



Market Consultation

Flare-system for HyStock and N.V. Nederlandse Gasunie

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Version 1.0

N.V. Nederlandse Gasunie
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1 GENERAL INFORMATION

1.1 Introduction

This document contains information on a market consultation for a hydrogen flare. The information collected by Gasunie through this market consultation will be used for the preparation of a European tender for a hydrogen flare for N.V. Nederlandse Gasunie (hereinafter: Gasunie) and its subsidiary Energystock Services B.V. No rights can be derived from the data provided in this document.

The purpose of this document is to provide information about Gasunie, to provide suppliers with questions about a hydrogen flare and to show the process of the market consultation.

1.2 N.V. Nederlandse Gasunie

Gasunie is a midstream energy infrastructure company. In the Netherlands and northern Germany, Gasunie manages the infrastructure for large-scale transport, storage and conversion of gas. At the moment, this is mainly natural gas. With the energy transition, this is shifting further and further towards Bio-gas, CO₂, warm water and hydrogen.

More information about Gasunie can be found on www.gasunie.nl.

1.3 Purpose of this market consultation

Gasunie wants to collect information from the market with regard to flares that are suitable for hydrogen applications as described in section 1.4 *Scope*. It also wants to test to what extent the market can supply a flare in accordance with the scope that Gasunie can currently provide.

With this market consultation, Gasunie wants to explore the market for hydrogen flares. Gasunie can use all information from the market to prepare a European tender.

This document in *Chapter 2 Procedure* indicates how suppliers can submit their response to Gasunie.

Hystock – a subsidiary of Gasunie – intends to develop an underground hydrogen storage facility with associated (above-ground) facilities for the dehydration, compression and transport of hydrogen. Part of this surface facility is a safety system (depressurization system) with a flare and flare header. The main functions of the flare are:

- Create a safe location for the combustion of hydrogen during a safety related scenario on site;
- Create a safe location for the combustion of hydrogen in preparation of maintenance;

To give an idea of the required flare-system see Annex 2 for a process flow scheme.

In order to get a good idea of the possibilities in the market, it was decided to carry out a market consultation. Gasunie invites suppliers to respond and appreciates their contribution. Gasunie hopes to gain more clarity on, among other things, the following points:

- Are the requirements set by Gasunie relevant, realistic and feasible;
- What solutions does the market offer in relation to the questions and requirements asked;
- Obtaining a cost indication in order to be able to set the target value of a tender;
- What does the market look like and what distinguishes parties;
- The expected trends and developments in the market of hydrogen flares.

1.4 Scope of the assignment

Below is the scope of the assignment as Gasunie currently provides for the flare-system. This scope is given to provide insight into the possible scope of the assignment and to be able to answer the question. The market consultation is intended to gain insight into possible solutions for this scope, but Gasunie is of course also open to possible ideas and adjustments that suppliers can propose on the basis of this scope.

It is expected that between now and 2027 a flare-system is to be installed on the Hystock location in the Netherlands.

The flare has the properties mentioned below.

SCOPE

Requirement	Specification
Type	Hydrogen flare-system
Nominale diameter	30 inch
Hight	20 meters
Availability	99,90%
Design code	Piping EN13480, Pressure vessels EN13445
Design Pressure	15 bar(e)
Application	· Suitable for 98-100% hydrogen
	· Suitable for above-ground setup
	· The gas group for hydrogen is 2G IIC T1.
Connection type	Flanged, ASME
Operating pressure during depressurization	1 to 3 bar(e)
Flow	0 to 16kg/s (normal peak flow during depressurization 8 Kg/s, remote scenario peak flow during depressurization 16 Kg/s)
Design temperature	-20 / + 80 degrees Celsius
Directives	PED (2014/68/EU)
	ATEX 114 directive (2014/34/EU)
	EMC (2014/30/EU)
Coating	MSW-11-E
Lifetime	30 years

2 PROCEDURE

2.1 Planning

Activity	Date / Period
Send publication TenderNed	Friday, October 20, 2023
Deadline for submitting replies by suppliers via e-mail	Monday, November 13, 2023, 2:00 PM

2.2 Information via TenderNed and e-mail

The publication of the market consultation shall take place on TenderNed. The document for the market consultation have been made available via TenderNed, www.tenderNed.nl.

For participation in this market consultation, it is requested **to provide the answers to the questions in** Annex 1 Form answering questions for participation in market consultation *no later than the date and time mentioned in section 2.1*. The attachment with the answers can be submitted via email to Mrs. Antje van der Harst, A.van.der.Harst@Gasunie.nl. For questions about the market consultation, please contact Mrs. Antje van der Harst.

If you are not able to send a response, Gasunie would like to hear from you and you can send an email message to the contact person mentioned above.

