

LCQ13: Issue of Tropical Cyclone Warnings and Fire Danger Warnings  
by Hong Kong Observatory

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Following is a written reply by the Secretary for Commerce and Economic Development, Mrs Rita Lau, to a question by the Hon Frederick Fung at the Legislative Council meeting today (November 4):

Question:

Regarding the meteorological services provided by the Hong Kong Observatory (HKO), will the Government inform this Council:

(a) given that HKO has adopted a new set of reference for the issue of Tropical Cyclone Warning Signals No. 3 and No. 8 since 2007 by expanding the reference from the Victoria Harbour to a network of eight reference anemometers covering the whole of Hong Kong, and No. 3 or No. 8 Signal, as the case may be, will be issued when half or more anemometers in the reference network have registered or are expected to register sustained strong winds or gale/storm force winds and the wind condition is expected to persist, of the statistical and analytical information of the new reference since 2007, including the number of warnings issued by HKO even though the tropical cyclones did not meet the relevant reference, and the number of contrary cases; whether it has assessed the reasons behind and whether this reflects that the new reference is unable to cover all the determining factors; whether the authorities have conducted any preliminary or detailed evaluation and review on the new reference; if they have, of the outcome; if not, the reasons for that, and when the authorities will conduct such evaluation and review; and

(b) given that, in accordance with the information provided on the HKO web site, the issue of fire danger warnings are based on weather conditions favouring the occurrence and spread of fires, such as low humidity and high wind speed, as well as the information on the dryness of vegetation supplied by the Agriculture, Fisheries and Conservation Department, but some members of the public have queried that Yellow or higher level of fire danger warnings are always issued on and around festivals such as the Ching Ming Festival, Mid-Autumn Festival and Chung Yeung Festival, and factors such as humidity are disregarded, of the humidity, wind speed and other determining factors when fire danger warnings were issued on and around these festivals in the past three years; whether the authorities will draw up a clearer scientific definition of the Yellow and Red Fire Danger Warnings and list out specifically all the determining factors and reference?

Reply:

President,

With reference to the question raised by the Hon Frederick Fung about the Tropical Cyclone Warning Signals and Fire Danger Warnings issued by the Hong Kong Observatory (HKO), our reply is as follows :

(a) The purpose of issuing Tropical Cyclone Warning Signals is to alert the public of the threats posed by the winds associated with tropical cyclones, in the interest of reducing the loss of lives and property. As minute changes of a tropical cyclone may lead to significant variations in wind conditions at different parts of the territory, HKO would take the following factors carefully into account when considering the issue of signals :

(i) data from the network of eight reference anemometers located at different parts of Hong Kong, especially whether half or more anemometers in the reference network have registered or are expected to register sustained winds meeting the respective threshold, including whether the wind condition is forecast to persist; and

(ii) the latest movement or forecast track of the tropical cyclone as well as the weather conditions over offshore areas, etc.

In the past three years, HKO had issued Tropical Cyclone Warning Signals No. 3 or No. 8 on 21 occasions. Of them, ten turned out to be accurate. On the other 11 occasions the wind conditions were not as severe as that forecast. The statistics also show that on no occasion in the past three years had HKO under-estimated the ferocity of the winds brought by tropical cyclones (in other words, we did not have a situation where the wind speed had reached the respective threshold when HKO was yet to issue a warning signal).

I wish to emphasise that the Tropical Cyclone Warning Signals are forecast by themselves. The actual weather conditions, affected as they often are by erratic factors (such as the tropical cyclone's own movement, intensification or weakening), may differ from the forecast.

HKO would review the system of issuing Tropical Cyclone Warning Signals regularly and make adjustments to improve the service as necessary; and

(b) The purpose of issuing Fire Danger Warnings is to alert the public of conditions when fire risk is high, in the interest of protecting lives and property. HKO would take the following factors into account when

considering the issue of such warnings -

(i) weather and vegetation conditions - including humidity, wind speed, the chance of rain and its intensity, as well as the dryness of vegetation; and

(ii) other environmental and human factors conducive to fire outbreaks - for example, past records show that there were more fires during some festivals (such as the Ching Ming, Mid-Autumn and Chung Yeung festivals).

It is on the basis of the above factors that HKO issued the Fire Danger Warnings. Whilst the number of warnings issued during the above festivals is higher than those on other days, this is not necessarily so. The Annex shows that HKO is not indiscriminate in issuing the warnings during the above festivals. The Ching Ming festival in 2008 is one such example.

Ends/Wednesday, November 4, 2009

**Annex**

**Statistics showing the Fire Danger Warnings issued by the Hong Kong Observatory (and the relevant reference factors) on and around Ching Ming, Mid-Autumn and Chung Yeung festivals (2006 – 2009)**

Date			Fire Danger Warning issued	Relative humidity (afternoon) %	Wind speed (afternoon) km/hr	Daytime rainfall, mm	Grass curing, %*
2006	Day before Ching Ming	Tue	-	79	7	0	29
	Ching Ming	Wed	Yellow	79	7	0	
	Day after Ching Ming	Thu	-	87	14	0	
2006	Day before Mid-Autumn	Thu	-	74	5	0	6
	Mid-Autumn	Fri	Yellow	71	5	0	
	Day after Mid-Autumn	Sat	Red	66	7	0	
2006	Day before Chung Yeung	Sun	Yellow	68	7	0	12
	Chung Yeung	Mon	Yellow	66	5	0	
	Day after Chung Yeung	Tue	Red	57	10	0	
2007	Day before Ching Ming	Wed	-	84	9	0.5	23
	Ching Ming	Thu	Yellow	84	4	0	
	Day after Ching Ming	Fri	-	83	4	0	
2007	Day before Mid-Autumn	Mon	-	93	11	16.7	45
	Mid-Autumn	Tue	-	85	15	0.1	
	Day after Mid-Autumn	Wed	Yellow	74	13	1.0	
2007	Day before Chung Yeung	Thu	-	68	8	0	16
	Chung Yeung	Fri	Red	42	10	0	
	Day after Chung Yeung	Sat	Red	65	12	0	
2008	Day before Ching Ming	Thu	-	97	13	0.3	35
	Ching Ming	Fri	-	91	12	0	
	Day after Ching Ming	Sat	-	83	9	0	
2008	Day before Mid-Autumn	Sat	Red	57	6	0	7
	Mid-Autumn	Sun	Red	58	9	0	
	Day after Mid-Autumn	Mon	Red	59	8	0	
2008	Day before Chung Yeung	Mon	-	70	11	0	11
	Chung Yeung	Tue	Yellow	79	6	0	
	Day after Chung Yeung	Wed	-	77	12	0	

Date			Fire Danger Warning issued	Relative humidity (afternoon) %	Wind speed (afternoon) km/hr	Daytime rainfall, mm	Grass curing, %*
2009	Day before Ching Ming	Fri	-	78	16	0	39
	Ching Ming	Sat	Yellow	78	10	0	
	Day after Ching Ming	Sun	Yellow	72	8	0	
2009	Day before Mid-Autumn	Fri	Yellow	73	7	0	4
	Mid-Autumn	Sat	Yellow	71	5	0	
	Day after Mid-Autumn	Sun	Red	50	8	0	
2009	Day before Chung Yeung	Sun	Yellow	76	5	<0.05	12
	Chung Yeung	Mon	Yellow	72	11	<0.05	
	Day after Chung Yeung	Tue	-	71	14	0	

(\* 100% means completely dry)