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A Plan for Administrative Computing at ANL FY1991 through FY1993

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INTRODUCTION

The tenth edition of the *Plan for Administrative Computing at ANL* demonstrates the process by which Argonne National Laboratory encourages its divisions and departments to plan for the future. Since its inception in 1981, this *Plan* has exemplified the growth and development of a planning procedure that has matured from an initial, limited look at the operations and services of one section of computing to a fully conceived strategic plan for placing the Laboratory in a position to exploit trends and innovations in data processing.

The *Plan for Administrative Computing at ANL* has regularly emphasized the integration, efficiency, and standardization of programs and data. Plans have been shaped by the goals and procedures approved by the Administrative Data Processing Oversight Committee, and the scope has extended to incorporate all the individual administrative systems onsite. Management Information Systems planning has followed carefully enunciated principles designed to achieve a constantly refined computing environment in which administrative information is distributed efficiently to users in every Laboratory sector and the highest technical standards possible within spending constraints are sustained. The *Plan* articulates and defines the thrust of Management Information Systems planning over the long term and, in those functions, stands as a model document for Laboratory-wide consideration.

As Associate Division Director for Management Information Systems, I commend the Management Information Systems staff, who have worked long and hard to carry out the accepted plans. I look forward to another ten years of careful, effective planning for the administrative systems of Argonne National Laboratory.

--Diane E. O'Brien
Associate Division Director
for Management Information Systems

PREFACE

In July of 1988, Argonne National Laboratory management approved the restructuring of Computing Services into the Computing and Telecommunications Division, part of the Physical Research area of the Laboratory. One major area of the Computing and Telecommunications Division is Management Information Systems (MIS). The Management Information Systems staff serve as consultants for administrative computing users Laboratory-wide. A significant aspect of Management Information Systems' work is the development of proposals for new and enhanced administrative computing systems based on an analysis of informational needs. This document represents the outcome of the planning process for FY1991 through FY1993.

The introduction (Chapter 1) of the FY1991 through FY1993 *Long-Range Plan* assesses the state of administrative computing at ANL and the implications of FY1991 funding recommendations. It includes a history of MIS planning for administrative data processing.

Chapter 2 of this document discusses the strategy and goals which are an important part of administrative data processing plans for the Laboratory.

Chapter 3 describes the management guidelines established by the Administrative Data Processing Oversight Committee for the proposal and implementation of administrative computing systems. The guidelines are a valuable tool for management in determining what applications would be appropriate to their needs and in formulating the proposals for those applications.

Summaries of the proposals for new or enhanced administrative computing systems presented by individual divisions or departments with the assistance of Management Information Systems, to the Administrative Data Processing Oversight Committee appear in Chapter 4. The summaries indicate some of the possibilities for the development of administrative computing systems at ANL. The areas of the various proposals are diverse, but they share a common concern with the integration and unification of existing systems into a more efficient and productive whole.

The detailed tables in Chapter 5 give information on how much the resources to develop and implement a given system will cost its users. The tables include development costs, computing/operations costs, software and hardware costs, and effort costs. They include both systems funded by Laboratory General Expense and systems funded by the users themselves.

Synopses of the administrative computing systems developed and maintained by the divisions and departments of Argonne National Laboratory appear in Appendix G. The number and variety of systems reflect the growth of administrative computing at the Laboratory as well as the complexity of administrative computing needs onsite. The synopses appear in alphabetical order by Division or Department. The Laboratory-wide systems, those shared by more than one Laboratory organization and maintained by Management Information Systems, a part of the Computing and Telecommunications Division, appear in a separate section under the heading of Multiple User Systems so that readers may readily identify the Laboratory systems already available to many in the Argonne community. An index to the System Synopses allows readers who are considering development of an administrative system for their own needs to locate already-functioning systems onsite and to identify systems running on the particular computers they may wish to employ.

Other appendices include the charter of the Administrative Data Processing Oversight Committee, the organizational chart of the Computing and Telecommunications Division, a detailed discussion of the goals for administrative computing, the standard format for the submission of proposals to the Administrative Data Processing Oversight Committee, a table which shows the projects proposed for FY1990 and their disposition, and the Applications Sensitivity Table developed by MIS for administrative computing systems.

CONTENTS

TABLES

FIGURES

CHAPTER 1

INTRODUCTION

SCOPE OF THE LONG-RANGE PLAN

A Plan for Administrative Computing at ANL FY1991 through FY1993 is the tenth in the series of plans published annually by Management Information Systems, an area of the Computing and Telecommunications Division. The series has created an historical record of the Laboratory's efforts to analyze and review the administrative computing systems that affect all segments of Argonne National Laboratory. A second, and more important, function of the series has been to serve as a focus for the planning of information systems and a guide for their development.

Audience

A common document addressing planned and currently operating administrative information systems is important to the efficient operation of the Laboratory. Such a document is a resource for:

- Laboratory employees who need administrative information from either central or decentralized administrative systems.
- Organizations which need to know if an administrative system already exists which can reduce their effort in building a new system.
- Organizations and individuals who are planning computer-based administrative systems and need to know where and how they can provide appropriate automatic interfaces.
- Laboratory employees who require cost information on planned and currently-operating systems.
- Organizations and individuals who are planning personal computing systems.

Participants

The FY1991-FY1993 plan for administrative information systems, as in previous plans, includes all known administrative systems. James W. O'Kelley, Chief Financial Officer, requested information regarding planned and currently operating administrative systems from all Division Directors, Project Managers, and Department Heads in a memorandum dated May 11, 1990.

The responses from all areas of the Laboratory appear in Appendix G, System Synopses. Their extent and variety reflect the still continuing growth in the use of computer systems for processing administrative information. Forty-seven divisions, departments, projects, and programs contributed to the system synopses this year. The compilation of system synopses in Appendix G describes currently operating systems. Proposed or planned projects appear in Chapter 4 of this document. Staff from

Management Information Systems worked with users of the Laboratory's official administrative computing systems to formulate the projects proposed to the Administrative Data Processing Oversight Committee. These proposals address the needs of users in specific areas of operations, but they also affect users Laboratory-wide as the programs they propose fit into the broader administrative systems and change the way the Laboratory does business. Other projects result from efforts by the various divisions and departments to meet administrative computing needs not addressed by the official systems.

Purposes

Two major functions of this planning tool are to document the backlog of major new development and to describe the resources required to maintain current systems. If the Laboratory is to realize fully the productivity gains information systems can bring with them, it is clearly necessary to coordinate planning and development over the long term, thus ensuring the quality and comprehensiveness of an important Laboratory resource. Therefore, in addition to the individual projects proposed for implementation during the three-year span of this document, we have also formulated a ten-year strategy which anticipates the course of administrative computing at Argonne National Laboratory. An awareness of trends and likely developments in the next several years should enable Laboratory management as well as divisional and departmental management to plan individual components of the official administrative systems efficiently, an often demanding effort. This annual plan, along with the long-range strategy, is a means to coordinate that effort.

In a very practical sense, this long-range plan also serves to collect and prepare documentation for responses to the Department of Energy audits and requests for information such as the *ANL Site Response for the DOE FY1991 Information Technology Resources Long Range Plan*, ANL/TM 466. As its most important function, however, the annual long-range plan for administrative computing ensures continuing analysis of the current state of administrative computing at the Laboratory and regular review of the approaches the Laboratory takes to deal with the demands on its information systems from both programmatic and non-programmatic divisions. The established goals and guidelines provide criteria by which to evaluate the status of information systems and their relationship to each other. This annual analysis and review assures that the Laboratory will continue to be able to respond to requests for administrative information effectively and efficiently.

THE HISTORY OF THE PLAN

A Plan for Administrative Computing at ANL: FY1991 through FY1993 represents the tenth year of structured planning for management information systems at the Laboratory. The planning document has grown steadily from a brief summary of the personnel and projects in the Information Systems Section to a thorough, detailed strategy for the future of management information systems at the Laboratory. The plan shows a consistently increasing involvement of users in planning and development of systems, along with a growing awareness of the importance of long-range planning for the incorporation of new concepts and technology in a timely and efficient fashion. The formulation of goals and policies to support those goals has had a major impact on the development of management information systems at Argonne. The central concepts now create a basis from which Laboratory-wide planning will continue to proceed. The plan also reflects a major effort to identify and describe all administrative systems in use onsite. The collection of system synopses forms a lengthy appendix of value to all administrative data processing planners in that it supplies a comprehensive listing of what is currently available and how it is being adapted to meet the needs of the various divisions and departments. The synopses can point to both hardware and software for the planner, as well as indicate sources of evaluation and information for acquisition choices.

The Plan, 1981-1984

The first document in the series, the *Administrative Information Systems Proposed 1982-1984 Three-Year Plan* produced in 1981, was in response to a request from E. Gale Pewitt, Deputy Director of the Laboratory at that time, for an analysis of administrative data processing resources and directions. The publication of the first *Plan* marked the initial recognition of the importance of administrative information processing to all areas of the Laboratory and embodied the realization that a consistent, carefully considered approach was essential to efficient and effective development of an administrative computing environment. The first *Plan* placed considerable emphasis on the in-house development of the Automated Materials/Payables System (AMPS) and the Stocktracker System (STS), the first Laboratory-wide databases for materials management. The *Plan* also laid the foundation for the development of the people systems, which would become the next major area of integration for information systems. The document proposes a Management Review Committee, to be composed of representatives from across the Laboratory, to act as a monitor, to set overall levels of service, to determine priorities, and to recommend methods of funding for administrative applications.

The 53 applications maintained by the Information Systems Section (ISS) were handled by 50 employees: 18 analysts, 2 clerical support, 12 subcontractor analysts, and 18 operations personnel. Interestingly, 13 of the 18 analysts in information systems in 1981 are still employed in management information systems in 1990. Two others are employed at the Laboratory in other areas.

In 1982, *A Plan for Administrative Computing at ANL: FY1983-FY1985* emphasized office automation, electronic mail, and text processing. In this year, the Computing Services Division separated from the Applied Mathematics Division. Information Systems had 58 employees: 19 analysts, 3 clerical, 18 operations personnel, and 18 subcontractor analysts. Information Systems personnel were responsible for 52 Laboratory systems, most of which were moving toward the goals of integration and standardization.

For the first time, the *Plan* incorporated a list of administrative systems not developed by Computing Services. These systems were designated by title, but not described in any detail. Personal computers at the Laboratory were still so small in number that the *Plan* could claim to enumerate all the PCs available to Laboratory personnel and project the numbers that would be acquired in the three planning years. (A similar survey in 1989 is the subject of a lengthy document *Survey of ANL Organization Plans for Word Processors, Personal Computers, Workstations, and Associated Software*, ANL/TM 459, Revision 2.) The 1982 document contains an outline of the system development methodology adopted by ISS and a discussion of methods for initiating and funding new development.

The 1983 version, *A Plan for Administrative Computing at ANL: FY1984-FY1986*, incorporated the division's response to the Coopers & Lybrand report on administrative computing as submitted to Argonne management. Coopers & Lybrand stressed the need for a high-visibility project to bring Computing Services' capabilities to the attention of the programmatic divisions and recommended concentration on the financial systems after completion of the people and materials systems consolidation. Computing Services chose to implement a purchase requisition database with interactive processing as a demonstration of computing potential for the programmatic divisions. The proposal of the Integrated Financial System, although it would not reach completion within the recommended three-year planning period, focused administrative attention on the financial systems while maintaining the increasing emphasis on integration and standardized development.

With each year the *Plan* was published, cost information became more detailed and easier to understand. The 1983 *Plan* contained the first comprehensive cost tables for systems funded by the Laboratory and for systems funded by the users of those systems.

1983 marked another milestone for management information systems with the formation of the Administrative Data Processing Oversight Committee, established in February. This committee,

composed of representatives from the major administrative areas, was charged with the review of administrative data processing proposals and budget requests and with the monitoring of progress toward the administrative computing goals. As part of fulfilling the committee's charge, one proposal for this fiscal year was to perform the basic studies needed to determine the kind and location of administrative data and the most effective means of accessing, communicating, and distributing that data to users across the Laboratory.

The 1984 edition, *A Plan for Administrative Computing at ANL: FY1985-FY1987*, incorporated the first detailed statement of goals and guidelines for administrative computing at Argonne National Laboratory. The goals, which remain as the central concepts for administrative computing today, were:

- Manage information as a Laboratory resource.
- Provide integrated business systems.
- Develop an integrated infrastructure for administrative systems.
- Promote standard business practices.
- Promote user self-sufficiency.
- Serve as advisors to builders of unofficial systems.
- Develop more effective systems.
- Provide expertise in developing and managing systems.

The new chapter on management guidelines, arrived at in consultation with the Administrative Data Processing Oversight Committee, explained fully how to go about proposing and obtaining funding for administrative systems of all sorts, establishing policies for funding recommendations and procedures for planning.

This edition also, for the first time, provided detailed system synopses of administrative systems developed outside the central planning structure. The synopses, which appear in an appendix, at least attempted a comprehensive survey of the systems existing onsite for a variety of purposes within each division and department.

As the goals for administrative computing were defined and the scope of the oversight committee's responsibility made clear, there was a concomitant surge in the number and variety of proposals for projects. The proposals reflect a clear emphasis on planning, integrating, and modernizing the Laboratory systems to bring them into conformity with the newly-elaborated goals.

The Plan, 1985-1989

In 1985, Information Systems continued its emphasis on administrative computing goals and management guidelines. The proposed projects focused on cost reductions and avoidance of future costs, including prevention of spoilage, as a result of the large-scale budget cuts at the Laboratory, which forced a short-term reordering of priorities. Projects were, by and large, designed to hold the gains already made while protecting options for the future. *A Plan for Administrative Computing at ANL: FY1986-FY1988* warned that such priorities could only be short-term, in the sense that data processing systems have a level of effort threshold below which maintenance cannot go without serious impact on the functionality of the systems.

Despite budget cuts, administrative data processing moved ahead with plans to integrate financial systems and people systems. The Integrated Financial System software acquisition was delayed a year, while the completion of the Integrated Payroll System meant that work could begin on integrated medical, occupational health, and contractor demographic systems. All planning was based on the concept that Laboratory information is an asset of which the Laboratory must know its quality, characteristics, availability, costs and location. This approach meant that information systems would focus on managing the Laboratory resource effectively, while maintaining the existing systems to avoid spoilage. The idea of distributed computing began to take shape in 1985's *Plan*, but the concept was not yet mature.

The supplemental listing of administrative system synopses published in one of the appendices almost doubled in size as more segments of the Laboratory became involved with computerized systems within their divisions and departments as well as through the central services. A full-scale index to the system synopses made locating information much easier.

In 1986, *A Plan for Administrative Computing at ANL: FY1987-FY1989* reflected the increasing sophistication of planning for management information systems. It was no longer necessary to describe the individual sections of Computing Services, largely because their duties had become well known to administrative personnel. Administrative computing goals and management guidelines retained their central position in the planning process, but for the first time goals were coupled with development of a strategy for achieving those goals. The formulation of a specific strategy marked an important step forward, especially in the light of the continuing funds limitation.

The strategy to which management information systems committed in this year's *Plan* involved several specific elements:

- Limit hardware and software technologies and eliminate obsolete technologies.
- Consolidate data for more efficient access.
- Migrate to online and full-screen environments.
- Incorporate personal computing into administrative applications.
- Acquire rather than develop applications and acquire access and productivity tools.
- Document and publish currently available and accessible data.
- Continue to distribute data entry by incorporating it into the originator's tasks.

A continuing emphasis on greater productivity through increasingly effective use of administrative information became a major part of the planning for administrative data processing systems at Argonne National Laboratory.

The 1986 *Plan* included, also for the first time, a system replacement schedule, which attempted to project needs for new systems over a ten-year period, moving beyond the three-year planning cycle to take a longer look at possible developments in the future. Again, the number and complexity of entries in the collection of system synopses increased dramatically. Users across the Laboratory became more aware of the variety and diversity of systems they were themselves already using and curious about the possibilities this comprehensive enumeration indicated as existing at the Laboratory.

The 1987 edition of the management information systems planning document expanded consideration of the effect of funding on the various areas of development, pointing to such major projects as the Integrated Financial System as evidence of the broad advances being made through the cost-effective choices of commercial applications with minimal in-house development. Along with the

large integrated applications, *A Plan for Administrative computing at ANL: FY1988-FY1990* predicted broader distribution of data and greater involvement of users at the point of entry. All planning was to come under the encompassing goal of managing the Laboratory's administrative information as an asset and documenting the ways in which it could and should be effectively used to position the Laboratory for significant improvement in business practices.

Acknowledging the importance of the strategy established the year before, this year's *Plan* pointed out the tasks for FY1987 that addressed the concerns and applied the approach determined to be most effective in meeting the Laboratory's needs. As part of this effort, the 1987 *Plan* developed specific strategic tasks for carrying out the discrete aspects of the overall plan. These tasks included such significant choices as the use of CICS for the acquired financial software, refinement of the information model for financial system interfaces, and planning for the replacement of the Automated Materials/Payables System (AMPS) and the Stock Tracker System (STS). One long-term task was to quantify the projected usage of computing resources based on current utilization for administrative systems, an analysis that has become particularly significant in divisional planning.

The 1988 version, *A Plan for Administrative Computing at ANL: FY1989-FY1991*, continued the emphasis on the strategy established two years before. Within that time span, it was already possible to see a number of the effects of the strategy on planning for administrative systems. For example, the strategic element that requires migration to online and full-screen environments led to changes in preferred programming languages and to the purchase of specific tools for the creation of interactive programs. Since the enunciated strategy had functioned successfully as a basis for decision-making, Management Information Systems (MIS) as a group will continue to rely on its basic elements in planning for the development of new systems and the replacement of current systems.

This year also marked the beginning of the production cutover for the installation of the Integrated Financial System (IFS), a major Laboratory investment in both software and effort. While completing the financial environment and supplementing the purchased software with subsystems necessary to meet Argonne's specific requirements will be continuing tasks, the installation of the system meant that the bulk of the investment had been made. Other large projects which moved to the fore with the completion of the IFS initial project were the Argonne Information Management System (AIM), an interactive, automated library system that promises to save both libraries and researchers significant amounts of time, and the Integrated Materials Management System (IMMS), a complex computerization of ordering, purchasing, charging, and accounting for materials of all sorts throughout the Laboratory.

The 1988 *Plan* continued also to stress the involvement of users in the creation of specifications and determination of procedures for all systems, with expanded user advisory committees and direct solicitation of input from all sectors for each proposed project. A major aim of the strategic tasks for the coming year was the improvement of communication between technical planners and user of the systems to better meet the needs of the organization as a whole. The principal goal continues to be effective and efficient use of administrative data.

In 1989, *A Plan for Administrative Computing at ANL: FY1990-FY1992* reflected the restructuring of Computing Services into the Computing and Telecommunications Division, part of the Physical Research area of the Laboratory. Management Information Systems became the responsibility of an Associate Division Director, with the staff divided into four groups: Financial Systems, Human Resource Systems, Information and Production Services, and Materials and Plant Systems.

User involvement formed a major area of emphasis, largely because the 1989 *Plan* began the attempt to formulate long-term strategic goals and methods of implementation. Because the majority of recordkeeping functions at the Laboratory were now automated, a shift in planning was necessary to anticipate the ways in which computing will most likely develop over the next several years. If new technologies continue in the directions they have begun to move, the Laboratory will be looking at the development of expert systems, the creation of a "seamless" computing environment based on shared

processing, and the need for high-speed data transmission between the central databases and the divisions. In the long term, the future of administrative data processing lies in cooperative processing with central coordination.

