Minutes
Nuclear Energy Advisory Committee Meeting
September 23, 2008
L'Enfant Plaza Hotel
Washington, D.C.

Committee Members Participating

John Ahearne, Vice Chair
Thomas Cochran
Michael Corradini (p.m. session only)
Marvin Fertel
William Martin, Chair
Daniel Poneman
Allen Sessoms (p.m. session only)
Neil Todreas

Committee Members Absent

Brew Barron
Susan Ion
Burton Richter
Kunihiko Uematsu

Other Participants:

John Boger, Designated Federal Official, Office of Nuclear Energy, USDOE
Nancy Carder, Medical University of South Carolina, NEAC Support Staff
Corey Hinderstein, Nuclear Threat Initiative
Shane Johnson, Principal Deputy Assistant Secretary, Office of Nuclear Energy, USDOE
Frederick O'Hara, Medical University of South Carolina, NEAC Recording Secretary
Dennis Spurgeon, Assistant Secretary for Nuclear Energy, USDOE

About 15 others were in attendance.

Chairman **William Martin** called the meeting to order at 9:03 a.m. The agenda was adjusted by a motion by Ahearne that was seconded by Fertel.

Dennis Spurgeon thanked the Committee members for their efforts and time.

Dan Poneman was asked to report on the Policy Subcommittee. The discussions at the June meeting were used to derive the Subcommittee's report. The Subcommittee considered three growth levels (low, medium, and high) and a number of scenarios. In the low-growth case, there would be no new construction of nuclear power plants. In the medium-growth case, 17 GW of new construction would occur, a 1% increase over the present case. In the high-growth case, 45 GW would be constructed. The implications of these three situations were considered. The nation is unprepared for the high-growth case. A new Yucca Mountain would accommodate the medium-growth case. The low-growth case is within current capabilities. The Subcommittee chose not to endorse projects or dollar amounts. The Subcommittee found that:

- In terms of waste management, a legal process is in place with the Nuclear Regulatory Commission (NRC), and that process would guide future developments.
- In R&D, in some areas, the DOE facilities should be modernized.
- In human resources, in the medium- and high-growth cases, serious work needs to be done to ensure that the workforce is in place.

- In terms of supply-chain management, there are chokepoints, and they need to be identified.
- In terms of safety, it must be the number-one priority and must guide all design, construction, and operation of nuclear facilities, beginning with a standard basic analysis that describes all the risks that must be mitigated.
- In terms of security, the design-basis threat needs to be further advanced.
- In terms of licensing, the NRC should continue working in the direction of the recent past.
- In terms of the policy environment, stability and continuity of policy is needed for these multidecadal enterprises.
- In terms of industry, nonproliferation is an important consideration but is not widely appreciated. A significant buildup of nuclear power and an expansion of enrichment plants and reprocessing plants throughout the world is not a scenario that is desirable from a nonproliferation viewpoint. A locked, full-service fuel supply is an attractive means of controlling this expansion.

It is important to have stakeholders and equity in any long-term endeavor. Nuclear power policy drives several other policy areas. This is a critical time for nuclear energy. One cannot wait until the other policy issues are solved; the other policy issues will be solved when there is a *need* for them.

John Ahearne was asked to report on the Facilities (or Technical) Subcommittee. The Subcommittee had two charges: to review facilities and to recommend R&D programs to match the scenarios cited by the Policy Subcommittee. There have been several papers and reports from sub-subcommittees. That process has not ended; it will continue to be expanded. That process addressed a number of issues:

- Improve and extend current and future light-water reactors (LWRs).
- Assure a well-qualified and trained workforce.
- Develop and demonstrate Generation-IV (Gen-IV) reactors, such as the Next-Generation Nuclear Plant (NGNP), to extend the applications of nuclear energy.
- Upgrade domestic facilities and use of international facilities for activities required to create a sustainable fuel cycle.
- Combine fast-reactor core competencies with a robust program of international collaboration.
- Develop a modeling and simulation capability.
- Establish the Strategic Nuclear Energy Capability Initiative to assure that the proper resources are allocated to meet the above objectives.

