TO BE ARGUED ON JANUARY 14, 2004

UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

NUCLEAR ENERGY INSTITUTE, Petitioner, v. ENVIRONMENTAL PROTECTION AGENCY, Respondent.	)	**Case No. 01-1258** Consolidated with 01-1268, 01-1295, 01-1425, 01-1426, 01-1516, 02-1036, 02-1077, 02-1116, 02-1179, 02-1196, 03-1009, 03-1058

PETITIONERS' MOTION TO REQUIRE RESPONDENTS TO SUPPLEMENT THE RECORD ON REVIEW

Petitioners the State of Nevada, Clark County, Nevada, and Las Vegas, Nevada, move pursuant to FED.R.APP.P. 16 and 17 to require Respondents to supplement the record on review with certain key documents, which have only recently been disclosed in response to Petitioners' Freedom of Information Act requests. These striking documents reveal that the Department of Energy ("DOE") had concluded that the risk of nuclear criticality in the casks in which nuclear waste will be shipped to the Yucca Mountain repository – in effect converting them into lethally efficient "dirty bombs" – had a far higher probability of occurring during a terrorist incident than was previously disclosed by DOE. Nevertheless, in its Final Environmental Impact Statement ("FEIS"), DOE simply ignored any consideration of the scenarios in which such criticalities, and criticality-induced cask explosions, could come to pass.

Consequently, in support of this Motion, Petitioners state as follows:

1. Among the claims raised in these consolidated cases is Petitioners' contention that DOE's FEIS for its Yucca Mountain nuclear waste repository project is flawed for failure to address realistic sabotage scenarios involving spent fuel transport, and thus vastly understated the potential risks and consequences of such transport. In particular, Nevada claimed that DOE had failed to evaluate the potential for a "nuclear criticality" in the event of a terrorist attack on a spent fuel cask in transit with a commercially available portable armor-piercing weapon. "Criticality" is "the condition in which nuclear fuel sustains a *chain reaction*." JA-1339.[1] A nuclear criticality event, if it occurred in a spent fuel cask, would sharply increase the heat and radioactive content of the cask and would likely cause "a violent event," *i.e*, an explosion of the cask that would powerfully disperse highly radioactive waste into whatever environment the cask happened to be in. *See* Supp-623-24; JA 633-36. In its FEIS, DOE stated it did not evaluate cask accident or sabotage scenarios in which the risk of occurrence was less than one in 10 million because they were not "reasonably foreseeable."[2] JA-1021. Though DOE recognized that cask penetration would occur in an attack by an armor-piercing weapon, criticality events associated with such perforation were dismissed on this asserted ground. *Id.*

2. Respondents' Certified List of Documents (filed April 8, 2002), purporting to comprise the Administrative Record in Case No. 02-1179, did not include a document in which DOE had determined, in evaluating long-term storage of spent fuel in casks, that rainwater seepage into a degraded spent fuel cask could credibly induce the criticality that would produce

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[1] As used herein, the terms "JA" and "Supp" refer respectively to the Joint Appendix and Supplemental Appendix filed in *Nevada v. Department of Energy*, No. 01-1516.

[2] The FEIS likewise dismissed the risk and consequences of criticality occurring *inside* the Yucca Mountain repository, suggesting the odds of it happening were too remote to be considered. JA-966 (postulating that the probability of a criticality was less than 2 in 10 million in 10,000 years). Moreover, DOE concluded that, even if it occurred in the repository, a criticality "would not have a significant impact on repository performance." JA-633.

heightened releases or cask explosions. (Water creates the physical conditions inside the cask fostering a self-sustaining chain reaction. In technical terms, it is an effective "neutron moderator.") *See* Supp-568-666. *See also* JA-634 ("With the presence of moderating materials like water, the likelihood of fission can be greatly increased…."). The Court's adjudication of Petitioners' November 5, 2002 request that this document, the so-called "Continual Storage Analysis Report," be included in the Administrative Record was deferred to the merits hearing of this case. Order dated February 26, 2003. Oral argument is scheduled for January 14, 2003.

In briefing, Petitioners contended that any spent fuel cask perforated by an armor-piercing weapon could credibly be exposed to water through rainfall, firefighters' spray, or submersion (in the case of barge-mounted casks or casks damaged on bridges over waterways). Pet. Final Opening Br. at 97. Respondents countered that "[m]ere conjecture by Petitioners that a criticality could result from a missile attack is an insufficient basis for requiring further analysis under NEPA." Resp. Final Br. at 98. Similarly, Intervenor/Amicus Nuclear Energy Institute and National Association of Regulatory Utility Commissioners countered that "criticality would not be expected as a result of a sabotage scenario in any event; even one involving flooding with water" merely because NRC regulations *require* that it should not occur. Int./Amicus Br. at 33.