While many planning elements remain the same, the long view embodied in this year's *Plan* must shape the ways in which planners approach projects in the future. To keep up with changing requirements, the format for project proposals to the Administrative Data Processing Oversight Committee was expanded this year to include much more detailed presentations of costs and benefits, incorporating examples and suggestions for determining how the proposal would fit into the overall administrative plan. The *Plan* continues to provide all the basic information administrative users need to shape and propose a project, one of the most important functions of this document over the years.

Recurrent Concepts

Several consistent themes run through the ten years of planning embodied in the *Plan for Administrative Computing at ANL*. Again and again, the need for involvement of users in a structured developmental approach is stressed. The importance of the data and the care with which it must be handled is another significant concept, as is requirement for easy accessibility and manipulation of the large databases. Most important, however, is the refinement of the planning process itself. From a rudimentary consideration of the hardware and software likely to improve administrative data processing at the Laboratory to a sophisticated, long-range consideration of the major concepts that underlie management information systems and the new technology that will shape the future, the *Plan for Administrative Computing at ANL* demonstrates the level of achievement and advancement of administrative systems to which such planning can lead. The determination of goals, the establishment of strategies to reach those goals, and the continuing application and evaluation of those strategies are the core reasons for the success of management information systems at Argonne National Laboratory.

MANAGEMENT INFORMATION SYSTEMS ORGANIZATION

In July of 1988, Argonne National Laboratory management approved the restructuring of Computing Services into the Computing and Telecommunications Division, part of the Physical Research area of the Laboratory. The internal reorganization which followed resulted in the appointment of three Associate Division Directors, with separate areas of responsibility in accord with the mission of the division. Management Information Systems constitutes a significant segment of the division's mission and is the responsibility of an Associate Division Director.

Within Management Information Systems, the staff forms four groups: Financial Systems, Human Resource Systems, Information and Production Services, and Materials and Plant Systems. The Financial Systems group implements and maintains the accounting and business systems of the Laboratory. The Human Resource Systems group maintains the Laboratory's people-related systems, including personnel and payroll. Information and Production Services schedules most of the administrative batch computing on the IBM and Hewlett-Packard computers, submits jobs, verifies the results, and manages the output. This new group also provides training and information for administrative computing users. Materials and Plant Systems develops and maintains those computer systems which order, track, and report the status of materials Laboratory-wide and those systems that record and report the various aspects of the Laboratory's physical plant.

STATUS OF LAST YEAR'S PLAN

A brief summary of the status of last year's plan appears in Appendix E in the form of a table which reviews approved funding and indicates the stage of completion for each of the approved projects.

Financial Systems

In FY1990, the Integrated Financial System project focused on finalizing the large number of critical reports (over 200) and completing the cutover to the new forms and procedures. Stabilizing the user environment will continue to be a major thrust for this project, with the emphasis shifting to training users so they may request their own reports, with direct access to the necessary data and full capability of manipulating the data they require. To this end, training has begun in the use of the Information Organizer (IO) subsystem. IO allows users to maintain individual report selection criteria and submit batch runs of standard reports. In FY1990, the project received other new tools as part of the Laboratory's maintenance agreement with Dun & Bradstreet software. Project members have assessed the usability of Expert Query and ExpertLink, both of which will be opened to the user community in FY1991.

Also in FY1990, the Budget System project held extensive dicussions with users with the result that the project has changed direction. The initial stage of identifying the needs and desires of the individual divisions has caused the project members to recommend concentration on the process of modeling a budget and improvement of preliminary steps, such as funds allocation and control. The project has identified three areas of need: a central model for scientific users, modeling and report assistance for non-direct divisions, and automation of the Budget Office along with better control for that office.

Human Resource Systems

Human Resource Systems projects for FY1990 included a Benefits System which consolidated all benefits-related data into a common database and computing environment, building on the computing environment created for the Laboratory's Personnel, Payroll, Medical, and Environment, Safety and Health Systems.

Another project completed the Environment, Safety and Health System by developing the Injury System. A third project was the development of the Compensation Annual Review and Position Control Systems, implemented as the Merit Review System (MRS). With this system, annual review data will go to the divisions and to the various levels of management electronically, with online access for updating the review data. The system consolidates and automates the current data and allows more timely use of the current data.

Phase III of the Argonne Information Management System (AIM) will, in FY1990, install, test, and begin to implement the purchased library information management system. After an analysis of Laboratory needs and the selection of a commercial information system that best met those needs, TIS has moved to convert the library and ANL publications records to the industry standard USMARC format. The fully-implemented system will allow retrieval via the PBX, DECnet, and Ethernet. The system will have the capabilities to search the database by author, title, subject, full-text, and keyword. The system will greatly improve efficiency of access for library users as well as expedite handling of materials and other administrative functions. The multi-year project, which began in FY1988, will affect all aspects of Technical Information Services' delivery of information to the Laboratory and will result in a more productive environment for researchers.

Materials and Plant Systems

In FY1990, the multi-year project to develop an Integrated Materials Management System issued a Request for Information and formulated a list of respondents to prepare for the issuance of a Request for Proposals (RFP). The project expects to issue its RFP by the end of FY1990 or very early in FY1991. With a project of this magnitude, the work of defining specifications has involved an extensive users group. The users group, which advises on software requirements for the proposed system, includes representatives from the scientific divisions, Procurement, Materials and Services, the Office of the Chief Financial Officer, ANL-West, Computing and Telecommunications, and Plant Facilities and Services. Along with the specifications and the necessary steps to begin the procurement process, the project manager completed an IMMS cost/benefit analysis, which was presented to the Administrative Data Processing Oversight Committee.

SUMMARY OF CURRENT PLAN

The administrative computing plan for FY1991 through FY1993 emphasizes the continued application of the strategy formulated several years ago to make administrative data processing more cost effective through efficient management of and increased accessibility to available information. The strategy stresses the concept that planners should recognize and manage Laboratory information as an asset and follows the principle that, as with any other asset, the Laboratory must know the quality, characteristics, availability, costs, and location of information. At the same time, the strategy incorporates the policy that the Laboratory should disseminate, not allocate, its information and recommends procedures to achieve that end.

Compliance with the recommended strategy has a direct and continuing effect on the way administrative computing systems are developed at ANL. For example, a part of the strategy for the last several years has been to consolidate data and technology as a means to more efficient use of staff expertise and to improve data storage by decreasing redundant data. Therefore, systems development has focused on integrating all Laboratory-wide databases into one large central system from which end users can draw the information they need without learning more than one method of access. So, now, all personnel systems function within the same computer environment, with users drawing on the same information base for different purposes. This structure has the advantages of consolidation along with easy access to the consolidated data so that information is truly distributed to the end users through the one central technology. Figure 1, "Present Administrative Computing Operating Environment," depicts the technologies used in the existing official administrative applications. The integration of systems for greater efficiency and improved access to information is a fundamental aspect of the strategy. The FY1991 plan includes refinement of the integrated financial system implementation, the final stages of a multi-year project to increase efficiency and improve access to the financial information that is the core of the Laboratory's business arrangements. FY1991 will also see the intermediate stages of an integrated materials management system that coordinates with the financial system now in place. Other projects focus on creating more efficient access to management information through personal computers and workstations. The Human Resource System replacement will move personnel data into consolidated databases and bring its access technology into an integrated computer environment.

The plan incorporates an assessment of the probable life spans of current systems and documents the strategy for conversion and replacement which will create a more efficient and responsive computing environment. Table 2 lays out the anticipated timetable for major conversions or replacements of administrative applications over the next ten years. Replacement may occur through acquisition of a package or through in-house development. The preferred strategy is to acquire software, but if in-house development is necessary, we will follow a course which uses common tools and develops system interfaces rather than duplicate data across technologies.

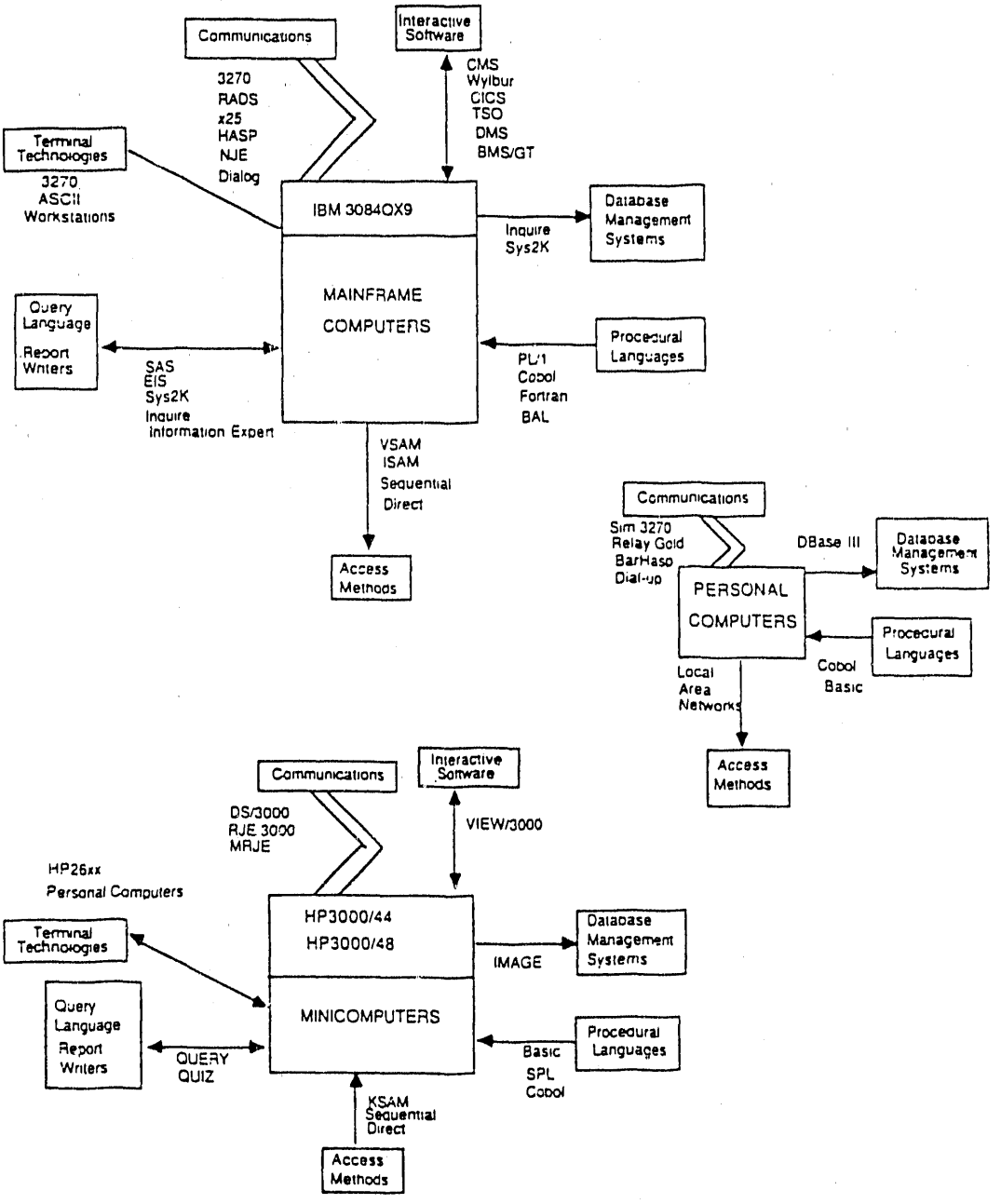

Figure 1: **Present Computing Operating Environment**

While the three-year planning cycle remains intact, the ten-year overview of anticipated replacements will assist techn cal planners in determining the hardware and software that will most effectively meet the growing needs of administrative computing. The long-range overview allows planners to prepare for system replacement and for the effect of changes in one system on other interrelated systems. A notable example lies in the implications of the environment that will be created by the proposed materials management system and its effect on the financial systems of the Laboratory. A detailed discussion of both short-term and long-term strategies appears in Chapter 2 of this document.

Projects Approved for FY1991

The Administrative Data Processing Oversight Committee has approved eight projects for FY1991. Actual implementation of all projects depends on allocated funding. The committee has established alternatives where feasible in an attempt to use available funds most efficiently.

The Argonne Information Management System will enter its final technical stages before it becomes available to Laboratory researchers. AIM will automate the time-consuming process of information search and retrieval and will enable direct access to a publication database from individual as well as library terminals. The system will directly increase efficiency in research at the Laboratory. The replacement of the Human Resource System (HRS) will bring the HRS System into the established Integrated Personnel Management System for greater efficiency through access to a central personnel database and greater control of personnel data. The Applicant Information System replaces the current Applicant Flow System with a more timely and responsive method for handling applications and related legal and reporting requirements. It will eliminate duplication of data and the manual files now necessary. These various systems consolidate technologies and increase interactive, online access for end users. In the financial area, the Integrated Financial System (IFS) project will continue to refine the user environment by implementing specific products acquired with the purchased software. ExpertLink and Expert Query will enable users to create more of their own reports and access required information from their individual terminals immediately. The Budget System project will focus on creating a central modeling facility for divisions to use, along with reporting requirements for non-direct divisions. Work on the Effort System will attempt coordination of effort reporting from the various categories to meet audit requirements and to make such reports as consistent as possible. The multi-year Integrated Materials Management System Project (IMMS) will evaluate responses to the RFP issued, select a vendor, and begin the installation planning process.

Funding for FY1991

The Administrative Data Processing Oversight Committee has established priorities for projects that would require total funding for FY1991 of $1,150,000. Laboratory management is assessing the proposed funding allocations to determine the final list of projects for FY1991. Almost half the approved funding will go to purchase the required software for the Integrated Materials Management System (IMMS). That system, because of anticipated purchases, will expend $366,700. The Argonne Information Management System will require $164,000 for its implementation stages. People systems will need $83,600 to replace the Human Resource System, $87,600 to develop the Applicant Information System, and $113,100 to enhance the Human Resources business systems, taking advantage of the PC network already in place. Financial systems will require $95,000 for effort in refining the user environment, $140,000 for work on the Effort System, and $100,000 for creation of a Budget System. Altogether, the major expenditures in FY1991 will be devoted to the effort necessary to develop the various systems and to the purchase of the requisite software for the complex materials management system.

CHAPTER 2

ADMINISTRATIVE COMPUTING GOALS AND STRATEGY

The goals for administrative computing, first published in *A Plan for Administrative Computing At ANL: FY1985 Through FY1987* (ANL/TM 420), form the basis for the strategy Argonne pursues in developing and refining the administrative computing environment. The Management Information Systems area of the Computing and Telecommunications Division, with the advice of the Administrative Data Processing Oversight Committee, continues to work toward the over-all goal of meeting the requirements of Laboratory management by providing ready access to and easy manipulation of administrative information. A detailed discussion of administrative computing goals appears in Appendix B.

RESOURCE MANAGEMENT AND SOFTWARE REPLACEMENT

Management information can be a competitive and strategic advantage. Argonne itself provides a clear example of the ways in which administrative data can be used to enhance the Laboratory's position in a competitive market. In the early 1980s, Argonne faced severe criticism because of the widely-held perception that the Laboratory was an expensive place to perform research. The problem was seen not in the quality of the science involved but in the cost of doing business with ANL. Analysis of other laboratories identified a basic inequity in that all the laboratories were not uniformly categorizing their costs; therefore, indirect rates and overhead costs were not on comparable bases. For instance, in some cases support services such as graphic arts and computing were regarded as service centers; in other cases, the same areas were defined as overhead; in other cases, they were designated as indirect costs. The compilation and analysis of the data (performed both manually and through the use of computers) made possible the disproving of the allegation that ANL was more expensive to do research at than other laboratories. Without the administrative data, the label would have been extremely difficult to remove. Now, in 1990, the Laboratory again has the opportunity to use its administrative data to improve operations and to document improvements, particularly in the areas of environment, safety, and health. Computing as a means of managing administrative data efficiently and effectively can demonstrably serve as a competitive and strategic advantage, not just an overhead activity.

The gains achieved in administrative computing at Argonne have reached the point at which an examination of the processes of collection and presentation of data should be carried out for each system. It is likely that such an analysis will indicate that the Laboratory has reached a plateau in the productivity of information workers. Since almost all the recordkeeping aspects of administrative information have been automated, it is time now to examine the various means by which computerized systems can allow evaluation and use of the assembled information in modeling, transactions, and structure. For example, a possible goal for MIS might well be the elimination of hard copies from administrative systems. Within ten years, electronic transmission could become the predominant mode, with everything from requisitions to personnel actions handled without paper. All internal functions could be stored in databases and only external contacts printed in traditional forms. Along with the changes in procedures might well come changes in methods of collection. Voice recognition and scanning, for example, might supplement data keying. The collected information might be presented on computer screens, with the various elements organized according to the needs of the requesting individual. These kinds of possibilities are likely directions for management information systems to take in the near future.

Basic Strategic Elements

As part of its effort to keep administrative information management at a high level of quality, Management Information Systems has proposed, tested, and established principles of management that shape the planning and implementation of administrative applications. In accordance with its established principles, Management Information Systems planning begins with the concept that planners should recognize and manage Laboratory administrative information as an asset and follows the principle that, as with any other asset, the Laboratory must know the quality, characteristics, availability, costs, and location of administrative information. At the same time, MIS planning must incorporate the policy that the Laboratory should disseminate, not allocate, its administrative information. Within this framework, Management Information Systems must also take into account the likely changes within the Computing and Telecommunications Division of which it is a part.

The basic policies established by MIS are particularly important in light of the anticipated impact of IBM's Systems Application Architecture (SAA) and Digital Equipment Corporation's Application Integration Architecture (AIA). These two products provide users with a common software environment capable of supporting cooperative processing applications with distributed data, independent of hardware. Both products provide an architecture for building integrated systems distributed across a network of programmable workstations, midrange computers, and mainframes.

This approach to architecture coordinates precisely with the strategy MIS has employed for the past several years:

- Limit hardware and software technologies and eliminate obsolete technologies.
- Consolidate data for more efficient access.
- Migrate to online and full-screen environments.
- Incorporate personal computing into administrative applications.
- Acquire rather than develop applications and acquire access and productivity tools.
- Document and publish currently available and accessible data.
- Continue to distribute data entry by incorporating it into the originator's responsibilities.

These basic strategic elements, while providing easier access to administrative information, increasing the efficiency of administrative information users, and improving productivity, have also positioned the Laboratory to take full advantage of the cooperative processing software environment now becoming available. The software for the Integrated Financial System, for example, is written to be made SAA compliant and can be adapted into the new architecture when it becomes available.

To carry out the basic strategy in FY1991, MIS has identified several specific tasks:

1. Maintain and continue to increase leverage of analyst support of administrative systems through the use of CASE tools for production and quality control.
2. Implement Rapid Application Development.
3. Develop and test expert systems in appropriate business situations.

4. Maintain the strategy of balancing hardware requirements against software advances so that the Laboratory can take advantage of new software while it continues a conservative approach to innovation.

5. Continue to purchase application packages rather than develop applications in-house.

Funding and Organization

Administrative computing needs and requirements include storage for the large shared databases, secure access based on need to know and on management approval, response time of less than one second for online interactive systems, back up for critical time-dependent systems, common user access to systems, and integration of administrative information across organizational lines. Planning to meet these needs in a cost-effective manner must deal with several specific problems: charge-back policies that create false markets, implementation plans that do not address the organization goals, systems that incorporate Laboratory needs poorly, the existence of a variety of equipment and access methods without overall consistency, shared computing power that must be tuned for diverse applications and systems, and financial plans that optimize for an individual organization at the expense of the Laboratory as a whole.

