

**RESPONSES TO TECHNICAL
QUESTIONS**

OIP REQUIREMENTS STUDY

RFP-RS-ORM-84-397

OCTOBER 31, 1984

Prepared for:

**NUCLEAR REGULATORY COMMISSION
OFFICE OF INTERNATIONAL PROGRAMS**

Submitted by:

**MERIDIAN CORPORATION
5113 Leesburg Pike, Suite 700
Falls Church, Virginia 22041**



Meridian Corporation

In Reply Refer to:

MCC-84-135-IS
October 31, 1984

Timothy F. Hagan
Nuclear Regulatory Commission
Administrative Contracts Branch
Division of Contracts
Office of Administration
Washington, D.C. 20555

Subject: RFP-RS-ORM-84-397, Entitled "OIP Requirements Study"

Dear Mr. Hagan:

Meridian Corporation is pleased to submit its response to the technical questions transmitted to us in your letter of October 24, 1984. The enclosed package contains two parts. Attachment A contains our responses to the nine questions cited in the enclosure to your letter of October 24, 1984. Attachment B contains paper copies of the presentation we have prepared for today's discussion. I would like once again to reiterate our extreme interest in the proposed effort. Our team is very enthusiastic at the prospect of working with the Nuclear Regulatory Commission (NRC) in this area, and we feel that our original proposal of September 19, 1984 and the attached responses are indicative of this commitment. Further, we feel that our level of expertise in export/import control and information systems makes us an unprecedented and substantial resource to NRC. Should you need any further information, please do not hesitate to call me.

Sincerely,

MERIDIAN CORPORATION

Peter A. Perucci
Chief Executive Officer

ATTACHMENT A

Responses to Technical Questions
RFP-RS-ORM-84-397 Entitled "OIP Requirements Study"

1. Did Ms. Tina Cohen actually work on the Displaywriter and 5520 portions of the AOS Study? . . . or with the actual equipment?

Ms. Cohen worked on the Displaywriter and 5520 portions of the Automated Office Study and has acquired hands-on experience with the equipment. The 5520 network is a shared logic text processing system designed for extensive and efficient handling of large volume text output. Its word processing software offers more functionality than the Displaywriter. It supports up to 36 displays and several types of printers including laser and ink jet. Micro computers can be hardwired to the network giving the system additional capabilities such as graphics. The Displaywriter is IBM's popular stand alone word processor. Although the Displaywriter supports CPM and the California P-System operating system and can run some application packages, it performs best as a word processor. It can be added to the IBM 5520 network usually through communications.

In theory and in practice the Wang Alliance system is comparable to the IBM 5520. It is also a multi user shared logic text processing system. Ms. Cohen has worked extensively with the Wang Alliance system and was a system administrator for a secure Alliance System at the Department of State. Ms. Cohen also has hands-on experience on similar stand-alone processors such as the Xerox 860 and the Lexitron 1202, 1303. She has also been responsible for adding micro-computers to a network and as such understands the issues and problems that may arise.

As an office automation specialist, Ms. Cohen has a conceptual/theoretical understanding of word processing equipment and how hardware and software can satisfy user requirements. Ms. Cohen's experience in training all levels of system users gives her added dimension and insight to the user environment.

2. Will the pre-interview package be reviewed by IP before it is sent? Is it open to modifications or changes in order to be tailored for certain individuals?

At contract award, Meridian Corporation will revise its proposed work plan to incorporate any changes in schedule, technical approach, interview protocols, data handling, management procedures, and interview schedules identified during the initial meetings with the IP Project Officer. As standard Meridian practice, the pre-interview package will be submitted to IP for review and approval prior to its distribution. Modifications and changes specified by IP will be incorporated to ensure that the package is tailored for particular individuals.

3. What will the proposed decision paper contain at the end of Task 2?

The proposed decision paper to be completed at the conclusion of Task 2 will provide an overview of each of the alternative design concepts identified in Task 2, and present findings with respect to expected costs and benefits of

each of the design concepts. This decision paper will provide a formal vehicle for apprising IP of the technical status of the effort and of the conclusions arising from the analyses conducted in Task 2. The paper will present Meridian's recommendations of the alternative(s) which should be pursued in greater detail and will summarize the reasoning behind Meridian's recommendations. Through the submission of this decision paper to the Project Officer, Meridian will provide IP an opportunity to exercise control over the technical direction of remaining tasks. In responding to the decision paper, IP may confirm that alternative design concept(s) recommended by Meridian should be developed in greater detail or redirect subsequent efforts by adding or eliminating possible concepts to be defined in Tasks 3 and 4. This decision paper will be submitted to IP in draft for review, and comments will be incorporated in a final version.

4. If the proposed Systems Analyst is also the System Manager for the Meridian computer facility, how can she devote 100% of her time to this project?

The proposed systems analyst, Ms. Karen Forcey, is available for 100% of the 536 hours bid, a total of 62.6% of her time during the contract period of performance. Although she serves as System Manager of the Meridian computer center, currently Ms. Forcey spends less than 5% of her time on such activities. Furthermore, she is assisted by a computer operator and a backup system manager to ensure that her responsibilities at Meridian do not interfere with service she provides to our clients.

5. Will Meridian be able to use its previous experience with other Government agencies to an advantage in obtaining data the NRC may need?

Meridian will be able to use its experience with other agencies to assist in obtaining data to support this effort. The proposed project team is composed of individuals who have worked on similar studies for the Departments of Commerce, State and Energy. As a result, they are familiar with the automated systems used by these agencies and are aware of data which NRC might need. Furthermore, project team members have established working relationships with the personnel in those agencies who control access to information which would be useful to NRC. We will be able to advise NRC as to the types of information which is available and the sources from which it can be obtained.

Our experience in providing similar services to other agencies in the export control community will allow significant advantages to accrue to NRC through the proposed study. In particular, Meridian is able to:

- o identify data which is available (sources, types, characteristics, etc.)
- o advise NRC as to the utility of such data
- o facilitate rapid access to data through established contacts at the working levels of the organizations as well as formal channels.

The Meridian experience base will be advantageous to NRC not only in facilitating access to needed data but also in increasing the efficiency of the proposed study. Specifically, the proposed project team's experience in conducting similar studies, as well as its in-depth understanding of the software used by other agencies and

of the inter-agency relationships involved, will result in:

- o elimination of false starts
- o more efficient use of study resources
- o better use of interviews
- o minimal disruption of normal work at NRC, DOE, Commerce, and State by trying to "learn".

6. Please confirm each member of your project team as "key personnel." IP expects to have the people proposed work on the project.

Meridian Corporation understands the criticality of proposed personnel to this procurement and confirms that all members of the proposed project team, consisting of Ronald Rogers, Karen Forcey, Randy Ingalsbe and Tina Cohen, are designated as key personnel and are available as bid in Exhibit 3-25, page 3-63. Meridian Corporation fully intends to have these individuals available for and participate in this study.

7. How will interviews and the interview process be documented, specifically follow-up phone calls?

All interviews and follow-up phone calls will be verified and documented by a final written interview summary. Exhibit 3-4, page 3-21 of the referenced proposal presents a sample format for the interview result summaries. When completed, each summary will be sent to the interviewee so that he or she may verify the content or clarify misunderstandings. A cover letter will be sent along with the interview summary requesting comments. In the absence of such comments, the Meridian project team will conduct a follow-up phone call or visit, if necessary, to ensure that a failure in communication has not occurred. At the completion of this task, Meridian will submit a comprehensive list of those personnel who participated in the interview process, along with the draft information analysis report. In compliance with the Statement of Work, an anonymous (unattributed) copy of the written interview summary will be included in an appendix to the Information Analysis Report completed at the conclusion of Task 1.

8. What procedures will be used to set up visits to other agencies?

- i.e.
- Meridian or IP to establish dates and times?
 - Which Meridian staff member will conduct outside interviews?
 - Would Meridian like for an IP staff member to attend outside interviews?
 - Who will coordinate out-of-town travel arrangements?
 - If, after an outside visit, more information is needed, how will it be obtained?

Coordination of the interview process will involve cooperation between Meridian and IP, with IP retaining ultimate control of the process. Meridian expects

IP to provide a list of individuals to be interviewed, including their mailing addresses and phone numbers. Although we would like for IP to notify these individuals of the study and of Meridian's role in it, Meridian will arrange dates and times with the people to be interviewed if IP so desires. While notification to NRC personnel may be accomplished orally, a letter or inter-agency memo would be more appropriate for notifying individuals from outside agencies who are to be interviewed. If IP so desires, Meridian will draft a letter that IP may revise and send to these individuals. The interview schedule will be coordinated with IP so that an IP representative may attend and to assure IP that Task 1 is progressing on schedule. Both Randy Ingalsbe and Karen Forcey will be involved in conducting the interviews, although we expect Mr. Ingalsbe to spend a greater amount of time in the interviews. This will allow the interview process to be concluded within the time allotted for Task 1. Meridian would be pleased to have a representative of IP attend the interviews. However, it is possible that the presence of an IP representative could inhibit the free flow of information in a small number of cases. While the decision of whether to have an IP representative attend interviews is IP's, we would suggest making this decision on a case by case basis. As in the case with local interviews, Meridian would like IP to notify out-of-town interviewees as to the study and Meridian's role in it prior to the scheduling of the interview. With NRC's concurrence of the planned arrangements, Meridian will coordinate out-of-town travel. If after an outside visit more information is needed, additional information will be obtained through follow-up phone calls. When conducting this type of study, Meridian is careful not to interrupt an individual repeatedly with separate requests for information, but to consolidate requests to be made all at once. A paper trail will be maintained by sending a written summary of the key points in the phone conversation to the individuals interviewed by phone.

9. What mechanism will be used to formally conclude individual interviews?

Meridian Corporation will send a letter thanking each individual for his or her time and transmitting the interview summary documentation (see response to #7 above) to each person interviewed. The letter will request the addressee to make any changes he feels are needed, or to accept the summary as presented. Any revisions based on an individual's response to a follow-up phone call or letter will be sent to that person for review and approval. Meridian will also draft a letter which NRC may send to all participants at the conclusion of the study thanking them for their contributions. As the referenced proposal states, all interviews will be summarized and a "sanitized" version of the summaries with the sources deleted will be documented in an appendix to the Information Analysis Report completed at the conclusion of Task 1.

ATTACHMENT B

RESPONSES TO TECHNICAL QUESTIONS

OIP REQUIREMENTS STUDY

RFP NO. RS-ORM-84-397

OCTOBER 31, 1984

PURPOSE

- o INTRODUCTION OF PERSONNEL
- o INTRODUCTORY REMARKS
- o RESPONSES TO QUESTIONS
- o CONCLUDING REMARKS

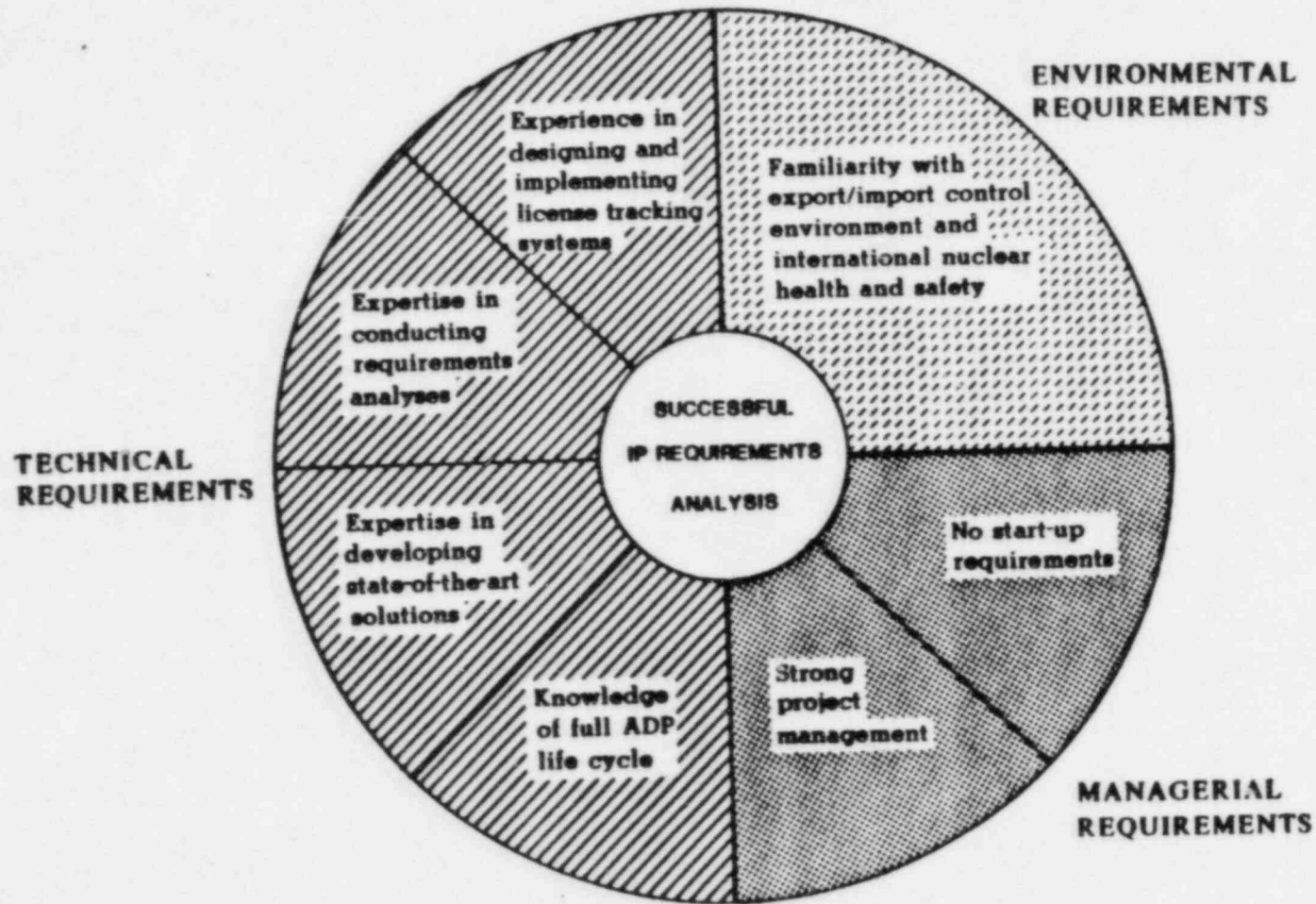
INTRODUCTORY REMARKS

- o MERIDIAN'S CONSULTING ROLE
- o MERIDIAN'S COMMITMENT
 - PERSONNEL
 - CORPORATE
- o MERIDIAN'S UNDERSTANDING OF THE TECHNICAL REQUIREMENTS
- o MERIDIAN'S RESPONSE TO TECHNICAL QUESTIONS
- o CONCLUDING REMARKS

PROPOSED HOURS BY TASK BY LABOR CATEGORY

LABOR CATEGORY	PROPOSED HOURS				
	TASK 1	TASK 2	TASK 3	TASK 4	TOTAL
Project Manager	32	24	24	24	104
Systems Analyst	256	104	136	40	536
Jr. Systems Analyst/ Technical Writer	270	100	132	52	554
Office Automation Specialist		16		16	32
Support	40	40	40	40	160
TOTAL	598	284	332	172	1386

REQUIREMENTS FOR SUCCESSFUL PROJECT COMPLETION



RESPONSES TO TECHNICAL QUESTIONS

QUESTION #1 - DISPLAYWRITER/5520 EXPERIENCE

- o KEY CONTRIBUTOR TO AUTOMATED OFFICE STUDY
- o EXTENSIVE HANDS-ON EXPERIENCE WITH FUNCTIONALLY COMPARABLE SYSTEMS
- o FIRST HAND KNOWLEDGE OF UTILITY OF FUNCTIONALLY COMPARABLE SYSTEMS IN LIKE ENVIRONMENT

QUESTION #2 - PRE-INTERVIEW PACKAGE REVIEW/APPROVAL

- ☐ STANDARD PRACTICE
- ☐ NO DELAYS/TIME LOSS
- ☐ DATA QUALITY AND ASSURANCE

QUESTION #3 - TASK 2 DELIVERABLE

- o NOT CALLED OUT IN SOW
- o ASSURES EARLY INVOLVEMENT OF NRC IN STUDY PROCESS AND CONTROL
- o BASIS FOR DIRECTION/REDIRECTION FOR DETAILED WORK (FOCUS)

QUESTION #4 - STAFF AVAILABILITY

- o KEY PERSONS
- o 100% AVAILABLE FOR HOURS BID
- o SYSTEM MANAGER (HP 3000) DUTIES -- LESS THAN 5% OF TIME
- o ADEQUATE BACK-UP (AT MERIDIAN)

QUESTION #5 - OTHER AGENCY EXPERIENCE

- o EXISTING LINES OF COMMUNICATION
- o TOTAL AWARENESS OF CAPABILITIES/DATA AVAILABILITY
- o UNDERSTANDING OF DATA UTILITY
- o RAPID ACCESS
- o EFFICIENT USE OF RESOURCES
- o BETTER USE OF INTERVIEWS
- o MINIMAL DISRUPTION TO WORK
- o NEAR ZERO LEARN TIME

QUESTION #6 - PERSONNEL AVAILABILITY

- o PROJECT PERSONNEL ARE KEY
- o ALL ARE AVAILABLE FOR 100% OF HOURS BID

QUESTION #7 - INTERVIEW DOCUMENTATION/FOLLOW-UP

- o WRITTEN INTERVIEW SUMMARY (VISITS AND PHONE CALLS)
- o DATA COMPILATION/ANALYSIS
- o INFORMATION VERIFICATION AND VALIDATION (INCLUDING FOLLOW-UP PHONE CALLS)
- o INCLUSION IN FINAL REPORT (UNATTRIBUTABLE)

QUESTION #8 - INTERVIEW PROCESS COORDINATION

- o IP HAS ULTIMATE CONTROL
- o IP NOTIFICATION OF STUDY AND MERIDIAN'S ROLE
- o COORDINATE DATES/TIMES
- o MERIDIAN PARTICIPANTS
- o IP PARTICIPATION
- o REQUESTS FOR ADDITIONAL DATA
- o AUDIT TRAIL

QUESTION #9 - INTERVIEW CLOSE-OUT

- o TRANSMIT SUMMARY RESULTS
- o REQUEST COMMENTS
- o REVISE AS NECESSARY
- o PERFORM FOLLOW-UP
- o INCLUDE IN TASK 1 REPORT (SANITIZED)

CONCLUDING REMARKS

O REAFFIRMATION OF MERIDIAN'S COMMITMENT

O QUESTIONS AND ANSWERS

Proposal No. MC-84-9089(I)

