

Compliment to Hong Kong Observatory on handling of Severe Typhoon Vicente

From: <masked>

To: mailbox@hko.gov.hk

Sent: Friday, 27 July 2012 00:56:15

主旨： Severe Typhoon Vicente - Rapid Intensification

Dear Director of HKO,

You and your teams did a fantastic job in the Weather Forecast and the timing of Issuance of the Typhoon Signals Number 8, 9, and 10 during the passage of Severe Typhoon Vicente on 23rd and 24th July 2012 whilst maintaining your high level of professionalism in Meteorology and in the scientific community! This is truly a marvelous accomplishment of HKO!

First, the timing of issuance of No. 8 NE on 23rd July at 5:40pm was optimal with the pre-special announcement at 3:45pm given that priority should be given to people living in offshore islands and remote areas who are more affected by severe weather. As for the general public, despite some opinions in the press, I think the timing of 5:40p.m. on 23rd July 2012 was opportune since most urban areas (Kai Tak, Star Ferry, King's Park) only recorded strong gusts at this time and then 10-min sustained wind speeds at many urban areas were even below Force 6-7. This time was also opportune from the perspective that we need to warn the public of an approaching typhoon which would be closest to HK after midnight so they should head home or to other safe areas after work instead of hanging out in restaurants and other places. Some were saying that the timing of No. 8 NE was a little late, but I do NOT agree with this. Given the average commuting time to home or shelter of 1 hour, most of them could still arrive home before gale force gusts buffet the urban areas after 8pm.

Now let's come to the interesting part. Some amateur meteorologists, semi-professionals, and the general public said that No. 10 or even No. 9 were not needed for Vicente as compared to Becky and the powerful Hagupit and that sustained wind speeds in most areas except Cheung Chau Beach did not exceed or compare to York. Whilst it is understandable to say that if the sustained wind speeds

at 1 station (for Vicente, this will be Cheung Chau Beach) reached Force 12, No. 10 would be required if the STS/Typhoon is within 100km of HK posing a direct threat to the public, we should not ignore the following combination of factors which are quite "unique" for S. T. Vicente as they came into play in this climatological significant event around 11pm to midnight on 23rd July 2012:

- 1) rapid intensification of Vicente from Typhoon (Cat 1) to Severe Typhoon (Cat 3-4) within 150km of HK within 6 hours when the system was quite close to the South China coastal waters already thereby posing a significant threat to the public;
- 2) sustained Hurricane Force winds recorded in Cheung Chau Beach and high grounds and Ngong Ping attaining gusts of almost 200km/hr;
- 3) sustained Gale Force winds recorded in Star Ferry, Green Island, Tai Mei Tuk and other stations gusting to Hurricane force;
- 4) very warm waters near Pearl River Delta supporting the probability of further intensification;
- 5) from the Radar, HK was under the influence of the strong convective rainbands and squall lines to the NE quadrant of Vicente wrapping into the eyewall throughout the night WHEREAS Macau was relatively "spared" despite the fact that Macau was actually closer to the eyewall;
- 6) high confidence that Vicente would pass within 100km of HK and chance that its hurricane force and storm force wind radii would still increase;
- 7) at the time of issuance of No. 10, winds were just beginning to veer from ENE to ESE thus leaving most urban areas exposed to the destructive gusts of Hurricane force winds which we knew from our experience from York can tear through glass office buildings and devastate cranes and equipment on top of buildings bringing severe damage to properties;
- 8) a further "slight jog" to the north around 11pm to 2am would have easily put the NE quadrant of Vicente's large eyewall cyclonic circulation over SW areas of HK;
- 9) sustained winds and gusts at all stations were increasing after No. 9 was issued;
- 10) Wanda was a Super Typhoon (Cat 4-5) which caused "epochal" devastation to HK; this time we had Severe Typhoon (Cat 3-4) Vicente with an astounding sudden intensification (due to warm SST, outflow channels, and the presence of "hot towers" of cumulonimbus clouds near its eyewall) from 70kt to 120kt (based on JTWC's Amendment forecast) in the SW quadrant of HK within 150km of HK;
- 11) The still fresh memory of Hagupit which necessitated a No. 8 with sustained gale force winds covering almost all of HK (including urban areas) and its powerful storm surge.

Considering the above factors, both No. 9 and No. 10 signals were justified. The counter-arguments for "not issuing" No. 9 and 10 were not as significant in my opinion such as - the sustained wind speeds of quite a number of urban areas (such as King's Park) were only Strong (Force 6-7) gusting to Gale (Force 8-9). Some were even expecting that Hurricane Force sustained winds to buffet most urban areas for the No. 10 (which would have been very rare). The important point is even gusts of Hurricane force winds in the urban areas will have devastating impact on lives and properties.

A relatively minor point, yet quite important, to praise the Hong Kong Observatory, is that you have been very professional and accurate in the relative ocean wave height forecast as well by mentioning in the Weather Forecast for the General Public that "High to Phenomenal Seas" and "High to Very High Seas" were expected during the point of closest approach of Vicente between midnight to 3am. I picked this up because I did remember that during the passage of Ellen in the 80s with Hurricane force winds, "very rough seas" were mentioned in the general public forecast which I thought was "not" so accurate for Force 12-14 winds. Your teams did make the correction in this case.

Regards.

XX Tsang