The current rates and charge-back policies have several adverse effects on administrative computing. As rates change, analysts modify applications to take advantage of cheaper rates or escape higher rates. An alternative rate policy must be a priority for CTD and for the Laboratory so that changes in applications will be made to enhance the original program and meet additional information needs. Plans must begin to include the equipment necessary to guarantee adequate storage capacity and response time levels. The Laboratory must provide cost-effective computing power so that divisions and departments will choose to use computing resources that result in the integration of databases and efficient access to those databases.

Personal computers and minicomputers are an effective and essential part of the hierarchy of computing power; they fulfill a very real need for inexpensive local computer processing. They must, however, be brought into the administrative computing environment so that the systems they run can become integrated into the over-all structure of management information. Computing hardware and software capable of providing a responsive interactive environment for administrative applications is necessary to improve the productivity of information professionals (with accountants, buyers, etc.). The arrival of the IBM 3084 computer provides an opportunity to develop this environment. However, if in the years to come scientific and administrative systems are better served in separate environments, outsourcing the computing cycles for administrative systems may become economical.

As the history of management information systems at Argonne has demonstrated, administrative productivity can and does increase as administrative information is made available across organizational boundaries. Many departments affect all segments of the Laboratory. Accounting, budgeting, procurement, materials, human resources, travel, and other systems have an effect on many other organizations, not just on the organization that is the primary user. Consciousness of these interrelated factors should provide the motivation to develop and implement an administrative computing environment that can be made responsive to administrative needs.

The responsibility for planning administrative systems appropriately lies with the functional business unit and MIS. Together, the two entities develop plans and propose projects to the Administrative Data Processing Oversight Committee (ADPO). The committee's responsibility has been to administer the long-range plan for the Laboratory. Unfortunately, cost control regularly interferes with implementation of the established goals for administrative systems such as integration of data and elimination of outdated technologies. The major problem is that no one person is responsible for overseeing the progress of the individual systems within the overall structure. Nor does any one person manage the dollars to change priorities as plans are modified. ADPO establishes priorities for project funding on an annual basis.

Administrative information needs that arise during the year are addressed by the divisions or delayed to the following funding cycle. Management systems often take a long time to implement because resources are stretched over a number of projects. The integration of systems has a low priority and is usually outside the scope of any one project.

Hardware

In the past, scientific and administrative computing were managed separately. The two were joined when the old Applied Mathematics Division acquired the IBM 360. The move was expected to bring economy to both aspects of computing at the Laboratory. Hardware choices continue to reflect shifts in the needs of both scientific and administrative computing. The scientific computing community has benefited from more powerful mainframes while the administrative computing community has been able to move forward several generations. This joint arrangement remained through the acquisition of the IBM 3084.

With the purchase of the Cray X-MP, a split between scientific and administrative computing hardware has begun. Upgrades to the Cray and the acquisition of parallel processors will separate scientific computer cycles from administrative computer cycles. CTD predicts that within five years IBM-compatible cycles will be primarily (more than 70%) devoted to administrative computing. DEC cycles will be shared, while supercomputer and parallel processor cycles will be entirely scientific.

These general trends form the background for MIS planning in terms of hardware. A number of specific elements in the hardware environment are of importance to Management Information Systems' planning. These elements include the configuration and implementation of the IBM 3084 and the choice of hardware to replace the Hewlett-Packard machines for the materials systems. Use of the DEC/VAX 8700 will increase dramatically when the Argonne Information Management System goes into operation. Other hardware factors include the development of more and more powerful PCs and workstations and their wider distribution throughout the Laboratory. A final hardware-related component is the success of the midrange computers directly involved with the new architectures now coming on the market.

In the area of hardware availability, MIS planners have formulated the following assumptions on which to base their strategy:

1. The planned replacement for the IBM 3084 will accommodate the need for IBM-compatible cycles to serve administrative computing needs.

2. An IBM or IBM-compatible computer will handle the network loads and the central databases.

3. An IBM or IBM-compatible computer will be the main machine for the primary CICS/MVS administrative environment.

4. Administrative computing and limited scientific computing will remain on the same machines.

5. The Hewlett-Packard machines will be replaced by October 1993.

Software

In terms of the likely development of administrative systems and software at Argonne National Laboratory, Management Information Systems' planners have developed a set of assumptions which will guide their strategy for the next five years:

1. File transfer software will move toward creation of a seamless environment for users.

2. Integration of applications will continue as more and more individual systems are brought into the large Laboratory databases.

3. Users will have more tools to access the central databases.

4. Because staff numbers will remain fairly constant, analysts will need more productivity tools. MIS will attempt to recruit more students as support for the full-time staff.

5. A significant portion of MIS effort will be directed toward bringing current and planned applications into the "seamless environment."

6. Administrative applications, especially with the new architecture, will rely heavily on personal computers and workstations as access mechanisms, with concomitant use of multiple windows and other PC programming techniques.

7. Users will be more skilled and have more power to manipulate data through their local personal computers and workstations.

On the basis of these assumptions, then, MIS will continue its strategy of consolidating data into large central databases, a strategy which ensures consistent availability and quality. Analysts will continue to emphasize the use of a range of computers, with emphasis on the concept of a centralized repository and archive available to end users through a variety of individual machines. The strategy of making data accessible through uploading and downloading will, in essence, remain in place, although the programming interfaces of the new distributed computing systems will change the ways in which access is possible.

The software chosen for the Integrated Materials Management System will have a major impact on the computing environments for all administrative applications. Software compatible with the Integrated Financial System software will allow a number of data elements to be brought together easily in a central database. Software that is not compatible with the current financial software environment will result in an extension of the IFS project to build a number of separate materials systems and to develop interfaces which will allow direct transmission of materials and services data into the financial system.

User Involvement

The development of partnerships between MIS and programmatic and non-programmatic users of administrative information is essential to the creation of a more productive environment. Both halves of the partnership can benefit from their interaction. If administrative users develop systems for their individual areas, the result often is a non-standard, poorly documented system with inadequately protected data. Such systems must usually remain isolated because they cannot be integrated into the Laboratory-wide systems technically. On the other hand, systems developed entirely within MIS can fail to meet the goals of the business organizations because they are created with inadequate information and without knowledge of specific needs. Partnerships between administrative data users and MIS have higher rates of success in achieving goals and have the advantage of following standardized procedures for protection and documentation.

These partnerships have historically taken a significant amount of time for both users and analysts. With the implementation of a new technique called Rapid Application Development and the acquisition of CASE tools to enable analysts to use the technique, the development process will be shortened. Management Information Systems will be able to produce a system more quickly, with a greater chance to meet the organization's business goals successfully.

MIS, then, will work to incorporate information processing concepts into decisions that affect administrative policy and procedures to provide data for analysis and assurance of cost-effective procedures. CTD's analysts will continue to develop partnerships between MIS and administrative data users in both programmatic and support divisions. MIS will also promote common computing tools across the administrative organizations to reduce dependency on individuals and ease transfer of people and information.

Software Development

One area in which MIS will consider software development is that of expert systems. Expert systems are computer systems that emulate human expertise by storing knowledge gathered from humans and then performing as advisory consultants with explanations based on the stored expertise to document their logical inferences. This kind of software can free administrative staff from routine activities, while it documents the decision steps and makes them available to the organization. Decisions concerning make or buy procurements, closing financial statements, explanation of benefits, and approval steps for procurements are candidates for development of expert systems. Selection of a pilot package and funding of its development will be proposed to the Administrative Data Processing Oversight Committee.

Without the improvements offered by expert system components in software packages, the Laboratory will not be able to realize the full potential of its administrative data. Through the use of packages, we have organized our data efficiently and have created standard tools to analyze and report that data. If the Laboratory chooses to stop its efforts to improve efficiency at this point, the productivity of its administrative staff will not have improved significantly over the older systems.

In all of its attempts to develop and expand the software capabilities of the Laboratory, MIS will keep in mind the related strengths of the partners in the process. System users can most efficiently specify their needs, set priorities, determine how to exploit their databases, and perform the appropriate experiments with and analyses of their data. MIS can most efficiently analyze the impact of a given package on other information systems, identify areas of dependence on other systems, prepare the system architecture, design databases, select the implementation vehicle, and optimize machine performance. Each half of the partners in the software planning process complements the other. MIS will make every effort to heighten user involvement in planning and implementing new software capabilities.

Over the long term, MIS plans to complete several specific activities directed toward the more efficient development of software. These activities include:

1. Acquiring and implementing a database management system.

2. Acquiring and implementing a technology to improve movement of data between the CICS mainframe databases and the user workstations.

3. Establishing a management commitment to develop SAA-compliant new applications and to modify the existing systems to make them compliant as well.

4. Directing future efforts towards acquiring workstation-based productivity, management, and analysis tools.

5. Implementing MVS/XA for administrative systems.

6. Evaluating REXX as a means of data and applications management.

Management Information Systems Applications

MIS planners, as part of their regular review of administrative systems, have examined the current systems and applications and assessed their status under the existing organization. Planners also looked at areas of potential growth for administrative computing and evaluated that potential in terms of its significance to the Laboratory for greater efficiency in the handling of administrative information. Figure 2 identifies the "official" systems and their place in the overall structure of administrative data processing at Argonne. Table 1 provides a glossary of systems identified in Figure 2 as part of the administrative computing environment. Table 2 identifies by fiscal year the anticipated starting dates for conversion or replacement of those systems. Proposed changes in the current systems appear as part of the project descriptions in Chapter 5. The replacement table is, of course, tentative, but it does represent a starting point for long-range planning. MIS planners have also examined each area of the field in order to determine the directions in which management information systems at the Laboratory are likely to move. Their determinations appear under the various areas of interest below.

Expert Systems

Expert systems represent an area of great potential for Laboratory users of administrative and management information systems in the future. An expert system contains a set of policies and procedures for making judgmental decisions. It is often based on the experience of an individual who has, for example, regularly determined medical insurance payment of bills. That person's knowledge, combined with the formal policies of the company, can serve as the basis for a system that improves white-collar productivity by making many of the fundamental decisions that would otherwise take up staff time.

There are many possibilities for use of expert systems in Management Information Systems. Such systems could perform document approval, a time-consuming function in many accounting areas. An expert system could serve as the front end for distributed requisitioning. The system could accept a requisition and make the decision as to which ordering system and what authorization should enter into the process. An expert system could serve as a resource for benefits analysis, providing options and alternatives on request.

The tools for creating expert systems are already available in the marketplace, largely in the form of shell systems, with some PC-based. The most probable structure for the Laboratory would be a combination of mainframe and PCs. The area of expert systems is one MIS should be researching. Planning in this area must be flexible because use of expert systems is so closely tied to education and knowledge of management and users. MIS will, however, begin assessment of possible production tools and analysis of possible points of usage. Expert systems could well be a major effort in the future.

Data and Job Management

In the area of data and job management, MIS looks to the creation of multiple networks composed of minicomputers and connected to mainframe computers which will require significant computer security. This structure of networks will be dependent on improved data transmission. CTD will need to develop support for a VAX hierarchy parallel to the existing IBM structure and, in both architectures, look at ways to incorporate Sun, MacIntosh, and MicroVAX machines into the networks. MIS anticipates that job submission, as such, will be more and more packaged, not visible to users. Job control will continue to be the responsibility of MIS analysts. Although MIS expects the IBM environment to continue, at least for the near future, access to the VAX cluster and interfaces between the IBM and the VAX machines will be crucial.

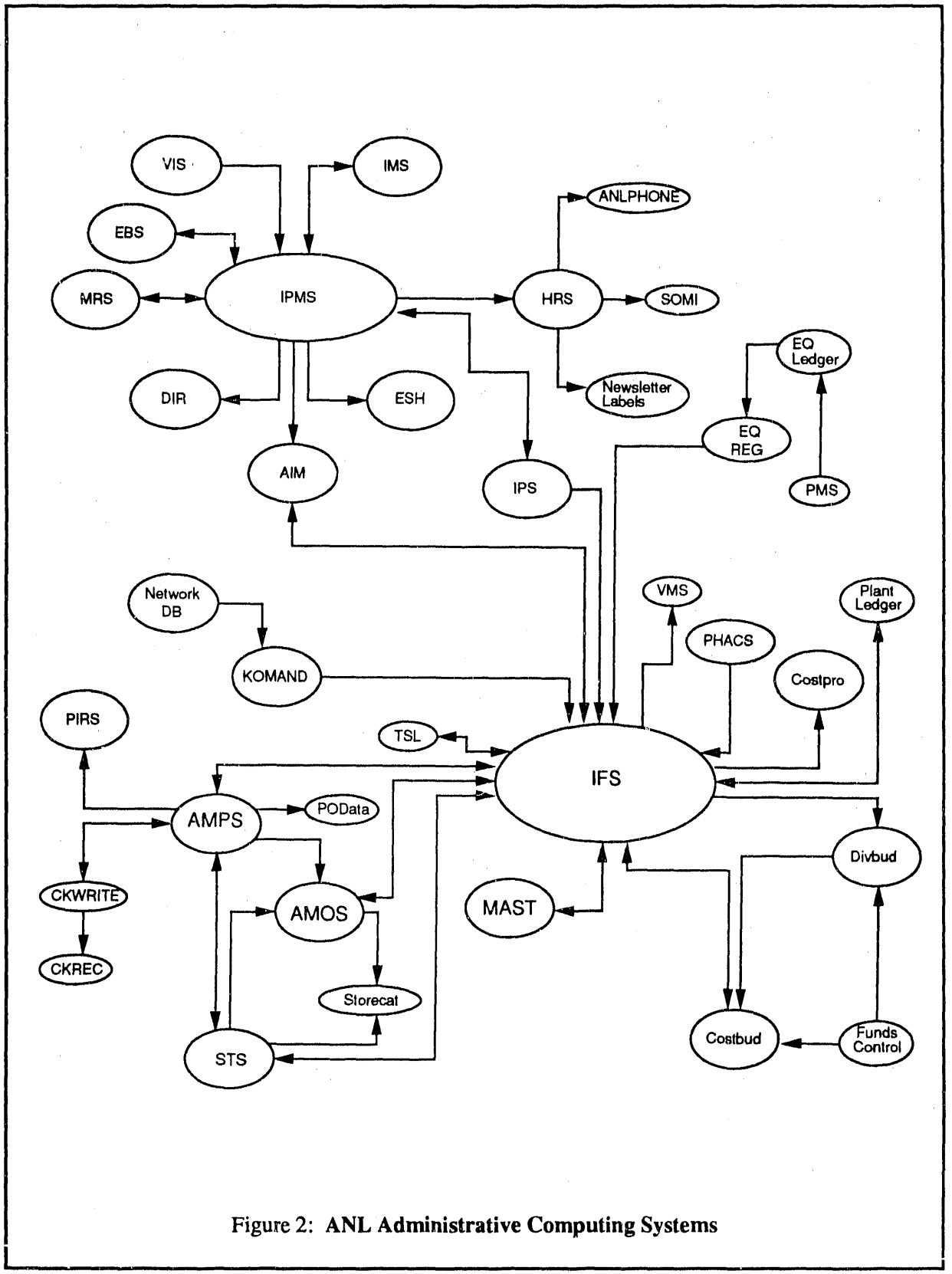

Figure 2: **ANL Administrative Computing Systems**

Table 1

Glossary of Systems

AIM	Argonne Information Management System
AMOS	Argonne Materials Order System
AMPS	Automated Materials/Payable System
ANLPHONE	ANL Online Phone Directory
CKWRITE	Check Writing System
CKREC	Check Reconciliation System
COSTBUD	Cost/Budget Monthly Estimating System
COSTPRO	Cost Projection System
DIR	Telephone Directory
DIVBUD	Divisional Budget System
EBS	Employee Benefits System
EQ LEDGER	Equipment Ledger
EQ REGISTER	Equipment Register
ESH	Employee Benefits System
FUNDS CONTROL	Funds Control
HRS	Human Resource System
IFS	Integrated Financial System
IMS	Integrated Medical System
IPMS	Integrated Personnel management System
IPS	Integrated Payroll System
KOMAND	Computing Resource Usage Accounting
LIS	Library Information System
MRS	Merit Review System
NETWORK DB	Network Database
NEWSLETTER LABELS	Newsletter Labels
PHACS	Phone Accounting System
PIRS	Purchase Information Reporting System
PLANT LEDGER	Plant Ledger
PMS	Project Management System
PMS-IV	Project Management System-IV
PODATA	Purchase Order Database
SOMI	Space and Occupancy Management
STS	Stock Tracker System
Storecal	Stores Catalog
TSL	Technical Sevices Labor
UCRS	Uniform Contract Reporting System
VMS	Vehicle Maintenance System
VIS	Vehicle Identification System

STANDALONE SYSTEMS	
ACRS	Annual Consultant Reporting System
AFS	Applicant Flow System
CARES	Calibration Recall System
CONF/MAIL	Conference Mailing Management System
CSI	Controlled Storage Inventory
DCS	Document Control System
JOBS	Job Scheduling System
MCRS	Maintenance Control and Reporting System
QAD-DER	Direct Effort Reporting (Quality Assurance)
RADEXP	Radiation Exposure
SI	Sensitive Item Database
SMIS	Special Materials Information System
SRTS	Service Request Tracking System
STOREORD	Stores Ordering System
SUI	Security Unusual Incidents System
UCRS	Uniform Contract Reporting System

Table 2

System Replacement Schedule

SYSTEM NAME	Year Installed	Replacement Planned Begin (FY)	Finish (FY)	Comments
Financial Information System	1970	1989	1990	Replace with new Integrated Financial System.
Human Resource System	1980	1989	1991	
Manual Orders	-	1991	1992	Incorporate into new Integrated Materials Management System
Stock Tracker System	1982	1991	1992	Incorporate into new Integrated Materials Management System
Subcontracts	-	1990	1992	Incorporate into new Integrated Materials Management System
Vehicle Maintenance Reporting	1979	1989	1990	
Argonne Materials Order System	1987	1991	1992	Incorporate into new Integrated Materials Management System
Automated Materials/Payable System	1980	1991	1992	Incorporate into new Integrated Materials Management System
Library Information System	1987	1989	1991	Replace with new Library package
Procurement Information Retrieval System	1984	1991	1992	Incorporate into new Integrated Materials Management System
Annual Consultant Reporting System	1976	1992	1992	
Applicant Flow System	1977	1991	1991	
Budget Systems	1976	1990	1990	Incorporate into new Integrated Financial System
Space and Occupancy Management Information System	1980	1991	1993	
Special Materials Information System	1976	1992	1993	
Mainframe Interface System	1989	1994	1994	
Property Management System	1986	1993	1993	Incorporate into new Integrated Materials Management System
Conference Services System	1983	1995	1995	Potential migration to newer database technology.
Mailing Management System	1983	1995	1995	Potential migration to newer database technology.
Security Unusual Incidents System	1979	1989	1995	
Telephone Directory	1984	1996	1996	
Calibration Recall System	1987	1997	1997	
Vehicle Identification System (Security)	1987	1997	1997	
Controlled Storage Inventory	1987	1998	1998	
Integrated Medical System	1987	1998	1998	
Circuit Management System	1989	1999	1999	
Environment, Safety and Health Systems	1989	1999	1999	
Employee Benefits System	1990	2000	2000	
Merit Review System	1990	2000	2000	

PURCHASED SOFTWARE

These applications are purchased software. Theoretically, their lifetime is indefinite if yearly maintenance fees are paid to the vendor, the vendor keeps the system current with technology, and business practices remain common with the acquired software.

