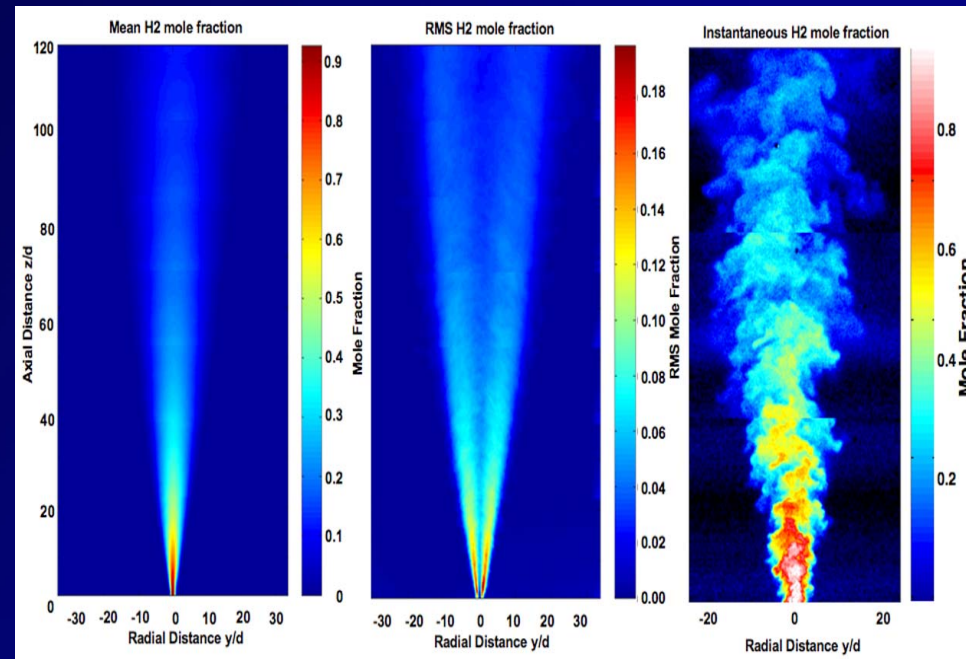


International Energy Agency Hydrogen Implementing Agreement

ICHS-3
Ajaccio, Corsica, France
Sep 18-20, 2009

Hydrogen Safety

Bill Hoagland



International Energy Agency Hydrogen Implementing Agreement

Vision:

The IEA HIA envisions a hydrogen future based on a clean, sustainable energy supply that plays a key role in all sectors of the global economy.



International Energy Agency Hydrogen Implementing Agreement

Mission:

*Accelerate hydrogen
implementation and widespread
utilization...*



International Energy Agency Hydrogen Implementing Agreement

Strategy:

Task shared programs of

- Coordinated, innovative research
- Development and demonstration
- Information exchange



Task 19 – Hydrogen Safety

To eliminate or reduce safety related knowledge gaps, or insufficient data that inhibit the accelerated and widespread use of hydrogen energy:

- facilitate risk informed codes and standards;
- permitting and siting;
- affordability/availability of insurance;
- public perception and acceptance;
- system economics and design/engineering.

