



ISO/TC 197  
Hydrogen technologies

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**Progress Report of WG27 rev 02**

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## **Progress Report of WG27/TG1**

# **Proposal of Working Plan for Revising ISO 14687-2:2012(E)**

**ISO/TC197/Plenary Meeting  
Dec.3, 2015 in Torrance, USA**

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Convener ISO/TC197/WG27/TG1**



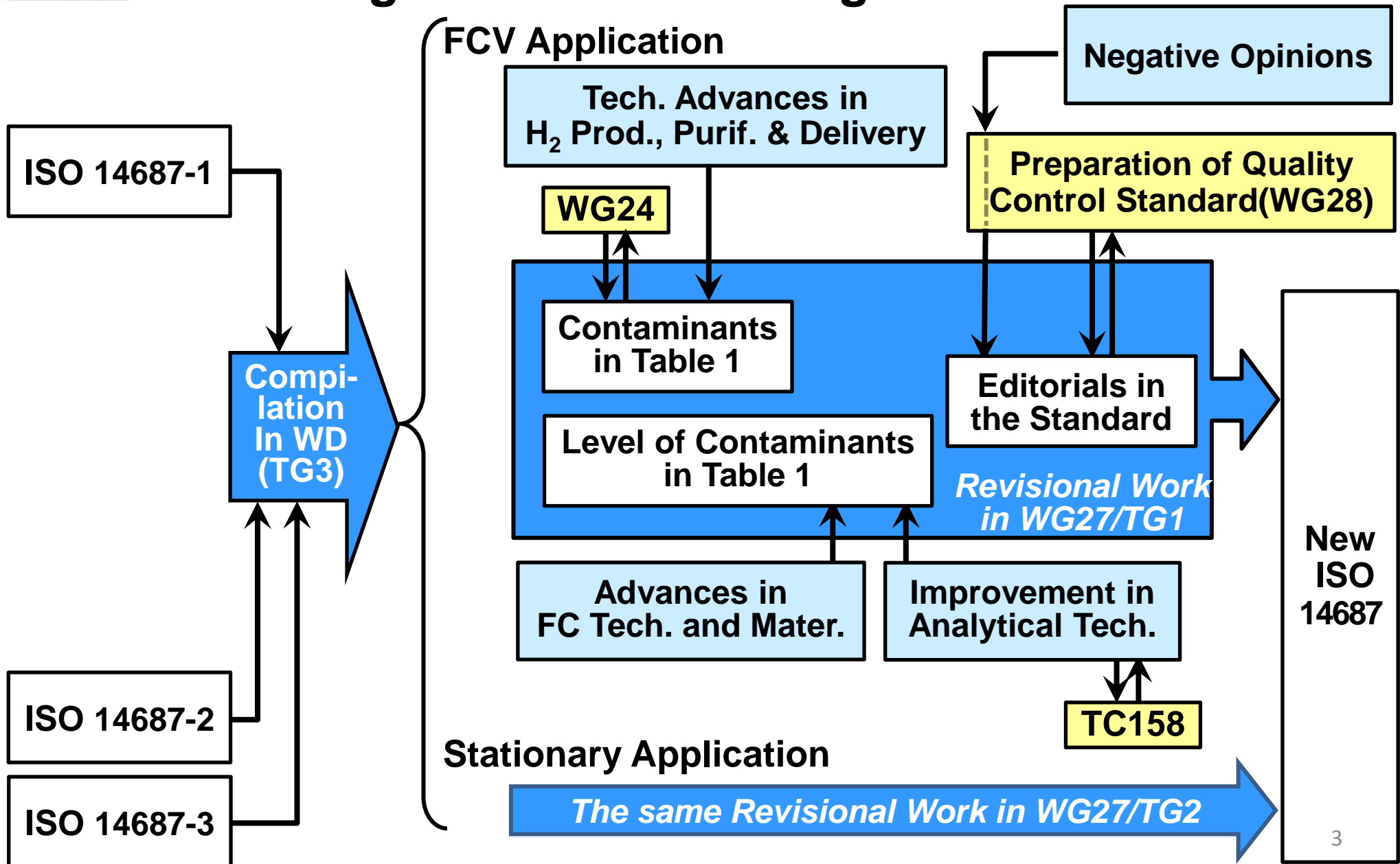
# **Background requiring revision of ISO14687-2:2012**

