

- Discussion of FY 2007 Budget Submission to OMB
- Recommendations for FY 2007 Budget Submission

*Plenary Session of the Board (12:30 p.m.–1 p.m.)*

Executive Closed Session (12:30 p.m.–12:45 p.m.) Room 1235

- Approval of Executive Closed Minutes

Closed Session (12:45 p.m.–1 p.m.) Room 1235

- Approval of Closed Session Minutes

Awards and Agreements  
Closed Committee Reports  
Open Session (1 p.m.–3:30 p.m.)

Room 1235

- Approval of Minutes
- Resolution to Close September 2005
- Chairman's Report
- Director's Report
- Committee Reports
- Report of *ad hoc* Vision Task Group

**Michael P. Crosby,**

*Executive Officer and NSB Office Director.*

[FR Doc. 05–15248 Filed 7–28–05; 3:12 pm]

**BILLING CODE 7555–01–U**

## NATIONAL SCIENCE FOUNDATION

### National Science Board; Workshop on Understanding Transformative Research Programs at the National Science Foundation; Sunshine Act Meeting

**DATE AND TIME:** August 12, 2005, 8:30 a.m.–5:15 p.m. (ET).

**PLACE:** National Science Foundation, 4201 Wilson Boulevard, Rooms 1235, 375 and 320, Arlington, VA 22230.

**PUBLIC MEETING ATTENDANCE:** All visitors must report to the NSF's visitor's desk at the 9th and N. Stuart Streets entrance to receive a visitor's badge.

**CONTACT INFORMATION:** Please refer to the National Science Board Web site (<http://www.nsf.gov/nsb>) for updated Agenda. NSB Office: (703) 292–7000.

**STATUS:** This Workshop will be open to the public.

#### Provisional Workshop Agenda

*Room 1235*

8:30 a.m.–8:50 a.m.—Introduction and Overview.

8:50 a.m.–9 a.m.—Welcoming Remarks.

9 a.m.–10 a.m.—Topic I: Exemplar Transformative Research Funded by NSF.

10:15 a.m.–11:15 a.m.—Topic II: NSF Culture and Effect on Funding Potentially Transformative Research.

11:15 a.m.–12:15 p.m.—Topic III: NSF Mechanisms and Procedures for Supporting Potentially Transformative Research.

*Rooms 375 and 320*

12:30 p.m.–1:45 p.m.—Breakout Session I: Enhancing the Ability of NSF To Identify and Nurture Potentially Transformative Research.

- Role of Program Officers
- Role of Committees of Visitors
- Role of Advisory Committees

2 p.m.–3:15 p.m.—Breakout Session II: Improving NSF's Ability To Fund Potentially Transformative Research.

- Community Awareness
- Inhibitors for Current Mechanisms
- New Mechanisms

*Room 1235*

3:30 p.m.–5 p.m.—Plenary Meeting for Breakout Sessions I and II.

5 p.m.–5:15 p.m.—Summaries of Discussions and Next Steps for the NSB Task Force on Transformative Research.

**Michael P. Crosby,**

*Executive Officer and NSB Office Director.*

[FR Doc. 05–15249 Filed 7–28–05; 3:13 pm]

**BILLING CODE 7555–01–P**

## NUCLEAR REGULATORY COMMISSION

[Docket No. 50–313]

### Entergy Operations, Inc., Arkansas Nuclear One, Unit 1; Exemption

#### 1.0 Background

Entergy Operations, Inc. (licensee) is the holder of Renewed Facility Operating License No. DPR–51 which authorizes operation of the Arkansas Nuclear One, Unit 1 (ANO–1) nuclear power plant. The license provides, among other things, that the facility is subject to all rules, regulations, and orders of the Nuclear Regulatory Commission (NRC, Commission) now or hereafter in effect.

The facility consists of a pressurized water reactor located in Pope County, Arkansas.

