

Open Letter to the Cornell Faculty

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February 16, 2001

I have read at the LAC report and see that it is misleading because it lacks correctness, substance, and fairness. Specifically, I see convincing evidence that the report lacks:

0) The Ward Center was established to be a model for new kind of University Center, one which is open to all users, free of charge initially; and one that includes users and potential users from all colleges and departments. This is an experimental model which responds to the realization that we cannot afford special laboratories that are open to only small and specialized groups of users. It is probably the way many, if not most, laboratory centers in the university will have to be organized in the future. The Ward Center is an "open center", available to all faculty and students whether in the humanities or the sciences. Current and past users of the Ward Center include physics, geology, soils science, veterinary medicine, chemistry, archeology, history of art, art, civil engineering, chemical engineering, materials science, textiles and apparel, agricultural engineering, dendrochronology, and others.

1) Under the leadership of Professor Unlu, new research grants, equipment development grants, and graduate student support include:

Nuclear Engineering Education Research grant	\$200,000
Electric Power Research Institute grant	\$180,000
DOE matching grant	\$180,000
Reactor Sharing Grant	\$30,000
Reactor Instrumentation Upgrade Program	\$67,000
Fuel Assistance Program	\$350,000

The LAC report leaves out Professor Unlu's contributions.

2) The Faculty Senate directed the administration after three years to partition the \$200,000/yr subsidy among the various colleges that use the facilities for research or teaching. This didn't seem practical to the vice provost's office, so Professor Unlu sought to find operating funds from outside the university, specifically from DOE and industrial R&D users. These efforts have been remarkably successful and it now appears that all operating costs, not just the university's \$200,000/yr subsidy, will be coming to Cornell from DOE and Industry. The subsidy of \$200,000 provides the entire salary and benefits of a senior professor whereas other centers at the university have larger subsidies and only pay half of a director's salary. If one places a value on the teaching and research benefits the Center provides to the university community, the Center already pays for itself.

3) The report makes no mention of the eminent history of the Ward laboratory, its founder David D. Clark, and its benefactor J. Carlton Ward. The Laboratory was built in 1960 at no expense to the University. The cost of construction and equipment was from the National Science Foundation,

the Atomic Energy Commission, and the Vitro Corporation. Mr. Ward endowed the College of Engineering (for its "Master Plan") with 1.0 M\$ in lieu of operating expenses for the Ward Center. Also, Mr. Ward endowed a chair in the College of Engineering, the J. Carlton Ward Jr. Professor of Nuclear Energy Engineering, currently held by Professor Hammer in Electrical and Computer Engineering. In this sense the Ward Center has already provided its own operating expenses.

4) The vice provost's office has decided to close the Ward Center and announced this to the DOE without consulting any user of the facility (faculty, student or industrial scientist), see letter dated June 12, 2000 to DOE. The review by the LAC appears to be an effort led by a person in the vice provost's office to legitimize sub-professional behavior: the decision to close the Ward Center without consultation with the director or the executive committee, or the advisory board, or any user of the Center.

5) The DOE has pointed out the importance of the Ward Center to Cornell University on four occasions and made a trip to Cornell to plead its case. The DOE has specifically pointed out that Cornell should not rush its judgment, and that a bipartisan/bicameral authorization bill, "Department of Energy University Science and Engineering Act" was introduced to the U.S. Senate as S-245 on Feb. 1 by Mr. Bingaman (D-NM) for himself, Mr. Domenici (R-NM), and Mr. Crapo (R-ID). This bill provides 240M\$ over 5 years for universities, about half of the funds restricted to universities with reactor laboratories. This is a bipartisan bill whose numbers have been negotiated, and it is believed that the bill will pass the Senate without dissent. MIT, Michigan, and Cornell are expected to be the primary beneficiaries after peer review. The Ward Center will become a "national center" in spirit if not in name and may be the first center at Cornell that will not require a university subsidy.

6) The Ward Center has a number of industrial users for research and development efforts. This is part of the Center's mission statement. These corporations have written to Cornell stressing their continuing and increasing use of the Ward Center. As the only university research reactor laboratory in New York, they understand its importance to their research and development efforts. These corporations include Corning, Eastman Kodak, Imaging and Sensing Technology, Intersil, Reuter-Stokes, Northrup-Grumman, Westinghouse, and Wyeth-Ayerst Research. The LAC report lists some of these letters, but does not disclose the positive content.

