UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON NUCLEAR WASTE
WASHINGTON, DC 20555 - 0001

COMSECY-07-0011

March 28, 2007

MEMORANDUM TO: Chairman Klein
Commissioner McGaffigan
Commissioner Merrifield
Commissioner Jaczko
Commissioner Lyons

FROM: Michael T. Ryan, Chairman **/RA/**
Advisory Committee on Nuclear Waste

SUBJECT: ACTION PLAN FOR FISCAL YEARS 2007 AND 2008 FOR THE ADVISORY COMMITTEE ON NUCLEAR WASTE (ACNW) STAFF REQUIREMENTS

The Advisory Committee on Nuclear Waste (ACNW) updated its Action Plan for fiscal year (FY) 2007 – FY 2008 (SRM-CMSY04-0012, Task 2). The revised Action Plan is provided in Enclosure 1 and responds to Commission direction that followed from the December 14, 2006, Commission briefing (SRM-M061214C). Additionally, the ACNW reviewed its charter (SRM-M061214C, Task 8) and recommends that it be changed to better reflect the Committee's broader scope of work in the materials area. The revised charter is provided in Enclosure 2. The Committee requests that the Commission approve the charter and enclosed Action Plan for FY 2007–FY 2008.

The Action Plan now includes the following six first-tier and four second-tier priority topics:

First-Tier Priority Topics

(1) proposed Yucca Mountain repository
(2) risk-informing nuclear waste and material regulatory activities
(3) decommissioning
(4) health physics
(5) low-level radioactive waste
(6) uranium recovery

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Second-Tier Priority Topics

(1) transportation of radioactive materials
(2) nuclear fuel cycle
(3) waste determinations
(4) waste management research

The Committee plans to address the first-tier topics over the next year and the second-tier topics as time and resources permit unless otherwise directed by the Commission. As it prioritized these topics, the Committee took into consideration the U.S. Department of Energy's (DOE's) delay in submitting the Yucca Mountain license application (YMLA) to June 2008. Until the YMLA is submitted, the Committee will continue to play a role in reviewing and advising the Commission on risk-significant pre- and post-licensing issues. The Committee will also remain engaged in ongoing technical discussions between the staff of the U.S. Nuclear Regulatory Commission (NRC) and DOE and is prepared to support the Commission on revisions to Part 63, "Disposal of High-Level Radioactive Wastes in a Geological Repository at Yucca Mountain, Nevada," to Title 10 of the *Code of Federal Regulations* should the need arise.

The Committee will also remain proactive in areas that support the NRC's development of Standard Review Plans and guidance in high-priority areas. These areas include decommissioning, prevention of legacy sites, low-activity waste management, and in situ leach mining of uranium. The Committee will continue to advise the Commission on the effectiveness and efficiency of proposed rules and guidance by national and international guidance bodies and will consider how the NRC can better risk-inform the public about low-level waste and low-dose radiation exposure. The Committee will implement the tasks for these activities as scheduled in the ACNW Operating Plan. The Committee will also keep the Commission informed of updates or changes to the Action Plan during periodic Commission briefings.

In response to Commission direction to provide recommendations on the ACNW Charter and the broadening of its scope to include the materials area, the Committee reviewed and found the Charter to be both comprehensive and inclusive of both the nuclear waste and materials areas. As currently written, the scope includes transportation, waste determinations, reprocessing, storage and disposal facilities, in situ leach mining, mill tailings, enrichment facilities, health effects, decommissioning, and materials safety. To highlight its increased responsibilities in the nuclear materials arena, however, the Committee recommends that its name be changed from the Advisory Committee on Nuclear Waste to the Advisory Committee on Nuclear Waste and Materials (ACNW&M). The change would better reflect the broader scope of the Committee's responsibilities that now include several tasks recently assigned by the Commission. The Committee also believes that activities associated with the broader scope can be accommodated with resources from reprioritized activities already budgeted and will not have an adverse impact on current budget projections over the next 2 years. However, the budgeting planning process will need to address the impact of broadening the Committee's scope on the NRC program offices' budgets for engaging in future Committee activities in the materials area.

