

Dear Professor Aminmansour,

Thank you for your moderating of the public hearing on the TAM-MIE merger last month. Your introductory remarks and your distribution of recognizing audience members for their comment helped to foster a courteous and professional dialogue. Though I left in the middle of the hearing, I hope that the meeting ended as well as it began. And just think...after one or two more of these mergers, you will be an expert at this job! (I'm sure you are excited at the prospect.)

### **Introduction to My Comments**

I would like to write up my comments here and add a few more, for the consideration of the Ed. Pol. committee. I will break it into three sections. Firstly, I will comment on the criteria the committee should use to evaluate this proposal. Secondly, I will offer my own perspective on the desirability of the merger. Thirdly, I will make some concluding comments.

### **An Argument for the Criterion of Thorough and Detailed Planning**

One of the criteria which the committee should use to evaluate the proposal is to assess its level of detail of planning. If the planned proposal is detailed, clear, feasible, and reviewed by all parties and by peers, then it is a good proposal and worthy of acceptance as long as the other important criteria are satisfied. If, however, the proposal has not gotten past the PR, advertising blitz stage, then the committee should not approve the proposal, at least not until it has achieved the necessary level of planning. Since Ed Pol is responsible for and charged with assuring the quality of the proposals being sent to the Senate floor, the committee should not hesitate to satisfy itself of the thoroughness and legitimacy of this proposal, before passing it along to the entire Senate.

Here are some examples of details which the committee should expect to find in the proposal it approves:

1. All details of the proposal should be in writing. Verbal promises as to how things will run in the merged department are unacceptable, if only because the Senate will not be able to consider them since they won't be in the written informational packets.
2. The MIE department should appoint a TAM professor as a third assistant head of the new MSE department. (Dean Adesida said as much in the meeting, but it needs to be in writing; please see my previous comment.) The duties of this position should be clearly spelled out, since the job description for an assistant department head varies from department to department. It is especially important to make it clear what will be the prerogatives, liberties, and discretions of this assistant head, for the administration of the mechanics faculty and research. A key question is, "Will this assistant head have independent authority over a basically autonomous mechanics subgroup, or will his or her role be merely advisory to the decisions of Prof. Sehitoglu over a combined, homogenous faculty?"



3. In conjunction with defining the roles of a new, mechanics-specific assistant department head, the relationship between the TAM/mechanics faculty and the rest of the MIE faculty needs to be defined. Will TAM/mechanics faculty have independent authority over hiring and tenure decisions, or will such committees be comprised of faculty from all of MIE? Will TAM/mechanics faculty have their own faculty meetings? Will there be a reallocation of resources, such as laboratory and office space, for the incoming TAM faculty? For example, will TAM faculty have to move out of Talbot Laboratory? What are the general details of these reallocations? Will former TAM faculty who have already moved to MIE be reunited with their erstwhile colleagues in a TAM/mechanics subgroup?
4. The relationship between the TAM/mechanics faculty and the rest of the College of Engineering must be defined. Will traditional TAM courses continue to be cross-listed with other departments, or will they be separated or dropped altogether? What memorandums of understanding with regard to collaborative research be maintained or dropped? How will the new MSE department promote and pursue future research and teaching collaborations with other departments?
5. The details of the combination of department staff should certainly be worked out, since this is likely the only combination which will result in a cost savings to the College. (To argue this claim, consider that more faculty members will have to be hired if the new MSE department is to make good on its pledge to rebuild and promote a TAM/mechanics subgroup.) According to their respective websites, TAM has about 10 staff and MIE has about 22. Will the offices of these staff be combined? Will some of them be fired or encouraged to take early retirement? Can the resulting staff roster be reasonably expected to handle the needs of the larger MSE department? Will certain laboratory privileges and priorities (if any) currently held by TAM faculty be extended to all MIE faculty?
6. How many faculty lines will be opened up for hiring of TAM-like faculty in the new MSE department? How would this hiring into the MSE department save money or be easier than would hiring into the existing TAM department? (Insist on concrete examples.) How will the College administration and the MSE department ensure that these faculty will conduct work in TAM research areas and not be co-opted to work in other MIE research areas which Prof. Sehitoglu and other MIE faculty may prefer? (See my third comment on separate TAM/mechanics hiring/faculty committees.)
7. How will discretionary departmental research money be apportioned between existing MIE faculty and incoming TAM faculty? If there is a difference between MIE and TAM policies, whose will win out and why?
8. What are other plans to make the transition for TAM faculty easy and desirable? The burden of proof that this merger is a good choice rests on the MIE department and the College administration, since the historical and current situations of the TAM department are good. Ideally, the MIE department should offer a package



that is laden with money, privilege, and perquisites for the incoming TAM faculty, so that there is reasonable and tangible evidence that the field of mechanics will grow and thrive in a new MSE department. The hard fact is that mere declared intentions are insufficient collateral for taking the risks of merging.

