



ON-SITE HYDROGEN

Readiness Assessment

Pharmaceutical and specialty chemical facilities

Purpose: This form helps Span Hydrogen understand your hydrogen demand, process conditions, site utilities, integration needs, safety requirements and commercial baseline before recommending an on-site generation concept.

How to complete it: Part A is a five-minute conference screening. Part B can be completed later with your engineering, production, quality and EHS teams. Estimates are acceptable where exact data is unavailable; mark them as estimated.

Important: This is a preliminary information-gathering document. It is not a design, quotation, safety approval, compliance certification or performance guarantee. Do not include confidential process recipes, patient information or information you are not authorised to share.

A Quick screening | Complete in about five minutes

Assessment date		Event / referral source	
Organisation / company			
Facility location			
Primary contact		Designation	
Department		Business email	
Business phone		Company website	
Industry	☐ API / pharma ☐ Specialty chemicals ☐ Fine chemicals ☐ Other		
Hydrogen use	☐ Catalytic hydrogenation ☐ Selective reduction ☐ Hydrogenolysis / deprotection ☐ Other		

Reaction / process where hydrogen is used *A general description is sufficient; no confidential recipe is required*

Current supply ☐ Cylinders ☐ Cascades ☐ Tube trailer ☐ Pipeline ☐ On-site generation ☐ Other

Approx. use per month		Unit (kg / Nm3)	
Required pressure		Operating pattern	

Main interest ☐ Availability ☐ Quality ☐ Cost ☐ Safety ☐ ESG ☐ Expansion

Project timing ☐ 0-6 months ☐ 6-12 months ☐ 12-24 months ☐ Exploratory

Detailed consumption records ☐ Available ☐ Partly available ☐ Not available



1 Hydrogen demand and process profile | Engineer backwards from the reaction

Why this matters: Monthly purchases show total consumption, but electrolyser, buffer and backup sizing depend on when hydrogen is needed, at what peak rate and for how long.

1.1 Process demand

Process / unit	Batch or continuous	Normal flow (Nm ³ /h)	Peak flow (Nm ³ /h)	Duration / batch	Batches / month

Average daily demand

Peak hourly demand

Average monthly demand

Annual demand

Operating hours / day

Operating days / year

Demand data basis

☐ Metered ☐ Purchase records ☐ Batch estimate ☐ Other

Demand variability and expected growth *Seasonality, campaigns, new reactors, debottlenecking or planned capacity*

1.2 Continuity requirement

Is hydrogen process-critical? ☐ Yes ☐ No ☐ Depends on product / campaign

Permissible interruption

Required recovery time

Preferred continuity strategy

☐ Buffer only ☐ Backup cylinders / cascade ☐ N+1 generation ☐ To be engineered

Operational consequence of hydrogen interruption *Batch loss, delayed production, cleaning or revalidation, customer impact or other exposure*



2 Hydrogen specification and existing supply | Define the point-of-use requirement

2.1 Required hydrogen quality

Required purity		Purity basis / test method	
Required dew point		Maximum moisture	
Maximum oxygen		Other impurity limits	
Point of specification			
Quality documentation needed	☐ COA ☐ Online analyser ☐ Batch record ☐ Qualification / validation ☐ Other		

Product-specific or quality-team requirements

2.2 Pressure and flow conditions

Location	Minimum pressure (barg)	Normal pressure (barg)	Maximum pressure (barg)	Peak flow (Nm ³ /h)
Generation / storage				
Process header				
Reactor / point of use				

Compression likely required ☐ Yes ☐ No ☐ Unknown

Buffer / storage required ☐ Yes ☐ No ☐ To be determined

2.3 Existing delivered-hydrogen arrangement

Supply form / package size		Deliveries per month	
On-site inventory		Usable storage capacity	
Typical delivery pressure		Changeover arrangement	

Current supply concerns *Availability, quality variation, handling, changeovers, storage, logistics, losses or safety*



3 Utilities and site services | Confirm capacity, quality and reliability

3.1 Electrical supply

Available voltage / phase		Frequency	
Sanctioned / connected load		Spare capacity available	
Transformer rating		Nearest incomer distance	
Electricity tariff		Power reliability	

Backup power available ☐ DG ☐ UPS ☐ Alternate feeder ☐ None ☐ Unknown

Power-quality data available ☐ Yes ☐ No

Electrical constraints or planned upgrades

3.2 Water supply and treatment

Existing treatment ☐ RO ☐ DM ☐ EDI ☐ DI ☐ None ☐ Other

Available flow		Available pressure	
Conductivity		Water temperature	

Recent water analysis available ☐ Yes ☐ No

Water source and quality observations

3.3 Cooling, ventilation and other services

Cooling available ☐ Chilled water ☐ Cooling water ☐ Air-cooled option preferred ☐ Unknown

Ambient temperature range		Relative humidity range	
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Instrument air available ☐ Yes ☐ No ☐ Unknown

Inert gas / nitrogen available ☐ Yes ☐ No ☐ Unknown

Utility limitations or reliability concerns



4 Siting, integration and EHS readiness | Site-specific engineering is mandatory

4.1 Candidate location and access

Candidate location ☐ Outdoor ☐ Indoor ventilated room ☐ Utility area ☐ Rooftop ☐ Not identified