In conclusion, the Committee requests that the Commission approve the enclosed Action Plan for FY 2007–FY 2008 and the ACNW&M Charter. The Action Plan will continue to be updated at least every 2 years and will remain consistent with both the Charter and the March 23, 2001,

memorandum of understanding between the ACNW and the NRC Executive Director for Operations. The ACNW will continue to monitor the effectiveness and efficiency of its process by performing self-assessments and by making improvements as warranted by the assessments' insights and findings.

SECY please track.

Enclosure 1: FY 2007 and 2008 Action Plan for ACNW
Enclosure 2: ACNW Charter

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ADVISORY COMMITTEE ON NUCLEAR WASTE AND MATERIALS DRAFT ACTION PLAN FOR FISCAL YEARS 2007 AND 2008

PURPOSE OF PLAN

This Action Plan (Plan) will guide the Advisory Committee on Nuclear Waste and Materials (ACNW&M) as it carries out its mission. The Plan describes the ACNW&M mission, vision, desired outcomes, commitments, goals, objectives, and priority topics. The Plan also links the ACNW&M goals to the strategic goals identified in the U.S. Nuclear Regulatory Commission's (NRC's) strategic plan for fiscal year (FY) 2004–FY 2009 (see NUREG-1614, Volume 3, "FY 2004–FY 2009 Strategic Plan," issued August 2004).

This Plan also informs the Commission, the NRC staff, and interested stakeholders about the priority of topics the ACNW&M will review over the next 2 years. The Committee selected the first- and second-tier priority topics in a top-down manner designed to support its mission, vision, goals, and objectives. The Commission requested some of the priority topics, the Committee itself chose some, and the NRC staff and additional stakeholders requested others.

SCOPE OF ACNW&M ACTIVITIES

The Committee reports to and advises the Commission on technical matters related to nuclear waste management and nuclear materials. The bases for ACNW&M reviews include the following:

- Part 20, "Standards for Protection against Radiation," of Title 10 of the *Code of Federal Regulations* (10 CFR Part 20)
- 10 CFR Part 30, "Rules of General Applicability to Domestic Licensing of Byproduct Material"
- 10 CFR Part 40, "Domestic Licensing of Source Material"
- 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities"
- 10 CFR Part 60, "Disposal of High-Level Radioactive Wastes in Geologic Repositories"
- 10 CFR Part 61, "Licensing Requirements for Land Disposal of Radioactive Waste"
- 10 CFR Part 62, "Criteria and Procedures for Emergency Access to Non-Federal and Regional Low-Level Waste Disposal Facilities"
- 10 CFR Part 63, "Disposal of High-Level Radioactive Wastes in a Geologic Repository at Yucca Mountain, Nevada"
- 10 CFR Part 70, "Domestic Licensing of Special Nuclear Material"
- 10 CFR Part 71, "Packaging and Transportation of Radioactive Material"

- 10 CFR Part 72, “Licensing Requirements for the Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste, and Reactor-Related Greater Than Class C Waste”

- other applicable regulations and legislative mandates

The ACNW&M will undertake studies and activities related to nuclear materials and waste management such as transportation, storage and disposal facilities, fuel cycle and recycle facilities, the effects of low levels of ionizing radiation, decommissioning, materials safety, application of risk-informed and performance-based (RIPB) regulations, and evaluation of licensing documents, rules, regulatory guidance, and other issues as requested by the Commission. To fulfill its responsibilities, the Committee will interact with representatives of the public, the NRC, the Advisory Committee on Reactor Safeguards (ACRS), other Federal agencies, State and local agencies, Indian Nations, and private, international, and other organizations, as appropriate.

RISK-INFORMED, PERFORMANCE-BASED APPROACH

The Committee believes that it best serves the Commission by taking an RIPB approach to ACNW&M activities. The Committee will accomplish this goal, in part, by supporting the Commission in applying the principles in the NRC’s probabilistic risk assessment (PRA) policy statement, dated August 10, 1995 (Volume 60, page 42622, of the *Federal Register*), to waste and materials regulations. The ACNW&M will continue to encourage the use of PRA principles (and associated sensitivity studies, uncertainty analyses, and importance measures) to enhance the effectiveness and efficiency of the regulatory process. The ACNW&M will encourage realism, transparency, and consistency in risk and performance assessments and will continue to identify uncertainties and sources of uncertainty in these assessments.

