

## **The Ups and Downs of Environmental Assessment in a University Consortium** **Patricia L. Jerman, Manager, S.C. Sustainable Universities Initiative**

When it comes to environmental management, universities are in an odd position. Their “product”—educated and inspired students and advances in human knowledge—is not often associated with environmental impacts. Yet universities are like small cities, with many of the same impacts on the environment. Like cities, universities produce large quantities of waste, some of it hazardous. Cars moving in and out of a university, like a city, generate emissions. Residents of universities—students in dorms—use water and electricity, just like residents of cities.

The South Carolina Sustainable Universities Initiative, begun in 1998 by Clemson University, the Medical University of South Carolina (MUSC), and the University of South Carolina (USC), is helping universities to link their “product” more closely with its environmental impacts. The state’s three research universities are incorporating sustainability into their curricula, and are attempting to make their campuses models for the region. In 2000, 13 other four year and technical schools joined the consortium.

The schools are attempting to transform their operations through three primary mechanisms: establishment of campus wide environmental advisory committees, traditional assessments, and development of campus-specific Environmental Management Systems (EMSs). Each has its strengths and weaknesses.

### **Environmental Advisory Committees:**

During the initial stages of the initiative, it was apparent that occasional lack of communication was a potential hindrance to the infusion of a strong environmental management ethic throughout each university. We frequently heard about cases of “the right hand not knowing what the left hand was doing” which resulted in less than optimal environmental performance. A case in point was the decision to switch to 20-oz plastic bottles in campus vending machines, even though recycling of aluminum cans represented a significant income stream to the division responsible for waste management, while plastic recycling was very difficult to manage at that time. An institution-wide environmental management committee seemed to offer the possibility of addressing the problem.

MUSC is a relatively small campus, and has established an environmental management committee as a subcommittee of its existing Safety Committee. The other two founding members of the SUI, Clemson and USC, have each established a campus-wide environmental committee including faculty, administrative and student representatives. This makes the committees unusual, if not unique, on their respective campuses. The very act of bringing individuals together who don’t usually interact has produced some very positive outcomes. For example, after listening to the director of utility management during a committee meeting, USC’s housing director realized he had the opportunity to save significant money and resources by converting dorm laundries to

energy efficient front loading washers. After seeing the success of that project, he became, in his words, “a reluctant environmentalist” and has been implementing project after project to improve the environmental footprint of housing on campus. His efforts have led to the construction of a 500-bed residence hall that will be a model of sustainability and one of the few dormitories to be certified by the U.S. Green Building Council’s Leadership in Energy and Environmental Design (LEED) program. There are numerous, if less dramatic, cases of positive results emerging simply because several people came together at a meeting and began talking over coffee.

USC’s committee has been in place the longest. In his 1999 letter asking prospective members to serve on the committee, President John Palms said that he expected they would “provide a...base of support for development of a coordinated university response to environmental issues, serve as a source of ideas...and provide consistent oversight for university environmental policies and progress”—in short, that they would help to spread a culture of close attention to environmental management across the campus.

The committee began its work by developing an environmental policy for the university—the first in USC history. (See the accompanying “USC Environmental Policy Statement.”) The policy was approved by the Board of Trustees in October, 2000, and is now available on the university’s Web site and in its *Policies and Procedures Manual*.

During initial meetings of the EAC, members were very clear that a policy was useless without an accompanying implementation plan and periodic reports on progress. Accordingly, the committee met monthly during the academic year to develop objectives addressing the following goals. The initial implementation plan was approved in April 2001.

- **Goal 1:** Members of the university community (faculty, staff, and students) will have a basic understanding of their impact on the environment.
- **Goal 2:** The university community will promote environmental sustainability by example.
- **Goal 3:** The university will evaluate and monitor progress toward these goals on a continuing basis.

Committees at both Clemson and USC meet monthly during the regular school year, discussing issues relevant to campus wide environmental management. There are frequent brief informational presentations from campus entities engaged in relevant work. It is surprising how often one unit on campus is engaged in work which is path breaking, but unknown to others, or which has significant implications for other units. The committees also serve as a focus for informational requests, for complaints about environmental issues on campus, and as a locus for linking academic and operational units.

### **Campus Assessments:**

Students at both Clemson and USC prepared campus environmental assessments in the early 1990s, but the assessments were not repeated due to changes in personnel and funding. With the establishment of the environmental committees, campus assessments were revived. At USC, a graduate student team prepared a “snapshot” report of environmental activities in various university operations units for the year 2000. They developed their model questionnaire from a combination of past campus audits, the National Wildlife Federation’s Campus Ecology program materials, and information relevant to development of an Environmental Management System (EMS). The report was expected to provide a baseline from which progress could be measured on an annual basis.

Unfortunately, this has proven to be easier said than done. Several issues interfere with our ability to maintain a consistent monitoring program. One is changing personnel, both within SUI and within individual departments. Although the questionnaire was intended to be repeated on an annual or biennial basis, successive cohorts of graduate students have identified weaknesses or improvements, or have simply interpreted questions differently than their predecessors.