#### 2.0 Request/Action

Title 10 of the Code of Federal Regulations (10 CFR) 50.46, “Acceptance criteria for emergency core cooling systems for light-water nuclear power reactors,” requires, among other items, that “[e]ach boiling or pressurized light-water nuclear power reactor fueled with uranium oxide pellets within cylindrical zircaloy or ZIRLO cladding must be provided with an emergency core cooling system

(ECCS) that must be designed so that its calculated cooling performance following postulated loss-of-coolant accidents [(LOCAs)] conforms to the criteria set forth in paragraph (b) of this section.” Appendix K to 10 CFR Part 50, “ECCS Evaluation Models,” requires, among other items, that the rate of energy release, hydrogen generation, and cladding oxidation from the metal/water reaction shall be calculated using the Baker-Just equation. The regulations at 10 CFR 50.46 and 10 CFR part 50, appendix K make no provisions for use of fuel rods clad in a material other than zircaloy or ZIRLO. Since the chemical composition of the M5 alloy differs from the specifications for zircaloy or ZIRLO, a plant-specific exemption is required to allow the use of the M5 alloy as a cladding material at ANO–1. Therefore, by letter dated September 30, 2004, the licensee requested the use of the M5 advanced alloy for fuel rod cladding at ANO–1.

#### 3.0 Discussion

Pursuant to 10 CFR 50.12, the Commission may, upon application by any interested person or upon its own initiative, grant exemptions from the requirements of 10 CFR part 50 when (1) the exemptions are authorized by law, will not present an undue risk to public health or safety, and are consistent with the common defense and security; and (2) when special circumstances are present.

#### *Authorized by Law*

This exemption results in changes to the operation of the plant by allowing the use of the M5 alloy as fuel cladding material in lieu of zircaloy or ZIRLO. As stated above, 10 CFR 50.12 allows the NRC to grant exemptions from the requirements of 10 CFR part 50. In addition, the granting of the licensee's exemption request will not result in a violation of the Atomic Energy Act of 1954, as amended, or the Commission's regulations. Therefore, the exemption is authorized by law.

#### *No Undue Risk to Public Health and Safety*

The underlying purposes of 10 CFR 50.46 and 10 CFR part 50, appendix K, are to ensure that facilities have adequate acceptance criteria for the ECCS, and to ensure that cladding oxidation and hydrogen generation are appropriately limited during a LOCA and conservatively accounted for in the ECCS evaluation model, respectively. Topical Report (TR) BAW–10227P, “Evaluation of Advanced Cladding and Structural Material (M5) in PWR [pressurized-water reactor] Reactor

Fuel," which was approved by the NRC on February 4, 2000, demonstrated that the effectiveness of the ECCS will not be affected by a change from zircaloy fuel rod cladding to M5 fuel rod cladding. In addition, TR BAW-10227P demonstrated that the Baker-Just equation (used in the ECCS evaluation model to determine the rate of energy release, cladding oxidation, and hydrogen generation) is conservative in all post-LOCA scenarios with respect to M5 advanced alloy as a fuel rod cladding material. Based on the above, no new accident precursors are created by using M5 fuel cladding, thus, the probability of postulated accidents is not increased. Also, based on the above, the consequences of postulated accidents are not increased. In addition, the licensee will use NRC-approved methods for the reload design process for ANO-1 reloads with M5 cladding. Therefore, there is no undue risk to public health and safety due to using M5 cladding.

#### *Consistent With Common Defense and Security*

The exemption requested results in changes to the operation of the plant by allowing the use of the M5 alloy as fuel cladding material in lieu of zircaloy or ZIRLO. This change to the fuel material used in the plant has no relation to security issues. Therefore, the common defense and security is not impacted by this exemption request.

#### *Special Circumstances*

Special circumstances, in accordance with 10 CFR 50.12(a)(2)(ii), are present whenever application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule.

The underlying purpose of 10 CFR 50.46 is to ensure that facilities have adequate acceptance criteria for the ECCS. On February 4, 2000, the NRC staff approved TR BAW-10227P in which Framatome demonstrated that the effectiveness of the ECCS will not be affected by a change from zircaloy fuel rod cladding to M5 fuel rod cladding. The analysis described in the TR also demonstrated that the ECCS acceptance criteria applied to reactors fueled with zircaloy fuel rod cladding are also applicable to reactors fueled with M5 fuel rod cladding.