The Committee will also encourage implementation of an RIPB regulatory framework for the NRC’s materials and waste regulations. An RIPB approach will increase flexibility and reduce inefficiencies that result from rigid interpretation and prescriptive approaches in the application of regulations. An RIPB framework will facilitate the use of defensible and transparent regulations and will improve confidence in regulatory decisions.

ACNW&M MISSION

The ACNW&M mission is to provide the Commission with independent and timely technical advice on nuclear materials and waste management issues to support the NRC in conducting an efficient and effective regulatory program that enables the Nation to use nuclear materials in a safe manner for civilian purposes.

ACNW&M VISION, DESIRED OUTCOMES, AND COMMITMENTS

Vision

The ACNW&M advice and recommended solutions are forward-looking, are based on the best available science and technology, can be implemented, and reflect the need to balance risk, benefit, and cost to society to enable the safe use of nuclear materials.

Desired Outcomes

The Committee will work toward the following outcomes:

(1) ACNW&M advice reflects the need for safety and the need to balance risk, cost, and benefit in all of the NRC's decisions.

(2) ACNW&M advice is clear and concise.

(3) ACNW&M provides a forum for public participation in the regulatory process, endeavors to increase openness in the regulatory process, and ensures that communication paths with the public remain open.

(4) ACNW&M advice is provided in ample time for the Commission to consider in making regulatory decisions.

(5) ACNW&M advice reflects sound technical judgment and influences the NRC's regulations and guidance.

(6) ACNW&M advice alerts the Commission to emerging and potentially challenging issues.

(7) ACNW&M advice reflects consideration and awareness of relevant waste and materials issues that cut across other Federal agencies, institutions, and the industry.

(8) ACNW&M advice provides value to the Commission, the NRC staff, the public, and other stakeholders.

Commitments

To achieve its desired outcomes, goals, and objectives, the Committee commits to do the following:

(1) make safety its highest priority

(2) be responsive to the Commission's needs and requests

(3) maintain technical excellence, independence, and credibility

(4) adopt the NRC's plain language initiative

(5) regard the public as its ultimate stakeholder and seek better ways to obtain meaningful public involvement

(6) implement a risk-informed philosophy by asking questions, such as What is the risk? What are the important contributors to risk? What are the uncertainties associated with the risk?

(7) strive to examine issues and offer advice while regulatory solutions are still being formulated

(8) foster an atmosphere of mutual problemsolving with the NRC staff

(9) remain flexible, anticipate change, and evaluate options and contingencies

(10) keep informed of external trends and events that may adversely impact the NRC

(11) stay abreast of international trends and developments that could affect the NRC's regulatory practices or approaches and apply the experience when practicable

(12) identify relevant waste and materials issues that cut across the NRC and other Federal agencies, institutions, and industry

(13) abide by the Committee's Action Plan to foster the efficiency and effectiveness of Committee activities and products

GOALS AND OBJECTIVES

The ACNW&M has developed goals and objectives consistent with its mission and vision. The following five goals provide strategic direction for the ACNW&M over the next 2 years and align well with the new strategic goals identified in the NRC's Strategic Plan for FY 2004–2009. Each goal has several objectives.

Goal 1 **Assist the NRC in positioning itself to respond to external change in its regulation of the management of nuclear waste and materials. (This goal supports the NRC's Management goal to ensure excellence in agency management.)**

Objective 1 *Advise the Commission in a timely fashion on technical developments that may require changes in the NRC's regulations, policies, and practices.*

Objective 2 *Inform the Commission and recommend solutions to issues that the NRC needs to address.*

Goal 2 **Support the NRC in employing sound science in resolving key safety issues. (This goal supports the NRC's Safety goal to ensure protection of public health and safety and the environment.)**

Objective 1 *Keep informed of methods and technologies being developed and used worldwide for assessing and managing risks associated with nuclear materials and waste.*

Objective 2 *Advise the Commission on enhancements to the NRC staff's technical capabilities that are needed to address current and expected Commission needs.*

Objective 3 *Advise the Commission and the NRC staff on ways to use RIPB approaches to develop an efficient and effective regulatory framework.*

Goal 3 **Advise the NRC on how to increase its reliance on risk as a basis for decisionmaking, including methods that (1) implement a risk-informed approach, (2) quantify and reveal uncertainties, and (3) are consistent across programs. (This goal supports two NRC strategic goals, the Safety goal to ensure protection of public health and safety and the environment, and the Effectiveness goal to ensure that NRC actions are effective, efficient, realistic, and timely.)**

