***Marine Weather Forecaster Competencies 1, 2 and 3: Experiential Questions Information Note***

***C1 Analyse and monitor continuously the marine weather situation***

***C2 Forecast marine weather phenomena, variables and parameters***

***C3 Warn of hazardous marine meteorological phenomena***

***Competency Description:***

Continuously monitor the latest observations, advisories, forecasts and warnings of marine weather parameters and variables, and significant weather phenomena. Determine the need for issuance, cancellation or amendment/update of advisories, forecasts and warnings according to documented thresholds and regulations.

**Considerations on using Experiential Questions**:

Most assessors agree that Direct Observation is one of the most important methods to be used for assessing competency in the forecast processes for analysis and diagnosis of marine weather situations to produce updates to forecasts, new forecasts and warnings, in other words, Competencies 1-3, this method also includes limitations.

While Direct Observation using think-aloud protocol can be used to elicit useful evidence of competency in the forecast process, the variety of potential weather situations and skills required to address them are impossible to be demonstrated during even a several forecast shifts. Experiential Questions about hypothetical situations can be very useful to identify knowledge and skill during diverse, and especially during severe weather situations can be rare and do not allow for a focused assessment session. Due to the highly situation-specific nature of forecasting during many weather situations, it is difficult to assess for every situation that might occur, but it is important to assess for the most common weather situations face, and for those known to have the greatest impacts.

This limitation applies even more to Competencies 4 and 5, as noted in those sections of the toolkit matrix.

**Recommendations**:

In addition to valuable opportunities for assessment presented during Direct Observation, it will be advantageous to use a set of Experiential Questions to probe an understanding of the variety of severe or rare weather situations. The questions might be more numerous than could occur during a Direct Observation session, and would vary in terms of phenomenon and the intensity of the phenomenon or associated parameters and variables (wind speeds, wave heights, coastal inundation levels, etc.).

**Example questions and evidence criteria**:

The following questions are based on situations involving strong winds, but similar questions can be developed for other phenomena based on these models. The questions should attempt to address all the performance criteria for the phenomenon being assessed, including those related to maintaining a weather watch, analysing and diagnosing the weather, evaluating existing forecasts currently in place, making amendments, forecasting

The questions might address a hypothetical situation and provided data products or could ask the forecaster to recall a prior experience in detail.

* Describe a time when you effectively forecast Strong wind over Coastal or International Water
* Perform a synoptic analysis including latest MSLP chart analysis. Determine the synoptic flow over your area of responsibility.
* Identify significant features such as a tight pressure gradient/area of speed convergence/active cloud bands/trough lines/deepening low pressure system/ blocking high pressure system.
* Use satellite imagery or other tools to identify typical signatures or active features of concern
* Examine and describe the latest observations from coastal stations/drifting buoys/offshore wind sensors. If the area of interest is further away over open waters, use the scatterometer wind observations
* Determine the forecast wind speed by considering the latest Numerical Weather Prediction (NWP) analysis and forecasts
* Will strong wind speeds exceed your national threshold for Strong winds? Consider the area that the strong winds would affect.
* When all criteria are evaluated and thresholds are met, what type of forecast or warning is or could be required?
* Do strong winds forecasts and warnings appear consistent across neighboring forecast areas and national boundaries? What can be done to make them more consistent?
* When will impactful weather begin, and when will it cease to be a threat?
* If strong winds are identified or predicted, can this information be issued on the next scheduled international warning, or should it be issued immediately?
* How will you make your prediction as precise as possible and issue forecasts and warnings in accordance with the agreed formats?
* How will you consider the needs of your most impacted customers in formulating impact statements? Would you contact them directly if this is part of your local procedures?