

REQUEST FOR INFORMATION

PURCHASE / CHARTER OF LNG STORAGE VESSEL WITH OR WITHOUT REGASIFICATION CAPABILITY (FSRU/FSU) MOORED AT JETTY BY DESFA S.A. – THE HELLENIC GAS TRANSMISSION SYSTEM OPERATOR

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1. Disclaimer

This announcement constitutes a Request for Information (RFI) for the purpose of determining market capability and information.

It does not constitute a Request for Proposal (RFP), a Request for Quote (RFQ) or an indication that the Company will contract for any of the items and/or services discussed in this notice.

Any formal solicitation that may subsequently be issued will be announced separately through DESFA's website.

Information on the specific topics of interest is provided in the following sections of this announcement. Neither DESFA nor any other part will be responsible for any cost incurred by responders in furnishing this information.

The information included in this document have been prepared by DESFA ("the Company") in good faith, based on information that are deemed necessary to the participants.

However, Company is not responsible for the adequacy, accuracy or completeness of any of the information.

2. General

2.1 Purpose of Procedure

DESFA is evaluating to purchase or charter an LNG Floating Storage Unit (FSU), capable to store liquefied natural gas (LNG) and which may or may not include regasification capability (FSRU). In the following the FSU/FSRU is referred to as the “Vessel”.

A barge type can be proposed providing that it satisfies the requirements specified in section 3 of this document.

The purpose of this invitation is to register the ship-owners (“Owner”) being interested to provide (through a sale or charter) the Vessel, for participation in any future DESFA formal process.

The Vessel will be moored in Greece, and DESFA will be responsible for establishing all facilities for jetty and onshore facilities for proper interfacing with the Vessel.

Owner will be responsible for providing the Vessel and possibly also manage/operate the vessel in line with the requirements of the project.

2.2 General Information about Company

DESFA is the Natural Gas Transmission System Operator in Greece.

DESFA is a private company with Greek state participation.

3. Project Requirements

3.1 Vessel Characteristics

It is requested to provide a vessel that can satisfy the below characteristics:

- a. Vessel Capacity
 - Minimum LNG storage capacity: 20,000 m³
 - Maximum capacity: based on the maximum vessel dimensions that can fit as per point b.

- b. Port Characteristics:

Unit will be moored in a port that has the following characteristics:

- 250 m long quay in concrete
- 230 m of the quay can be potentially used for berthing (considering safety space for manoeuvres).
- The quay currently receives ships with a length up to 185 m.
- The quay is protected by a breakwater designed to sustain a wave of more than 5 meters;
- The quay is equipped with 11 fenders and with bollards.
- Additional bollard pulls with mooring system quick release can be installed
- Sea Depth: 10 m

c. Transfer system type: Ship to Ship (STS)

The Vessel will need to be prepared for accepting the LNG carrier berthing alongside the Vessel for STS. This will include mooring hooks and cryogenic hoses including the required ancillary equipment facilitating the LNG transfer and vapor return.

d. LNG transfer Capacity to shore:

The Vessel shall be able to transfer LNG via its cryogenic hoses to the jetty manifold considering the following design criteria:

- Maximum LNG flow to onshore: 100 m³/h
- Minimum LNG flow to onshore: 30 m³/h
- Pressure range: 8 – 10 barg
- Minimum Temperature: -163 deg C

e. Optional regasification capability:

The Vessel can be equipped with a regasification unit to carry out LNG regasification and convey the natural gas to shore through its gas export manifold via articulated gas arm or cryogenic flexible hoses (installed on the jetty) to shore, satisfying the following design conditions:

- Maximum natural gas flow: 60,000 Nm³/h
- Minimum natural gas flow: 18,000 Nm³/h
- Pressure range: 20 -50 barg
- Temperature: Minimum 5 deg C

f. Heating medium:

The regasification shall be carried out using sea water as heating medium. Minimum sea water temperature to be assumed for regasification is 15 deg C, maximum sea water temperature to be assumed for regasification is 25 deg C, and maximum allowable temperature differential between sea water inlet and sea water outlet from the Vessel is 5 deg C. A closed loop vaporizer will be preferred.

g. Regasification equipment

In case of Vessel equipped with regasification unit, the equipment shall follow an N+1 sparing philosophy compared to the required flow stated in e) above, meaning at least one regasification train in spare during maximum gas flow.

h. Safety system:

Vessel shall be equipped with safety systems incl. ESD system compliant with international industry standards and classification society requirements.

i. Vessel equipment:

Vessel shall be equipped with all the necessary utilities and safety equipment on board

j. Power supply:

Vessel shall be self-sustained in order to make the vessel functioning without being fed by shore facilities.

k. Metering system:

Vessel shall be equipped with fiscal metering system for measurement of export LNG / Natural gas to shore. In addition, vessel shall be equipped with operational meters quantifying the gas consumption onboard the vessel.

l. Safety system:

Vessel shall be equipped with safety systems incl. ESD system compliant with international industry standards and classification society requirements.

m. Reloading system:

Owner to provide options for FSU/FSRU reloading with LNG. FSRU/FSU should be fitted with all necessary equipment for the reloading.

3.2 Vessel mobilization and service period

a. It is essential to have the Vessel available starting from end of 2021.

b. In case of chartering the duration of the service will be indicatively 36 months.

The above duration will be defined in a later stage depending on the project's requirements.

3.3 Metocean data

Details for metocean data (wind, current, waves) as input to design of mooring system will be provided at a later stage.