Objective 1 *Encourage the NRC staff in seeking and proposing approaches to gain a better understanding of the inherent risks of NRC-regulated activities and of the relationship between regulations, cost, and safety.*

Objective 2 *Propose approaches that provide a better understanding of the inherent risks associated with nuclear waste and materials, as well as the relationship between safety, regulations, and cost, and advise the Commission on the proposals.*

Objective 3 *Provide technically sound and realistic approaches for resolving new and emerging issues and identify ways to utilize RIPB approaches to the safe use of nuclear materials for civilian purposes.*

Goal 4 **Support the NRC's Openness goal by evaluating current issues before the Commission and staff in a public forum.**

Objective 1 *Provide opportunities through the Federal Advisory Committee Act process for meaningful public involvement in the regulatory process.*

Objective 2 *Recommend ways for the NRC to achieve meaningful public involvement in the regulatory process, taking into consideration lessons learned from international experience.*

Objective 3 *Assist the NRC in making the agency's decisionmaking process more transparent and ensuring that agency documentation substantiates and addresses the relevant issues.*

Goal 5 **Support the effectiveness and efficiency of NRC operations. (This goal supports the NRC's Effectiveness goal to ensure that NRC actions are effective, efficient, realistic, and timely.)**

Objective 1 *Select and evaluate feedback from stakeholders on ACNW&M operations.*

Objective 2 *Evaluate and modify existing ACNW&M operational procedures as appropriate to accomplish "more with less."*

PRIORITY TOPICS AND PROCESS IMPROVEMENTS

In support of the above goals, the ACNW&M has identified its highest priority topics through FY 2008 as well as other important topics the Committee will address as time and resources permit. The highest priority topics are identified as first-tier priorities, while other important topics are identified as second-tier priorities. Unless otherwise directed by the Commission, the Committee will place most of its emphasis on first-tier topics but will consider second-tier topics when possible.

The Committee has also defined the criteria it uses to select the priority topics. In support of its goal to support the effectiveness and efficiency of NRC operations (Goal 5), the ACNW&M has identified the improvements in operational processes it will carry out this year and next. The Committee will track its progress toward these process improvements in a separate internal planning document and will periodically evaluate their impact.

For each priority topic addressed, the Committee will prepare a task action plan to identify the nature and scope of the issue and a strategy for proposed action. Plans will be coordinated with the NRC program offices and staff to ensure that appropriate staff will be available to meet with the Committee. The task action plans will include a schedule, purpose, scope, planned products, and performance measures to evaluate the Committee's effectiveness.

Criteria for Selecting Priority Topics

The Committee selects priority topics during its annual planning retreat by discussing potential NRC activities during the next year, making a list of potential topics, and then identifying the highest priority topics by determining how many of the following criteria are met:

- The topic is within the established ACNW&M charter and relates to significant generic materials and waste issues of importance to policymaking.

- If not properly addressed, the topic will likely pose a significant risk to public health and safety or the environment.

- The Commission or the Executive Director for Operations requests that ACNW&M review the topic.

- The ACNW&M can provide unique input on the topic and significantly contribute to the resolution of the issue.

- The topic involves a regulatory issue and/or a decision that requires timely ACNW&M review.

- The NRC's external stakeholders are highly interested in a topic, and ACNW&M review of the topic will enhance openness.

The number of topics is limited by the amount of time required by each topic and the projected resources available to the Committee.

First-Tier Priority Topics

1. Proposed Yucca Mountain Repository

The U.S. Department of Energy (DOE) plans to submit a license application for construction of the Nation's first geologic repository for disposal of high-level radioactive waste (HLW) at Yucca Mountain, Nevada. The NRC expects the application to be submitted by June 2008. The Yucca Mountain license application (YMLA) is expected to have three main parts, (1) general information, (2) a safety analysis report, and (3) a final environmental impact statement. Once the YMLA is received, ACNW&M members will familiarize themselves with it so that they can provide technical advice on the Yucca Mountain project as requested by the Commission.

