

Request for Information (“RFI”) from Israeli Independent System Operator (“NOGA”)

For Consulting Services for Implementation of Settlement Module and its integration with MMS

1. General

1.1. NOGA – Israel Independent System Operator Ltd. (“NOGA”) hereby invites the public to provide it with information regarding Implementation of Settlement Module (billing) for ISOs or Market Operators in power markets.

The purpose of this request is to gather information from entities interested in participating in a future tender or competition process for a project in this field, should one take place.

This procedure, including submission of a response (“**Response**”), does not constitute any obligation on the part of NOGA to publish a tender or other engagement process in connection with the project.

1.2. Company

1.2.1. NOGA is a 100% government-owned company, which operates as an independent system operator pursuant to the System Operator License, as defined in the Electricity Sector Law, 5756-1996, granted by the Israel Electricity Authority.

NOGA’s duties, among others, are to meet energy needs of Israel by:

- Balancing the supply and demand for electricity during real-time.
- Planning Israel’s electricity market needs for the near and far future.
- Manage the energy purchases in the power market and calculating marginal clearing price.
- Calculate and manage the payments for all market participants.

1.3. Objective of this RFI

1.3.1. NOGA has initiated this RFI to assess the capabilities of potential respondents regarding Consulting Services for implementation of Settlement (billing) Module and its integration with the Market Management System operating in the Israeli power market (“MMS”).

1.3.2. NOGA is seeking to implement a Settlement Module for billing purposes within the Israeli Power Market participants that should be integrated with MMS and with another existing and/or future systems, and based on current electricity market regulation.

1.3.3. The Main purpose of the Consulting Services is to assist NOGA to purchase a Settlement Module from the existing MMS by means of an international tender.

1.3.4. This RFI is a precursor to a potential Request for Proposal (RFP) regarding Consulting Services for implementation of Settlement Module and its integration within the MMS.

- 1.3.5. The form of any such RFP has not yet been determined. This RFI does not pre-qualify parties to respond to any subsequent RFP, nor has a date for any such RFP been set.
- 1.3.6. This RFI is issued solely for information and planning purposes – it does not constitute RFP or a promise to issue an RFP in the future.

1.4. **Background Information**

1.4.1. The Israeli power market, installed generation capacity of ~21 GW, is based on the following participants:

- 1.4.1.1. IEC – a vertically government owned monopoly company, with installed generation capacity of ~11 GW (due to a reform in the power market, its installed capacity will decrease in the next few years). Its generation fleet consists of: coal fired thermal units, gas fired steam units, gas fired CCGT and OCGT, gas oil jet units.
- 1.4.1.2. Independent Power Producers (IPP) – installed capacity of ~10 GW is spread across different regulations and technology types such as: CCGT, OCGT –operated by natural gas, some by gas oil, PV, Thermo-solar, wind, pumped storage, and CHP.

Also, there are additional participants - Suppliers.

The generating entities sell energy to NOGA, and the demand entities (Suppliers) buy energy from NOGA or via IPPs (via bilateral agreements).

The IPPs choose, on a monthly basis, how to participate in the power market:

- Central dispatch – IPPs that choose this dispatch model, provide their availability only to NOGA.
NOGA determines the amount of energy produced by the participants and purchases the amount accordingly. In addition, the IPPs are entitled to purchase energy from NOGA for their demand entities (suppliers).
- Self-dispatch – IPPs sell energy to suppliers (bilateral agreements). The rest of the available capacity may be purchased by NOGA based on bids. NOGA is able to decrease the “Day Ahead” plan based on offers.

1.4.2. **Capacity market**

Currently, there is no Capacity market in Israel.

In the near future, each of the power market participants will receive capacity payments, based on its specific regulation and tariff system (Pay as Clear regulation and IEC's units). The Capacity payments should cover almost 100% of capacity costs. IPPs, operating under Pay as Bid Regulation, will receive partial capacity payments, only for capacity that is not used for bilateral sales.