In Response to Solicitation No.
RS-ORM-84-397

REQUIREMENTS ANALYSIS
FOR THE
OFFICE OF
INTERNATIONAL PROGRAMS

Volume II
TECHNICAL PROPOSAL

September 19, 1984

Prepared for

NUCLEAR REGULATORY COMMISSION
OFFICE OF INTERNATIONAL PROGRAMS

Submitted by:

Meridian Corporation
5113 Leesburg Pike, Suite 700
Falls Church, Virginia 22041

TABLE OF CONTENTS

<u>SECTION</u>		<u>PAGE</u>
1.0	INTRODUCTION.....	1-1
2.0	PERSONNEL.....	2-1
3.0	TECHNICAL APPROACH.....	3-1
	3.1 UNDERSTANDING THE PROBLEM.....	3-1
	3.2 EXPERIENCE IN REQUIREMENTS ANALYSIS.....	3-6
	3.3 STATE-OF-THE-ART SOFTWARE AND HARDWARE.....	3-8
	3.4 PROPOSED TECHNICAL STRATEGY.....	3-14
	3.4.1 OVERVIEW.....	3-14
	3.4.2 TASK 1 - INFORMATION ANALYSIS.....	3-16
	3.4.2.1 SELECT AND NOTIFY INDIVIDUALS TO BE INTERVIEWED.....	3-18
	3.4.2.2 DISTRIBUTE PRE-INTERVIEW DOCUMENT.....	3-19
	3.4.2.3 CONDUCT INTERVIEWS.....	3-19
	3.4.2.4 DOCUMENT INTERVIEWS.....	3-20
	3.4.2.5 COMPLETE PAPERFLOW EXAMINATION.....	3-20
	3.4.2.6 CONDUCT FOLLOW-UP INTERVIEWS IF NECESSARY....	3-20
	3.4.2.7 DOCUMENT FUNCTIONAL REQUIREMENTS.....	3-22
	3.4.2.8 DOCUMENT WORK FLOWS.....	3-25
	3.4.2.9 PREPARE INFORMATION ANALYSIS REPORT.....	3-25
	3.4.3 TASK 2 - SYSTEM CONCEPT SELECTION.....	3-30
	3.4.3.1 IDENTIFY ALTERNATIVE SYSTEM CONCEPTS.....	3-30
	3.4.3.2 IDENTIFY BENEFITS.....	3-31
	3.4.3.3 IDENTIFY COSTS.....	3-32
	3.4.3.4 ASSESS ALTERNATIVES.....	3-34
	3.4.3.5 RECOMMEND SYSTEM CONCEPT.....	3-36
	3.4.4 TASK 3 - PROPOSED SYSTEM DEFINITION.....	3-39
	3.4.4.1 DESCRIPTION OF OUTPUTS.....	3-41
	3.4.4.2 DESCRIPTION OF INPUTS.....	3-41
	3.4.4.3 DESCRIPTION OF DATA FILES.....	3-46
	3.4.4.4 PROCESSING WORK/DATA/LOGIC FLOW.....	3-53
	3.4.4.5 SECURITY/PRIVACY REQUIREMENTS.....	3-53
	3.4.4.6 INTERFACES.....	3-55
	3.4.5 TASK 4 - PLAN AND SCHEDULE.....	3-56
	3.5 POTENTIAL PROBLEM AREAS.....	3-57
	3.6 WORK SCHEDULE.....	3-60
	3.7 INTERPRETATIONS, REQUIREMENTS, ASSUMPTIONS.....	3-60
4.0	CORPORATE EXPERIENCE.....	4-1
	4.1 Contracting Agency: Holmes & Narver, Inc.....	4-3
	4.2 Contracting Agency: The Regents of the University of California.....	4-6
	4.3 Contracting Agency: Department of Justice.....	4-7
	4.4 Contracting Agency: Department of Commerce.....	4-8
	4.5 Contracting Agency: Department of State.....	4-9

TABLE OF CONTENTS (CONTINUED)

<u>SECTION</u>		<u>PAGE</u>
5.0	PROPOSED PROJECT MANAGEMENT.....	5-1
	APPENDIX A - RESUMES	

LIST OF EXHIBITS

<u>EXHIBIT</u>		<u>PAGE</u>
1-1	REQUIREMENTS FOR SUCCESSFUL PROJECT COMPLETION.....	1-2
2-1	PROJECT TEAM QUALIFICATIONS.....	2-5
3-1	IP'S INTERACTIONS WITH OTHER AGENCIES.....	3-2
3-2	SUMMARY OF REQUIREMENTS ANALYSIS EXPERIENCE.....	3-9
3-3	STATE-OF-THE-ART EXPERIENCE.....	3-10
3-4	PROPOSED INTERVIEW STRUCTURE.....	3-21
3-5	IDENTIFIED FUNCTIONAL REQUIREMENTS VS. EXISTING CAPABILITIES...	3-24
3-6	EXAMPLE MINIMUM PERFORMANCE STANDARDS.....	3-26
3-7	OISA'S NRC CASE PROCESSING STEPS.....	3-27
3-8	OISA'S COMMERCE CASE PROCESSING STEPS.....	3-28
3-9	OISA'S 810 CASE PROCESSING STEPS.....	3-29
3-10	BENEFITS OF CONCEPT 'n'.....	3-33
3-11	COST ESTIMATES FOR CONCEPT 'n'.....	3-35
3-12	EXAMPLE REPORT SPECIFICATIONS.....	3-42
3-13	SAMPLE LETTER.....	3-44
3-14	SAMPLE CASE DATA SUMMARY.....	3-45
3-15	SAMPLE DATA DICTIONARY.....	3-47
3-16	SAMPLE SCREEN DESIGN.....	3-48
3-17	SAMPLE SYSTEM SPECIFICATIONS - VISITS & ASSIGNMENTS.....	3-49
3-18	SAMPLE SYSTEM SPECIFICATIONS - DOCUMENT CONTROL & RETRIEVAL SYSTEM.....	3-51
3-19	SAMPLE FILE STRUCTURE - CORRESPONDENCE TRACKING SYSTEM.....	3-52
3-20	ACTIVITY-DATA FLOW DIAGRAM.....	3-54
3-21	SYSTEM PLAN.....	3-58
3-22	SAMPLE SYSTEM SCHEDULE.....	3-59
3-23	PROPOSED CONTRACT SCHEDULE.....	3-61
3-24	PLANNED DELIVERABLES.....	3-62
3-25	PROPOSED HOURS BY TASK BY LABOR CATEGORY.....	3-63
4-1	RELATED CONTRACT EXPERIENCE.....	4-4
5-1	PROPOSED PROJECT ORGANIZATION.....	5-2

SECTION 1

INTRODUCTION

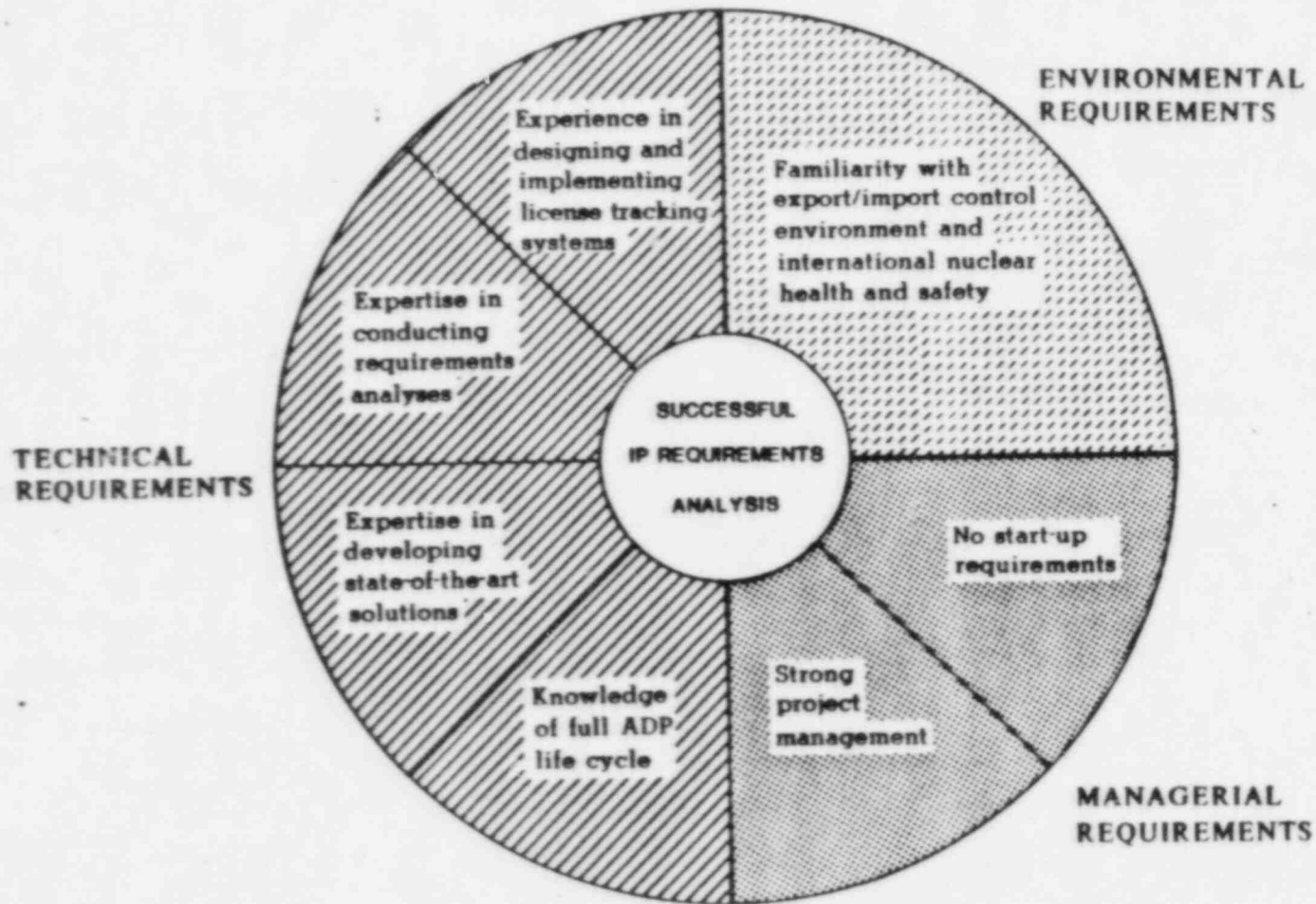
Meridian Corporation is pleased to submit this proposal to the Nuclear Regulatory Commission (NRC) to analyze the automated data and word processing requirements of the Office of International Programs in response to Solicitation No. RS-ORM-84-397, dated August 20, 1984.

Meridian Corporation has assembled a highly capable team of experienced systems analysts, technical writers, office automation specialists, and export control policy analysts to conduct this study. We believe, and will demonstrate in the remainder of this proposal, that Meridian possesses the necessary understanding, experience, expertise, and managerial skills needed to provide outstanding support in this effort. To ensure successful completion of the requirements analysis for the Office of International Programs (IP), a contractor must satisfy certain key requirements. These essential qualifications are summarized in Exhibit 1-1 and are listed below:

- familiarity with import/export control statutes, policies, regulations, procedures, interagency and international operations, international nuclear health and safety, and safeguards and physical security programs;
- specific experience in designing and implementing comparable systems for other agencies (e.g., the Department of Energy Export Case Management System and the Department of Commerce License Accounting and Retrieval System);
- extensive experience in conducting similar ADP requirements studies in export environments;
- expertise in developing state-of-the-art solutions to ADP-related problems;
- experience throughout the entire ADP system life cycle;
- no start-up requirements or lead time; and
- strong project management capable of providing technical direction and obtaining the necessary resources to ensure successful project completion.

Exhibit 1-1

REQUIREMENTS FOR SUCCESSFUL PROJECT COMPLETION



Meridian Corporation excels in each of these required areas. First, familiarity with the export control community, gained and demonstrated through productive working relationships with the Departments of Commerce, Energy, and State and the Nuclear Regulatory Commission, provides the Project Team with the background needed to analyze the information requirements and work flows within IP. Because Meridian understands the issues involved in controlling nuclear exports and imports, promoting cooperation with foreign governments, nuclear health and safety, safeguards and physical security matters, the Project Team will be able to provide insights useful to IP.

Second, familiarity with existing automated systems used by other agencies will assist the contractor and IP in identifying opportunities for interagency transfer of information. In-depth understanding of the data base structures used in license tracking systems of other agencies (specifically the Export Control Management System used by the Department of Energy and the License Accounting and Retrieval System used by the Department of Commerce) will allow the contractor to ensure that systems specified for IP are potentially compatible with existing systems. Meridian Corporation worked with the Office of International Security Affairs (OISA) of the Department of Energy to identify requirements for its Export Case Management System (EQMS). Meridian subsequently designed, developed and implemented the EQMS, and initialized the data base with data contained in the previously used Commodity Export Information System. Enhanced on-line querying capabilities available in the EQMS have not only improved the abilities of OISA analysts to track pending export applications but have added a new dimension to OISA's analytical capacity. By using the EQMS, OISA analysts can evaluate the cumulative impacts of multiple license applications and identify precedents applicable to any given case. Furthermore, the EQMS can be used as a management tool to reveal trends in case processing times and office workload. Meridian is also familiar with the License Accounting

and Retrieval System (LARS) used by the Department of Commerce, Office of Export Administration (OEA) and Office of Export Enforcement (OEE). Meridian conducted an analysis of OEA/OEE requirements for enhancements to LARS. Implementation of many of these enhancements has already been completed to include software/hardware demonstrations of automated data transfer.

Third, experience in conducting similar requirements analyses is necessary to demonstrate that the proposed technical approach is sound. Meridian has completed numerous similar requirements studies for other agencies. For example, a comprehensive study of document control, mail processing, foreign visits processing, budgeting, project management and word processing requirements as well as export licensing requirements was undertaken for OISA. Based upon the identified requirements, an appropriate system was designed and software was developed and implemented. A similar requirements analysis was performed for Department of State's Bureau of International Oceans, Environment and Scientific Affairs, Office of Nuclear Export/Import Control (OES/NEC).

Fourth, experience throughout the entire ADP life cycle provides a project team with the knowledge necessary to evaluate the feasibility of possible alternatives. If the project team conducting a requirements analysis understands the information needed by the personnel who will be charged with developing detailed system specifications and designing and developing computer code, it is able to prepare documentation which is more useful to subsequent development efforts. As a result, software development time and cost are reduced. All members of the proposed Project Team have experience throughout the ADP system life cycle - from requirements analysis to system design, development, implementation and operation. Furthermore, each Project Team member has prepared documentation in accordance with FIPS standards.

Fifth, because this project is of short duration, it is essential that there be no non-productive lead time. Meridian can assure IP that lead

time will be minimal for several reasons. The Project Team is composed of personnel who are all currently Meridian Corporation employees. As a result, the proposed Project Team is available immediately upon contract award, and there will be no management problems associated with managing subcontractors and/or consultants. Each member of the Project Team is experienced in conducting requirements analyses and designing ADP systems used in the export control community; therefore, there will be no time required to "read in." Furthermore, each member of the proposed team possesses both "Q" and Top Secret or Secret clearances, so there will be no delays given a need to review classified data.

Finally, strong project management is needed to ensure that technical direction is sound, resources are made available whenever needed throughout the project's duration, and that contact with the COTR at the Office of International Programs is maintained. The proposed project manager, Mr. Ronald J. Rogers, brings to this project over 15 years of data processing experience and over 5 years of work within the export control community. As a principal in the Meridian Corporation, he has direct control of the resources which may be needed to support the project team in this effort.

Complementing our ability to satisfy the qualifications discussed above is Meridian's total understanding of the broader role of a support contractor. We place a special premium on our ability to provide timely (quick response) and insightful analyses and the management tools to plan, monitor, and control the proposed effort. The complexity and fluidity of the IP environment demands a virgorous and technically sophisticated response from IP, a response which creates new capabilities as well as satisfies current problems. In order for IP to maintain its leadership role in the export/import control community, it must be able to respond not only to the requirements of daily licensing ("answering the mail"), but it must also be able to anticipate and initiate high-level policy questions and issues ("getting ahead of the mail").

Thus, there is a duality of purpose in implementing automated data and word processing systems, a duality which Meridian fully understands.

The remainder of this proposal further substantiates the assertion that Meridian offers an unequalled resource to conduct this requirements analysis. Section 2 addresses the qualifications of the proposed Project Team as well as other individuals who will be made available to supplement the team as needed. Section 3 describes the technical approach which will be taken to accomplish the proposed study, and Section 4 summarizes relevant corporate experience. Section 5 briefly describes Meridian's management structure and control procedures and their relationship to the proposed project.

SECTION 2

PERSONNEL

A highly qualified group of professionals was selected to form the IP Project Team. The individuals comprising Meridian's Project Team possess in-depth, comprehensive knowledge and experience in information systems as well as in export policy analysis. All Project Team members have direct systems analysis, design, and implementation experience. Members of the Team have analyzed and identified management information requirements, defined system requirements and specifications, identified performance requirements and constraints, and designed fully operational analytical support systems. Furthermore, each member of the Project Team is competent in preparing documentation in accordance with FIPS requirements. Moreover, the Project Team has extensive experience in import and export policies, export regulations, and international treaties and agreements. This blend of experience enables the Project Team to bridge the gap between data processing professionals and IP technical professionals, thereby guaranteeing the IP unequalled technical, analytical and managerial services in the design and implementation of automated support systems.

The Project Team is composed of a Project Manager, a Systems Analyst, a Junior Systems Analyst/Technical Writer, and an Office Automation Specialist. Personnel proposed for these positions possess complementary technical skills to ensure successful completion of this product.

The proposed Project Manager, Mr. Ronald J. Rogers, is a senior level manager with over 15 years experience in developing computer and non-computer based program management and evaluation systems. As the Director of the Information Systems Group and a Principal of Meridian Corporation, he is responsible for overall management of systems development programs. He is responsible for

activities related to the design, development, and implementation of automated tracking and reporting systems for the Departments of Energy, Justice, Commerce and State. The majority of his work has been directed toward supporting U.S. nuclear nonproliferation and arms control activities through the development of secure computer systems which track the export of special nuclear materials and related dual-use commodities. As Project Manager of a contract for DOE's Office of International Security Affairs, Mr. Rogers played a key role in the design, development and implementation of a TEMPEST approved, classified (up to SECRET/RD) system which supports nuclear export licensing, export policy analysis, arms control activities, and office management. Mr. Rogers has also directed a team of information systems analysts as part of a Department of Commerce study to enhance the export administration and enforcement functions. The study entailed a detailed requirements analysis for all functional areas within OEA/OEE related to export licensing. The outputs of the study were then used to formulate detailed system design specifications and implementation support data. Mr. Rogers' outstanding qualifications in the areas of system development and export and import control issues ensure technical guidance essential to the IP systems analysis effort. As Project Manager, Mr. Rogers is responsible for providing technical guidance and controlling cost and schedule performance. He has the authority to obtain additional corporate resources to supplement the Project Team should additional personnel be needed.