Until the YMLA is submitted, the Committee will continue to perform technical reviews of the staff's prelicensing programs. Areas of interest include progress in staff assessments of the effects of disruptive events including igneous activity and seismicity on the overall repository performance in the pre- and postclosure phase, drift stability, waste package corrosion and the near-field environment, and progress in staff efforts to develop an independent performance assessment computer code capable of evaluating repository performance over longer times consistent with standards being promulgated by the U.S. Environmental Protection Agency and rules being promulgated by the Commission. The Committee will also continue to monitor staff reviews of DOE progress in finalizing a geologic repository operations area design and in identifying potential issues related to the preclosure surface facility design undergoing changes to accommodate the new transportation, aging, and disposal (TAD) canister design. The Committee will focus on risk-significant issues and hold working group meetings to solicit the views of knowledgeable subject matter experts on certain issues.

In response to the Commission's request, the Committee will analyze the current state of knowledge regarding igneous activity. The Committee will prepare a white paper that identifies the major igneous issues and views on the issues. The paper will be offered to the Commission as a technical basis for its decisionmaking on igneous activity.

2. Risk-Informing Nuclear Waste and Material Regulatory Activities

The ACNW&M will continue to support the Commission's policy statement on the use of PRA methods. The Committee will continue to provide advice in several areas (e.g., decommissioning of complex sites, waste determinations, low-level waste (LLW) radioactive waste classification, and Yucca Mountain prelicensing reviews) where opportunities exist to risk-inform staff activities. Within that context, the Committee will evaluate the strengths and weaknesses of adapting PRA techniques and provide risk insights to the Commission for its use in decisionmaking. The Committee will continue to promote the use of PRA principles and associated analyses (sensitivity studies, uncertainty analyses, and importance studies) by encouraging realism, transparency, consistency, and the identification of uncertainty in risk and performance assessments. The Committee will also continue to promote the implementation of a flexible overall RIPB regulatory framework for making regulatory decisions.

The NRC's Office of Nuclear Material Safety and Safeguards (NMSS)/Office of Federal and State Materials and Environmental Management Programs (FSME) prepared and made publicly available a guidance document on risk-informed decisionmaking for nuclear materials and

waste. The Committee reviewed and proposed a number of potential areas for its application. The Committee will hold a working group meeting and advise the Commission on the guidance document once the NMSS/FSME staff has experience with its application.

In addition, the Committee will advise the Commission on what more the NRC can do to better inform the public about the risk from LLW and low dose radiation exposure.

3. Decommissioning

The Committee will continue to analyze decommissioning best practices and lessons-learned to identify improvements to the design and construction of reactor and materials facilities that would minimize environmental impacts and set the stage for more efficient decommissioning ("designing with the end in mind") as new designs are developed and become available. The Committee will review the revisions to 10 CFR 20.1406, "Minimization of Contamination," and associated guidance documents for prevention of legacy decommissioning sites and revisions to Chapter 11 of NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants," and associated guidance being developed for new reactor licensing to provide insights into how the decommissioning lessons-learned and best practices can be utilized to improve these documents. Additionally, the Committee will review the decommissioning of a site considering restricted release under the License Termination Rule, as well as one other complex materials site, to gain an appreciation of the full range of potential issues. The Committee will provide recommendations to the Commission on preventing legacy sites and large decommissioning problems, including the use of incentives for licensees that might lead to the avoidance of legacy sites and more cost-effective decommissioning.

The Committee plans to draft a decommissioning white paper that will integrate observations and recommendations from working group meetings on the performance of cementitious materials, decommissioning lessons-learned, and monitoring to build model confidence, as well as briefings on the prevention of legacy sites and the task force report regarding lessons learned for liquid radioactive releases. The goal of the white paper is to identify opportunities to integrate decommissioning as a logical extension of design and operation with the aim of minimizing legacy sites and optimizing cost-effective decommissioning.

4. Health Physics

The Commission has approved Option 2 of SECY-04-0030, "Development of a More Robust Materials Research Program," dated February 24, 2004, that calls for the initiation of a more proactive radiation protection research program. Key health physics areas to focus on include advances in fundamental radiation biology, radiation dosimetry, radiation effects on humans, and the fate of radioactive material and its transport to the environment. In FY 2006, the ACNW&M reviewed the revised International Commission on Radiological Protection (ICRP) radiation protection guidance. The BEIR VII report indicated that, while several radiation biology topics of interest have emerged, none are conclusive enough to change the report's conclusions. Nonetheless, the Committee will continue to keep informed of any new developments in this area and advise the Commission on ICRP recommendations and issues relating to the use of collective dose as a mechanism of measuring risks associated with low-dose exposure to large populations and cancer risk questions. The Committee will advise the Commission on how to become more engaged on ICRP recommendations internationally.