SYSTEM NAME	Year Installed	Comments
Integrated Payroll System	1985	Integrated System, Inc. (ISI)
Integrated Personnel Management System	1983	Integrated System, Inc. (ISI)
Maintenance Control and Reporting System	1984	The Austin Company
Telecommunications Information Systems	1987	NEC Astro Phacs System
Integrated Financial System	1988	Management Science of America (MSA)
Argonne Information Management System	1990	Techlib Stacs

New forms of read-only storage may reduce hardcopy reports. Users will do more processing on local machines, while maintaining an archive on the mainframe. Data transfer will become an important factor. MIS anticipates development of Local Area Networks independent of applications that would consist of minicomputers on which users could do their local processing but which would connect to mainframe computers for archiving and backup. In this context, high speed data transmission for uploading and downloading to the mainframe computers will become a critical factor. In the short term, PBX data transmission will be sufficient, but long-term planning should look to other means of transfer such as fiber optics.

As the Laboratory's administrative data is distributed over varied platforms and is made accessible through database client/server software on these platforms, MIS will play an increasingly important role in data management and job coordination. MIS must develop the architecture for distributed databases, must provide up-to-date information to administrative users about the Laboratory's administrative data and access to that data, and must assist the users when problems occur in accessing or manipulating administrative data. As cooperative processing becomes the primary mode of computing, with data and function distributed as appropriate between mainframes and personal workstations, MIS assistance for the workstation user will encompass both the user's applications (software) and instruments of work (networks and hardware).

Although batch computing will remain a major task for the MIS operations support specialists on the second shift, installing automated console software in central computing operations may provide the capability to automate large portions of administrative job submission and tracking. If this automation is successful, MIS will shift the resources formerly devoted to manual job submission and tracking to other support activities.

Anticipating the eventual obsolescence of the Hewlett-Packard minicomputers and the automation of single-step job submission and tracking, MIS will begin training the current operations support staff in Building 201 to develop personal computer applications: first, those applications needed for the operations area, and then other standalone applications. Further training will emphasize cooperative processing, with operators handling personal workstation and applications problems.

Human Resources Systems

The Human Resource Management System encompasses eight major applications. These applications include the Payroll System, the Personnel System, the Medical System, the Environment, Safety and Health System, the Merit Review System, the Benefits System, the HRS Laboratory-wide System, and the Applicant Flow System. The Payroll, Personnel, Medical, and ESH systems have all been implemented since 1983. The Merit Review and Benefits systems are in development for completion in FY1990, with the HRS Laboratory-wide System and the Applicant Flow System planned for replacement in the FY1991-FY1992 planning period.

Major components of the current strategy include providing software solutions with purchased software, providing online access to data for users, operating the systems in a common computing environment, consolidating person-related data, eliminating duplication of data, and automating necessary person-related data currently contained in manual files. This strategy has been the guiding principle in all the proposals related to Human Resource Systems for the past eight years. This phase of the plan for person-related systems will be complete when the remaining applications are implemented in FY1991-FY1992.

With the technical infrastructure in place and data readily available, the strategy for the next five-year period in the HRMS area encompasses five aspects:

1. providing fast and efficient access to the HRMS data to facilitate management summarization and analysis of the information.

2. providing an excellent mainframe-to-workstation interface to enable rapid movement of data between the central data repository on the mainframe the user community workstations.

3. implementing the concepts of IBM's System Application Architecture (SAA) in the HRMS applications to improve ease of use.

4. implementing workstation-based systems for management and staff.

5. implementing labor-saving applications based on the core data of HRMS.

Plant Systems

Plant systems have taken a networking approach with a very successful Local Area Network of PCs. Most Plant Facilities and Services applications are on PCs and development is likely to continue in that direction, with the possibility that PFS may decide to incorporate a minicomputer into the LAN. Plant Facilities and Services has several sophisticated, separate systems that would be good candidates to move to PCs from the mainframe. The Space and Occupancy Management Information (SOMI) system, for example, will most likely be moved to a PC, although the system will still require interfaces to the Laboratory's financial systems and human resource systems. The Maintenance Control and Reporting System (MCRS), which currently runs on the HP 3000 machines, will be moved to a PC-based LAN within three years. CTD and PFS have just begun researching equipment and software needs for the LAN-based MCRS. Technical advances in computing may make it possible to obtain information from digitized drawings in the CAE systems to update both SOMI and MCRS. In the financial area, PFS should automate several functions that are still manual and should establish interfaces with the Integrated Financial System. We have, for example, begun downloading information from IFS to the LAN-based Vehicle Maintenance System.

In general, Plant Systems will need to be integrated into the Laboratory-wide informational databases with several new electronic interfaces. To accomplish this goal, we will undertake a review of PFS systems, including the many PC-based systems, to determine the types and locations of common data. Once the review is complete, we will share the results with PFS computer users to enable them to manage the common information more efficiently, perhaps through mergers or creation of new systems. The users will be in a position to make their determinations of needs and advantageous procedures on the basis of the systems review.

Library System

The new library information retrieval system will undergo rapid expansion as the package is implemented over the next two years. The system will run on the central VAX 8700, chosen on the basis of a staff survey from which Technical Information Services (TIS), with the Library Automation Advisory Committee and CTD, learned the internal priorities and requirements of ANL staff. TIS purchased Information Dimension's BASIS Techlib to manage the records of the Technical Publications Section, the libraries, and the library support services, and to provide online bibliographical search capabilities. ANL staff will have access to the system through terminals in the libraries and through their office workstations over the existing file transfer network. The first component of the library system will be operational in the fall of 1990. Usage will expand rapidly as more and more staff members become aware of the system's capabilities. The system will help the libraries to meet the information needs of ANL scientists and researchers by making access to research materials faster and more efficient. Eventually, the system will move to incorporate new technology such as optical disks to handle massive amounts of text.

Project Management Systems

It is not possible to formulate a central solution for the various system requirements of project tracking and administration. MIS can offer consulting as a service, but the demand most likely will be from individual organizations who request the services of analysts they know and trust. Each project manager will choose his own project management program, with or without official advice. Management Information Systems will be primarily concerned with the transfer of financial data to the project management systems, providing specialized electronic interfaces to allow the various systems to get information from the Laboratory-wide databases and to allow the various systems to transfer data to those same databases when necessary.

Materials Systems

It is paradoxical that some of the current materials systems seem highly integrated and yet often do not interface with other materials systems. The Automated Materials/Payables System (AMPS), for example, integrated the functions of purchasing, receiving, and accounts payable but interfaces only with the General Ledger and does not interface at all with the Property Management System. The wide array of various materials systems today exist on two different Hewlett-Packard 3000 computers, on two different IBM mainframe operating systems, on PC-based systems, and interface with VAX/VMS user systems.

A growing part of Materials Systems is the systems contracting area presently served by AMOS. Like many organizations today, ANL is attempting to minimize inventories of supplies and depend instead on distributors to deliver supplies quickly. From a business perspective, this shift requires establishment of relationships with a limited number of suppliers who can maintain their own sizable inventories and provide speedy delivery to the Laboratory from their warehouses. From a systems perspective, we will need to keep abreast of the latest developments in Electronic Data Interchange (EDI) so that we can pass orders from ANL to the vendors and obtain updated information from the vendors instantaneously. This technology may also be used for standard purchase orders and even Requests for Quotes.

Bar code or automatic identification technology is another area we will need to monitor closely. Beginning in fiscal year 1991 Security will be issuing badges with the badge number bar coded. This first step in bar coding at the Laboratory will serve as a test project for implementation of bar code reading as part of the identification and authorization processing essential to future administrative systems. Because the badge number is the primary method of identification at the Laboratory, other uses of the bar coded badges will most likely begin to occur outside administrative systems. The Laboratory could use bar coding to improve materials distribution and inventory management. Already used for property management at the Laboratory, bar coding will also be the method of tracking gas cylinders in the future.

Materials Systems will be largely preoccupied over the next five years with the selection and implementation of the proposed Integrated Materials Management System. In five years, the system that replaces AMPS, Stock Tracker, and portions of AMOS will be in place on a mainframe-class machine, but parts of the system may actually run on distributed machines. We anticipate, for example, that several divisional VAX users may follow a requisition process that coordinates with the mainframe system, but is separate from it. We also anticipate that current disjointed systems like the Property Management System will, at least, interface with the IMMS.

Both Internal Purchasing and Accounts Payable will be directly influenced by the development of the IMMS; the relationship between those aspects of the financial system and the materials management system must be carefully determined and maintained. In order to arrive at our goals, we must select a system that allows us to cooperate easily with the current Integrated Financial System but is flexible enough to handle several different requisition processes. Once the system is chosen, MIS analysts will acquire the expertise to operate the system and work with appropriate vendor personnel to implement it.

Financial Systems

After an extended period of development and implementation activity (two years), the first phase of the MSA software-based financial system went into production in April of 1989. This phase consisted of the implementation of the General Ledger and Financial Controller packages from MSA, the use of MSA's Information Expert reporting tools as a replacement for the Financial Management System (FMS), and a significant frontend and backend subsystem developed inhouse to supplement MSA's systems. The implementation of the Purchasing, Accounts Payable, and Budgetary Control packages was deferred. Later in 1989, the project acquired Brightview from MSA as a development tool. The project has not acquired any new budget systems, but has developed IFS interfaces for the current budget systems, Divbud and Costbud.

As with many large systems, the first year since implementation has been spent stabilizing the first phase and enhancing the system with functions that were not necessary immediately after cutover. A significant amount of effort has been devoted to the user reporting environment and financial reports. The system has been operating successfully since its inception. There have been no delays in reporting the Laboratory's financial position to DOE each month.

Many of the business changes to the financial systems (Budgetary Control, Internal Purchasing, and electronic entry and authorization of documents, for example) did not occur with the implementation of IFS as originally planned. These business changes are functions which require major commitment across the Laboratory for success. In the early stages of the IFS implementation, there was much debate about these functions, but no established agreement among the various parties. Consequently, much work remains to install these and other functions, if the key business issues can be resolved. The possible enhancements to the Integrated Financial System include:

- replacing Costbud and Divbud budget systems
- implementating Accounts Payable
- building interfaces with the new materials systems
- implementing a system developed in-house as an alternative to the MSA Internal Purchasing package
- automating entry of scientific effort
- implementing Budgetary Control on a reduced level.

Because all of these possibilities require significant agreement from all areas of the Laboratory before they can be incorporated into the financial system, it is impossible to predict the dates by which they might be installed or even suggest the order in which they might become available.

From a technical perspective, the IFS implementation has been very successful. The reliability of the software acquired from MSA far exceeded expectations and the subsystems developed in-house capitalized on the CICS online access. To the extent that tasks are left in the hands of the technical team, the planning and management of the technical implementation has proceeded efficiently and effectively. The technical team, however, cannot control those area in which the use of third-party vendor tools is planned before actual delivery. Failure by the vendor to provide the tools by the planned date or failure of the tools to function as expected results in planning and implementation delays. A second factor that affects technical implementation is its relationship to business implementation. Because the business issues take far longer to resolve, the technical tasks tend to be understaffed and, on occasion, to be omitted altogether, with possible resurrection at a later date.

In January 1990, Dun and Bradstreet acquired MSA and merged the company with its McCormack and Dodge subsidiary to form a new company called Dun and Bradstreet Software Services (DBSS). DBSS is committed to maintaining all current software until the next generation of SAA-compliant software is delivered in about three years. At that point, the Laboratory will upgrade to the new software.

Major technology changes that will probably occur beyond FY1990 include:

- More functionality will be placed under CICS.
- CICS will become available to the Laboratory community at large.
- MIS will have to provide input and output interfaces between the IBM mainframes and other hardware as needed by IFS users.
- MIS will revise existing and new online functions to conform with SAA.
- Users will rely more on personal computers and cooperative processing.
- We will build technical bridges between administrative systems to facilitate Budgetary Control.
- MIS will make technical changes to take advantage of hardware advances such as disk caching, solid state data storage devices, and new operating systems like ESA.

The timing of the technology changes is subject to the progress made by outside vendors in developing the software that will make cooperative processing possible. The significant changes now taking place in the software industry will drive the technological changes to IFS. Because of these factors, it is difficult to predict dates for implementation.

CHAPTER 3

MANAGEMENT GUIDELINES FOR ADMINISTRATIVE COMPUTING

THE ADMINISTRATIVE DATA PROCESSING OVERSIGHT COMMITTEE

The Administrative Data Processing Oversight Committee was formed by the Deputy Laboratory Director--Operations in October 1982. The Committee's charge is to advise Laboratory management and the Computing Policy Committee regarding administrative computing issues, to formulate policy for administrative computing, and act as an advocate for the establishment of that policy, to review, evaluate, set priorities, and recommend funding and schedules for new equipment, new software development and enhancements for all administrative computing systems.

Purview of the Committee

The Administrative Data Processing Oversight Committee includes in its purview the planning, funding, and development of all official Laboratory business systems. Unofficial administrative systems that serve only an internal purpose for an organization are subject to review by the Committee if they meet any of the following criteria:

1. Require more than $25,000 in purchased hardware and/or software.

2. Require more than four months of technical effort.

3. Interface with an existing official administrative system by transferring data between the systems.

4. Manage information that is used by Laboratory personnel in another organization.

Developing information systems is an expensive process which consumes Laboratory resources. The Laboratory must have the assurance that development of business systems occurs in the most effective manner, that planned business systems do not duplicate existing systems, and that planned systems contain the proper interfaces to official systems. Management Information Systems of the Computing and Telecommunications Division acts as a resource for the Administrative Data Processing Oversight Committee for knowledge of computing resources and expertise in ANL's operating system. The area staff collects, distributes, and recommends priorities for proposals which affect administrative data processing and the Argonne computing environment.

Format for Proposal Submissions to the Committee

The Administrative Data Processing Oversight Committee reviews proposed administrative computing projects at either regularly scheduled or special meetings. The proposal submissions cover the following points:

- Description and Background of Problem
- Solution and Scope
- Costs
- Benefits
- Schedule of Deliverables and Spending Plan
- Alternatives Examined
- Relationship to Other Systems
- Organizations Involved
- Success Factors

The full format for proposals to the Administrative Data Processing Oversight Committee appears in Appendix D, with forms for cost and benefit analysis and examples of quantifiable and non-quantifiable aspects of the proposal. The format for the costs and benefits sections of proposals has been modified to provide greater detail, in accordance with Analysis of Benefits and Costs (ABC).

Evaluation of Proposals

One of the responsibilities of the Administrative Data Processing Oversight Committee is to review proposals for administrative system projects and to recommend funding through the Laboratory General Expense Budget for those that provide a tangible cost benefit to the Laboratory, that are necessary to the continuing operation of the Laboratory, or that enhance the way the Laboratory performs its business functions. In addition, because of the limited resources available for administrative computing projects, the Committee sets priorities on projects that best fulfill the goals of administrative computing. The Committee may assign a priority to a project based on the goals for administrative computing and other management considerations, or the Committee may not recommend funding for the proposed project.

Projects reviewed by the Administrative Data Processing Oversight Committee vary in size and complexity. As necessary, the Committee requests assistance in the technical assessment of proposed projects from Computing and Telecommunications associate directors, section heads, and group managers, and from the Chairman of the VAX Managers group.

Computing Policy Committee

The Administrative Data Processing Oversight Committee submits the plan for administrative computing to the Computing Policy Committee for review. Generally, Computing Policy Committee approval is necessary for hardware acquisition.

Funding Recommendations to the Chief Operations Officer

The Administrative Data Processing Oversight Committee submits a funding recommendation to the Chief Operations Officer for the approved projects. This funding recommendation is for the next fiscal year but may also address subsequent year approval for large projects.

Project Review

During the lifetime of an approved administrative computing project, the Administrative Data Processing Oversight Committee reviews the status of the project on a regularly scheduled basis, recommends redirection when necessary, reviews and approves major changes in project direction, and reports the findings to the Chief Operations Officer. Projects under review will utilize the following format for presentations:

- Statement of project charter and scope as approved
- Chart of major milestones as originally approved
- Narrative review of status of each milestone
- Anticipated and actual deviations from plan
- Potential problems and opportunities

As appropriate, the Committee will forward recommendations or the results of the review of a project to the Chief Operations Officer and/or the Computing Policy Committee.

FUNDING POLICY FOR ADMINISTRATIVE SYSTEMS

The Administrative Data Processing Oversight Committee recognizes the need for a policy for consistent, uniform, and long term funding of new systems development efforts and the ongoing maintenance of the Laboratory's informational databases. The informational databases are generally available on a Laboratory-wide basis and contain the Laboratory's business information; they include the Human Resource Management System, the Integrated Financial System, and several others. The Administrative Data Processing Oversight Committee recommends funding for the development and enhancement of these databases. The users of the several systems bear the operating costs, which include expenses for loading, storing, and maintaining the system's data, for making the data available to the user community, and for labor and run time costs to enhance and maintain the system as a whole. During the development stage of a new system, all operational costs are, for funding purposes, costs of development.

PROCEDURES FOR PLANNING ADMINISTRATIVE APPLICATIONS

The initial steps in planning developments, enhancements, and maintenance include:

- initiating new development, major enhancements, and maintenance.
- funding new development, major enhancements, and maintenance.
- setting priorities for requests.
- using phased-development methodology.

Initiating New Development, Major Enhancements, and Maintenance

In most cases, users initiate the request for the development of new applications and the enhancement or maintenance of existing applications written by the Laboratory. The initiating request for service may result from:

- an individual user organization, which perceives a specific need and communicates with a Computing and Telecommunications Division analyst.
- Management Information Systems, which perceives a Laboratory-wide need, perhaps across functional areas, and communicates to Laboratory management through the Administrative Data Processing Oversight Committee.

Funding New Development, Major Enhancements, and Maintenance

Funding for Computing and Telecommunications development, enhancement, and maintenance projects comes from one of two sources, or a combination of both.

Funding may come from the requesting division's budget or from a Laboratory allocation as a Laboratory Indirect Expense for new developments and major enhancements. Funds are committed based on the estimated development cost of the new application or the estimated cost of a major enhancement to a current application. The commitment of funds is phase-limited according to the phased application development process described in a succeeding section entitled "Using Phased-Development Methodology". When developing budgets and staffing levels, Computing and Telecommunications takes into consideration the past year's levels, the preliminary Laboratory budget, and discussions with principal users about the level of services that will be necessary. The Computing and Telecommunications Division may also define funding levels if it is desirable to supplement regular staff through subcontractors.

Setting Priorities for Requests

The requesting division assigns an initial priority for each of its requests for services, including maintenance. The priority setting function may be the responsibility of a systems coordinator/liaison within the requesting organization. The requesting organization may change the priority at any time if it (the user organization) decides to withdraw funding from a specific project.

Computing and Telecommunications reviews these requests and prepares its own recommendations of priorities for major enhancements, new developments, and maintenance, partly based on the availability of the requisite resources. These requests may cross multiple functional areas of the Laboratory.

