The Challenge of Servicing Hydrogen Stations

El reto del mantenimiento de las estaciones de hidrógeno

UNITI expo International Forum, Stuttgart, 15/05/2024

Bundesverband **Behälterschutz**
Gütegemeinschaft **Tankschutz & Tanktechnik**

BBS Association: (founded in 1965)

Members:

- Service companies (contractors) for tank systems (group A + B)
- Oil / Energy companies (group C)
- Manufacturers of tank systems (group D)
- Authorised experts (group E)

Main topics and Goals:

- Participation as involved stakeholders in public boards für technical rules and standards
- Platform for exchange of information
- Trainings and qualifications for technicians and advisors (technical guidelines, certificates)
- Safety training and BBS passport system for retail sites

Partner of BBS safety training Germany

2024

ARAL

bp

eg Group
ESSO/OMV
DEUTSCHLAND

eni deutschland

JET

ORLEN star

RHEINLAND
KRAFTSTOFF

TotalEnergies
COUCHE-TARD
DEUTSCHLAND

Retail sites and hydrogen stations

Actual situation

- About 100 H2-sites in Germany (350 bar and 700 bar) for cars (PV), trucks (HCV/LCV) and buses
- H2-sites maintenance: mainly by the manufacturer of the site equipment or by H2-Mobilty
  - Limited number of highly qualified technicians
- Retail sites: nationwide network of service companies for the “complete” site
  - Individual contracts with different levels of coverage and service (SLA)

Expectation:

- Significant increase of HCVs from 2025 due to European tax / road toll regulations
- Increase of H2 sites (number and capacity)
- Need for more trained technicians for maintenance to cover the SLA

Challenges for servicing hydrogen stations

Need for more technicians vs. shortage of specialists, efficiency, cost

Continuing with the actual maintenance approach - disadvantages:

- All H2 maintenance tickets to be covered by highly qualified technicians
- Long travel distances to cover nationwide all H2 sites
- General competition due to increasing shortage of specialist in all industry areas

Alternative Approach:

- Use of the existing service network (contractors) for retail sites to cover a part of H2 maintenance
- Advantages (Assumption: H2 installation (Electrical Chargers) will substitute classical diesel dispensers)
  - Bigger pool for technicians for the maintenance of H2 sites
  - Adequate trained technician to handle the specific malfunction
  - Shorter travel distances
- Need for alignment with the relevant stakeholders:

Challenges for servicing hydrogen stations

Need for more technicians vs. shortage of specialists, efficiency, cost

- Establish a group with:
  - Service companies (contractors) for tank systems, who are interested in H2 maintenance
  - Oil / Energy companies who are operating H2
  - Manufacturers of H2 equipment
  - Experts for trainings

BBS new group F: alternative Energies: (established 22th Feb. 2024 in Berlin)

- Prerequisite: amendment of BBS statutes
- All stakeholders with activities in alternative energies; current and new members of BBS
- Cooperation with Clean Energy Partnership (CEP) as industry partnership for H2 for mobility

Challenges for servicing hydrogen stations

Need for more technicians vs. shortage of specialists, efficiency, cost

BBS group F objectives

- Starting point H2 sites (E-Mobilty be developed in the next step; CNG?)
- Develop an industry standard for building, service and maintenance of H2 sites
- Define qualification levels related to maintenance task (in consideration with garages for H2 vehicles)
- Develop trainings and qualifications for technicians and advisors (in cooperation with externals)
- Establish a platform for exchange of information
- Participation in public boards für technical rules and standards
- Integrate safety training and BBS passport system in both directions
  - Awareness of H2 sites building and maintenance companies of retails site regulations (e.g. PPE, WCF, PTW)
  - Awareness of non H2 contractors of additional H2 site related safety regulations (e.g. safety-distances, gas detectors)

First steps agreed in group F

Getting started to integrate H2-sites in regular retail maintenance

- Create working sub-groups for
  - WG 1 „Hydrogen – pressure system“
  - WG 2 „Hydrogen – cryogenic systems“
  - WG 3 „training and qualification“

- Target to have in each WG at least one representative of
  - Maintenance company
  - manufacturer
  - Operating company

- Contact external to share information: e.g. statutory work accident insurance: huge set of technical guideline with semi legal relevance

Next steps agreed in group F

Integrate group F in existing work program

Overview of expert panels wit BBS participation:

- technical rules: operating retails sites, published by German Ministry of Labor
  TRBS 3151 / TRGS 751
- Measuremnt and weights: volumetric measuring devices
- Standardisation CEN TC 393 tank equipment
- Outlook: check for synergy with expert panel representants of new group F members
- Regular exchange of experience / knowledge sharing
- Other contacts / synergies

Long term target group F:

create more expertise for:

- H2
- E-Mobility
- E-Fuels
- LNG
- CNG
- ?

To support sites to a optimised servicing:

- Service companies (contractors)
- Operating companies
- Manufactures

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Thank for you attention / questions
Gracias por si atención / preguntas

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