3. Petitioners only recently discovered, through documents received in October and November, 2003, pursuant to FOIA requests, that, contrary to FED.R.APP.P 17(b)(1)(B), the Administrative Record for Case No. 02-1179, does not contain other key documents that bear directly on, and strongly support, Petitioners' claim concerning the very real dangers of these criticalities and cask explosions in a variety of contexts. Those documents, which are numbered Supp-904 through Supp-975, are attached to this motion. Specifically, the documents reveal that

DOE's Senior Technical Review Panel for the FEIS was repeatedly concerned about criticality in the event of water entering a ruptured or corroded spent fuel canister, and it recommended on several occasions that DOE "quantify the consequences" if such an event "is conceivable." Supp-926, 935, 950. Though DOE's studies concluded that such an event was not only conceivable but likely, DOE apparently never did such an analysis.

The documents show that DOE's own criticality analysts had "assumed that the ingress of water into a storage cask, without any change in geometry of the spent fuel and/or movement of the neutron poison, *would result in a critical event*," and that the probability of criticality was so high that DOE should not waste time analyzing it, but should proceed directly to analysis of the consequences. Supp-951 (emphasis added), 956-57. Even more astonishing, DOE's own numbers in its "Criticality Potential Curve Draft Report" for the Yucca repository suggest that, if waste packages corrode, permitting water ingress, up to 60 nuclear criticalities *will* occur *inside* Yucca Mountain, and the probability of a criticality happening in the repository may be greater than one in one thousand per year – far from the 2 in 10 million chance over 10,000 years that was stated in the FEIS. *See* Supp 906-17; *cf*. JA-966, 633. Logically, the impact of one such cask explosion on its neighboring casks inside the repository is potentially a chain of cask ruptures, releasing even more highly radioactive material from the repository, and throwing into question the value of "engineered barriers" if, as Petitioners contend, the geology of the site cannot independently isolate such waste. Again, no analysis of these scenarios was done.

Indeed, DOE's documents concluded that "[a] criticality event could affect radionuclide releases to the environment by damaging uranium and fuel matrix and cladding, so that the slow dissolution process which would normally occur is accelerated, and radionuclides are released in a short time period. Such a release would be more concentrated and the air release pathway would become significant, so an evaluation of the effects of potential criticality events is in

order." Supp-906.

4. Under well-settled principles of administrative and NEPA law, these recently-released records should be included in the certified administrative record, or at a minimum, in the record before this Court on its review of Petitioners' NEPA claims. For this Court's review of Respondents' actions and inactions to be meaningful, that review must "be based on the full administrative record that was before" the agency at the time of its decision. *Citizens to Preserve Overton Park, Inc. v. Volpe*, 401 U.S. 402, 420 (1971). *See also James Madison Ltd. v. Ludwig*, 82 F.3d 1085, 1095 (D.C. Cir. 1996); *Environmental Defense Fund v. Costle*, 657 F.2d 275, 284 (D.C. Cir. 1981). Because, "[i]f a court is to review an agency's action fairly, it should have before it neither more nor less information than did the agency when it made its decision," *Walter O. Boswell Memorial Hospital v. Heckler*, 749 F.2d 788, 792 (D.C. Cir. 1984), the "complete administrative record" upon which the Court's review is to be based "consists of all documents and materials directly or indirectly considered by the agency." *Bar MK Ranches v. Yuetter*, 994 F.2d 735, 739 (10th Cir. 1993). *See also Izaak Walton League of America v. Marsh*, 655 F.2d 346, 368 (D.C. Cir. 1981) ("the administrative record must disclose the studies and data used in compiling environmental impact statements"). Because the recently-released documents demonstrate on their face that DOE directly or indirectly considered the likelihood of criticality events in formulating its environmental analyses, they are properly considered part of the administrative record, whether or not they were formally designated as such by Respondents. *See Bar MK Ranches*, 994 F.2d at 739 ("An agency may not unilaterally determine what constitutes the Administrative Record."); *Esch v. Yuetter*, 876 F.2d 976, 991 (D.C. Cir. 1989) (supplementation of administrative record allowed "when an agency considered evidence which it failed to include in the record").