1.4.3. **Energy market**

- 1.4.3.1. NOGA is running the wholesale market, based on the central or self-optimization model using a self-developed Unit Commitment Optimal Dispatch software. All market

participants must submit (for Day Ahead/Real-time Market) their positions by offers and bids for energy for each unit based on a half hourly periods minimum load cost and start-up cost. The IPPs declare units' available capacity according to fuel availability, ramp rate and etc., based on a half-hourly period. IEC units' optimization is based on calculations derived on fuel price and heat rate during this period (might be changed). The output of the Day Ahead optimization is the dispatch schedule for each market participant and market clearing price. Both of the outputs are published on a daily basis.

The payment for the purchased energy by NOGA depends on the specific regulation of the market participant:

- a. Wholesale energy market - Pay as Clear regulation - The payment is calculated based on a two-settlement mechanism:
 - For Day Ahead schedule, prices are based on Unconstrained DA MCP.
 - For Real Time loading, prices are based on Unconstrained RT MCP.
 On top of those payments, the IPP is entitled to – Lost opportunity costs and make whole payments (including uplift payments).
- b. Pumped storage – the IPP receives payments for generation and pays for pumping according to unconstrained MCP.
- c. IEC – the participant receives payment for the generation costs according to tariffs of the PUA. Currently, the Electricity authority PUA approves its generation costs by the end of the year.
- d. Suppliers (including IEC) - private suppliers purchase energy according to DA/RT MCP.

Since Power Market in Israel is under regulatory dynamic changes, the Settlement billing module should support future changes in power market regulation.

Currently, NOGA is running the tender to purchase and implement the MMS, without Settlement Module. The future Settlement Module will complete the MMS in billing aspects and should be compatible to interface with any MMS of known vendors.

1.4.4. **Analysis of the existing state**

1.4.4.1. Hadim is a system that performs billing monthly with IPPs and Suppliers and the IEC, starting from the reception of the data to the bill recommendation for the Market Participants.

In addition, the System runs periodic reports based on the accounting data of the various Producers/Suppliers.

1.4.5. **General data in the existing state**

1.4.5.1. About 100 accounting customers (who receive an account for debit and payment), of which about 50 are Producers in different production technologies and in different arrangements, 13 suppliers in an existing arrangement, about 30 suppliers in a supply competition arrangement, and 2 electricity network manager customers.

- 1.4.5.2. About 5000 plans per month of various types that are absorbed daily into a dedicated system: generation, consumption and loading.
- 1.4.5.3. In addition, there is another system that optimizes the loading of the production units.
- 1.4.5.4. Historical data of 300 continuous production meters (updated once a month) at half-hour resolution.
- 1.4.5.5. About 10,000 customer meters of private suppliers at half-hour resolution.

1.4.6. **The main process in the system - billing preparation for each IPPs/Supplier**

- 1.4.6.1. Management of relevant data input, including: stock data, plans, rates, parameters and metrics, operational data of real-time loading and units' availability, power station events (operation with secondary fuel, acceptance tests, load shedding, etc.), calendar management.
- 1.4.6.2. Monitoring of customer meters and updating transactions from suppliers.
- 1.4.6.3. Calculation of the following items for each manufacturer/supplier
 - 1.4.6.3.1. At a half-hour resolution, such as:
 - Payments to the power producer for energy fed into the grid
 - Accounting for production/consumption deviations.
 - Uploads and downloads of actual load compared with a day ahead planning and in real time.
 - Payments for operating on diesel fuel or/and during acceptance tests.
 - Charges for energy purchases from the grid.
 - Capacity payments.
 - Payments to generic producer for synchronized capacity and uplift payments.
 - NOGA's Network infrastructure charges for providing the following services: transmission, distribution, losses, system management services.
 - 1.4.6.3.2. On a monthly basis, such as:
 - Charge for grid connection size.
 - Charge for exceeding the required Power Factor.
 - Fixed charges for meters according to voltage levels
 - Charge for account preparation.
 - One-time charges/credits.
 - Retroactive debits/credits.
 - 1.4.6.3.3. At an annual level, such as:
 - Charge for required equivalent availability violation.
 - Other payments according to regulation.
 - 1.4.6.3.4. Producing a summarized pro forma and a detailed "sheet" for the client to check the account.
 - 1.4.6.3.5. Managing an internal round of approvals in NOGA.
 - 1.4.6.3.6. Producing periodic operational and financial reports.

