12th CHRIS MEETING
Valparaiso, Chile, 23-25 October 2000

ELECTRONIC COMMERCE FOR NAUTICAL CHARTS
(by US-NOAA)

The Concept – Today, NOAA compiles and prints nautical charts periodically, and distributes them through a national network of chart agents. Tomorrow, NOAA will be able to compile charts on a daily basis, use print-on-demand technology to make copies just when a chart is ordered, and distribute them to chart agents or an agent's customer in order to quickly distribute rapidly changing information.

Electronic commerce will be used to support this modern, navigation information delivery system. First, it will be used on a business-to-business basis between NOAA, chart agents, and the print-on-demand site. E-commerce software will accept orders from chart agents over the Internet using a Web browser. It will then reformat that information into a print order, manage the files to be dynamically combined to make each chart, and forward that information to the printer for immediate manufacture and shipping.

Subsequently, support will be added for "Standing Orders" chart agents may have with their customers. The same capability will also support the sale of chart "subscriptions" to professional mariners, companies and others for whom having the most current data is vital. Agents would use the Web browser interface to manage the database of their subscribing customers' chart portfolios, constantly changing "ship to" addresses, and any chart customizing information.

Whenever a chart changes, the database would be searched to find customers who have subscribed to that chart. Each "hit" will generate a print order. The agent and the subscriber will be notified by e-mail or fax of a pending print action so they can update the "ship to" address. The chart would then be printed and shipped automatically. Security will be provided to protect the confidentiality of the customer database.

Finally, NOAA will maintain a separate database of digital information from NOAA, other federal agencies, state authorities and elsewhere that might include: Coast Guard Local Notice to Mariners; plant and pest quarantine information from the Department of Agriculture; port information from a state's Port Authority, or real-time tide data from NOAA. This information would be information to be distributed to subscribing mariners electronically by e-mail, fax, or pager.

No retail sales are planned from the site. Other NOAA charting products can also be ordered with those orders being forwarded electronically to the appropriate place for fulfillment. Security will be provided to protect a chart agent's business information.

The Status – NOAA was awarded a 625K (USD) grant from a government technology innovation fund to implement the e-commerce system described above. A contract was awarded

16 October 2000

to Software Performance Systems, Inc. in December, 1999 to develop and implement the system with NOAA.

The business-to-business ordering phase was made operational July 31, 2000. The system allows agents to order the existing NOAA and NIMA lithographic charts. Those orders are forwarded to the existing distribution center for fulfillment. Acceptance of ordering over the Internet with the site has been good among chart agents. Approximately twenty-five percent of NOAA products are now ordered this way after only 10 weeks of operation.

The system also compiles the necessary order metadata for print-on-demand charts and forwards that electronic message to NOAA's print-on-demand partner. The order contains the file names, assembly instructions, customization data, and so forth needed to print each print-on-demand chart. The message is automatically read by the partner's print management and enterprise computer systems to initiate production, shipping, billing and tracking. This phase of the e-commerce system was finished ahead of full print-on-demand capability and is being used in a transition mode at the present time.

The subscription and "standing order" capability of the e-commerce system was finished in August 2000. It was completed well ahead of NOAA's capability to produce subscription print-on-demand charts and so is not being used at the moment.

The electronic distribution of electronic information is scheduled for completion in December, 2000. The information will be distributed by push e-mail and will support both wired and wireless distribution. Development is proceeding smoothly and it should be completed on schedule.

Additional information on NOAA's electronic commerce work is available at http://chartmaker.ncd.noaa.gov/ocs/ecommerce/contents.htm.

_____

16 October 2000