The personnel on the Project Team were selected from the Systems Development Division, which is headed by Ms. Alice Noland. Ms. Noland is currently managing Meridian's OISA Analytical Support System development efforts. She was the chief designer of the Export Case Management System (ECMS) and the OISA Project Management Information System. She has been a key contributor to requirements analyses for OISA and for the Department of Justice. Her areas of expertise include systems analysis, cost/benefit analysis, data base design and

implementation and software design, development and implementation. She was also responsible for conducting an ADP risk analysis and developing a facility security plan for OISA's HP 3000 facility.

Ms. Karen Forcey, the proposed System Analyst, has a background in statistics, data processing and financial analysis. She has experience in the entire ADP life cycle development process. This experience includes conducting initial requirements studies as well as designing, developing, implementing and testing automated systems. Ms. Forcey was also involved in establishing a local area network for Meridian's computer facility. She is familiar with office automation and contributed to an evaluation of word processing and computer graphics packages for DOE's Office of International Security Affairs. Ms. Forcey has developed applications using fourth generation languages and productivity tools. Ms. Forcey has hands-on experience in developing systems using DBMS's on mini and microcomputers. Her knowledge extends to the export control community where she was directly involved in the effort to develop the Export Case Management System for OISA.

The position of Jr. Systems Analyst/Technical Writer will be filled by Mr. Randall Ingalsbe. By consolidating analysis and documentation functions into one position, Meridian proposes to avoid duplication of effort which would occur if a technical writer who had not been intimately involved in conducting the analysis were assigned documentation responsibilities at the completion of the analytical phases. Mr. Ingalsbe has professional experience in data base management systems, systems analysis, requirements analysis, workflow analysis, program/project management, procurement processing and telecommunications. He has assisted in the requirements analysis of the export licensing process for the Office of Export Administration (OEA) and Office of Export Enforcement (OEE) of the Department of Commerce. As a result of these requirements analyses and work flow analyses, he has designed and developed a number

of improvements to the existing Model 204 data base management system to improve export case tracking and management capabilities.

The Office Automation Specialist, Ms. Tina Cohen, will be tasked with assessing IP's word processing and office automation capabilities in relation to the state-of-the-art and with assisting in the preparation of implementation plans for proposed concepts. Ms. Cohen has a background in system requirements analysis, program management and system documentation. Ms. Cohen has conducted user and system requirements analyses for various offices within the Departments of Justice, State, and Commerce. She was a principal participant in the development of a corporate-wide Automated Office System (AOS) for her former employer. This study documented current procedures and workflows and analyzed current AOS technological capabilities including the IBM Displaywriter and 5520 Administrative System. Ms. Cohen's data base experience includes applications development using Oracle on the VAX 11/780, MODEL 204 on the IBM 4341, and several micro packages on the IBM PC, Fortune 32:16 and the Apple II.

To supplement efforts by the core Project Team, a Technical Advisory Board consisting of senior staff members with expertise in import and export control policy, microcomputers, requirements analysis, office automation and ADP system design has been established. The Technical Advisory Board is available to provide technical guidance and quality assurance for the Project Team.

Finally, Meridian can make additional, equally competent individuals available for assignment to the Project Team should the need arise. These personnel are also experienced in conducting requirements analyses, designing and implementing ADP systems and providing support in the export control environment.

Exhibit 2-1 summarizes key qualifications of Meridian personnel. In addition, resumes of the proposed Project Team, Technical Advisory Board and additional available personnel are contained in Appendix A.

SECTION 3
TECHNICAL APPROACH

3.1 UNDERSTANDING OF THE PROBLEM

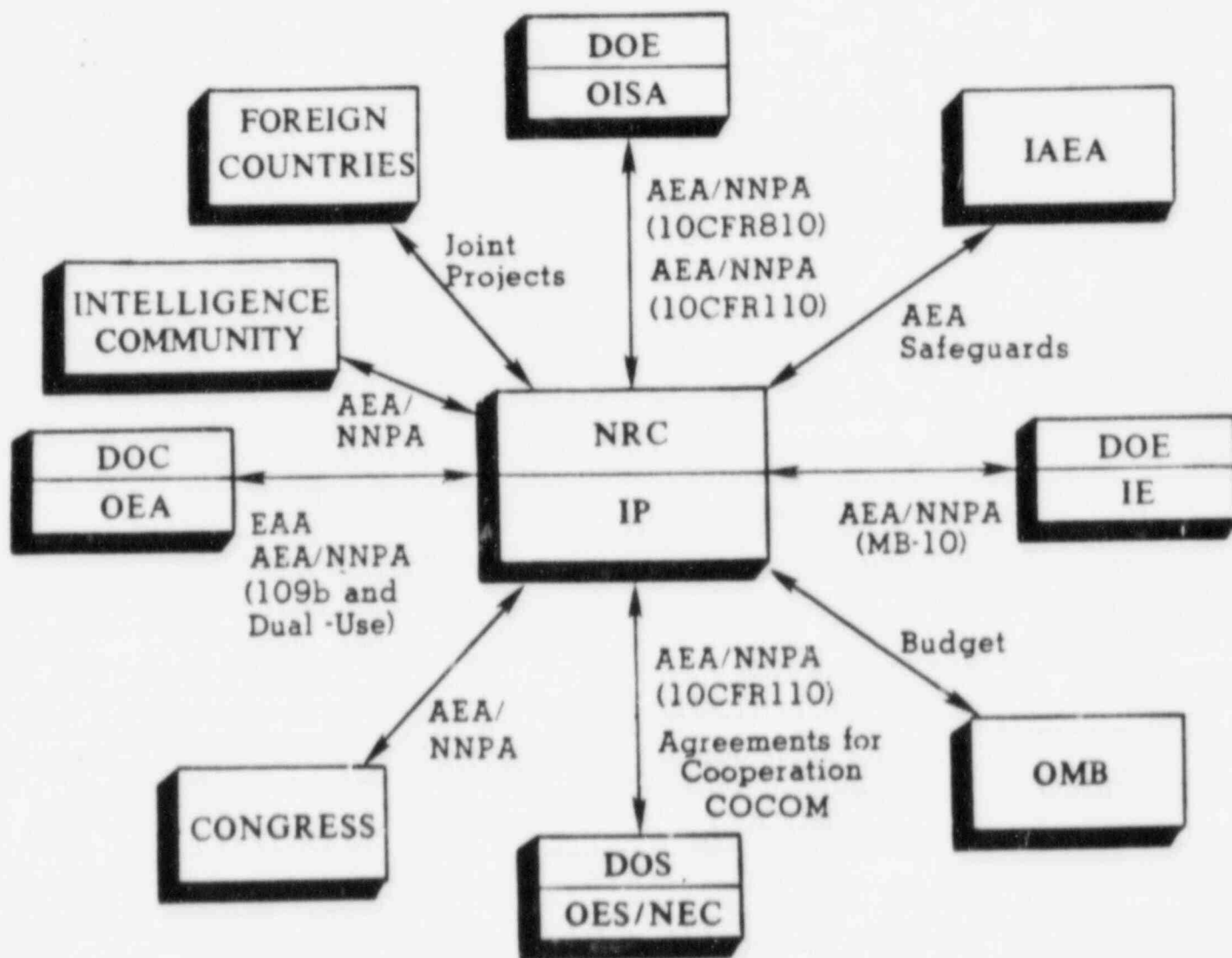
The Office of International Programs is responsible for NRC activities in two functional areas: nuclear export and import control, and international cooperation. In addition, an office management function is maintained to support activities in the two main program areas.

As part of its export and import control functions, NRC issues licenses for the export and import of nuclear equipment and material in accordance with regulations contained in 10 CFR Part 110. Over 440 licenses were issued in 1983 and, at any given time, approximately 200 applications are at some phase of the licensing review process. In addition to preparing analyses and issuing licenses in support of its 10 CFR 110 licensing functions, IP consults with other agencies regarding nuclear export-related activities under the authority of these agencies. Specifically, the NRC is consulted on:

- nuclear related exports for which the Commerce Department has licensing authority;
- nuclear technology exports for which the Department of Energy (DOE) has licensing authority under 10 CFR Part 810;
- DOE subsequent arrangements (i.e., retransfers and spent fuel reprocessing requests involving U.S. - origin commodities); and
- Agreements for Cooperation negotiated with other nations by the State Department.

A diagram depicting IP's interactions with other agencies involved in export/import control is shown in Exhibit 3-1. To support NRC's licensing and consulting responsibilities, IP cooperates with other Executive Branch agencies, Congress, Foreign countries and the International Atomic Energy Agency (IAEA), primarily through information exchange. Staff support responsibilities in this area are assigned to the Assistant Director for Export-Import and International Safeguards.

Exhibit 3-1
IP'S INTERACTIONS WITH OTHER AGENCIES



IP's second major area of responsibility is international cooperation in nuclear health and safety matters. Support is provided through both bilateral exchange agreements and multilateral nuclear safety cooperation. Bilateral agreements promoting the exchange of nuclear safety and regulatory information are developed and maintained. Pursuant to these agreements, nuclear safety information is exchanged in the form of technical and research reports, regulatory documents, and international conferences, meetings, and visits. These functions are carried out through the Assistant Director for International Cooperation.

Finally, IP performs an office management function to support activities in the programmatic areas previously described. Primary responsibilities in this area include budget control and correspondence tracking.

At the present time, a number of automated systems and files are being used or are in developmental stages. The Office has an IBM Displaywriter, an IBM magnetic card word processor and an OMRON CRT terminal. In addition, a 132 character CRT terminal with printer and a TEMPEST-approved Displaywriter with printer are on order. An IBM 5520 Administrative System network (a shared logic office system) will soon be implemented.

The National Institutes of Health (NIH) Computer Center is the host for several data files used to support IP international cooperation and nuclear export/import control activities. These systems include the Foreign Document File, which is used to track and retrieve foreign documents received by NRC; WYLBUR data files containing bilateral exchange information; a WYLBUR file containing data on planned, underway and completed foreign travel, used for reviewing pending trips and providing input for the controller's monthly foreign travel report; and the International Programs Export/Import License Tracking System (IPELTS) which is used to monitor applications for import and export of nuclear fuel, materials, components and reactors, and to produce

periodic status reports. IP also provides information for the joint NRC/DOE Nuclear Materials Management Safeguard System (NMSS), which is used to monitor nuclear materials shipments. Numerous manual systems are also used to retain data needed to support IP's routine functions.

Recent NRC staff studies have concluded that improvements in IP's information handling techniques are desirable. It is possible that new or enhanced word or data processing techniques would be useful in the following areas: generating export/import license summary reports for distribution to Executive Branch agencies; preparing special analyses of export/import licenses by material, component, applicant and/or country; tracking information on foreign visits and visitors; tracking and retrieving foreign safety and regulatory information; preparing and controlling the IP budget; and preparing and tracking correspondence. Furthermore, criticisms of the NMSS raised by the GAO indicate that improvements in this system may also be warranted.¹

In summary, some word processing equipment has been acquired for IP; and additional equipment will soon be installed. At present several automated data files have been developed and are being used; however, enhancements to the somewhat limited capabilities of existing systems are considered desirable. A comprehensive requirements analysis must be undertaken now to ensure that any future expansions of ADP and word processing capabilities will be most beneficial to IP. System concept selection will be based on the following performance objectives:

- increased productivity;
- reduced costs;

¹Obstacles to U.S. Ability To Control and Track Weapons-Grade Uranium Supplied Abroad. U.S. General Accounting Office, GAO/ID-82-21, August 2, 1982, pg. 36.

- improved information flow; and
- improved personnel utilization.

To attain these objectives, an integrated word processing/data processing system is needed. However, before such an automated information system can be implemented, a number of technical problems must be addressed and resolved. The primary goal must be to optimize the use of limited resources and to ensure that all system requirements are valid, understandable and feasible. Furthermore, to ensure that productivity increases can be attained and that personnel utilization can be maximized, it is essential that the ADP/word processing system be user-friendly. Non-programmers should be able to access the data they need with minimal training. Additionally, the system should be flexible; that is, it should be able to accommodate changing needs on the part of users. Finally, the system should be cost-effective. Acquisition, development and operating costs should be offset by savings in terms of time and productivity increases and improved access to information essential to performing the NRC's missions. Maximum effective use of existing resources (i.e., equipment, software, personnel) should be considered in designing the system.

Once system requirements have been determined, other problems may arise. In this area of national security decision-making, various difficulties arise from the need to handle sensitive intelligence materials and to ensure that all necessary security precautions are taken. Meridian's experience and work with various classified programs and the intelligence community guarantees that these problems will be fully recognized, considered and resolved.

In order to realize the full potential benefit of an automated system (to get beyond export/import license tracking processing and basic reporting), it is necessary to have a full understanding of the unique environment and challenges which face NRC's export/import licensing and international cooperation programs. Technical competence in designing management information systems is

not enough to perform such a role. It is imperative to be able to combine expertise in software design/information systems analysis with an understanding and appreciation of the political, technical, economic and military aspects of the export/import control environment. Meridian's experience in performing similar work for OISA, OEA/OEE and the Department of State, our proven track record in these roles, and the unique, multidisciplinary background of our proposed Project Team ensure our ability to assist IP in designing a system which will be responsive to the varied demands which it faces today.

3.2 EXPERIENCE IN REQUIREMENTS ANALYSIS

Meridian Corporation offers IP a unique set of qualifications to perform this effort. In particular, Meridian offers a combination of technical expertise and experience in requirements analysis, system life cycle development and the export licensing community.

Meridian has completed similar requirements analysis for the Departments of Energy, Commerce, State and Justice. All of these requirements analyses included conducting extensive interviewing, determining the best alternatives, developing detailed functional specifications, and preparing implementation plans. After conducting a number of these requirements studies Meridian was tasked to design, develop and implement the recommended systems.

To successfully conduct this requirements analysis it is essential that Meridian's perceptions of IP's requirements are accurate and valid. This can only be accomplished by maintaining a constant line of communication between the Project Team and end-users. This will ensure that any problems which arise are immediately corrected and that quality control is maintained. Meridian has also found through experience if potential problems can be anticipated and corrective action taken or planned then the Project Team's time is entirely

focused on satisfying the requirements of the project. Potential problem areas foreseen by Meridian are addressed in Section 3.5.

All key members of the Project Team are proficient in conducting requirements studies. Furthermore, all team members have participated in requirements studies in the export control community. Specifically, Mr. Rogers, served as project manager for the original OISA requirements analysis and is currently project manager for the Department of Commerce export control requirements study. He has in-depth experience in conducting and managing requirements studies.

Ms. Forcey led efforts to conduct a requirements analysis for resource management functions at OISA. These functions included examining requirements for tracking correspondence, official foreign travel, foreign national visits and assignments, document retrieval and budget control. She was instrumental in designing the OISA Export Case Management System. Ms. Forcey also directed a requirements analysis for the Department of Justice. This effort involved developing detailed specifications which included an extensive data dictionary, detailed report requirements and data entry screen designs.

Mr. Ingalsbe is a key participant in a requirements analysis of the export licensing process for the Office of Export Administration and the Office of Export Enforcement of the Department of Commerce. His involvement in this project included conducting interviews and preparing documentation as well as developing and implementing the systems identified in the requirements study.

Ms. Cohen conducted a requirements analysis for the Department of Justice and also contributed to the Department of Commerce requirements study. She performed an office automation system requirements analysis for the BDM Corporation. Ms. Cohen was the sole contributor in a requirements analysis conducted for the Department of State. This analysis identified and documented the current word processing and data processing capabilities.

Each of these team members brings complementary skills to the team. In addition, other personnel are available on an as-needed basis to provide consultation and additional insight. As a result, the team as a whole offers expertise in all facets of requirements analyses. Exhibit 3-2 details the qualifications by contract in the area of requirements analysis of the Project Team and additional available personnel.

3.3 STATE-OF-THE-ART SOFTWARE AND HARDWARE

The Meridian Project Team is a highly qualified group of professionals with extensive experience in a variety of state-of-the-art hardware and software. One criterion for selection of the Project Team was knowledge and experience in working with leading edge hardware and software. Exhibit 3-3 shows key team members and other available personnel and their experience in state-of-the-art hardware and software.

The level of expertise present in the aggregate of the Meridian Corporation project team, and its breadth and depth across systems and hardware, is without equal. Members of the professional staff enjoy easy access to a large variety of professional and trade journals through which awareness of new developments can be maintained. Meridian subscribes to over 30 such periodicals which are circulated through both the senior and the junior members of the professional staff. In addition, through use of research tools such as on-line data base systems, senior members can keep abreast of current and planned acquisitions of government hardware and software systems.

The corporate perspective is that professional awareness of research, development, and implementation activities in information systems is critical. Members of the professional staff regularly participate in professional self development education activities and attend professional and trade conferences to maintain such expertise. Members of the staff have been actively involved in

Exhibit 3-2
SUMMARY OF REQUIREMENTS ANALYSIS EXPERIENCE

	KEY PERSONNEL						ADDITIONAL PERSONNEL					
DOE/OISA Analytical Support System Requirements Analysis	•					•			•	•		
DOE/OISA Analytical Support System Development and Implementation	•	•					•		•	•	•	
Commerce/OEA System Analysis and Design	•		•	•	•	•				•		
OES/NEC Requirements Analysis	•			•		•				•		
Justice/Tax Division Personnel Requirements Study	•	•							•	•		
Justice/Criminal Division Automation Requirements	•			•	•					•		
United States Postal Service Transportation Management System Implementation Support	•								•	•		
Defense Advanced Research Projects Agency Analysis of Quantitative Technologies					•					•		•
DOE/Deputy Assistant for Solar Energy Program Support		•			•					•		

• Currently New Employee

Exhibit 3-3
STATE-OF-THE-ART EXPERIENCE

	KEY PERSONNEL						ADDITIONAL PERSONNEL					
MICROS	•	•	•	•	•	•		•	•	•	•	•
MINIS	•	•	•					•	•	•	•	
TELECOMMUNICATIONS	•	•	•		•	•		•	•		•	
OFFICE AUTOMATION	•	•		•	•	•		•	•			
LOCAL AREA NETWORKING	•	•						•	•			
MULTIUSER ENVIRONMENT	•	•	•					•				
TEMPEST EQUIPMENT	•	•		•		•		•	•		•	
DBMS	•	•	•	•	•	•		•	•		•	•
4TH GENERATION LANGUAGES	•	•			•			•	•			
5TH GENERATION LANGUAGES	•				•			•				
PRODUCTIVITY TOOLS	•	•			•	•		•	•			
MICRO SOFTWARE	•	•	•	•	•	•		•	•	•	•	•
ELECTRONIC MAIL	•	•						•	•	•		
GRAPHICS	•	•	•	•	•	•		•	•		•	•
EXPORT CONTROL SYSTEMS	•	•	•	•	•	•	•		•	•	•	

such events as the Office Automation Exposition, Productivity 3000 and Comdex show. They have prepared reports to relate new technologies to existing applications and task efforts. In addition, Meridian was recently solicited by a consortium of leading defense logistics contractors to join in an effort because "the advanced technology awareness and assessment capabilities of Meridian would be the icing on the cake for technological awareness."