Computing and Telecommunications, through the Administrative Data Processing Oversight Committee, gives its recommendations on priorities, as well as the priorities of requesting divisions, to the Chief Operations Officer, who is responsible for final approval and allocation of Laboratory funds for major requests. If the Chief Operations Officer does not concur with the Administrative Data Processing Oversight Committee's recommendation concerning a specific proposal for funding, the requesting division may rearrange its internal priorities to fund new development, enhancements, or maintenance, if the Administrative Data Processing Oversight Committee and the Chief Operations Officer approve the project.

Using Phased-Development Methodology

After the Chief Operations Officer has approved funding for a service request, the Computing and Telecommunications Division staff uses System Development Methodology (SDM/70) to proceed with the application. SDM/70 is a standard approach used for new application development and major enhancements to existing applications. It involves a series of chronological, well-structured, and well-documented phases. The eight SDM/70 phases fall into three major categories.

- Analysis Phases: The requesting division or committee and the systems staff agree on what the application is to do. Requestors and staff define and analyze the problem or need and formulate a solution. A System Requirement Definition (SRD) and a System Design Alternative (SDA) are the documents prepared at the end of these phases. A commercial package may fulfill the definition and become the preferred alternative. In that case, the design phases described below are unnecessary and may constitute only minor changes to the established package.

- Design Phases: The requesting division or committee and the systems staff decide how to develop the application conceptually, from the user point of view, and then technically. Both groups review commercially-available packages and determine the feasibility of in-house development of the entire system as compared to modification of existing packages for the system under consideration. System External Specifications (SES) and System Internal Specifications (SIS) comprise the documentation for these phases if the development is in-house. If a commercial package is the system of choice, further specifications are not necessary.

- Construction Phases: The systems staff constructs and installs the application if development is in-house or installs and implements the system if a commercial package is chosen. The staff creates operating and user guides and program documents as the final step in the process. Documentation is an integral part of commercial packages.

At the end of each phase, the requesting division or committee makes a decision on whether it is feasible to continue the development process. With the completion of each phase, the user's ability to estimate the benefits and costs of the application has improved, because the specifications for the application have become progressively more explicit. In the traditional structure of design phases, documentation of specifications accumulates until the final preparation and circulation of a formal document subject to review and approval by all involved parties. For major applications, such as the Automated Materials/Payables System or the Integrated Financial System, representatives from the affected areas form steering committees to review and approve each phase of the project. The Integrated Materials Management Users Committee, whose members represent both the programmatic and non-programmatic divisions of the Laboratory, is an example of an advisory committee which is playing a major role in defining the user requirements for the new Integrated Materials Management System. The Administrative Policy Committee, with representation similar to the IMMS advisory group, has a major role in defining administrative policies for all administrative data systems.

SENSITIVITY

Management Information Systems has instituted an annual review of administrative applications as part of its Disaster Recovery Plan. The plan contains an Applications Sensitivity Table which assigns priority to the individual systems on the basis of their necessity to the functioning of the Laboratory.

Each year, the Associate Division Director for Management Information Systems adds new administrative applications and primary users to the Applications Sensitivity Table and distributes copies to the group leaders for review. Each group leader evaluates the sensitivity of the applications for which the group is responsible and determines any changes to be made. The review considers planned enhancements as well as current status.

After the review, the Associate Division Director forwards a copy of the updated table to the MIS Assistant Computer Protection Program Manager. The MIS Assistant Computer Protection Program Manager then notifies the major users of management information systems, such as the Office of the Chief Financial Officer, Human Resources, the Support Services Division, and Plant Facilities and Services, of their responsibilities according to the Disaster Recovery Plan. The Applications Sensitivity Table appears in Appendix F of this year's *Plan for Administrative Computing at ANL.*

SECURITY

Computing and Telecommunications uses the Resource Access Control Facility (RACF) to control access to disk datasets on all MVS disks. RACF offers various protection options: the analyst can limit the number of users allowed to change datasets, define the users who can access the dataset at all, define the users who can only read the dataset, or define those who can write into the dataset. Consult the *RACF General Information Manual* (GC28-0722) for further information.

CHAPTER 4

PROPOSED PROJECTS

The proposed projects for FY1991 through FY1993 address several specific areas of administrative data processing. As a whole, the proposals continue to implement the established strategy for administrative computing as presented in this long-range planning document (see also Appendix B: Administrative Computing Goals). Proposed projects represent efforts to improve the efficiency and effectiveness of automated operations already in place, while others complete or extend systems as part of a multi-year implementation. Several projects address improved productivity for CTD analysts and programmers and thus lay the groundwork for greater efficiency in the development and maintenance of current and future systems. Other projects would create new or replacement systems to increase overall efficiency in handling management information at the Laboratory, with the ultimate goal of making all types of administrative data easily accessible to management. This chapter summarizes several projects submitted to the Administrative Data Processing Oversight Committee for funding in FY1991. Other proposals also address development of systems in FY1992 and FY1993. Some proposals come from individual divisions or departments who have formulated local requirements and independently proposed administrative systems to deal with them. Taken together, the proposals indicate the directions in which Laboratory management expects administrative data processing to proceed.

Funding requirements for the proposed projects appear in Chapter 5, with financial projections over the three fiscal years of the plan. Multi-year projects, several of which involve large expenditures, appear under the fiscal year in which the project begins. A recommendation for funding of the initial year does not imply approval for succeeding years.

The Administrative Data Processing Oversight Committee has recommended funding for ten projects in FY1991. Other approved projects depend on user funding, as indicated in the summaries.

PROJECTS PROPOSED FOR FY1991-FY1993

The projects summarized in this chapter represent specific plans and proposals made by administrative computing users across the Laboratory and transmitted through Management Information Systems of the Computing and Telecommunications Division. The projects are grouped by area of responsibility within Management Information Systems. Of the projects, the Administrative Data Processing Oversight Committee (ADPO) has established priorities for a variety of administrative systems. A project of the Integrated Financial System will continue development and enhancement of the financial system's user environment by moving the various report screens to BrightView and making the Expert Query and ExpertLink tools available to users. Other financial system projects will coordinate the effort reporting procedures across job categories and, if possible, standardize the methods by which effort is accounted for. A third project will develop a budget system for modeling and controlling the budget process. In the people system category, one project will replace the current Human Resource System by bringing the reporting system into the existing Integrated Personnel Management System database and using the Information Expert and BrightView products acquired with IFS. The Applicant Information System will replace the current Applicant Flow System with an integrated system based on the existing computing environment and software of the Personnel/Payroll System packages. A third project in this

area will begin the enhancement of the Human Resources business system, building on the network of PCs already in place. The Argonne Information Management System (AIM) will complete implementation of the library system and make online data retrieval available to the Laboratory. The Integrated Materials Management System (IMMS) will continue to move toward the replacement of the current systems with an broad-scale, integrated system. In this fiscal year, the project will choose a vendor and purchase the selected system.

FINANCIAL SYSTEMS PROJECTS, FY1991-1993

Integrated Financial System

This project is a continuation of the multi-year effort to modernize the Laboratory's financial systems and meet the needs of the multiple users of those systems. At this point, the system is in full production, having completed the cutover begun in mid-FY1989. As part of the changeover, the project has introduced a number of high productivity tools as a base for the structuring of other administrative systems in a consistent manner. The subprojects proposed for FY1991 will fulfill the long-term goals of the Integrated Financial System (IFS) project as originally submitted and complete the process of making financial information easily accessible to users.

The three subprojects proposed for FY1991 will address the user environment, develop a means of accounting for scientific effort electronically, and continue the development of the budget system. The area of internal purchasing will be delayed until the direction set of by the Integrated Materials Management System (IMMS) is clear. When that direction is established, the budgetary control package may become usable. Because these systems are dependent on other areas of planning, their implementation is not part of the proposal for FY1991.

User Environment

This project isolates tasks important to the end-user community. It builds on the tasks completed in FY1990: replication of financial reports, development of new reports, combination of reports to allow direct user requests, and provision of online accounting screens. The packaging of reports resulted in the implementation of the Information Organizer (IO) subsystem. IO allows users to maintain individual report selection criteria and submit batch runs of standard reports. This CICS-based system is the first IFS subsystem to bring users into the on-line environment and has met with very positive response. The user environment portion of the IFS project for FY1991 will focus on enhancing the online environment by providing user-developed query access to financial data, creating additional standard screens for user inquiries, and downloading financial data to workstations.

The new tools this project has received as part of the Laboratory's maintenance agreement with Dun & Bradstreet Software include a "workstation enabling" package that makes on-line applications look and act like premiere PC-based packages. BrightView uses pop-up windows, pull-down menus, an optional mouse, online help, context-sensitive help, hot-keys, and full color. Because experience has shown that users find systems with these characteristics easy to use, we believe the user community will need less education, less training, and less analyst support. BrightView also allows analysts to customize application screens when they appear on the workstation.

Other new tools have been added to Information Expert (IE). Expert Query allows the end user to perform *ad hoc* online queries of financial data. The query executes immediately and the results appear at the user's workstation or terminal. This capability eliminates the necessity of waiting for a batch report to

run before the user can see the results. Another new tool is ExpertLink. With this tool, the user will be able to route output data to a workstation from any of the IE components and from online screens. The data can then be easily loaded into spreadsheets, databases, or graphics software.

This user environment subproject will undertake five specific tasks in FY1991:

1. Move the Information Organizer system released in FY1990 under BrightView.
2. Move the Account Inquiry screens released in FY1990 under BrightView.
3. Move the Balance and Cost Inquiry screens now being developed under BrightView.
4. Define ANL's financial data to ExpertQuery and train users in making online queries.
5. Define ANL's financial data to ExpertLink and train user to download financial data from IFS to workstations.

The user environment subproject will require ten months of effort in FY1991.

Effort System

Because the current methods of reporting Laboratory effort and time are disjointed, inefficient, and out-of-date, this project will undertake to correct the problems with the Distribution of Effort Cards used in scientific areas and the Technical Services Labor Sheets used by service centers. Beginning in FY1991, the Laboratory will report Paid Absence on the Distribution of Effort Cards. This change demands correlation with absence data recorded in the Payroll System. The differing time schedules for reporting paid absences, however, create a situation in which the data can never match. Further complications arise because the service centers already record Paid Absence as part of their Technical Services Labor Report, but they do not do so on a consistent time basis. That is, some centers submit reports weekly and some submit reports monthly. Furthermore, some service centers rely on the OCF to keypunch their reports, while other interface from their own systems electronically. This project will undertake to develop an electronic effort entry system that incorporates the needs of Service Center Labor and Scientific Effort charging, including Paid Absence and "99 account" requirements.

The effort entry system will use both CICS and the personal computer tools used in the implementation of IFS. It will incorporate links to the Human Resources system to check automatically that all employees in a cost center have reported their effort. The system will address the varying service center schedules and create a standardized schedule that clearly identifies the reporting status of each center to the end user. Online entry will allow users to input time either directly or from their private systems and provide the ability to make adjustments to prior month data by having access to previous entries. These provisions will reduce user and Cost Accounting effort at monthend while creating an improved audit trail. The system must include development of procedures that adequately address the audit and control aspects of verifying correctness of charges to programmatic accounts. Finally, the project will investigate the schedules and regulation concerning the Staff Authorization and Bi-Weekly Time Card submissions to see if effort and time cards can be combined. Because the Staff Authorization and Bi-Weekly Time Card submissions proceed from the classification of the employee rather than the nature of the reporting area, total integration may not be achievable. The project will, however, analyze the situation to determine if better coordination is possible.

The effort system subproject cost for FY1991 will be approximately twenty months.

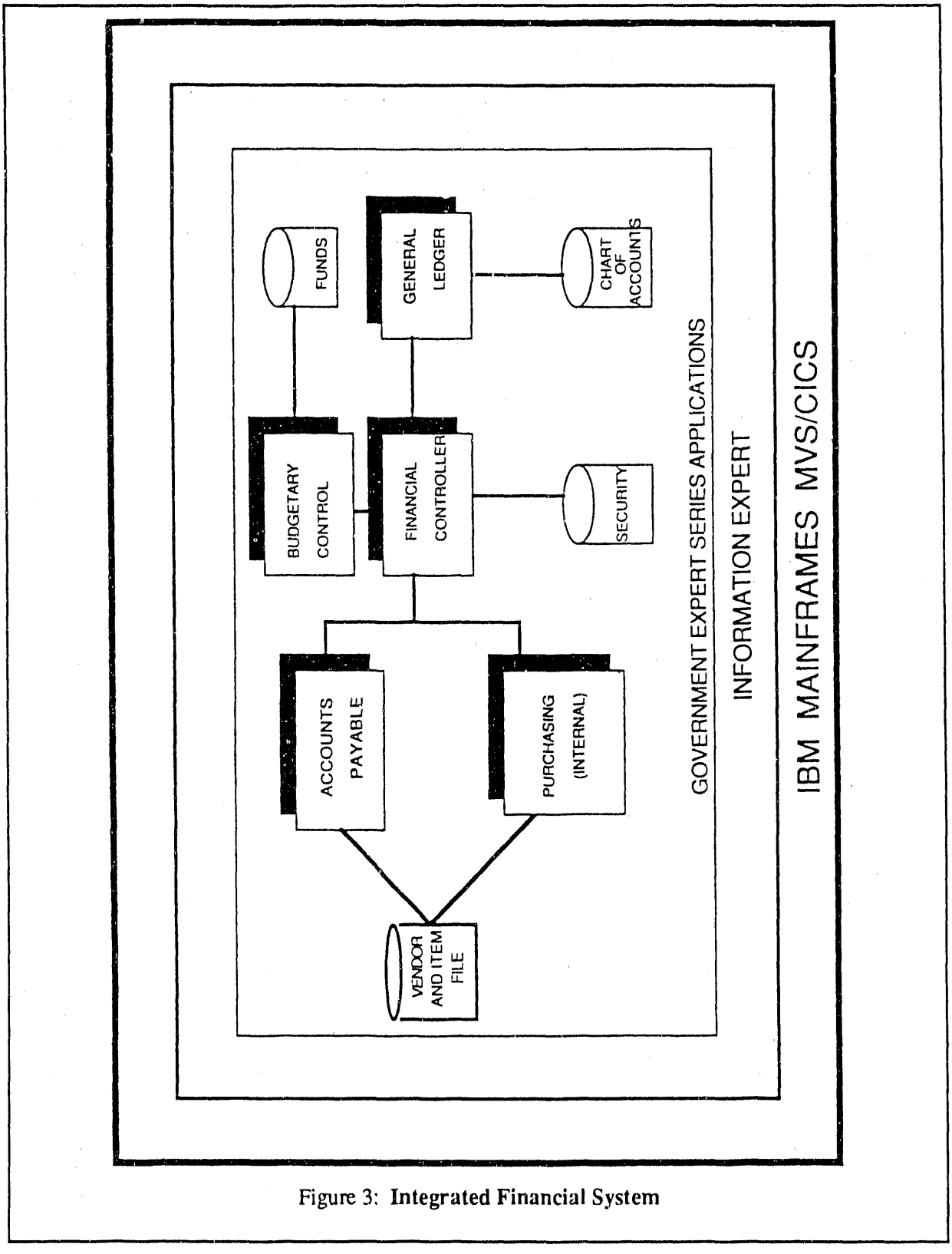

Figure 3: **Integrated Financial System**

Budget System

As a result of discussions with users through both the Argonne Budget Committee and FACET, this project has changed direction. The current budgeting system (CostBud, DivBuc PgmBud, Manpower Planning) has been unsatifactory for both scientific planner and Budget Office. The requirements for a budget system, as determined through discussion with users, lie primarily in the process of modeling a budget and in improvements to the preliminary steps, such as funds allocation and control. Scientific users already have reporting mechanisms and seek a centrally developed model; non-direct users require both modeling and reporting assistance; the Budget Office needs to automate and expedite their work while providing better control.

User discussions have already identified several desirable features for a new budget system:

- simplified handling of unfunded accounts
- multiple tax rates for all tax categories
- gross budgeting
- full-screen front-end entry
- improved rate handling in FTP preparation
- automation of exemption handling
- graphics
- automated assistance in rate calculation
- download of payroll totals for effort planning
- required and optional levels of annual and monthly planning as one unit.

This project proposes to define these requirements, create a uniform model for short and long-term planning, investigate the technical platforms to meet the model's needs, set up a data repository for modeled data, and synchronize the files.

The IFS subproject for the budget system will require the equivalent of two and a half years' effort for FY1991.

HUMAN RESOURCE SYSTEMS PROJECTS, FY1991-1993

Human Resource System Replacement

The Human Resource System (HRS) is a reporting system which provides access to the Laboratory's personnel data for the Human Resources Department, functional organization users, and other division management. Users obtain HRS reports by requesting, through their terminals, one of the available standard reports or by writing their own queries to generate reports. This project will replace the current system with a system that uses the Integrated Personnel Management System database already in place and the Information Expert tool acquired with the Integrated Financial System. HRS Division Representatives will have direct access to the IPMS databases for inquiry and update of certain data elements for employees in their organizations and division management will have inquiry access to the personnel data for their staff.

In FY1989, Phase I of the replacement project determined the data elements the divisions will maintain and update. The project also expanded the security system, developed online screens, and identified the necessary standard reports. Other tasks included developing the Information Expert Data View programs and populating the Data Dictionary, designing the security system for the Information Expert reporting elements, and writing the user guide for these first components of the system.

In FY1991, the replacement project proposes to develop an extended data security system for use in all administrative systems that allow Information Expert reporting and to develop an access and update system using the DBSS BrightView product also acquired with IFS. In addition, the project would undertake to:

1. Code 40 standard and special reports. The existing system involves more than 200 such reports.

2. Develop six remaining Information Expert Data View programs.

3. Write the User Guide for Phase II components of the system and user training.

4. Replace the HRS-based Reduction In Force System used to analyze the EEO impact of planned layoffs.

5. Develop a mechanism for the divisions to extract electronic files of personnel data for use in the divisions' private systems through Expert Link.

Phase II of the HRS Replacement Project would require nine and one-half months of effort in FY1991.

HR Business Systems Enhancement

For the past seven years, Human Resources has followed a clear and consistent plan to automate its information systems. As a part of that plan, the HR local area network, with PC workstations at each desk, has been in place for almost two years. This project proposes to build on the computing environment already in place to take full advantage of the computing and data resources developed by HR. The project will address a series of recommendations to integrate business functions and accomplish full utilization of the available data and processing capabilities. The recommendations resulted from an in-depth analysis of HR's needs by MIS and HR's technical analyst.

A major area in which changes will improve efficiency lies in the generating of the various forms that now exist in hard copy. Automation will remove the repetitive typing of information that now occupies so much time and substitute computer-generated forms ready for authorizing signatures. The project will develop new CICS transactions to be used by HR, Security, MD, and Travel. It will define remaining databases and files to the Information Expert Dictionary and develop automatic monitoring and control processes. The project will also incorporate new data elements into the HR systems, create new-hire records in the Personnel System and pre-employment physical records in the Medical System, and define and develop mangement reports. Finally, the project will conduct a more extensive analysis and evaluation of products in the areas of image processing, expert systems, automated phone response, and other business areas to position HR to take advantage of new technology as it is developed.

The HR Business Systems Enhancement Project will require approximately 15 months' effort in FY1991 and FY1992.

Applicant Information System

The Applicant Information System planned for FY1991 will replace the existing Applicant Flow System. It will use the features of the existing Personnel/Payroll system, including security, transaction logging, transaction recovery, database backup and restore, change control processing, and control tables for job class, schools, discipline, and division. The replacement will improve data quality and division access to data, reduce keying and duplication of effort on the part of the Employment Section of HR and of the divisions, and assist the Laboratory in meeting affirmative action requirements.

