

• SPECTRUM OF ROLES

• MONITORING - VERIFY AND EVALUATE DATA FROM MULTIPLE SOURCES TO ASSURE THAT PROPER AND ADEQUATE OPERATIONAL AND PROTECTIVE MEASURES ARE BEING TAKEN AND INFORM THE PUBLIC.

• ADVISORY - PROVIDES REQUESTED OR VOLUNTEERED ASSISTANCE IN DIAGNOSING THE SITUATION AND ISOLATING CRITICAL PROBLEMS.

• PROTECTIVE ACTION DETERMINATIONS - ADVISE OTHER CONCERNED AGENCIES.

• DIRECTION - ASSUME INITIATIVE IN MAKING OPERATIONAL DECISIONS REGARDING LICENSEE ACTIONS TO BE TAKEN.

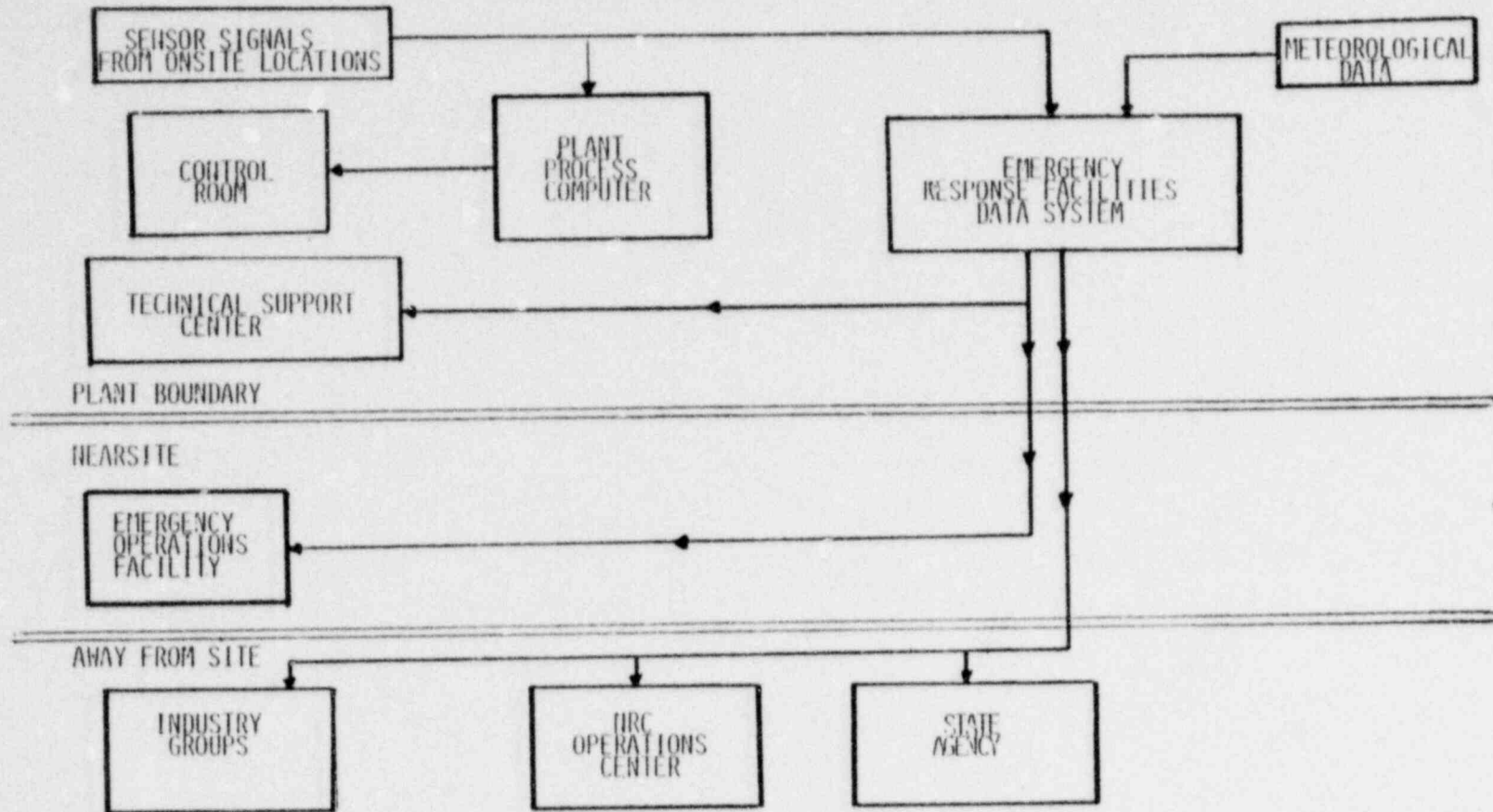
• ASSUME MANAGEMENT CONTROL - TASKING OF THE LICENSEE AND SUPERVISION OF THE IMPLEMENTATION OF THE ACTIONS ORDERED.