Meridian Corporation has consistently been a leader in developing applications involving advanced technologies. The corporate microcomputer data processing facilities include the HP 150 microcomputer with touch screen technology and high capacity microdiskettes. IBM personal computers with large memories, color monitors, internal and external winchester disks, telecommunications, and other system extensions are featured throughout the corporation and are owned personally by staff members. The corporate large scale system is an HP 3000 minicomputer which is networked with microcomputers to provide a basis for sharing data and evaluating networking of computers, databases, and advanced compatible software.

Meridian staff members are fully knowledgeable and experienced in developing data base management system applications at all levels. Professionals are fully experienced in CODASYL, relational, list management, and hierarchial data base architectures. Examples of the data bases in which staff members are knowledgeable include Oracle, Focus, Image, Total, Model 204, System 2000, ADABAS, dBase II, dBase III, RBase, MDBS III, etc.

In the area of Office Automation (OA) the Meridian team's experience is comprehensive and diverse. Meridian understands that the key to making office automation effective and productive is by meeting user needs. Meridian has developed and implemented for the Departments of State and Commerce OA systems which accommodate user concerns and support user priorities. Because of the diversity of available OA hardware within most organizations (Wang, IBM,

Xerox, Lexitron, etc.), Meridian has developed a wealth of experience in system integration technologies such as networks, communications software, and media conversion techniques.

Meridian has developed office automation tools for both the technical and support staff. At the Department of Commerce, professionals are using several tracking systems (on IBM PCs) developed by Meridian to meet the clients' unique requirements. Meridian developed a license application tracking system for the Department of State which is to be used by both technical and support personnel. This system is to be resident on a secure Wang Alliance 250, a shared resource office system, and accessed by microcomputers.

Other OA configurations designed by Meridian personnel include IBM using Displaywriters, 5520 Administrative System, and the 8100 Distributed Office Support Facility; HP using the HP 3000 minicomputer, HP 150 PCs, dumb terminals and laser printers; and Xerox using 860 stand-alone word processors, 8010 Star Workstations, and Ethernet.

The Project Team also has hands-on experience in developing applications using graphics tools. Professionals are knowledgeable in the hardware available and the graphics software currently on the market. Meridian's Computer Center includes the new HP 7475 six pen carousel plotter. This plotter has the capability to interface with numerous mini and microcomputers. The Meridian team has extensive experience in using numerous graphics packages including HPdraw, Easychart, DSC Graphwriter, Chart-master, Chartman II and Enertronics. Meridian recently completed an extensive evaluation of PC graphics packages. This evaluation included hardware/software compatibility, color/mono display requirements, user-friendliness, ease of user documentation, cost, and interfacing capabilities.

Meridian Corporation was tasked by OISA to design a state-of-the-art turnkey system for control of export control licensing and resource management.

control of export control licensing and resource management. Because of national security considerations, the project required TEMPEST processing capabilities. Meridian was responsible for requirements analysis, system design, hardware specification, software development, and completion of the system implementation. Security, response, and completeness of design to ensure proper processing of documents which could affect the national security were of paramount importance; the use of state-of-the-art technologies and procedures were critical to assure timely completion. This Export Control Management System (ECMS) is new, innovative, and provides the export analyst with the capability to increase productivity, respond to ad hoc inquiries, and provide export control analysis for decision and policy-making considerations.

The Meridian Corporation team has substantial experience in the acquisition and application of fourth generation languages and productivity tools. One such system used by project team members is the Powerhouse products marketed by Cognos Inc. The effective use of this system has allowed Meridian to be responsive to system development and implementation through prototyping. With the capabilities of the Powerhouse products, an analyst can very quickly perform screen generation, report preparation, and system implementation. To ensure that the most cost-effective developments are provided for client applications, Meridian analysts constantly compare, appraise, and evaluate new utility and productivity tools.

Meridian is continuing in its effort to be a leader by establishing an internal center of expertise for fifth generation language research, development and applications. A research project to review, compare, and report on available artificial intelligence languages (LISP, PROLOG and Themas) is being undertaken by Meridian's Director of Management Technologies. The results of this research will be available to provide outyear guidance for Project Team members in risk assessments of future technology paths.

The proposed Project Team, as well as other available staff members, possess all of the skills and experience in software development and hardware configuration to perform IP's requirements study.

3.4 PROPOSED TECHNICAL STRATEGY

3.4.1 Overview

This portion of the proposal sets forth the specific techniques, methodologies, and approaches which Meridian will utilize to accomplish the objectives of this solicitation. The proposed effort consists of four sequential tasks.

In Task 1, system requirements will be fully identified. In defining requirements, it is essential to identify the end-users of the system and to develop an understanding of their data needs and expectations of the system. In conducting similar studies for other agencies, Meridian has found that interviews with intended users are essential in specifying users' information needs, priorities and operating constraints. The front-end analysis also includes developing an understanding of the framework within which these requirements must be met. The existing systems - both automated and manual - used in performing IP functions will be examined, and their strengths and weaknesses identified. In addition, regulatory and policy constraints, memoranda of understanding with other agencies, etc., will be examined in the analysis of the existing framework. This step may lead to the identification of additional requirements not readily discernable during the course of the user interviews.

Once user requirements are determined and the operating framework is understood, Task 2 can be started. In this task, alternative design concepts will be formulated. In assessing the merits of each option, the relative performance of each alternative in terms of user requirements will be evaluated. This type of evaluation is conducted by translating user requirements into

measurable criteria (i.e., response time, ease of use, flexibility, file handling capability, simplicity, recovery, cost of data entry, cost of data conversion, operating efficiency, security, etc); establishing a desired standard for each criterion; and assigning weighting factors to reflect IP priorities. Some benefits are more subjective and are not readily quantified. For example, the value of more timely information or of improved access to data is difficult to measure. Nonetheless, a structured framework will be established to facilitate comparisons among these alternatives. Operating within such a framework, Meridian and IP can objectively assess the merits of each system concept. Similarly, a systematic investigation of the costs of each alternative can be conducted to ensure that costs included in the assessment of one option are not overlooked for another. Costs to be estimated include, for example, software costs, hardware costs, training costs, facilities preparation, data conversion, data capture, program conversion, program creation, testing, documentation, design, personnel, computer time, maintenance, backup, and recovery costs. When costs and benefits of each alternative have been identified as objectively as is possible at this early stage, a preliminary cost-benefit assessment will be conducted. Results of such an analysis will identify which options should be developed in greater detail and which ones should be dropped from further consideration by IP.

For each of the alternatives recommended at the conclusion of Task 2, detailed system specifications will be developed. These specifications provide the link between the requirements analysis and detailed system design, development, and implementation. Because these system specifications form the foundation for subsequent development efforts, it is essential that the specifications be thorough and well-documented. Both input and output requirements will be described; a data dictionary will be developed; basic file structures will be defined; and major system flows will be specified. As specifications are

developed, consideration will be given to security and Privacy Act requirements as well as to potential avenues for sharing data with other agencies and internal NRC organizations.

Finally, when system specifications are completed, implementation plans can be developed. Such plans will reflect priorities assigned to the development efforts by IP management. Lead time required for hardware acquisition (such as for encryption devices and TEMPEST-treated equipment) and for contract awards will be considered. Assumptions as to cost limitations and budgeting sequence will be based upon discussions with IP management and the Project Officer.

Detailed approaches for accomplishing the four tasks are presented below.

3.4.2 Task 1 - Information Analysis

The purpose of this Task is to analyze IP's functions, procedures, and data and word processing techniques in order to evaluate the effectiveness of existing systems and identify the need for new systems and modifications to existing ones. An intensive data collection effort must be undertaken to provide a basis for the recommendations which will be made at the completion of the Task. Primary sources of data are key personnel within IP, within other NRC offices and in other agencies with functional ties to IP. Secondary sources of data also essential to this effort include correspondence, memoranda, system documentation, office files, applicable legislation and regulations, inter-agency procedures, and written NRC policies and procedures. At the conclusion of Task 1, a report summarizing functional and performance requirements and identifying areas which warrant further consideration will be presented to the Project Officer.

The Meridian approach to this Task draws on extensive corporate experience related to export licensing and classified system design. Meridian will be able to accurately document current licensing practices, international cooperation activities, and office management operations effectively and efficiently due to:

- Project Team understanding of current import and export control requirements;
- Project Team appreciation of issues related to secure system design;
- extensive experience in the areas of survey design, client interviews, and work flow diagrams;
- senior management's intimate understanding of export policy and technology transfer automated support requirements;
- familiarity with the procedures of many of the interfacing agencies (Department of Energy, Department of Commerce, Department of State, the intelligence community), and
- familiarity with the ADP systems used to support export licensing by the Departments of Energy (ECMS), Commerce (LARS) and State.

The following series of steps will be accomplished to complete Task 1 and provide the foundation upon which Tasks 2, 3 and 4 will be established:

1. select and notify individuals to be interviewed;
2. distribute pre-interview document;
3. conduct interviews;
4. document interviews;
5. complete paperflow examination;
6. conduct follow-up interviews, if necessary;
7. document functional requirements;
8. document work flows; and
9. prepare information analysis report.

Each of these steps is described more fully below.

3.4.2.1 Select and Notify Individuals To Be Interviewed

Immediately following contract award, the Meridian Project Team will meet with the IP Project Officer to initiate activities. During this meeting, the appropriate individuals to be interviewed during Task 1 and to serve as focal points for information collection will be identified. At a minimum, representatives of the following organizations will be chosen:

- NRC International Programs - Export/Import and International Safeguards;
- NRC International Programs - International Cooperation;
- NRC International Programs - Office Management;
- NRC Division of Automated Information Services, Resource Management;
- Logical Technical Services;
- NNMSS/IE;
- Department of State;
- Department of Commerce;
- DOE - Forrestal;
- DOE - Germantown; and
- DOE - Oak Ridge.

Because Meridian has performed requirements analyses and system design and development efforts for several export control offices within the the Departments of Energy, Commerce, and State, the Project Team is qualified to provide additional insights into the selection of individuals in agencies with responsibilities related to NRC who should be interviewed. For this reason, the project team will review the list proposed by by the Project Officer and may suggest additions to the list if appropriate.

After these individuals have been selected, Meridian Corporation will support the Project Officer in notifying IP employees as to the nature of the effort. Ideally, a meeting should be held within IP to explain the purpose of

the study and introduce the team members. A letter or memorandum could be distributed to all personnel from outside IP in lieu of such a meeting. On the whole, these notifications are critical to ensure that data collection and analysis is successful by informing personnel of the purpose, objectives, and constraints of the study. Personnel who are familiar with these aspects and understand what is expected of them contribute not only to Task 1 activities but to all tasks and subsequent development efforts.

3.4.2.2 Distribute Pre-Interview Document

This step of the Meridian approach requires the development of a Pre-Interview Package to be distributed prior to the interview. The Pre-Interview Package will reiterate the objectives and contain a list of questions to be asked and a description of data needs so that photocopies of input and output documentation can be made prior to the meeting. In this way, interviews may be conducted with increased efficiency.

3.4.2.3 Conduct Interviews

Interviews with key personnel will be conducted for the purpose of:

- outlining each person's current and future responsibilities;
- identifying factors and processes affecting decision-making functions;
- outlining each person's existing and anticipated data and analytical requirements;
- summarizing the data sources and procedures currently used to solve problems;
- quantifying where possible the tangible costs and benefits (i.e., manpower savings, capital costs, etc.) of proposed systems;
- identifying opportunities and constraints provided through existing and planned automated systems within other agencies (such as the ECMS, LARS and DOE Visits and Assignments System); and
- determining the capabilities and shortcomings of existing automated systems.

Exhibit 3-4 provides a structured format upon which questions to be asked during the interviews will be based. Interviews following this basic format have proved successful in Meridian's work in evaluating potential enhancements to the LARS system used by the Department of Commerce.

3.4.2.4 Document Interviews

Immediately after each interview, notes from the interview will be formalized. This documentation is a key part of the working papers upon which this study will be based. This documentation will be summarized, with sources deleted, for inclusion in an appendix to the Information Analysis Report.

3.4.2.5 Complete Paperflow Examination

It is expected that during the course of interviews reference materials will be collected by the study team. These materials may include input forms and output reports of current ADP systems, policy manuals, NRC staff reports, etc. These documents will be reviewed to identify data requirements and procedures affecting work flows and functional requirements for word or data processing systems within IP. In addition, correspondence generated and received by IP will be reviewed to determine the work flow patterns and their implications for word processing and correspondence tracking requirements.

3.4.2.6 Conduct Follow-up Interviews If Necessary

In conducting similar studies for other agencies, Meridian has found that paperflow examinations and interviews with various personnel sometimes reveal inconsistencies or areas which need to be clarified. Should this prove to be the case in the proposed effort, selected individuals will be contacted a second time so that inconsistencies can be eliminated and additional data obtained, as necessary.

Exhibit 3-4
PROPOSED INTERVIEW STRUCTURE

A. General Information

A.1 Interviewee

- A.1.1 Name
- A.1.2 Title
- A.1.3 Room Number
- A.1.4 Telephone Number

A.2 Interviewer's Name

A.3 Interview Location

A.4 Interview Date and Time

B. Overview of Functional Responsibilities

B.1 Current Functional Activities

- B.1.1 Objective
- B.1.2 Inputs
 - B.1.2.1 Description of Input
 - B.1.2.2 Source of Input
 - B.1.2.3 Volume and Frequency of Inputs
 - B.1.2.4 Deficiencies and Limitations
- B.1.3 Outputs
 - B.1.3.1 Description of Output
 - B.1.3.2 Users of Output
 - B.1.3.3 Volume and Frequency of Outputs
 - B.1.3.4 Deficiencies and Limitations
- B.1.4 Existing Methods and Procedures
 - B.1.4.1 Decision Process
 - B.1.4.2 Equipment Available and Required
 - B.1.4.3 Deficiencies and Limitations
- B.1.5 Pertinent Cost Considerations

B.2 Proposed Modifications/Additions

- B.2.1 Nature of Enhanced Performance
- B.2.2 Changes in Inputs
- B.2.3 Changes in Outputs
- B.2.4 Changes in Existing Methods and Procedures
- B.2.5 Cost Considerations
- B.2.6 Expected Benefits
- B.2.7 Summary of Impacts
 - B.2.7.1 Equipment Impacts
 - B.2.7.2 Organizational Impacts
 - B.2.7.3 Operational Impacts
 - B.2.7.4 Developmental Impacts

3.4.2.7 Document Functional Requirements

Results of the interviews, combined with the paperflow analysis, form the basis for defining comprehensive functional requirements for the system. It is through the definition of functional/data/system requirements that critical questions pertaining to the formulation of IP's ADP system concepts will be answered. Such questions include:

- Whose needs are to be served by the system?
- What functions can be facilitated through automation?
- What are users' requirements in terms of response time, data accuracy, update frequency, etc.?
- Which functions and user requirements are most important?
- Which are most cost-effective?
- Which ones should be implemented?
- When should implementation occur?
- What data items must be collected and stored to satisfy these requirements?

So that all of the identified requirements can be considered together to determine the system concepts which are needed to satisfy these requirements, all identified functional requirements will be listed. For example, one functional requirement might be to locate all documents received since September 1983 pertaining to nuclear regulations in Japan. Similar needs identified by more than one potential user will be combined as appropriate. In addition, input from IP personnel will be used to classify these needs in terms of their criticality, so that priorities among the needs can be established. Some functional requirements must be met whether or not automation occurs. These might be considered "required." Others would provide important information needed to better conduct day-to-day activities. These functional requirements could be considered "important." Still other functional requirements would enhance the capability to perform work, but are less important than other

functions. Such requirements could be considered "desirable." This set of classifications would be revised if appropriate to better meet the needs of IP; however, the concept of ranking the functional requirements in terms of their importance would be retained.

A deficiency analysis of the existing systems would then be started. A key component of that analysis is the comparison of functional requirements to the capabilities and limitations of the existing system to determine which of these needs can be satisfied by IPELTS or other systems as they currently exist, which would involve minor enhancements, and which would require significant modifications. Exhibit 3-5 depicts a matrix which could be used to organize and illustrate results of this portion of the analysis.

Associated with each requirement are acceptable performance standards. Potential areas in which performance requirements might be identified are listed below:

- data accuracy;
- perishability of data;
- update frequency;
- data collection/entry time;
- processing time;
- response time;
- ease of use;
- security; and
- flexibility.

This list would be expanded or revised as appropriate following the interviews. Information obtained during the interviews would also be used to ascertain the relative importance of these (or other) performance indicators in relation to the functional requirements for the system.

Exhibit 3-5
IDENTIFIED FUNCTIONAL REQUIREMENTS
VS. EXISTING CAPABILITIES

FUNCTION/ FUNCTIONAL REQUIREMENT	CRITICALITY*			SATISFIED BY EXISTING SYSTEMS	REQUIRES MINOR ENHANCEMENT	REQUIRES SIGNIFICANT MODIFICATION
	R	I	D			
Function 1						
Requirement 1						
Requirement 2						
•						
•						
•						
Requirement n						
Function 2						
Requirement 1						
Requirement 2						
•						
•						
•						
Requirement n						
Function n						
Requirement 1						
Requirement 2						
•						
•						
•						
Requirement n						

* R - Required
 I - Important
 D - Desirable

In evaluating possible system concepts for the DOE Office of International Security Affairs, Meridian found that OISA required information regarding the status of an export application being processed by OISA to be made available while an individual requesting information was still on the phone. More complicated requests, such as being able to provide an analysis of all commodities approved for export to particular countries, could be satisfactorily met with longer response periods of perhaps days. In order to provide a uniform way of examining functional requirements as performance standards, a summary sheet similar to the one illustrated in Exhibit 3-6 will be used. As is appropriate, quantifiable performance indicators (e.g., number of seconds, minutes or hours; % of inaccurate entries tolerated) will be identified and minimum acceptable and/or desired performance levels will be established for specific functional requirements. Examples of performance standards within several of the performance requirement categories are shown.

3.4.2.8 Document Work Flows

Documentation to be developed includes work flow diagrams, data dictionaries, and supporting narrative material. Exhibits 3-7 through 3-9 are examples of work flow diagrams that Meridian has produced for other clients. These diagrams partially document the work flow within OISA of DOE. Several were extracted from Procedures/Policies: United States Nuclear Export Control, a four volume series which details export processes within OISA. The manual, produced under a contract with Meridian Corporation, is revised annually to ensure effective and timely documentation of the export license processing system.

