

R&D Forum
Houston, Texas
March 22, 2005
Breakout Session on Benefits from Research
George W. Tenley, Jr., Chairman

Session Summary

Presentations were made by the following people (presentation slides are available):

George W. Tenley Jr., President
Pipeline Research Council International

Jeff Wiese
DOT/PHMSA/OPS

Dave Johnson
Panhandle Energy/Cross Country Energy

Robert Barbeauld
Colonial Pipeline Company

After initial presentations, the participants explored several questions:

- Who needs to understand the benefits of R&D?
- What types of benefits result from R&D?
- What models exist to describe the benefits of R&D?
- What barriers exist to measurement of the benefits of R&D?

There was general agreement that the key to characterizing value of R&D is the ability to describe the benefits in advance of work starting, thereby allowing measurement after completion. R&D benefits can be characterized for low-risk, near-term focused R&D, but can only be described for higher risk, longer term efforts. Benefits of R&D are defined in the context of the goals the research is attempting to achieve. Different interest groups have different goals. For example, research funding agents have different values than do technology vendors. The clearest statement of intended benefits emanates from the Congress, through legislation that directs things like baseline inspections, periodic reinspection, and the areas in which federally funded R&D should be focused. The role of Congress is to represent the public. Much of the current R&D funding is appropriated by Congress. For this work Congress, as a representative of the public, identifies the goals.

A commenter from BP described the “Stage Gate Process” used at BP for selecting and managing R&D. Such a model is applicable in a tightly controlled corporate setting, but

less relevant to research funding organizations with broader sources of funding and more complex logistics in making and modifying decisions on R&D funding.

One commenter in the session described the focus of current research as on the “low-hanging fruit”, and raised the possibility that these low hanging fruit have already been thoroughly picked over. This seemed to be a minority opinion. New needs and development opportunities appear regularly, especially when it is recognized that R&D can focus on more than one orchard - both technology development and knowledge development. For R&D constrained to lead to near-term application, as is that sponsored by DOT, the focus needs to be on developments that can be completed and commercialized quickly.

The end point of successful technology or knowledge development is that the results must be “useful and used”. This criterion emphasizes both the importance of funding continuing through development, demonstration, and validation; and the criticality of effective technology transfer, including commercialization. Technology transfer is aided by the early involvement of potential vendors in the development process. This early development is actively encouraged by co-funding - the standard practice in DOT projects. Co-funding R&D projects also allows groups with different values to collaborate in attaining consistent, if not identical, goals.

The New York PUC has an interesting approach to assuring benefits are derived from R&D. They require that both technical and economic feasibility of candidate R&D be determined prior to beginning the work.

Ultimately industry needs to identify, perhaps through a roadmapping process, what it needs in the long term, and the value of addressing these needs in assuring a continued safe and economically attractive supply of energy to the public. Only through such long-term focused planning will the higher risk activities R&D leading to potential breakthroughs be recognized and supported.