PREFACE

GazIntech company hereby avails of this opportunity to present its innovation – Seafarers' Identity Documents Processing, Issuance and Control System (SID System) developed for the Russian Federation. At this time, Seafarers' Identity Documents (SID) are issued under the Russian SID System in 28 seaports and river harbors.

The SID System ensures SIDs processing and issuance in compliance with the provisions of ILO Seafarers' Identity Documents Convention 185 (Revised) and the requirements of ICAO standards.

The SID System is aimed at comprehensive automation of executing, issuance and control of Seafarers' Identity Documents by administrations of seaports and river harbors, as well as at ensuring informational interaction thereof, basing on the principles of informational and technological infrastructure, centralized process management, data accumulation and processing, as well as on providing interaction with the competent authorities of abroad states.

CONVENTION 185 & GENERAL VIEW OF SID

International Labor Organization (ILO) revised the Convention of 1958 by adopting the Convention 185 in June 2003 that requires a Seafarer's Identity Document (SID) to contain biometrical information of the seafarer. Convention 185 was praised as an important move towards the enforcement of safety measures off-shore and in seaports. At the same time, the new document provides a guaranty for the rights and freedoms of seafarers, as well as recognizes the issues concerning duty reassignment, for example, when they board the vessel, take shore leave or return home.

Russian Ministry of Transport has been presented SID System for the ILO High-level Tripartite Working Group on Maritime Labour Standards on February 28, 2007

Within Convention 185, the Administrative Board of the ILO approved the biometrical identification system that intends to guarantee more rigid control in accordance with the new maritime industry security requirements.

Following the provisions of Convention 185, as well as recommendations for the size and location of information fields contained in ICAO Document 9303, the SID form is a machine readable two-sided document. A SID may be executed in either ICAO Document ID1, ID2 or ID3 sizes, however, we deem, that a plastic card (ICAO ID-1) or a laminated paper document (ICAO ID-3) are the most convenient sizes.

According to the requirements of Convention 185 and the ILO SID-0002 technical standard, "Biometric Profile" is used to manufacture a new SID; this being said two fingerprints of the holder's two hands are converted to a special format and included in the 2D barcode PDF-417 being printed in the document. A SID also contains a photograph

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RUSSIAN SEAFARERS' IDENTITY DOCUMENT SYSTEM

COMPLIES REQUIREMENTS OF ILO CONVENTION 185

of the holder, signature of the holder, and his/her other personal data (full name, date and place of birth, nationality, etc.), as well as the other information as listed in the Annex I to Convention 185.

All countries that ratified the Convention 185 may issue the new Seafarers' Identity Documents in accordance with the standard ILO SID-0002 Finger Minutiae-Based Biometric Profile for Seafarers' Identity Documents.

General view of SID according to the ILO SID-0002 Technical Standard

ARCHITECTURE OF THE SID SYSTEM

The SID System is a hierarchically structured and geographically distributed comprehensive software and hardware system. The system comprises fail-safe Data Processing Center including National Electronic Database, Coordination Center, and SID issuing places.

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The main goal of the National Electronic Database is registration data of Seafarers' Identity Document issued, suspended or withdrawn, according to Convention 185.

Coordination Center shall designate a permanent focal point for responding to inquiries, from the immigration or other competent authorities of all Members of the Organization, concerning the authenticity and validity of the Seafarer's Identity Document issued by its authority.

SID issuing places provide for SIDs executing, issuance and control according to Convention 185. Additionally, SID issuing places are equipped with self-service terminal units (also developed by GazIntech) enabling the seafarers to personally control their personal data saved to the SID and the National Electronic Database.

All the system objects are linked by means of dedicated data transfer channels into a protected telecommunications network. This network ensures that all the SID System objects interact and exchange data in automatic mode.

The application software was developed individually for each of the object types, i.e. for the Data Processing Center and for the SID issuing place. The software is based on three-tier open architecture principles. This being said, the users' workplaces are equipped with terminal workstations, which makes the processes of network administration and installing software updates much easier.

SID ISSUING

SIDs are issued at the duly equipped SID issuing places. A SID issuing place includes the following equipment:

- Biometric data registration station;
- Biometric booth;
- SID print station;
- SID issuing and control station;
- Other stations;
- Servers;
- Cryptographic equipment;
- Telecommunication equipment.