3.4.2.9 Prepare Information Analysis Report

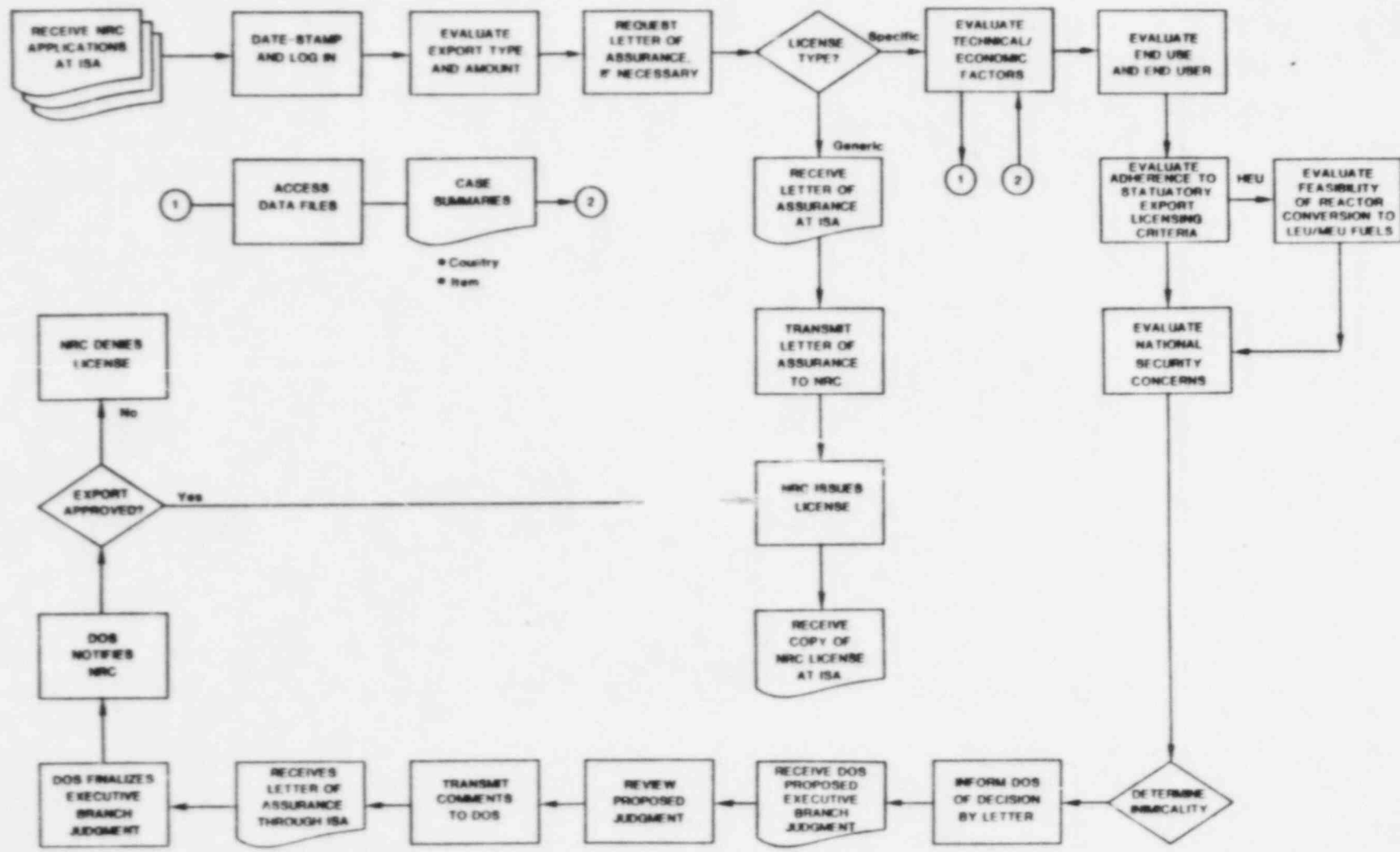
Documentation of interviews and development of work flow diagrams will occur throughout the data collection portions of Task 1. However, at the

Exhibit 3-6

EXAMPLE MINIMUM PERFORMANCE STANDARDS

FUNCTIONAL REQUIREMENT	PERFORMANCE REQUIREMENT								
	Data Accuracy	Perishability	Update Frequency	Data Collection/Entry Time	Processing Time	Response Time	Ease of Use	Security	Flexibility
FUNCTIONAL REQUIREMENT 1									
Required Standard			WITHIN 24 HOURS			RES. TO QUERY IN 5 MIN.			
Existing Capability			WITHIN 24 HOURS			24 HR. TURN-AROUND			
FUNCTIONAL REQUIREMENT 2									
Required Standard						HARD COPY IN 24 HOURS		HANDLE TOP SECRET DATA	
Existing Capability								NO SECURITY PROVISIONS	

Exhibit 3-7 **OISA'S NRC CASE PROCESSING STEPS**



3-27

Exhibit 3-8 **OISA'S COMMERCE CASE PROCESSING STEPS**

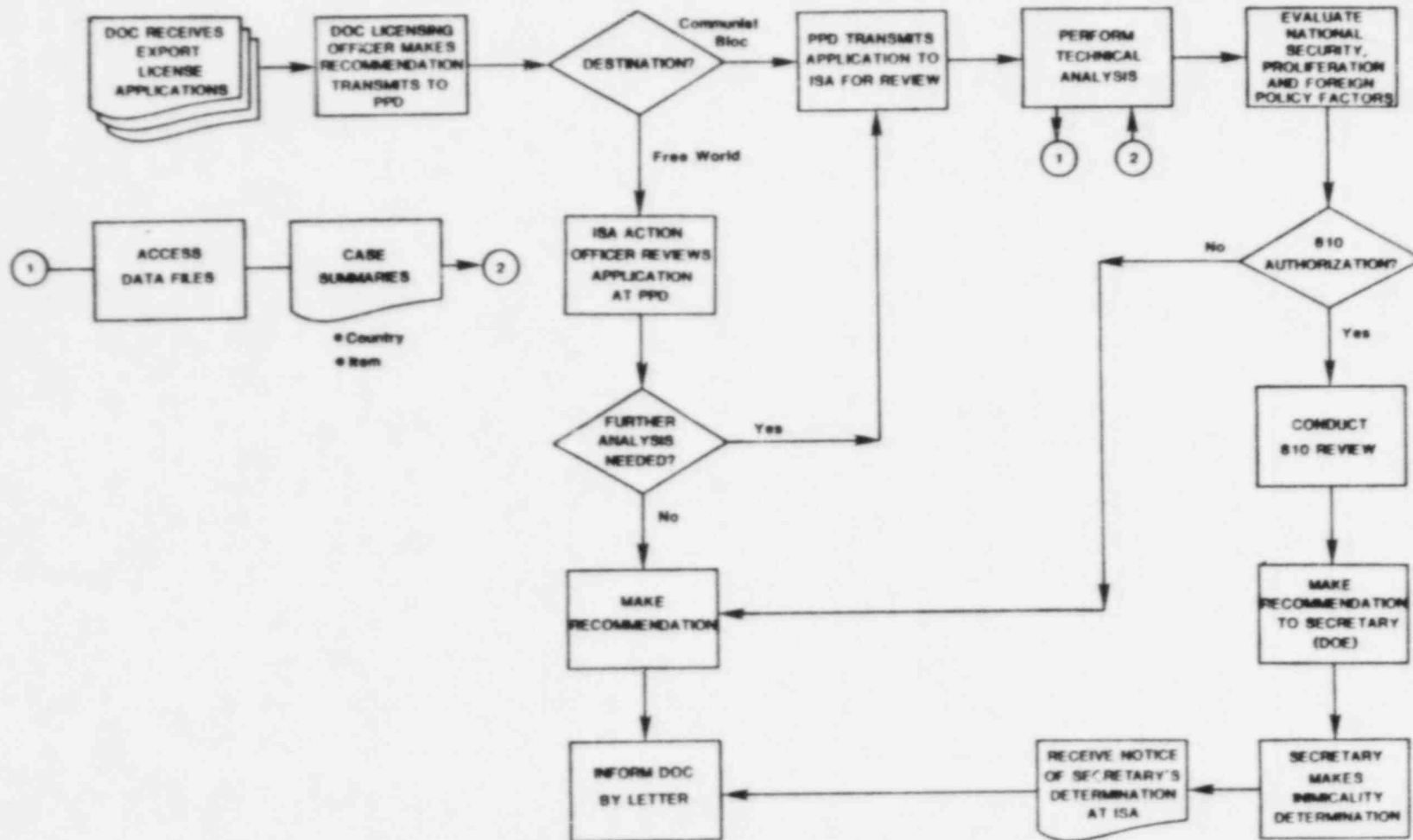
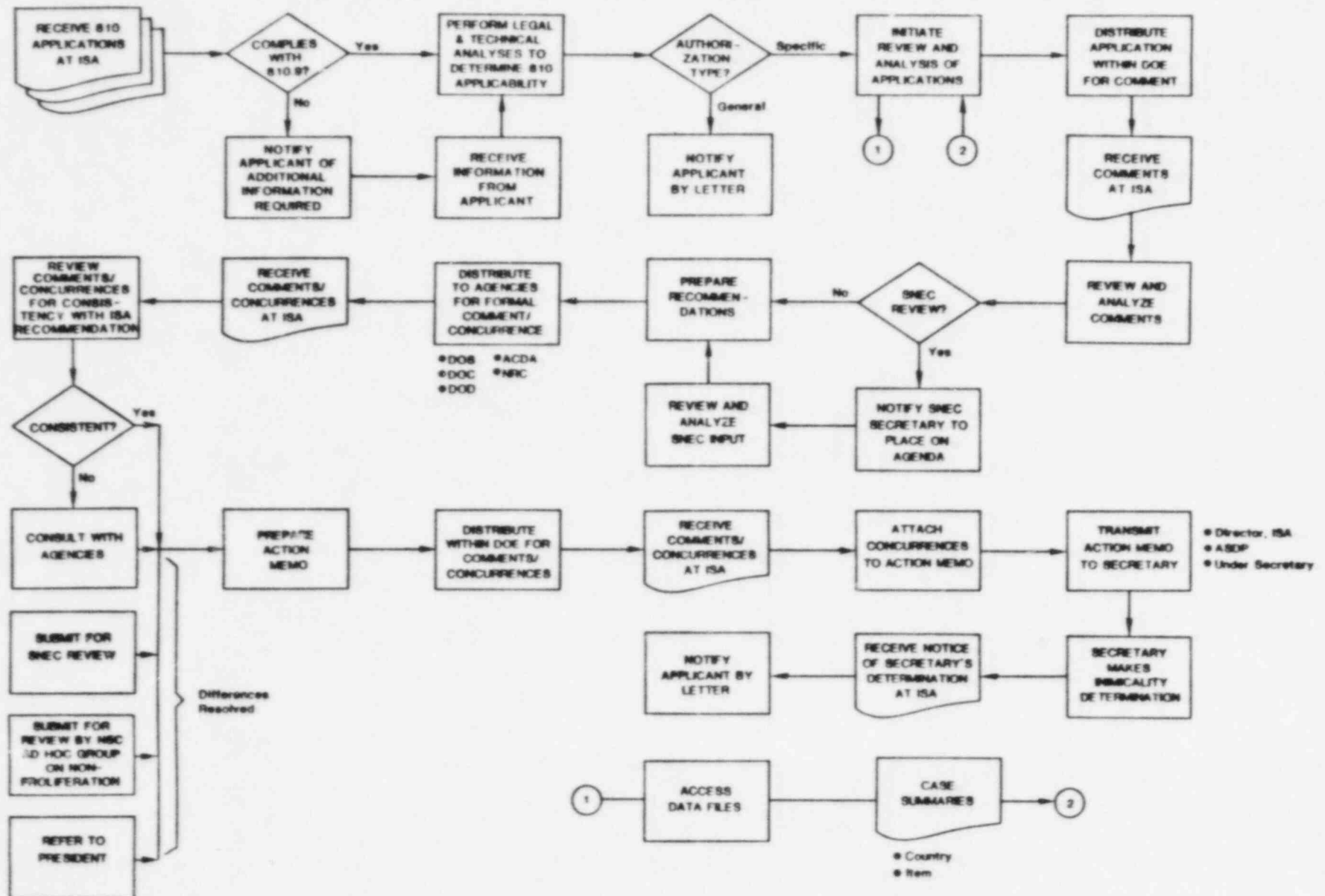


Exhibit 3-9 **OISA'S 810 CASE PROCESSING STEPS**



conclusion of the task, all information collected will be analyzed, and a report summarizing findings will be prepared. This report will identify areas which warrant further consideration for automation and will explain why these areas should be further considered. Should any of the requirements identified during the interviews not warrant further consideration, the reasons why further development is not desirable will be explained. Documentation developed during the data collection phase (i.e., summaries of interviews, work flow diagrams, interview forms, etc.) will be included in an appendix to the report. A draft report will be submitted to IP for review and comment. Following receipt of IP comments, a final report incorporating necessary changes will be prepared and submitted.

3.4.3 Task 2 - System Concept Selection

The objective of this task is to identify alternatives which can satisfy the requirements identified in Task 1, evaluate those concepts, and choose the concept which best satisfies IP needs. Task 2 will be accomplished by completing the following activities:

- identify alternative system concepts;
- identify benefits;
- identify cost;
- assess alternatives; and
- recommend system concept.

Each of these activities is described below.

3.4.3.1 Identify Alternative System Concepts

The functional and performance requirements identified in Task 1 can be satisfied in a variety of ways, some of which involve automated solutions, some which do not. New hardware and software may be needed to support some of

the requirements; others can be satisfied through minor modifications to existing systems. Alternative system concepts which are capable of satisfying higher priority requirements will be identified and described. In formulating alternatives, the project team will consider the availability of existing resources, such as the existing 5520 network, word processing equipment and WYLBUR files. Meridian's work for the DOE Office of International Security Affairs is relevant to the identification of system concepts in that the requirements faced by IP are similar to requirements satisfied by the OISA Analytic Support System. OISA was also faced with the needs to maintain accurate and easily accessible status information of export licenses, track incoming correspondence, locate documents received by OISA, etc. However, there are significant differences between OISA and IP. Perhaps the most obvious difference is that the export licensing case load is dramatically different in size, with OISA processing approximately 6,500 cases in 1983 as compared to the 660 handled by IP. As a result, the hardware requirements (and justifiable costs) for OISA's system are different from those which can be anticipated for IP. Nonetheless, because of Meridian's familiarity with state-of-the-art data, word processing and export/import licensing systems, Meridian the Project Team will be able to develop a set of possible system concepts or configurations which will satisfy IP's requirements.

3.4.3.2 Identify Benefits

Both quantifiable and more subjective benefits can be expected from the implementation of the possible system concepts. Generic types of benefits which might be expected from the implementation of these functional requirements include:

- more effective use of staff;
- access to more accurate and timely information;

- ability to perform tasks not currently performed;
- improved capabilities to perform current assignments;
- enhanced capabilities to meet anticipated increases in workloads;
- improved analytical capability; and
- assist planning.

Input from system users obtained during the interviews will be used to specify benefits which could be expected if a particular functional requirement were implemented and to estimate dollar values for these benefits. The incremental value of expected benefits over the existing system will be determined. This can be accomplished by determining manpower requirements and costs (1) to meet a given functional requirement where automation does not occur and (2) to meet the requirement if it is automated, and by calculating the difference in costs. Exhibit 3-10 presents a form which can be used to summarize the expected benefits associated with each identified system concept. Individuals interviewed in Task 1 will be asked to provide information as to their expectations for each functional requirement they identified. The organizational unit or other group which is expected to benefit if a particular requirement is met will be identified as well as the time at which benefits are expected to occur. Units of measure, such as person hours or years, number of cases per person, etc., will be identified, and these measures will in turn be converted to dollar values. A similar quantification of benefits will be conducted for each functional requirement and system concept identified in this task. Continued interaction with key individuals in IP will be required to ensure that the assignment of values to benefits is accurate.

3.4.3.3 Identify Costs

The costs of implementing alternative system concepts will also be estimated. Costs which must be considered include development costs, installation

Exhibit 3-10
BENEFITS OF CONCEPT "η"

BENEFIT CATEGORY	STATED BENEFIT	BENEFICIARY	TIMING	UNIT OF MEASURE	CURRENT VALUE	EXPECTED VALUE	INCRE- MENTAL VALUE	DOLLAR VALUE OF BENEFIT
More Effective Use of Manpower								
More Timely Information								
Ability to Perform Tasks not Currently Performed								
Improved Capabilities to Perform Current Assignments								
Enhanced Capabilities to Meet Increases in Anticipated Workloads								

costs, operating costs, maintenance costs, and user costs. Development costs include system design, programming, and testing costs, whether system development is conducted in-house or through another contract. Also included in development costs are the costs of conversion from data files of one system to another, if conversion is involved in any of the proposed alternatives. Installation costs include hardware acquisition costs, facilities preparation costs, systems software acquisition costs, etc. Maintenance costs include both hardware and software maintenance costs, while operations costs include the costs associated with data collection and entry, system backup, security measures, and equipment operation. Capital costs, personnel costs, overhead rates, and materials and equipment costs must be estimated as components of costs within each of these categories. It is apparent that in order to prepare even a rough estimate of these costs, one must have a general idea of hardware configurations which will be required to support particular functional requirements and their associated performance and data requirements. A macro-level system description will be prepared as a basis for developing preliminary cost estimates. Other resource requirements which will be considered include space requirements and IP personnel requirements. Exhibit 3-11 presents a format which can be used to summarize costs of any given system concept.

3.4.3.4 Assess Alternatives

All benefits and costs of the identified requirements will be analyzed so that the most cost-effective requirements can be identified. The timing of these benefits and costs will also be considered so that the present value of the costs can be determined. These incremental benefit and cost estimates, expressed in present year dollars, can be used to compute a benefit-cost ratio for each functional requirement and system concept. If only costs were to be considered, the higher the benefit-cost ratio, the more cost-effective the

Exhibit 3-11
COST ESTIMATES FOR CONCEPT "1"

	PRESENT VALUE	FY 85	FY 86	FY 87	FY 88	FY 89	FY 90	TOTAL
DEVELOPMENT COST								
Non-recurring								
Recurring								
INSTALLATION								
Non-recurring								
Recurring								
MAINTENANCE								
Recurring								
OPERATIONS COST								
Non-recurring								
Recurring								
USER COST								
Non-recurring								
Recurring								
TOTAL ANNUAL COST								

functional requirement. However, results of this analysis will be assimilated with information obtained from the users on the relative importance of the functional requirements so that a recommendation can be made with respect to the most desirable system concept.

3.4.3.5 Recommend System Concept

At the completion of the analysis involved in this Task, Meridian will make its recommendation as to the most desirable system concept. Although the RFP does not require a draft report to be submitted until after the completion of Task 4, Meridian will prepare a decision paper for the IP Project Officer as soon as this recommendation can be made. The decision paper will summarize the reasoning behind the recommendation, including the results of the cost/benefit assessment and analyses of intangible benefits and costs.