• CONSTRAINTS - HRC WOULD NOT PHYSICALLY OPERATE FACILITY.

## DATA NEEDS DURING AN EMERGENCY

<u>USER</u>	<u>MISSION</u>
LICENSEE	MITIGATE CONSEQUENCES OF ACCIDENT AND RECOMMEND PROTECTIVE ACTIONS
STATE (LOCAL)	DIRECT PROTECTIVE ACTIONS
VENDORS	TECHNICAL SUPPORT FOR LICENSEES
NSAC/INPO	TECHNICAL SUPPORT FOR LICENSEES
NRC	MONITOR LICENSEE ACTIONS, ADVISE ON PLANT STRATEGY AND RECOMMEND PROTECTIVE ACTIONS

FUNCTIONAL BLOCK DIAGRAM OF PROJECTED EMERGENCY DATA LINK SYSTEM

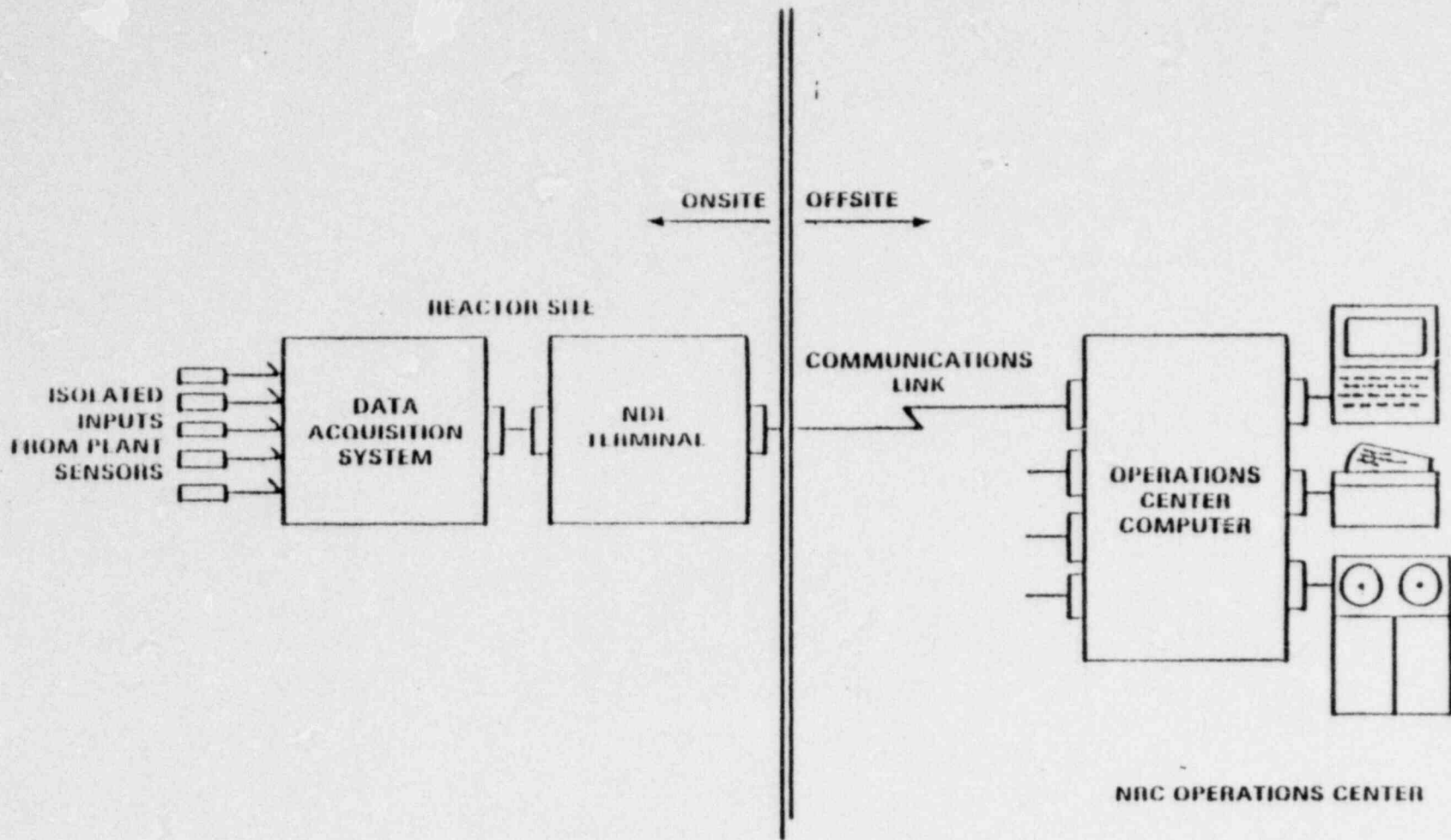


ALTERNATIVE DATA LINKS CONSIDERED

- ° MANUAL METHODS
  - °° TELEPHONE FACSIMILE
  - °° ORAL TRANSMISSION
- ° SEMI-AUTOMATIC METHODS
  - °° STORAGE AND LATER TRANSMISSION
  - °° PRINTER
- ° AUTOMATIC METHODS
  - °° AUTOMATIC AND CONTINUOUS DATA TRANSMISSION

SUBSET OF EOF/TSC DATA REQUIREMENTS

- REACTOR VARIABLES ( ~ 70)
- METEROLOGICAL ( ~ 10)
- RADIOLOGICAL ( ~ 20)



NDL MANAGEMENT CONCEPTS

- PLAN A - IIRC PROGRAM OFFICE/CONTRACTOR IMPLEMENTATION
- PLAN B - IIRC PROGRAM MANAGER/SANDIA IMPLEMENTATION
