JERRY THOMPSON & ASSOCIATES, INC.

NATIONAL AIRSPACE SYSTEM DESIGN TOOL™

Computer-aided system engineering tool for airspace system design and engineering.

The NAS Design Tool enables airspace designers to derive specific, detailed operational procedures and functional requirements from a broad operations concept; it traces ICAO-defined or nationally identified services through an Operations Concept Design and a Technical Concept Design to specific equipment, procedural, and personnel requirements. The entire operational NAS can be characterized in a structured manner by facilitating the application of sound system engineering principles to manage the evolution of the NAS. Operational procedures and system specifications for emerging air traffic concepts can be quickly and methodically derived. Simulation, training, and requirements validation scenarios can be identified from the output of the NAS Design Tool.

The NAS Design Tool is built on a series of databases with varying levels of information that can be manipulated to systematically develop alternative states of the NAS.

- The Tool describes the people, procedures, and machine functions necessary to provide the required services.

- The Tool establishes an operational design, provides traceability between provided services and equipment requirements, and includes an analysis function to compare alternative NAS designs.

- The designer is able to navigate through the Tool, become familiar with the baseline design information contained in the existing databases, and manipulate that information to create, modify, or eliminate alternative designs.

- The Tool enables the designer to define a new operations concept and derive the associated procedures and equipment requirements.

- By decomposing the NAS into its fundamental operational primitives, the Tool gives the designer a powerful CASE tool for the development and evaluation of alternative NAS designs.

- The designer is able to assemble the procedural, machine-functional, and communication requirements associated with a given Operations Concept.