

# **NATIONAL REPORT OF UKRAINE TO 15<sup>th</sup> CONFERENCE OF THE MEDITERRANEAN AND BLACK SEA HYDROGRAPHIC COMMISSION (MBSHC)**

## **1. Hydrographic Office**

State Hydrographic Service of Ukraine (SHS) is the national Hydrographic Office of Ukraine established within the framework of Ministry of Transport and Communications of Ukraine.

Pursuant to the Ukrainian Government Regulation the SHS has been referred to the institutions being strategically important for national economy and security.

The main tasks of the SHS are as follows:

- Fulfilment of international commitments of Ukraine pertaining to safety of navigation, in particular hydrographic surveying of the seas and oceans in accordance with the IHO standards, maintenance of aids to navigation (AtoN) in the seas and inland waterways within zone of responsibility of Ukraine and ensuring their continuous operation in conformity with the requirements approved by International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA);
- Compilation and distribution of nautical and pilot inland charts, Sailing Directions and Notices to Mariners;
- Development of the AtoN system by means of creation and implementation of new methods, techniques and technologies in navigation, hydrography and charting; lighthouses renovation involving the energy-saving technologies (solar batteries, wind power stations, LEDs etc.), modernization of floating AtoNs through use of plastic materials, flasher mechanisms with LEDs modules and introduction of the automatic monitoring system.

## **2. Surveys**

Within Ukrainian zone of responsibility the SHS routinely performs hydrographic surveys in the water areas of commercial ports, approach channels, places of anchorage and areas of high-density vessel traffic.

The hydrographic surveys at scales of 1:5 000 and 1:2 000 are performed annually in the water areas of and approaches to the commercial ports of Odesa, Illichivs'k, Mariupol', Mykolaiv, Skadovs'k, Ust'-Dunais'k, as well as the Yuzhnyi, Kerchens'kyi, Dnipro-Buz'kyi, Pheodosiys'kyi, Bilhorod-Dnistrovs'kyi and Yevpatoriis'kyi ports.

In addition, the hydrographic surveys are performed annually in the Buz'ko-Dniprovs'ko-Lymans'kyi channel at scale of 1:10 000 and in the Kerch-Yeni-Kale channel at scale of 1:5 000.

In 2007 it was carried out:

- hydrographic surveying of approaches to the Danube River mouth at scale 1:5 000, approaches to Zmiinyi Island at scale 1:50 000;

- multi-beam surveys of the bottom contour of the Sea of Azov, approaches to the ports of Mariupol' and Berdians'k at scale of 1:25 000 and of the Kerchens'ka Strait;
- hydrographic surveys of the Dnipro river from Kyiv to Kaniv, of Kakhovs'ke Reservoir and Dniprodzerzhyns'ke Reservoir at scale of 1:25 000.

State Hydrographic Service of Ukraine permanently upgrades its technical base. For the moment the SHS branches operate modern SeaBat 8101 multi-beam echosounder, Navisound 520 echosounder with side-scan sonar by Reson A/S, Bathy 500 DF single-beam echosounder, StrataBox bottom profiler, MAGIS marine magnetometer.

For horizontal positioning of surveys it is used the DGPS Receiver Trimble DSM232 ensuring the orientation of hydrographic surveys in accordance with IHO S-44 requirements.

The planimetric base of hydrographic surveys is maintained with the help of geodetic GPS receiver Trimble 5700, Sokkia total stations and electronic levels.

For hydrographic surveys and data processing it is used HYPACK software.

It had been built and put into operation 3 hydrographic vessels and 2 launches. This summer it was finished the work on building of hydrographic buoy tender 'Odesa'.

### 3. Charts and Publications

#### a. Charts

New charts & updates: Since XIV MBSHC Conference in 2005 it was developed and approved 93 nautical charts and 23 charts were updated.

ENCs: 207

INCs: 43

RNCs: The SHS does not produce RNCs.

INT charts: 9

National paper charts: 152

Other charts: 2 special publications for pleasure crafts/yachts – *Album of Tourist Nautical Charts for Route Odesa – Kerchens'ka Strait* (water area of the Crimean Peninsula) and *Album of Tourist Nautical Charts for Route Odesa-Bosporus*; *Set of Navigational River (Pilot) Charts of the Danube River from Reni Port to the Mouth No. 3504*, *Navigational River Chart of Kanivs'ke Reservoir from Kyivs'ka Hydroelectric Power Station to Kanivs'ka Hydroelectric Power Station No. 3533*.

ENC Distribution

method: In accordance with the existing agreements.

In 2005 the SHS has finished transition to the charting production in accordance with WGS-84.

