Re:  Review of the Department of Civil and Environmental Engineering

Dear Dean Kaler:

The Visiting Committee for the Department of Civil and Environmental Engineering met on the main campus of the University on October 19 and 20, 2000. The meeting was attended by members James Duffield, Raymond Harbeson, John M. Kulicki, Chiang C. Mei, Charles R. O’Melia, and N.C. Vasuki. This letter constitutes our report to you. In it we focus on four areas: (1) responses to our last report, (2) strengths, (3) Concerns, and (4) committee recommendations.

Responses to the Committee’s Previous Report.

The College and Department have responded well to the recommendations of the Visiting Committee in its report to Interim Dean Szeri dated July 15, 1999. Summaries of responses to four of the Committee’s recommendations in that report follow.

Space.

Previous recommendation. “It is imperative that the College provide funding to renovate space in Du Pont Hall that is being made available to the Department. It is also essential that the structural, materials, and geotechnical laboratory facilities be expanded and improved. Computer-equipped teaching facilities and student study areas require substantial improvement.”

Response. The Department has been given permission to commence planning for renovations in old du Pont Hall and in the structural engineering building. At present, however, there are no commitments from the University for the timing and scale of these renovations.

Planning.

Previous recommendation. “The Department should actively continue its planning process. …..It is very important to the Department of Civil and Environmental Engineering and to other departments in the College that the College of Engineering develop its own comprehensive Strategic Plan in collaboration with the departments.”
Response. The College has completed its Strategic Plan. The Department has discussed directions and strategies. It will begin active development of its strategic plan in the next academic year after the appointment of a new department chair.

Staff.

Previous recommendation. “Two recommendations are made here. First, the Department should assess its needs for support staff comprehensively across all of its components and functions. …Second, the University should make transparent the routine budgetary arrangements of the Administration with all of the departments of the College.”

Response. The Department has added two staff positions, a laboratory coordinator and, in the structural laboratory, a research specialist. The College plans to evaluate departmental general operating budgets and to allow each department to manage its general budget needs independently. The possibility of hiring additional support staff in the area of post-grant management is under review.

Collaborations.

Previous recommendations. “Interdisciplinary activities should be expanded. …... Three of many possibilities are given here. It is very important that the Department participate in the State’s initiatives in biotechnology. This collaboration can probably best be initiated by faculty in the environmental engineering group. Additional collaboration between the coastal and oceanographic engineering group and the College of Marine Science would be beneficial. Finally, interaction with State agencies on a broad range of civil and environmental engineering issues is encouraged.”

Response. The Department has significantly increased its interdisciplinary activities. Examples include the newly constructed Intelligent Transportation System Laboratory and the Innovative Bridge Engineering Research Center. The Department has not yet explored possibilities for participation in the newly funded Delaware Biotechnology Institute.

Strengths.

College.

The appointment of a permanent Dean of Engineering will provide stability and effective leadership for the College. The human and physical resources of the College are excellent. Generally there is good support from the administration for overall facilities and equipment in the Department.

Departmental Leadership.

The departmental chair, Dr. Chin-Pao Huang, has continued to provide active and effective leadership for the Department. He has been particularly successful in working with the faculty to develop teamwork to address needs such as ABET accreditation.
Faculty.

The Department is comprised, in general, of young, aggressive, research-oriented faculty members. Several members of the faculty have received several prestigious awards. There is considerable faculty involvement with the undergraduate student societies and projects.

Facilities.

The Department’s Environmental Engineering laboratories are excellent. The Dean has indicated his intention to work with the Department to address necessary improvements in other areas.

Programs.

The Department has strong and diverse undergraduate programs and has received ABET accreditation in both Civil and Environmental Engineering. Its non-thesis masters program and its continuing education program for practicing engineers are commended.

Partnerships.

The Department has formed strong and productive partnerships with the State and with Delaware industry.

Concerns.

Facilities.

As indicated in the Committee’s previous report, the quality and quantity of much of the Department’s space is a serious problem and is its most urgent concern. Dean Kaler has agreed to permit the Department to commence planning for renovations in old du Pont Hall and for the structural engineering building. This is an important step. However, the availability of funds for these renovations and the expected dates for their completion are uncertain.

