

INSC Country Report

Country: Taiwan

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1. Political situation in nuclear in your country

Effective 1st July 2015, Unit 1 of Taipower's Lungmen Nuclear Power Plant was "sealed and saved" for an initial phase of three years. All 126 systems of the unit passed extensive preoperational testing and re-examination in line with international standards last year. Dry cask storage was applied to a total of 30 systems, with the reactor and cooling system sealed in wet storage. The rest would run as usual or on a periodic basis to maintain working order. Work on Unit 2's 115 systems has also been suspended, and the unit is in dry storage for the same period of time. The total cost of both hiatuses was estimated at NT\$3.4 billion (US\$110.1 million). The decision of mothballing was announced by the government on 28th April 2014, in response to growing public concerns over the safety of nuclear power following the Fukushima nuclear accident of 2011. The future of Lungmen is supposed to be determined in a national referendum, but when to conduct the referendum is still uncertain. On 16th January 2016, the ruling party, KMT, was defeated in the general election, while the longtime anti-nuclear movement supporting party, DPP, won the election with a landslide victory; It is foreseeable that the use and the development of nuclear energy will further be restrained in the coming years.

2. News on nuclear facilities (NPP's, WSF's etc.) in your country (power upgrades, lifetime extensions, new build etc.)

The current 40-year operating licenses of all six nuclear units will expire starting 2018 through 2024. Taipower submitted to the AEC an application for renewing the licenses of Chinshan Units 1&2 in 2009, but twice requested deferral of the review until its latest request for reactivation of the process in December 2013. AEC's technical review of the application is expected to complete in July 2016. As the final fates of these NPPs are not yet decided, preparations for potential decommissioning by both the regulator and the licensee are also under way in parallel with the renewal process. Taipower has submitted a decommissioning plan for Chinshan plant in November 2015.

Construction of two ABWRs, started in 1999 at the fourth plant, Lungmen. The project encountered numerous difficulties as led by suspension in 2000, and followed by subsequent restart in 2001 and associated problems with rising price of construction materials, rehiring and interface of subcontractors, resulting in repeated delays and requests for additional budget allocation. Since early 2014, Unit 1 of Lungmen has stayed at 98% complete on construction. Despite extensive safety re-evaluation conducted and corresponding enhancement measures launched in the wake of the 2011 Fukushima accident, the plant has not escaped from the fate of being mothballed (see Item 1 above).

For an on-site dry storage of spent nuclear fuel at Chinshan NPP, the concrete pad was laid in 2012, a hot test with two loaded casks anticipated by end of 2013, and a license for operation in 2014. The project, however, has been delayed pending approval of Taipower's Water and Soil Conservation Plan (WSCP) by the New Taipei City government. As for Kuosheng plant, Taipower submitted a Safety Analysis Report (SAR) to the AEC in March 2012. The Council has completed review of the SAR in September 2013, and issued a construction permit on August 7th, 2015.

3. News on companies (projects, financial results, production etc)

Taipower proposed a pilot project in 2014 to send 1,200 spent fuel bundles overseas for reprocessing. The company requested a budget of NT\$11.25 billion (US\$356.4 million) to manage eight percent of its total used fuel rods. Under the plan, one-fifth of the sent volume would be shipped back to Taiwan for final disposal, in the form of vitrified waste encased in glass. But the plan has run into opposition in Taiwan from both lawmakers and environmental groups. Legislators think that the overseas disposal cost is too high and reprocessing may not be the answer to Taiwan's nuclear waste management. Environmental groups worry that reprocessing is used by Taipower to extend the lifespan of two existing nuclear plants as the spent fuel pools at the facilities are nearing their holding capacity. The budget, therefore, was frozen for the rest of the legislative session of 8th Legislative Yuan (Congress of Taiwan). Though the newly elected lawmakers opened the legislative session on 1st, February, first session after the general election in mid-January, no activity was taken nor any discussion was made concerning the budget and the project.

4. Public opinion towards nuclear (results latest PO polls)

Public support for nuclear power remains low since a major drop right after the Fukushima accident, despite all of the efforts in enhancing safety standards of various nuclear power facilities, radiation protection and monitoring programs as well as emergency preparedness and response plans. Only some surveys suggest a slight recovery of support for nuclear power, i.e. pro-nuclear catching up or equal to anti-nuclear.

5. Stakeholder dialogue (Attitudes of NGOs, media, local communities towards nuclear)

On 26th – 27th January 2015, government officials, legislators, scholars, business leaders, and representatives of civic groups, totaling 173 delegates, attended a National Energy Conference called by the Ministry of Economic Affairs. The group debated the crucial issue facing Taiwan following President Ma Ying-jeou's decision in 2014 to suspend construction of the controversial Lungmen nuclear power plant. The conference, however, ended with no agreement on the best way forward. Proponents of making Taiwan a “nuclear-free homeland” argued that conservation and greater reliance on green energy would make it possible to close down the island's existing three nuclear plants (each with two reactors) when their current lifecycles expire between 2018 and 2025. Other participants countered that alternative sources such as solar and wind energy, while beneficial for peak usage, are unsuitable to constitute the base load of the national power supply, as they are unavailable when the sun is not shining or wind blowing. Those experts see Taiwan's only realistic option - short of accepting zero economic growth, which would be anathema to most of the population - as extending the life of the existing nuclear plants beyond the original 40 years, as has become common practice in many countries around the world.

With the failure of the conference to deliver any consensus, the ball went back in the government's court. And the government's position remains that all options should remain open, including the possibility of recommissioning the current nuclear units. The desirability of maintaining a diverse mix of energy sources has been stressed in order to achieve flexibility and assure a stable power supply.