

Role-play on Mock Question Time
Daya Bay Contingency Plan
Sample oral question in Council meeting

Official Record of Proceedings

Meeting date: 30 June 2012

Question 1: Nuclear-related Events in Daya Bay Nuclear Power Station and its Reporting System

MR TAM YIU-CHUNG (in Cantonese): *President, a small increase in radioactivity was observed in the reactor cooling water at Unit 2 of the Daya Bay Nuclear Power Station on 23 May this year. On the day following the disclosure of the incident by the media on 14 June, CLP Power Hong Kong Limited (“CLP”), one of the shareholders of the nuclear power station, issued a statement stating that the incident was “a minor operational incident” with no impact on public safety, public health or the environment, and as the incident was not significant enough to be classified as belonging to any of the levels under the International Nuclear Event Scale (“INES”) adopted by the International Atomic Energy Agency, it was therefore not necessary to activate the reporting system. Yet, it has been reported that a member of the Daya Bay Nuclear Power Station Safety Advisory Committee (“Advisory Committee”) has queried that CLP had underestimated the impact of the incident. In this connection, will the Government inform this Council:*

- (a) when and through what channel the Government learnt about the aforesaid incident; how the Government has assessed the impact of the incident and of the assessment outcome;*
- (b) given that there have been occasional “Below Scale” and “Level 1” incidents since the commissioning of the Daya Bay Nuclear Power Station, whether it knows the persons who are responsible for grading such incidents; and whether the previous incidents have all been reported in accordance with the existing mechanism; and*
- (c) given that it has been reported that the deputy chairman of the Advisory Committee has openly criticized the current communication and notification mechanism between the Government and the Advisory Committee to be inadequate, whether the Government has planned to review the existing reporting system on nuclear incidents; if it has, of the details?*

SECRETARY FOR SECURITY (in Cantonese) : President,

- (a) Upon receipt of a media inquiry on June 14 concerning the alleged nuclear incident that occurred on May 23 at the Daya Bay Nuclear Power Station (DBNPS), the Security Bureau (SB) immediately sought verification from the Hong Kong Nuclear Investment Co. Ltd. (HKNIC). According to the

information provided by the HKNIC at that time, DBNPS observed a slight increase in radioactivity in the cooling water in Unit 2 reactor on May 23. Analysis was made and the preliminary assessment attributed the event to a minor imperfect sealing of one of the fuel rods in the Unit 2 reactor. Since the reactor cooling water was enclosed by another two layers of containments and completely isolated from the external environment, the public were by no means affected. The level of radioactivity of the cooling water remained stable without any material change in the two weeks after the event. The HKNIC indicated to the Administration that they did not activate the notification mechanism because the operation of the DBNPS had not been affected and the situation was below any rating (i.e. out of scale) on the International Nuclear Event Scale (INES); the incident was only a minor operational incident without any impact on public safety, public health or the environment.

Apart from seeking verification from the HKNIC, the SB immediately requested the Hong Kong Observatory (HKO) to confirm the monitoring data concerning the radiation level in Hong Kong from the date of the event to mid-June. According to the data collected by the radiation monitoring network of the HKO, there were no abnormal changes in the local radiation level in Hong Kong on or after May 23. For example, according to the data collected at Ping Chau, which is the radiation monitoring station closest to DBNPS, the daily average radiation levels in May were within the normal range of fluctuation. The HKO will continue to monitor the local radiation level round the clock. If any abnormality is detected, it will raise alert immediately.

In addition, the Security Bureau also contacted the Prevention and Emergency Administrative Commission Office of Guangdong Province for Nuclear Accident of Civil Nuclear Facility (PEACO, GD) to seek further information. In its reply, the PEACO, GD indicated that there was an abnormal increase in the radioactivity level of the cooling water in the Unit 2 reactor of the DBNPS on 23 May, and it had been determined that the incident was caused by a minor crack in the sealing of one of the fuel rods. The monitoring equipment at the nuclear power station recorded no abnormality in the radiation levels inside the plant or in its surrounding environment. Independent monitoring by the Guangdong authorities at the radiation monitoring points set up around the nuclear power station also did not detect any abnormality, indicating that the incident had made no impact on the environment.