- PLAN C - IIRC PROGRAM OFFICE/OUTSIDE TECHNICAL INTEGRATOR/  
SYSTEMS CONTRACTOR

RESPONSIBILITY	PLAN A	PLAN B	PLAN C
OVERALL PROGRAM MANAGEMENT	NRC	NRC	NRC
FORMAL ARRANGEMENT WITH LICENSEES	NRC	NRC	NRC
REQUIREMENTS AND MAINTAINING OPERATIONS CENTER	NRC	NRC	NRC
PROCUREMENT OF CONTRACTOR SERVICES	NRC	S	NRC/TI
MANAGING AND EVALUATING CONTRACTOR WORK	NRC	S	TI
NRC/LICENSEE INTERFACE DEFINITION	NRC	S	TI
SYSTEM DESIGN AND IMPLEMENTATION	C	S	C
HARDWARE AND SOFTWARE DEVELOPMENT	C	S	C
OPERATIONS CENTER ARCHITECTURE & HUMAN FACTORS	C	C	C



PLAN A

ADVANTAGES:

- RELATIVELY SIMPLE
- CONTRACTOR WITH BROAD EXPERIENCE
- CLEARLY PLACES RESPONSIBILITY
- UTILIZES PRIVATE ENTERPRISE ~~PROGRAM~~

DISADVANTAGES:

- NRC WOULD HAVE TO DEVELOP LARGE PROGRAM OFFICE ~~PROGRAM~~

PLAN B

ADVANTAGES:

- WOULD RELIEVE NRC OF CONTRACTING BURDEN IN PLAN A
- WOULD ALLOW IMMEDIATE START
- FASTER NRC PERSONNEL THAN IN PLAN A
- LEARNING COST REDUCED

DISADVANTAGES:

- LESS COMPETITIVE BIDDING
- LEAST PROGRAM CONTROL
- LEAST INNOVATIVE

PLAN C

ADVANTAGES:

