

May 24, 2006

**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION**

BEFORE THE COMMISSION

In the Matter of

Docket No. 70-3103

Louisiana Energy Services, L.P.
National Enrichment Facility

ASLBP No. 04-826-01-ML

**MOTION ON BEHALF OF
NUCLEAR INFORMATION AND RESOURCE SERVICE AND PUBLIC CITIZEN
FOR DISQUALIFICATION OF COMMISSIONER**

Preliminary statement

This Motion is submitted on behalf of Intervenors Nuclear Information and Resource Service and Public Citizen (“NIRS/PC”), seeking disqualification of Commissioner Edward McGaffigan, Jr., from participation in this case, in which NIRS/PC are Intervenors, based upon his expressed bias and prejudice against NIRS and against Arjun Makhijani, the chief witness for NIRS/PC on nuclear issues. NIRS/PC understand that this motion will be decided by Commissioner McGaffigan. See *In re Joseph J. Macktal*, CLI-89-18, 30 NRC 167 (Sept. 11, 1989).

Factual background

This proceeding involves the proposed licensing of a uranium enrichment facility. NIRS/PC have intervened to oppose the license on several grounds involving the radiation impacts, inter alia, of methods of treatment and disposal of depleted uranium proposed by the Applicant, Louisiana Energy Services, L.P. (“LES”). The principal witness for NIRS/PC on

such issues has been Dr. Arjun Makhijani of the Institute for Energy and Environmental Research. In the proceedings before the Atomic Safety and Licensing Board (the “Board”), LES and Commission Staff have not contested that Dr. Makhijani is an expert who is qualified to testify about radiation matters. (LES Proposed Findings of Fact and Conclusions of Law, Nov. 30, 2005, at 37; Commission Staff Proposed Findings of Fact and Conclusions of Law, Nov. 30, 2005, at 27 par. 4.24). The Board has also found Dr. Makhijani so qualified. *Louisiana Energy Services* (National Enrichment Facility), LBP-06-08, at 39-40 (March 3, 2006).

On May 2, 2006, at a public hearing of this Commission concerning the status of emergency planning activities, the following dialogue occurred between Commissioner McGaffigan and Mr. Paul Gunter of the NIRS staff:

COMMISSIONER McGAFFIGAN: Okay, Mr. Gunter. We’re coming back to you. I’m going to stay off the point of the purpose of the meeting because you went off the point. But your last remark in my last round was to get to, tritium passes through the placenta, which I honestly think you specialize in factoids and irrelevant facts. Potassium 40 passes through the placenta. So, again, I ask you a rhetorical question. And it isn’t meant to be rhetorical because I guess I’m just trying to understand how extreme your organization is. Do we tell women who are pregnant to give up Brazil nuts and bananas for rear of—because potassium 40 is going to end up in their baby, in their fetus, in a far higher dose than anything that they’d ever get from drinking tritiated water. I mean factors of 100 higher. So tell me, two millirem a year is what a woman gets from eating a banana a day. Is NIRS’ position that we give up bananas?

MR. GUNTER: Commissioner McGaffigan, again, our concern is unplanned and unmonitored release paths—

COMMISSIONER McGAFFIGAN: You’re not answering the question.

MR. GUNTER: What I’m saying is the we’re talking about regulatory practices governing unmonitored and unplanned release paths—

COMMISSIONER McGAFFIGAN: Okay—

MR. GUNTER: And the right of the public to be alerted to such events. That’s the—

COMMISSIONER McGAFFIGAN: Then you go to Illinois and you use factoids or made-up facts or irrelevant facts in order to try to condition the public to—and to spur fear in the public. You yourself have done that. I mean, you yourself go and do this placenta thing, and you—

MR. GUNTER: It was actually Dr. Arjun Makhijani who made that—

COMMISSIONER McGAFFIGAN: He’s another—

MR. GUNTER: And also—

COMMISSIONER McGAFFIGAN: He's another person who doesn't know anything about radiation.