- (b) The INES was drawn up by the International Atomic Energy Agency (IAEA) to establish an internationally recognised standard for facilitating better understanding by the public, media and the nuclear industry of the degree of significance of nuclear events. International nuclear events are classified from Level 0 to Level 7. Any events that come within the classification of the INES are considered Licensing Operational Events. Level 0 is also known as “below scale” events, which implies that the incident 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. “out of

scale” or below Level 0), they do not have any relevance to safety. The INES classification takes into account many factors, including any degradation of safety protection measures, the integrity of radiological barriers and control devices, as well as the impact on the public and the environment.

According to the HKNIC, the DBNPS also adopts the INES rating system. In case of a Licensing Operational Event (i.e. events at Level 0 or above), the DBNPS shall, in accordance with Mainland statutory requirements, report the event to the relevant state regulatory body, namely the National Nuclear Safety Administration (NNSA). NNSA will handle the matter accordingly, including examining and confirming the contents of the report and the rating of the event. The HKNIC also indicates that NNSA has a number of inspectors stationed on-site at the DBNPS to monitor the plant’s operation and performance.

The HKNIC indicated clearly to the Administration that the situation on May 23 has not reached the conditions for classifying it as a Level 0 event, and that the event has no relevance to safety.

There are two aspects of the current notification mechanism. On one hand, the operator of the DBNPS will notify the HKNIC of any Licensing Operational Event. The HKNIC submits monthly reports of Licensing Operational Events to its Board members, which include representatives of the Environment Bureau and the SB. The HKNIC also uploads such information on its website for the public’s reference.

On the other hand, the HKSAR Government and the Guangdong authorities have established an official notification channel. In simple terms, the PEACO, GD is responsible for co-ordinating contingency actions to be taken by various Guangdong authorities in response to events at the DBNPS. In case of a contingency event or accident at the plant, the DBNPS operator will inform the PEACO, GD and other relevant state organisations immediately. The PEACO, GD will notify Hong Kong authorities in accordance with the contingency notification arrangements agreed between the two sides.

Apart from the existing notification mechanism, the HKSAR Government has also set up its own warning system to obtain first-hand information. One of the major components of this warning system is HKO’s Environmental Radiation Monitoring Network mentioned above, which comprises 10 radiation monitoring stations for recording ambient gamma radiation levels. An alarm will sound at the HKO Headquarters if there is any abnormal change of ambient radiation level at any one of these stations. In addition, the Water Supplies Department (WSD) operates two identical on-line Water Contamination Monitoring Systems at Muk Wu Pumping Station to monitor incoming drinking water from Guangdong. The alarms at HKO and WSD will sound if there is any abnormal change in the radiation level.

Furthermore, an unscheduled power interruption at the DBNPS may indicate the occurrence of an abnormality at the power plant, though this does not

necessarily mean a nuclear event. If such power interruption occurs, apart from being notified by the DBNPS, the System Control Centre of CLP will also be able to detect it immediately through its own monitoring system. CLP will alert the Electrical and Mechanical Services Department and the HKO in accordance with the established notification mechanism.

Once alerted, the departments concerned will follow relevant procedures and review their monitoring data immediately. They will also seek verification from relevant authorities, assess the situation, and assist the SB in deciding whether to activate the corresponding level of the contingency plan.

- (c) The Administration will review the existing arrangement for handling nuclear events and the notification mechanism with a view to strengthening coordination with all concerned parties.

Members of the Daya Bay Nuclear Safety Consultative Committee (NSCC), including local professionals, doctors and academics, joined the Committee at the invitation of the Daya Bay Nuclear Power Operations and Management Co., Ltd. The major responsibilities of the NSCC are to discuss plans and implementation reports for safeguarding nuclear safety in the course of plant operation and power station construction, and to give advice and recommendations on nuclear safety.

The Daya Bay Nuclear Power Operations and Management Co., Ltd has already set up an expert group to conduct a follow-up investigation on the event. The HKNIC has also undertaken to submit detailed investigation findings to the HKSAR Government. The Administration will continue to closely monitor the situation. We have also invited representatives from the CLP to attend the meeting of the Panel on Security of the Legislative Council on July 6, 2010 to provide Members with further information.

