technology by producing the electricity.

Japan's Three Non-Nuclear Principles (非核三原則 Hikaku San Gensoku?) are a parliamentary resolution (never adopted into law) that have guided Japanese nuclear policy since their inception in the late 1960s, and reflect general public sentiment and national policy since the end of World War II. The tenets state that Japan shall neither possess nor manufacture nuclear weapons, nor shall it permit their introduction into Japanese territory. The principles were outlined by Prime Minister Eisaku Satō in a speech to the House of Representatives in 1967 amid negotiations over the return of Okinawa from the United States. The Diet formally adopted the Principles in 1971.<sup>3</sup>

I will discuss the nuclear policy of the Japan below:

### **Main Features of Japan's Nuclear Policy**

Nuclear technology is used for only peaceful purposes.

Japan has been hardly on this stance that the states that are using the nuclear technology they might be under the safeguards of the IAEA so that they cannot divert their nuclear programmes for developing the nuclear weapons.

They would assure that they will transfer the nuclear technology to those states who will accept the IAEA safeguards.

The main idea behind this theme was that they will bind the states who will acquire the nuclear technology to get the IAEA safeguards on their nuclear reactors so that their programme cannot be diverted for some other purposes.

They would try to halt the nuclear proliferation.

Japan has the main aim is to stop the nuclear proliferation although at a level they have been successful as the South African government has given up its nuclear programme and also Libya has also

disbanded its nuclear programme. These both the programmes were stopped due to efforts carried out by the Japan with the help of the United States, west and some other states.

They would convince the states to join the NPT.

Another feature of the Japan's nuclear policy is that they would try to convince the states to join the NPT so that they would not go for the proliferation of nuclear weapons. Today there are only three states which have not signed the NPT and those are India, Pakistan and Israel. Whereas North Korea has been the state which has not only signed the NPT but has also withdrawn from the NPT on the security matters of the state as article 11 of the NPT permits the states to withdraw from the treaty if the security of the state is jeopardized, but the state should notify the authority six months in advance.

Japanese non-proliferation efforts continued during the post cold war era as in 1995 Chinese tested a nuclear weapon which caused a critical situation as China was already the member of the NPT. It was the Japanese efforts which brought the moratorium on further testing of nuclear weapons as they stopped the grant to Chinese and later as a result they convinced the Japan to sign the CTBT in 1996.

They would provide the economic aid to those states who will renounce their nuclear programmes.

Japan from time to time has given the incentives to the states which have renounced their nuclear programmes. They have also tried to stop Pakistan from testing the nuclear weapons in 1998 and in retrospect they have pledged to provide them economic benefits. They have also given the incentives to the North Korean regime from time to time to freeze their nuclear programme. They are the main party with the North Korean regime who want the peaceful solution of the nuclear issue.



## **Shift in Japanese Nuclear Policy and the Future of its Civil Nuclear Programme**

Japan has been a state which has opposed to the possession of nuclear weapons as they see them as a threat to the human civilization, and even though they have the capability to produce the nuclear weapons within short time they have restrained due to the public opposition for the nuclear weapons. Although Japan is surrounded by the hostile nuclear powers like North Korea and China but they still feel that rather than developing their own nuclear weapons they can rely on the US nuclear umbrella.

### **Japan's new shift in its policy has occurred after the Fukushima disaster on March 11, 2011**

As of September 2012, most Japanese people support the zero option on nuclear power, and Prime Minister Yoshihiko and the Japanese government announced a dramatic change of direction in energy policy, promising to make the country nuclear-free by the 2030s. There will be no new construction of nuclear power plants, a 40-year lifetime limit on existing nuclear plants, and any further nuclear plant restarts will need to meet tough safety standards of the new independent regulatory authority. The new approach to meeting energy needs will also involve investing \$500 billion over 20 years to commercialize the use of renewable energy sources such as wind power and solar power.<sup>4</sup>

Why this change in the attitude of the Japanese policymakers has suddenly occurred it is a million dollar question as most of the states in today's world are searching for the ways to find alternative sources of energy and Japan is following one of the most powerful sources of energy that is the nuclear energy. The change in the nuclear policy has been not new phenomena as Japan historically has abided itself from the use of nuclear technology due to its dual use, and the second reason is it can bring destruction accidentally. The stance of the Japanese government changed due to the fact that

The Fukushima Daiichi nuclear disaster was a series of equipment, nuclear meltdowns, and releases of radioactive materials at the Fukushima I Nuclear Power Plant, following the Tōhoku earthquake and tsunami on March 11, 2011.<sup>5</sup>

This nuclear disaster has been one of the great disasters and has caused the evacuation of the city which has been a greatest disturbance for the population. Fukushima's effect on Japan's atomic energy program has not had the consequences of a nuclear blast, but more the relentless drip of acid rain, slowly eroding public confidence in the country's nuclear power industry, which last month saw 49 of the country's 54 nuclear power plant (NPP) reactors idled. The figure is hardly insignificant, as the nuclear power plants (NPPS) collectively generated more than 47,000 megawatts, nearly 30 percent of the country's electrical needs.<sup>6</sup>

Although there is lot of criticism on Japanese government to shutdown the nuclear programme in the wake of the disaster but the newly elected Prime Minister Shinzo Abe has pledged to continue the civil nuclear programme and the construction of new nuclear plants.

Currently, all but two of Japan's 50 reactors are shuttered for safety checks and must get the blessing of a new regulator before being restarted. In the interview Abe did not clarify when or where new reactors might be built.<sup>7</sup>

In his statement he did mention that during the earthquake of 2011 only Fukushima reactor was damaged whereas the other plants remained safe during the disaster.

It was the first time since assuming the office as the prime minister he spoke to the media regarding the future of the nuclear programme. His administration has worked on the continuation of the nuclear programme against the previous government of Yoshihiko Noda whose administration has changed the nuclear policy of Japan and has pledged to shut down the Japanese nuclear

programme within thirty years.

## Conclusion

With the increasing number of nuclear states around the Japanese in recent times has caused a great trouble for the Japanese security particularly their hostile neighbor North Korea. Most Japanese policy makers from time to time have given inputs that the US extended nuclear deterrence has resolved the nuclear weapons possession issue for Japan, and it looks that despite the opposition of Japanese public against the nuclear weapons they would not abandon the US nuclear umbrella.

Fukushima disaster of 2011 has been regarded as the cornerstone in the shift of the Japanese nuclear policy as the public opinion in Japan has been already opposing the possession of nuclear technology even for the use of civilian purposes. Fukushima disaster has further exposed the vulnerabilities of the nuclear technology as the disaster could have been worse had it been to third world states which have been inferior in the technology to meet the disaster. Although the disaster has not ended the use of nuclear technology for civilian uses in Japan as the new Prime Minister Shinzo Abe has vowed to continue the nuclear programme but on the other hand Fukushima disaster of 2011 has been successful in decreasing the use of nuclear technology in future.

## References:

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