**To: Substantiality Task Force**

**From: William M. Cox**

**Plant Utility Engineer III**

**SUNY Geneseo Heating Plant**

In 2001 the heating Plant went through a multimillion dollar rehabilitation project. Compliments go to upper management, when in design phase; they heard and recognized our needs, end results provided us with the finest. A good analogy for the new and modern plant would be going from an old smoky diesel engine to the sophistication of the space shuttle. Just to name a few benefits of the new Plant include.

1. Converted primary fuel from Sulfur laded #6 bunker to a more cleaner and fuel efficient natural Gas, complimented with the ability of #2 backup.
2. Average daily combustion efficiency rose from mid 60s/low 70s to mid 80%s with a substantial reduction in emissions.
3. Conversion from water tube to fire tube cut consumption of warm up fuel for standby. This not only saved fuel but also gave us the ability for faster response to accommodate the master load.
4. In 2006, all Plant high induction electric motors were converted to VFDs, savings calculated at approximately $10,000 a year.
5. Full Plant EMS controls. Although human operated, the EMS does assist the Engineers in providing the most maximum efficiency possible using the least amount of energy for any given situation.

In 2006 Plant personal went on an aggressive campus wide infrastructure steam distribution repair mission. This resulted in the following.

1. Dailey water makeup dropped from 18% to less than 4%. A percent can equal approximately 750 gallons of water. Saving approximately 10,500 gallons a day. That’s 3,832,500 gallons a year.
2. Boiler chemical treatments were converted from harsh old school chemicals to Eco friendly polymers and cost reduced annually from $20,000+ to less than $7,500.
3. In progress, continuous and advancing building installation of EMS controls. This gives us the ability to not only monitor each individual building needs but allows the Plant EMS engineer to overview/modify building functions, implement reduction of after hour energy needs, curtailments and expedites repairs.
4. Trivia. SUNY Geneseo was one of the first SUNY systems to implement EMS controls, back then it was known as DDC. Since this inception, SUNY Geneseo has been moving full steam ahead with additions and improvements to this system.