In conducting similar studies for other agencies, Meridian has found that a number of factors must be considered in defining a desirable system concept. These factors include:

- compatibility with other agencies;
- security requirements;
- conversion requirements;
- expected benefits;
- available resources;
- effects of delays; and
- consequences of not taking action.

Each of these factors is briefly discussed below.

The export/import licensing function is shared by a number of agencies, including the DOE Office of International Security Affairs, Department of Commerce, Department of State, Department of Defense, and Arms Control and Disarmament Agency, as well as the NRC. Each of these agencies is charged with

reviewing identical applications, and each draws upon some form of automated assistance in tracking export licenses. Compatibility with other agencies makes it possible to electronically transfer selected data items from one agency to another. This type of cooperation is now being explored by the Department of Commerce with the Departments of Energy and Defense. By eliminating the need for redundant data entry at each agency to which an application is referred, personnel utilization is improved, processing times are reduced, and a higher degree of consistency in data among agencies is ensured. The licensing function is not the only area in which compatibility with other agencies should be considered. Certain office management functions (e.g., planning and controlling budgets, monitoring foreign travel and visits by foreign nationals, monitoring research projects, tracking correspondence and documents, etc.) are common to multiple agencies. If software developed for one agency can be transferred to another with minimal modifications, immediate savings can be realized.

In the interests of national security, classified data must be protected. Thus, security requirements must also be considered in selecting the most advantageous system concept. Operating at a classified level places restrictions on a system. For example, remote access to a classified facility must be limited; and stringent access controls must be put into effect to ensure that only authorized users can obtain classified data. Furthermore, the range of acceptable equipment options is narrowed. Meridian's experience in working with classified and proprietary data demonstrates our capabilities to handle the technical and managerial problems of data and word processing in a classified environment. From this experience base, we can also determine that the most appropriate system concept may integrate components designed for processing classified material with those designed for more open access.

Conversion requirements must also be considered. Nearly all existing data and text files could be converted to alternate formats or equipment if needed. For example, in developing the ECMS for OISA, Meridian converted data files used in a batch processing environment to a data base management system structure which could be used in an on-line, interactive environment. All data contained in the previously used system was converted so that the historical value of the data base would be kept intact. It is also possible to convert word processing disks from one system to another through the use of software developed for that purpose. Such conversion is not always desirable, due not only to the monetary costs but also to the time required of personnel to effect such conversions. In estimating the costs of alternative system concepts, Meridian will take into account the costs of converting data files and programs from one system to the proposed ones.

Expected benefits are frequently quite difficult to quantify. For example, being more responsive to Executive Branch agencies and commission requests is of value, but precision in measuring this worth is elusive. For this reason, strict application of decision criteria heavily weighing cost/benefit ratios can be misleading. Intangible benefits can best be considered in conjunction with ratios derived from calculable costs and benefits but without being lost in the numbers.

A realistic view of available resources is essential to developing system concepts which can actually be implemented. For example, no matter what the benefit/cost ratios, payback periods or intangible benefits are, and no matter how well functional requirements and performance standards can be satisfied by a particular concept, the system concept may be well beyond the reach of IP. Meridian is experienced in developing solutions that are appropriate to the needs of a particular client. For example, the Department of Commerce uses an IBM 4341-based data base containing over one million records to support its

export licensing functions. On the other hand, the office management, analytical and export licensing functions of OISA are supported by an HP 3000, several TEMPEST-approved IBM PC's and Raytheon word processors. The Department of State is in the process of networking TEMPEST-approved Wang PC's to a TEMPEST-approved Wang Alliance 250 configuration. Both the size of the data processing problems and the availability of resources dictate the range of possible system concepts which can be considered for any given client.

The effects of delays are also considered in formulating system concepts. Delays can have any number of causes. For example, the installation of OISA's HP 3000 was delayed for six months while the General Services Administration constructed the computer room. In this case, the cost of the delay was minimized by performing software development and testing off site. In general, delays result in deferred benefits, thus changing expected benefit/cost ratios.

Benefits are deferred indefinitely if action is not taken. Maintaining the status quo also involves costs in terms of personnel time and computer resources at NIH. It is quite possible that the "no change" alternative, which would be used as a baseline against which alternative system concepts would be measured, would not be the lowest cost, and would not have the highest benefit value. It is in identifying the concept which best modifies existing conditions to meet client needs that Meridian is particularly strong. Having developed appropriate solutions for other clients, Meridian is highly capable of identifying the most desirable concept for IP.

3.4.4 Task 3 - Proposed System Definition

The interviews conducted during Task 1 will produce a significant quantity of information related to work flows within and functions performed by IP; analytical and automated support requirements; their respective importance as perceived by system users; and the capabilities and limitations

of existing support systems. In Task 2 results of these interviews will be synthesized and integrated so that priorities can be identified, costs determined and the most cost-effective options selected. Task 3 will provide detailed specifications on each of the recommended alternatives identified in Task 2. These specifications will include a description of inputs, outputs and data files, as well as work flow documentation, identification of security requirements and an examination of possible interfaces with other systems.

The success of the detailed specification task is critical to the success of the design, development and implementation of a system. Meridian has found that careful planning of the system specifications obviates the need for time-consuming and costly modifications to automated systems after they have been implemented.

To ensure that the detailed specifications for each system are accurate and that the proposed systems are feasible to develop, a project team should have experience in actual system implementation. Meridian's Project Team has extensive experience in a developing and implementing automated systems.

Re-interviews with appropriate IP staff to discuss the design specifications will ensure that Meridian fully understands IP's requirements. These discussions will provide an opportunity to clarify and/or alter design specifications prior to the development cycle. These discussions will also include detail specifications of input/output requirements, user interfaces, level of personnel who will use the system, types of reports generated and the management level to which the reports will be oriented.

The major purpose of this Task is to specify further the requirements for the recommended alternatives so that they can be implemented. Documentation will be prepared at a level of detail which will be meaningful to analysts and programmers who later will be charged with implementing a workable system which satisfies IP system requirements.

3.4.4.1 Description of Output

In defining output reports for a system, the Project Team will generate the following information:

- format;
- frequency of report;
- possible retrieval options;
- report distribution;
- data items output;
- interfaces with other systems; and
- brief description of the report.

An example of an information sheet for a report is shown in Exhibit 3-12.

Other output generated from an automated system could be a standard letter containing information retrieved from a data base. Exhibit 3-13 displays a sample letter generated from OISA's ECMS that is sent to the Department of Commerce. Another example (Exhibit 3-14) of output from the ECMS is a complete summary of data for an export case.

All output generated from a system will be developed with the assistance of IP personnel to ensure that IP's needs are completely satisfied.

3.4.4.2 Description of Inputs

In defining system requirements it is essential to identify all data that is needed to successfully develop and implement a system. To define data input a data dictionary will be developed. A data dictionary is used to minimize redundancy in a DBMS architecture, to ensure that correct data are entered into a data base and to maximize communication between system developers and the ultimate users. Meridian foresees using the data dictionary as a tool to control and manage information about the data, such as its origin, description, relationship to other data, usage and format. In essence the data dictionary

Exhibit 3-12
EXAMPLE REPORT SPECIFICATIONS

Report Name: Pending 810 Cases Summary Report.

Format: As specified below

Frequency: Weekly

Retrieval options: All pending 810 cases, sorted by:

(1) country

(2) case number

Data Items: Case Number
Applicant
Final Destination Country
OISA Internal Comments
Action Officer
Received Date

This report provides a summary of all pending 810 cases. Pending cases are defined as those cases for which a recommendation code of "NA" (not available) was entered. The printout should be sorted by case number or by country and case number.

Distribution: Carl Thorne
Zan Hollander
All 810 Action Officers

Interfaces: This report is taken directly from the case-dtl, second-dtl, and associated master files of the ECMS data base.

Exhibit 3-12 (Cont'd)
EXAMPLE REPORT SPECIFICATIONS

Specified Format

Report Date _____	PENDING 810 CASES		Page No. _____
Case Number	Applicant	Country	Summary
_____	_____	_____	_____ _____ _____
_____	_____	_____	Action Officer: _____ Received Date: _____ _____ _____
			Action Officer: _____ Received Date: _____ _____

Exhibit 3-13
SAMPLE LETTER

TO: MR. JOHN BOIDOCK, DIRECTOR
OFFICE OF EXPORT ADMINISTRATION

FROM: CARLTON E. THORNE, ISA/PSA

DATE: 09/11/84

SUBJECT: DEPARTMENT OF ENERGY RECOMMENDATION
ON PENDING EXPORT APPLICATIONS

REFERENCE:

BEST CASE NO: SAMPLE

COMMODITY: WORD PROCESSOR, WORK STATION, PRINTER, MODEM,
CONSOLE, ETC.

VALUE: \$300,000

END USER: DENMARK COMPUTER SERVICES DENMARK

APPLICANT: JACKSON ASSOCIATES

COMMODITY CONTROL #: 1565

DEPARTMENT OF ENERGY RECOMMENDATION:

DOE RECOMMENDS APPROVAL

COMMENTS:

DOE RECOMMENDS APPROVAL OF THIS CASE DUE TO THE NATURE OF THE
COMMODITIES INVOLVED.

-Sample-

```
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX  
X THIS PAGE CONTAINS PROPRIETARY INFORMATION X  
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
```

CASE NO.: SAMPLE APPL: JACKSON ASSOCIATES UPDATED: 09/11/64
CASE TYPE: DEPT. OF COMMERCE BILATERAL CASES WITH NON-COMMUNIST COUNTRY

APPL DATE: 09/08/84 RECEIVED DATE: 09/09/84 VALUE: \$300,000
STATUS: COMPLETED
RECOMMENDATION: DOE RECOMMENDS APPROVAL
REC DATE: 09/10/84 FINAL DISPOSITION:

TECHNICAL DATA OR PRODUCT: P
PRODUCT: WORD PROCESSOR
MANUFACTURER: JACKSON ASSOCIATES
MODEL: A3B4029

```
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
X                                                                 X
X THIS PAGE CONTAINS PROPRIETARY INFORMATION X
X                                                                 X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
```

will be a small-scale data base itself, containing information about IP. An excerpt from a data dictionary is shown in Exhibit 3-15.

The majority of end-users are not programmers or computer specialists. It therefore becomes important that the system be user-friendly. One step in achieving this objective is to provide screens for data entry. These screen designs can be in a format similar to the actual application. Exhibit 3-16 shows a sample screen design. Other means through which user-friendliness can be achieved is by designing a menu-driven system that utilizes English-like commands.

3.4.4.3 Description of Data Files

In defining system specifications a description of the data files is required. The first step is to define the complete application. This includes purpose, data elements, number of records, frequency, functions, retrieval options, search capabilities, output and other considerations. Example application descriptions are shown in Exhibits 3-17 and 3-18.

Each system will in all probability contain more than one data file. A large, complex system such as the ECMS, utilizing a hierarchical data base, has 37 data files. A flexible, useful, efficient system largely depends on the file structure. Search capabilities are extremely dependent on the relationship between the data files. It is therefore essential for the file structure to reflect input and output requirements. Data file structure cannot be developed prior to a complete definition of input and output requirements. A file structure will be developed for each system. Exhibit 3-19 shows a sample file structure developed for the OISA Analytical Support System. This file structure reflects an IMAGE DBMS. Other DBMS would require a different file structure. A high priority during system definition will be to develop data file structures that will reflect all of IP's requirements.

Exhibit 3-15
SAMPLE DATA DICTIONARY

<u>Information Category</u>	<u>Data Item Description</u>	<u>Currently Included in Computer System</u>	<u>Additional Identification</u>	<u>Input</u>		<u>Output</u>		<u>Additional Information</u>
				<u>Field Size</u>	<u>Character(C)/ Numeric(N)</u>	<u>Field Size</u>	<u>Character(C)/ Numeric(N)</u>	
Special Nuclear	LICENSE #	x	Key field	10	C	10	C	
	DATE-APPL	x		9	C	9	C	
	DATE-RCVD	x		9	C	9	C	
	DATE-PEND	x		9	C	9	C	
	TO-STATE	x		9	C	9	C	
	FRM-STATE	x		8	N	8	N	
	DOCKET #	x	Key field	30	C	30	C	
	APPLICANT	x		30	C	30	C	
	MATERIAL TYPE	x		30	C	30	C	
	END-USE	x		5	C	5	C	
	ELEMENT	x		10	N	12	N	
	WEIGHT	x		10	N	12	N	percentage
	ENRICH%	x		10	N	12	N	
	ISOTOPE	x		10	N	12	N	
	WEIGHT	x		4	C	4	C	
	UNIT	x		30	C	30	C	
	FACILITY	x		2	C	15	C	input coded
	COUNTRY	x		10	C	10	C	
	MATERIAL USAGE	x						

Exhibit 3-16
SAMPLE SCREEN DESIGN

TRAVEL SYSTEM

SURNAME[_____] FIRST NAME[_____]

DIVISION[_____]

TA-NO[_____]

PURPOSE NUMBER[_____]

STATUS CODE[_____]

DEPARTURE DATE[_____]

RETURN DATE[_____]

DESTINATION[_____]

AMOUNT ALLOCATED[_____]

AMOUNT EXPENDED[_____]

COMMENTS[_____]

Exhibit 3-17

SAMPLE SYSTEM SPECIFICATIONS - VISITS & ASSIGNMENTS

Applications: Visits, Assignments, and Foreign Travel Data Base

Purpose: Single data base that will provide for:

- Tracking and analyzing requests for visits and assignments by foreign nationals to United States facilities.
- Processing and maintaining foreign travel information for United States citizens.

Data Elements:

	<u>Field Size</u>
Name of Requestor	20
Social Security Number/Passport Number	12
Type of Clearance	2
Country of Citizenship	2
Date of Request	8
Name and Address of Current Employer/Institution, Agency and Office	70
Field of Research	16
Visit, Assignment or Travel designation	2
Organization(s) and Location(s) to be visited or assigned	30
Indices check results	8
Points of Contact	20
Dates of Contact	8
Type of Work	20
Other Intelligence Information (codes)	10
Trip Report (submitted or not submitted)	2
Concurrences Received (various codes)	6
Status of Security Plan (codes)	2
Field Office Information	30
Intelligence Community Interest (codes)	2
Briefing to Traveler	2

approx. 300
characters

- Functions:
- (1) Provide user with all historical information on specific person by entering person's last name
 - (2) Provide user with all historical information on specific person by entering person's social security number
 - (3) Provide names of all visitors/assignments and corresponding lab name by entering country of citizenship
 - (4) Calculate and store total number of visits/assignments by country of citizenship
 - (5) Provide total number of visits/assignments by country of citizenship

Exhibit 3-17 (Cont'd)

SAMPLE SYSTEM SPECIFICATIONS - VISITS & ASSIGNMENTS

- (6) Provide names of all visits/assignments by entering name of lab
- (7) Provide user with option of terminal display or hard copy for any information request

Number of Records: (1) 20 United States citizens visit requests processed per week

(2) 50-60 international travel requests processed per week

Frequency of Data Entry: Daily

Retrieval Options:

- (1) Name
- (2) Social Security Number
- (3) Country of Citizenship
- (4) Organization and Location to be visited or assigned
- (5) Field of Research
- (6) Date
- (7) Home Institution (for foreigners)
- (8) Indices Check Results
- (9) Security Plan Status

Frequency of Search/Report Capability:

Output:

- (1) All information available for that person
- (2) List of names
- (3) Number of personnel

Other Considerations:

- (1) Extensive data entry will be required to maintain this system.
- (2) The requirements and functions described would be for an OISA internal data base for this information. However, an ultimate system would be a distributed network between Headquarters and the labs in order to process and approve most of these requests and indices checks electronically.
- (3) Read capability for this data base should be available to analysts in OISA, FMSA and DP.
- (4) This application could be developed on a micro-computer.
- (5) The security level (classified or unclassified) still needs to be determined for this application.

Exhibit 3-18

SAMPLE SYSTEM SPECIFICATIONS - DOCUMENT CONTROL

Application: Document Control and Retrieval System

Purpose: Document receipt of accountable documents

Data Elements:

	<u>Field Size</u>
Title	20
Agency that forwarded the document	10
Date of the document	8
Date received at Agency	8
Document classification	6
Key Word classification	16
Index for locating document in library	6
Individual who checked out document	20
Date checked out	<u>8</u>

approx. 110 characters

Number of Records: 400-600 per week

Frequency of Data Entry: Daily

Functions:

- (1) Provide user with above information on specific document by entering name of document
- (2) Provide user with list of documents received from an agency by entering name of that agency
- (3) Provide user with list of documents by classification by entering classification type
- (4) Provide user with list of documents by subject by entering key word
- (5) Provide user with option of terminal display or hard copy for any information request

Retrieval Options:

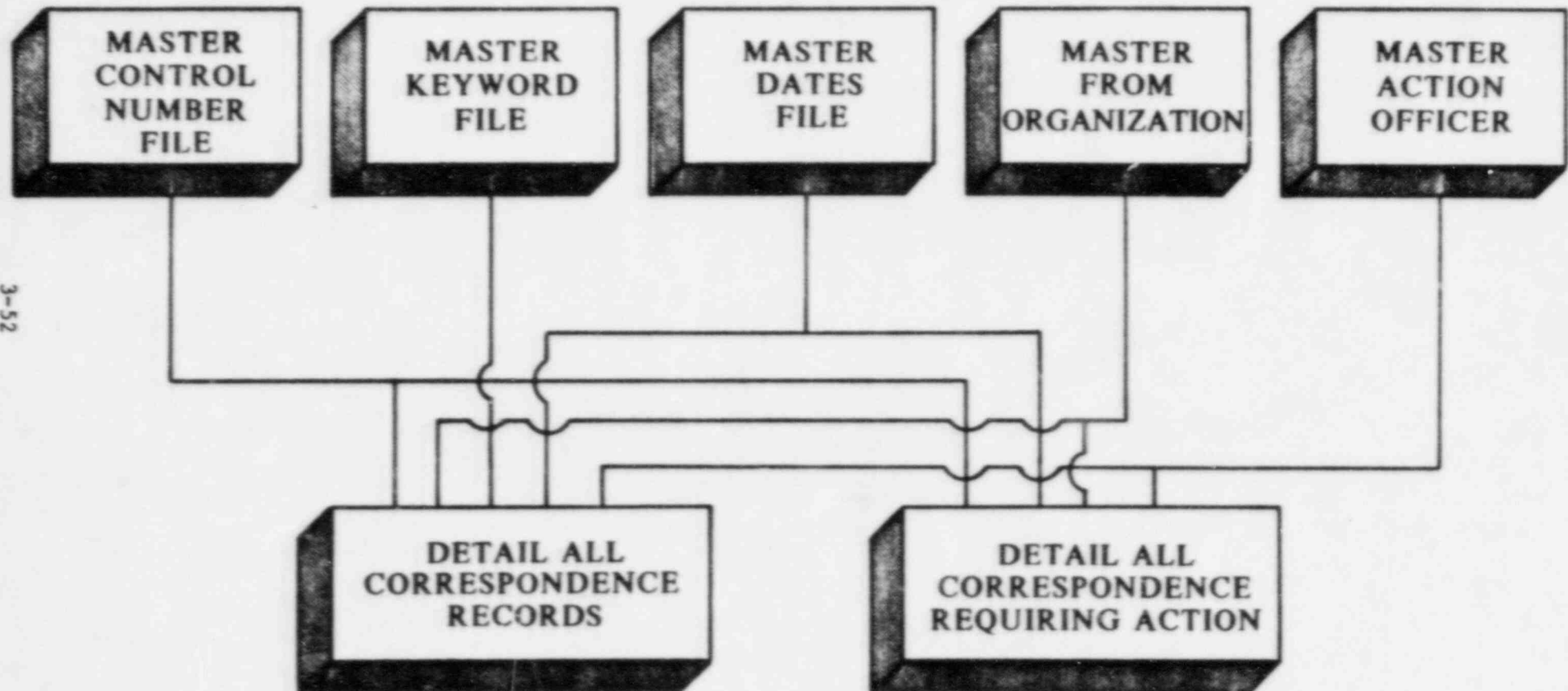
- (1) Agency
- (2) Date Received at Agency
- (3) Classification
- (4) Title
- (5) Key Word Identifier

Frequency of Search/Report Capability:

Output:

- (1) Document information and index
- (2) List of document titles

Exhibit 3-19
SAMPLE FILE STRUCTURE
Correspondence Tracking System



NOTE: This is a file structure (using Hewlett Packard's Image DBMS) of an actual operational automated system.