MR. GUNTER: And also an obstetrician made that statement. It wasn't me. I repeated it.

COMMISSIONER McGAFFIGAN: Yes, well, you'll repeat anything that serves to spur—

COMMISSIONER JACZKO: Mr. Chairman, I—

COMMISSIONER McGAFFIGAN: I have a right to use my time as I see fit, Mr. Jaczko.

So I honestly think that you should—if the Nuclear Disinformation Resource Service wants to produce disinformation, you should, as a matter of consistency, tell pregnant women to avoid air travel, to obviously avoid the Capitol, to avoid bananas, to avoid Brazil nuts, and to do all sorts of other stupid things. (U.S. Nuclear Regulatory Commission, Briefing on Status of Emergency Planning Activities, May 2, 2006, at 56-58).¹

In sum, Commissioner McGaffigan took the following positions on the record of the hearing:

1. NIRS specializes in “factoids and irrelevant facts.”
2. NIRS is an “extreme organization.”
3. NIRS uses “factoids or made-up facts or irrelevant facts in order to try to condition the public” and “to spur fear in the public.”
4. Dr. Makhijani is “another person who doesn't know anything about radiation.”
5. NIRS is the “Nuclear Disinformation Resource Service” and produces “disinformation.”

In the context of the briefing on emergency planning activities, such statements went far beyond the scope of the proceeding and were unnecessary to any proper performance of the duties of a Commissioner. Indeed, Commissioner McGaffigan's *ad hominem* remarks, including those about Dr. Makhijani, disregarded Dr. Makhijani's qualifications and were prejudicial to Commission functions, which require objective consideration of facts and analysis of issues of radiation safety.

¹ Commission decisions hold that affidavit support for this motion is not required. *Hydro Resources, Inc.*, CLI-98-9, 47 NRC 326, 331 (June 5, 1998). However, to support admission of the transcript passages referred to and to show their significance, the affidavit of Paul V. Gunter of NIRS is attached hereto.

Argument

The views expressed by Commissioner McGaffigan establish personal bias or prejudice that require his disqualification from participation in this proceeding, in which NIRS and Dr. Makhijani are principal participants.

This Commission has established that the “parties in an adjudicatory proceeding have a right to an impartial adjudicator, both in reality and in appearance to a reasonable observer.” *Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), CLI-85-5, 21 NRC 566 (April 5, 1985). *See Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), ALAB-907, 28 NRC 620, 623 (1989); *Hydro Resources, Inc.*, CLI-98-9, 47 NRC 326, 330 n.3 (June 5, 1998). Further, the applicable standards of impartiality are those that apply to a federal judge. *In re Joseph J. Macktal*, CLI-89-14, 30 NRC 85, 91 (August 16, 1989).

The standards applicable to judicial disqualification are contained in 28 USC 144 and 455. Section 144 calls for disqualification when a party shows that “the judge before whom the matter is pending has a personal bias or prejudice either against him or in favor of any adverse party.” 28 USC 144. Section 455 contains similar language, but it places the burden not on upon a party, but upon the judge himself, to disqualify himself “where he has a personal bias or prejudice concerning a party.” 28 USC 455(b)(1).

Here, there can be no question that Commissioner McGaffigan, based upon his public statements, is disqualified to decide issues involving NIRS or the testimony of Dr. Arjun Makhijani. The Commissioner has expressly stated that NIRS produces ‘disinformation’ and relies upon “factoids and irrelevant facts.” He has stated that Dr. Makhijani “doesn’t know anything about radiation.” Such statements are tantamount to rejecting any position advanced by NIRS or Dr. Makhijani as incredible. Commissioner McGaffigan’s opinions were expressed in

the course of hearings on emergency planning and far exceed the proper scope of such proceedings and appear to be derived from extrajudicial sources. As such, they have no justification in a Commissioner's duties. See *Liteky v. United States*, 510 U.S. 540, 545 (1994).