MR TAM YIU-CHUNG (in Cantonese): *President, in part (c) of the main reply, the Secretary has mentioned that the authorities will review the existing arrangement for handling nuclear events and the notification mechanism, and hope to strengthen coordination with all concerned parties. May I ask the Secretary when the review will be completed, and whether he will at the same time consider appointing experts or representatives from relevant departments of the SAR Government to participate in the work of the NSCC? Will their participation make any contribution or help in this respect? As the current composition only comprises professionals or doctors of Hong Kong society, will it be helpful to include expert representatives from relevant government departments?*

SECRETARY FOR SECURITY (in Cantonese): President, as regards the timetable, we also hope that it can be completed as soon as possible. We are now unable to tell Mr TAM whether it is next month or the month after it, but we have contacted the relevant authorities. In fact, the current notification mechanism for nuclear events has been operating very well basically. So far, the DNMC is very well operated. However, what does this event reflect? That is, how can relevant authorities enhance the transparency of

events which do not fall under the scope of nuclear incidents nor amount to the so-called nuclear incidents (that is, below Level 0)? We are now in talks with CLP and the DNMC in this respect. We hope that the PEACO, GD can conduct further negotiations on the possibility of enhancing the transparency of the notification mechanism with a view to disclosing more information to the public.

Part (b) of Mr TAM's question is about the NSCC. Members of the NSCC join it at the invitation of the DNMC. It is a Mainland organization, not an organization under the Hong Kong Government. Therefore, we cannot request participation as we please. Of course, if officials of the Hong Kong Government are invited to join it, we will give it consideration.

MISS TANYA CHAN (in Cantonese): *President, I noted that in the last part of the main reply, it was mentioned that the original committee would — President, excuse me, please wait — the DNMC has set up an expert group. As it is responsible for selecting members to the NSCC and subsequently the expert group, may I ask if we can set up a truly independent expert group, or even enlist the help of overseas experts, to conduct a completely independent investigation, and review the whole notification mechanism of Hong Kong incidentally?*

SECRETARY FOR SECURITY (in Cantonese): Members must understand that the DNMC is basically a Mainland company, not a Hong Kong company, nor an organization under the Hong Kong Government. Therefore, we or Hong Kong people can convey whatever requests to it, but we cannot make requests as regards whom it should appoint to the NSCC. Moreover, academics, doctors, scientists and other environmentalists are among the appointees. In fact, the NSCC is already an independent committee.

PRESIDENT (in Cantonese): Has your supplementary question not been answered?

MISS TANYA CHAN (in Cantonese): *If the practice were credible, there would have been confidence in it. However, the current situation is that an event has happened and no notification has taken place. May I ask if an independent group will be formed, or external experts will be engaged?*

PRESIDENT (in Cantonese): Miss CHAN, I think the Secretary has already answered it.

DR MARGARET NG (in Cantonese): *President, the impact of any event that happens at the DBNPS on the safety of Hong Kong people can be grave, so how can the Secretary say that this is under the charge of a Mainland company which we cannot join as we please? This is of course the fact, but I think that the crux of the issue lies in the confidence of members of the public in the notification mechanism.*

I am also asking a question about part (c) of the main question: Why does it seem that Hong Kong does not have a non-official, nor an independent committee as mentioned by Miss Tanya CHAN, that can be involved in the notification mechanism? Why did Hong Kong people remain ignorant of the event that had happened on 23 May until 14 June? President, had there really been a problem, we might all have died

already. Therefore, may I ask the Secretary for Security why we do not have an independent non-official who can be involved in the notification mechanism from the perspective of Hong Kong, with a view to protecting the safety of Hong Kong people? Why is a Mainland company entrusted to involve some people in the notification mechanism? How can the Government rest assured of it?

SECRETARY FOR SECURITY (in Cantonese): President, I fully agree to Dr Margaret NG's remarks that both Hong Kong people and the Hong Kong Government will be very concerned about any nuclear event that happens at Daya Bay. This is precisely the reason why we have a notification mechanism for nuclear events in place. It is an internationally recognized mechanism drawn up by the IAEA under the United Nations, with event Levels ranging from 0 to 7. There has been no problem in the operation of the mechanism, and we have not had any problem over the past decade or so. The current event does not fall under the scope of nuclear incidents. Nor does it amount to the level of nuclear incidents by international standards. There have been minor operational problems, which we have always mentioned. Can the DNMC be more proactive in respect of transparency and information dissemination? In this respect, we are now in talks with the DNMC on how best the practice of notification can be improved, with a view to giving people access to such information.

