

January 12, 2005

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

DOCKETED  
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January 13, 2005 (7:47 am)

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

OFFICE OF SECRETARY  
RULEMAKINGS AND  
ADJUDICATIONS STAFF

In the Matter of:	)	
	)	Docket No. 70-3103-ML
Louisiana Energy Services, L.P.	)	
	)	ASLBP No. 04-826-01-ML
(National Enrichment Facility)	)	

MOTION IN LIMINE ON BEHALF OF LOUISIANA ENERGY SERVICES, L.P.  
TO EXCLUDE PREFILED DIRECT TESTIMONY OF CHARLES KOMANOFF  
FOR LACK OF REQUISITE EXPERT QUALIFICATIONS AND RELIABILITY

I. INTRODUCTION

Pursuant to 10 C.F.R. § 2.323, § 2.337(a), and the Atomic Safety and Licensing Board's ("Board") Order (Schedule for Prefiled Testimony and Related Filings) of December 30, 2004, Louisiana Energy Services, L.P. ("LES") files this motion to exclude, in its entirety, the direct testimony of Charles Komanoff, as proffered on behalf of Nuclear Information and Resource Service and Public Citizen ("NIRS/PC") on January 7, 2005. Mr. Komanoff's prefiled direct testimony relates to Contention NIRS/PC EC-7 ("Need for the Facility"). For the reasons set forth below, LES respectfully submits that: (1) Mr. Komanoff lacks the requisite qualifications to testify as an expert on the specific issues raised in that contention; and (2) Mr. Komanoff's testimony does not constitute reliable evidence.

II. BACKGROUND

Contention NIRS/PC EC-7, as admitted by the Board, is an environmental contention that raises three discrete issues pertaining to LES's consideration of the "need" for the proposed National Enrichment Facility ("NEF") for purposes of the National Environmental Policy Act ("NEPA"). As summarized by the Licensing Board, this contention is:

. . . narrowly focused upon whether (1) there is a shortfall of enrichment capacity as LES asserts (Basis A); (2) LES statements of need depend primarily on projections of global rather than United States enrichment needs (Basis B); and (3) LES can effectively enter the market in the face of existing and anticipated competitors, albeit without examination of the “business case” or profitability of the NEF venture (Basis C).

Memorandum and Order (Discovery Rulings) (unpublished) (Oct. 20, 2004), at 17-18.<sup>1</sup>

On January 7, 2005, NIRS/PC filed the direct testimony of NIRS/PC witness Charles Komanoff in connection with Contention NIRS/PC EC-7. Citing his “extensive experience analyzing the prospects and performance of the U.S. and world nuclear power sector,” Mr. Komanoff states that he has been retained to “analyze and evaluate cost-benefit issues” pertaining to the NEF license application. Komanoff Prefiled Testimony at 1-2. As demonstrated below, however, Mr. Komanoff (1) lacks the requisite expertise to testify on the matters at issue in Contention NIRS/PC EC-7; and (2) his testimony lacks the requisite reliability and helpfulness.

### III. ARGUMENT

NRC regulations governing the admission of evidence provide that “[o]nly *relevant, material, and reliable* evidence which is not unduly repetitious will be admitted.” 10 C.F.R. 2.337(a) (emphasis added). To be admissible as evidence, testimony offered by *expert* witnesses must satisfy certain basic criteria. First, the proposed witness must be *qualified* as an expert. Second, testimony purportedly based on scientific, technical, or other specialized knowledge must be *useful to the finder of fact* in understanding the evidence or in making factual determinations necessary to decide the ultimate issue. Third, the testimony must be *reliable or trustworthy in an evidentiary sense*, such that, if the finder of fact accepts it as true, it provides the assistance required by the finder of fact. See, e.g., FED. R. EVID. 702; *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 592 (1993); *Louisiana Power and Light Co. (Waterford Steam Electric Station, Unit*

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<sup>1</sup> See also Memorandum and Order (Ruling on Applicant Motion to Restrict Scope and Staff Motion In Limine) (unpublished) (Dec. 30, 2004), at 3.

3), ALAB-732, 17 NRC 1076, 1091 (1983). A licensing board may strike any portion of proffered testimony, in response to a motion or on its own initiative, that fails to meet these evidentiary criteria. See 10 C.F.R. §§ 2.319, 2.333.

A. Charles Komanoff Does Not Qualify As An Expert on the Issues Raised In Contention NIRS/PC EC-7

The standard by which a potential witness is judged to determine whether he or she may qualify as an expert is not in dispute and has been used consistently by NRC adjudicatory panels. As the Commission reiterated recently in the *Catawba* proceeding:<sup>2</sup>

A witness may qualify as an expert by “knowledge, skill, experience, training or education” to testify “[i]f scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue.” This standard, of course, is not rigid or self-defining. Rather it gives room to our boards to decide whether the expert witness will be of assistance.