The underlying purpose of 10 CFR part 50, appendix K, paragraph I.A.5, is to ensure that cladding oxidation and hydrogen generation are appropriately limited during a LOCA and conservatively accounted for in the ECCS evaluation model. Appendix K

requires that the Baker-Just equation be used in the ECCS evaluation model to determine the rate of energy release, cladding oxidation, and hydrogen generation. In TR BAW-10227P, Framatome demonstrated that the Baker-Just model is conservative in all post-LOCA scenarios with respect to the use of the M5 advanced alloy as a fuel rod cladding material, and that the amount of hydrogen generated in an M5-clad core during a LOCA will remain within the ANO-1 design basis.

The M5 alloy is a proprietary zirconium-based alloy comprised of primarily zirconium (~99 percent) and niobium (~1 percent). The elimination of tin has resulted in superior corrosion resistance and reduced irradiation-induced growth relative to both standard zircaloy (1.7 percent tin) and low-tin zircaloy (1.2 percent tin). The addition of niobium increases ductility, which is desirable to avoid brittle failures.

The NRC staff has reviewed the licensee's advanced cladding material, M5, for PWR fuel mechanical designs as described in TR BAW-10227P. In the safety evaluation for TR BAW-10227P dated February 4, 2000, the NRC staff concluded that, to the extent specified in the staff's evaluation, the M5 properties and mechanical design methodology are acceptable for referencing in fuel reload licensing applications. Therefore, since the underlying purposes of 10 CFR 50.46 and 10 CFR part 50, appendix K, paragraph I.A.5 are achieved through the use of the M5 advanced alloy as a fuel rod cladding material, the special circumstances required by 10 CFR 50.12(a)(2)(ii) for the granting of an exemption from 10 CFR 50.46 and 10 CFR part 50, appendix K exist.

#### *Summary*

The staff has reviewed the licensee's request to use the M5 advanced alloy for fuel rod cladding in lieu of zircaloy or ZIRLO. Based on the staff's evaluation, as set forth above, the staff concludes that the exemption is authorized by law, will not present an undue risk to public health and safety, and is consistent with the common defense and security. In addition, the staff concludes that the underlying purposes of 10 CFR 50.46 and 10 CFR part 50, appendix K are achieved through the use of the M5 advanced alloy. Therefore, pursuant to 10 CFR 50.12(a), the staff concludes that the use of the M5 advanced alloy for fuel rod cladding is acceptable and the exemption from 10 CFR 50.46 and 10 CFR part 50, appendix K is justified.

#### **4.0 Conclusion**

Accordingly, the Commission has determined that, pursuant to 10 CFR 50.12(a), the exemption is authorized by law, will not present an undue risk to the public health and safety, and is consistent with the common defense and security. Also, special circumstances are present. Therefore, the Commission hereby grants Entergy Operations, Inc. an exemption from the requirements of 10 CFR 50.46 and 10 CFR part 50, appendix K to allow the use of M5 cladding at ANO-1.

Pursuant to 10 CFR 51.32, the Commission has determined that the granting of this exemption will not have a significant effect on the quality of the human environment (70 FR 37126).

This exemption is effective upon issuance.

Dated at Rockville, Maryland, this 25th day of July 2005.

For the Nuclear Regulatory Commission.

**Ledyard B. Marsh,**

*Director, Division of Licensing Project Management, Office of Nuclear Reactor Regulation.*

[FR Doc. 05-15125 Filed 7-29-05; 8:45 am]

**BILLING CODE 7590-01-P**

## **NUCLEAR REGULATORY COMMISSION**

**[Docket No. 40-8989]**

### **In the Matter of Envirocare of Utah, Inc.; Order Modifying Exemption From 10 CFR Part 70**

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Issuance of order to modify Envirocare of Utah, Inc.'s exemption from requirements of 10 CFR part 70.

#### **FOR FURTHER INFORMATION CONTACT:**

James Park, Environmental and Performance Assessment Directorate, Division of Waste Management and Environmental Protection, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001. Telephone: (301) 415-5835, fax number: (301) 415-5397, e-mail: [JRP@nrc.gov](mailto:JRP@nrc.gov).

#### **SUPPLEMENTARY INFORMATION:**

##### **I. Introduction**

The Nuclear Regulatory Commission (NRC) is issuing an Order pursuant to section 274f of the Atomic Energy Act to Envirocare of Utah, Inc. (Envirocare) to modify Envirocare's exemption from certain NRC licensing requirements for special nuclear material.