

**For discussion  
on 17 January 2011**

**Legislative Council Panel on Security  
Daya Bay Nuclear Power Station Notification Mechanism**

**Purpose**

This paper seeks to brief Members on the progress of the review on notification mechanism of the Daya Bay Nuclear Power Station (DBNPS) and the follow-up measures.

**Review of notification mechanism and enhancement measures**

2. At present, the CLP Holdings Limited (CLP), through its wholly-owned subsidiary, viz the Hong Kong Nuclear Investment Company Limited (HKNIC), has investment in the Daya Bay Nuclear Power Station (DBNPS). CLP is also a shareholder of the Daya Bay Nuclear Power Operations and Management Co. Ltd. (DNMC)<sup>1</sup> which is responsible for the management and operation of DBNPS. At present, HKNIC submits monthly reports on its operations and performance to its board of directors (members include two representatives from the HKSAR Government). These reports cover all Licensing Operational Events (LOE) classified under the International Nuclear Event Scale (INES)<sup>2</sup> that occurred at the station. Besides, HKNIC also uploads on its website every month the number of LOE events at DBNPS with a brief description of the events for reference of the general public.

3. To further enhance the transparency of the operation of the DBNPS, the Administration has in-depth discussion with the HKNIC and the Mainland shareholder of the power station i.e. the China Guangdong Nuclear Power Holding Co. Ltd. (CGNPC), on the enhancement to the information disclosure mechanism. After consultation, all parties agreed that building on the foundation of the established information disclosure mechanism for emergency

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<sup>1</sup> The DNMC is a company jointly invested by CLP and the China Guangdong Nuclear Power Holding Co. Ltd. (CGNPC).

<sup>2</sup> The INES was drawn up by the International Atomic Energy Agency (IAEA) and classifications are from Level 0 to Level 7. Any event that comes within the classification of the INES is considered a Licensing Operational Event (LOE). Level 0 event implies that the event has no safety significance. Levels 1 to 3 events are regarded as “incidents”, which have very little or no impact to the environment. Levels 4 to 7 are regarded as “accidents”, representing various degrees of radiological impact. As for events outside the INES (i.e. below Level 0), they do not have any relevance to safety.

events, the disclosure arrangement could be further enhanced particularly for events not involving emergency response, including those classified at Level 0 and Level 1 as well as events at Level 2 or above but not involving emergency response (hereinafter called “non-emergency events”). These events should be disclosed in a more timely and proactive manner so as to ease the anxiety of the public.

4. Under the new arrangement which has been discussed and agreed amongst the three parties, the DNMC would notify the HKNIC **within two working days** of any non-emergency event at the DBNPS once it was discovered and confirmed. HKNIC would immediately disclose to the public through its website. The information to be disclosed would include a brief description of the event, the initial classification of the event<sup>3</sup> and the initial assessment on the impact of the event on environment and public safety. At the same time, HKNIC would notify the Security Bureau (SB) and Environment Bureau (ENB).

#### **Disclosure of supplementary information**

5. In accordance with Mainland regulations, DNMC should make a written report to the National Nuclear Safety Administration (NNSA) within 30 days after obtaining the detailed facts upon completion of thorough investigation concerning the non-emergency events. After DNMC has submitted the report to NNSA, HKNIC would arrange to disclose through its website further details of the investigation where necessary, including the process of the event, the actual impact of the event and follow-up actions, etc.

#### **Matters not classified as LOEs**

6. For those matters which are not classified as LOE (i.e. below Level 0 events) but may still cause concern to the public or the media, such as any possible impact due to minor earthquake, typhoon or fire break out near the nuclear power plant, the HKNIC would arrange appropriate disclosure where necessary so as to help the public understand more about the operation of nuclear power station.

7. A comparison table showing the current and new notification arrangements is attached at Annex for reference.

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<sup>3</sup> The actual classification of event needs to be confirmed by the National Nuclear Safety Administration (NNSA).

## Notification mechanism on emergency events

8. As for those LOEs at Level 2 or above and involving emergency response, it would, in accordance with the established procedures stipulated under the Daya Bay Nuclear Power Station emergency response cooperation agreement signed between Guangdong and Hong Kong, be handled and disclosed by the relevant emergency bodies of the two Governments.

9. Under the cooperation agreement, the HKSAR Government and the Guangdong authorities have established an official contingency notification channel. In case of any emergency event at the nuclear station, the station operator should immediately inform the Prevention and Emergency Administrative Commission Office of Guangdong Province for Nuclear Accident of Civil Nuclear Facility (PEACO,GD) and other specific national bodies. PEACO,GD will notify the HKSAR Government in accordance with the mutually agreed arrangement and the classification of “emergency situation”. The classification of “emergency situation” follows the International Atomic Energy Agency (IAEA)'s four-category system for classifying nuclear emergencies according to its impact on safety as follows (in ascending order of safety impact):

<b>Classification of emergency situation</b>	<b>Description</b>
Emergency Standby	Safety levels may be reduced at the plant.
Plant Emergency	Radiological consequences of the emergency are confined to a section of the plant.
Site Emergency	Radiological consequences of the emergency are confined to the site.
Off-Site Emergency	Radiological consequences of the emergency extend beyond the site boundary.

