

Support to Safety Analysis of Hydrogen and Fuel Cell Technologies

Verification type	Methodology
Database reference	MET-3
Topic / Application	Methodology Analytical Solution
Physics	1-D wave equation Boundary layer flows RANS
Summary	A comprehensive approach to verification and validation methodology and procedures for CFD simulations from an already developed CFD code applied without requiring availability of the source code for specified objectives, geometry, conditions, and available benchmark information.
Description	A comprehensive approach to verification and validation methodology and procedures for CFD simulations from an already developed CFD code applied without requiring availability of the source code for specified objectives, geometry, conditions, and available benchmark information. Concepts, definitions, and equations derived for simulation errors and uncertainties provide the overall mathematical framework. A 2-part paper, part 2 provides an example for RANS simulations for a cargo/container ship where issues with regard to practical application of the methodology and procedures and interpretation of verification and validation results are discussed.
Case Title	Comprehensive Approach to Verification and Validation of CFD Simulations—Part 1: Methodology and Procedures
Authors	Fred Stern et al
Year	2001
Online reference	ASME Journal of Fluids Engineering DECEMBER 2001, Vol. 123 793
Case image	
Governing equations	
Results	