- TAKES ADVANTAGE OF COMPETITIVE BIDDING PROCESS
- COULD BE STRONGER MANAGEMENT THAN NRC IN PLAN A
- PROVIDES EXPERT CONTRACTING AND MONITORING HELP.
- ALLOWS USE OF EXPERIENCED DATA COMMUNICATIONS ORGANIZATION TO MANAGE

DISADVANTAGES:

- SOME DUPLICATION OF NRC TASKS AND ADDITIONAL INTERFACES

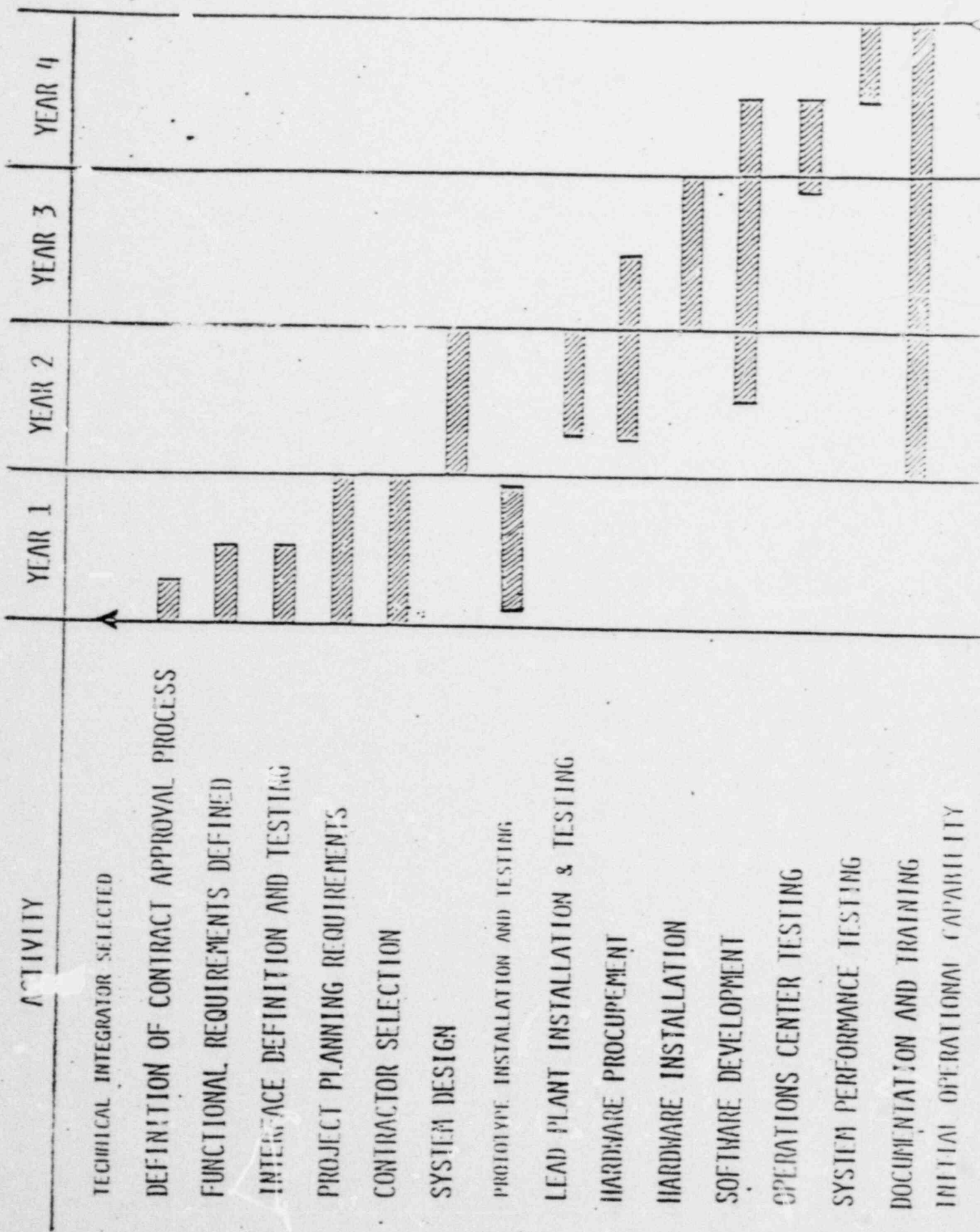
INDL IMPLEMENTATION

OVERALL NRC COSTS - \$17,000,000 TO \$21,000,000

INDUSTRY COSTS - MINIMAL

OPERATING AND MAINTENANCE COSTS - \$2,000,000 PER YEAR

TIME TO IMPLEMENT - 4 YEARS



ACTIVITY

TECHNICAL INTEGRATOR SELECTED

DEFINITION OF CONTRACT APPROVAL PROCESS

FUNCTIONAL REQUIREMENTS DEFINED

INTERFACE DEFINITION AND TESTING

PROJECT PLANNING REQUIREMENTS

CONTRACTOR SELECTION

SYSTEM DESIGN

PROTOTYPE INSTALLATION AND TESTING

LEAD PLANT INSTALLATION & TESTING

HARDWARE PROCUREMENT

HARDWARE INSTALLATION

SOFTWARE DEVELOPMENT

OPERATIONS CENTER TESTING

SYSTEM PERFORMANCE TESTING

DOCUMENTATION AND TRAINING

INITIAL OPERATIONAL CAPABILITY

YEAR 1

YEAR 2

YEAR 3

YEAR 4

RECOMMENDATIONS

STAFF SHOULD:

- ° IMPLEMENT PROTOTYPE OF NDL
- ° MOVE FORWARD UNDER MANAGEMENT PLAN C
- °° SOLICIT EXPRESSIONS OF INTEREST FOR  
TECHNICAL INTEGRATOR
- °° PROCEED WITH OTHER NDL TASKS BY  
SOLICITATION FOR BID

March 11, 1981



SECY-81-153

## POLICY ISSUE (Notation Vote)

For: The Commissioners

From: Executive Director for Operations

Subject: NUCLEAR DATA LINK (NDL) MANAGEMENT PLAN

Purpose: To respond to the Commission's request that the specifications for the Nuclear Data Link be developed (July 15, 1980 memorandum from Chilk to Dircks) and to seek Commission approval to proceed with a prototype NDL according to the management plan recommended by the staff.