*Duke Energy Corporation (Catawba Nuclear Station, Units 1 and 2), CLI-04-21, 60 NRC 21, 27-28 (2004)* (citations omitted). In *Catawba*, the Commission concluded that a proffered witness was an expert in the security area by virtue of his three degrees in physics, post-doctoral work in security and safety, and “extensive knowledge at the conceptual and strategic level.” However, the circumstances underlying the Commission’s decision in that case are readily distinguishable from those surrounding Mr. Komanoff’s proffered testimony.

First and foremost, Mr. Komanoff has expressly conceded that he is not an expert on the uranium enrichment market. When questioned at his deposition about his putative expertise in matters related to the nuclear fuel cycle, particularly uranium mining and enrichment, Mr. Komanoff testified as follows:

Q: You testified that you began that interest in the uranium mining part of the fuel cycle in roughly 1974 or 1975?

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<sup>2</sup> *Duke Energy Corporation (Catawba Nuclear Station, Units 1 and 2), CLI-04-21, 60 NRC 21, 27-28 (2004)* (footnotes omitted).

- A: Yes.
- Q. How long did your interest in that activity and/or staying abreast of developments, reading reports and so forth continue?
- A. In total, in mid-1980s or sometime between the mid and late 1980s.
- Q. And while you were, during that period of time, or roughly six to eight years or so --
- A. No, no --
- Q. Nineteen seventy-four to the mid --1980s, mid to late 1980s, whatever period of time that is.
- A. Maybe 10 to 12 years.
- Q. That's fine. During that period of time on uranium mining issues as the first step of the fuel cycle, did you consider yourself as an expert on those issues?
- A. It depends on what an expert is. Was I well informed on them? Yes. Was I qualified to make forecasts of uranium prices to the extent that uranium prices were one element and a relatively subsidiary element of the entire life-cycle cost of nuclear power? Yes.
- But was I one of the leading 10 or 50 experts in the world on the uranium market and uranium mining and future cost of uranium? No.
- Q. Did you publish at all in that area?
- A. Again, no, but with the qualification that uranium would be, was one of many pieces of the total puzzle known as nuclear life-cycle costs.
- Q. Subsequent to when your interest or involvement in that part of the fuel cycle on uranium mining diminished, mid to late 1980s you said, would you consider yourself an expert in the uranium mining area subsequent to that or today?
- A. If I had to answer or if I have to answer yes or no, I would say no.
- Q. Any why is that?
- A. I haven't kept abreast of -- I mean basically I have not continued to do the -- keeping myself informed activities, staying abreast activities, monitoring the sector activities that I was doing during that earlier 10 to 12 year period.

Q. What other activities in the fuel cycle moving from uranium forward have you been involved in?

A. Enrichment.

Q. Could you explain the nature of your involvement in uranium enrichment as part of the fuel cycle?

A. Yes. It's basically parallel to what I said about uranium ore, but with some subtractions and some additions.

I read reports and monitored the costs that were available in the public literature as to the total costs in dollars per separative work unit of uranium enrichment.

I monitored the emergence of centrifuge technology as a potential and ultimately actual competitor to the prevailing gaseous diffusion technology.

Q. And when did your interest in uranium enrichment begin? Is that also in the 1974, 1975 time frame?

A. Yes. And also for the same reasons as I gave for uranium ore.

I also read -- and what I'm about to say also pertains to uranium ore, but it's a little bit more focused on enrichment. A series of reports, maybe there were two or at most three, that were written in 1975 to 1977 by an economist named Vince Taylor for a firm called Pan-Heuristics.

Which received a series of contracts at the time from the then, but now defunct Arms Control and Disarmament Agency to study the world uranium business and uranium market and Dr. Taylor published, as I said, a series of somewhat iconoclastic reports that I think eventually or subsequently became part of the established wisdom, that addressed some peculiarities in the U.S. -- actually peculiarities in U.S. Government policies that governed and affected the enrichment business at that time.

Q. Your interest in that area, as you indicated, began roughly at the same time as your interest in the uranium mining of the fuel cycle in 1974, 1975?

A. Yes.

Q. And what you've described in describing that as parallel to what you did with uranium mining, would that consist of staying abreast of developments, reading reports and the like?