3.4.4.4 Processing Work/Data/Logic Flow

Graphic representation of work flow, data flow and logic flow are generally best described in the form of flowcharts. A functional requirement can be represented in a work flow diagram. Task 1 will develop work flow diagrams for IP. Exhibits 3-7 through 3-9 are examples of work flow diagrams. Data and logic flow describe the flow of data through the automated system and the program logic. These flowcharts are developed during the initial specification and design phase. Inputs, outputs and file structure development are needed to develop a data/logic flowchart. For all recommended alternatives identified in Task 2, data/logic flowcharts will be developed. An activity-data flow diagram is shown in Exhibit 3-20.

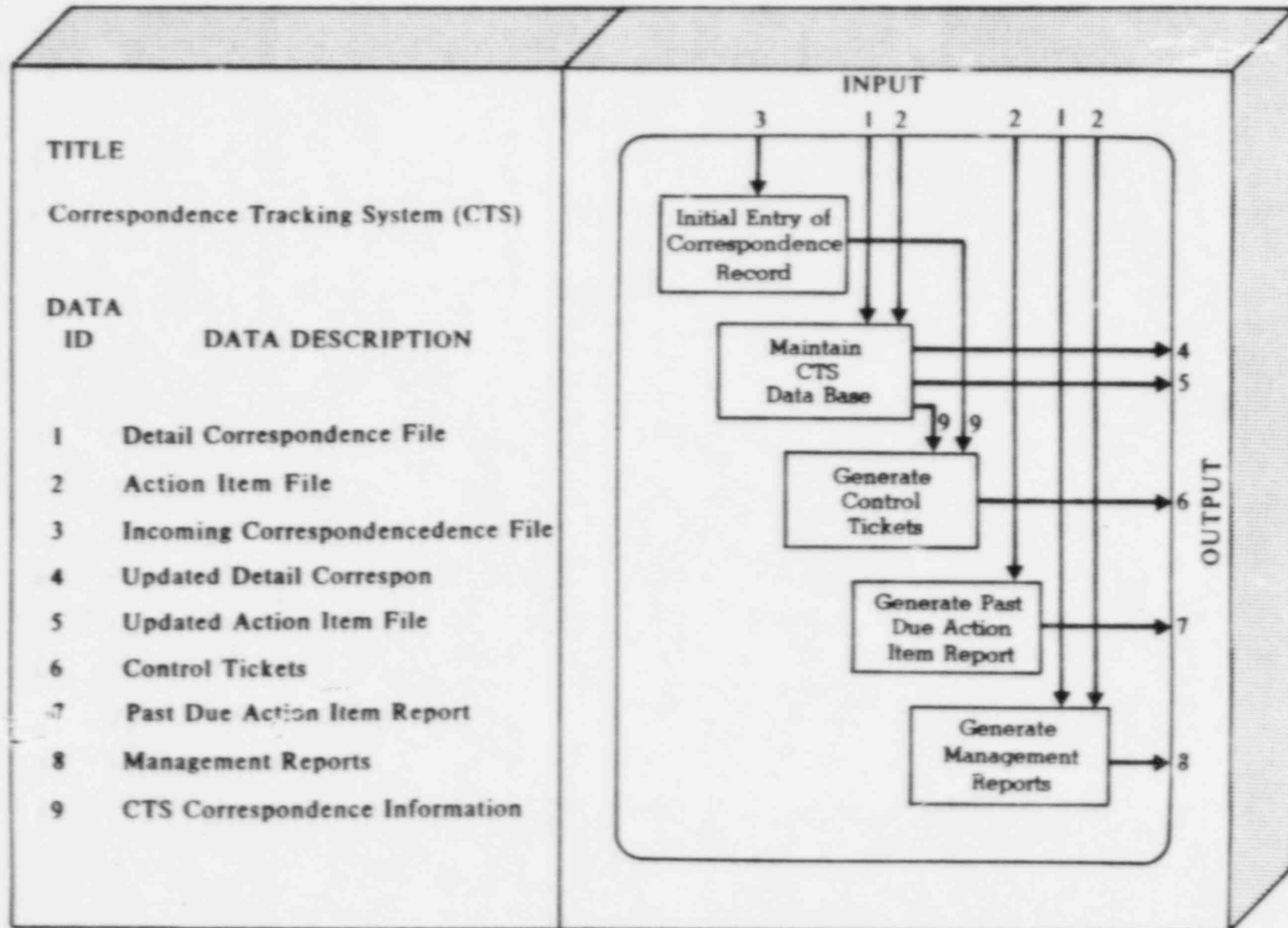
3.4.4.5 Security/Privacy Requirements

Security is an area often overlooked during initial system definition and design. To avoid future modifications to an already developed system, security requirements need to be examined carefully during system definition. The following areas of security will be examined:

- personnel;
- physical;
- communication;
- hardware/software;
- training; and
- procedural.

The first level of security that will be examined is overall security for IP's automated system. A second level of security is the security requirements for individual systems. If all hardware is linked into one network, one security plan is sufficient and must satisfy the required security measures for the highest classified application on the network. However, if applications

Exhibit 3-20
ACTIVITY-DATA FLOW DIAGRAM



run on stand-alone hardware or more than one network is maintained, security requirements may vary.

In identifying options for protecting system resources, a mix of strategies employing overlapping and redundant features will be considered. Alternatives for developing security requirements which are found to be technically and administratively feasible will be subject to a cost/benefit analysis.

3.4.4.6 Interfaces

Interfacing one system with another system has become the technology of today. Interest in accessing data files and sharing data has increased significantly during the past few years. System isolation and independence is no longer acceptable. Interfacing considerations are now a key element in system definition. In theory, this relatively new concept is beneficial to all parties. However, interfacing two or more systems is not always practical, cost effective or feasible.

There are two concepts to consider when addressing system interfacing. The first concept is the sharing of data files between two or more applications that operate on identical hardware. Data base applications typically have numerous data files. It is not uncommon for data files to be duplicated across more than one data base. By sharing a data file, storage requirements and time required to update the files are decreased. The second interfacing consideration is the sharing of software systems that reside on different hardware. There are a number of concerns that need to be addressed prior to successfully interfacing two or more of these systems. These concerns are as follows:

- bilateral/unilateral possibility of sharing data;
- hardware/software compatibility;
- classification of systems;

- modification requirements of hardware/software; and
- additional hardware/software required.

Meridian will address all of the above considerations and through a cost/benefit analysis determine whether it is feasible to share data files and/or data base systems.

Meridian is familiar with interfacing problems and complications. Meridian is currently examining the possibility of not only interfacing the Department of Commerce export licensing system (LARS) to the Department of Energy Export Case Management System (ECMS) but also the possibility of electronically transmitting Commerce cases reviewed by DOE to the DOE system. The DOE system is a classified system and has no remote capability. The transfer of export cases is deemed feasible by downloading Department of Commerce data to a microcomputer and then uploading this data from the microcomputer to the DOE classified ECMS. Meridian is also assisting OISA in evaluating interfacing requirements for its newly operational Visits, Assignments and International Travel System.

Meridian's knowledge and extensive experience in sharing data with IP related systems (ECMS, LARS) and practical hands-on experience in developing data communications ensures IP that all aspects of data sharing will be fully examined.

3.4.5 Task 5 - Plan and Schedule

For each recommended system a proposed plan and schedule for implementation will be developed. This plan will include equipment acquisition, design, development, implementation, testing, training and documentation. Major milestones and management decision points will be identified. Exhibit

3-21 is an outline that lists the planning phases and the possible major milestones and decision points for these phases. A sample schedule is depicted in Exhibit 3-22.

3.5 POTENTIAL PROBLEM AREAS

This section presents an outline of the potential difficulties or problems Meridian foresees in accomplishing the requirements analysis. For each stated difficulty or problem, Meridian has identified proposed general approaches for their resolution.

<u>POTENTIAL DIFFICULTIES/ PROBLEMS</u>	<u>GENERAL APPROACH</u>
PEAK STAFFING REQUIREMENTS	Meridian's management approach allows assignment of qualified personnel from total corporate resources to meet contract requirements.
RESPONSIVENESS	All project resources are directly controlled by the Project Manager. In addition, all key personnel and specialists are geographically located in the Washington, D.C. metropolitan area.
COMMITMENT AND RETENTION OF PERSONNEL OVER CONTRACT TERM	Only current Meridian employees are used, which assures commitment and stability of personnel, as juxtaposed to sub-contractor or consultant personnel.
SECURITY CLEARANCE	Meridian Corporation has the ability to provide a fully qualified team possessing security clearances. All key personnel possess Department of Energy "Q" clearances and Department of Defense Secret or above.
INTERAGENCY COOPERATION	Meridian has performed similar tasks and has a close working relationship with other Federal agencies including the Departments of State, Energy & Commerce.

Exhibit 3-21
SYSTEM PLAN

1. Equipment Acquisition

- Consider hardware and software needed
- Order hardware/software
- Receive hardware/software
- Install hardware/software
- Test hardware/software

2. Design

- Design phase minimal due to detailed specifications developed in Task 3 of requirements study

3. Develop/Test

- Develop each individual processing module
- Test each individual processing module
- Demo system to end users
- Continue discussions between programmer and end user

4. Implement/Test

- Real data
- Parallel testing

5. Operational

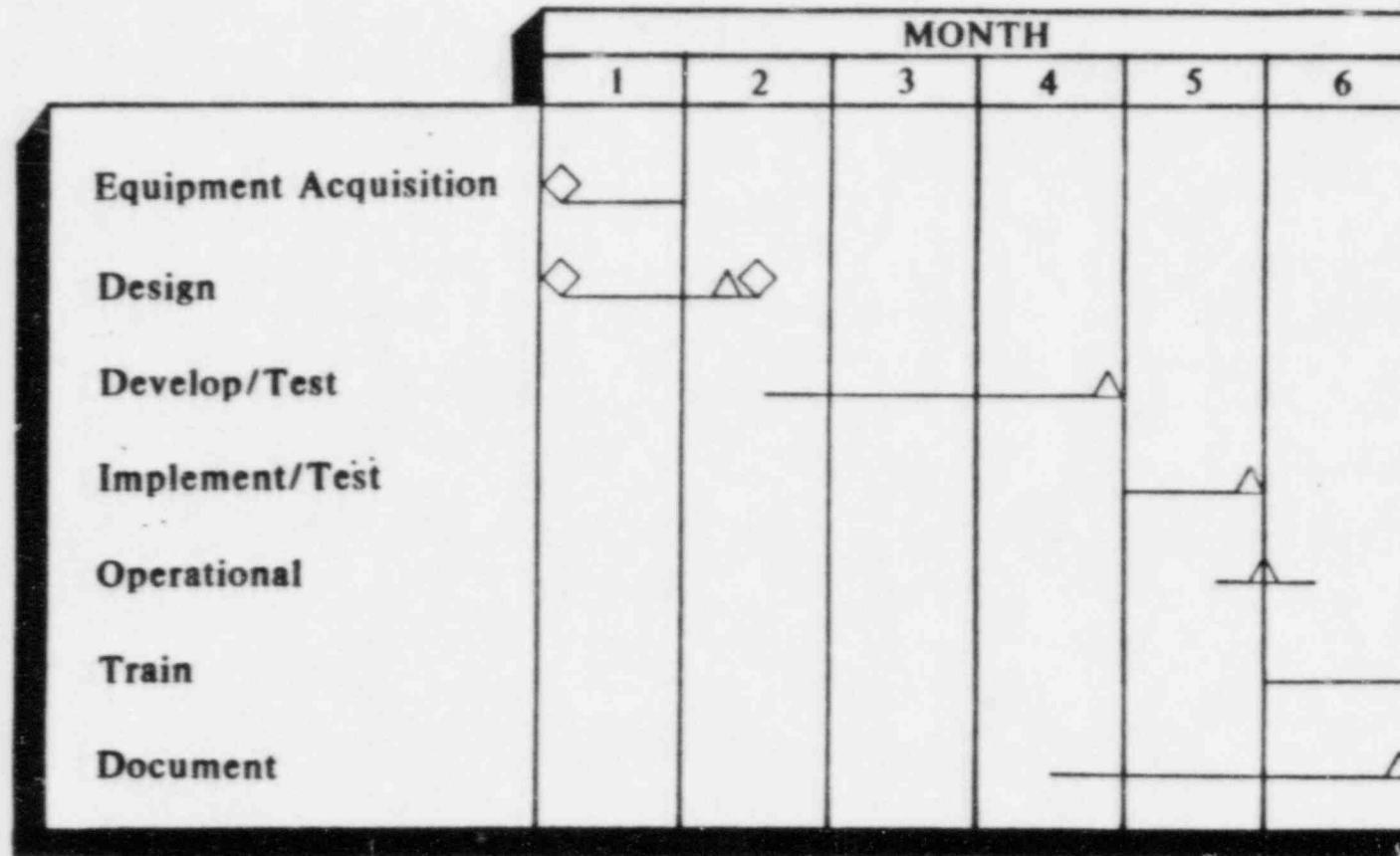
6. Training

- Familiarize all levels of management
- Extensive training period for end users

7. Documentation

- Operational manual
- Technical manual (if applicable)
- Source code (if applicable)

Exhibit 3-22
SAMPLE SYSTEM SCHEDULE



DATA COLLECTION

Meridian understands the complexity of collecting valid and accurate data. Meridian's approach to ensure data validation is to have the interviewee and the interviewee's supervisor review the results of the interview.

READ-IN TIME REQUIREMENT

Meridian's project team is familiar with and currently working in the export control community.

3.6 WORK SCHEDULE

Exhibit 3-23 presents a proposed schedule for this effort. Meridian takes no exceptions to the schedule outlined in the RFP. As can be seen in the exhibit, the four tasks are roughly sequential.

Although the RFP does not require a report to be submitted between the completion of Task 2 and the submission of the draft design report, Meridian plans to submit a decision paper as soon as the Task 2 analyses are completed and Meridian is in a position to recommend a system concept. Tasks 3 (Proposed System Definition) and 4 (Plan and Schedule) will be completed for the recommended concept, revised as necessary to reflect decisions made by the IP Project Officer. A list of proposed deliverables is shown in Exhibit 3-24.

Exhibit 3-25 presents a summary of staffing by Task. Task 1 is the most time-consuming of the tasks, as it involves the data collection which is the foundation for all subsequent tasks.

3.7 INTERPRETATIONS, REQUIREMENTS, ASSUMPTIONS

No interpretations or assumptions were made and no additional requirements were identified in defining the proposed scope of work.