Background: The staff has previously provided the Commission with information and plans regarding the Nuclear Data Link concept and implementation in SECY 80-35, 80-35A, and 80-326. These papers were presented at a Commission briefing at Open Meetings on February 7, 1980, May 15, 1980, and July 11, 1980, respectively. As a result of the last briefing, the staff was instructed to develop NDL system specifications for open bidding purposes and the selection of contractors to implement the selected system. This paper is to update the Commission on various actions and activities related to the NDL and request further guidance regarding the implementation of the NDL.

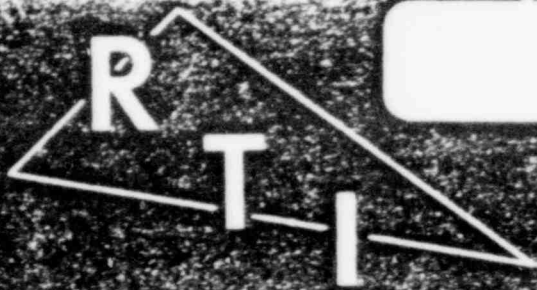
Discussion: At the last meeting on the NDL, the Commission also discussed the publication of NUREG-0696, "Functional Requirements for Safety Parameter Display, Technical Support Center, Emergency Operations Facility and Nuclear Data Link," which provides guidance to licensees and other emergency preparedness planners to design an integrated emergency resource capability, including the NDL. This document was published as a final report during February 1981. The NDL section of NUREG-0696 is provided in Enclosure 1.

In addition, to obtain an independent evaluation of the NDL approach and specifications developed by Sandia for the NRC, the staff requested the Research Triangle Institute (RTI) and the National Aeronautics and Space Administration (NASA) to review the published work available on the NDL concept developed by Sandia and the staff and comment on the technical aspects of the concept. The NASA report is Enclosure 2 and the RTI report is Enclosure 3. In general, each concluded that the Sandia design concept appears to be appropriate for the NDL mission. Each group found it somewhat

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RESEARCH TRIANGLE INSTITUTE

Review of Nuclear Data Link  
Conceptual and Programmatic Framework

for

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Office of Nuclear Regulatory Research  
Nuclear Regulatory Commission

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August 1980

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