The Committee will also review and provide advice to the Commission on the forthcoming National Council on Radiation Protection and Measurement study on the meta-exposure of the U.S. population to radon and the risk from other major sources of radiation in the United States.

5. Low-Level Radioactive Waste

The NRC staff undertook a strategic planning effort in late FY 2006 to determine how and to what extent its former commercial LLW program should be reinstated. This strategic planning effort is nearing completion and the Committee will provide comments on the results of the staff's efforts to the Commission.

In addition, the Committee will advise the Commission on alternative disposal options for the management of low-activity radiological waste. The Committee will prepare a white paper entitled, "The Management of Low-Activity Radioactive Waste Using Resource Conservation and Recovery Act (RCRA) Subtitle C Disposal Facilities: Case Studies," that will examine, for example, the use of RCRA Subtitle C hazardous waste disposal facilities for the disposal of these wastes.

The Committee will also meet with industry representatives, the NRC staff, and interested stakeholders to solicit their views on specific emerging technical issues confronting LLW managers. For example, the Committee will examine how utilities have considered LLW management strategies to optimize treatment storage and disposal of LLW in the operation of new nuclear power plant projects.

6. Uranium Recovery

The Commission requested advice from the Committee on the potential resolution of issues associated with in situ leach mining and the resulting groundwater contamination. The Committee will review the technical basis for rulemaking to address groundwater protection at in situ leach mining sites, including criteria and standards for aquifer restoration. In addition, the Committee will evaluate different stakeholder perspectives and views on issues of concern. The Committee will coordinate these activities with the NRC staff to ensure that they do not conflict with related ongoing efforts by the staff. The Committee will also review other uranium recovery issues as they arise.

Second-Tier Priority Topics

1. Transportation of Radioactive Materials

The ACNW&M will advise the Commission on issues involving moderator exclusion. The Committee will focus on the risk associated with moderator exclusion and the relationship between moderator exclusion and burnup credit. The Committee will also continue to monitor the Package Performance Study (PPS) and the test program for Type B spent fuel casks. Active consideration of the PPS protocol and related programs is deferred pending DOE decisions regarding the transportation of canistered spent nuclear fuel (i.e., design of the TAD canisters). The ACNW&M will also monitor U.S. and international developments in Type B cask testing and regulatory activities, as well as other transportation issues.

2. Nuclear Fuel Cycle

The ACNW&M will become familiar with the fuel cycles for the advanced reactor systems that DOE is considering. DOE has been studying advanced nuclear fuel cycles for several years and has included these fuel cycles in a broader Global Nuclear Energy Partnership. Such fuel cycles entail a substantial modification of existing technologies or the possible use of technologies never applied to civilian programs to recover and recycle various constituents of power reactor fuels.

In FY 2007 the Committee will continue to keep informed of technical developments in spent fuel storage and nuclear fuel recycle. The Committee will prepare a white paper on (1) the status of existing and advanced nuclear fuel recycle technologies, (2) the status of standards, regulations, and guidance concerning licensing of fuel recycle facilities, and (3) insights on this basis. The Committee will use results from these activities as the basis for acquiring a greater understanding of advanced fuel recycle technology through briefings and visits to domestic and international sites.

The Committee will also keep informed of technical issues related to licensing of uranium enrichment facilities, waste classification, and integrated spent fuel storage facilities as they arise.

3. Waste Determinations

Pursuant to the National Defense Authorization Act (NDAA) of 2005, the Commission will provide consultation to DOE on the waste determinations and, in coordination with the concerned States, the NRC will monitor DOE disposal actions. To carry out the Commission's responsibilities under the NDAA, the NRC staff will conduct reviews of DOE waste determination submittals. The NRC staff has issued a draft Standard Review Plan (SRP) for activities related to waste determination reviews (see NUREG-1854, "Standard Review Plan for Activities Related to U.S. Department of Energy Waste Determinations," issued May 2006). The Committee has provided advice to the Commission on the development of the SRP guidance and has also provided comments on the draft SRP. The Committee plans to review staff response to public comments received on the draft SRP.