1.4.7. **Controls / Validations**

- 1.4.7.1. Account approval controls, full documentation of actions and account auditors, changes made, log entry of all proforma items and approved accounts.
- 1.4.7.2. Input control of all plans and performing daily validation for all plans received for the next day/weekend as well as daily, two-day, weekly plans, while the daily production/consumption plan is determining.
- 1.4.7.3. Monthly control of metering data receiving for a specific Producer/ Supplier.
- 1.4.7.4. Control of existence of relevant rates and indices for the accounting month.

1.4.8. **Hadim Interfaces**

- 1.4.8.1. Retrieving of meter data from the Gefen /Mahandas portal.
- 1.4.8.2. Receiving plans from the Barcha system.
- 1.4.8.3. Input of meter registration and updating of transactions from the PLA system.
- 1.4.8.4. Oracle interface for generating/receiving invoices.
- 1.4.8.5. An automatic e-mail interface for financial department users in conjunction with sending the bills via the interface.
- 1.4.8.6. Bi-directional data interface with the engineering system (DWH).
- 1.4.8.7. Automated e-mail interface for customers, for sending a full bill or bill components for pre-approval.
- 1.4.8.8. SMS interface to notice monthly progress in the approval process for managers.
- 1.4.8.9. Interface to Noga's memo system.

2. **Time Schedule**

2.1. The RFI shall be conducted on the following dates:

RFI release date	10.01.2023
Last date for submitting a Clarification Request ("Last Date for Submitting CR")	17.01.2023
Last date for submitting a response to the RFI ("Last Date for Submitting Response")	31.01.2023

2.2. NOGA may postpone the closing date at NOGA's discretion.

2.3. NOGA is under no obligation to postpone the closing date for submitting a Response at the request of any of the respondents.

3. **Description of the Required Service Scope**

- 3.1. NOGA is interested to assess potential Consultant's knowledge and experience in order to formulate the requirements for consulting services required for the implementation of the Settlement Module and its future integration within NOGA's MMS, as part of a further tender.
- 3.2. The Consulting Services will include the following stages according to the main tender processes:
 - 3.2.1. Preparation of the detailed technical and commercial specification for the Settlement Module tender.

- 3.2.2. Participation in preparation of the international tender publication.
- 3.2.3. Participation in selection of the winner supplier, including analysis of documents submitted to the tender.
- 3.2.4. Participation and Preparation of Settlement Module detailed design with the winning vendor.
- 3.2.5. Preparation of the FAT and SAT tests includes participation in the tests themselves.
- 3.2.6. Implementation and integration of the software with the existing and future NOGA's systems.
- 3.3. The technical specification for the Settlement Module must relate to the following functionality:
 - 3.3.1. Ability to integrate with the future chosen MMS system – full compatibility;
 - 3.3.2. Calculation and issuance of the monthly billing for Wholesale and Retail Market.
 - 3.3.3. Calculation and issuance of the monthly billing of Demand Response (DR) participants;
 - 3.3.4. Calculation and issuance of the monthly billing of future markets such as Inter-connection, Ancillary Services, etc;
 - 3.3.5. Reporting services for aggregated periodic financial and operational reports.
 - 3.3.6. Market Validation Process for input and output data.
 - 3.3.7. Ability to connect and be integrated with other Noga's IT systems such as metering system, suppliers' management system, ERP, DWH, etc.
 - 3.3.8. Dispute module including User Interface for market participants, including ability to appeal, complain, and apply manual amendments, etc.;
 - 3.3.9. Analysis Module including features such as anti-monopoly treaty, etc.