The project will undertake the following tasks in FY1991:

1. Define requirements and develop system specifications.
2. Develop online screen programs and necessary batch programs.
3. Load the Information Expert (IE) Dictionary, write IE Logical Interface Modules, and code 20 management and control reports for HR and division use.
4. Convert existing Applicant Flow System data to the new system's database.
5. Generate new-hire records into the Personnel System's Employee Database.
6. Train users and install the system.

The Applicant Information System will require ten months of effort in FY1991.

Employee Certification, Training and Development System

At present, there is minimal computerization of professional development and certification data for employees at the Laboratory. The Employee Development System would provide a centralized source of information concerning required certification and recertification, non-degree courses and seminars, classes taken onsite, and degree courses. The proposed system would totally automate monitoring, scheduling, maintaining, and reporting employee certification and required training data. ESH has identified 105 orders, directives, and regulations at the federal and state levels which the Laboratory must address in terms of training requirements. The Employee Certification, Training and Development System would incorporate basic requirements into the Position Description Database in the Personnel System so that the records would be continually and automatically updated as personnel change positions or are hired.

The proposed system will use the ExpertLink product to move data between the IBM mainframe and user PCs, a feature which will encourage use of the existing PC system for recording onsite courses. Internal HR reports and management reports will use Information Expert as the reporting tool.

An Employee Development System would meet several significant reporting needs and would bring the Laboratory into compliance with previous IG and Internal Auditing findings. Documenting an employee's professional development will provide better information for personnel decisions, a clearer understanding of the distribution of professional development activities within the various organizational units, and protection from litigation.

This project will require approximately nine and a half months of effort in FY1992.

Integrated Medical System Enhancements, Phase II

The Integrated Medical System constitutes the third major application of the Laboratory's Human Resource Management System (HRMS). Phase II of the enhancements planned for the system involves the automation of medical histories and of illness and incident tracking and reporting.

The medical history enhancement would allow collection of a patient's family medical history, followed by an annual updating of the personal medical history and an annual systems and symptoms review as part of the regular physical examinations. The information will be readily available for correlation with the medical examination, for potential analysis, and to the employee for personal reference. The second enhancement will modify the Integrated Medical System to maintain diagnosis information and dates associated with incidents, to identify due and past due actions, to generate correspondence memos to employees, divisions, insurance carriers, outside physicians, HR, and ESH, and to generate reports for internal organizations. ESH will have access to injury-related information for incidents which occur at the Laboratory.

The FY1992 enhancements will require four months of effort.

Annual Consultant Reporting

The current ANL Consultant Tracking System fulfilled a specific requirement of the mid-1970's for reports to the Department of Energy on activities and expenditures of Argonne-contracted independent consultants. Updating and reporting occur annually. Presently the system supplies the basic information needed by the various divisions; however, the manual methods of gathering and compiling the data are no longer time nor cost effective. The system does not provide the centralized information needed by Accounting for other consultant-related functions and automated accounting systems.

The proposed system will replace the current reporting system with an automated maintenance and reporting system which will maintain consultant data, create reports on a timely basis, and reduce the errors inherent in the current system. The decision to develop the planned system depends on the number of independent consultants employed by the Laboratory.

Cost of the project will be approximately three months of effort in FY1992.

Argonne Information Management System

Phase IV of the Argonne Information Management System (AIM), developed over the last three years in support of the Laboratory's scientific and technical research, will be implemented in phases during FY1990 and FY1991. Technical Information Services (TIS) operates eight science libraries and one reports library, performs information retrieval on external databases, purchases and organizes materials for all the libraries and for ANL Divisions, DOE Chicago Operations Office, and the New Brunswick Laboratory, performs classification clearance reviews and sponsor reviews, and coordinates ANL patent and DOE-CH reviews. The Argonne Information Management System will automate most of the TIS functions and dramatically increase the capabilities of the libraries and related services.

In Phase I, TIS received funding to begin planning and identify for purchase an integrated library information management system. In Phase II of the project, TIS conducted an inventory of library book materials and purchased the library information system. In Phase III TIS purchased its records in the industry standard USMARC format and began installation, testing and implementation of the selected system.

To complete the Phase IV components, TIS will:

1. load journal copy information into the AIM serials management module,

2. install, test, and implement the acquisition module,

3. develop an IFS interface to deliver financial data to IFS,

4. implement a journal table of contents capability and load table of contents records into the system,

5. conduct a feasibility study and management plan for a gateway through AIM to remote government and commercial databases,

6. acquire, test, and load specialized databases and datafiles,

7. develop a mechanism for publication tracking by ANL divisions through AIM.

The fully-implemented system will provide sophisticated information access and retrieval with keyword search capabilities. It will expand information services in support of Laboratory research programs and safety initiatives and promote sharing of information between ANL divisions. Improved accessibility to information sources and improved tracking will increase productivity and reduce error rates.

Full implementation of the Argonne Information Management System will require approximately 12 months of effort in FY1991 and 14 months in FY1992.

MATERIALS AND PLANT SYSTEMS PROJECTS, FY1991-1993

Integrated Materials Management System

The Integrated Materials Management System, a multi-year project, will incorporate all the functions of requisitioning, procurement, receiving, inventory, and accounts payable to provide an efficient, comprehensive method of materials management for the Laboratory. An integrated system will reduce costs, be responsive to business needs, and provide accurate, easily available information. This project proposes to acquire a commercially-available system that will:

- Integrate/interface requisitioning, procurement, inventory, and accounts payable functions.
- Process all materials management transactions.
- Capture or generate all data pertinent to materials management operations.
- Provide timely information to the financial system.
- Provide timely information on the status of a material or service requirement to the requisitioner.

The new system will replace the current Automated Materials/Paybles System (AMPS), the Stocktracker System (STS), and may either replace the Argonne Materials Ordering System (AMOS) or integrate AMOS into the system, perhaps with a custom developed inteface.

The replacement process will require a total of four years (FY1991-FY1994). In FY1989, a project manager was appointed and a users group formed to establish software requirements. The Software Requirements Specification was published and a list of potential IMMS vendors developed. In FY1990, the project issued an RFI and developed a list of respondents. An RFP will be issued in late FY1990 or early FY1991. In FY1991, the project will select the IMMS vendor, purchase the system, and begin training personnel. The project will install and certify the system before final acceptance and provide for data interchange with the financial system. In FY1992, the project plan calls for the installation of the item master, vendor master, and catalog files. It will be necessary to develop standards and procedures for input, install procurement and accounts payable functions, implement procurement functions, and train ANL personnel to maintain and use the system. In FY1993, the project will install the invenstory functions and begin implementation of the system for ANL-West. It will also begin implementation of the requisitioning functions. Finally, in FY1994, the last phases of the project will include ensuring operational standards, conducting a physical inventory of current use stores and converting the inventory to the new system, and training the remaining personnel to operate the system.

The project will require approximately 12 months of MIS effort in FY1991, along with significant divisional effort.

Space and Occupancy Management Information System

In FY1991, the existing space management system, installed early in 1980, will reach the end of its life expectancy. This project will examine the state of the system in FY1992 and consider replacement. A new system would add several features to the functions available in the current system. It would use full-screen terminals for online updating to replace the current time-consuming line-by-line prompting. It would also eliminate the need to manage a separate database by creating direct access to employee location data in the Integrated Personnel Management System. It would operate in MVS and CICS, the environment for several current and planned major administrative systems. An alternative

approach would involve the transfer of the system to personal computers and the purchase of a commercial software package to manage the data.

In-house development of the system would require approximately 12 months of effort beginning in FY1992, while a PC-based system would require approximately half that amount.

Special Materials Information System

The existing system, developed in 1976, tracks all special materials at the Laboratory. The current system uses the System 2000 database management system and runs the risk of not being able to be used with each IBM operating system upgrade or when peripheral equipment such as disk drives is upgraded. It is therefore a likely candidate for replacement. The replacement system would include new features and functions such as online updating from full-screen terminals. A new system would probably use MVS and CICS, but an alternative personal computer system would be an equally strong possibility. Evaluation of the current system in the light of new technologies will determine the need for replacement.

Effort to develop the system would amount to 20 months, beginning in FY1992.

Maintenance Control and Reporting System

The present Maintenance Control and Reporting System (MCRS) runs on the same Hewlett-Packard computer used by the Stock Tracker System (STS). With STS due for replacement by the Integrated Materials Management System, the cost of maintaining the Hewlett-Packard for the MCRS alone will become prohibitive. The Austin Company, developers of MCRS, also make a version for an IBM PC or PC-compatible network. This project would replace the Hewlett-Packard version of MCRS with the IBM PC network version.

The project would require six months of effort in FY1991, with the new system anticipated to be in production by the beginning of FY1993.

Property Management System

The Property Management System (PMS) is a repository of current information about capital and sensitive items at the Laboratory. It provides various levels of reporting to general computer users, divisional property representatives, and Materials Department personnel. The system provides a physical inventory to assist personnel who have the responsibility of verifying equipment information. The current system uses Inquire and runs in CMS, traits which make it a candidate for replacement. The Materials Department provides input to the system at the time of receiving and during physical inventory. The system does not now interface with the AMOS or AMPS procurement systems.

Depending on the vendor software chosen for the Integrated Materials Management System, the Laboratory may be able to obtain an add-on property or asset tracking subsystem that could eventually replace the existing Property Management Systm and possibly the separate Equipment Register System used by Accounting. An integrated system would minimize duplication of data, eliminate rekeying of information, and provide users with a common user interface.

Work on a possible replacement for the Property Management System or, at the minimum, work on an interface from the new IMMS could not begin before FY1993.

INFORMATION AND PRODUCTION SERVICES

Acquire CICS Testing Tools

Testing program code is one of the most difficult and time-consuming tasks in systems development. With an increasing number of CICS programs to be developed and maintained, Management Information Systems (MIS) needs access to computer-aided testing tools in order to decrease testing time while continuing to produce quality code. Two products from Compuware Corporation provide the features and functions MIS requires for testing in the CICS environment. The tools are:

- File-AID, a data manipulation tool, provides quick and easy access to test data. It allows interactive browsing and formatting of existing files and selectively extracting data for writing new test data files.

- CICS Debug-AID, an interactive program debugger, allows the analyst to watch the flow of a program as it is executing. This package provides for setting program break points, displaying both data values and source code statements at a point in time, intercepting transaction abends before they occur, and then resuming execution after fixing the logic error.

MIS and the Systems Programming Section of Computing and Telecommunications will bear the effort cost of one and a half months in FY1991.

Move Administrative Operations Tasks to MVS/TSO

Information and Production Services (IPS) is responsible for scheduling, submitting, verifying, and managing the output of administrative applications on both the IBM and Hewlett-Packard computers. In the past year, IPS has made significant progress in automating job scheduling, documenting procedures for job submission and data management, and cross-training both IBM and H-P operators. Further efficiencies can be achieved by replacing labor-intensive, error-prone, application-specific job submission procedures with uniform automated procedures across all administrative applications.

A powerful and effective procedural language is now available in MVS/TSO. IPS recommends the creation of a uniform, efficient environment for production job submission and data management in MVS/TSO, using ISPF full-screen capabilities. This project would construct that environment and convert all production job submission and data management tasks for the personnel and payroll systems from VM/CMS to MVS/TSO. At the same time, the project would convert procedures for the Integrated Financial System from both VM/CMS and Wylbur to MVS/TSO. IPS will move other administrative systems as part of their ongoing production support. A uniform set of procedures will improve efficiency by:

1. providing online viewing of computing results.

2. providing full-screen job submission and data management capabilities.

3. replacing tedious, error-prone editing tasks with procedures programmed for error-checking and if-then-else logic.

4. transferring data to point of use rather than to an operator.

The effort involved in this project for FY1992 would total two and one-half months.

Create a Platform for CICS/Workstation Cooperative Processing

The goal of information systems has for years been to provide a uniform environment in which information is readily available to the administrative computing user but transparent in terms of its physical location. This goal depends upon a hardware and software infrastructure with the ability to process inforation locally as well as access and share data in remote central databases. Such an infrastructure has three characteristics:

1. connections to high-speed digital networks

2. cooperative processing capabilities

3. consistent user interfaces.

Some of the applications proposed for FY1991 employ cooperative processing by using Bright View, a product which combines mainframe-based data access with a dialogue manager on the workstation.

Because much of the success of cooperative processing depends on the hardware and software that make up the infrastructure, it is important at this time to study and recommend the hardware and software platform upon which administrative coooperative processing applications can be built and operated most effectively. This project would research and select the workstation most likely to be effective with the cooperative processing products already in place, research and select communication hardware, research and select products that balance requirements of open access and computer protection, and research and select common computing tools. The project will prepare and disseminate its recommendations to administrative computing users so that new software and nardware acquisitions can conform to the selected standards. Finally, the project will establish training procedures and present courses in the chosen tools to administrative computing users.

The research and selection procedures to construct a platform for CICS/workstation cooperative processing will require approximately four months of effort in FY1992.

CHAPTER 5

IMPLEMENTATION OF PROPOSED PLAN

FUNDING

The first table of the two that compose this chapter shows the estimated costs for the proposals submitted to the Administrative Data Processing Oversight Committee for FY1991 and approved by that committee. It also includes proposals to be considered in FY1992 and FY1993. The second table projects ongoing operating costs for existing systems funded by the user divisions. Both tables project costs for all three years of the plan period and cover design, analysis and programming, purchased software, and computing and operations.

Table 3 gives estimated costs for new system development and major enhancement projects recommended by the Administrative Data Processing Oversight Committee for funding by the Laboratory Indirect Expense budget. These funding estimates will go to the Chief Operations Officer for final approval, following review by the Computer Policy Committee.

Table 4 gives estimated operating costs for existing official administrative systems maintained by Management Information Systems. Funding for these systems comes from the materials and services budgets within the user divisions.

PERSONNEL

To implement the proposed FY1991 through FY1993 Plan, Management Information Systems, part of the Computing and Telecommunications Division, plans training and seminars for its staff in the areas addressed by the proposals. These areas include:

- Enhanced expertise in CICS: Training continues in CICS as the staff becomes more experienced with the available tools.
- Expertise in fourth-generation data retrieval languages and financial systems software.
- Understanding of automated application development tools: Automated development tools offer a significant opportunity for increasing analyst productivity. MIS continues to research and analyze development tools as they come on the marketplace and plans formal education in this area as acquisition of such tools becomes feasible.

To maintain knowledge of developments in administrative computing, staff members will attend professional conferences with a variety of emphases. Through interaction with other professionals in administrative computing, staff members will gain awareness of and information about the current state of administrative applications and learn of new possibilities to incorporate in ANL planning and development. Because the educational need remains, staff members will attend as many of the professional conferences, seminars, and training courses in the following areas as possible, given the limited funding for such activity:

- DEC Users Society: DECUS
- Financial Systems Training
- Hewlett-Packard 3000 Users Group
- IBM Users Conference: GUIDE
- IBM Users Conference: SHARE
- Integral Systems, Inc. Users Group
- Inquire Users Group
- DBS Users Conferences: IMAGE and INTERACT
- Personal Computer Applications
- Project Management
- Prototyping
- Structured Analysis/Design Courses

Table 3

Estimated Operating Costs for Systems Funded by Chief Operations Officer

PROGRAM NAME	FY 1991			FY1992			FY1993		
	Design Analysis & Programming	Software/ Computing/ Other	Total	Design Analysis & Programming	Software/ Computing	Total	Design Analysis & Programming	Software/ Computing	Total
Annual Consultant Reporting							21,840	2,000	23,840
Applicant Information System	84,000	3,600	87,600						
Budget Systems	80,000	20,000	100,000	160,000	20,000	180,000			
HR Business Systems Enhancements	113,100	0	113,100	0	0	0			
Human Resource System	83,600	0	83,600	91,000	0	91,000			
Integrated Financial System:									
Effort System	120,000	20,000	140,000	50,000	5,000	55,000			
User Environment	85,000	10,000	95,000	80,000	5,000	85,000			
Integrated Materials Management System	165,000	201,700	366,700	238,100	373,000	611,100	218,800	72,000	290,800
Integrated Medical System Enhancements				35,000	900	35,900		0	
Argonne Information Management System	135,000	29,000	164,000	151,000	90,000	241,000			
Space and Occupancy Management Information System							90,500	6,000	96,500
Special Materials Information System							150,900	7,500	158,400
TOTALS	$865,700	$284,300	$1,150,000	$805,100	$493,900	$1,299,000	$482,040	$87,500	$569,540

Table 4

Estimated Operating Costs For Systems Funded By User Divisions

PROGRAM NAME	FY 1991			FY 1992			FY 1993		
	Design Analysis & Programming	Computing Operations	Total	Design Analysis & Programming	Computing Operations	Total	Design Analysis & Programming	Computing Operations	Total
ADP Equipment Reporting	620	170	790	650	180	830	680	190	870
ANLPHONE	4,160	2,400	6,560	4,400	2,520	6,920	2,750	2,650	5,400
Annual Consulting Report	1,000	500	1,500	1,050	520	1,570	1,100	550	1,650
Applicant Flow System	22,000	39,000	61,000	22,000	32,000	44,000	12,800	33,800	46,700
Argonne Materials Order System	175,000	76,000	251,000	120,000	80,000	200,000	126,000	84,000	210,000
Automated Materials/Payable System**	161,000	160,000	321,000	120,000	168,000	288,000	125,000	176,500	302,500
Benefits System	37,000	10,000	47,000	40,000	11,000	51,000	42,000	11,600	53,600
Budget Systems	70,000	63,000	133,000	37,000	66,000	103,000	0	0	0
Calibration Recall System	5,000	1,200	6,200	5,250	1,200	6,450	5,280	1,300	6,580
Check Writing/Reconciliation	2,000	5,000	7,000	0	0	0	0	0	0
Conference Services System	1,000	1,200	2,200	1,100	1,300	2,400	1,200	1,400	2,600
Controlled Storage Inventory	1,000	200	1,200	1,100	200	1,300	1,200	200	1,400
Direct Effort Reporting	1,000	500	1,500	1,100	500	1,600	1,200	600	1,800
Document Control System	1,000	500	1,500	0	0	0	0	0	0
Environment, Safety and Health System	18,000	18,000	36,000	18,900	18,900	37,800	19,800	19,800	39,600
Equipment Register	4,430	9,930	14,360	4,650	10,430	15,080	4,880	10,950	15,830
Financial Management System	24,000	38,000	62,000	0	0	0	0	0	0
Human Resource System	5,000	2,000	7,000	6,000	2,100	8,100	7,000	2,200	9,200
Integrated Financial Systems	122,000	582,000	704,000	212,000	328,000	540,000	212,000	328,000	540,000
Integrated Materials Management	0	0	0	90,000	100,000	190,000	152,000	150,000	302,000
Integrated Medical System	30,000	24,600	54,600	31,500	25,800	57,300	33,000	27,100	60,100
Integrated Payroll System	184,000	85,200	269,000	121,200	89,500	210,700	127,200	94,000	221,200
Integrated Personnel Management	120,000	93,500	213,500	126,000	97,800	223,800	132,000	102,700	234,700
Job Scheduling System	1,600	2,000	3,600	1,680	2,100	3,780	1,760	2,210	3,970
Argonne Information Management System	83,000	140,000	223,000	88,000	147,000	235,000	92,000	161,000	253,000
Mailing Management System	1,600	6,800	8,400	1,680	7,140	8,820	1,760	7,300	9,060
Merit Review System	30,000	10,000	40,000	32,000	11,000	43,000	34,000	11,600	45,600
Maintenance Control and Reporting	105,000	29,000	134,000	138,000	30,500	168,500	145,000	4,000	149,000
Property Management	23,000	15,000	38,000	24,000	15,750	39,750	25,000	16,500	41,500
Security Unusual Incidents System	4,000	500	4,500	4,200	500	4,700	4,400	600	5,000
Space and Occupancy Management	4,000	8,000	12,000	4,200	8,400	12,600	4,400	8,820	13,220
Special Materials Information	22,000	18,000	40,000	23,100	18,900	42,000	24,250	19,900	44,150
Stock Tracker System*	120,000	106,392	226,392	96,500	111,500	208,000	101,000	117,000	218,000
Telecommunications Information	40,000	16,000	56,000	33,600	16,800	50,400	35,280	17,600	52,880
Telephone Directory	7,330	1,060	8,390	7,690	1,110	8,800	8,080	1,170	9,250
Vehicle Identification System	1,500	100	1,600	1,575	105	1,680	1,650	110	1,760
TOTALS	$1,432,240	$1,565,752	$2,997,792	$1,420,125	$1,406,755	$2,816,880	$1,486,470	$1,415,150	$2,902,120