A. Yes.

Q. And how long did that interest and involvement extend?

- A Until the mid or late 1980s.
- Q And did you during that period of time when you were actively involved, publish any reports on that subject of uranium enrichment?
- A No.
- Q Did you appear in any proceedings as an expert witness on uranium enrichment?
- A No, but with the same caveat as before that my enrichment cost forecasts were one relatively minor part of a whole panoply of cost estimates that I proffered and then had to defend in these various cases.
- Q Did you consider yourself an expert during the period of time that you were staying abreast of activities related to uranium enrichment?
- A I'll give the same answer or answers that I gave to your earlier question on uranium ore, that I was well-informed. I was qualified to proffer estimates, **but I was certainly not one of the world's authorities on the uranium enrichment business.**
- Q Subject to the decline in your involvement in the mid to late 1980s, roughly the same time frame you described uranium mining as part of the fuel cycle, whenever that occurred, did you consider yourself an expert after that?
- A No.
- Q Do you consider yourself an expert today?
- A No.
- Q In uranium enrichment?
- A I consider myself well-versed in the overall dimensions of the industry, **but I'm not an expert in the sense of being -- in the sense that an expert is one who conducts original research and publishes research reports.**
- Q When were you first retained as an expert in this proceeding?
- A I believe in June of this year.
- Q And prior to that time had you had the occasion to renew your interest in uranium enrichment as part of a fuel cycle which you earlier testified pretty much concluded in the mid to late 1980s?

A **Largely, no.** I followed the -- I never stopped following important developments in uranium enrichment, so that when the new enrichment plant was proposed to be built or actually built in Europe, I was aware of that.

When the Oak Ridge Gaseous Diffusion Plant was retired quite some time ago, I was aware of that.

When laser isotopic separation was developed and then debated as either a boon, because of potentially efficient and cheap enrichment provision, or a bane, because of the relative ease with which weapons grade U-235 could be obtained through that process, I followed that.

I've followed the big twists and turns in the progress of the Louisiana Energy Services facility from its start in Louisiana and then it moved up I guess to Tennessee and now is in New Mexico, **but I've followed these things more as an interested person, an interested layman with a long-time position in energy policy and energy consulting, rather than as an expert authority in this area.**

Komanoff October 13, 2004 Dep., Tr. at 19-26 (emphasis added).

The foregoing excerpt amply demonstrates that Mr. Komanoff, by his own admission, is not competent to testify – as an expert – with respect to the uranium enrichment issues raised in Contention NIRS/PC EC-7. As a prior NRC licensing board put it, “no depth of knowledge sufficient for expert qualification [has been] revealed. Rather, the general tenor of the proffered [] statement appeared to . . . be at the level we would expect of a *well informed layman.*” *Pacific Gas and Elec. Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), LBP-78-36, 8 NRC 567, 573 (1978) (emphasis added). *See also Philadelphia Elec. Co.* (Limerick Generating Station, Units 1 and 2), ALAB-819, 22 NRC 681, 733 (1985) (affirming the Licensing Board’s finding that the intervenor’s proffered witness was not an expert, and specifically noting that the individual had conceded his lack of expertise).

Indeed, other excerpts from Mr. Komanoff’s deposition testimony further confirm that he lacks “any special knowledge, skill experience, training or education” germane to Contention NIRS/PC EC-7 and the matters to which his prefiled testimony is addressed. *See Duke Power Company* (William B. McGuire Nuclear Station, Units 1 and 2), ALAB-669, 15 NRC 453

(1982). For example, regarding the timing and nature of his prior participation in regulatory proceedings, Mr. Komanoff testified as follows:

Q In the proceedings you've identified, together with any others that you collect in response to this question, when was the last time appeared as an expert witness in any of the these related proceedings?

A Most likely in 1989 or 1990.

Q And what proceeding would that be?

A The South Texas Power Plant and this would have been a Texas State regulatory proceeding involving the allocation of costs among or between rate payers and shareholders.

Q And on whose behalf did you appear in that proceeding?

A I believe the Office of Public Utility Counsel or Office of Public Counsel and that's C-O-U-N-S-E-L of the State of Texas.

Q And subsequent to that, until your retention in this case, you've not appeared as an expert witness in any other proceeding for the last 14 years?

A I think that's correct.

Q In the proceeding that you have identified here as -- I'll ask a broad question and if it's an oversimplification, please feel free to clarify it. You indicated that in many of these proceedings you testified as to electric utility regulatory matters or proceedings involving the viability of certain plants' prudency. Would it be a fair assessment that the testimony in these proceedings involved in one way or another the economics of the plant?

A Absolutely.

Komanoff October 13, 2004 Dep., Tr. at 13-14.

