**Mobile Web Tool for Amver Messages**

**Requirements Specification**

**1.0 Introduction**

This document describes all data, functional and behavioral requirements for the Amver Messages Mobile Web Tool. Amver messages are generated by the tool in any of the four types: PR, position report; SP, sailing plan; DR, deviation report; and FR, final arrival report. The web tool is developed under the Amver Open Source project to permit and facilitate future open source development. A brief discussion on Amver Open Source follows in section 4.0.

**1.1 Goals and objectives**

The web tool’s goal is to leverage the permeation of mobile devices for more convenient Amver involvement options and a more complete Amver system with respect to data due to increased message submission. Convenient here refers to providing Amver participants with automatic report generation tools available anywhere they can use a computer, smartphone, tablet, or other device with mobile internet connection. This has a twofold benefit as messages of any of the four types need not be authored manually, saving time, and automatic generation rules out some syntax errors. Complete data as stated above relates to SPs and is discussed in section 1.3.

**1.2 Statement of scope**

The scope of the tool in terms of major inputs, processing functionality, and outputs is described below:

**1.2.1 Inputs**

Inputs to the web tool are the same data used to author the messages manually. Vessel and voyage information such as the vessel name, call sign, date and time, course, speed, etc are inputted through text boxes and drop-down lists.

**1.2.2 Processing Functionality**

The tool’s functionality begins before any input is received by populating the drop down lists corresponding to the current date and time with information obtained from the device. Once a field is changed by the user, the output box begins displaying the message body. Changes to fields are processed and put into the body with correct syntax as they are made. Sending of the output when the send link is clicked is delegated to the device’s default email program (if available).

**1.2.3** **Outputs**

The body of the selected message appears in text form in an output box based on the formatted input data. The user consumes the output by either manually pasting it into an email to the Amver message inbox or by selecting the send link and attempting to have the device send it.

**1.3 Software context**

The web tool represents a consolidation of Amver’s line of messages into a single mobile platform with potential implications for the number of messages received and the quality of the resulting data (from static plot vessels to days onplot totals). In the context of Amver’s business domain, the tool targets three main groups.

**1.3.1 Target Users**

The first of these targets is the group of participants who are not customers of an automatic position report (APR) service. The tool facilitates more correct Amver PRs by replacing the message syntax with intuitive fill-in-the-blank and list style inputs. Onboard communications are then used to send the message as an email.

The second target group consists of participants who do not submit SP messages and therefore contribute to the number of vessels on static plot. Admittedly, it is hard to tangibly incentivize the aforementioned goal of more complete Amver data. However, if the web tool makes the submission of this message quick and easy, it becomes more likely that SP messages are received and the number of static plot vessels is reduced. Furthermore, a notable subset of this group is that of APR customers such as those with Polestar. A desirable scenario for these participants is the use of the tool in port for an SP, the enabling of APRs during the voyage, and then the use of the tool again at the destination port for an FR.

The third type of individual targeted to use the tool is one for whom use of a mobile device constitutes a more convenient method of submitting Amver messages. This means replacing several submission methods with one that is increasingly common on land and offshore.

**1.3.2 Distribution**

The intended method of distribution for the web tool is a designated Amver web page where the source file can be downloaded to the user’s mobile device or viewed normally as a web page. Permanent download, however, is the recommended method of use as it does not require using communications media each time (see section 1.3.3).

**1.3.3 Communications Cost**

A final detail of the web tool as it fits into the context of a voyage concerns the cost and availability of communications media. The simplicity of the message authoring gained from the tool must outweigh the monetary implications of the available medium; free WiFi or an existing mobile data plan in port is assumed to be more conducive to SP and FR submission than the per-use charges experienced with certain vessel communications at sea would be to PR and DR submission. Ultimately, however, the tool merely presents an option for message submission; some cost exists either way, and it is then up to the participant to determine which method of submission provides the greatest incentive. A continued discussion follows in section 1.4.

**1.4 Major constraints**

As stated previously, at-sea communications methods must be accounted for as a design and implementation constraint. The cost of their use falls to the Amver participant as a cost of using the web tool. As such, optional lines that are not populated by the user will be omitted to minimize the data usage footprint. Likewise, certain potentially desirable capabilities such as pulling from remote databases or internet resources must be omitted; all functionality aside from sending the final message is local to the device.

A constraint on email submission from the tool is the presence of a mail program on the device. If configured with outlook or other such program, the device will place the message body into the body of an email and await the user’s final approval to send. The absence of such a program requires the user to paste the message body into an email and manually.

**2.0 Software Interface Description**

In order to provide mobile app-like functionality across several web browser-equipped devices, a web app is the desired interface. A participant uses the tool as a web page by accessing it on an Amver website or downloading the source file; either way, a device’s web browser opens the file and provides functionality.

**2.1 Human interface overview**

The tool has a familiar web form interface which behaves exactly like the inputs to a website for intuitive use. Text boxes, drop down lists, and hyperlinks are used throughout to provide the visual layout and user interaction. All layout elements and functionality for the message types are housed in a single page that changes according to user input. Following the series of input elements, an output box houses the text created by the tool. An associated link launches the device’s email client (if available) so that the user can send the message. Any email clients are external to the tool; the functionality stops after the user consumes the output message text.

**2.2 External system interfaces**

While some type of internet access is required to send an Amver message, the tool does not directly interface with or use any other products or systems outside of a web browser. Instead, the mobile device, via a link in the tool, is used to launch an email client if one is present.

**3.0 Validation Criteria**

A very brief approach to software validation is described here in terms of what the software should be capable of and how it will be tested.

**3.1 Classes of tests**

1. Fill elements in different order
2. Omit required lines for a given report type
3. Fill a required line and then remove input and submit
4. Break max lengths/other syntax on fields and lines
5. Fill optional line and then remove input

**3.2 Expected software response**

1. Message should appear with correct syntax no matter which order
2. Submit link should not appear
3. Submit link should disappear and be unusable after the removal
4. HMTL elements should enforce max lengths – message body should conform and keep all proper syntax regardless of input characters
5. The line should be removed from the message body in the output

**4.0 Amver Open Source Project**

The development of the Amver messages mobile web tool is open source. A GitHub repository titled Amver-Open-Source holds all of the project-related information and source files. The purpose of the open source platform in this project is to create a tool that could be expanded by the users themselves in the future. A distinction is to be made by publication on an Amver website as to which version of the open source software has the Amver approval at a given time; only versions that meet Amver requirements and expectations will be advertised on official Amver web media. The messages web tool is the founding project for Amver Open Source, but additional projects may follow.