

A Boon for the Architect Engineer



A SYSTEM FOR IMPROVING PREPARATION OF CONSTRUCTION SPECIFICATIONS LEADS SPINOFFS IN INDUSTRIAL PRODUCTIVITY AND MANUFACTURING TECHNOLOGY

In the early 1960s, when NASA was a fledgling organization engaged in large scale construction of research facilities, the agency launched a

major effort to obtain quality construction at substantially reduced cost by developing a more efficient, computerized approach to preparing building specifications.

Written technical specifications, which spell out materials and components to be used on construction projects and the quality tests each item must pass, can have major impact on construction costs. Poorly formulated "specs" can lead to unacceptable construction, excessive material costs, safety hazards, disputes and often additional costs due to delays and litigation.

The nucleus of the NASA system for improving construction specifications originated at Langley Research Center, which developed an automated system called SPECSINTACT (Specifications Kept Intact). The system contains a comprehensive catalog of master specifications applicable to many types of construction. It enables designers of any structure to call out relevant sections from computer storage and modify them to fit the needs of the project at hand. Architects and engineers can save time by concentrating their efforts on needed modifications rather than developing all specifications from scratch.

The SPECSINTACT system, originally used only by Langley, was eventually adopted by all NASA field centers, later by the Army Corps of Engineers (CoE) and the Navy Facilities Engineering Command (NAVFAC). Today the system is becoming a government/industry

standard for the preparation of project specifications. It is jointly owned by NASA, CoE and NAVFAC; NASA holds the copyright for the software and Kennedy Space Center is responsible for maintaining and updating it.



At left, a project engineer is using the NASA-developed SPECSINTACT, an automated system designed to save time and money on construction projects through greater efficiency in preparing building specifications.

Photos by Glenn Benson, TGS Technologies

At right is a SPECSINTACT spinoff, the Construction Criteria Base compact disc, a "one-ounce library" that contains the equivalent of 250,000 pages of specification-related data.

Over more than a quarter of a century, successful use of SPECSINTACT led to a number of spinoff systems. The current commercially-available SPECSINTACT system is an integral part of the Construction Criteria Base (CCB), a low-cost optical disc system described as a "one-ounce library." In a single disc it contains the complete texts of hundreds of documents needed for the design and construction of facilities and civil works, together with built-in software for processing the information and developing specifications for individual projects.



Developed by the National Institute of Building Sciences (NIBS), a Washington, D.C. non-profit organization working in behalf of the \$500 billion-a-year American building industry, CCB incorporates SPECSINTACT as a major element of the system but goes much further; it includes federal guide specifications of 10 government agencies; private industry guide specifications, including the American Institute of Architects' MASTERSPEC®; standards and regulations; federal design and technical manuals; model building codes; and federal cost estimating systems.

CCB employs Compact Disc-Read Only Memory (CD-ROM) technology based on the same principle as music CDs. To collect, organize, store and update the data on a single CCB disc, says NIBS, would take "10 filing cabinets, three bookcases, at least \$12,000 in checks to 150 different organizations, over 200 thousand pieces of paper, three dozen boxes of floppy diskettes, a reliable copier, one consultant, a state-of-the-art word processing system, at least one speed typist and one extremely talented administrative assistant/librarian who works overtime for nothing."

CCB is available from NIBS on a subscription basis at less than \$1,000 a year; a subscription includes quarterly updates, a "Help Desk" telephone technical assistance service, a user's guide and supporting software, and a quarterly CCB user's newsletter. CCB has more than 1,600 subscribers, including some 900 among government agency offices and 700 among private architect/engineer firms.

In a NIBS survey of CCB users, respondents reported substantial savings in both clerical and professional time, with many users indicating improvements of 75 percent or better in comparison with the way they previously prepared specifications. The system offers additional savings, says NIBS, "in higher productivity, drastically less time worked on paperwork, fewer costly construction errors and delays, and lowered risk of liability due to increased accuracy and thoroughness."

The President's Council on Management Improvement found that "the SPECSINTACT/CCB system is one of the most significant improvements in the management of federal construction specifications that has surfaced in recent years." ●

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