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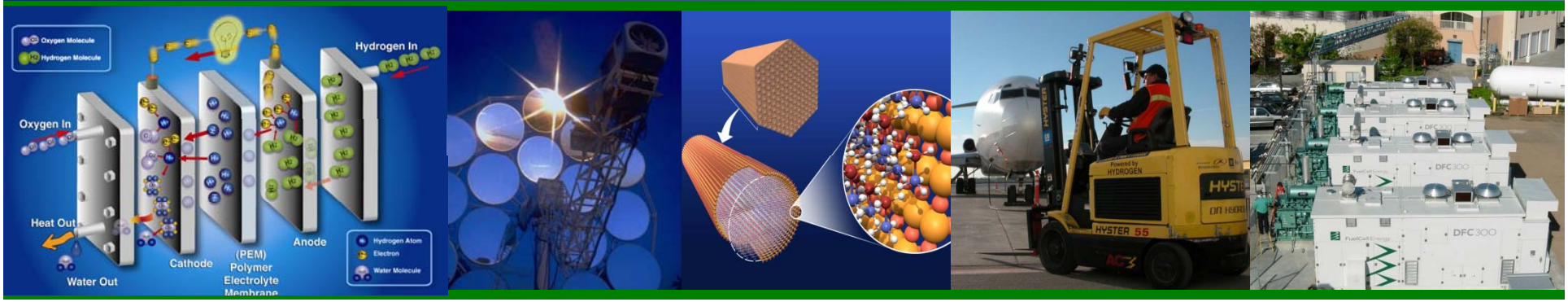

Summary of Input to DOE Request for Information DE-FOA-0000225

Greg Kleen

Golden Field Office

US DOE Fuel Cells Technology Program

Lakewood, Colorado

March 16, 2010

RFI Summary

Release Date: 12/29/2009

Closing Date: 1/29/2010

Purpose: Obtain Feedback from the Fuel Cell Community

Planned Funding Opportunity Announcement

- **Tentative Release: Summer 2010**
- **Tentative Awards Made: Fiscal Year 2011**

183 responses from 61 organizations

Responses covered:

- **Most fuel cell types and applications**
- **BOP and cell component development and integration**
- **Fuel processing**
- **Demonstrations**
- **Reversible fuel cells**

RFI Technical Topic Areas

Balance of Plant (BOP) Component Development

- Transportation Systems (e.g., humidifier membranes, compressors)
- Stationary Systems
- Fuel processors for stationary systems (alternate fuels, durability, impurities)

Stack Component Integration

- Integration of state-of-the-art components into high-performance, low-cost stacks
- Integration of state-of-the-art components into high-performance, low-cost MEAs

Other Innovative Concepts

- Long-term technologies
- Alkaline fuel cells

Subject Areas for Programmatic Considerations

- Comments on relative importance and priority of FC RD&D Topic Areas, including those above.
- Comments on the relative importance and priority of stack component and system BOP RD&D for automotive, stationary, portable power, and early market applications.
- Comments on the existing DOE targets and justification for any proposed modifications.
- Topics to be included in the potential workshop / pre-solicitation meeting.

BOP Component Development

46 Responses

Transportation Systems

10 Responses - Humidifiers (4), Air Handling (3), Power Electronics (2)

Stationary Systems

12 Responses - Humidifiers (3), Air Handling (3), Hydrogen Recirculator (3), Power Electronics (2)

Fuel Processors for Stationary Systems

24 Responses – Alternative Fuels (9), Sulfur Removal (6), Durability (2)

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Stack Component Integration

53 Responses – PEMFC, HT PEMFC, PAFC, MCFC, and SOFC.

Integration of State-of-the-Art Components into High-Performance, Low-Cost Stacks – 31 Responses

- **9 – Seals, Sealants , or Gaskets**
- **6 – Water Transport or Water Management Issues**
- **5 – Interfaces**
- **4 – Bipolar Plates**
- **4 – Component Development**
- **3 – Stack Integration**
- **3 – Gas Diffusion Layers**
- **3 – Cathode Catalysts**

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Integration of State-of-the-Art Components into High-Performance, Low-Cost MEA's – 22 Responses

14 – More Work is Needed on MEA Components/Materials

8 – Membranes

7 – Durability

5 – MEA Manufacturing

3 – Gas Diffusion Layer

3 – Catalyst Supports

3 – Water Management

3 – Interfaces

3 – Stack Integration

2 – Bipolar Plates

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Other Innovative Concepts

32 Responses – Direct Carbon Fuel Cells, SOFC/Digestor Gas/CHP, HT-PEM, PEM Cell Components, and Alkaline Fuel Cell Components

Long-Term Technologies – 23 Responses

- **6 – Distributed SOFC (i.e. residential CHP)**
- **4 – High Temperature PEMFC**
- **4 – Direct Carbon Fuel Cells**
- **2 – Catalyst**
- **2 – Hydrogen Storage Materials**

Alkaline Fuel Cells – 9 Responses

- **5 – Catalyst**
- **3 – Membrane**
- **3 – Durability**

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Other Responses

RFI Topic Not Specified by Respondent

19 Responses

Comments covered:

- Sensors
- Direct Carbon Fuel Cells
- Demonstrations
- Hybrid Systems
- Fuel Processors (Including Gasifiers)

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Programmatic Considerations

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36 Responses – Technical and Programmatic Considerations

Technical Comments – Direct Carbon Fuel Cells, HT-PEM Demonstrations, Component Development and Cell/Stack Integration, BOP Issues, Fuel Cell Durability

- 10 – Catalysts
- 9 – Stack Integration
- 9 – Durability
- 8 – Membrane
- 7 – MEA Integration
- 6 – BOP
- 6 – Demonstrations
- 5 – Materials and Component Development
- 5 – Hydrogen Infrastructure
- 5 – Gas Diffusion Layer
- 5 – Seals
- 3 – Bipolar Plates
- 3 – Electrodes
- 3 – Water Transport

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Programmatic Considerations (cont)

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Programmatic Comments

- Focus on Market Pull
- Continued Transition from Focus on Automotive Applications
- Continued Focus on Automotive Applications
- Develop Targets for Non-Automotive Applications
  - Bus
  - Fork Lift
  - CHP
- Leverage Other Agencies (DOD, NASA)

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