A number of DOE areas outside nuclear energy need and use nuclear facilities.

DOE needs to provide an analysis for the next administration that looks at the current status and suggests a multiyear program including facility upgrades and new facilities necessary for its several missions, facilities that can be kept up-to-date and operated safely. The Subcommittee's study showed that the United States currently has decayed or decaying facilities unsuited for their intended uses without significant and often expensive refurbishments. Although several superior facilities were identified, neither DOE nor Congress has been willing to supply the necessary funds to maintain the R&D complex in good working condition. This is a big problem even in the no-build case because of the continuing operations of the current reactors. Even if aggressive new

power plant and advanced programs do not proceed, the United States needs a robust set of nuclear research facilities.

In modeling and simulation, there have been huge advances in computer power that allow science to be incorporated in simulations across vast scales. Advanced simulation programs can benefit LWR programs for life extension as well as advanced new reactor programs by shortening design and testing processes. An advanced modelling and simulation effort can lead to better understanding of nuclear energy systems and has the potential to resolve long-standing uncertainties associated with the deployment of these systems. There are a number of good computer facilities available in NNSA and SC. To ensure a sound foundation, modeling and simulations must be tested against real reactor designs and experiments and be used to predict the results of tests to be run and already run using test and operating data gathered from separate effects.

Several DOE programs related to nuclear energy would benefit from stronger links between different parts of the DOE. Links to the Office of Civilian Radioactive Waste Management (RW), the National Nuclear Security Administration (NNSA), and the Office of Science (SC) are all important to maximize the effectiveness of work on various phases of the nuclear energy program. Such links could have a significant impact on repository design. NNSA is responsible for safeguards and security and proliferation prevention programs, and stronger coupling would benefit both programs. New fuel forms and new kinds of reactors will need more basic science input for such things as nuclear cross-section determination and development of advanced materials. Much of this kind of work goes on in SC's programs.

The Subcommittee did not do a detailed review of the advanced fuel cycle programs of the Office of Nuclear Energy (NE) but did a limited examination of facility needs if programs go forward. An NE near-term objective is to close the fuel cycle by using mixed-oxide fuel (MOX) in thermal reactors. The longer-term plan is to burn actinides in fast reactors. Both plans are controversial and have not received widespread support by the Congress or by outside review committees. It is unclear whether the next administration will support these programs. NE should broaden its assessment of nuclear infrastructure needs to include the once-through fuel cycle used by the current fleet of LWRs and the likely improved successors. One member of the Subcommittee indicated that, relative to the existing open fuel cycle, the closed cycle for MOX use in thermal reactors is more costly, less safe, leads to greater routine releases of radioactivity into the environment, greater worker exposures to radiation, greater proliferation risks, larger inventories of nuclear waste that must be managed, and the same geologic repository requirements.

DOE-NE should emphasize the need to expedite technical decisions and down-selections so that funding can be wisely allocated. Specific examples include: pebble-bed versus prismatic fuel for the high-temperature reactor and oxide versus metallic fuel for the fast-spectrum test reactor (FSTR) [which may allow the Global Nuclear Energy Partnership (GNEP) and the Advanced Fuel Cycle Initiative (AFCI) to down-select to only aqueous processing]. All Subcommittee members agree that a fast reactor would be needed by GNEP.

International collaborations should be increased, especially in the current climate of stringent budgets. There is no FSTR in the United States and few in the world. The Joyo reactor in Japan currently is shut down but is scheduled to restart around 2011. Japan's

Monju reactor is scheduled to restart in February 2009. Russia has two operating fast reactors, BOR-60 and BN-600. BOR-60 is small, old, and politically and functionally challenging for the United States to use. Both Japan's Monju and Russia's BN-600 are power reactors and are not designed to accommodate efficiently extensive testing of fuels and materials. Thus, Joyo appears to offer the most likely opportunity for conversion to an international FSTR user facility.

