

Electronic payment system Oily and greasy waste produced in the course of operating the vessel (Part A)

Convention on the collection, deposit and reception of waste produced during navigation on the Rhine and inland waterways (CDNI)

WHAT IS THE SPE-CDNI?

The SPE-CDNI is a software solution the purpose of which, as an **electronic payment** system , is to handle Part A of the Convention on the collection, deposit and reception of waste produced during navigation on the Rhine and inland waterways (CDNI), which came into force on 1 January 2011. The SPE-CDNI is in active use in six countries (France, Germany, Netherlands, Belgium, Switzerland, Luxembourg). It covers the entire inland navigation fleet within the scope of the CDNI: approx. 16,000 vessels, 70% of the European fleet, 500,000 transactions per annum.

The CDNI provides for payment of a disposal charge by the vessel operator during the bunkering of gasoil. To this end, every vessel operator is obliged to make payments to a national institution (IN), which are then transferred to the relevant vessel operator's ECO-account by the IN within the database system.

The SPE-CDNI provides a convenient software solution for all user groups, which meets all data protection requirements.

The SPE-CDNI is a multilingual, browser-based back office application with a state-of-the-art online transaction system.



The **back office application** can be accessed by individual user groups via a standard web browser with secure access, protected by powerful, modern security algorithms.

The **administration system** enables the contracting states' INs to manage account holders and ECO-accounts with the associated ECO-cards, gasoil stations (GOS), vessels and terminals. It stores all the payment transactions on the ECO-accounts (credits and debits) and allows authorised parties to perform relevant searches.

The system also provides the INs with a convenient, configurable reporting tool

that makes it possible to search for, export and process all the relevant business information from the SPE-CDNI. Interfaces such as web services and SAGE-ERP with external systems (e.g. the IN accounting systems) are also supported.

The **transaction system** is responsible for the secure processing and storage

of the transactions carried out using the ECO cards and the reliable transmission of the associated data. This entails receiving transaction data from the mobile terminals via the mobile network within the CDNI area of use. Additional features such as real-time account checking and blacklist checking increase system security.

The SPE-CDNI system provides the following functions:

• Search • Blocking	CreationAssignment	ChangeAllocation	DeletionReporting
All functions can be a • Account holder • GOS	pplied to the followiECO-accountsShips	ng areas: • ECO-cards • Terminals	• Transactions

The system users, such as the INs, the ECO-account holders and the GOS users can only view and manage their OWN data via the SPE-CDNI.

Individual system users, such as INs, Secretariat, ECO-account holders, GOS and enforcement authorities have different user rights and can therefore use the system's functions in a way customised to their role.

Coordination is provided by the CDNI Secretariat on behalf of the contracting states.

In addition to the automated data capture via the ECO-card and terminals, the INs can configure the system and perform manual transactions. All process steps, including usernames, are documented.

Examples of manual transactions:

- Increase in the account balance after a deposit
- Debiting of an amount after a terminal transaction
- Correction of the amount and bunker quantity after a terminal transaction
- Cancellation of a terminal transaction
- Manual entry of a transaction
- Correction of a manual transaction
- Administrative changes to the amount

The protection of personal data is guaranteed under the eIDAS Regulation and documented by means of privacy assessments.

Block list:

Should an ECO-account holder fail to comply with his obligation to top up the credit on his ECO-account or if an ECOcard has been lost, cards can be blocked in the database system. Blocked cards can no longer be used for transaction purposes. Information about blocked cards is transmitted by the database system as part of the automatic routines performed when the terminals are switched on. So that the terminals always have up-to-date block lists, devices should always be switched on at the beginning of each business day and switched off again at the end of the day.

Online and off-line transactions:

If a transaction cannot be sent to the database system because there is no connection to the mobile network, the transaction is stored in the data terminal. Once the connection to the mobile network is restored, the stored data is posted to the ECO-account. The transmission of the off-line transactions from the terminal to the database system also takes place as part of the routines automatically performed when the devices are switched on.

Approximately 10% of all transactions are off-line transactions. Each data terminal can store data on approximately 200 transactions.

A transaction is only stored in the data terminal as an off-line transaction if the outcome of the previous check was that the ECO-card used is not blocked.

NEW FEATURES

- Change of one's own password and own master data.
- Paperless document: The "paperless document" feature can be activated for an ECO-account holder in the change/create dialogue box. With the feature activated, the account holder is e-mailed a paperless document for each transaction that appears on his account – in addition to the terminal printout.
- Account overdrawn notification: An ECO-account holder receives an email notification if his ECO-account is overdrawn. The email is re-sent after a week if the account balance is still not in credit.
- Pending transactions: If in the context of online transactions the system determines that the associated ECO-accounts do NOT have sufficient funds,

the transactions are still stored in the system.