*Includes Stores Catalog
**Includes Procurement Information Retrieval

APPENDIX A

COMPUTING AND TELECOMMUNICATIONS DIVISION ORGANIZATION CHART

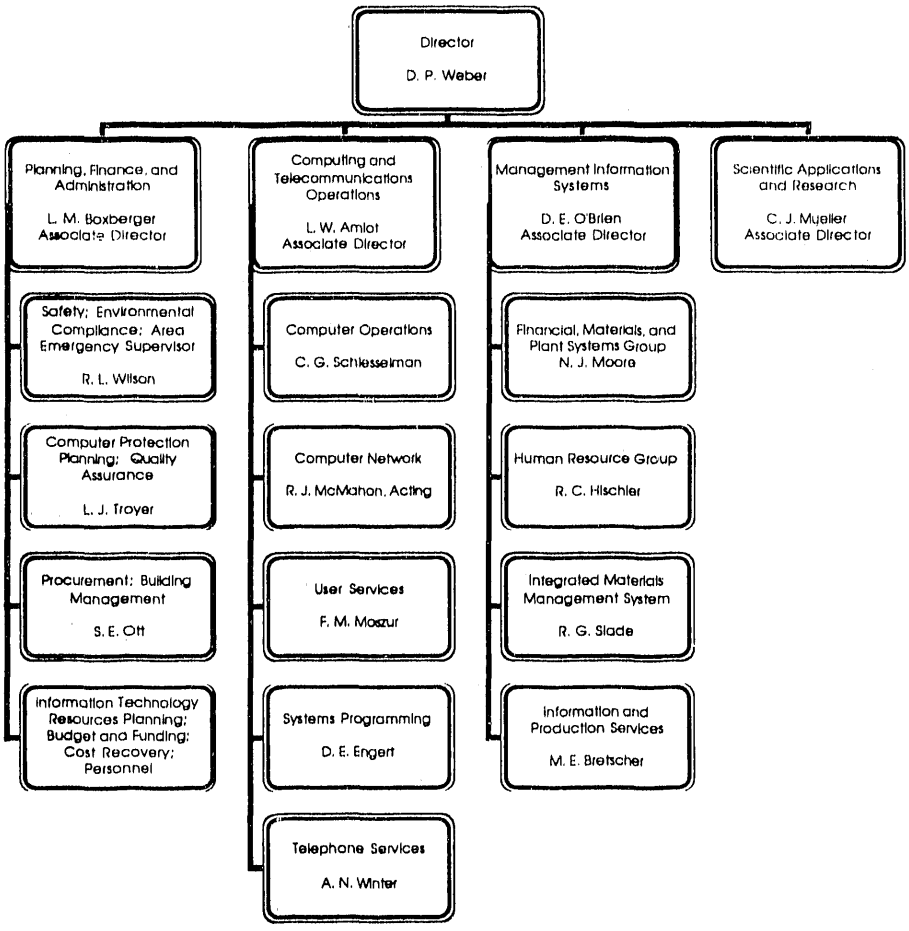

Figure 4: **Computing and Telecommunications Division Organization Chart**

APPENDIX B

ADMINISTRATIVE COMPUTING GOALS

The administrative computing goals first appeared in ANL/TM 420. This appendix re-emphasizes that discussion.

STRATEGY FOR ADMINISTRATIVE COMPUTING

Historically, administrative computing at the Laboratory has been primarily concerned with building computer systems to automate operational tasks within the non-programmatic business units. The April 1983 Coopers and Lybrand document *An Administrative Data Processing Strategy* articulated long-recognized shortcomings of past systems planning. *A Plan for Administrative Computing at ANL* is the medium through which Management Information Systems of the Computing and Telecommunications Division addresses long-range strategy for meeting the requirements of Laboratory management by providing ready access to administrative information in easily manipulated forms. The *Plan* presents management with the options for administrative computing and brings together the varying elements of the administrative computing environment at ANL for examination and analysis. An informed management can better determine needs, so that future planning can proceed on a logical basis.

The plan for FY1990 through FY1992 reaffirms the importance of strategic planning for the information critical to the business functions of the Laboratory, for the operating environment within which administrative systems function, and for the infrastructure that aids Laboratory management and staff to access and use administrative data effectively. Recognizing that short-term limitations may apply in the current budget situation, the plan nonetheless asserts the importance of keeping long-range goals a part of the planning process. This document encompasses business and office systems, the management of administrative computing, and the funding of activities related to administrative computing. The primary purposes of the plan are to ensure identification of all the necessary components of administrative computing, to provide guidelines for administrative computing in the coming years, and to obtain concurrence from Laboratory management on a long term information plan that enhances the way the Laboratory performs its business functions.

GOALS FOR ADMINISTRATIVE COMPUTING AT ANL

Manage Information as a Laboratory Resource

The design of all future administrative systems should encourage the efficient sharing of data, reduce redundancy in stored data, and place responsibility for data collection at the source of the data. We should manage administrative information as a Laboratory resource. We realize that administrative information must be available not just to the individual operational units but also to Laboratory management to make multi-functional decisions.

In the past, organizations that contracted for the development of an administrative system viewed the data in the system as the property of the organization paying for the system. This perspective caused the programmatic divisions to believe that data was either not available to them or was irrelevant, not timely, and less than desirable in quality. By planning extensive end-user involvement in new system development efforts, coupled with a re-marketing of existing administrative information resources, we will begin to improve end-user understanding of available data and to increase the usefulness of data.

All systems projects will stress the importance of effective communications among the programmatic divisions, non-programmatic divisions, and Computing and Telecommunications. We recognize that it is difficult to develop standardized administrative systems that are useful and effective in every programmatic division. However, we can standardize the information requirements through the development of single origin systems that will maintain an official version of Laboratory data for use throughout the Laboratory, will assure data quality, and will ensure data timeliness.

Provide Integrated Business Systems

An integrated business system is a business-activity-oriented, data-related solution for informational needs across multi-functional areas in the Laboratory. Administrative systems which are built to automate procedures of a particular organization are more likely to require costly changes than do business-activity-oriented systems, since the organizational structure is more likely to change than the fundamental business activities. Thus, the basic premises for effective integrated business systems are that data lies at the center of all business processing and that the types of data used in a business activity do not change as much as the procedures within the organization.

The building blocks for effective business systems appear in Figure 5, "Business System Building Blocks." We can develop effective business systems through this top-down approach:

1. Identify the business processes that are critical to the success of the Laboratory.
2. Identify the information needed by those business processes.
3. Analyze the interdependencies of data within each business process and between the processes.
4. Define an information architecture--a global data model of information flowing through the Laboratory.
5. Define a systems architecture--the systems and subsystems to create and control the data in the global data model.
6. Establish priorities for new systems and subsystems based on adherence to the strategic information systems plan.
7. Obtain the resources needed for each system or subsystem in terms of people, software, hardware, and telecommunications.

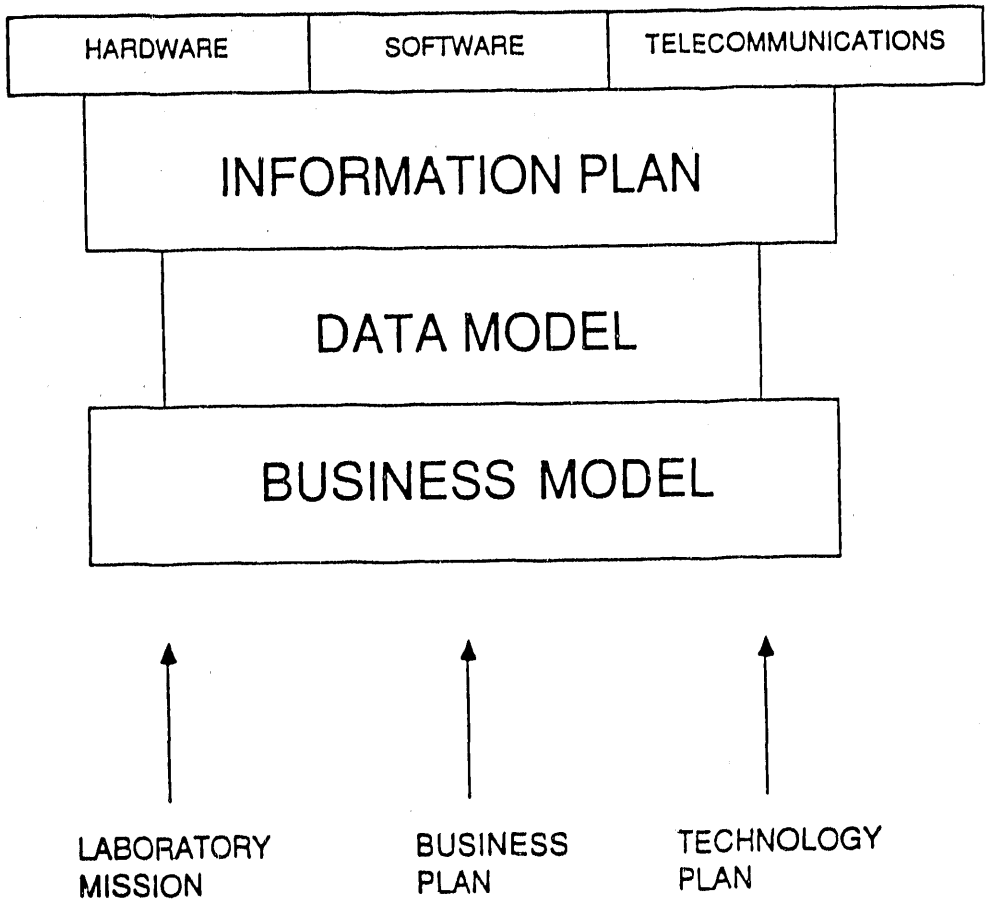

Figure 5: **Business System Building Blocks**

Business systems identified and developed by means of a top-down approach will normally cost less overall, have a longer useful life, and be more stable than systems which mirror an existing organizational structure.

Develop an Integrated Infrastructure for Administrative Systems

An important long term goal in the administrative computing strategy is to define an integrated, efficient infrastructure for administrative systems and to select and promote those tools best suited for developing new administrative systems. During the past years of developing administrative systems, each new technology we used offered advantages over previous or competing programming languages, data base systems, or interactive systems. The emphasis on development, however, meant that funding and staff went to new systems with no allocations to bring existing systems into the newer technology. It is impossible to reduce within a short time the myriad of languages, computers, and interactive systems that are now used for administrative systems. However, the cost of this diversity in administrative applications impels us to identify an architecture and a set of tools to access data, to transfer data between systems, and to gather related data together for analysis, independent of the physical location of the data, in a more cost-effective way.

The current official administrative systems use a large number of computers, operating systems, telecommunication monitors, database management systems, report writers, programming languages, personal computers, office systems, and terminals. In addition, other divisions are utilizing other procedural languages, operating systems, report writers, query languages, and database management systems on the various DEC VAX computers and on personal computers. The administrative information within each of the operating configurations oftentimes cannot be shared, and end users throughout the Laboratory must deal with several tools in working with the administrative data. In addition, the large number of languages, data base systems, interactive systems, and report writers that are used in the official administrative applications places a serious staffing burden on Management Information Systems, in that the MIS personnel must maintain expertise in each technology, and staff transfers involve the departure of acquired expertise with the transferee. To minimize the adverse effects of so broad a technology base, we will select and promote specific technologies for use with new administrative systems.

Promote Standard Business Practices

Another goal is to realize the benefits of generic business systems. We will continue to study and document the current business practices of the Laboratory to insure that the requirements for new systems are developed in depth. However, because it has become increasingly expensive to develop systems in-house, we anticipate that, wherever feasible, we will acquire new business systems by purchasing commercially-available software.

The software marketplace provides the most widely accepted computer solutions to common business problems. By adapting organizational procedures to the software available in the marketplace, the Laboratory gains from being in the mainstream of business practices. Following standard business practices will make it easier to interchange personnel, orient new employees, and explain the Laboratory's operation to outside organizations. In addition, if local customization of purchased packages is held to a minimum, the Laboratory will be able to implement and maintain systems for less cost as well as benefit from vendor-supplied new releases of the systems.

Promote User Self-sufficiency

Another goal, and an end result from other goals, is that the user of administrative data be self-sufficient in the use of computer tools to obtain and manipulate information. User self-sufficiency dictates that sufficient information be given to users about the data that is available and about the use of computer tools.

The computing environment at Argonne today encompasses many different kinds of computer hardware, terminals, operating systems, communications protocols, and a great number of software programs. Some of the software products serve a general purpose while others were developed to address particular needs, for example, the unofficial financial and personnel systems within various divisions. The use of all of these computer tools puts a burden on the end user to learn many software packages and the commands, procedures, and idiosyncrasies of these systems.

In promoting user self-sufficiency, Computing and Telecommunications will:

- Keep abreast of user tools as they become available in the marketplace and provide easy-to-use tools that serve a variety of purposes. It is easier for a user to become self-sufficient when the number of tools and the educational investment by the user is relatively low.
- Provide adequate education for using computer-based tools.
- Provide pertinent, easily understood documentation.
- Help users to identify their information needs, locate computer-based information, and retrieve pertinent information.
- Make information available as widely as possible to general users within the guidelines of protecting sensitive data.
- Follow pre-established standards for naming data elements, designing screens and forms, and developing user documentation, so that users learn to deal with standard formats.
- Maintain awareness of computer tools and Laboratory-wide information available to all users, so as to make recommendations to the user on *how* to accomplish some task rather than perform the work for the user.

Serve as Advisors to Builders of Unofficial Systems

Unofficial systems are those which have been developed by a division to serve an internal purpose. Administrative computing analysts should serve as advisors to the builders of unofficial systems for these reasons:

- To inform the builder of existing software.
- To maximize the sharing of data available in the official Laboratory systems.
- To assess the impact of a planned system on existing systems.
- To advise on the technical skills required to develop the planned systems that are available in the Laboratory.

The organizational structure of the Laboratory is one of semi-autonomous divisions. The programmatic divisions in particular have significant authority over their own staff, have the resources necessary to develop special-purpose administrative systems for their own use, and have incentives to do so, given a local need for unique processing. Non-programmatic divisions as well are developing or acquiring information processing systems on their own.

It is not practical to attempt to centralize the development of all administrative systems; in fact, there are advantages in allowing certain decentralized administrative computing activities to continue. However, the Laboratory must address several issues when divisions build unofficial administrative systems:

- A mechanism is necessary to insure that a planned system is not needlessly duplicating an existing official system.
- Builders of systems must be aware of potential computerized interfaces to official systems. The developer should know the interfaces for extracting data from the official system as well as the interfaces for placing data into the official system.
- Developers of unofficial systems that affect official Laboratory systems must be fully aware of the impact of the planned system on other systems.
- Developers of unofficial systems should be aware of special skills available within the Computing and Telecommunications Division. Technical specialists can provide assistance in the areas of business analysis, requirements definition, software package selection, hardware and software usage, and other areas of the system development life cycle.

To assist the developers of unofficial administrative systems more effectively, Computing and Telecommunications will continue its outreach program to inform the divisions of the technical and administrative services available. In addition, we will continue to publicize what data is presently available in the official systems, and all Computing and Telecommunications staff interacting with users will be kept abreast of future plans for business systems.

Develop More Effective Systems

We will design and implement systems which minimize the need for operator intervention and other labor-intensive efforts. In addition, we will design systems so they are significantly easier to understand and maintain and are less affected by operating interdependencies.

We advocate the distribution of computer processing as close to the end user as feasible. Distributed computing, however, involves planning, not an *ad hoc* scattering of small machines operating in isolation. New administrative computing tools for both business systems and end-users will provide online availability of data, utilize database management concepts, integrate office automation, and realize the capabilities offered by the PBX-based digital telecommunications system. We will take care to ensure the integration of future computing resources into an architecture which allows movement of data and transactions from one system to another.

Printing will be integrated so that high volume printing is done on a centralized basis to benefit from the economies of scale. Distributed printing of low volume output or special forms output will be placed under user control at the site of use utilizing remote matrix printers or laser printers which have the capability to create the form and printed output simultaneously.

Provide Expertise in Developing and Managing Systems

Success in meeting all of our goals is dependent upon the availability of the right resources to develop and manage the administrative computing systems. We must maintain and enhance technical expertise to take full advantage of complex technologies, so that cost-effective, efficient, and versatile business systems are developed.

Because of understaffing in certain technical areas and the many diverse technologies that are used in administrative systems, Management Information Systems staff have not been able to respond adequately to all requests for assistance from both programmatic and non-programmatic divisions. In hiring replacement staff, we will focus on the strategic technical areas of business activity analysis, database design, and large project management. A plan for continuing education will increase the expertise of existing staff. We will plan professional development activities and staff assignments so as to help ensure that staff are trained in the management and administrative areas of computing as well as in technical areas. Recognizing that there are limited resources available, we will streamline the technology base and acquire tools to enhance productivity.

APPENDIX C

CHARTER OF ADMINISTRATIVE DATA PROCESSING OVERSIGHT COMMITTEE

Formed by the Chief Operations Officer - October, 1982

Purpose: To advise Laboratory Management and the Computing Policy Committee regarding administrative data processing issues, formulate policy, and act as advocate for its establishment. To support the Laboratory's budget formulation process by reviewing, evaluating, prioritizing, and recommending funding and schedule for proposed equipment, and for new developments and enhancements in applications related to administrative computing. To support the Laboratory's budget execution and optimization of resources for administrative computing through overview monitoring of approved projects and objectives. And, to oversee implementation of the ADP strategy

Membership:
J. W. O'Kelley, Jr., OCF, Chairman
R. J. Armani, AP
C. L. Cheever, PFS
W. H. Dickson, HR
D. G. Erick, SSD
M. E. Hennebry, EBA
E. L. Kolsto, SSD
M. L. Kyle, MS
D. E. O'Brien, CTD, Resource Person
E. VanBerkum, PRA
D. P. Weber, CTD, Ex Officio

The Administrative Data Processing Oversight Committee meets the third Wednesday of each month and other times as required. The Chief Operations Officer appoints members from the programmatic divisions to ensure that the committee has representation and input from all areas of the Laboratory. The senior executives of Support Services, Human Resources, Materials and Services, Plant Facilities and Services, and the Office of the Chief Financial Officer are members by virtue of their Laboratory positions. The Chief Operations Officer may, in compelling circumstances, appoint substitutes; he also appoints the Chairman.