SID issuing process includes following steps:

- Step 1 – Seafarer fills in the questionnaire and passes procedure of photographing, getting fingerprints

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and sign. Photographing includes photo transformation process to meet the ICAO requirements;

- Step 2 – Seafarer's data come to an agreement with federal agency of sea and river transport and other departments about decision of producing SID;
- Step 3 – SID is printed;
- Step 4 – SID is examined for it is a machine readable document;
- Step 5 – Seafarer passes verification procedure and receives SID;
- Step 6 – Data about received SID are submitted to national electronic database;
- SID control procedure includes steps: reading SID, getting seafarer's fingerprint, making request to National Electronic Database, comparing SID data, seafarer's data, and data from national electronic database.

SID issuing process

SID SYSTEM SECURITY

In the course of developing the SID System, the GazIntech experts have been actively cooperating with representatives of various international organizations, the International Labor Organization (ILO) to be named in the first place. As a result, the SID System is in full compliance with the requirements, procedures and practices stipulated by Annex III to Convention 185.

Special emphasis was put on ensuring information security:

- The System ensures high level information security by using three-tier architecture and centralized data storage;
- All the key actions taken by the user are signed with a digital signature;

"One of the tragic after-effects of terrorism is that security enforcement may adversely reverberate on the situation of the mariners in the world, decline working conditions or even cause loss of jobs. This may affect the maritime industry in the whole. Convention 185 provides establishment of the international identification system on the basis of the agreement between the countries, ship owners and mariners".

Cleopatra Doumbia-Henry,
Director, International Labour Standards Department, ILO Geneva

- The System is equipped with elaborated scheme of restrictions to access data and services;
- Terminal workstations ensure that no information leaks occur in the course of maintenance and replacement of workstations.
- All the servers incorporated in the System may be equipped with special chips protecting the program code from the unauthorized change;
- The System has an option for protected data exchange within the local object network, e.g. data exchange between the main server and a workstation;
- The information exchange between the network objects is arranged via encrypted routers.

SID SYSTEM IMPLEMENTATION PROJECT MANAGEMENT

SID System implementation project is divided into several stages as stated below:

- Project preparations: Working out Target specification;
- Stage1: Working out Detailed Design and Model Projects for equipping different types of objects;
- Stage 2: Software development and creating a working model of the System;
- Stage 3: Equipping the System objects with hardware and software;
- Stage 4: System beta test;
- Stage 5: System launch for commercial operation.

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Listed below are the actions taken by GazIntech in the course of its work for equipping the System objects with hardware and software:

- Detailed design of object equipment has been worked out;
- Computing machinery, telecommunications facilities and infrastructure systems equipment have been purchased and supplied to the objects;
- Works on equipment assembling and tuning included:
  - Software and hardware system for SID System functioning;
  - Structured cable system;
  - Uninterruptible power supply;
  - Alarm system, access control and secured access system, video surveillance;
  - Fire alarm, fire signal and automatic gas fire-extinguishing systems;
- Users training.

RUSSIAN SID SYSTEM IMPLEMENTATION PROJECT

GazIntech has worked out a Seafarer's Identity Documents Processing, Issuance and Control System in the Russian Federation, and it acts as principle contractor for the maintenance thereof. The SID System forms an integral part of state system for issuance of new type passport and visa documents, and it is installed at all the departments of the Federal Agency of Sea and River Transport of the Russian Federation, including 28 SID issuing places, as well as the main and reserve Data Processing Centers located in Moscow. The Data Processing Centers rate II+ security level as per the ANSI TIA-942.2005 standard. Data Processing Center

Russian SID System location map

infrastructure ensures high security level with 100 % each node reservation, except for the peril of single point of failure. The Federal Data Processing Center works at 24/7/365 principle.

The SID System for the Russian Federation is worked out in full compliance with the requirements of Convention 185 of International Labor Organization.

During the year 2009, a 30-objects segment of the Federal Agency of Sea and River Transport of the Russian Federation was launched to productive operation. The objects of this segment are located Russia-wide from Kaliningrad to Petropavlovsk-Kamchatskiy. As of all the objects are under routine operation accepting the application of seafarers and issuing SIDs in a smooth and fail-safe manner. Within the frames of this system, a unique practical experience is acquired in terms of using the biometrical identification technologies. ■

GazIntech has an experience of developing SID issuing system and cooperation with International Labor Organization (ILO) representatives. The acquired expertise enables us to launch different scale SID Systems, customized for any member country, which has ratified Convention 185. The SID System may consist of single or several objects distributed countrywide.

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