

**Submission of schedules  
for Access to the ELIA-grid :  
System Description**

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## 1. Introduction

The liberalization and reorganization of the electricity market have led to an increase of data to be exchanged between the grid operator and the ARPs. For operational planning purposes, schedules for access to the ELIA-grid have to be submitted by the ARPs one day before their execution. These schedules allow the grid operator to plan the topology of its grid and to verify the balance between injection and off-take within the Belgian control zone.

Since the 1st of October 2001, ELIA has introduced a new scheduling system based on the XML protocol: The E-nomination.

The E-nomination allows a direct connection between ARPs and ELIA's scheduling servers for the submission of schedules and consultation of previously submitted schedules' status, while safeguarding confidentiality. Moreover, a number of solutions are proposed. The ARPs are thus able to choose a solution according to their facilities and preferences.

This document summarizes the main characteristics of the E-nomination.

## 2. General Description

Connecting to ELIA's E-nomination is possible via Secured Internet (HTTPS).

The format used for this communication is a XML message, a structured standard format based on the principles of HTML.

The data can be generated in two environments:

- A "Business to Client" interface (B2C) using a web browser interface to/from E-nomination;
- The "Business to Business" interface (B2B) using XML message transfer between E-nomination and the user's IT Infrastructure.

Schematically, the system can be presented as follows:

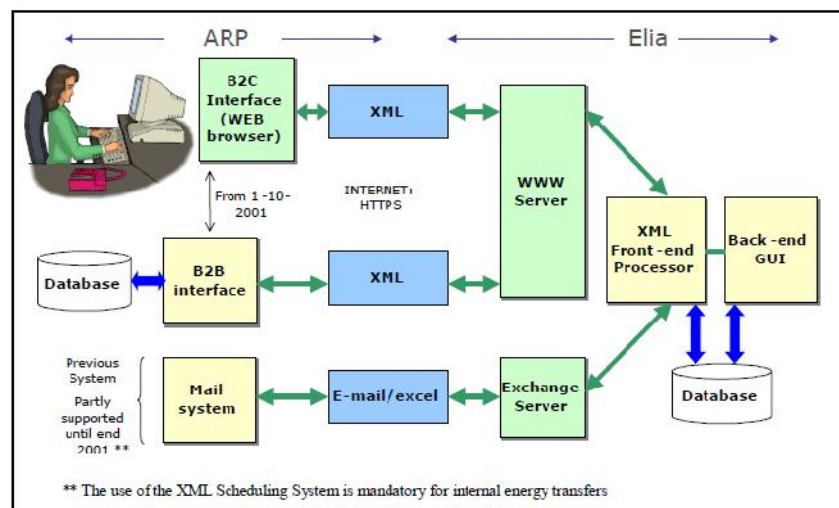


Figure 1 - XML scheduling system

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### 3. General Architecture

E-nomination allows a connection to E-nomination servers via Secured Internet (HTTPS).

No specific hardware is needed. The user merely has to connect to the Internet through the company communications network or use any Internet connection. Once connected to the E-nomination server, the user will be asked for a username and password. This username and password will be communicated to each company having signed an ARP contract with ELIA.

### 4. Possible interfaces

Communications between the user and ELIA may be any of the following:

- Submission of new schedules;
- Submission of new versions of an existing schedule;
- Confirmation of the validity of a schedule;
- Confirmation of the acceptance of a schedule.

Two environments are available to submit schedules and to consult the status of previously submitted schedules. The user can choose an environment according to his facilities and preferences. Both systems can be used jointly: For example, all the schedules introduced via the B2B can be listed or modified via the B2C.

#### 4.1. "Business to Customer" interface

The "Business to Customer" interface, or B2C, offers a web browser interface to/from E-nomination servers.

A number of web pages have been developed to allow users to easily submit schedules (see the example below).

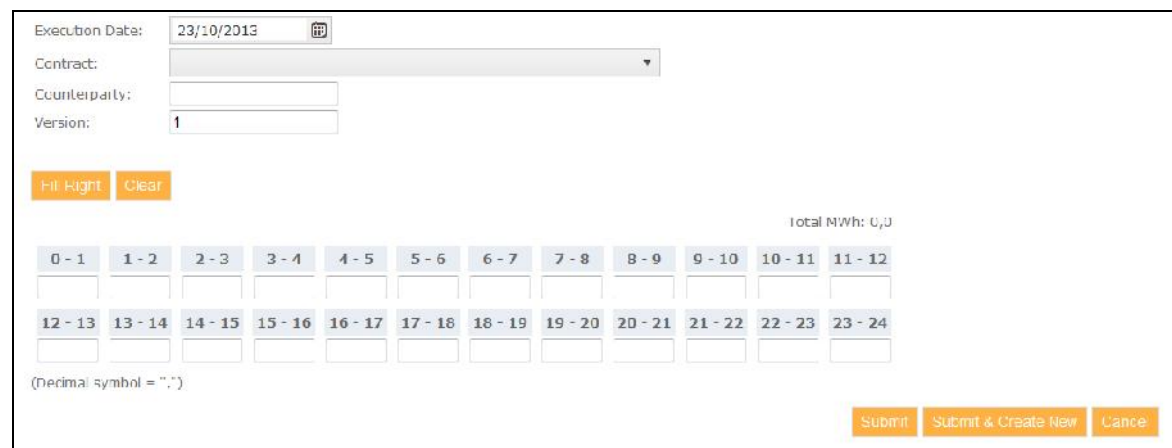


Figure 2 - Web page to submit international schedules (B2C)

The following facilities are available:

- Moving from one field to another with the TAB key;
- The possibility to copy a previously submitted schedule and to modify information fields (one hour value, the date, etc.);
- Combo-box list of ARP's existing contracts.