In short, Mr. Komanoff has never testified in a proceeding specifically involving a nuclear fuel cycle facility. Mr. Komanoff readily acknowledges that "[m]ost of [his] experience as an expert witness has been before state public utility commissions on electric utility regulatory matters," and that "[t]he real essence of [his] testimony had more to do with the capital costs, the construction costs and the operating performance rates." *Id.* at 7, 19. To the extent Mr. Komanoff has testified in NRC proceedings, his testimony has related to economic issues associated with

nuclear power plant construction. Mr. Komanoff holds a Bachelor's Degree in Applied Mathematics and Economics from Harvard; he has not pursued any academic training clearly germane to the matters on which he purports to testify. Insofar as Mr. Komanoff has acquired knowledge related to the nuclear fuel cycle, that knowledge is irrelevant to LES's forecasts of uranium enrichment services requirements and supplies. Further, most of Mr. Komanoff's knowledge appears to be largely antiquated, *i.e.*, on the order of 20 to 30 years old, and gleaned through his informal, layman-like perusal of miscellaneous materials. By his admission, he has generally failed to truly "stay abreast" of more recent developments prior to his retention by NIRS/PC in June 2004. The following statement from Mr. Komanoff's *curriculum vitae* sums it up: "Throughout the 1970's and 80's – the prime years of debate over the future of nuclear power – Komanoff was the leading U.S. source of credible information on *reactor costs*" (emphasis added).

It is well-established that the qualifications of an expert are established by a showing of either academic training or relevant experience, or some combination of the two. *See, e.g., Carolina Power & Light Co. (Shearon Harris Nuclear Power Plant), LBP-01-9, 53 NRC 239, 250 (2001).* Mr. Komanoff lacks both relative to the issues raised in Contention NIRS/PC EC-7. Mr. Komanoff's self-proclaimed "good acumen for analyzing and distilling and ferreting out the essential facts of the costs" does not suffice to qualify him as expert. *See Komanoff October 13, 2004 Dep., Tr. at 7; McGuire, ALAB-669, 15 NRC at 475 (rejecting as insufficient proposed expert's asserted ability to "understand and evaluate" matters of a technical nature due to his background of reading "academic and practical training" and "years of reading AEC and NRC documents").* Prescinding from the obvious, Mr. Komanoff himself has conceded that he is not an expert.

B. The Testimony of Charles Komanoff is Neither Reliable Nor Helpful to the Board

Because Mr. Komanoff lacks the requisite qualifications, it comes as no surprise that his prefiled testimony is neither reliable nor helpful to the trier of fact, *i.e.*, the Board. As set forth in an additional motion in limine filed concurrently by LES, Mr. Komanoff's testimony is irrelevant to the admitted contention and based on an untenable premise.<sup>3</sup> The thrust of Mr. Komanoff's testimony is that if LES is unable to build and operate the NEF, then the worldwide nuclear power and electricity sectors could easily absorb the loss of enrichment capacity "simply by increasing the tails assay." In this regard, Mr. Komanoff fails to address any of the bases admitted in support of the contention, and bases his testimony on a wholly unsubstantiated and conjectural theory. Importantly, any flawed step in an expert's chain of reasoning that renders the analysis unreliable also renders the testimony inadmissible. *In re Paoli R.R. Yard PCB Litigation*, 35 F.3d 717, 745 (3d Cir. 1994). For these reasons as well, his testimony should be excluded.

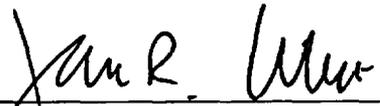
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<sup>3</sup> See "Motion on Behalf of Louisiana Energy Services, L.P. to Exclude Portions of Prefiled Testimony of NIRS/PC Witnesses George Rice, Arjun Makhijani, Michael Sheehan, and Charles Komanoff as Irrelevant," dated January 12, 2005.

III. CONCLUSION

For the foregoing reasons, LES respectfully requests that the Board strike the prefiled direct testimony of Charles Komanoff in its entirety.

Respectfully submitted,

  
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Dated at Washington, District of Columbia  
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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of:

Louisiana Energy Services, L.P.

(National Enrichment Facility)

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Docket No. 70-3103-ML

ASLBP No. 04-826-01-ML

CERTIFICATE OF SERVICE

I hereby certify that copies of the "MOTION IN LIMINE ON BEHALF OF LOUISIANA ENERGY SERVICES, L.P. TO EXCLUDE PREFILED DIRECT TESTIMONY OF CHARLES KOMANOFF FOR LACK OF EXPERT QUALIFICATIONS AND RELIABILITY" in the captioned proceeding have been served on the following by e-mail service, designated by \*\*, on January 12, 2005 as shown below. Additional service has been made by deposit in the United States mail, first class, this 12<sup>th</sup> day of January 2005.

Chairman Nils J. Diaz  
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Commissioner Edward McGaffigan, Jr.  
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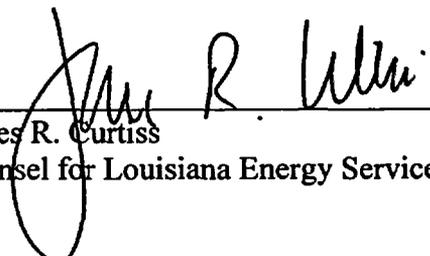
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