10. In the event of an “Off-Site Emergency”, PEACO,GD will immediately notify the HKSAR Government via the Hong Kong Observatory (HKO). The Duty Officer of the HKO will acknowledge receipt, inform SB, and commence the assessment process. SB will determine the appropriate level of activation the Daya Bay Contingency Plan. It will also direct and co-ordinate the HKSAR Government’s response to the nuclear incident. PEACO,GD will provide update report on the situation no longer than every six

hours. It will give further notification immediately on detecting significant changes.

11. After receiving a report of “Site Emergency” from DBNPS, PEACO,GD will make a first notification to the Hong Kong authorities as soon as possible based on the circumstances at the time and at latest two hours after being notified by DBNPS. Thereafter, PEACO,GD will make follow up notifications once every six hours. If there are significant changes, the follow up notifications will be made as soon as possible. When a nuclear incident leading to a “Plant Emergency” or an “Emergency Stand-by” occurs at DBNPS, the PEACO,GD will notify the IAEA as soon as possible and at the same time inform the Hong Kong authorities.

### **Standing warning system**

12. Apart from the notification mechanisms with the PEACO,GD, and the HKNIC, the Administration has also set up its own standing warning system. The Hong Kong Observatory (HKO) has ten field stations distributed within Hong Kong to monitor the ambient gamma radiation level. An alarm will sound at the HKO Headquarters if there is a significant increase of the ambient radiation level at any one of these stations. An increase in ambient radiation level can be triggered by meteorological events and not necessarily due to an accidental release of radioactive materials from the DBNPS. Therefore, HKO will verify the radiation level and make enquiries with the DBNPS on its situation to ascertain the cause of the alarm. The Radiation Monitoring Network can promptly verify whether Hong Kong is contaminated by radioactive substances and identify the extent of possible contamination. The Observatory releases daily on its website the information of radiation of the day before. The website also contains information on radiation monitoring, evaluation and protection to raise public awareness of radiation monitoring.

13. Besides, there are two identical on-line water contamination monitoring systems at Muk Wu Pumping Station set up by the Water Supplies Department (WSD) to monitor incoming drinking water from Guangdong. The alarm will sound if there is a significant increase in the radiation level. HKO and WSD will confirm whether these are false alarms, and conduct detailed analysis of water samples where necessary. HKO and WSD will alert SB immediately if the alarm is found to be genuine after confirmation analysis.

**Comparison of the Current and New Notification Arrangements  
for Non-emergency Events at Daya Bay Nuclear Power Station**

	<b>Current Arrangement</b>	<b>New Arrangement</b>
Time of public disclosure	Disclose to the public through updating HKNIC's website in around the middle of each month	Disclose to the public through HKNIC's website <b>within two working days</b> of any non-emergency event <sup>1</sup> once it is confirmed
Scope and information to be disclosed	<ul style="list-style-type: none"> <li>- Number of Level 0 events (without brief description of events)</li> <li>- Number of events at Level 1 or above with brief description of the events</li> </ul>	<p>Information on all non-emergency LOEs will be disclosed, including those events at Level 0 and Level 1 as well as events at Level 2 or above but not involving emergency response. The information to be disclosed includes :</p> <ul style="list-style-type: none"> <li>- an initial classification of the event<sup>2</sup></li> <li>- a brief description of the event; and</li> <li>- an initial assessment on the impact of the event on environment and public safety</li> </ul>
Events at below Level 0	At present, there is no disclosure arrangement for events at below Level 0.	For events which are classified below Level 0 but may still cause concern to the public or the media, such as possible impact due to minor earthquake, typhoon or fire break out near the nuclear power plant, HKNIC would arrange appropriate disclosure of these matters where necessary.
Disclosure of supplementary information	No standing arrangement at present.	After the nuclear plant operator has submitted the written report to National Nuclear Safety Administration (NNSA) <sup>3</sup> , HKNIC would arrange to disclose through its website further details of the investigation where necessary, including the process of the event, the actual impact of the event and follow-up actions, etc.
Notification to HKSAR Government	HKNIC submits <b>monthly</b> reports on its operations and performance to its board of directors (including two representatives from the HKSAR Government).	Upon receiving notice from the nuclear plant operator <b>within two working days</b> . HKNIC will inform Security Bureau and Environment Bureau while disclosing the event through its website.

<sup>1</sup> The INES classifications are from Level 0 to Level 7. Any event that comes within the classification of the INES is considered a Licensing Operational Event (LOE). Non-emergency events mean events not involving emergency response.

<sup>2</sup> The actual classification of event needs to be confirmed by the National Nuclear Safety Administration.

<sup>3</sup> In accordance with Mainland regulations, the nuclear plant operator should submit a written report to the National Nuclear Safety Administration within 30 days after obtaining detailed information upon completion of investigation concerning the non-emergency events.