

Memorandum for the Record

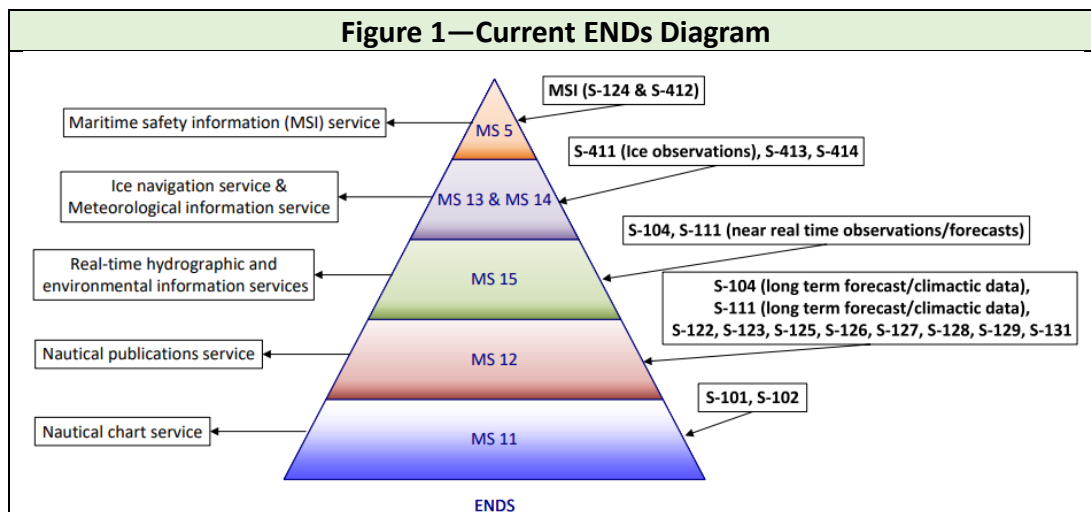
Date: 5 December 2023 (updated on 2 February 2024)

From: Michael Kushla (NGA)  
 To: Caroline Johansson (SMA)

Subject: NIPWG 10 Action Item 17 (ENDs diagram)


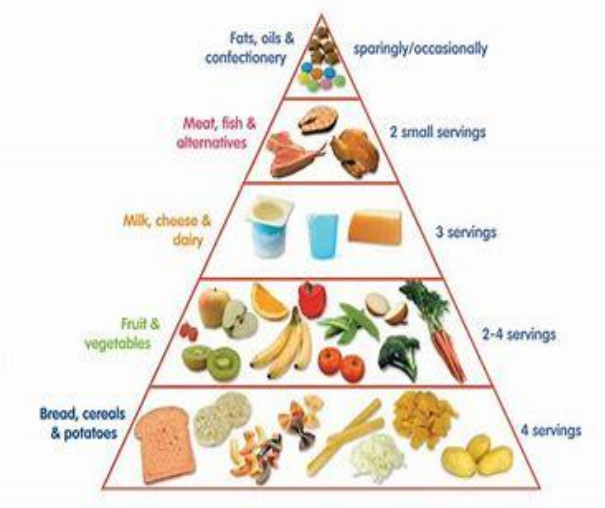
**Abstract.**—The operation interaction diagram is currently limited to only the AtoN task. This needs to be expanded to the other tasks and charting tasks to elaborate what is the relation between the various ones if there is a relationship and how does it end up at the ship. Requirement to update names, shapes, etc. and link with SOLAS regulations. The Chair appointed Caroline Johansson (SMA) as the lead for this effort. Stefan Engstrom (Traficom), Christopher Gill (UKHO), Michael Kushla (NGA), and Sarah Rahr (CHS) volunteered to work as part of this effort. The group has been requested to submit their work at NIPWG VTC 01/2024, with a further paper/report to be submitted at HSSC 16 in Tokyo in May, 2024.

Table 1—Extract from NIPWG 10 Minutes Regarding Action Item 17	
Dave Lewald (USCG)	Recommendation to NIPWG is to begin to change the language so that the user has human understandable descriptions of what we are being provided to them e.g., descriptions rather than S-1XX designators, S-125 is not the equivalent of just List of Lights, it is List of Lights and Notice to Mariners. <b>We need to name the products within the services as well.</b>
Yves Guillam (IHO)	<b>Recommend adding another set of arrows to show where the products in SOLAS Chapter 5 Regulation 27 fall.</b>
Eivind Mong (Chair)	This is being looked at the international level and not the finite detail of the national/regional level. This will become guidance/understanding from IHO to IMO. Then at the national level to take the guidance and work out how it fits.
Stefan Engstrom (Traficom)	It is up to the producing nation to define what products are needed to navigate in their own area; therefore, carriage requirements will be different from country to country.