These transactions are given the intefore not directly and finally posted to the associated ECO-account. There is a daily automatic check to establish whether the ECO-accounts associated with these "pending transactions" have been settled in the intervening period. If so, the transaction is posted to the ECO-account, and the status is changed to "successfully posted" and removed from the pending transactions list. If no credit is received on the ECO-accounts in question, the INs perform a manual post processing operation. Typically that means that a hard copy invoice is raised. The relevant transaction is then archived in the SPE-CDNI, but not posted to the ECO-account. This new feature significantly reduces the administrative workload for GOS and

TECHNICAL DETAILS

Security:

The SPE-CDNI system is currently provided as a service by equensWorldline and is subject to the payment and credit card industry's stringent security guidelines within the environment in which it is used. All communication channels are protected by modern and ultra-secure encryption methods. The SPE-CDNI uses DDoS (Distributed Denial of Service) prevention measures based on state-of-the-art technology. This prevents overloading or even failure caused by multiple malicious attacks on the system. A redundant system architecture precludes a Single Point of Failure. The system is therefore protected against unexpected hardware outages.

ECO CARDS

New design and contactless functionality

The new solution provides two supplementary options for using the new hybrid ECO-card, which holds the identification information not just in the **magnetic strip** but also in an **NFC chip**:

- Recording of the bunkered quantities and calculation of the fees incurred at the GOS terminals with mobile payment terminals and contactless cards.
- Use of the Mifare Ultralight[™] open contactless standard also enables the card to be used by third-party systems for their own services and applications. For example for various access technologies or mobile app applications to do with user identification.

TERMINALS

The expectation is that the payment terminals will perform their task flawlessly in a technical environment as well.

The payment terminal with its systemon-chip technology is a robust, new generation terminal. It is light and compact, readily transportable and therefore an ideal solution for mobile use on the move.

- The terminal features a TFT colour display and can read contactless media and cards thanks to the inbuilt **NFC reader** behind the display.
- The technology in question delivers a high **transaction speed** and secure payment.
- Environmental protection: The terminal meets the requirements of the RoHS2 and WEEE standard.



Redesigned ECO-card



New YOXIMO terminal

NEW & **MODERN DESIGN**

redesigned The SPE-CDNI system complies with the latest web standard and provides intuitive usability.

An attractive, modern design has been developed for the SPE-CDNI, enabling even large amounts of data to be presented in a way that is readily comprehensible

The clear layout, richly contrasting colour scheme, the sans serif typeface and self-explanatory icons make for an intu-

RESPONSIVE DESIGN

The user-friendly layout was designed such that the application is also optimally displayed on smart phones and tablets, thereby providing ultimate convenience for all display options.

The "responsive web design" is based on a design and technical approach. This means that the flexibility of the webpage design is such that webpages are capable of responding to the characteristics of the specific terminal device.

itive and freely accessible use of the application.

The system layout was developed in accordance with the W3C (World Wide Web Consortium) and the internationally recognised WCSG Standard of which it is the publisher.

The graphical structure of the "responsive" webpage mirrors the requirements of the specific device on which the pages are being viewed. This concerns in particular the arrangement and representation of individual elements, such as for example navigation bars, side columns and text





FOR MORE INFORMATION

CDNI Secretariat

Palais du Rhin 2 place de la République - CS 10023 F-67082 Strasbourg cedex secretariat@cdni-iwt.org www.cdni-iwt.org

NATIONAL INSTITUTIONS INVOLVED IN THE IMPLEMENTATION OF PART A OF THE CDNI

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GERMANY

Bilgenentwässerungsverband (BEV) <u>http://www.bilgenentwaesserung.de</u>

BELGIUM

Instituut voor het Transport langs de Binnenwateren vzw (ITB) / Institut pour le Transport par Batellerie asbl (ITB) <u>http://www.cdni.be</u>

NETHERLANDS

Stichting Afvalstoffen & Vaardocumenten Binnenvaart (SAB) <u>http://www.sabni.nl</u>

FRANCE

Voies navigables de France (VNF) <u>http://www.vnf.fr</u>

SWITZERLAND

Stiftung für die Innerstaatliche Institution der Schweiz (NI-CH) http://www.port-of-switzerland.ch

LUXEMBOURG

Represented by the BEV <u>http://www.bilgenentwaesserung.de</u>