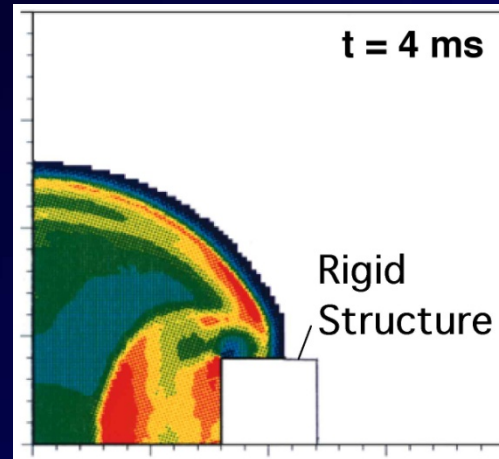


Work Plan 2007-2010

Fundamental Data



Modeling



Component Testing

Mitigation



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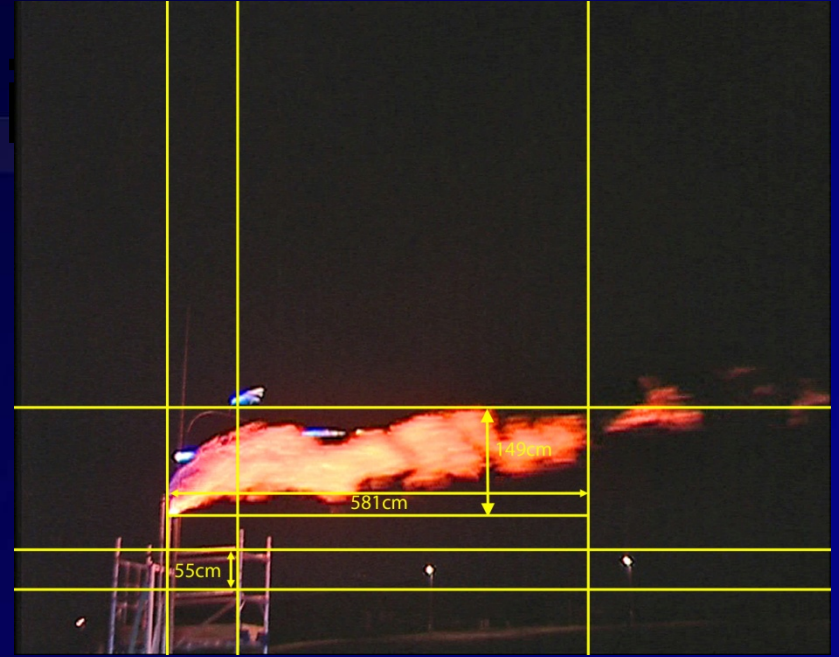
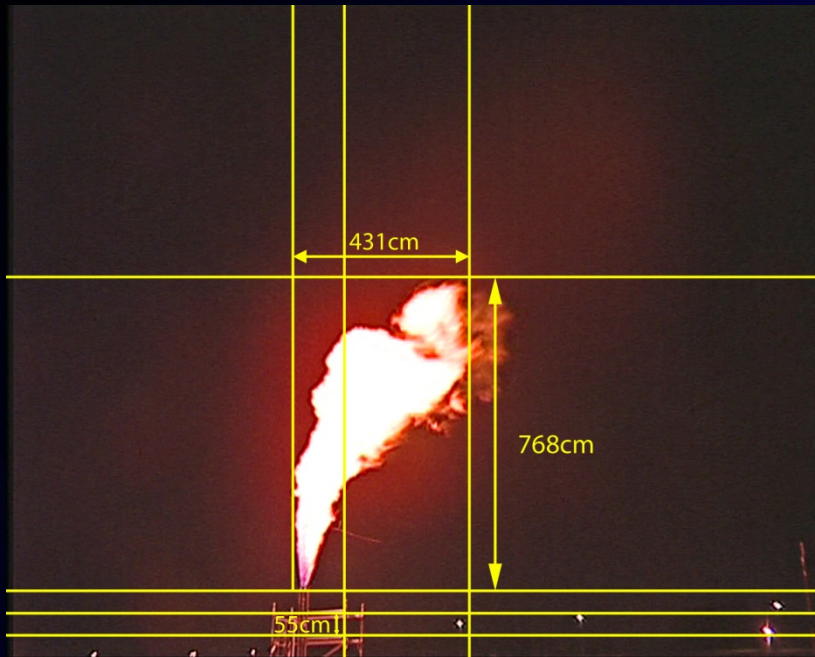
Desired Outcome:

To provide a technically sound and credible basis for Risk Informed Codes and Standards

That are:

- Not unnecessarily restrictive
- Allow informed choices of design
 - Most economic mitigation measures, equipment and safety factors
- Facilitate Approvals, Permits and Insurability





www.ieahia.org

www.ieah2safety.com

IEA Hydrogen Implementing Agreement ICHS meeting, Ajaccio, Sep 18-20, 2009



IEA HIA Work Products

- Demonstrate International Leadership by:
 - Establishing a Task 19 endorsed risk-informed methodology for CDO's to use as a template in evaluating risk prevention and mitigation measures
 - Establish a data base that has been vetted by the technical community (refereed literature)
 - Establish a data base of suggested models that have been validated against the unintended release data base
 - Task 19 will collaborate with and use the data from Task 18 (for demonstrations) and Task 22 (for storage) to build Hydrogen information packages for permitting authorities and other targeted stakeholders identified in the Task 19 work plan (i.e., operational data, lessons learned ...)



Task 19 Vision

That in five to ten years hydrogen energy syconduct a collaborative program to develop **predictive methods, data and other information** that will facilitate the accelerated adoption of hydrogen systems.

Specific objectives:

- Characterize and assess **risks and hazards and QRA methodologies**;
 - Risk informed criteria for permitting approval
 - Simplified methods
- Conduct collaborative **testing program** to validate the models that have been developed and to further refine those tools for use in real-life scenarios; and
- **Document and convey results and data** to reduce the barriers that inhibit commercial introduction of hydrogen systems.