4. Response Expectations

- 4.1. Respondents are requested to provide information regarding their experience:
 - 4.1.1. Implementation of the Settlement Software modules from well-known MMS systems' providers.
 - 4.1.2. Professional capabilities and details regarding the topics stated above (not limited to), which consists of projects that were performed for different Market Operators (or ISOs operating also as Market Operator) around the world.
 - 4.1.3. Each project should include client's name, dates, description of the provided service, project team members (CV), project summary including the size of the market (the number of generation units, MW of system, units' technology, the number of Producers and Suppliers, etc.), project duration, cost estimation of the projects and any additional information that could be valuable to NOGA.
 - 4.1.4. Sizing of Settlement Operation managed by Settlement Module in each project – number of customers, transactions, money volume, complexity and etc.
 - 4.1.5. System Performances information.

5. Clarifications

- 5.1. The respondents may direct questions or seek additional information (“Clarification Request”).
- 5.2. Any Clarification Request should be submitted in writing to the e-mail address mentioned in Section 6.2.
- 5.3. A Clarification Request should be submitted by no later than the Last Date for Submitting CR as specified in Section 2.1.
- 5.4. NOGA may address a Clarification Request but is not obligated to do so. At NOGA’s discretion, any response to a Clarification Request may be issued in writing to all respondents, provided, however, that the identity of the respondent submitting the Clarification Request will not be disclosed.

6. Communicating

- 6.1. NOGA has appointed the following person as its POC for the purpose of this RFI: Itay Heidemann (“NOGA’s POC”).
- 6.2. All communications relating to this RFI should be addresses to NOGA’s POC through the following e-mail address: Itay.Heidemann@noga-iso.co.il
- 6.3. All documents submitted pursuant to this RFI, should be submitted to the e-mail address mentioned in Section 6.2.

7. General Terms

- 7.1. NOGA has the right to hold a meeting with the respondents, at its discretion.
- 7.2. The purpose of this RFI is for gathering information only, as part of developing and formulating the Project, and it is not intended to act as a tender or competition process.
- 7.3. This procedure, including submission of a Response, does not constitute any obligation on the part of NOGA to publish a tender or other engagement process in connection with the Project.
- 7.4. Without derogating from the generality of the aforesaid, it is hereby clarified that NOGA has full discretion in determining the terms of any future engagement under the Mandatory Tenders Law, 5752-1992 and the Mandatory Tenders Regulations, 5733-1993 (the “**Regulations**”), if and to the extent published in the future, including without limitation the terms of the contract, pricing and any other matter relating to the engagement.
- 7.5. Without derogating from the generality of the aforesaid, it is hereby clarified that any detail described or indicated in this RFI may be changed at the sole discretion of NOGA and is not meant to bind NOGA in any way.
- 7.6. It is hereby clarified that this RFI does not constitute a tender or an invitation to make proposals, but an early request for information in accordance with the provisions of Section 14A of the Regulations. Therefore, the respondents are hereby informed that according to the provisions of the Regulations:
 - 7.6.1. NOGA’s Tenders Committee shall keep a record of any information received through the Responses and any discussions that have taken place with respondents.
 - 7.6.2. Responding to this RFI is not a prerequisite for participating in a future tender or competition process, should one be held, and will not confer any advantage on respondents. The respondents are not obligated to participate in any future tender or to engage with NOGA in any other way.
 - 7.6.3. Any information received through a Response to this RFI, on the basis of which a tender or other competition process was held in accordance with the Regulations, shall be subject *mutatis*

mutandis to the right to review and access to information under Section 21(e) of the Regulations.

- 7.7. The respondent shall bear all costs associated with preparing and submitting the Response and shall not be entitled to reimbursement and/or compensation and/or indemnity for any expenses and/or damages incurred in connection and/or any consideration with the Response.
- 7.8. This RFI shall be governed by and construed in accordance with the laws and regulations of the State of Israel. The applicable courts in Haifa shall have the exclusive jurisdiction with respect to all matters and all disputes arising in connection with this RFI.