



ISO/TC 197
Hydrogen technologies

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NEN QualyGridS NWIP 2019 presentation

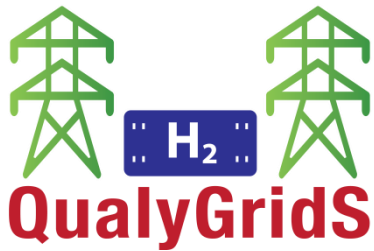
Document type: Public document

Date of document: 2019-12-18

Expected action: INFO

Background: Please find attached the QualiyGridS presentation by M. de Waart from NEN during the Plenary Meeting.

Committee URL: <https://isotc.iso.org/livelink/livelink/open/tc197>



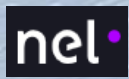
QualyGridS

Standardized qualifying tests of electrolysers for grid services

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This project has received funding from the Fuel Cells and Hydrogen 2 Joint Undertaking under grant agreement No 735485. This Joint Undertaking receives support from the European Union's Horizon 2020 research and innovation programme and Hydrogen Europe and N.ERGHY



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This work is supported by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00009.

Project overview

- Project partners: 6 research organizations, 3 electrolyzer manufacturers and 1 NSB

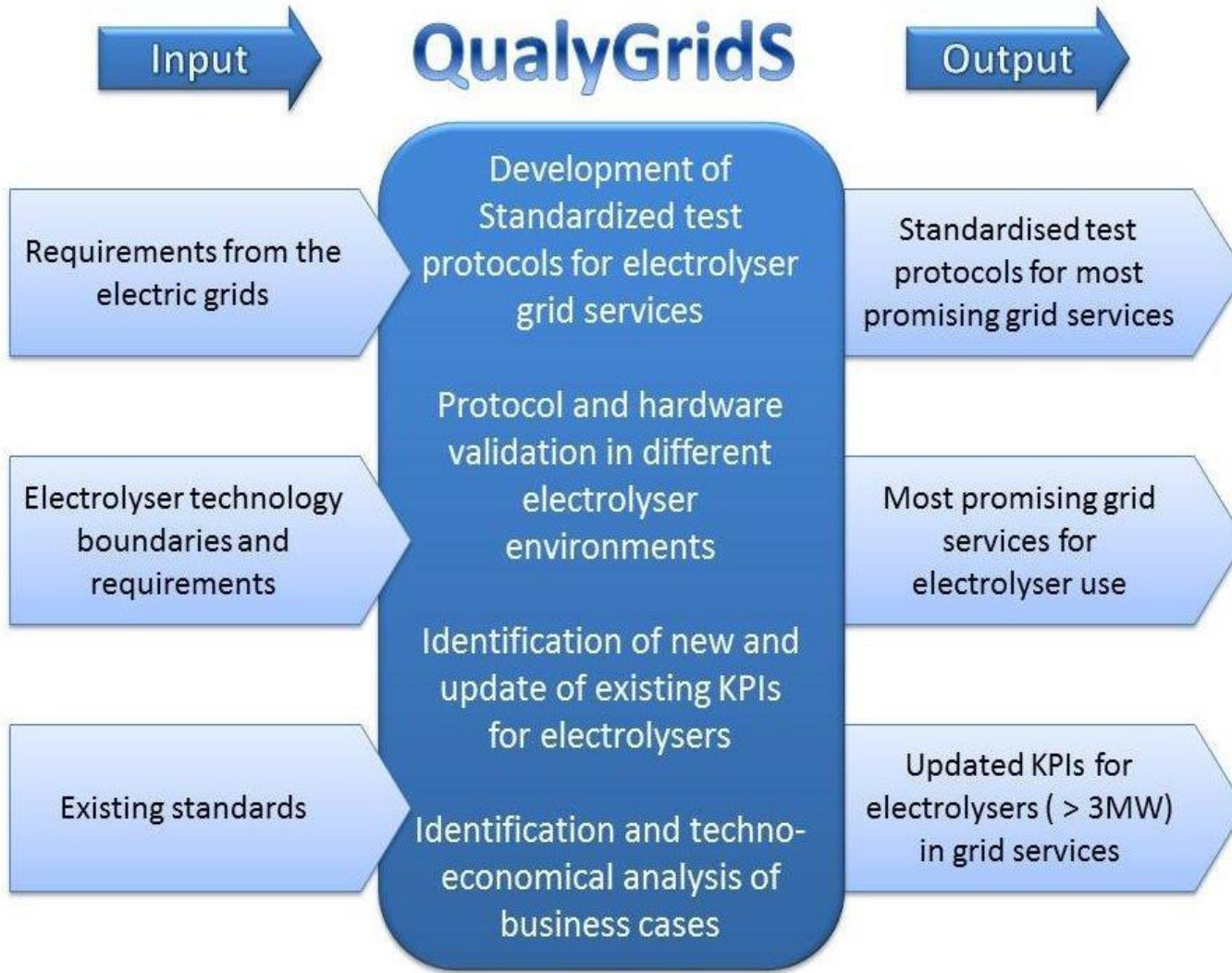


- The objective of QualyGridS project is to establish standardized testing protocols for electrolysers to perform electricity grid services
 - Taking into account requirements EU TSO/DSO and provide these requirements to manufacturers
- First conclusion: electrolysers can perform these services
 - frequency containment reserve (FCR),
 - automatic frequency restoration reserve (aFRR) and
 - manual frequency restoration reserve (mFRR)
- August 2016 – June 2020. Final testing protocols will be published at end of project (June 2020)

Objectives & Project targets



- **Electrolyser testing protocol**
 - Electrolyser testing protocol matching a selected grid service, or a feasible combination of two or more grid services
- **Electrolyser test run**
 - Electrolyser test run complying with developed testing protocol thus in principle being qualified for grid service operation
- **Electrical performance data for electrolysers**
 - Detailed datasets will be recorded of important electrical parameters for electrolysers when operated for grid services
- **Business cases**
 - Evaluation of business cases, sensitivities and a roadmap for the successful introduction of electrolyser technologies considering energy and grid service markets