7) The report fails to discuss the large negative financial drain to the University if it summarily decides to close the Center. The only responsible way for the laboratory to close is by a long range plan that recognizes the eventual closing, and prepares for it thoughtfully. The decommissioning costs are legally estimated to be 4.01 M\$, but threaten to be much higher if we do not carefully plan the future.

8) The LAC report suggests that the 10,000 Curie gamma cell be relocated at the time of the decommissioning of the TRIGA reactor. This proposal is without merit. Why would Cornell ever consider an investment of 4-5 M\$ to reproduce what is already here?

9) Cornell has no plans at present to strengthen its nuclear engineering educational efforts, but will lose this option if the Ward Laboratory is closed. It may become obvious that the bulk of the world's electricity in the 21st century will have to be generated from nuclear energy in order to control CO₂ emissions. Closing the option for Cornell to once again be a leader in nuclear engineering is not wise, in my humble opinion.

Attachment: Letter to DOE – June 12, 2000

Office of the Vice Provost for Research

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June 12, 2000

Peter Dirkmaat
INTC Program Director
DOE
850 Energy Drive
Idaho Falls, ID 84301

Dear Mr. Dirkmaat:

This letter follows a recent telephone conversation of yours with Mr. Howard C. Aderhold, Associate Director of The Ward Center for Nuclear Sciences, Cornell University, concerning the early shipment of Cornell's TRIGA fuel rods. The total number of fuel rods includes 118 standard rods and 4 instrumented rods. All are 8.5 wt % with approximately 20% enrichment.

Our reasons for requesting an early shipment of our fuel are as follows:

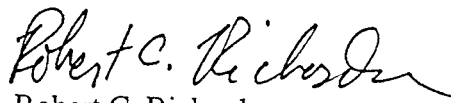
1. The academic program, faculty interest level, and student interest level centered on the Cornell TRIGA reactor are all lower than can be justified for such a facility. Prospects for improvement to a level commensurate with the standards prevalent at Cornell are extremely low. It has thus become impossible to justify adequate funds to maintain the reactor at an appropriate level. Accordingly, we are initiating the steps to de-commission the TRIGA reactor.
2. The shortage of adequate quality research space coupled with physical limitations (the campus lies between two gorges) make the reactor site prime space. The one new building now approaching construction would have been ideally situated on the site currently occupied by the reactor. We see at least 4 major new buildings that we desperately need now, let alone five years from now. This is the primary driving force for requesting early shipment of fuel. Early shipment would let us commence the decommissioning process as soon as possible and thus permit this space to enter into planning considerations for location of the new engineering and research facilities.
3. Our license expires November 2003 and a decision to renew the license will be needed soon.
4. If necessary, Cornell is prepared to enter a contract with NAC International to handle the loading, transportation, and to provide assistance in satisfying all regulatory requirements.
5. The cost of facility maintenance and security in a long term shut down mode without income is an additional reason for this request.
6. We note that Cornell recently received 12 new TRIGA fuel rods that are in dry storage at the present time with the shipping containers still at Cornell. These new

rods have been scheduled for loading into the reactor this month. Since un-irradiated fuel can be shipped to other facilities at minimal cost to DoE, we do not expect to proceed with this step at this time.

7. Since the reactor is indeed nearly 40 years old, prudent management will anticipate the likelihood of the need for the relining of the reactor pool and possible retrofitting of experimental facilities such as beam ports and the graphite thermal column. Other items that should be considered include the replacement of the Ar-41 monitoring system and the replacement of demineralizer resins. Again the very low level of academic interest makes the justification of these expenses extremely difficult for the University.

In summary, the need for expediting the early shipment of the Cornell TRIGA fuel is urgent and Cornell is in position to do whatever is required. Your cooperation and an early response to this request are very much appreciated.

Sincerely yours,



Robert C. Richardson
Vice Provost for Research

cc. H.C.Aderhold
J. W. Lowe
J. Silcox
A. J. Vinnola, Jr.