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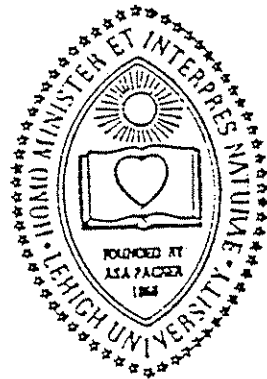
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System Management Document

by

Francis A. Harvey
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ATLSS Report No. 87-05

LEHIGH UNIVERSITY

3 November 1987



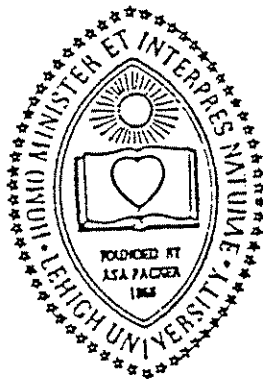
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Document Function

This document is prepared to assist in managing the TICSS system efficiently. The arrangement follows some of the suggestions of Churchman (1968) in "The Systems Approach", and is used in similar form to manage the work of the High-Rise Institute. It outlines the approaches to be used to ensure that all aspects of the project are well documented and that progress can be appropriately monitored.

All personnel who are involved in the project should be familiar with this System Management Document. It should be referred to frequently and used as a means of keeping information in good order.

Project Management Lists should be reviewed on a regular basis and updated promptly as the need arises. System Specifications are subject to periodic revision when a current version is found to be inadequate. Other reports are cumulative records of the activities of the project and are to be maintained for reference purposes.

In order to familiarize staff with the project, the document also contains brief statements on the Need, Objectives, Goals, Measures of Effectiveness, Constraints, Resources and Components.

Need

One of the projects of ATLSS is the development of a technical information center for steel structures (TICSS). It is not only a component of the Center's work, but it is a subject specifically earmarked for emphasis by one of the ATLSS sponsors: The American Institute of Steel Construction (AISC).

In conference with the AISC technical staff (11 June, 1986) it is clear that their first interest is in the technical literature--the basis of recommendations and references that they can offer to those who have questions about structural steel design, fabrication and erection. This technical literature, in their view, can consist of university reports, AISC engineering conference proceedings, other conference proceedings, AISC Engineering Journal articles, other journals, MS and PhD theses, and books.

They are also interested in other forms of information: Test data bases, information for "emerging fields" (such as semi-rigid connections), and information on available "structural software".

It is agreed that a computerized framework is essential, that the CD-ROM laser disk technology should be exploited to the fullest, and that eventually the information should become part of a "Knowledge System".

Obviously the system has to be compatible with other systems... except where those have not kept pace with current technology.

The service should be on-line and include hard copy (or at least reference to source).

Objectives

The objectives are as follows:

- to create a Technical Information Center for Steel Structures.
- to collect, store and make available for use literature, data, and knowledge pertinent to all aspects of steel structures (design, fabrication, erection, operation, renovation, and demolition).
- to maintain and update this information in a computerized system.
- to provide an on-line system, hard-copy service (at least identifying the sources), and perhaps current awareness service and issuing of an abstract journal.

Goals

1. Identification of needs
2. Establish project strategy and technology
3. Budget development
4. Staffing of project
5. Identify subsystems of TICSS
6. Identify sources and arrange for interactions
7. Develop input criteria and procedures (a) internal, (b) external
8. Procure equipment and software
9. Develop procedures and specifications for the system... its activities and its subsystems
10. Place phase 1 in operation (bibliography)
11. Develop marketing strategy
12. Determine document storage arrangements

Measures of Effectiveness

- Does it satisfy our sponsors?
- Does it meet the needs of ATLSS program investigators?
- Is it attracting outside interest?
- To what extent are researchers and outside practitioners using it?

Constraints

Budget (recommended by the Principal Investigator and approved annually)
Time (ATLSS requires a reliable system that can be used by all of its project personnel for their research work)
Personnel (limited to those positions described in List 2.1)
Commercial software (limited to moderately priced programs)
Equipment and hardware (limited to a microcomputer- based system)
Scope of subject matter (limited to data relating to steel structures)

Resources

Project budget
Commercial software (see List 5.1)
Equipment and hardware (see List 5.2)
Staff (see List 2.2)
Lehigh Advisory Committee (see List 2.2)
Industry Advisory Panel (see List 2.2)

Components (Activities)

- Develop interactions with ATLSS project personnel
- Develop interactions with agencies outside of ATLSS that would have "steel" information (see List 1.2 for complete list)
 - Lehigh University - Libraries
 - Institute for the Study of the High-Rise Habitat
 - Council on Tall Buildings and Urban Habitat
 - Structural Stability Research Council
 - American Institute of Steel Construction (AISC)
 - American Iron and Steel Institute (AISI)
 - Smithsonian Institution
 - Library of Congress
 - National Technical Information Service (NTIS)
 - Engineering Index
 - Information retrieval networks
- Supply on-line service
- Develop marketing plan
- Develop and maintain hardware and software
- Collect information from appropriate sources
- Provide access to computerized bibliographic database
- Explore optical-disc as data storage medium
- Provide current awareness update
- Integrate into knowledge-based system
- Develop and maintain System specifications
- Develop staff
- Evaluate system

Subsystems - The major elements of TICSS (see List 4.1)

1. Bibliography (printed textual material)
2. Structural software
3. Slides (graphs, charts, and photographs)
4. Films and video-tapes
5. Audio-tapes
6. Current research activities
7. Research results
8. Technical data (text, tables and graphs)
9. Case studies and digests
10. Directory of professional specialists
11. Inventory of "Large Structures"
12. Project descriptions
13. Specifications and standards
14. Codes of practice
15. Suppliers of services and materials
16. Inferences and rules (for incorporation into knowledge-based system)