**Changes in circumstances surrounding FC, hydrogen technology and the Standard**

- 1. Advances in FC technologies and materials**
- 2. Technology development in hydrogen production, purification and delivery**
- 3. Improvement in analytical technology**
- 4. Concerning about some negative opinions against ISO1687-2**
  - Too severe level of contaminants in the standard**
  - Too many contaminant species to be analyzed in the standard**
- 5. Incomplete discussion for particulate matter and analytical methods in the Standard**
- 6. Preparation of new standard for hydrogen quality control**
- 7. Systematic revision (3 years past since the publication)**
- 8. Requirement for compiling 3 related standards**



# Contents of the revisional work and handling of the surrounding circumstances





# How to proceed the revisional work

1. The basic understanding of the standard “H<sub>2</sub> Fuel Product Specification”:
  - a. The standard should be used as “a bible” for H<sub>2</sub> fuel product specification
  - b. Level of contaminants should not be affected by specified H<sub>2</sub> production and delivery method.

## 2. Expected Process of the Revisional Work

<b>Contaminant Species in Table 1</b>	<b>Succeed following the same way as was used in creating ISO14687-2</b> <ul style="list-style-type: none"><li>· Use the data derived by experiment based on engineering and/or scientific process</li><li>· Use the knowledge obtained from FC, FCV, hydrogen production, storage and delivery in the real world</li></ul>
<b>Level of Contaminants in Table 1</b>	
<b>Editorials in the Standard</b>	<b>Relationship between the standard and the standard “H<sub>2</sub> Quality Control (WG28)” should be described as an interface between 2 standards.</b>



# The Milestone for Publishing ISO 14687

**NP: Voting closed 2015-09-30**  
**Result: Affirmative 13, Negative 0**  
**Participation: 9 Countries (AR, CA, CN, FR, JP, KR, NL, GB, US)**

## Target dates:

	<b>PEM for Load Vehicle Application</b>	<b>PEM for Stationary Application</b>	<b>H2 for Oher Application</b>
<b>2015-10-15</b>	<b>New Project registered</b>		
<b>2016-04-15</b>	<b>Compilation</b>		
	<b>WD to eb registered</b>		
<b>2016-10-15</b>	<b>CD to be registered</b>		
<b>2017-04-15</b>	<b>DIS to be registered</b>		
<b>2018-04-15</b>	<b>FDIS to be registered</b>		
<b>2018-10-15</b>	<b>IS</b>		

## Meetings:

**2015-12-02: Kick-off Meeting in Torrance CA, USA**

**2016-2- 23 : 2-nd Meeting in Fukuoka, Japan (TG1)**

**2016-4- : 3-rd Meeting in CA, USA (TG1)**

**Concern: Need to make up the consensus on the specifications for PEM FCV application.**



# Images compiling 3 documents into 1 -Chapter by Chapter Constitution-

**Chapter 4:  
Another H2 Application**

Clause 4:Except for Road Vehicle &  
Stationary Application

**Chapter 3:  
Stationary Application**

Clause 3:Stationary Application

**Chapter 2:  
Road Vehicle Application**

Clause 2:Road Vehicle Application

**Chapter 1:  
Common Contents**

Clause 1:Common Contents

- Forward
- Introduction
- Scope
- The Others



# Propose of the scope change

## Old Scope

### **The scope of ISO 14687:**

This International Standard specifies the quality characteristics of gaseous and liquid hydrogen fuel for the following applications:

- 1. All applications except PEM fuel cells**
- 2. PEM fuel cell applications for road vehicles;**
- 3. PEM fuel cell applications for stationary appliances;**

## New Scope

### **The scope of ISO 14687:**

This International Standard specifies the quality characteristics of gaseous and liquid hydrogen fuel for the following applications:

- 1. PEM fuel cell applications for road vehicles;**
- 2. PEM fuel cell applications for stationary appliances;**
- 3. Applications except PEM fuel cells**





**Thank you for your attention**