The Supreme Court has made clear that, even when a judge forms an opinion concerning a party from matters occurring in the course of judicial proceedings, a judge should disqualify himself when he develops an opinion that is somehow wrongful or inappropriate, either because it is undeserved, or because it is excessive in degree. *Liteky v. United States*, 510 U.S. 540, 550 (1994). Specifically, opinions derived from judicial proceedings require disqualification, where they display a "deep-seated favoritism or antagonism that would make fair judgment impossible." (id. 555).

Even if the judgments expressed by the Commissioner came within the scope of agency responsibilities, they are plainly "wrongful" and "inappropriate" under *Liteky*, and constitute statutory bias or prejudice. Dr. Makhijani's statements concerning the ability of tritium to pass to the placenta, the remarks that triggered the outburst, are clearly well-founded in science.²

2. Statement on Tritium¹

by Arjun Makhijani, Ph.D.²
6 February 2006

This statement was prepared for a February 7, 2006, public forum in Godley, Illinois. The forum concerned the discharge of contaminants into groundwater by a nuclear power plant in Braidwood, Illinois.

Tritium is a highly radioactive isotope of hydrogen, with a specific activity of almost 10,000 curies per gram. In gaseous form, it poses far fewer risks than in other chemical forms. Since tritium has the same chemical properties as hydrogen, it can combine with oxygen to form water. Such tritiated water is radioactive, and has become one of the problem pollutants at many nuclear facilities. In some places it has contaminated groundwater and surface water and continues to do so. One source of such contamination is the Savannah River Site (SRS) in South Carolina, a nuclear weapons site belonging to the US Department of Energy. Commercial nuclear power plants also discharge tritium into public water bodies.

Thus, any rejection of such statements is “undeserved” and “wrongful or inappropriate.” *Liteky*, supra, at 550. Further, to condemn Dr. Makhijani as someone who “doesn’t know anything about radiation” is not only grossly unfair to him and to NIRS/PC as well, but ignores his actual qualifications and extensive experience, as a reading of Dr. Makhijani’s resume will quickly show. (Dr. Makhijani’s resume is attached hereto). Neither LES nor Commission Staff contest Dr. Makhijani’s expert qualifications. (LES Proposed Findings of Fact and Conclusions of Law,

Since tritiated water is processed by plants, animals and humans like ordinary water, the tritium in it can become transformed into other chemicals, such as proteins, needed by the body. It can become part of the DNA. It can affect developing fetuses. Unfortunately, many of these effects, such as miscarriages in early pregnancy that may be induced by exposure of pregnant women to tritiated water, have not been well studied. Further, the combined effects of in-utero exposure to substances such as tritium combined with endocrine disrupting chemicals such as dioxins or PCBs are also not well understood.

Nuclear power plants discharge a significant amount of tritium as part of their routine operations; sometimes more is discharged as a result of mishaps and incidents. The current drinking water standard for tritium of 20,000 picocuries per liter does not take non-cancer effects of tritium, such as miscarriages, into account. Given the particular properties and non-cancer risks of tritium (when it is organically bound or in the form of tritiated water), I am of the opinion that the Nuclear Regulatory Commission has not been vigilant enough in trying make reactor operators reduce their tritium discharges. It is noteworthy in this context that the surface water standard for tritium in the State of Colorado is 500 picocuries per liter, which is 40 times more stringent than the EPA drinking water standard.

Endnotes

1. Based in part on work done in 2004.
2. Arjun Makhijani is president of the Institute for Energy and Environmental Research in Takoma Park, Maryland. www.ieer.org

Nov. 30, 2005, at 37; Commission Staff Proposed Findings of Fact and Conclusions of Law, Nov. 30, 2005, at 27 par. 4.24).

Courts have ruled that a judge must remove himself when his statements would lead an objective observer to question the judge's ability fairly and impartially to decide the pending matters. In re *International Business Machines Corp.*, 45 F.3d 641, 644 (2d Cir. 1995). In *International Business Machines*, the Second Circuit disqualified a District Judge who, in a related case, made rulings that indicated a personal investment in the litigation, even though the parties desired to dismiss that case. The court explained that, under *Liteky*, a finding of bias may be based upon judicial rulings as well as other data, and that the

“ultimate inquiry is whether circumstances satisfy section 455(a), *i.e.*, create an objectively reasonable basis for questioning a judge's impartiality, by showing ‘a deep-seated favoritism or antagonism that would make fair judgment impossible.’” (45 F.3d at 644).