In addition, the Committee will (a) monitor research on technology pertaining to management of waste incidental to reprocessing at DOE sites and will review and advise the Commission on associated research reports by DOE and (b) when requested by the staff, provide insights on staff reviews of any waste determinations and resolution of generic technical issues in the SRP identified by the NRC and DOE.

4. Waste Management Research

The ACNW&M will continue to report periodically to the Commission on the NRC's waste-related research and technical assistance programs. Specifically, the Committee will continue to examine the research performed by the NRC's Office of Nuclear Regulatory Research (RES) on radioactive waste safety and the technical assistance work performed by the Center for

Nuclear Waste Regulatory Analyses and its use in supporting regulatory decisionmaking activities. The Committee will also monitor the research supported by NMSS, FSME, and RES to identify opportunities to enhance the regulatory infrastructure and technical bases for waste-related regulatory decisions.

Working Groups

ACNW&M holds working group meetings each year as part of its information-gathering activities. Working groups focus on specific technical subjects related to nuclear waste or materials. The NRC staff experts and other interested stakeholders generally make presentations. The ACNW&M plans to hold the following working group meetings in FY 2007 and FY 2008:

I. Igneous Activity

The Committee will hold a working group meeting on the current state of knowledge regarding igneous activity. A white paper prepared by the Committee will be used to frame the group's discussion on major igneous issues and views. Insights from the working group will be used to advise the Commission on decisionmaking involving igneous activity at Yucca Mountain.

II. Yucca Mountain Project

The NRC staff has had extensive prelicensing consultations with DOE for many years related to the evaluation of and the design for seismic hazards at the Yucca Mountain site. In 2006, staff prepared interim guidance on preclosure design issues and commented on DOE approaches to the evaluation of a postclosure seismic design basis. The Committee will hold a working group on the seismicity and its impact on both the pre- and post-Yucca Mountain design and performance. Based on the insights from the working group, the Committee will advise the Commission on decisionmaking involving seismic activity at Yucca Mountain.

III. Low-Activity Waste Management

The Committee will hold a working group meeting with industry representatives and stakeholders to solicit their views on specific technical and regulatory issues related to the management of low-activity radioactive wastes, including the use of RCRA disposal facilities to date and how they could be used in the future for the disposal of such wastes. The Committee will use insights from the working group meeting to finalize a white paper and advise the Commission on improved approaches to the management of low-activity radioactive wastes.

IV. Decommissioning

The Committee will hold a working group meeting to solicit views on a draft decommissioning white paper. Invited participants will include FSME staff, licensee representatives, and technical experts familiar with the broad range of decommissioning issues. Insights from the meeting will be used to finalize the white paper and advise the Commission on decommissioning solutions, including licensee incentives to reduce the cost of decommissioning and prevent legacy sites (i.e., 10 CFR 20.1406).

V. Drift Stability

The Committee will hold a working group meeting on stability of emplacement drifts of the proposed Yucca Mountain HLW repository. The working group will focus on scoping models and risk insights used to determine whether drift collapse is a significant threat to repository performance and public safety. For example, the working group will consider the impacts from thermal, mechanical, hydrological, and chemical perturbations from operations, within the context of drift stability. Insights from the working group will be used to place drift stability in context with other features, events, and processes affecting repository performance.

JOINT ACRS/ACNW&M SUBCOMMITTEE ACTIVITIES

A joint subcommittee of the ACRS and ACNW&M will address activities that are within the scope of both groups. Topics of common interest that may be the subject of joint subcommittee meetings include risk-informing regulatory activities for nuclear material and waste activities, including proposed safety goals, fuel cycle and recycle facilities, decommissioning issues on which both ACNW&M and ACRS are expected to give advice, advanced fuel cycle initiatives and facilities, mixed-oxide fuel fabrication, uranium enrichment, areas of common interest in the Energy Policy Act of 2005, and activities related to new reactors.

MEASURES OF SUCCESS

The Committee will assess the extent to which the goals and objectives in this Plan have been met and will report the results in the annual ACNW&M operating plan. To determine its overall effectiveness, the Committee has established performance metrics to measure its effectiveness, efficiency, quality, timeliness, and success in contributing to the RIPB regulatory process. As part of its annual self-assessment, the Committee has and will continue to solicit stakeholder feedback as a source of information for evaluating its effectiveness.

