

DEPARTMENT of ENGINEERING PHYSICS
College of Engineering, University of Wisconsin-Madison



Nuclear Engineering

Engineering Physics

Engineering Mechanics

Astronautics

October 30, 2012

To: Dr. Richard Meserve, NEAC Chair

From: NEAC Nuclear Reactor Technology Subcommittee

Michael Corradini

Re: Initial Review of Advanced Reactor Technology Office

On September 24th, 2012 our Subcommittee met with the DoE Nuclear Reactors Technologies Office (NE-7) staff. They provided our subcommittee an overview of the Advanced Reactor Technologies Office (ART - NE-74; agenda attached).

Key elements of the ART R&D programs were reviewed, and the subcommittee was able to discuss individual topics to become more acquainted with specific issues. Because the ART office was recently reorganized (see attached) with new programs added and other programs transferred to a new Science and Technology Innovation Office, the purpose of this first meeting was to learn about the various programs. The subcommittee has several initial recommendations for the NEAC to consider at this time as we continue to review NE-7 programs.

The ART Office is focused on developing improvements in the affordability of new advanced reactors to enable nuclear energy to help meet the DOE energy security and climate change goals. There are three groupings within the ART Office:

- NGNP: Demonstrate the HTGR technology to produce electricity and high temperature process heat
- ARC: Perform research to develop and refine future reactor concepts that could dramatically improve performance
- advSMR: Conduct research activities that support licensing and deployment of advanced Small Modular Reactor designs

The merging of activities into the ART Office was caused by a number of factors, FY13 budget reductions, reorganization of the NGNP program to focus on key initiatives, developing cross-cutting initiatives within the ARC program and launching the SMR research program. Thus, at this time, it is hard to discern a common theme and direction; the boundaries between various programs are not clear. The subcommittee sees the office as a work in progress that needs to be revisited. There are three items that we want to emphasize at this time:

1. The NGNP program was contemplating deferral of the AGR3/4 fuel testing, and the subcommittee considered that this decision should be reevaluated. A separate letter has been sent detailing our recommendation on this issue, and it is our understanding that our concerns have been addressed.

2. DOE needs a more structured, formal and continuing connection to the industry, to better inform its R&D activities. The Technical Review Panel (TRP) concept presented to us is a good idea but can be improved by broader and more appropriate industry membership.
3. Because of budget reductions, many programs are minimally funded, and additional cuts may occur after the start of the new year. With such small amounts of funding going so many diverse directions, our subcommittee was concerned that this broadly distributed research will have limited impact. It is recommended that research be prioritized using well-defined criteria and fewer research topics be pursued. The subcommittee also believes that more advantage can be taken from the work done by universities in these topical areas via NEUP and IRP grants. These research efforts should be better integrated into DOE planning to obtain the most impact from these activities.

The subcommittee looks forward to receiving a response to our recommendations.

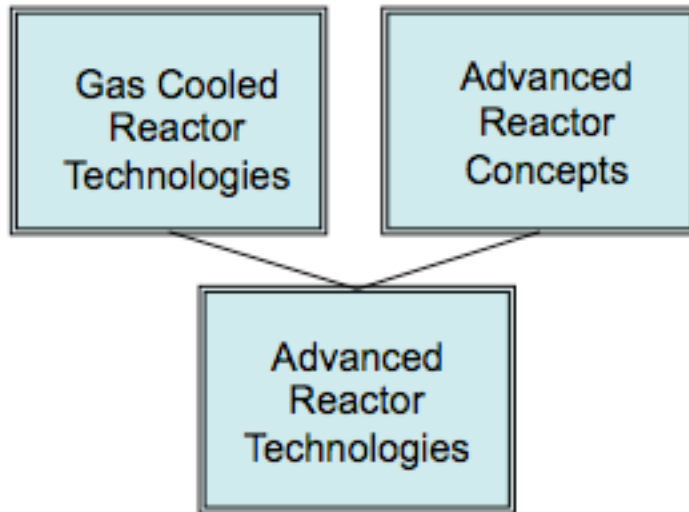
**Nuclear Energy Advisory Committee (NEAC) Review of
the Office of Advanced Reactor Technologies (NE-74)**

Washington DC, Date: September 24th 2012

Call in #301-903-0634

Forrestal Building Room: 6E-069

Time	Topic—All Times Include Time for Q&A	Lead
8:00 AM	Review Charter/Scope of Review	Mike Corradini
8:15 AM	Welcome and Update from NE-7	John Kelly
8:30 AM	Review Agenda, Update and Overview of the Office of Advanced Reactor Technologies (NE-74)	Tom O'Connor
9:00 AM	SMR R&D	Brian Robinson
10:15 AM	Break	
10:30 AM	Advanced Reactor Concepts	Pat Schwab
11:30 AM	Technical Review Panel	Craig Welling
Noon	Lunch on your own	
1:00 PM	NGNP R&D	Carl Sink
1:30 PM	NGNP/ARC/AdvSMR Materials	Bill Corwin
2:15 PM	Break	
2:30 PM	General Questions and Discussion (all topics)	All
3:00 PM	Review Team Caucus	Closed Session
3:15 PM	Review Team Discussion and Next Steps	All
3:30PM	Adjourn	



- NGNP
- ARC
- Advanced SMR R&D

