



Information Technology Laboratory

Computer-Aided Structural Engineering (CASE) Project

Background The U.S. Army Corps of Engineers (USACE) is responsible for designing and maintaining a large number of navigation and flood-control structures. The Computer-Aided Structural Engineering (CASE) project was initiated to perform research and development (R&D) associated with development of computer-aided design/analysis tools for use in the design and analysis of these hydraulic structures.

Objective(s) The goals of the CASE project are:

- Better design/analyses of Corps structures.
- Reduction in time required for design/analysis of Corps structures.
- Elimination of duplication of program development efforts.
- Organized and cost-effective approach for development of computer programs based on design engineer input.
- Professional engineering analysis and programming.
- Good documentation.

Applications Application of Case technology has benefited a number of large civil works projects. All Corps offices have used at least one CASE program, and CASE programs have been used over 500,000 since FY80.

Benefits Benefits derived from the CASE project include:

- Optimum use of engineer's resources.
- Improved communications between structural engineers and managers.
- Optimally coordinated work between the Corps field offices, HQUSACE, and Corps laboratories.
- Involvement at grass root levels in the identification and solution of problems.
- Optimal design of structures with resultant cost savings. Closer coordination with other disciplines.
- Identification of soft spots in design criteria.
- More trained engineers in the design of hydraulic structures.
- Spin-off R&D products.

Contact E-mail: case@erdc.usace.army.mil