UPDATING THE PLAN

The ACNW&M will continue to plan on an annual basis to identify goals and priority issues for the coming year. Revisions to the Plan will be based on input from the Commission, changes in legislation, changes to the NRC Strategic Plan, results of customer surveys, results of self-assessments, external events, and available resources. As part of the Committee's efficiency and effectiveness goal, the ACNW&M will continue to use a separate planning document to track the outcomes of operational process improvements, special projects, ideas for working group meetings, possible followup of staff responses to past ACNW&M letters, and items that the Committee considers important but cannot pursue this year because of time or resource limitations.

U.S. NUCLEAR REGULATORY COMMISSION
DRAFT CHARTER OF THE
ADVISORY COMMITTEE ON NUCLEAR WASTE AND MATERIALS

1. The Committee's official designation:

Advisory Committee on Nuclear Waste and Materials (ACNW&M). Established pursuant to 42 U.S.C. 2201 and Section 9 of Public Law 92-463 as a discretionary committee of the U.S. Nuclear Regulatory Commission (NRC).

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2. The Committee's objectives, scope of activities, and duties are as follows:

The Committee shall report to and advise the NRC on nuclear waste and materials management. The bases of ACNW&M reviews include the following:

- Part 20, "Standards for Protection against Radiation," to Title 10 of the *Code of Federal Regulations* (10 CFR Part 20)
- 10 CFR Part 30, "Rules of General Applicability to Domestic Licensing of Byproduct Material"
- 10 CFR Part 40, "Domestic Licensing of Source Material"
- 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities"
- 10 CFR Part 60, "Disposal of High-Level Radioactive Wastes in Geologic Repositories"
- 10 CFR Part 61, "Licensing Requirements for Land Disposal of Radioactive Waste"
- 10 CFR Part 62, "Criteria and Procedures for Emergency Access to Non-Federal and Regional Low-Level Waste Disposal Facilities"
- 10 CFR Part 63, "Disposal of High-Level Radioactive Wastes in a Geologic Repository at Yucca Mountain, Nevada"
- 10 CFR Part 70, "Domestic Licensing of Special Nuclear Material"
- 10 CFR Part 71, "Packaging and Transportation of Radioactive Material"
- 10 CFR Part 72, "Licensing Requirements for the Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste, and Reactor-Related Greater Than Class C Waste"
- other closely related regulations and legislative mandates

In performing its work, the Committee will examine and report on those areas of concern referred to it by the Commission and may undertake studies and activities on its own initiative,

as appropriate. Emphasis will be on protecting the public health and safety in the disposal of nuclear waste and the uses, handling, and processing of nuclear materials.

The Committee will undertake studies and activities related to nuclear waste and materials management such as transportation, waste determinations, reprocessing, storage and disposal facilities, in situ leach mining, mill tailings, enrichment facilities, health effects, decommissioning, materials safety, application of risk-informed, performance-based regulations, and evaluation of licensing documents, rules and regulatory guidance. The Committee will interact with representatives of the public, the NRC, the Advisory Committee on Reactor Safeguards, other Federal agencies, State and local agencies, Indian Tribes, and private, international, and other organizations as appropriate to fulfill its responsibilities.

3. Time period (duration of this Committee):

The Advisory Committee on Nuclear Waste and Materials is expected to be a continuing committee.

4. Agency or official to whom this Committee reports:

U.S. Nuclear Regulatory Commission

5. Agency responsible for providing necessary support to this Committee:

U.S. Nuclear Regulatory Commission

6. The duties of the Committee are set forth in Item 2, above.

7. Estimated annual direct cost of this Committee:

Up to five members are appointed by the Commission as Special Government Employees.

a. $1,321,800 including travel, per diem, compensation, and operational costs
b. Total staff-years of support: 8.0 full-time equivalents

8. Estimated number of meetings per year:

Approximately nine full Committee meetings and four working group meetings

9. The Committee's termination date, if less than 2 years, from the date of establishment of renewal:

Not applicable. The ACNW is expected to be a continuing committee with renewal of its charter biennially (every 2 years) for as long as necessary to fulfill its functions.

10. Filing date:

XX, XX, 2007
/RA/
Andrew L. Bates
Advisory Committee Management Officer