Dr Margaret NG mentioned an independent committee just now. In fact, the NSCC, whose members are appointed by the DNMC, is also an independent committee, which is not open to Hong Kong officials. We do not have any officials as its members. Its members include certain independent persons in Hong Kong, such as academics, scientists, environmentalists and doctors. If Dr Margaret NG means that these well-known personalities and academics in Hong Kong are not credible enough, is it the case that the NSCC will remain incredible unless persons deemed credible by Dr Margaret NG are appointed as members? In this respect, I have just now said that as the DNMC is neither a company under the Hong Kong Government nor a Hong Kong company, we have no power over appointment, which is within its power. Of course, we will also be very concerned about any nuclear event that may happen.

PRESIDENT (in Cantonese): Has your supplementary question not been answered?

DR MARGARET NG (in Cantonese): *No, it has not been answered. My supplementary question is: Why is there not a committee or organization in Hong Kong comprising non-officials to help monitor this notification mechanism? President, this is because Hong Kong can be affected. The Secretary has now said that members of the NSCC are not appointed by Hong Kong. My question to the Secretary is not on why there is no power to appoint non-Hong Kong members to the NSCC. My question is: Why is there not a similar regulatory body in Hong Kong comprising non-officials to help monitor this notification mechanism?*

SECRETARY FOR SECURITY (in Cantonese): President, if there is a regulatory body in Hong Kong comprising non-officials, where can it obtain information? It is viable only when there is an organization to which the DNMC can provide information. Dr Margaret NG has pointed out that information can be obtained from the DNMC by setting up an organization on its own. We have heard Dr Margaret NG's opinion, which

we may reflect to the DNMC. We can convey Dr Margaret NG's opinion on how to improve this mechanism.

DR MARGARET NG (in Cantonese): *President, I hope that when Members are asking questions sincerely, officials should not take this opportunity to satirize them. Please do not do it. The Secretary has not answered my supplementary question, because official agencies in Hong Kong will receive notification and obtain information. So my question is: Why is a notification mechanism involving non-officials not set up in Hong Kong?*

PRESIDENT (in Cantonese): Secretary, do you have anything to add?

SECRETARY FOR SECURITY (in Cantonese): President, I have nothing to add.

PRESIDENT (in Cantonese): There are eight Members waiting for their turns to raise questions, but this Council has spent more than 21 minutes on this question. I will allow one more Member to raise a supplementary question.

MR ALAN LEONG (in Cantonese): *President, I have heard the Secretary's reply, which makes me shudder, because the Government should at least protect the safety of Hong Kong people. Even though it does not protect the safety of Hong Kong people, it should protect that of the Secretary. According to my information, on 23 May, there was a minor crack in the sealing of a fuel rod at the DBNPS. President, you should have heard of it. However, Secretary Edward YAU visited Daya Bay on 26 May. Even if the Government did not protect the safety of Hong Kong people 50 km away from the nuclear station, the Secretary should have been aware of the event upon arrival. Therefore, I would like to put this question to the Secretary for Security: Do you think that the HKSAR Government is duty-bound to protect Hong Kong people against nuclear radiation? If yes, how are you going to discharge that duty when the NSCC is currently not obliged to report to the HKSAR Government?*

SECRETARY FOR SECURITY (in Cantonese): President, in my reply to Dr Margaret NG, I said that the HKSAR Government (of course including me and Mr LEONG) would pay attention to and be concerned about any nuclear event that may happen at the DBNPS. Therefore, since the first day of its operation, we have had in place a notification mechanism for nuclear events, which has been operating well throughout the years. The current event does not fall under the scope of nuclear incidents. It relates only to operation, and it does not amount to the level of nuclear incidents by international standards. Also, the event does not have any adverse impact on safety, the environment or any person. Therefore, Secretary Edward YAU's health was not affected during his visit to the nuclear station on 26 May. I think that the current notification mechanism for nuclear events is effective. As of today, Hong Kong is very safe, so are Guangdong Province and the neighbouring areas. However, what problem does this event highlight? That is, how can we enhance the transparency of events which neither fall under the scope of nuclear incidents nor cause any impact on safety and the environment, such that members of the public can rest assured? We are following up with the DNMC in this connection.