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**Panel on Security**

**Background brief prepared by the Legislative Council Secretariat  
for the meeting on 6 December 2011**

**Review of the Daya Bay Contingency Plan**

**Purpose**

This paper summarizes past discussions of the Panel on Security ("the Panel") on the Daya Bay Contingency Plan ("DBCP") in the event of a nuclear incident at Daya Bay Nuclear Power Station ("DBNPS").

**Background**

Daya Bay Nuclear Power Station

2. DBNPS, which comprises Guangdong Nuclear Power Station ("GNPS") and Lingao Nuclear Power Station ("LNPS"), is located at Daya Bay about 50 km north-east of the Hong Kong city centre. GNPS and LNPS commenced operation in 1994 and 2000 respectively.

3. GNPS comprises two French-designed pressurized water reactors. Each reactor is protected by three barriers to prevent the release of radioactive material from the core. The design of the pressurized water reactors at LNPS is similar to those at GNPS. The International Atomic Energy Agency ("IAEA"), established under the auspices of the United Nations, conducted safety reviews on GNPS both before and after it commenced operation to confirm that the nuclear station would be operated in strict compliance with international safety standards.

International Nuclear Event Scale

4. The International Nuclear Event Scale ("INES") was drawn up by IAEA as an internationally recognized standard for facilitating better understanding by

the public, media and the nuclear industry of the degree of significance of nuclear-related events. Under INES, international nuclear events are classified from Level 0 to Level 7. Any event that comes within the classification of INES is considered a Licensing Operational Event. Level 0 is known as "below scale" event, which implies that the event has no safety significance. Levels 1 to 3 events are regarded as "incidents", which have very little or no impact on the environment. Levels 4 to 7 are regarded as "accidents", representing various degrees of radiological impact. All incidents and accidents have to be verified, reported, analyzed and rectified so as to prevent any recurrence in the future. Events falling outside the classification of INES are matters which do not have any relevance to safety. The INES classification takes into account many factors, including any degradation of safety protection measures, integrity of radiological barriers and control devices, as well as impact on the public and the environment.

### **Deliberations of the Panel**

5. Issues relating to DBCP were discussed at the Panel meetings on 19 March and 7 June 2011.

6. The Panel noted that after the Fukushima nuclear power plant accident in March 2011, the Administration was conducting a review on DBCP. The review covered various aspects, including its application, the latest international nuclear safety standards and contingency measures, the notification mechanism for nuclear incidents, radiation monitoring assessment in Hong Kong, contingency preparations, and measures and actions to be taken upon activation of the contingency plan.

7. Members pointed out that comprehensive tests on DBCP were conducted in November 1990, May 1993, December 1996 and February 2001 under the observation of IAEA or other international experts. However, such tests on DBCP had not been conducted since February 2001. As the next comprehensive test would not be held until 2012, members called on the Administration to advance the test to 2011.

8. According to the Administration, the Security Bureau had set up a dedicated team to steer and coordinate efforts across the Government for reviewing DBCP and interfacing with departmental efforts. Reference would be made to the latest international practice as published by IAEA and other international organizations. It was expected that the review of DBCP would be completed by end of 2011 and a large-scale and comprehensive inter-departmental exercise would be conducted in early 2012 in the light of the revised contingency plan to test the preparedness and response capability of various departments.

9. Noting that the Japanese authorities had expanded full countermeasures from areas within a zone of 20 km radius around the Fukushima nuclear power station to those within a zone of 30 km radius from the nuclear power station, members sought information on whether the Administration would consider adopting similar measures in Hong Kong and enlarging the area to those within a zone of 30 km radius from Daya Bay.