9. Lastly, it would be helpful information to know what exactly are the benefits which will accrue to the MIE department from the acquisition of the TAM department. Certainly there will be a sense of increased prestige. But beyond this vague sentiment, will there be any more tangible benefits? Will the MIE department become richer because of increased research dollars? Are there certain collaborations that will be able to take place which cannot be done in the current departmental arrangement? Will there be significant savings in staff costs because of consolidation? If there are not such tangible benefits, the reasonableness of the motives of the MIE faculty comes into question. We should not reduce the prestige of the College as a whole to increase the prestige of just one department.

The Ed Pol committee should expect some opposition from the College and department administrations to the provision of these kinds of details. It is likely that they will say that it is too early for such details and that it would be a waste of effort and time to make such plans unless the approval of the proposed merger is certain. It will also be pointed out that many proposals which the Ed Pol committee reviews lack such detail. However, such details literally make or break the success of a complex proposal such as a merger. Without this kind of detailed, thorough planning, the probability of the success of the merger decreases dramatically. With this kind of planning, though, many obstacles and drawbacks can be mitigated.

### **Personal Opinion on the Desirability of the Merger**

I do not think that the proposed merger is wise for one main reason: the fields covered by TAM are significantly broader and separate from the fields covered by MIE, and, therefore, the College will lose some advantages of the independent TAM department. Although the name "mechanics" sounds like "mechanical," it's not quite the same thing. Mechanics is much more theoretical. It is more like classical physics (as opposed to quantum or modern physics) than like mechanical engineering. The TAM department works on solving the remaining unsolved problems in classical physics. Some of the solutions to these problems will have immediately useful application (e.g., improved understanding of turbulent flows will improve computational fluid dynamics modeling). Many will not. I am afraid that if TAM is merged into MIE, then the professors will be coerced into studying applied problems that have corporate funding backing them, and then the College will lose its edge in the more theoretical research. Also, many excellent graduate students have chosen to study in TAM precisely **because** it is separate and focused on theory. We will lose the attraction for these students; they will go to other schools with better ME departments than what we might have in the proposed MSE.

There is another implication of the fact that the fields covered by TAM are significantly broader and separate from the fields covered by MIE: the new MSE department will not service the rest of the College and University as well as the independent TAM



department would. This thought is basically a repetition of item #4 above. Precisely because of their independent and theoretical status, TAM faculty can collaborate with many of the other departments in the University—many, many fields touch on TAM's area of expertise. For example, Professor Moser (before he left) was working on a project to couple solids-modeling code with fluid-dynamics code to create a super code that could model blood flow through flexible blood vessels. Such a project would be great for collaboration with the Bioengineering Department. I am not sure that if he were in an MSE department that such a potential collaboration would have such good visibility. These collaborations would need some active advertising on the part of the MSE administration.

## **Conclusion**

My personal opinion is that the proposed merger is not in the best interests of the College and University because of the broad and theoretical nature of TAM and the benefits that its independence brings. However, even these concerns can be mitigated by good, careful, and detailed planning. Without such planning, this merger has a much lower probability of success. As far as I know, such planning does not exist at this time; therefore, the Educational Policy committee should delay approval of the proposal until the College, MIE, and TAM provide the necessary written plans to demonstrate the viability and feasibility of this merger. I have given several examples of details which the Committee should expect to see in a well-planned proposal. If this planning is performed, the proposed merger may be good and may be successful.

As a reminder: the Ed Pol committee's responsibility is not one of initial or investigative approval. Their responsibility is of a final approval of a proposal which, to their best knowledge, has every reasonable chance of success. The most thorough and independent review of this proposal will take place by this committee; good discussion cannot be expected to occur on the Senate floor or in the meetings of the Board of Trustees. Therefore, to prosecute its responsibility, the Ed Pol committee must insist on detailed, thorough, and peer-reviewed merger plans provided by the College of Engineering, the MIE department, and the TAM department, together. I sincerely hope that it will not be a difficult task and that good plans will be forthcoming shortly.

Best regards,  
Alan Bolind