Exhibit 3-23
PROPOSED CONTRACT SCHEDULE

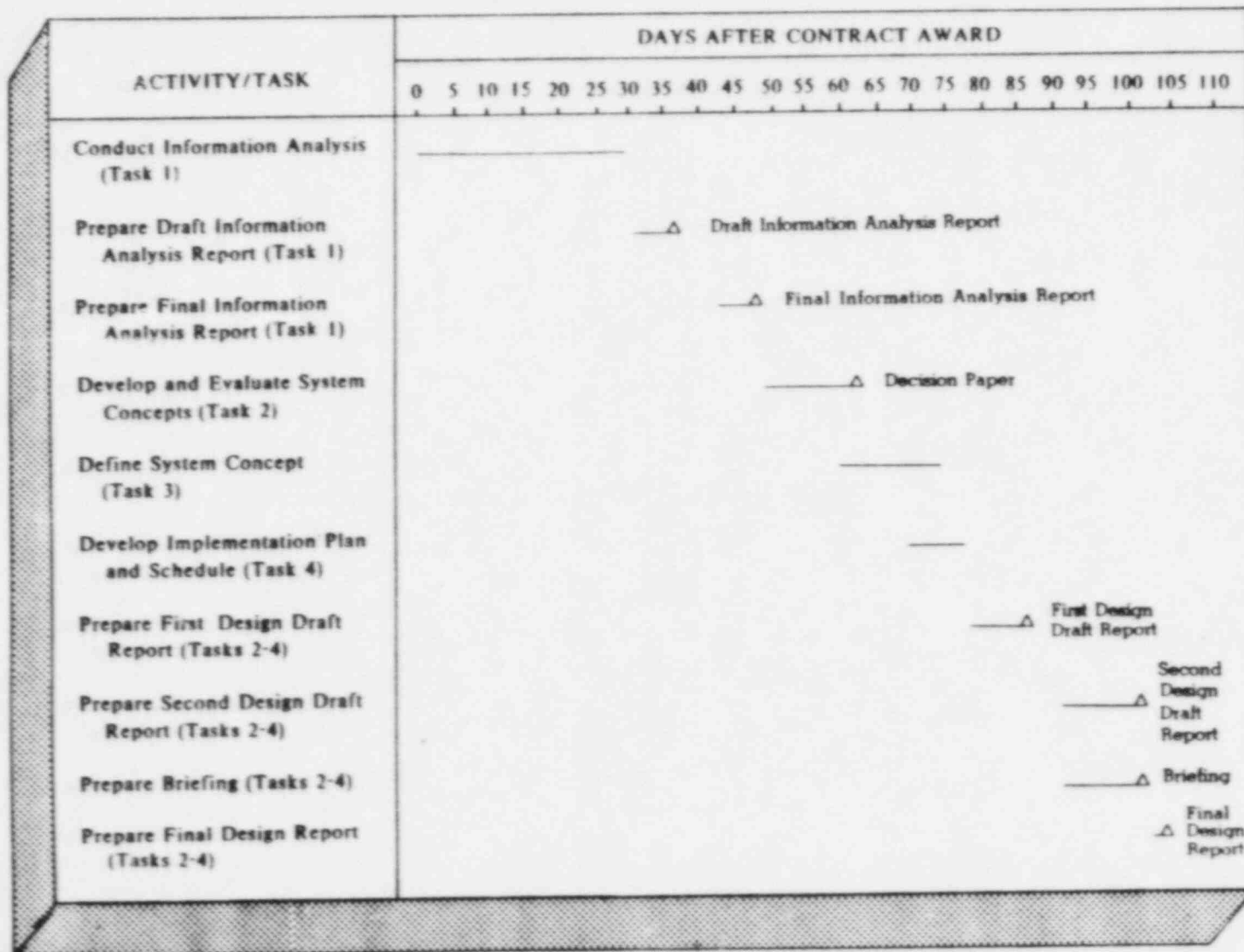


Exhibit 3-24
PLANNED DELIVERABLES

**DAYS AFTER
CONTRACT AWARD**

Status Report	every Thursday
Progress Meeting	every Friday
Draft Information Analysis Report	36
Final Information Analysis Report	47
Decision Paper	62
First Design Draft Report	87
Second Design Draft Report	102
Design Briefing	102
Final Design Report	107

Exhibit 3-25

PROPOSED HOURS BY TASK BY LABOR CATEGORY

LABOR CATEGORY	PROPOSED HOURS				
	TASK 1	TASK 2	TASK 3	TASK 4	TOTAL
Project Manager	32	24	24	24	104
Systems Analyst	256	104	136	40	536
Jr. Systems Analyst/ Technical Writer	270	100	132	52	554
Office Automation Specialist		16		16	32
Support	40	40	40	40	160
TOTAL	598	284	332	172	1386

)

SECTION 4

CORPORATE EXPERIENCE

Meridian Corporation's record of success in similar studies demonstrates a proven capability to efficiently perform the tasks required under this statement of work. Meridian's excellent reputation is reflected by the number of longstanding and continuing relationships we have maintained with our government clients. Our corporate experience base, which spans the full range of information systems services, includes analyzing system requirements; formulating and evaluating system concepts; evaluating word processing, graphics packages and data base management systems; designing, programming and testing software; converting applications programs from one system to another; and providing facilities management services.

Meridian has an extremely impressive record on contracts similar in scope and nature to the proposed effort at NRC. Specifically, Meridian has analyzed requirements and defined system concepts for the Department of Energy Office of International Security Affairs (OISA), Department of Commerce Office of Export Administration (OEA) and Office of Export Enforcement (OEE) and the Department of State Bureau of International Oceans, Environment and Scientific Affairs, Office of Nuclear Export Control (OES/NEC). Meridian Corporation designed and implemented the OISA Export Case Management System (ECMS). In addition, Meridian has developed and implemented enhancements for the License Accounting and Retrieval System (LARS) at the Department of Commerce. These systems are used to track export applications and to support analyses based on similar historical license application data. Furthermore, Meridian recently completed an analysis of the OES/NEC's requirements for word processing and automated data processing systems. In this effort Meridian identified alternative system configurations and developed implementation plans for the selected concept.

The following individuals have had direct experience in contracting with Meridian in the past and will verify the related experience and capabilities cited in this proposal.

1. Mr. John Rooney
U.S. Department of Energy
E-338
Germantown, MD 20545
(301) 353-5934
2. Dr. Julio Torres
Director of International Security Affairs
U.S. Department of Energy
4A-043
Forrestal Building
Washington, DC 20585
(202) 252-2100
3. Dr. Robert San Martin
Deputy Assistant Secretary for Renewable Energy
U.S. Department of Energy
6C-026
Forrestal Building
Washington, DC 20585
(202) 252-9275
4. Ms. Ester L. Ellman
Director of Classification
U.S. Department of Energy
C-377
Germantown, MD 20545
(301) 353-3521
5. Mr. Edward Brown
Defense Advanced Research Projects Agency
1400 Wilson Boulevard
Arlington, VA 22209
(703) 694-1633
6. Ms. Martha Lane
U.S. Department of Justice
Washington, DC 20585
(202) 633-2398
7. Mr. Robin De La Barre
U.S. Department of State
Washington, DC 20585
(202) 632-0374

8. Mr. John K. Boidock
Office of Export Administration, ITA
U.S. Department of Commerce
Room 3897
14th and Constitution Avenue, NW
Washington, DC 20230
(202) 377-4188

9.

10. Col. Arthur Y. Kishiyama
Department of Defense
Room 5D-362
Pentagon
Washington, DC 20585

Descriptions of selected contracts which demonstrate Meridian's ability to perform in the major technical areas are provided in the following pages. In addition, this experience is summarized in Exhibit 4-1.

4.1 Contracting Agency:

Contract Number:

Contract Type:

Subcontract Number:

Period of Performance:

Contracting Officer:

Technical Officer: John Meinhardt
Department of Energy
400 First Street, N.W.
Washington, D.C. 20585
(202)252-2117

Exhibit 4-1
RELATED CONTRACT EXPERIENCE

RELATED CONTRACT EXPERIENCE	ADP REQUIREMENTS									IMPLEMENTATION SUPPORT				EXPORT CONTROL			
	Current Systems and Procedures Analysis	Interview/Survey	Management Information Requirements	Work Flow Analysis	ADP System Requirements	Systems Analysis	Cost-Benefit Analysis	ADP System/Functional Specifications	Information Systems Implementation Requirements/Planning	System Documentation	Data Base Design	Applications Programming & Testing	Training	Users/Operating Guide Preparation	Export Policy Analysis	Export Regulations and International Treaties/Agreements (EAA, EAR, NPT, NNPA, etc.)	Export License Processing
1. Department of Energy/OISA Analytical Support System Requirements Analysis	•	•	•	•	•	•	•	•	•		•						•
2. Department of Energy/OISA Analytical Support System Development and Implementation	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
3. Department of State/OES/NEC Requirements	•		•	•	•	•		•		•							
4. Department of Commerce/OEA/OEEE Systems Analysis and Design	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•	
5. Department of Justice/Tax Division Personnel Requirements Analysis	•	•	•		•	•		•	•	•							

Description of Work:

Meridian provided technical and management support for DOE's Office of International Security Affairs (OISA). The support was provided on an individual task-order, quick-response basis in each of four support areas: requirements analysis, energy technology export case management, resource management and administration, and special training assessments.

Support provided consisted of general and specific studies relevant to nuclear energy exports. Meridian performed system analysis and design activities to define requirements for an OISA analytical support system. Key functional requirements for the system were to provide a means of tracking OISA's export license applications, to provide capabilities for analyzing precedents, and to support office resource management. Specifications for an automated system to support these requirements were developed, and based on this analysis, OISA decided to acquire an HP 3000 and peripheral equipment. In Addition, Meridian policy studies included evaluation of and recommendation for export decisions; preparation of support data and background on specific policy options; identification of U.S. and international law on policy options; and evaluation of impacts of proposed, new, or existing legislation and international treaties (e.g., SALT) on nuclear programs. Other support provided to OISA included:

- analysis, evaluation and assessment of managerial, scientific, and technical aspects of OISA programs;
- program planning and analysis (PPBS);
- participation in technical analyses of energy technologies (nuclear and conventional);
- addressing energy-related issues such as national and international law, treaties, and agreements; and
- development of a management information system to aid OISA in performing its export case processing function. Efforts included problem definition, requirements analysis, system design and implementation support.

Similarity to Proposed Effort:

This contract, conducted for an agency in the export control community involved a requirements analysis and related policy studies. Meridian provided OISA with system analysis, design, and implementation support for energy technology case management activities which are similar to NRC functions for processing nuclear export applications. OISA resource management requirements (i.e. correspondence tracking and budget control) are similar to those of NRC. Performance of this contract indicates that Meridian will be able to successfully define IP's requirements and system concepts.

Performance:

Two follow-on contracts were subsequently awarded to Meridian. One of these contracts involved the design, development and implementation of the Analytical Support System. The other follow-on contract, in the form of a task order contract with two one-year options, was intended to provide continuing quick-response technical and managerial support related to export licensing, resource management, and administration.

4.2 Contracting Agency:

Contract Number:

Contract Type:

Period of Performance:

Contracting Officer:

Technical Officer:

Description of Work:

Meridian Corporation, under subcontract to designed, developed, and implemented an Automated Analytical Support System for the Office of International Security Affairs (OISA) of DOE. Meridian designed an Export Case Management System (ECMS) to track pending export license applications and to facilitate access to data on previously reviewed cases which could affect DOE's recommendation in any given case. The system supports on-line queries concerning a particular case or groups of cases and automatically generates letters to other agencies containing OISA's comments and DOE's recommendation regarding a particular case. The system also generates periodic management reports to assist OISA in analyzing case processing time trends, preparing special policy studies, and evaluating precedents established in DOE's previous reviews of related cases. This data base is used in evaluating long-term implications of technology transfer. Options for linking the ECMS with data bases maintained by other agencies are being investigated. Expansion of the system to include references to the Militarily Critical Technologies List is also being considered.

In addition, Meridian conducted a detailed analysis of resource management requirement and developed a classified document tracking system; a correspondence tracking system; visits and assignments system to analyze and track the status of current assignments within OISA; a financial management system that monitors program resources; a travel system used to control travel

resources for personnel and divisions within OISA; and a project management information system to monitor the status of projects. Meridian also evaluated available word processing packages, graphics packages and fourth generation languages and recommended software acquisitions for OISA.

Similarity to Proposed Effort:

The ECMS used by OISA was created to facilitate the licensing process and policy evaluation capabilities of the organization. NRC has export licensing responsibilities that require the review and analysis of similar export related data. In addition, the types of reporting requirements, policy analyses, and quick response functions of OISA are similar to NRC.

Performance:

Meridian was awarded a follow-on contract whose scope includes maintaining and enhancing the ECMS, developing additional resource management systems and providing continued HP 3000 facility management support.

4.3 Contracting Agency: Department of Justice
10th & Pennsylvania Ave., NW
Washington, D.C. 20530
(202)633-3083

Contract Number: 2-P00586(12)

Contract Type: Fixed Price

Period of Performance: August 1982 - October 1982

Contracting Officer: Betty A. Moore
Department of Justice
10th & Pennsylvania Ave., NW
Washington, D.C. 20530
(202)633-3083

Technical Officer: David Zeller
Department of Justice
10th & Pennsylvania Ave., NW
Washington, D.C. 20530
(202)633-3083

Description of Work:

Meridian Corporation conducted a user requirements study for the development of an Automated Personnel Management System for the Tax Division of the Department of Justice. This effort involved conducting a series of interviews with system users, specifying the data items to be included in the system, and defining the functional and processing capabilities to be designed into the system. In addition, the performance requirements and constraints were specified and screen designs were developed based on the reporting requirements of the Tax Division Personnel Office. Meridian described processing modules in terms of input function (modifying employee records) and output classifications

(personnel actions, salary/payroll changes, training). In addition, a data dictionary was developed that categorized information handled, described data items and detailed inputs and outputs in terms of data field size.

Similarity to Proposed Effort:

The User Requirements Study conducted at Justice required Meridian to define current work flows and data/word processing systems and propose system enhancements using a similar methodology as described in this proposal. Functional and performance requirements of users were developed by conducting in depth interviews with key personnel to identify current system capabilities and areas for improvements.

Performance:

Based on Meridian's successful effort, the Department of Justice awarded an additional purchase order to continue supporting system development and implementation activities.

4.4 Contracting Agency: Department of Commerce
14th and Constitution Ave. N.W.
Washington, D.C. 20230
(202)377-2000

Contract Number: TA-83-SAL-02217

Contract Type: Cost Plus Fixed Fee

Period of Performance: February 1983 - September 1984

Contracting Officer: Jack Dolvin
Department of Commerce
14th and Constitution Ave. N.W.
Washington, D.C. 20230
(202)377-4867

Technical Officer: John Boidock
Department of Commerce
14th and Constitution Ave. N.W.
Washington, D.C. 20230
(202)377-1377

Description of Work:

Meridian Corporation is currently providing systems analysis and design services for the Department of Commerce's Office of Export Administration (OEA) and Office of Export Enforcement (OEE). This effort focuses on evaluating and enhancing the current export License Accounting and Retrieval System (LARS) and on the needs of key participants in the export license application review process within Commerce and the export community. The initial phase involved evaluating the strengths and weaknesses of the current system, examining regulatory and policy constraints, developing a framework for assessing and prioritizing requirements, and formulating alternative design concepts. Meridian then performed a detailed analysis of technical options (telecommunications

hardware, software, and operation), associated cost-benefits, and implementation considerations.

Similarity to Proposed Effort:

In order to successfully perform the Department of Commerce system design activities, Meridian utilized in-depth knowledge of export policies, procedures, issues, and organizations that interface with NRC. The methodology used for identifying and developing system alternatives demonstrates Meridian's ability to address ADP needs unique to export programs and similar to NRC. Enhancements were designed to streamline application processing, measure processing performance, and establish a LARS system that can accurately and effectively serve the broad information needs of the export community.

Performance:

Based on additional support required by Commerce, the Meridian contract was modified to include system implementation activities. No contract for implementation beyond the current scope has been awarded to any contractor at this time.

4.5 Contracting Agency: Department of State
Bureau of International Oceans, Environment
and Scientific Affairs
Office of Nuclear Export Control
2201 C Street, N.W.
Washington, D.C. 20520
(202)235-1773

Contract Number: 1751-300392

Contract Type: Fixed Price

Period of Performance: September 1983 - January 1984

Contracting Officer: Sally Allen
Department of State
Washington, D.C. 20520
(202)235-1773

Technical Officer: Robin DeLaBarre
Department of State
Washington, D.C. 20520
(202)632-1241

Description of Work:

Meridian Corporation conducted requirements analysis and system design services to the Department of State (DOS), Office of Nuclear Export Control (NEC). The analysis identified and documented the current word processing and data processing capabilities. Meridian then analyzed the technological capabilities of alternative system designs. Based on this analysis a recommended system was configured and an implementation plan was developed.

Similarity to Proposed Effort:

This Department of State effort combined Meridian's requirements analysis and design capabilities and knowledge of programs supporting the proliferation of nuclear materials and promotion of international nuclear and non-nuclear energy technology cooperation. The nature of OES/NEC export license review activities required Meridian to provide the capability to integrate nuclear export foreign policy with scientific and technological judgments for future policy analyses and planning activities.

Performance:

Meridian submitted a follow-on proposal for system testing and implementation that has been recently awarded.

SECTION 5

PROPOSED PROJECT MANAGEMENT

The Meridian Corporation organizational structure has evolved to support our primary business objective - providing high quality technical services to a wide variety of governmental clients. Meridian's history of corporate growth and satisfied clients indicate that the corporate management is well suited to meet NRC needs. The following paragraphs serve to highlight the organizational and management capabilities which Meridian has to offer IP. Meridian's proposed Project Team organization reflects a streamlined, single company approach to IP Automated Systems Support.

Full control of Project Team personnel and corporate resources by the Project Manager is uninhibited by participation of subcontractors. IP will benefit from the support of a corporate entity whose productivity is not degraded by inter-corporation management coordination delays or disparate corporate purposes, standards, policies, procedures, and/or management styles.

Because it represents a major commitment of corporate resources within Meridian's configuration, the proposed Project Team is assured of high corporate visibility and ready access to top management. This arrangement is formalized by the assignment of a Managing Partner of the Corporation as Project Manager.

Meridian Corporation further strengthens its total commitment by providing the Project Manager with complete access to all corporate resources. Thus, a broad base of technical experience and a developing, continually maintained, technical liaison with key export license programs provides IP unparalleled quick-response access to relevant information bases and programmatic resources.

The proposed Project Organization is presented in Exhibit 5-1. This organization is a clear uncomplicated structure which places all professional

Exhibit 5-1
PROPOSED PROJECT ORGANIZATION

support and administrative personnel, as well as financial and facilities resources required for the Project, directly under control of the Project Manager.

The Project Manager will be responsible for providing top-level technical and management guidance all project tasks. He will be the single individual responsible for the performance under this contract. He will have the authority to acquire and direct resources (personnel, equipment, etc.) to meet all project commitments. The Project Manager will be the focal point for receiving instructions from IP and for providing technical and management direction to the various tasks.

The Project Manager will also be responsible to IP for the technical, managerial and financial control of the effort. Specifically, the authorities and responsibilities of the Project Manager will be to:

- provide overall planning, technical, administrative, budgetary and management support;
- maintain liaison with designated personnel in IP to ensure full understanding of their support needs and effective and efficient project responsiveness and performance;
- accept and prepare responses to various assignments;
- requisition, assign and provide overall direction and control of Meridian resources for the achievement of task efforts;
- supervise project performance, review and evaluate products and take corrective measures, when required, to improve product quality;
- comply with all NRC processes, standards and procedures; and
- supply technical and managerial guidance to the Project Team members to facilitate day-to-day management.

The concentration of Project Manager responsibilities for project performance and contingency planning in a single individual assures IP efficient, accountable execution of the project tasks.

The Project Manager has direct control of all project resources and makes all project-related decisions. However, he is assisted in achieving Meridian's standards of product quality through an in-house review process. A

Technical Advisory Board composed of senior staff members is available to provide technical guidance and quality control to each project performed by Meridian.

The nature of the Project and IP necessitates a close working relationship between the Meridian Project Team and IP. This relationship, can be achieved only through unhindered, direct lines of communication. The Project Manager is totally dedicated to this project and is responsible for overall project performance. Weekly status reports will be provided to the IP Project Officer. In addition, meetings between the Project Officer and Project Manager and/or Project Team members will be held weekly to ensure that lines of communication remain open. Furthermore, in keeping with this responsibility and in performance of his project control function, the Project Manager will have periodic internal meetings with the Project Team to review project performance. Specific purposes of these meetings will be to:

- review project status;
- discuss planned activities;
- exchange technical information and ideas;
- review work in progress as appropriate; and
- discuss other management or technical issues as required.

The Project Team will interface directly with the Project Manager. In conjunction with assigned authorities and responsibilities, the Project Team will:

- receive technical direction;
- deliver reports as required;
- exchange technical information and ideas; and
- identify problem areas requiring attention to the Project Manager.

These methods and means of communication and interface will ensure a mutual understanding of the contract provisions and facilitate successful project completion. Further, if situations arise requiring immediate attention, more frequent contacts between project personnel and IP personnel will be scheduled.

APPENDIX A

RESUMES