In the matter of an international reprocessing facility, rather than launching an expensive program to construct an engineering-scale Advanced Fuel Cycle Facility (AFCF) immediately, it may be faster and less costly to demonstrate UREX [uranium extraction] reprocessing technologies on an engineering scale at a foreign facility, such as AREVA's La Hague facility in France or the Thermal Oxide Reprocessing Plant (THORP) in the United Kingdom. Also, there may be some interest in Japan to convert its Recycle Equipment Test Facility (RETF), which was designed to reprocess spent fuel from the Joyo and Monju reactors, to an international reprocessing user facility. The United States should look into these possibilities. Because RETF is currently under construction, this is an excellent time to explore this idea. However, if the decision is made for the United States to pursue a closed nuclear fuel cycle, eventually the United States should construct its own reprocessing facility along the lines of the AFCF.

A recent study on the use of the AFCF identified engineering scale, or production scale, throughput as a key development parameter necessary to provide a sound engineering basis for larger future facilities. Given the current budget situation, it appears that funding sufficient to build a greenfield facility is unlikely. Therefore it behooves the program to change the assumption basis and to determine what use can be made of those existing large facilities within the complex. A full demonstration at the laboratory scale of the UREX process has not yet been done, although all pieces have been done separately.

It is not sufficient for the United States to use facilities in other countries without establishing a reciprocal international user facility at home. There are many possibilities. One is a transient test reactor like the Transient Reactor Test Facility (TREAT), which is a large air-cooled thermal test reactor that was constructed in the late 1950s at Idaho National Laboratory and that operated for almost 40 years. A TREAT upgrade may be the way to proceed.

It takes a very long time to develop and supply a sufficient amount of stable, reliable, and licensed reactor fuel. Furthermore, the amount of fuel now needed for a high-temperature reactor is limited. Therefore, it is recommended to find ways to develop the fuel jointly between the United States and Japan, including industrial cooperation. Japan is the only country that has fabricated a large amount of HTR fuel and successfully operated it at very high temperatures. The United States might save in development costs by working with Japan, although the licensing requirements for U.S. fuel may be more stringent than the Japanese requirements.

The Subcommittee concluded that some R&D programs would be the same for all three cases cited by the Policy Subcommittee:

- R&D (including that on the aging process) to keep current plants running well and avoid any surprises
- R&D to encourage a new cadre of engineers and scientists to become involved in nuclear energy

- R&D on waste management
- R&D to maintain the United States as a major participant in international nuclear power discussions

For both the 17-GW and 45-GW cases, R&D will be necessary to address issues related to new builds, including manufacturing and inspection. Also required will be R&D on separations chemistry and scale-up and on possible transmutation options. For the third case, particular R&D should address new reactor concepts, GEN IV and advanced LWRs, and the testing and design work necessary for these concepts. To end planning in 2030 will be a serious mistake. New concepts can take many decades to go through laboratory-scale and engineering-scale development before getting to commercial scale.

Regardless of whether the scenario for utilization of nuclear energy involves the status quo, modest growth, or an ambitious and enhanced program that includes developing recycling, transmutation, and new reactor and fuel technologies, university programs will be essential in educating and supplying the required next generation of scientists and engineers. Nuclear science and engineering personnel are urgently needed, not only for utilization of nuclear energy, but for other aspects of the nation's security and well-being in the broadest sense. Currently, the pipeline in the United States is insufficient to furnish the required personnel for all these areas. In its recent report (*Readiness of the U.S. Nuclear Workforce for 21st Century Challenges*, APS Panel on Public Affairs, June 2008: http://www.aps.org/policy/reports/popa-reports/index.cfm), the American Physical Society drew attention to "critical shortages in the U.S. nuclear workforce and to problems in maintaining relevant educational modalities and facilities for training new people." The "feast or famine" DOE support for nuclear engineering programs and university reactors has led to considerable uncertainty and has resulted in more than a factor of 2 decrease in the numbers of nuclear engineering departments and university reactors between the 1980s and the present. The current university funding is too tightly tied to the existing NE programs. A funding program for universities similar to the earlier Nuclear Energy Research Initiative (NERI) should be established. Although individual program leaders have sometimes tried to eke out some support for various student training programs, significant amounts of money for faculty grants and student training never seem to materialize. The United Kingdom presents a case history of relevance to the United States in terms of rapid decline of skills supporting the nuclear sector in the absence of a coherent policy from the Departments of Government, which should have recognized the need for them to be nurtured. During the late 1980s and early 1990s successive privatizations of parts of the UKAEA (U.K. Atomic Energy Authority) and CEGB (Central Electricity Generating Board) led to a catastrophic fall in R&D supporting the nuclear sector. Most of the major laboratories of the CEGB closed, and R&D associated with new nuclear systems ceased to be funded by the then Department of Energy with the Department of Trade and Industry. Some 8000 technical posts were lost to the sector. This, in turn, had a catastrophic effect on the university base that had supported U.K. and international nuclear endeavors.

