

865 – Energy transition by Hydrogen gas does also mean transition of the standards?

Authors: Mirko Martina (Giovenzana International B.V.), Alfredo Acquati (Giovenzana International B.V.), Paolo Corbo (Giovenzana International B.V.)

Abstract: In the energy transition process the hydrogen is interesting, but it isn't an underground resource: the Hydrogen needs to be obtained by production. The hydrogen gas can be used as fuel, or it can be used as element in the fuel cells due its chemical energy. About the industries application the hydrogen gas can be used in the stationary applications or in the mobile applications (vehicles) both as fuel and as transported goods. So, the Hydrogen gas it seems involve a big chain, from the production to the final user. The use of the hydrogen that has high flammability and low ignition energy, mean that the explosion risks need to be assessed. The main task of this paper is to analyze the state of the art and the standards alignment in the hydrogen chain, with the focus to the IEC 60079 standard series to understand if their safety approach shall be applied also in locations which are commonly considered ordinary. About the locations already classified hazardous, we will try to answer to the question if the equipment classified as Group IIA or IIB installed is still allowed or shall be analyzed or an upgrade as IIC equipment is needed.