10. According to the Administration, it was reviewing the coverage of full countermeasures around DBNPS. In Hong Kong, Ping Chau fell within the zone of 20 km radius from DBNPS, whereas Tai Long Wan, High Island Reservoir, Grass Island, Hoi Ha, Lai Chi Wo and Wong Shek Pier fell within the zone of 30 km, and the population involved was approximately 1 000. The Administration would closely monitor the development in the Ministerial Conference on Nuclear Safety to be held by IAEA from 20 to 24 June 2011. The Conference was aimed at making a preliminary assessment of the Fukushima nuclear power plant accident, identifying areas of global nuclear safety framework for review and identifying possible future actions.

11. Members sought information on whether members of the public were made aware of the existing DBCP and whether the Administration would consider launching future exercises involving participation of members of the public on a regular basis.

12. The Administration advised members that DBCP had been uploaded onto the home page of the Security Bureau. In the past, only the few residents of Ping Chau were covered in the evacuation arrangements and they were not involved in past exercises. The Administration would suitably involve relevant members of public in the exercise to be carried out in early 2012, assess the outcome for further review and set out the direction for carrying out future exercises, including the frequency and the extent of public participation in future exercises.

13. Concern was raised over the situation in Hong Kong that unlike other places, Hong Kong residents had nowhere to evacuate in the event of a nuclear accident at DBNPS. Query was also raised as to whether the Administration could draw useful reference from foreign countries where residents could evacuate to other places of those countries when revising DBCP. According to the Administration, it would have regard to the particular circumstances of Hong Kong when reviewing DBCP.

14. There was a suggestion that DBCP should cover the entire territory of Hong Kong regardless of the distance from DBNPS. As it was an international practice to adopt countermeasures against ingestion of contaminated food, water

or milk within a zone of 20 km to 50 km from the nuclear power station, the revised DBCP should focus more on education of the public on the ingestion countermeasures rather than evacuation. The Administration advised members that DBCP covered the entire territory of Hong Kong and appropriate enhancements would be considered in the review.

15. Noting that Mainland was the major source of food and water supply to Hong Kong, members enquired how the Administration would ensure a safe and stable supply of food and water to Hong Kong in the event of a nuclear incident at DBNPS. Members were advised that the Administration had been regularly monitoring food safety. Food was supplied from different parts of the Mainland and other parts of the world. Shenzhen was not necessarily the major source of food supply for Hong Kong.

16. Members noted that officers from the Security Bureau and other relevant government departments joined the Chinese delegation as members to attend the Ministerial Conference on Nuclear Safety organized by IAEA in Vienna from 20 to 24 June 2011. In the light of the Fukushima nuclear power plant accident, IAEA called for Member States' universal application of the IAEA Safety Standards as international benchmark for protecting people and the environment from harmful effects of radiation. Relevant safety standards, in particular those pertaining to multiple severe hazards and effective preparedness, should be reviewed and strengthened. At the General Conference of IAEA held in September 2011, an Action Plan on Nuclear Safety was endorsed, which set out, among other things, the requirement to review and strengthen IAEA safety standards and improve their implementation.

### **Relevant papers**

17. A list of the relevant papers on the Legislative Council website is in the **Appendix**.

**Relevant papers on  
Daya Bay Contingency Plan**

<b>Committee</b>	<b>Date of meeting</b>	<b>Paper</b>
Legislative Council	27.10.1999	<u>Official Record of Proceedings (Question 12)</u>
Legislative Council	30.6.2010	<u>Official Record of Proceedings (Question 1)</u>
Legislative Council	7.7.2010	<u>Official Record of Proceedings (Question 9)</u>
Panel on Security	16.11.2010 (Item I)	<u>Agenda</u> <u>Minutes</u>
Legislative Council	16.3.2011	<u>Official Record of Proceedings (Urgent Questions 1, 2 and 3)</u>
Panel on Security	19.3.2011 (Item I)	<u>Agenda</u> <u>Minutes</u>
Legislative Council	30.3.2011	<u>Motion on "Concern about the impact of the earthquake in Japan on Hong Kong"</u>
Panel on Security	7.6.2011 (Item V)	<u>Agenda</u> <u>Minutes</u>