2.3 Conditions

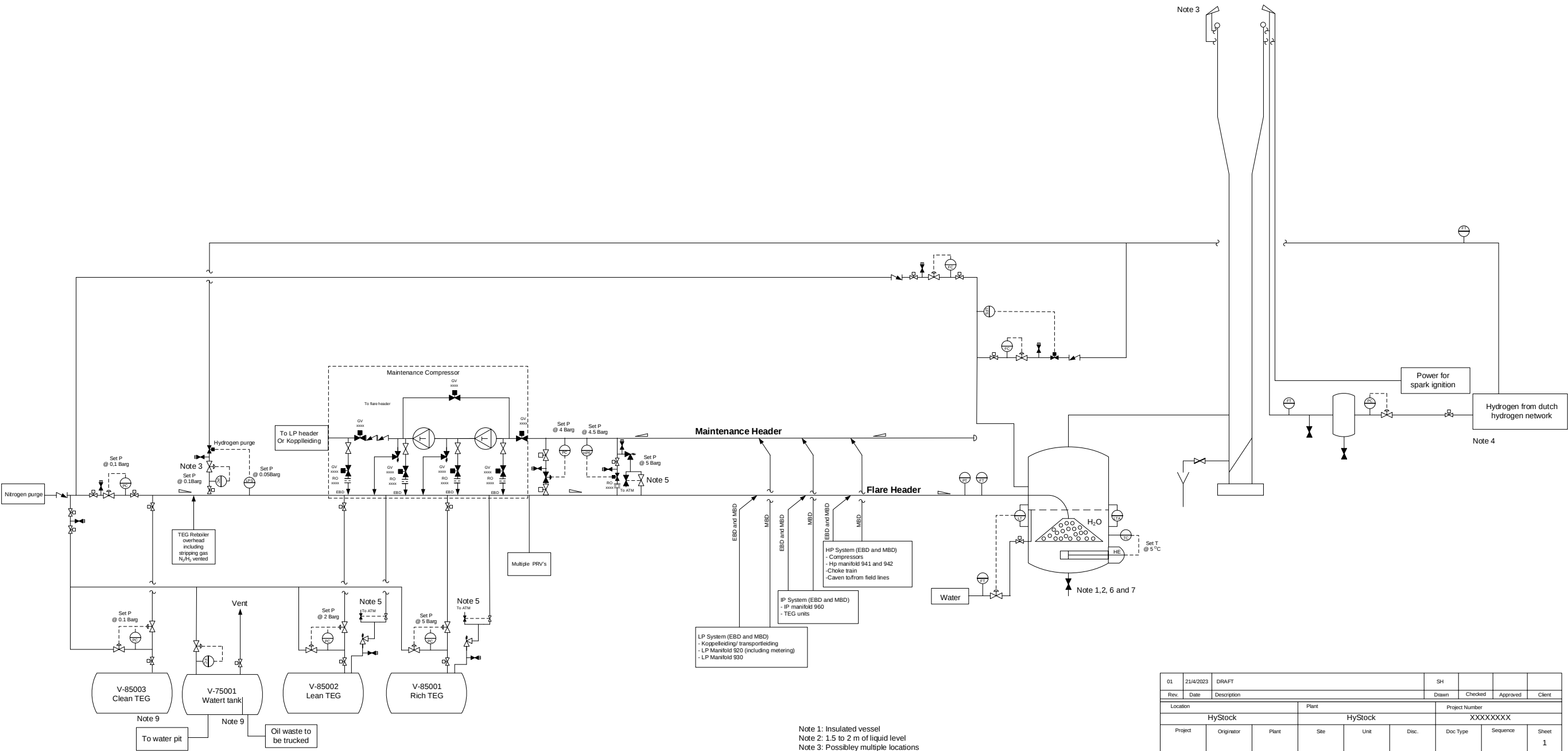
By participating in the market consultation, the market party agrees to the following conditions:

1. Communication takes place in the Dutch or English language;
2. All communication is exclusively with the contact person mentioned in section 2.2;
3. Your answers are confidential and will only be shared within Gasunie;
4. The information provided will only be used for further research and advice;
5. The scope and requirements may change based on the information provided;
6. Gasunie is not bound by the results of the market consultation;
7. Participants cannot derive any rights from this market consultation;
8. If necessary, Gasunie may contact suppliers to collect more information;
9. Gasunie reserves the right to change the planning if necessary.

Annex 1 Form answering questions for participation in market consultation

To answer the questions for participation in this market consultation, the Excel ***Annex 1 Form answering questions for participation in market consultation Hystock flare system*** is attached separately. You can fill in this document and send it back to Mrs. Antje van der Harst to A.van.der.Harst@Gasunie.nl.

Annex 2 process flow scheme



Note 1: Insulated vessel
Note 2: 1.5 to 2 m of liquid level
Note 3: Possibley multiple locations
Note 4: Hydrogen from the hydrogen network north netherlands via a reducer en metering station
Note 5: Mechanical interlock
Note 6: Vessel internals to prevent pulsation during depressurization
Note 7: Vessel shall be filled as fast as possible after depressurization
Note 8: 3 pilots with 2 ignition possibilities (for example: Pyrotechnical pellets, flame font ignition, gas electrical ignition etc) and flame detection
Note 9: Intrinsically safe vessel

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Rev.	Date	Description	Drawn	Checked	Approved	Client		
Location			Plant			Project Number		
HyStock			HyStock			XXXXXXXX		
Project	Originator	Plant	Site	Unit	Disc.	Doc Type	Sequence	Sheet
								1
gasunie crossing borders in energy							TITLE: PROCESS FLOW SCHEME FOR HyStock flare	
							Revision	
							01	
							SHEET 1 of 1	