

An Open Letter on Ward Center for Nuclear Sciences to Colleagues in the Faculty Senate

February 13, 2001

A hallmark of a great university is the depth and breadth of its infrastructure that supports research and teaching. In 1999-2000 for example, Ward Center's Triga reactor provided 225.6 hours of reactor operations for irradiation of materials with neutrons for nine Cornell research groups for activation analysis (primarily) and radiography.* Six graduate students received training and technical assistance in these experiments; some of the experiments such as those in radiography are unique in their capabilities. In that year also, at no extra cost to the Colleges, 558 undergraduate students were taught nuclear-based techniques for analysis in portions of eight courses at the Center. Well-rounded students need to be informed about nuclear science.

In finding #6 the LAC Report states that "...the evidence...does not indicate that the Triga reactor is having an important, major impact as a user facility for the Cornell community, either in research or in academics, that is proportional with the overall cost of maintaining and operating Ward Center." Other than qualitative arguments that reflect the opinion of the Committee members, little justification is given for such a damning assessment.

What are the above services really worth to the faculty, staff, and students of Cornell? At commercial rates, the irradiations in support of research would cost approximately \$90,240 ($225.6 \text{ hrs} \times (\$250/\text{hr, reactor} + \$150/\text{hr, staff})$). It is difficult to put a dollar figure on the graduate student and postdoc training, which could not have been obtained at a commercial facility. There is, however, real value in experimenters learning the technique and having direct control over their experiments; such control at a remote site is impractical if not impossible, as was the case with research done by Jennifer Mass in my group at Ward Lab a few years ago.

As noted above, undergraduate education is a substantial component of the activities at the Ward Center. Undergraduate students received 1,776 hours of instruction in the Center; the value in tuition for this class time is \$101,232.** Thus, not counting graduate student training, the value of the services provided by Ward Center to the Cornell community in 99/00 totalled \$191,472. I submit that these services do have a major impact, not by headline grabbing results, but by the sum total of their importance to Cornell's research projects and education of its undergraduates.

Surprisingly, the LAC Report did not mention the existence of a bipartisan Congressional bill (S. #245) which will more than double DOE's budget for direct support of university research reactors. There is a very good prospect that the entire operating expense of the Center will be supplied by DOE. In light of the obvious value of the Center to Cornell and many local industries, the very high cost of decommissioning the reactor (\$4M at least), and the prospects of substantial increased government support, it makes no sense whatsoever to decommission the Triga reactor at this time. Rather, the issue should be revisited in 3 years to see whether the government support is firmly in place and the positive growth curve of the activities at the Center has continued.

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* Source: Ward Center for Nuclear Sciences Report, 9/00 (not mentioned by the LAC report)

**\$24,000/yr tuition/15 credit hours (avg)/yr = \$1600/credit hour. For 28 class hr/yr, $\$1600/28 = \$57/\text{class hr.}$, and $\$57/\text{hr} \times 1,776 \text{ hr} = \$101,232$.