Available footprint

Available clear height

Distance to point of use

Elevation difference

Equipment access

☐ Road / forklift ☐ Crane ☐ Goods lift ☐ Restricted ☐ To be assessed

Environmental exposure

☐ Dust ☐ Corrosive chemicals ☐ Flooding ☐ High heat ☐ None known

Nearby occupied areas, ignition sources, air intakes or sensitive equipment

4.2 Tie-in, storage and vent routing

Existing H2 header material

Header pressure rating

Proposed tie-in location

Tie-in shutdown window

Existing provisions

☐ Isolation ☐ Non-return valve ☐ Pressure regulation ☐ Purge connection ☐ Gas analysis

Safe outdoor vent point identified

☐ H2 vent ☐ O2 vent ☐ Both ☐ Not yet

Existing storage, manifolds, regulators, compressor or piping proposed for reuse

4.3 EHS and statutory readiness

Hazardous-area classification available

☐ Yes ☐ No ☐ To be updated

Hydrogen detection present

☐ Yes ☐ No ☐ Coverage to be assessed

Fire-and-gas / ESD integration

☐ Available ☐ Required ☐ Unknown

Ventilation assessment available

☐ Yes ☐ No ☐ Required

Risk studies

☐ HAZID ☐ HAZOP ☐ QRA ☐ Fire-risk assessment ☐ None yet

Stakeholders identified

☐ EHS ☐ Engineering ☐ Production ☐ Quality ☐ Fire & security ☐ Insurer

Known permit, PESO, local authority, insurer or corporate-standard requirements



5 Controls, operations and commercial baseline | Define interfaces and total delivered cost

5.1 Controls and data integration

Site control platform	☐ Standalone HMI	☐ PLC	☐ SCADA	☐ DCS	☐ Historian	☐ Other
Required integration	☐ Remote E-stop	☐ Common alarm	☐ Run status	☐ Pressure	☐ Purity	☐ Flow
	☐ Power data					
Remote monitoring acceptable	☐ Yes	☐ No	☐ Subject to cybersecurity review			

Communication protocol, cybersecurity or data-retention requirements

5.2 Operating and maintenance readiness

Operating shifts		Maintenance coverage	
Proposed operator	☐ Utilities ☐ Production ☐ Engineering ☐ Dedicated operator ☐ Undecided		
Training required	☐ Operators ☐ Maintenance ☐ EHS / emergency team ☐ Management		
Support expectation	☐ Spares package ☐ AMC ☐ Remote support ☐ On-site support ☐ Uptime SLA		

Planned maintenance windows and site permit-to-work constraints

5.3 Commercial baseline *Optional, but recommended for the viability report*

Delivered H2 cost (INR/kg)		Electricity tariff (INR/kWh)	
Annual freight / handling		Rental / demurrage	
Annual gas losses estimate		Water tariff	
Downtime exposure		Hurdle rate / target payback	
Financial objective	☐ Lowest lifecycle cost ☐ Supply security ☐ Safety / handling ☐ ESG ☐ Capacity growth		

Commercial assumptions or procurement constraints



6 Supporting information and acknowledgement | Complete what is available

6.1 Recommended attachments

Available	Document / information	Revision / date	Notes
☐	12 months of H2 purchase / consumption records		
☐	Batch-wise or hourly demand profile		
☐	Hydrogen specification / COA / quality requirement		
☐	Site layout and candidate-location photographs		
☐	Electrical single-line diagram and utility data		
☐	Water analysis and treatment-system details		
☐	Existing H2 P&ID; / header / storage details		
☐	Hazardous-area, fire-and-gas or risk-study documents		

Other information or questions for Span Hydrogen

6.2 Customer acknowledgement

I confirm that the information supplied is accurate to the best of my knowledge and may be used by Span Hydrogen for preliminary feasibility evaluation and related follow-up. I understand that technical guarantees, responsibilities, battery limits, approvals and commercial terms will be defined only in subsequent written project documents.

Name**Designation****Signature****Date**

May Span contact you about this assessment?

☐ Yes ☐ No

Optional: receive other Span Hydrogen updates

☐ Yes ☐ No

What happens next: Span reviews the information, identifies missing data, and - where appropriate - prepares a preliminary viability view and budgetary basis. A detailed site survey and engineering review follow only after the opportunity and scope are mutually qualified.

**S** Span Hydrogen use only | Do not ask the customer to complete this page

Lead owner

Review date

Opportunity ID

Next follow-up

Data completeness

☐ High ☐ Medium ☐ Low

Initial readiness

☐ Proceed to viability ☐ Request data ☐ Site visit ☐ Nurture ☐ Not suitable now

Primary driver

☐ Supply security ☐ Cost ☐ Safety ☐ Quality ☐ ESG ☐ Growth

Continuity need

☐ Buffer ☐ Backup supply ☐ N+1 ☐ To be engineered**Key engineering flags**

Demand

☐ Peak unknown ☐ Batch profile missing ☐ Growth unclear ☐ Metering needed

Specification

☐ Purity unclear ☐ Dew point unclear ☐ Pressure unclear ☐ Measurement point unclear

Utilities

☐ Power capacity ☐ Water quality ☐ Cooling ☐ Reliability

Site / EHS

☐ Location ☐ Area classification ☐ Vent routing ☐ Detection ☐ Approvals

Scope

☐ Battery limits ☐ Existing-system reuse ☐ Civil / electrical ☐ O&M responsibility**Preliminary sizing basis and assumptions****Open technical questions for HYDGEN / engineering team****Recommended next action, owner and due date**

Internal review rule: Do not quote purity, pressure, energy consumption, delivery schedule, certifications, lifecycle, savings or emissions benefits until the proposed model, system boundary and written source have been confirmed.