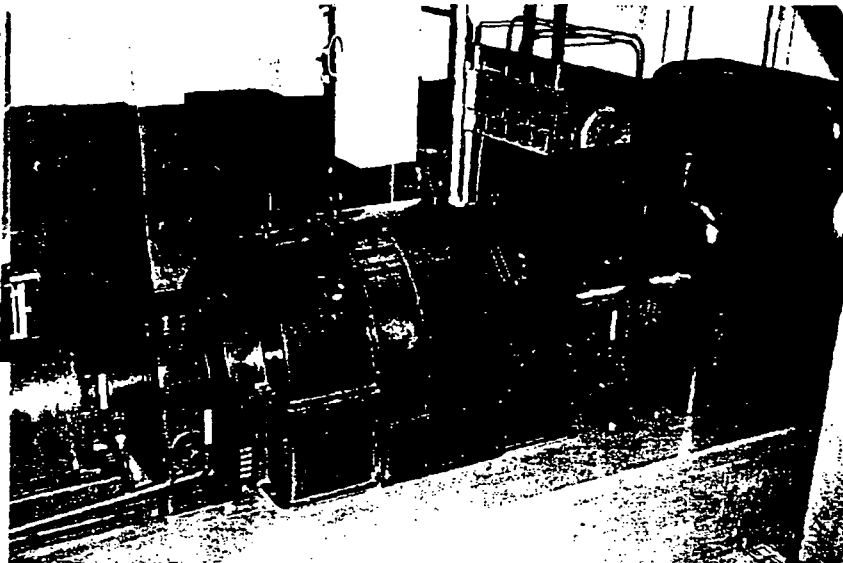
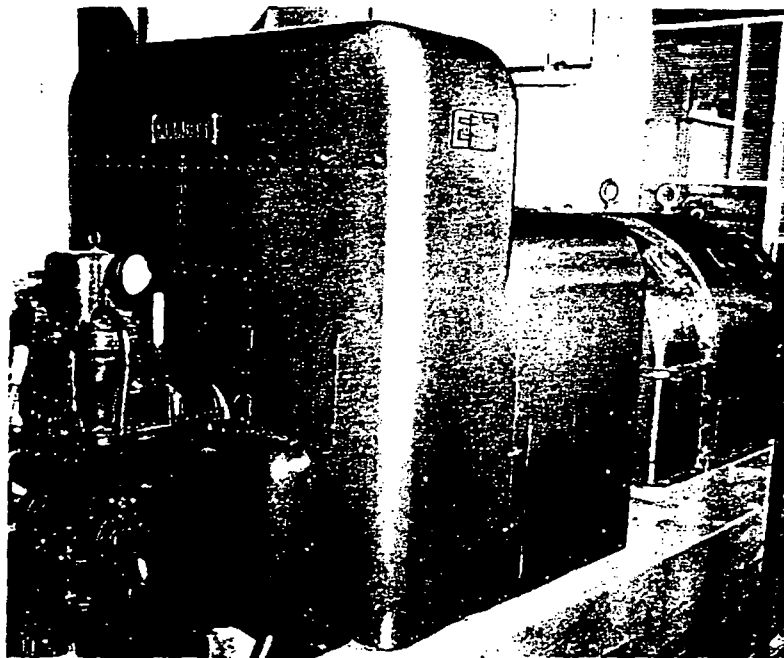


BY-PRODUCT ELECTRIC POWER AT THE UNIVERSITY OF FLORIDA



Two views of the Elliott turbine-generator. Above, an over-all view featuring the generator, and below, a view of the governor end of the turbine.



At the University of Florida, Gainesville, this Elliott turbine generator unit provides by-product electric power from their steam heating load, and it also is used for instruction purposes by their school of engineering.

In 1949 when making plans for future steam-generating facilities, the University decided to provide for their estimated needs of the next years. Proceeding with this plan they replaced three small old boilers with two new 65,000-lb-per-hr, 250-psig oil-fired boilers and installed an Elliott back-pressure turbine-generator with a single extraction port at 126-psig to supply steam to the university laundry. It has both back pressure and speed governing so that it can be used as either a variable-constant-load machine. The back pressure control is set to maintain 62-psig steam pressure in the campus heating lines. If the exhaust pressure falls below 60 psig, due to the inability of the turbine to pass more steam, an air-pilot-operated reducing static pressure takes over and maintains the pressure in the system by bypassing steam from the main header around the turbine.

An additional function of the turbine-generator is as an emergency power source (along with three diesel generators) in case of power failure due to hurricane or any other reason. With the campus electrical system completely underground the university can always maintain its electrical service.