4. Information requested

4.1 Corporate Information

Owner shall provide the following corporate information:

- a. Company Name.
- b. Parent Company name (if Applicable).
- c. Company Phone number.
- d. Company Address.
- e. Contact Name.
- f. Contact Title / Phone and email (Used for correspondence).
- g. Local agent name (if applicable), address, phone, fax, E-mail, availability.
- h. Company website.
- i. Company's history with special emphasis upon corporate reorganization in the last ten years, licensee and licensor agreements.
- j. Annual audited financial reports (or the equivalent thereof if not available) for the past three years.
- k. Products catalogues, company description and any other information relevant to his company (e.g. n° of employees divided by job type and geographical areas).
- l. Company's place within the corporate structure (if applicable), with indications regarding parent companies, subsidiaries and/or affiliates.
- m. Affidavit by legal counsel or accountant that the company is in good standing with no current actions or claims regarding bankruptcy, insolvency, liquidation, voluntary or otherwise placing under administration, receivership, trusteeship or judicial management.
- n. Proof of funds.

4.2 QHSE management system

Owner shall provide the following:

- a. Documented HSSE Management System (also known as a Health & Safety manual, Safety Process, Safety Policy).
- b. Health and Safety System application evidence and standard certification.
- c. The following HSSE information in a summary table for last 5 years, or less in case of a younger vessel:
 1. Total Job Hours Worked Fatalities ("FAT")
 2. Lost Time Incidents ("LTI")
 3. First Aid Cases Total Recordable Cases
- d. Quality System application evidence and international standard application.
- e. Environmental System application evidence and international standard application.
- f. List of HSSE/QUALITY Licenses and Registrations.

4.3 Owner experience

Owner is required to provide his experience divided as follows:

- a. Experience in operating/contracting vessels as described in this RFI.

- b. Experience in contracting for construction and/or operation of LNG carriers and/or crude oil/products carriers.
- c. For existing vessel within Owner's fleet: operating history of the vessel.
- d. For new build vessel (under construction or to be ordered): details of the shipyard and the expected completion date.
- e. Vessel Details – Gas Form C for the relevant candidates.
- f. Details on relevant experience in Transportation within the Greek territory.
- g. Details relevant to experience in transportation of hydrocarbons (LPGs, Heavy fuel...).
- h. Insurance records and Accident records.
- i. Vessel should be carrying EU flag.

4.4 Service details

Participants are asked to provide a list of LNG and/or oil and products storage and carrier vessels delivered.

Participants should state the following information for each vessel delivered:

- a. capacity, peak capacity.
- b. technology used.
- c. beginning of vessel operations.
- d. term, name and details of client contact person.

4.5 Proposed Vessel information

Participants shall indicate what services to be provided (FSU / FSRU, preference on type of agreement, sales or term chartering, provision of technical management/operation services etc.).

Owner shall provide the following information for the Vessel(s) proposed:

- a. Vessel Capacity.
- b. LNG transfer.
- c. Regasification capacity.
- d. Regasification equipment details.
- e. Vessel equipment details.
- f. Power supply details.
- g. Mooring system options.
- h. Metering system.
- i. Safety system.
- j. Maintenance shut down frequency and duration (for chartered option).

4.6 Options

Owner to indicate

- a. If would be in his interest to provide engineering services relevant to the connection between the Vessel and the on-shore facilities.
This will include (but not limited to):
 - Ship to shore link system
 - Bog management system
- b. If would be in his interest the procurement of
 - Mooring hooks
 - Fenders

5. Instructions to the Participants

- a. The purpose of this RFI is to open a consultation process by providing the necessary information to DESFA in order for DESFA to determine market capability.
- b. Neither participation in this RFI nor the provision of any information to DESFA hereunder or otherwise shall grant participant any right, legal or otherwise, regarding participation in any current and/or future purchasing process conducted by DESFA.
- c. Based on participant's responses to this questionnaire, the information stated therein, the opinions received from references listed herein and all other relevant information gathered, DESFA will determine whether to proceed to a formal prequalification process.
- d. DESFA will keep all information provided in this RFI confidential and shall use it only for its own purpose, in connection with this RFI and consultation.
- e. DESFA shall be under no obligation to enter in any transaction with any party whomsoever who responds to the RFI proposing goods/ services in or out of the subject of this RFI.
- f. DESFA is entitled to use the information obtained by way of the RFI, as well as any data, solution, process, technique or suggestion contained in any of the responses or documents/response material submitted to DESFA related thereto, for its own needs.
- g. Without derogating from the above DESFA shall keep any information/data received from any person responding to the RFI in strict confidence and shall not permit the use or use same for any purpose than for its own needs unless such information must be disclosed subject to a right granted by law.
- h. A response to an RFI shall not bestow upon any person responding thereto any advantage in any procurement procedure. DESFA shall not be obliged to include the respondent in any procurement process.
- i. Response shall be in English language
- j. Any printed literature submitted with a RFI Response may be in another language so long as it is accompanied by an English translation (made by an accredited translator) of the entire document.

6. Submission instructions

Participants to the consultation are requested to submit their response to this RFI as soon as possible and in any case not later than 20/01/2020 to DESFA S.A.

Address:

Mesogeion Av., 357-359, Halandri, 15231

Attention: Mr. Tzilianos Dimitrios

Email: desfa@desfa.gr

Submissions may be provided either by hand delivery, regular mail, or email and shall be complete.