Further, the court explained,

“We must apply an objective standard, captured by the formulation that recusal is required if impartiality ‘might reasonably be questioned’ In other words, the issue is whether a reasonable observer, fully informed as to the circumstances of the Judge's refusal promptly to terminate his authority over the 1969 case, after the parties had stipulated for dismissal, would question the Judge's ability fairly and impartially to decide whether to grant the pending motion to terminate his authority over the 1952 case—a suit that involves the same parties and the same legal context of civil antitrust law. . . . We think it manifestly clear that a reasonable observer would question the Judge's impartiality on the pending issue” (*Id.*).

Here, the reasonable observer would be informed that Commissioner McGaffigan has stated on the record of this Commission that NIRS employs “factoids and irrelevant facts” to “spur fear” and produces “disinformation.” Such statements clearly indicate an established opinion that views emanating from NIRS are not credible. Most tellingly, the Commissioner has also stated on the record of this Commission that Dr. Makhijani, the chief witness in this case for NIRS/PC on issues of radiation safety, one who is closely identified with the position of NIRS,

and who is an acknowledged expert on radiation, is “another person who doesn’t know anything about radiation.” Such remarks would establish for the reasonable observer that Dr. Makhijani’s testimony, no matter how well-founded and correct, has already been rejected by Commissioner McGaffigan. Such a position amounts to bias or prejudice. “When there is ground for believing that such unconscious feelings may operate in the ultimate judgment, or may not unfairly lead others to believe they are operating, judges recuse themselves.” *Public Utilities Commission v. Pollak*, 343 U.S. 451, 466-67 (1952)(Frankfurter, J., statement upon recusal). Disqualification is required under the “guiding consideration [that] the administration of justice should reasonably appear to be disinterested as well as be so in fact.” (*Id.*, quoted in *Liljeberg v. Health Services Acquisition Corp.*, 486 U.S. 847, 869-70 (1988)). The remarks put on the record by Commissioner McGaffigan establish that he is objectively “incapable of rendering fair judgment” and should not participate in this case. In re *Larson*, 43 F.3d 410, 413 (8th Cir. 1994).

Conclusion

For the reasons set forth herein, Commissioner McGaffigan should be disqualified from participation in this case.³

Respectfully submitted,

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³ Commissioner McGaffigan should also consider whether he should disqualify himself in other proceedings involving NIRS as a party.

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May 24, 2006

CERTIFICATE OF SERVICE

Pursuant to 10 CFR § 2.305 the undersigned attorney of record certifies that on May 24, 2006, the foregoing Motion on behalf of Nuclear Information and Resource Service and Public Citizen for Disqualification of Commissioner was served electronically and by first class mail upon the following:

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Education:

Ph.D. University of California, Berkeley, 1972, from the Department of Electrical Engineering. Area of specialization: plasma physics as applied to controlled nuclear fusion. Dissertation topic: multiple mirror confinement of plasmas.
M.S. (Electrical Engineering) Washington State University, Pullman, Washington, 1967. Thesis topic: electromagnetic wave propagation in the ionosphere.
Bachelor of Engineering (Electrical), University of Bombay, Bombay, India, 1965.

Current Employment:

1987-present: President and Senior Engineer, Institute for Energy and Environmental Research, Takoma Park, Maryland. (part-time in 1987).
February 3, 2004-present, Associate, SC&A, Inc., one of the principal investigators in the audit of the reconstruction of worker radiation doses under the Energy Employees Occupational Illness Compensation Program Act, providing technical support to the Advisory Board on Radiation and Worker Health under contract to the Centers for Disease Control and Prevention, U.S. Department of Health and Human Services.

