

**Mechanical Engineering Department
Virginia Tech
October 28, 1996**

To: Michael Alley

From: Kris Johnson *KTJ*

Subject: Progress of My Research on the Evacuation of the R.M.S. Titanic

Introduction

This memo responds to your request on the progress of my research project for ME 4984. As you might remember, my research project was an assessment of the evacuation of passengers from the R.M.S. Titanic on April 14-15, 1912, after it struck an iceberg. As presented in my proposal of October 14, 1996, I identified two principal objectives for the research: (1) assess the evacuation equipment that was available when the ship struck the iceberg, and (2) assess the evacuation procedures during the three hours that it took the Titanic to sink. This memo will first present the research that I have completed so far, including preliminary results. Then this memo will discuss the remaining research and suggest modifications to that research based on information uncovered so far. Finally, the memo will discuss my progress on meeting the original deadlines for the project.

Completed Research

Since submitting my proposal, I have spent most of my research time obtaining and reading sources. My principal source, *Titanic: End of the Dream* [Wade, 1992], is a book that has required much time to read through. Figure 1 presents a timeline depicting the work done so far. The shaded bars represent work that has been completed.

Preliminary research shows that an assessment of the equipment is straightforward. The Titanic did not have nearly enough lifeboats. In fact, it had lifeboats for only about half the 2200 passengers and crewmembers, but this lack of available lifeboats was not unusual for cruise ships at that time [Wade, 1992]. Of more interest from an engineering perspective is an assessment of the procedure the crew used for loading and filling those boats during the three hours that it took for the Titanic to sink. For instance, the first lifeboat that was lowered into the water was at less than half capacity. That low percentage is interesting since almost two-thirds of the passengers and crew went down with the ship. Why were the lifeboats not full? Was it because the crew members were not skilled at filling them? Or was it because the crew had not made the passengers aware of the severity of the situation? Or was it something else? These questions are interesting from the perspective of safety engineering.

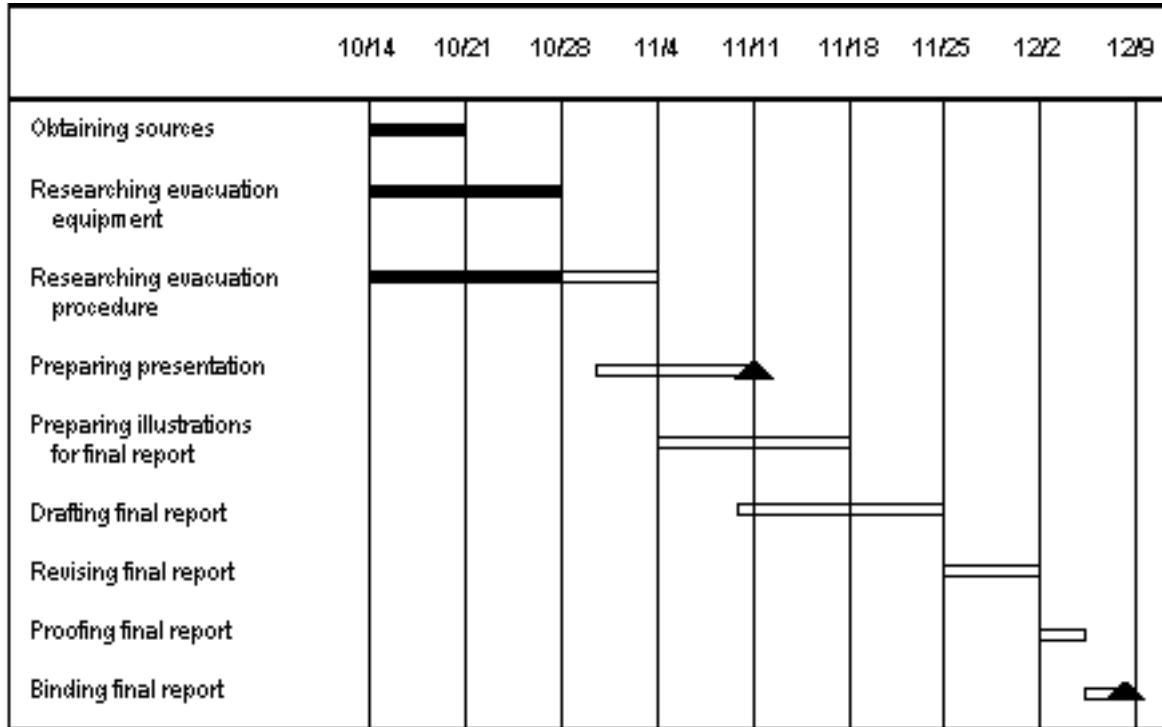


Figure 1. Timeline showing progress on research project. The filled bars indicate the work that has been completed. The open bars indicate the work that has yet to be done. The triangles indicate the key milestones: the formal presentation (November 11) and the formal report (December 6).

Remaining Research

Because preliminary results in the previous section raise interesting questions about the evacuation procedure, I would like to change my research to focus on that evacuation procedure, as opposed to discussing both the evacuation procedure and equipment. By focusing on the evacuation procedures, I believe that I can achieve more depth into a subject that could provide important safety lessons for engineers.

So far, I am on schedule with the research project. The open bars shown in Figure 1 present the timeline of work that I have yet to do to complete my research project by December 6, 1996. The two triangles indicate the important milestones for the project, the top one being the formal presentation (November 11) and the bottom one being the formal report (December 6). Most of the work remaining involves preparing a presentation on a portion of the research, drafting the final report, and revising the formal report. Because I am choosing a synopsis of the procedures for filling the lifeboats as my presentation topic (a topic that requires the presence of key images that will be used in the final report), I will have a head start on assembling important illustrations for the report.

Conclusion

This progress report has updated you on the status of my research on the evacuation of the R.M.S. Titanic on the night of its sinking. As stated, I am on schedule and should complete the project by the original deadline, December 6, 1996. Because preliminary research has raised interesting questions about the evacuation procedures, I request permission to modify my original objectives, discussed in the proposal, to focus on those evacuation procedures. In doing so, I believe that I will attain depth into an interesting engineering aspect of the Titanic's sinking.<P>

Reference

Wade, Wyn Craig, *Titanic: End of the Dream* (New York: Penguin, 1992).