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When submitting the schedule, the user will be informed directly and automatically whether the validation checks (respect of contract characteristics, respect of timing limitations, correct version number, ...) were successfully passed.  
 After submitting a nomination, the user will see one of the two following pages: the an “error occurred” page or the “this nomination has been submitted” page. Examples of these pages are shown below.



Figure 3 - Example of “Error occurred” Page

**Day-Ahead International Nominations for ELIA**

Execution Date: 22/10/2013

Unknown capacities : 2  
 Exceeded capacities : 0

Total MWh (netted) : 0,0  
 Total MWh (not netted) : 40,0

**Nomination**

**From ELIA to TenneT**

Contract	Contract Type	Capacity	State	Total MWh	Reception Time	Version	Actions
B-039-04-00003	Day-Ahead Daily	Unknown	Accepted	24,0	22/10/2013 10:15	1	<a href="#">Details</a> <a href="#">Copy</a> <a href="#">Modify</a> <a href="#">Versions</a>

**From TenneT to ELIA**

Contract	Contract Type	Capacity	State	Total MWh	Reception Time	Version	Actions
B-039-04-00006	Day-Ahead Daily	Unknown	Accepted	24,0	22/10/2013 10:23	1	<a href="#">Details</a> <a href="#">Copy</a> <a href="#">Modify</a> <a href="#">Versions</a>

Figure 4 - Example of “This nomination has been submitted” Page

Web pages are provided to give the user the opportunity to check the schedules that were introduced in ELIA’s system and their status (see the example below).

**Day-Ahead International Nominations for ELIA**

Execution Date: 22/10/2013

Unknown capacities : 2  
 Exceeded capacities : 0

Total MWh (netted) : 0,0  
 Total MWh (not netted) : 40,0

**From ELIA to TenneT**

Contract	Contract Type	Capacity	State	Total MWh	Reception Time	Version	Actions
B-039-04-00003	Day-Ahead Daily	Unknown	Accepted	24,0	22/10/2013 10:15	1	<a href="#">Details</a> <a href="#">Copy</a> <a href="#">Modify</a> <a href="#">Versions</a>

**From TenneT to ELIA**

Contract	Contract Type	Capacity	State	Total MWh	Reception Time	Version	Actions
B-039-04-00005	Day-Ahead Daily	Unknown	Accepted	24,0	22/10/2013 10:23	1	<a href="#">Details</a> <a href="#">Copy</a> <a href="#">Modify</a> <a href="#">Versions</a>

Figure 5 - Web page to consult submitted schedules

These pages enable users to consult previously submitted schedules, earlier versions of these schedules and their status information. In case of internal energy transfers, the status information mentions whether the other party (or counter party) has confirmed the schedule and if this schedule is consistent with the user’s schedule.

#### 4.2. "Business to Business" interface

The "Business to Business" interface, or B2B, offers a XML message transfer between E-nomination servers and the user’s IT Infrastructure.

This solution enables users to develop software to directly generate from their databases the schedules to be submitted to E-nomination servers and/or to retrieve information from E-nomination.

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Detailed information including message specifications, source codes and DTD (Document Type Definition) documents are available (see Annex).

The following data can be found in the files for international and internal energy transfer schedules:

#### 1. International schedules

An international schedule contains the following data: Source TSO, Destination TSO, Access Contract Reference, (Transaction Identifier [optional]), ARP Name, Version number, Counter Party, Execution Date and Schedule.

#### 2. Internal energy transfer schedules

An internal energy transfer schedule contains the following data: Source Party (Seller), Destination Party (Buyer), Access Contract Reference, (Transaction Identifier [optional]), ARP Name, Version number, Execution Date and Schedule.

#### 3. Offtake schedules

An offtake schedule contains the following data: Destination Party (Buyer), offtake point EAN, (offtake point name[optional]), ARP Name, Version number, Execution Date and Schedule.

#### 4 Injection schedules

An injection schedule contains the following data: Injection point EAN, (Injection point name[optional]), ARP Name, Version number, Execution Date and Schedule.

### **5. Security and availability of the system**

A redundancy of locations and hardware components (database-servers, web servers, domain controllers, access to the internet, etc...) has been foreseen by ELIA to guarantee a high level of availability and reliability.

The required level of security has been guaranteed by using the https protocol and acquiring the required certificates for ELIA. All necessary hardware and software components (encryption, user authentication, certification) have been foreseen to reinforce security.

### **6. Annexes – Documentation**

- B2C E-Nomination guide: <http://www.elia.be/en/grid-data/extranet-for-customers/~/.media/files/Elia/Grid-data/Extranet/02-2013-E-NominationsGuide.pdf>
- B2B E-Nomination guide: [https://nominations.elia.be/NominationsPrivate/doc\\_b2b/Enomination%20B2B.pdf](https://nominations.elia.be/NominationsPrivate/doc_b2b/Enomination%20B2B.pdf) (user id and password provided by Elia needed).

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