Poneman asked (1) the status of figuring out what Gen-IV option is optimal and (2) the status of the BN-800. Ahearne replied that the BN-800 is still unbuilt. It is a large power reactor.

Poneman asked how the TREAT facility was chosen. Ahearne replied that it had a number of characteristics that would be of interest to the United States, to Japan, and to

France. There may be other the U.S. facilities that foreign countries may be interested in. Todreas said that he could not think of any other facilities that other countries may want to use. Spurgeon interjected that the facilities that would be of interest would not be available because of defense concerns.

Todreas noted that the two reports could be made clearer, citing page 8 in the policy report and page 12 of the facilities report. He said that the roadmap is not effective. A plan for 50 years should be developed with consideration of an additional 50 years. LWRs will be built in Gen III. But large capacity increases will not be made. New LWR designs are needed. DOE should stimulate the investigation of such designs. There is a gap in the thinking about the role of LWRs after Gen III.

Poneman stated that, if Gen-III reactors were built through 2025, they would operate through the century, and asked where the gap was and how long it would last. Todreas responded that new capacity will be needed after 2050. Fertel suggested that, in the roadmap, Gen III+ is a good step, but modular reactors will be needed. There will be 50 years of building Gen-III LWRs. Ahearne noted that LWR technology has been around a long time, but there are likely new ways to build LWRs.

Spurgeon said that there are likely to be Gen-III+ LWRs, but there will also be a need for modular reactors. Time scales for construction may change both for LWR and liquid-metal reactors. Some of the gaps may be filled by these other reactors, but LWRs will be the base. Wind, solar, and nuclear may be used to produce hydrogen for liquid fuels.

Ahearne noted that R&D takes a long time to reach fruition, so one has to look at long time frames. Technologists need to be cautious about saying "this will come about" rather than "this could be done."

Poneman asked what the Russians are doing with their small reactors. Ahearne replied that they are building barge reactors based on the designs of their icebreaker reactors. It is not a new design. It is an LWR designed for electricity. Cochran said that these reactors are 45 MW apiece, and two units are loaded on each barge for transport and siting.

Fertel pointed out that there should be decision points in the roadmap.

Todreas suggested that, whenever the term "Gen-III reactors" is used, it should be followed with "and their LWR successors."

Fertel said that it is easy to identify good things to do. One has to be careful not to overwhelm the available resources. Ahearne replied that the Subcommittee recognizes that it is easy to wait, but waiting causes higher costs.

Cochran pointed out that the Committee got the policy Subcommittee's draft report on the morning of this meeting and asked how the report could be approved today. The Committee needs time to review it.

Martin said that the two documents need to be harmonized, and that the reports were not available until the previous day. He opened to discussion how best to proceed, suggesting the possibility of taking a vote by e-mail at a later date. Ahearne pointed out that the General Counsel's Office has been strict on Federal Advisory Committee Act regulations and asked if e-mail were acceptable.

Boger noted that the Committee could reject the report, adopt it, or adopt it with revisions to be made. Today, the documents could be considered, all the issues could be discussed, and revisions could be decided on, and then a final vote could be held by e-mail.

