

John C. Stennis Space Center Overview

The John C. Stennis Space Center (SSC) is located in Southern Mississippi near the Mississippi-Louisiana state line (see Figure 1). SSC is chartered as the National Aeronautics and Space Administration (NASA) Center of Excellence for large space transportation propulsion system testing. This charter has led to many unique test facilities, capabilities and advanced technologies provided through the supporting infrastructure. SSC has conducted projects in support of such diverse activities as liquid, and hybrid rocket testing and development; material development; non-intrusive plume diagnostics; plume tracking; commercial remote sensing; test technology and more. On May 30, 1996 NASA designated SSC the lead center for rocket propulsion testing, giving the center total responsibility for conducting and/or managing all NASA rocket engine testing. Test services are now available not only for NASA but also for the Department of Defense, other government agencies, academia, and industry.

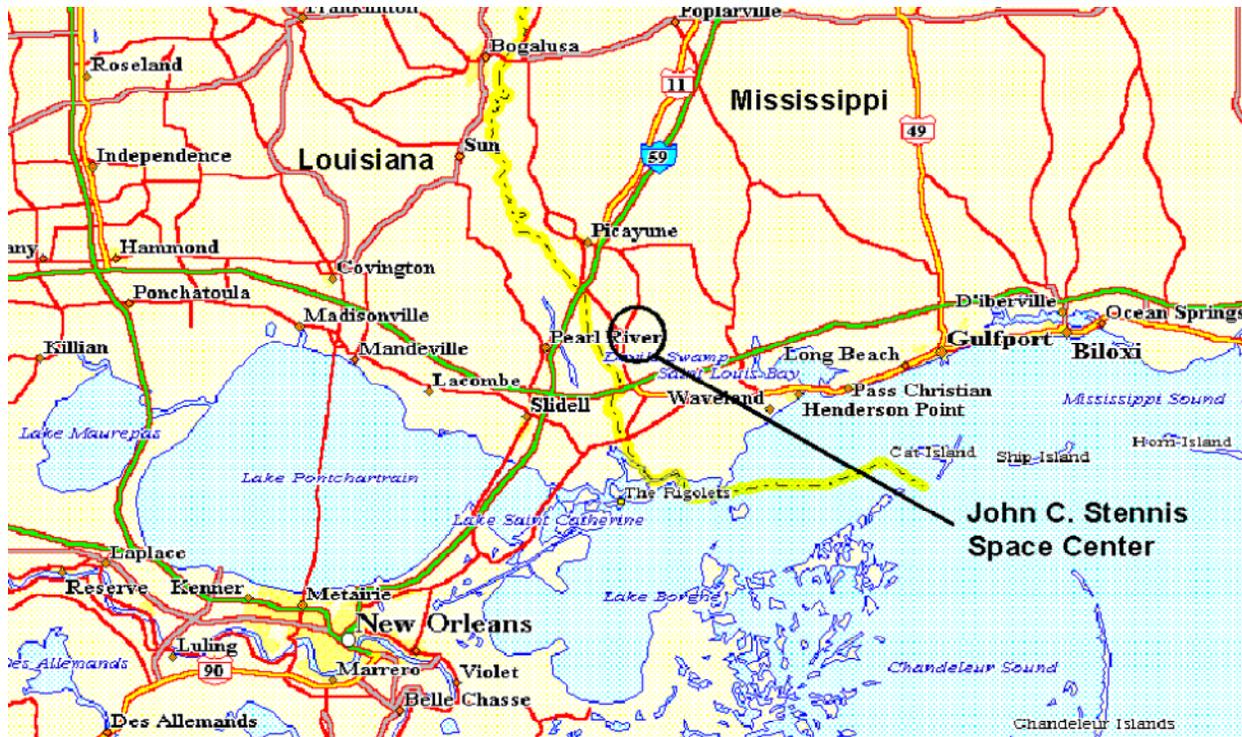


Figure 1 John C. Stennis Space Center

SSC E-4 Test Facility: Original conceived and designed to conduct ground tests of propulsion systems in support of NASA's Rocket Based Combined Cycle (RBCC) Program, the E-4 Test Facility was partially constructed, and, to this date, has not been completed. The basic test facility capability was designed to provide low-pressure hydrocarbon fuel (JP-7) and oxidizer (Liquid Oxygen or LOX) to test articles having a thrust in the horizontal plane up to 50,000 lbf (maximum).

The E-4 Test Facility consists of concrete-walled test cells and associated hard stand; a high-bay work area equipped with a bridge crane and adjacent work area; control room space; and personnel offices. The attached photographs represent each of the types of "space" which make up the E-4 Test Facility.

Access to the E-4 Test Facility is provided by road, and due to close proximity to the onsite canal system, barge access is also possible. Standard utilities are provided to the building, which houses the high bay/work area, control room space, and personnel offices. Duct banks and pipe races are provided between the building and the test cells, and may be outfitted in accordance with future needs.



Figure 2 E-4 Test Facility



Figure 3 E-4 Test Facility Utility Layout