Standardization activities



- Presentation at ISO/TC 197 and IEC/TC 105 plenaries in 2018 (Evelien Korbee, NEN)
- Telcons with IEC/TC 105 and ISO/TC 197 on standardization interest
 - Feedback clear interest, recommendation to also include IEC/TC 8 in the discussion
- NWIP proposal submitted at IEC/TC 105 Plenary, October 2019
 - Received with interest
 - Recommendation to establish a JWG with ISO/TC 197, with IEC/TC 105 and IEC/TC 8
 - How coordinate this between the TC's?
- Technical presentation at H2@Market meeting on Wednesday (11.12.2019) by Cyril Bourasseau (CEA)

New Work Item Proposal

NWIP to develop International standard



Scope:

- The purpose of these protocols is to determine if an electrolyser has the basic capabilities of providing electricity grid services. As a basis for these tests the European TSOs' and DSOs' requirements as published by August 2019 are taken.
- Considers testing protocols for water electrolyser systems with focus on alkaline and PEM water electrolysers.
- to be used by manufacturers of electrolyser systems to determine the capability of their products and to be able to provide reliable information to their customers that want to use an electrolyser for grid services
- To be used by any owner of an electrolyser that wants to evaluate its capability.

Aim and benefits of NWIP



Induce developments at manufacturers to provide products able to perform grid services → balancing the grid

Benefits:

- Performing electricity grid services → improved revenues for electrolysers
- Reduced hydrogen costs for end user due to improved business case
- Approved and standardised electrolysers tests to verify applicability of grid service requirements → beneficial to both manufacturer and TSO/DSO
- Manufacturers and customers may benefit from comparability of systems

Recommendations



- ISO/TC 197 Resolution:
 - to include NWIP in international standardization work program;
 - to discuss the establishment of joint working group with IEC/TC 105 and IEC/TC 8.

Collaborations:



A draft of testing protocols available – if you are interested to perform them on your electrolyser, please contact us

For more information, see also: www.qualygrids.eu



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Thank you

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