



News Release

UNITED STATES AIR FORCE

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Charleston steams toward pipe replacement

New boiler system rids base of leaks; 'geysers' go extinct

Team Charleston continues a project this month to replace existing steam lines from a central steam plant with individual building boilers.

Phase one began in January with the installation of a new boiler for the 437 CES complex.

One of the most visible improvements is a decrease in the amount of steam being released from several minor leaks throughout the base, including the "geysers" at the Charleston Club, Housing Office and near the dormitories, according to Eugene Brown, 437th Civil Engineer Squadron mechanical engineer.

The multi-phase program could take as long as 15 years to finish. Work begins on the second phase of construction this month, to include removal of several hundred feet of existing overhead steam pipe near Bldgs. 570 and 611.

The central steam plant was constructed in the 1950s, with some of the steam lines installed underground, a few feet above ground (low profile) and overhead.

Making the switch to individual building boilers will eliminate miles of steam lines, according to Brown. Even though the lines are insulated, energy loss is unavoidable.

Several factors cause energy loss, said Maj. Brian Murphy, 437 CES Operations Flight commander. The expansion and contraction of steam lines, ground water making contact with hot steam pipes in underground pits and expected failures of an old system all contribute to the "geyser" effect.

"The challenging part of maintaining the system is that the steam leaks aren't visible until the base needs heat during the winter months," said Murphy. "To fix these problems, the steam must be shut off, causing buildings to be without heat. This is not practical until there are several consecutive days of warmer weather."

Along with saving energy, the long-term replacement of steam lines reduces the maintenance required on the aging lines and improves the look of the base.

"The appearance of the base will be greatly improved, which is important for a professional mindset among all base personnel," said Brown. "CAFB is making it a point to have a professionally-maintained environment."

Besides detracting from the overall appearance of the base, Brown said the steam is dangerous to work with. Personnel must take special precautions every time they enter a confined space, and this makes maintenance more time consuming, difficult and costly.

"For underground steam lines, pits are required for access to the valves and traps, which are entered through manholes," said Brown. "Anyone who enters a

pit must be attached to a safety harness so they can be pulled to safety if there is any type of emergency.”

Although work will be done on several buildings throughout the base, Brown said there would be very little impact on base personnel.

“Each phase of the work will begin at the end of winter so that no heat is required during the time of construction,” said Brown.

A third phase of the program will be awarded soon, providing boilers for the base gym, temporary lodging facility and the 437th Logistics Readiness Squadron vehicle repair facility, according to Brown. This phase will allow the base to disconnect underground steam lines, which have deteriorated over the years and are beyond repair.

“As long as there is a steam system on base, minor condensation leaks or “geysers” will appear,” said Murphy. “This results in a never-ending maintenance cycle.”

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