The format of the existing ENDS Diagram can give the erroneous view of some MS entries being more important than others or MS entries need to be worked in a specified order (see the explanations at the bottom of Figure 2 and Figure 3). I propose the following format change to avoid this misinterpretation:

1. The existing pyramid format will be maintained.
2. The depiction of the MS polygons will be adjusted to display vertical slightly angular format to depict all MS as equal to each other. (See Figure 4)
3. Table 2, the description of products in each MS, will be located beneath the new ENDS Diagram.
4. The color of each MS polygon will be repeated for each MS in the relocated Table 2.

Figure 2—Maslow’s Hierarchy of Needs	Figure 3—U.S. Department of Agriculture Food Pyramid
 <p><b>Maslow’s Hierarchy of Needs</b></p> <p><b>Self-Actualisation</b> Morality, Creativity, Spontaneity, Acceptance, Experience purpose, meaning and inner potential</p> <p><b>Self-Esteem Needs</b> Confidence, achievements, respect of others, connections, need for individuality</p> <p><b>Love and Belongingness Needs</b> Friendship, family, intimacy, connections</p> <p><b>Safety and Security Needs</b> Health, employment, property, family, stability</p> <p><b>Physiological Needs</b> Air, food, water, shelter, clothing, sleep</p>	 <p><b>Fats, oils &amp; confectionery</b> sparingly/occasionally</p> <p><b>Meat, fish &amp; alternatives</b> 2 small servings</p> <p><b>Milk, cheese &amp; dairy</b> 3 servings</p> <p><b>Fruit &amp; vegetables</b> 2-4 servings</p> <p><b>Bread, cereals &amp; potatoes</b> 4 servings</p>
<p>This pyramid depicts an upward journey from the lowest (Physiological Needs) up to the highest (Self-Actualization). Each lower row must be successfully achieved before you can move on to the next highest level.</p>	<p>This pyramid depicts a downward journey from the uppermost (limited/occasional consumption) down to the lowest (most servings per day). However, there is no requirement for achieving any particular level prior to moving on to a different level.</p>

Comments on the existing pyramid-shaped ENDS diagram:

1. Do the top-to-bottom order of the Maritime Services and the size of each polygon inside the pyramid have specific meanings? Is an upper position more important than a lower position? Is a larger polygon more important than a smaller polygon? For example, does MS 11 (Nautical Chart Service) need to be completed before MS12 (Nautical Publications Service), etc.? See the examples in Figure 2 (Maslow’s Hierarchy of Needs) and Figure 3 (U.S. Department of Agriculture Food Pyramid).
2. Too much information outside the boundary of the pyramid coupled with too many arrows. Adding more arrows may make the diagram more unwieldy.
3. Where is the best place to add Yves recommendation to include the products in SOLAS Chapter 5 Regulation 27?
4. The MS colors in Table 2 with the MS colors in the new ENDS pyramid (Figure 4).

Table 2—Products in Each Maritime Service	
Marine Services	Standards/Nautical Products
MS 5 (Marine Safety Information (MSI) Service)	Navigation Warnings (S-124)
	Weather and Wave Hazards (S-412)
MS 11 (Nautical Chart Service)	ENC Product Specification (S-101)
	Bathymetric Surface Product Specification (S-102)
MS 12 (Nautical Publications Service)	Water Level Information for Surface Navigation Product Specification (S-104)
	Surface Currents Product Specification (S-111)
	S-122???
	Radio Navigational Aids (S-123)
	NAVAREAs, HYDROPACs, HYDROLANTS, HYDRO-ARCs, NAVTEX, Coastal Warnings (S-124)
	List of Lights/Light List (S-125)
	Sailing Directions/Coast Pilots, VTS Guides (S-127)
	Catalog of Nautical Products (S-128)
S-129???	
World Port Index (S-131)	
MS 13 (Ice Navigation Service)	Ice Observations (S-411)
MS 14 (Meteorological Information Service)	Weather and Wave Conditions (S-413)
	Weather and Wave Observations (S-414)
MS 15 (Real-time Hydrographic and Environmental Information Service)	Water Level Information for Surface Navigation Product Specification (S-104)
	Surface currents Product Specification (S-111)

**Figure 3—Proposed ENDS Diagram**