In any event, this Court should include the materials at issue in the Court's record in order to determine whether Respondents in fact complied with their obligations under NEPA to fully consider relevant environmental matters. One of Petitioners' central contentions is that DOE's FEIS failed to adequately consider and address the environmental impacts of various criticality scenarios. Almost by definition, matters outside the certified administrative record must be considered if the Court is to conduct a meaningful review of such a claim. *See, e.g., Esch*, 876 F.2d at 991 (supplementation appropriate "when the agency failed to consider factors which are relevant to its final decision"); *Environmental Defense Fund*, 657 F.2d at 285 (citing *Asarco, Inc. v. EPA*, 616 F.2d 1153, 1160 (9th Cir. 1980)); *Izaak Walton League*, 655 F.2d at 369 n.56.[3] This consideration is especially important in NEPA cases, where "a primary function of the court is to insure that the information available to the decision-maker includes an adequate discussion of environmental effects and alternatives, which can sometimes be determined only by looking outside the administrative record to see what the agency may have ignored." *County of Suffolk v. Secretary of Interior*, 562 F.2d 1368, 1384 (2d Cir. 1977). *See also Asarco*, 616 F.2d at 1160 ("It will often be impossible, especially when highly technical matters are involved, for the court to determine whether the agency took into consideration all relevant factors unless it looks outside the record to determine what matters the agency should have considered but did not."); *Esch*, 876 F.2d at 991.

Accordingly, Petitioners respectfully request the Court to require Respondents to supplement the record on review before the Court with these documents (and any others like them that have not been disclosed) or, in the alternative, to defer ruling on the attached documents until the merits hearing.

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[3] *Compare Kent County v. EPA*, 963 F.2d 391, 396 (D.C. Cir. 1992) ("The documents relate to the position of the agency's own experts on the question central to this case. To deny their relevance would be inconsistent with rational decisionmaking by an administrative agency.").

Respectfully submitted,

Elizabeth A. Vibert, Deputy District Attorney
CLARK COUNTY, NEVADA
500 South Grand Central Parkway
Las Vegas, Nevada 89106
Telephone: 702/455-4762
Facsimile: 702/382-5178

Bradford R. Jerbic, City Attorney
William P. Henry, Senior Litigation Counsel
CITY OF LAS VEGAS, NEVADA
400 Stewart Avenue
Las Vegas, Nevada 89101
Telephone: 702/229-6590
Facsimile: 702/386-1749

William H. Briggs, Jr.*
ROSS, DIXON & BELL, L.L.P.
2001 K Street N.W.
Washington, D.C. 20006-1040
Telephone: 202/662-2063
Facsimile: 202/662-2190

Antonio Rossmann*
Special Deputy Attorney General
Roger B. Moore
Special Deputy Attorney General
LAW OFFICE OF ANTONIO ROSSMANN
380 Hayes Street
San Francisco, CA 94102
Telephone: 415/861-1401
Facsimile: 415/861-1822

Brian Sandoval
Attorney General
Marta A. Adams*
Senior Deputy Attorney General
STATE OF NEVADA
100 North Carson Street
Carson City, NV 89701
Telephone: 775/684-1237
Facsimile: 775/684-1108

Charles J. Cooper*
Robert J. Cynkar*
Vincent J. Colatriano*
COOPER & KIRK, L.L.P.
1500 K Street, N.W., Suite 200
Washington, DC 20001
Telephone: 202/220-9660
Facsimile: 202/220-9601

Joseph R. Egan*
Special Deputy Attorney General
Charles J. Fitzpatrick*
Martin G. Malsch*
Howard K. Shapar*
EGAN & ASSOCIATES, PLLC
7918 Jones Branch Drive, Suite 600
McLean, VA 22102
Telephone: 703/918-4942
Facsimile: 703/918-4943

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Joseph R. Egan*
Counsel of Record
Attorneys for Petitioners State of Nevada,
Clark County, Nevada, and Las Vegas, Nevada

* Member, D.C. Circuit Bar

DATED: November _____, 2003

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing document was served this 25th day of November, 2003, via messenger on:

Ronald M. Spritzer
ENRD — Appellate Section
U.S. Department of Justice
601 D. Street, N.W., Room 8912
Washington, DC 20530

Michael A. Bauser
Nuclear Energy Institute, Inc.
1776 I. Street, N.W., Suite 400
Washington, DC 20006

James Bradford Ramsay
Charlo M. Parkland
National Association of Regulatory Utility Commissioners
1101 Vermont Avenue, Suite 200
Washington, DC 20005

_____
Joseph R. Egan