More troublesome is personnel change within departments. New managers may view a department more critically than their predecessors. Conversely, they may be unfamiliar with the EAC and the SUI program, and may have less trust in the process than their predecessors. In one case, a new manager declined to answer a significant number of questions for which data had been supplied by his predecessor. Fortunately, our relationship with the new manager was a good one, and he was very forthright in sharing his concerns. It seems that he had no confidence in the answers given the previous year, since there was no data collection system in place to provide the information. While he declined to guess at answers, he did establish a tracking system so that in subsequent years he would have a better idea of chemical usage. Our reporting was inconsistent, but the metagoal of the EAC was met, in that the new system will lead to better environmental management on campus.

Another frustration has been the difficulty of identifying quantitative measures for each department. We have tried very hard to avoid creating new reporting requirements, in part because the EAC has no authority to do so, and in part to avoid losing the good will of department officials. Unfortunately, very few departments seem to have on going reporting programs, and, indeed, few seem to recognize the value of such programs. In trying to maintain the delicate balance between getting the information we need and inconveniencing administrators, we’ve probably leaned too far on the side of valuing the time of administrators, to the detriment of our monitoring. We continue to search for a reliable way to routinize our data collection and monitoring.

### **Environmental Management Systems:**

One path we hope will lead to better monitoring of environmental performance is development of Environmental Management Systems (EMSs) for various campus departments. Early in the history of SUI, we had very ambitious plans for a single campus-wide EMS at each of our member schools that would link our institutions,

improve environmental performance and foster student skill-building by having teams of students from one school audit the EMS at another. While we still hope to reach this goal, we've come to accept that campus EMS development is a more complicated and time-consuming undertaking than we initially realized. At the same time, we have achieved unanticipated results that are promising and may prove to be much more significant than the original plan.

We found that the value of an EMS was not immediately apparent to stakeholders. In some cases, reluctance was based on the fear that problems—but not funds to address them-- would be publicly identified. Others felt that development of an EMS was an “exercise” without real value. Still others worried about the cost of consultants, registrars, and auditors. Faculty and academic administrators, for the most part, saw no relationship between their activities and environmental impacts. Thus, development of even department-level EMSs depended on finding willing champions who would then share the process with their peers.

Graduate students working with interested faculty began work at Clemson and USC, but the idea did not gain momentum until an outside consultant met with key managers at USC. He glanced around the table and asked “(n)ow which of you is the designated felon—you know, the one who goes to jail if something goes really wrong?” Suddenly, the idea of a campus EMS assumed a higher profile.

Shortly thereafter, the director of Environment, Health and Safety at USC embarked on an ambitious effort to create an EMS for his department, with links to other departments on campus. Working with an expert within the School of the Environment, his team added international safety standards to the environmental considerations of a typical EMS. The EMS is entirely electronic, eliminating the need for frequent updates in numerous binders. The Department received ISO 14001 certification for its EMS in August of 2002, and has been successfully audited since then.

The Environment, Health and Safety EMS served as a starting point for EMS development in Facilities Services and Housing at USC. Subsequently, the Environment, Health and Safety manager shared his enthusiasm with MUSC's Director of Risk Management, who understood how USC's addition of safety standards made an EMS more useful to his operation, and added a third element—risk and liability considerations—to make the EMS a truly useful tool for setting priorities on corrective actions and improvements within a medical school/hospital environment. USC personnel have shared their work with counterparts at Clemson, and Clemson too is beginning work on an EMS.

We view environmental assessment within the SUI schools as a work in progress. There will always be tension between the need for self-examination and the universities' need to put forth their “best face.” There will always be the problem of chasing a moving target, in that measurements, technologies and personnel change so frequently that repeating assessments is sometimes difficult. There will always be the need to balance the demands of assessment against the very real conflicting demands for the time of key

individuals. On balance, however, the value of assessment outweighs any disadvantages, and we continue to search for the ideal mechanism(s) to allow us to track our progress without becoming sidetracked by the reporting process.

(use in talk...examples)

For example, a long-range energy conservation plan saved the university over \$700,000 in 2000 and will become even more important as fuel prices rise. Ed Bass, director of Construction Services was a pioneer in recycling construction waste, and last year was able to reuse almost all of the waste generated during demolition of the old Booker T. Washington complex on Blossom Street in the construction of new dorms on the same site. Mariott, which contracts with the university to provide dining services, has partnered with recycling coordinator Laura Pergolizzi and the South Carolina Department of Health and Environmental Control (DHEC) to pilot the use of the “Earth Tub”—a large composting facility that converts approximately 100 pounds of food waste and landscaping debris per day into compost used on the grounds. Dining Services has also converted to unbleached napkins, posted signs urging students and faculty to minimize the use of non-recyclable take-out containers, and significantly increased vegetarian offerings in the school’s dining facilities.

One frustration plaguing all the SUI member institutions is the difficulty in quantifying savings, as well as “progress.” While we are working with individual units to help develop measures to quantify change, we are also hoping that the Environmental Management Systems being developed will make such quantification easier in the future.

The University of South Carolina Environmental Health and Safety division is among the first several academic EH&S divisions to receive ISO 14001 certification. Their unique EMS combines environmental considerations with health considerations, making them a model for other EH&S offices on campuses and in industry and government.