

## A Decade of Safety Improvements Nets an "Ace Safety Year" at the Hampton/ NASA Steam Plant

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### ABSTRACT

During 1999, the Hampton/NASA Steam Plant achieved a distinguishing safety milestone by completing the year without a single OSHA recordable accident. At the end of the year, the plant had also worked 422 consecutive days without a lost time accident. The Steam Plant Manager, John Austin, called this significant milestone the "Ace Safety Year". Over the decade Worker's Compensation and medical expenditures decreased from \$153,000 to just \$234 by 1995. The savings in insurance premiums is now equal to the amounts spent annually on all safety equipment, employee physicals and uniforms.

The Hampton/NASA Steam Plant is a Waste-to-Energy facility located on the NASA Langley Research Center in Hampton, VA. The facility provides the Center steam energy by burning municipal waste from the City of Hampton and neighboring communities. The steam plant operates 365 days a year 24 hours a day with a staff of 34 full time employees. A Joint Board represents the owners, the Federal Government and the City of Hampton, and directs the operations and finances of the enterprise through a Steam Plant Manager. In 1990, the Joint Board decided to select a mechanical engineer with extensive power plant experience as the new plant manager.

After initial assessments of the facility and its programs, the manager's first priority was to establish a new safety program and safety attitude. By January of 1992 the new safety program was fully implemented. This new safety success began with a top down attitude with the plant manager designating himself as having the overall responsibility of the safety program. The Operations Manager was designated the Steam Plant Safety Officer, and half of his time would be shifted to performing safety duties. An independent Safety Committee was formed to help re-engineer safety procedures and spark safety awareness.

Safety training now begins on day one with all new employees and contractors are given intensive orientation consisting of training for all steam plant safety programs and protective equipment. Safety procedures and training were emphasized for every task or event. Every training event had to include a safety related component. Team leaders were all sent to OSHA 40 Hour General Safety Training. The Safety Officer was charged with becoming our safety expert by attending specialized OSHA training and seminars. Safety success is now viewed as an issue of educating and exciting managers and workers.

Personal Protective Equipment expenditures were tripled and went beyond requirements. Procedures were developed to reduce employee exposure to below all OSHA action levels. Respiratory protection was increased by issuing each worker powered air purifying respirators. All employees are now given respirator physicals. Safety shoes and prescription safety glasses were purchased for all employees.

An extensive Safety Awards program is used as an annual re-focus to safety. As employees gained trust and confidence in the safety program, "near misses" began to be reported. Suddenly we had a facility that was full of safety enthusiasts. Worker's Compensation costs and premiums have continued to decline. Then in our twentieth year of operation, we achieved our greatest safety milestone: ZERO accidents

### The Hampton/NASA Steam Plant

The Hampton/NASA Steam Plant is a Waste-to-Energy facility located on the NASA Langley Research Center in Hampton, VA. The facility provides the Center steam energy by burning municipal waste from the City of Hampton and neighboring communities. The steam plant operates 365 days a year 24 hours a day with a staff of 34 full time employees. The 240 ton per day plant has two units that produce a total of 66,000 pounds of steam per hour. Annually, the waste facility processes an average of 84,000 tons of refuse, disposes of 27,000 tons of residue ash and exports more than 350 million pounds of steam to the Center. The annual environmental impact is a savings of 3.5 million gallons of fuel oil that would normally be consumed by the Center's steam plant. A reduction in criteria air pollutants is achieved by reducing the volume of fuel burned and with a 10:1 reduction ratio for the volume of trash in verse the ash out, about two acres of land is saved by not burying raw garbage.

### A New Safety Program

As with any accident, there is a chain of events that lead to the final event in which the accident occurs. The same goes for the prevention of an accident. A chain of events take place and the risk of accident is diminished significantly or eliminated all together. The chain of events for the Hampton/NASA Steam Plant began in 1991 with the hiring of a new plant manager.

After an initial assessment of the facility and its programs, the new plant manager's first priority was a new safety program. From 1980 up to this time, the steam plant was using the Center's