Other Long-term Employment

1984-88: Associate Professor, Capitol College, Laurel, Maryland (part-time in 1988).
1983-84: Assistant Professor, Capitol College, Laurel, Maryland.
1977-79: Visiting Professor, National Institute of Bank Management, Bombay, India. Principal responsibility: evaluation of the Institute's extensive pilot rural development program.
1975-87: independent consultant (see page 2 for details)
1972-74: Project Specialist, Ford Foundation Energy Policy Project. Responsibilities included research and writing on the technical and economic aspects of energy conservation and supply in the U.S.; analysis of Third World rural energy problems; preparation of requests for proposals; evaluation of proposals; and the management of grants made by the Project to other institutions.
1969-70: Assistant Electrical Engineer, Kaiser Engineers, Oakland California. Responsibilities included the design and checking of the electrical aspects of mineral industries such as cement plants, and plants for processing mineral ores such as lead and uranium ores. Pioneered the use of the desk-top computer at Kaiser Engineers for performing electrical design calculations.

Professional Societies:

Institute of Electrical and Electronics Engineers and its Power Engineering Society
American Physical Society
Health Physics Society
American Association for the Advancement of Science

Awards:

The John Bartlow Martin Award for Public Interest Magazine Journalism of the Medill School of Journalism, Northwestern University, 1989, with Robert Alvarez.

Some accomplishments: Principal author of (i) the first overall study of the energy efficiency potential of the U.S. economy (1971); (ii) first global analysis of energy and agriculture in the Third World (1975); (iii) the first independent assessment of radioactivity emissions from a nuclear weapons plant (1989). Co-author of (i) the first technical assessment to show that a decoupling of economic growth from energy growth over a period of decades could be accomplished in the United States (1974); (ii) the first audit of the cost of the U.S. nuclear weapons program (1998). Principal editor and co-author of the first global assessment of the health and environmental effects of nuclear weapons production (1995), which was nominated for a Pulitzer Prize by MIT Press. Served on the Radiation Advisory Committee of the EPA's Science Advisory Board (1992-1994). Was part of an IEER team working under a federal court's consent decree to monitor three independent audits (1997-2002) of Los Alamos National Laboratory's compliance with the radionuclide emissions portion of Clean Air Act Regulations (Subpart H).

Invited Faculty Member, Center for Health and the Global Environment, Harvard Medical School

Annual Congressional Course, *Environmental Change: The Science and Human Health Impacts*, April 18-19, 2006, Lecture Topic: An Update on Nuclear Power – Is it Safe?

Consulting Experience, 1975-1987

Consultant on a wide variety of issues relating to technical and economic analyses of alternative energy sources; electric utility rates and investment planning; energy conservation; analysis of energy use in agriculture; US energy policy; energy policy for the Third World; evaluations of portions of the nuclear fuel cycle.

Partial list of institutions to which I was a consultant in the 1975-87 period:

Tennessee Valley Authority
Lower Colorado River Authority
Federation of Rocky Mountain States
Environmental Policy Institute
Lawrence Berkeley Laboratory
Food and Agriculture Organization of the United Nations
International Labour Office of the United Nations
United Nations Environment Programme
United Nations Center on Transnational Corporations
The Ford Foundation
Economic and Social Commission for Asia and the Pacific
United Nations Development Programme

Languages: English, French, Hindi, Sindhi, and Marathi.

Reports, Books, and Articles (Partial list)

(Newsletter, newspaper articles, excerpts from publications reprinted in books and magazines or adapted therein, and other similar publications are not listed below)

Hower, G.L. and A. Makhijani, "Further Comparison of Spread-F and Backscatter Sounder Measurements," *Journal of Geophysical Research*, **74**, p. 3723, 1969.

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- Special Commission of International Physicians for the Prevention of Nuclear War and the Institute for Energy and Environmental Research, *Radioactive Heaven and Earth: The Health and Environmental Effects of Nuclear Weapons Testing In, On, and Above the Earth*, Apex Press, New York, 1991. One of many co-authors.
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