#### b. Publications

New publications: 10 new publications:

- *Symbology for Inland Waterways Charts No. 908*;
- *Summary Corrections, 2006 No. 201 3*;
- *Lights and Beacons of the Danube River. Kiliis'ke Mouth Delta to the Prut River Mouth No. 202*;

- *Sailing Directions of the Danube River. Kiliis'ke Mouth Delta to the Prut River Mouth No. 103;*
- *Instructions for Corrections to Nautical Charts, Books and Sailing Directions depending on the Locality No. 918;*
- *Instructions for Compilation of Technical Orders and Technical Reports Resulting from Hydrographic Surveys No. 932;*
- *Instructions for Requirements and Methods of the Bottom Topography Surveys for navigational purposes No. 933;*
- *Regulation on the Numbering System for Paper Nautical Charts, Electronic Navigational Charts and Inland Waterways Charts, Books, Sailing Directions and Blank Technical Documentation No. 934;*
- *General Provisions for Compilation of Notices to Mariners No. 935;*
- *Regulation on Aids to Navigation on the Inland Waterways, in the Territorial Sea and Exclusive (Maritime) Economic Zone of Ukraine No. 937;*

Updated publications: 3 updated publications:

- *Sailing Directions on Ukrainian Waters of the Black Sea and the Sea of Azov No. 101;*
- *Catalogue Nautical Charts, Books, Sailing Directions No. 701;*
- *Regime of Navigation in Ukrainian Waters of the Black Sea and the Sea of Azov No. 402.*

Means of delivery: Publications are delivered in paper form. Notices to Mariners are provided on the users' requests either in paper or electronic form.

#### **4. MSI (Maritime Safety Information)**

A couple of years ago in Kyiv it was created Centre of Navigational and Hydrographic Information. Its tasks include informing mariners on changes in navigational conditions and regime of navigation in the sea area of Ukraine by means of:

- transmission of NAVAREA III navigational warnings for 031 region via international automated service for transmission of navigational and meteorological warnings and urgent information to the vessels;
- transmission of coastal warnings in English via NAVTEX (Automatic Narrow Band Printing System) at frequencies of 518 and 490 kHz;
- transmission of local warnings in zones responsibility of ports; and
- dissemination of Notices to Mariners.

Transmission of coastal warnings (navigational information) in NAVTEX mode is carried out through radio centres *Odesa-radio* and *Kerch-radio*.

Our radio stations transmit the coastal warnings according to the schedule only for their operative range, while vital and important coastal warnings are transmitted out of schedule.

#### **5. Capacity Building**

According to the *Standards of Competence for Hydrographic Surveyors* (IHO M-5 Publication) and using facilities of Odesa Maritime Academy the SHS has implemented the program of training and advanced training for hydrographic surveyors. However, State Hydrographic Service of Ukraine has been constantly in want of supplementary ways of its personnel training, such as visiting by our hydrographic surveyors various specialized courses under the auspices of International Hydrographic Organization.

The task of training the cartographers has been allotted on the Faculty of Geography of the National Taras Shevchenko University in Kyiv.

As things now stand the SHS is at the stage of entering into bilateral agreements with hydrographic offices of the Black Sea countries. Such agreements are designed for increasing charting production in conformity with the IHO recommendations and international copyright. To date the SHS has already concluded an agreement on exchange of navigational information with the United Kingdom Hydrographic Office.

## 6. S-55

In accordance with Annex D to IHO S-55 Publication we are pleased to provide the latest information concerning the status of coverage of zone of Ukrainian responsibility in the International Charting Region F:

Nation / Area	Offshore passage / Small			Landfall and Coastal passage / Medium			Approaches and Ports / Large			Amplifying notes
	A	B	C	A	B	C	A	B	C	
Ukraine	100%	-	100%	100%	-	100%	100%	-	99%	Ukraine does not produce RNCs. A number of large-scale charts need to be updated.

## 7. Oceanographic Activities

For the purpose of performance of oceanographic researches we gradually buy the advanced oceanographic equipment. In particular, the SHS has been already purchased modern hydrological probes, current meters and geophysical instrumentation. This equipment ensures acquisition and accumulation of oceanographic data in the Black Sea and the Sea of Azov and will contribute to creation of the oceanographic data bank.

## 8. Conclusions

- 1 Since 14-th MBSHC Conference the SHS has achieved considerable results in fulfilment of international obligations of Ukraine as pertaining to aids of navigation and, in particular, in development of aids to navigation system by implementation of new navigational, hydrographical and charting methods, techniques and technologies.
- 2 All SHS branches had been provided with modern facilities for hydrographic surveying of the bottom contour, instrumentation for positioning of hydrographic surveys and

maintenance of planimetric base. All this together with specialized software allows compliance of the level of accuracy, including that in the critical shallow waters, with the international standards.

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