Departmental Leadership.

Replacing Professor Huang’s outstanding leadership may be difficult. It is also essential.

Planning.

The Department needs a strategic plan. Its work in this area will be significantly aided by the strategic plan recently developed for the College and by Dean Kaler’s leadership. Discussions about the roles of the Department and the College in the University can be useful; the faculty and the Department need to know more about long-range plans for the directions of the University in order to plan effectively (see Communication below). It will be important for the Department to resume development of its strategic plan after its new Chair is in place.
Diversity.

The composition of the student body and the faculty with respect to women and other underrepresented minorities is poor. The number of women studying in the Department has decreased and there are no women faculty members in the Department.

Staff.

The faculty remain concerned about staff support available to them. The size of the support staff is an immediate concern. Research capabilities may be limited without sufficient and continuous staff support for tasks ranging from proposal preparation to equipment maintenance.

Communication.

The Committee has the impression that there are gaps and misunderstandings in the communication between the University and the College and also between the College and the Department. Some of these may be due to differences in planning approaches by the University and its components (see Planning above). Issues range from the articulation of a vision and a mission for the University to guide the Department and its faculty in establishing goals and priorities to a need for an “open book” policy in evaluating the Department’s budget and its fiscal performance. Criteria for the assessment of academic excellence are not clear to the faculty. Whether this is due to communication gaps among the University, the College, and the Department or to differences of opinion among these entities is not clear to the Committee.

It was suggested to the Committee that polarization could develop between the civil and environmental components of the faculty and also between the students in these two areas.

Recommendations.

Facilities.

The Committee’s recommendation in its prior report, restated above, remains its first priority. Important progress has been made in that the Dean of Engineering is committed to working with the Department to resolve this issue. It is essential that funding be obtained for planning, renovating, construction, and equipping the needed facilities.

Departmental Leadership.

The search for a new Chair should commence as soon as possible if it has not already begun. The search committee should have broad representation and include junior faculty members.

Planning.

The Department should develop a Strategic Plan with the leadership of the new Chair. This plan should address long-term (five-year) objectives such as the recruitment of
women and underrepresented minority faculty members and short-term objectives such as the undergraduate curriculum.

The Committee will be pleased to review the Department’s Strategic Plan when it has been developed.

Diversity.

The Department must embark on a vigorous program to attract new faculty members who are women or members of other underrepresented minority groups. University and College leadership in this area can be decisive. The Committee is convinced that excellent women candidates for faculty positions are available in Civil Engineering and, particularly, in Environmental Engineering. Recruitment of minority undergraduate and graduate students is also essential. Faculty and student diversity should be an essential objective in the Department’s strategic plan.

Staff.

The Department should establish an ad hoc committee to address staff support issues. The number and current use of staff in the Department could be reviewed. Other departments in the College and at other schools could be surveyed to benchmark appropriate levels of staff support for the Department. The project accounting system is a target for streamlining. The feasibility of using contract personnel to cover specific shortages could be assessed.

Communications.

The University administration should articulate the vision and mission of the University in written form including the University’s webpage. Attempts should be made to rectify misunderstandings and/or differences of opinion about issues such as the long-range plans of the University and the recognition of academic excellence of faculty members.

The possibility of polarization between the civil and environmental components of the Department should be assessed and, if it is an issue, addressed as soon as possible.

Collaborations.

Develop activities with the State’s biotechnology program through the Department’s environmental engineering expertise.

Public Relations.

Centralize and expand the marketing of the Department’s programs, accomplishments, and major initiatives, particularly within the State and the University. Improve the Department’s website.

Concluding comments.

It has been a pleasure for the members of the Visiting committee to participate in reviewing this excellent Department. The format of this visit allowed for very good
interactions with the members of the faculty and allowed us to learn a great deal about their goals and aspirations for the Department and for themselves.

We are grateful to Dean Kaler, Chairman Huang, members of the Department faculty and, particularly to the staff of the Department for their time and hospitality, making our visit efficient, enjoyable and, we trust, effective. If there are any questions regarding this report, we will be more than pleased to have further discussions on the topics.

Sincerely yours,

Charles R. O'Melia
Chair, Visiting Committee