



---

Naval Network & Space Operations Command (NNSOC)  
Dahlgren, VA

Technical Assignment 1  
10/05/2006  
Dr. Mistrick

### **Executive Summary**

The following technical report summarizes the current conditions of the lighting and daylight systems of the Naval Network & Space Operations Command (NNSOC) in Dahlgren, VA. The four spaces that I will be analyzed are the entrance lobby, auditorium, an open office area and the exterior parking and entrance area. Using the plans provided to me by Kling and creating AGI models of the spaces, a complete study of the building can be made and discover possible redesign ideas.

Referring to ASHRAE 90.1 and the IESNA Handbook, standards exist that need to be implemented in order to meet code in power densities and light levels, respectively. Studying the plans and elevations, along with identifying specific circumstances for each space, many performance criteria can be evaluated to ensure the best possible lighting design. These include glare, VDT criteria, aesthetics, psychological aspects and others.

The materials and finishes of each of the spaces are given in the plans and will be taken into account in the analysis. Reflectance values were not included but will be approximated in the AGI renderings. The glass type is a standard 1/4" minimum laminated glazing for all exterior windows, but transmittance values could not be found so assumptions had to be made. They differ space by space, and will be included in the report. I used AGI 1.9 for my modeling and analysis. These are simple models and do not include all the details of each space. If an .ies file could not be found for a specific fixture, a comparative alternate was used. Results that come from these models may not truly indicate how the real spaces perform due to assumptions and other unknown factors.