Cochran was asked for his concerns. He asked what the big choices were that are facing the next president, as mentioned in the first paragraph of the policy document. Poneman replied that they were human resources, nuclear waste, and fuel-cycle performance, among others. Cochran noted that there has been no suggestion of shutting down the current 104 plants and asked what the reference to "exclude any alternative" referred to on p. 1 of the report. Poneman said that that referred to future systems, not current facilities. Cochran stated that, on page 6, the bullets exclude three major policy issues: the carbon issue, additional subsidies for nuclear technologies, and financing new plants. These key items are missing. The policy group seems to be wholeheartedly endorsing the GNEP and the nuclear-fuel-cycle initiative. He did not see why the appendix by Sue Ion was attached; it does not appear to be connected to the rest of the report. The spot-market prices for uranium are not pertinent; most utilities do not purchase their fuel on the spot market.

A break was declared at 10:26 a.m. The meeting was called back into session at 10:47 a.m. Martin suggested giving general guidance to the subcommittee chairs and to have them redraft the reports.

Cochran asked how one should approach what the federal government should do about the carbon issue and the carbon-offset issue. He believed that the discussion of the efficient way to address carbon issues is missed. The report does not consider internalizing the cost of carbon, which would foster competition between nuclear power and fossil energy. Since the Massachusetts Institute of Technology study, the capital costs of nuclear power have not gone down; rather they have gone up. The second issue that was missed was GNEP and the fuel cycle. Fast reactors will not wash. They will be too expensive and will produce additional waste. The Keystone Center report, *Nuclear Power Joint Fact-Finding* (June 2007), dealt with several of these issues. For example, a lack of public participation in the changes in licensing was brought out in that report.

Ahearne said that he did not have any problems with the policy document. The issue of licensing is very difficult. The NRC did get the combined construction and operating license (COL) passed. It has never been tried. No company has yet bought a plant under this process. The issue of public access to the licensing process is complicated by the facts that (1) site selection may be done 20 years prior to use and (2) designs may be licensed but not used. At the moment, the licensing process is streamlined and not bad.

Todreas said that the only thing that he would suggest about the policy document is that it should mention how the plants are to be paid for. Cochran said that the Subcommittee should not guess the costs of nuclear power; it should get the policy right.

Todreas asked how these two documents should be presented. They need a cover sheet that stitches them together and presents the main recommendations that overlap (R&D, human resources, the roadmap, etc.).

Fertel agreed that the documents do need to be integrated and packaged so that the resulting publication makes input to the next administration. Whether 1 or 100 plants are built in the United States, the rest of the world is doing a lot. The United States should be at the table so that it teaches others what it does well and so that it can learn from others and improve its own capabilities. He would not rule out fast reactors. It is probable that not enough is known to make that decision. Todreas said that, even though other countries are doing a lot more than the United States is doing, they all say that they look

to the United States for leadership. The United States is too big on the world scale not to participate in these discussions and debates.

Poneman said that he agreed with much that Cochran had said. A lot of these issues had been discussed by the Subcommittee, but the Subcommittee pulled back from them (e.g., global carbon policy) because the Subcommittee was not going to be making the decisions. But anyone talking about the carbon issue has to talk about nuclear power and its place in the energy mix. One needs to put a price on carbon, and this fact needs to be put in the report. The question of subsidies is tricky because the role of government is controversial. There is no threat globally that is greater than climate change. There are no eBay markets for energy. There are externalities. The question is how to minimize the externalities, bring carbon into the equation, and get the best energy and carbon policies. In the advanced fuel cycle, the Subcommittee does not endorse any particular policy or dollar value. The issue of fast reactors and fuel cycles will clog up decisions about Gen-III reactors. Gen-III reactors should be explored, and the discussions of subsequent systems should be left to later. In licensing, popular input to the licensing process is desirable. The French are licensing under the Napoleonic law, and the Germans are living under a popular democracy that the United States instituted for them. Neither of these extremes is what is desirable.

Ahearne suggested avoiding the pejorative term "streamlined." Poneman agreed and said that there will be a cover letter or executive summary. Whatever the United States does, other countries are proceeding; but there are also equities, even if no new plants are built. If the United States becomes a third-rank customer of other countries, it will not be able to influence actions that affect its own equity.

Poneman stated that he was not opposed to any of the recommendations for revisions that had been put forward.

Ahearne said that he would see that the facilities document followed the lead of the policy document.

Spurgeon said that what had been put together will be very helpful. This report needs to be addressed to the Secretary of Energy. It is about nuclear energy, and it has broader implications. He noted that the report underlines the importance of the United States's participation in the nuclear arena. There are 40 countries in the GNEP. Those countries realized that energy is important. The question is, how will nuclear energy be pursued safely and securely? GNEP often gets tied to the reprocessing process, but it is independent of the decision about the reprocessing method.

Fertel asked if anything should be said about the need for harmonizing the policies among agencies, among government levels, and among nations. Spurgeon said that it can be difficult to coordinate an approach, but it is necessary. Martin offered that the international perspective is built in from the nonproliferation perspective. There were not any climate-change experts on the Subcommittee, and that error should be rectified.

A break for lunch was declared at 11:33 a.m. The meeting was called back into session at 12:36 p.m.

Thomas Cochran was asked to discuss the issue of ^{99}Mo production. There is no domestic supplier of the most common medical isotope, ^{99}Tc, which comes from ^{99}Mo. U.S. supplies come from Canada and Europe. Canada has canceled the construction of the reactors needed to produce this isotope, and simultaneous shutdowns of several reactors in Europe have disrupted supplies. Cochran suggested sending a letter to

Congress urging an appropriation to the University of Missouri to fund production of ^{99}Mo at the university's isotope reactor. A bill has been filed to fund a feasibility study of the step.

Spurgeon noted that, in 7 days, the person responsible for research and medical isotope production will be Raymond Orbach, Assistant Secretary of Energy for Science. This program will be shifted from NE to SC if a continuing resolution does not occur.

Cochran said that the nation needs a domestic supply of this isotope to lower the risk to patients.

Ahearne noted that this request is consistent with the findings of previous NERAC/NEAC subcommittees.

Sessoms asked if there were no other potential sources in the United States. Cochran replied that Babcock and Wilcox is contemplating building some small reactors that could produce this isotope. Sessoms worried about targeting the University of Missouri. Cochran said that another factor is that the Canadian reactors use U.S.-produced highly enriched uranium (HEU), which the United States wants to stop exporting. DOE could provide the money for licensing and design work for low-enriched-uranium (LEU) reactors.

Todreas commented that, when one crosses the line from research to commercial activity, that is a big deal. He did not know how Missouri does it. Other people are not concerned about going after this business. This should be done with LEU. A solicitation could be issued, and if Missouri were the only respondent, that would be fine. He was in favor of the principle.

Corradini said that all of the principles could be stated without citing a specific institution. Also, mention should be made that ^{99}Mo can be made with LEU. He was in favor of the principle, also.

Fertel said that he believed that the proposition was fine as long as the work were done with LEU.

Poneman stressed that a specific institution should not be mentioned; the proposal should be "genericized."

Sessoms suggested that the recommendation be directed to the Secretary of Energy with copies to Orbach and Spurgeon.

Boger noted that there are no substantial changes to this document so it could be adopted. Ahearne moved and Sessoms seconded to adopt the letter subject to the discussed revisions. The vote was unanimously in favor of adoption.

Martin reopened the discussion of the reports from the policy and facility (technical) subcommittees. The comments that had been made about these reports were

- The scope is too narrow and should include discussions of subsidies and carbon-cost internalization.
- In places, the report was seen to be too close to some programs.
- A cover document needs to be produced.
- The packaging needs to be done thoughtfully.
- Other programs are proceeding, and the United States should formulate its policy with that in mind.
- Sue Ion's appendix should be deleted.
- This report needs to be well coordinated with the nation's nonproliferation policy.

John Ahearne was asked to pull out recommendations and make them clearer; this action will be just a structural reorganization to make the facility report parallel to the policy document.

Todreas suggested that the roadmap be further elaborated beyond 30 years and asked if Ahearne will take on the responsibility of collapsing or combining the two reports. He proposed that the policy document be revised first and then the two reports be combined.

Corradini emphasized that he had no objections to the facilities document, but some themes (e.g., international cooperation and experimental validation of modeling and simulation) should be emphasized more. Given the APS example of nuclear chemistry, radiochemistry, and actinide chemistry, it is not clear whether this is just a minor example or *the* major problem.

Sessoms said that this is a national need and that that aspect needs to be made clear. These fields are dying out. There should be an executive summary to the report. It does not need much other introduction. The technical document was well done. The policy document did not deal with the fuel cycle because nobody wanted to do it. It should be noted that, if the United States wants to play, it has to play everywhere.

The floor was opened to public comment. There was none.

Sessoms moved and Ahearne seconded a motion that the policy and technical reports be accepted with the revisions discussed and subject to a final vote by e-mail after the Committee has seen the revised version.

Sessoms suggested discussing the need to brief congressional staffers, embassies, academics, and others on these reports. Poneman said that one can talk to everybody or nobody. NEAC should ensure that anyone who wants a briefing gets one. Boger was tasked with assembling a list of stakeholders who should be made aware of these reports.

Todreas noted that this report has been prepared as the product of an advisory committee and it goes to the Secretary. He asked if these recommendations imply that the agency has not done any of these things. Ahearne said that it just has to be made clear that this is advice. Boger added that DOE still needs to see this document and absorb it. Ahearne pointed out that, once it is delivered to the agency, it is a public document. Spurgeon added that DOE asked NEAC for advice about the sustainable nuclear energy policy with the full knowledge that it may or may not like what is said in that policy. The Committee has done an outstanding job and has prepared a report with the appropriate balance. DOE is not going to change it.

Todreas asked how it was going to be titled. Ahearne said that some thought will have to go into the title.

Johnson said that the idea had been put forward to have the Committee establish a means to provide oversight of the Advanced Test Reactor (ATR). The ATR has provided great service to the community. Some panel of experts is needed to provide oversight on safety and operations of the ATR. A standing NEAC subcommittee could help in safety oversight and program execution. The vision for the facility is to have it fully utilized both for the Navy and as a user facility.

Fertel asked if advisory committees provided oversight on a permanent basis. Sessoms said that someone needs to get the maintenance log rolled back and some improvements made before graduate students are allowed in there. Cochran asked if the facility were underutilized or fully subscribed. He also asked if there were a plan to convert it to LEU. Johnson said that he could not speak to that. Once there is a fuel that is

not detrimental to performance, there would be no reason not to use LEU. Sessoms stated that the Navy is the main user of that facility and they will have to be shown that it can be operated with LEU.

Todreas said that there are capital upgrades and maintenance needed at the ATR. A full-time resident manager of the user facility is needed. Johnson said that a university type is needed for such a position, not a laboratory type.

Martin thanked Corey Hinderstein, Dan Poneman, Burton Richter, Kunihiko Uematsu, Sue Ion, and Dominique Warin for their help in preparing the policy and facility reports.

Todreas asked me how many active subcommittees NEAC now had. Boger replied that there are six:

- Advanced Test Reactor,
- Plutonium,
- Advanced Nuclear Transformation Technologies,
- Next-Generation Nuclear Plant,
- Policy, and
- Facilities.

Hinderstein noted that, at the Nuclear Threat Initiative (NTI) and DOE, a new international World Institute for Nuclear Security (WINS) would be launched the following Monday under the laws of Austria to improve security around the world.

Martin opened the floor to new business. Cochran noted that the NRC had been petitioned to set a date after which they would no longer license the use of HEU. Public comment can be made to the NRC through September 25, 2008.

This being the last meeting of this Committee under the current administration, Poneman thanked the leadership and staff of the Committee for their efforts. Spurgeon said at the Committee's efforts affect the nation's energy future. The documents presented at this meeting should be a great help to the new administration.

The meeting was adjourned at 1:51 p.m.

Respectfully submitted,
Frederick M. O'Hara, Jr.
Recording Secretary