APPENDIX D

ADMINISTRATIVE COMPUTING PROJECT PROPOSAL FORMAT

Proposals submitted to the Administrative Data Processing Oversight Committee should conform to the following established format. This format ensures that requestors will include all essential information about the proposed project according to the most important factors in the committee's consideration. It also standardizes the method of presentation to the committee.

The Administrative Data Processing Oversight Committee has adopted the following format for proposals that involve administrative computing and require Laboratory funding. Organizations that wish to propose such a project should review the format and provide all the requested information to the committee. Staff members from the Management Information Systems area of the Computing and Telecommunications Division are available to assist in compiling the information and completing the form.

ADMINISTRATIVE COMPUTING PROJECT PROPOSAL

FY19XX

Description and Background

State briefly the business problem and objectives being addressed by this proposal.

Solution and Scope

Describe the alternatives, proposed solution and problems being addressed.

Costs

Estimate the cost of acquisition and operation of an alternative over its full life cycle. Estimate items like user effort, fringe benefits, or space if there is a savings, a cost avoidance, or a difference between alternatives. Do not estimate opportunity costs. There are three broad categories of costs:

- Sunk costs,
- Non-recurring costs,
- Recurring costs.

Sunk costs are already expended and not included. Examples of sunk costs are the costs of completed research or completed pilot projects.

Non-recurring costs are one-time expenses incurred under any alternative, such as site/facility construction, system design and programming, system testing, equipment or software purchase, and system documentation.

Recurring costs are incurred on a regular basis throughout the project or system life cycle. Recurring costs include system operations and maintenance, telecommunications, supplies, equipment lease and maintenance, and salaries for personnel involved in system activities.

Examples of Non-Recurring Costs

- **Equipment Purchase**
- **Software Purchase**
- **Effort**
- **Site Preparation**
- **Conversion/Parallel Operations**
- **Training**
- **Other**

Examples of Recurring Costs

- **Personnel**
- **Equipment**

  Acquisition (e.g., lease, lease with option to purchase, lease to ownership)
  Maintenance

- **Software**

  Acquisition
  Maintenance

- **Supplies**

  Data Processing
  Materials

- **Contractor Services**

- **Space Occupancy**

  Building Maintenance
  Building Rental or Lease
  Office Furniture

Utilities (heating, air conditioning, power)

Benefits

Identify all benefits over the system life cycle and quantify whenever possible. When evaluating alternatives, a ranking or weighting method can be used if benefits can not be stated in terms of dollars.

Potential Categories of Benefits are:

- Acceptability
- Accuracy
- Adaptability
- Availability
- Compatibility
- Efficiency
- Maintainability
- Manageability
- Morale
- Performance
- Portability
- Productivity
- Quality
- Reliability
- Residual Value
- Safety
- Security
- Service Life
- Software Quality
- Upgradability
- Versatility

Potential Quantifiable Benefits

Reduced Resource Requirements

- Personnel
- Lease, Rental, Maintenance
- Support Services
- Training
- Supplies and Utilities
- Security

Improved Data Entry

- Reduced Staff Time
- Reduced Error Rates

Improved Information Technology Utilization

- Storage and Retrieval
- Performance Monitoring
- Data Compression
- Centralized or Distributed Processing

Improved Operational Effectiveness

- Reduced Error Rates
- Improved Timelines
- Better Quality Products
- Increased Productivity
- Expanded Capacity or Capability

Cost Avoidance

- Eliminate Future Staff Growth
- Eliminate Additional Equipment Requirements
- Minimize Penalties for Delays

Schedule of Deliverables and Spending Plan for FY1989

Identify the deliverables and spending plan by fiscal year quarters. Use the following form to set up the table:

	FYXX	DOLLARS	RESPONSIBILITY
1st Quarter			
2nd Quarter			
3rd Quarter			
4th Quarter			

Alternatives

Explain the alternatives examined, how industry and other Laboratories solve the problem and if any products exist for purchase.

Relationship to Other Systems

Identify the relationship between the proposed solution and existing systems.

Organizations Involved

State the project manager, user groups, primary users and others involved in this project.

Success Factors

Identify the factors that will influence the success of this project such as integration of users' work, meeting deadlines, or continued funding.

Analyses of Benefits and Costs

APPENDIX E

DISPOSITION OF FY1990 PROJECTS

The following table summarizes the status of those projects proposed for FY1990 in the FY1990 through FY1992 Plan and recommended for funding by the Administrative Data Processing Oversight Committee. The appearance of the term "Completed" in the Comments column below refers only to those activities funded for the specific project in FY1990. Several projects are ongoing and will appear as funded for other tasks in future years.

Table 5

Disposition of FY1990 Projects

PROJECT	Design, Analysis, Programming	Software/ Computing/ Other	Total	Comments
BENEFITS SYSTEM	$124,900	0	$124,900	to be completed 12/90
BUDGET SYSTEM	$200,000	$90,000	$290,000	Restructured
COMPENSATION ANNUAL REVIEW AND POSITION CONTROL SYSTEM	$58,300	0	$58,300	Completed
ENVIRONMENT, SAFETY AND HEALTH SYSTEM: INJURY	$17,100	900	$18,000	to be completed FY 1991, depending on funding
INTEGRATED FINANCIAL SYSTEM				
USER ENVIRONMENT	$77,700	$48,000	$125,700	Completed
ACCOUNTS PAYABLE	$55,000	$7,900	$62,900	Completed
INTEGRATED MATERIALS MANAGEMENT SYSTEM PLANNING	$92,500	0	$92,500*	Completed
LIBRARY INFORMATION SYSTEM	$116,000	$190,000	$306,000	Completed
	$741,500	$336,800	$1,078,300	

*$43,000 used for IMMS because of deceased scope for FY90 (balance of funding for obtaining CICS Tools)

APPENDIX F

APPLICATION SENSITIVITY TABLE

The following table represents the priority assigned each application for resource allocation purposes. Operating system program products and telecommunications have the highest priority as they are essential for running the applications.

Table 6

Application Sensitivity Table

Critical System Name	*Maximum Downtime (Days)*	*Hardware*
Integrated Financial System	02	IBM
Automated Materials Payable System	03	HP
Check Writing--Accounts Payable System	03	ENTREX
Integrated Payroll System	03	IBM
Integrated Personnel Management System	03	IBM
Budget Systems: Argonne Prototype Model (MAST)	07	IBM
General Budget & Funds Control	07	IBM
Budget Systems: Costbud	07	IBM
Budget Systems: Divbud & Funds Control	07	IBM
Budget Systems: Program Budgets (WPAS)	07	IBM
Budget Systems: IBS--Interactive Budget System	07	IBM
Maintenance Control & Reporting System	07	HP
Stock Tracker System	07	HP
Special Materials Information System	10	IBM
Check Reconciliation: Payroll Checks	14	IBM
Check Reconciliation: Accounts Payable	14	IBM
Argonne Materials Order System	14	IBM

APPENDIX G

SYSTEM SYNOPSES

MULTIPLE USER SYSTEMS

NAME: **ANLPHONE**

PRINCIPAL USER: Available Lab-wide to any user with a CMS account

DESCRIPTION: Any CMS user can use ANLPHONE to look up telephone directory information by entering an employee's name or badge number. Computing and Telecommunications developed ANLPHONE even though it duplicated data contained in other personnel systems because it provides up-to-date telephone directory information to users within an acceptable response time as compared to other systems, and because it is easier to use than other systems with the same information. Unlike the other personnel systems ANLPHONE does not require any special enrollment because ANLPHONE does not include any sensitive information.

Information contained in ANLPHONE is updated weekly from data contained in the Human Resource System (HRS). The Human Resource System division representatives and the Personnel Division maintain the data in ANLPHONE through the Master Personnel System and the Human Resource System.

INTERFACES: Human Resource System
Master Personnel System

ENVIRONMENT: Central IBM Computers
CMS
Interactive

NAME: **Argonne Materials Order System (AMOS)**

PRINCIPAL USER: Materials and Services, Procurement, and Accounting

DESCRIPTION: AMOS is an integrated system for requisitioning, receiving, and invoicing of commonly used materials held in selected Vendor's Warehouses, rather than onsite at ANL. AMOS interfaces with the Integrated Financial System for charging the materials to cost codes. The online materials catalog, MCAT, is an important function within AMOS, offering lab-wide access to descriptions and prices of items from Vendors as well as items available from ANL warehouses.

INTERFACES: Integrated Financial System
Automated Materials/Payables System
Stock Tracker System

ENVIRONMENT: Central IBM Computers
CICS
Cobol
Interactive

NAME: **Automated Materials/Payables System (AMPS)**

PRINCIPAL USER: Procurement, Receiving, and Accounting Divisions and Departments

DESCRIPTION: AMPS is a highly integrated system which assists the Procurement, Receiving, and Accounting functions at Argonne National Laboratory East and Argonne National Laboratory West. These users interact with the system 9.5 hours a day. Batch reporting, minimal updating, and interfaces to other systems occur during a second shift which currently adds 6.5 hours to the day.

AMPS manages regular purchase orders from requisition through payment. To replenish warehouse stock, the system prepares releases against standing orders from requisitions generated in the Stock Tracker System.

AMPS also tracks manual purchase orders and special orders through approval and printing.

INTERFACES: AMOS
Check Writing - Accounts Payable
Integrated Financial System
Purchase Information Reporting System
Stock Tracker System

ENVIRONMENT: HP 3000
SPL
Cobol
Image
KSAM
Interactive

NAME: **Cost/Budget Monthly Estimating System (Costbud)**

PRINCIPAL USER: Office of the Chief Financial Officer and programmatic divisions of the Laboratory

DESCRIPTION: The Costbud system processes the estimates of monthly expenditures by the programmatic divisions of the Laboratory, monthly baselines from the program managers of the Laboratory, and the actual fiscal year costs to date from the Financial Information System to report actual vs. budget variances.

Although the original Costbud system was completely batch, all data collection is now online through the Interactive Budget System.

INTERFACES: Divisional Budget System
Integrated Financial System
Funds Control
Interactive Budget System

ENVIRONMENT: Central IBM Computers
PL/I
Batch, interactive

NAME: **Cost Projection System (CostPro)**

PRINCIPAL USER: Office of the Chief Financial Officer, Computing and Telecommunications, Electronics

DESCRIPTION: The CostPro system assists non-programmatic organizations in the formulation of non-programmatic budgets and rates and in the surveillance and monitoring of the budgets as the year progresses.

INTERFACES: Integrated Financial System

ENVIRONMENT: Central IBM Computers
CMS
Boeing's ExecutiveInformation System
Interactive

NAME: **Divisional Budget System (Divbud)**

PRINCIPAL USER: Office of the Chief Financial Officer, and programmatic divisions of the Laboratory

DESCRIPTION: The Divbud system processes the fiscal budgets for the programmatic divisions of the Laboratory. The system also processes future year budgets using composite rates in the WPAS planning cycle.

Although the original Divbud system was completely batch, all data collection and divisional rate calculations in the modeling process are now online through the Interactive Budget System.

INTERFACES: Cost/Budget Monthly Estimating System
Integrated Financial System
Funds Control
Interactive Budget System

ENVIRONMENT: Central IBM Computers
PL/I
Batch, interactive

NAME: **Equipment Register (ER)**

PRINCIPAL USER: Office of the Chief Financial Officer, and Materials and Services

DESCRIPTION: The Equipment Register System keeps track of all major equipment at Argonne. It contains information about each piece of equipment, such as location, cost center, price, depreciated value, manufacturer, etc. The new Property Management System will supplement this system.

INTERFACES: None

ENVIRONMENT: Central IBM Computers
PL/I, SAS
Batch

NAME: **Human Resource System (HRS)**

PRINCIPAL USER: Human Resources Department
Enrolled Users Laboratory-wide

DESCRIPTION: HRS is a reporting facility which provides the Human Resources Department, functional organization users, and other division management with terminal access to the Laboratory's personnel data. Users obtain HRS reports by requesting, through their terminals, one of the standard reports available or by writing their own queries to produce the reports. Users can save any of the data they can access in HRS in separate files and then manipulate the data using the available IBM mainframe tools, transfer the files to any of the division minicomputers on the Argonne Heterogeneous File Transfer Network, or transfer the files to a personal computer.

The system makes employee data readily available to division management through terminal access to the HRS databases. The data is obtained from the Laboratory's Integrated Personnel Management System installed in 1983, which has made possible the availability of additional data items. No historical data in terms of salary, job, etc., is available because of the high cost of loading this data weekly when HRS is updated. The system is scheduled for replacement in FY1989.

INTERFACES: Integrated Personnel Management System
ANLPHONE

ENVIRONMENT: Central IBM Computers
PL/I
Inquire
CMS

NAME: **Integrated Financial System (IFS)**

PRINCIPAL USER: Laboratory-wide enrollment

DESCRIPTION: The Uniform Contractor Reporting System (UCRS) - data management, submission of MVS batch jobs, and, if desired, preliminary viewing of plots at a terminal is available for DOE forms 535 and 536. In addition, DOE forms 533M and 534M are available as printed reports. The system can formulate a DOE 536 as the summary of separate 536 forms or build DOE 535 Gantt charts from the milestones of separate DOE 536 forms. Data from UCRS is no longer downloaded from the financial system. All data must be entered manually.

INTERFACES: None

ENVIRONMENT: Central IBM Computers
Wylbur
MVS batch

NAME: **Integrated Personnel Management System (IPMS)**

PRINCIPAL USER: Human Resources Department; Office of the Chief Financial Officer, Payroll Section; Argonne-West Personnel Department, Health Division

DESCRIPTION: This system assists in the Laboratory's personnel record keeping and reporting activities. Information is entered in a real-time environment to provide management with up-to-date information. The system also provides a batch function for entering massive quantities of information.

The Human Resources Department at Argonne National Laboratory East and the Personnel Department at Argonne National Laboratory West currently have terminals for this system. While users can update and/or view employee records at both locations, Argonne National Laboratory West access is

available to Argonne National Laboratory-West employees only.

Among its technical features are:

- Expandable databases
- Online direct update processing
- Online system security and recovery
- System-printed turnaround documents
- Table controlled error messages
- 100% audit trail of database changes
- User and system control tables

INTERFACES: Environment, Safety and Health
Integrated Medical System
Integrated Payroll System
Telephone Directory
Human Resource System (HRS)

ENVIRONMENT: Central IBM Computers
COBOL
CICS
SAS
Batch, interactive

NAME: **Interactive Budget System (IBS)**

PRINCIPAL USER: Office of the Chief Financial Officer, Budget Office, and prgrammatic divisions

DESCRIPTION: IBS creates fiscal budgets in an interactive (online) mode. IBS-DIV carries out the same functions as the Divbud batch system for fiscal planning for scientific cost centers. IBS-PGM provides the PGMBUD (program budget) planning for future fiscal year planning in the WPAS cycle. IBS is a user-oriented system designed to increase timely and flexible planning by the cost centers of the Laboratory.

The three significant benefits of IBS are:

- Providing immediate feedback and results, thereby saving valuable man-hours.
- Making easier the development of alternate plans for consideration by management.
- Reducing the cycle delay time inevitable in batch systems.

Entering monthly estimates takes place in an interactive environment in IBM-MES. The Costbud System processes (models) data input in IBS-MES via the batch function.

INTERFACES: Divisional Budget System
Cost/Budget Monthly Estimating System
Funds Control

ENVIRONMENT: Central IBM Computers
PL/I
CMS
Interactive

NAME: **Materials and Services Tracking (MAST)**

PRINCIPAL USER: Laboratory-wide Enrollment

DESCRIPTION: The Materials and Services Tracking System enables users to record unofficial or anticipated commitments for purchases, service requests, and travel. The Integrated Financial System provides actual cost data to update the individual users' databases.

INTERFACES: Integrated Financial System

ENVIRONMENT: Central IBM Computers
CMS
Boeing's Executive Information System (EIS)
Interactive

NAME: **Merit Review System**

PRINCIPAL USER: Human Resources Department

DESCRIPTION: The Merit Review System provides Compensation and the Laboratory with assistance in planning and entering employee performance evaluation scores and increase information. The system is used by Compensation for monitoring and

control purposes as well as to report merit review data. The authorized users in the divisions have inquiry and update access to employees in their organizations.

The system makes employee merit data including salary history, job related information, current salary and other information available online. Running balances of available merit funds are displayed as merit increases are given. The system also provides a batch interface sub-system for users who wish to operate their own private systems. The batch system will allow users to submit transactions in a pre-defined format for updating evaluation scores and increases in the Merit Review Database. Standard reports are available which can be routed to authorized remote user printers and the system has an extended Advanced Data Security System feature limiting users to access only employees in their organization.

INTERFACES: Integrated Personnel Management System

ENVIRONMENT: Central IBM Computers
COBOL
CICS
SAS
Batach, interactive

NAME: **Purchase Information Reporting System (PIRS)**

PRINCIPAL USER: Open System

DESCRIPTION: PIRS is an information retrieval system that allows Wylbur users to generate batch reports from data created by the Automated Materials/Payables System.

An interface from AMPS refreshes the data each weekday evening.

INTERFACES: Automated Materials/ Payables System

ENVIRONMENT: Central IBM Computers
Wylbur
Interactive requests,
Batch reports

NAME: **Stock Tracker System (STS)**

PRINCIPAL USER: Materials and Services,
Office of the Chief
Financial Officer

DESCRIPTION: The purpose of this system is to keep track of the material supplied through storerooms at both Argonne National Laboratory East and Argonne National Laboratory West.

One of the main benefits of STS is its automated interface to the Automated Materials/Payables System (AMPS). This interface allows rapid placement of orders through AMPS and creates a current status of inventory record through automated receipts from AMPS.

STS allows management of stores inventory across the entire Laboratory through online access to all storerooms. Issues from the closest storeroom reduce movement of material.

STS also has the capability to conduct a physical inventory, thus replacing the Spare Parts Inventory System.

INTERFACES: Automated Materials/Payables System
Integrated Financial System
Integrated PersonnelSystem

ENVIRONMENT: HP 3000
SPL
Image
Interactive

NAME: **Stores Catalog (SC)**

PRINCIPAL USER: Support Services,
Materials and Services

DESCRIPTION: SC is an online file of the Stores Catalog. A user can either search the catalog or print the catalog. Access to the Stores Catalog is through the user terminal, with output being printed at the terminal or any of the central computing complex high-speed printers. Supply personnel update the Stores Catalog using the CMS editor.

The Stores Catalog System provides the Laboratory with ready access to a file of all stock items in Supply. The system reduces the cost of printing the Stores Catalog. In addition, SC provides easy updating to keep the Stores Catalog current and accurate.

INTERFACES: None

ENVIRONMENT: Central IBM Computers
Script, CMS
Interactive

NAME: **Furniture Tracking**

PRINCIPAL USER: APS Project Office

DESCRIPTION: All project furniture is warehoused due to long lead times in ordering. The system issues and tracks the inventory of furniture to assure accountability.

INTERFACES: None

ENVIRONMENT: COMPAQ 386
DBase

ADVANCED PHOTON SOURCE

NAME: **APS Electronic Requisition System**

PRINCIPAL USER: Advanced Photon Source

DESCRIPTION: Allows for the electronic generation, routing, review, and approval of Purchase Requisitions prior to entry into the AMPS system. With data retrieved from PIRS, the system embodies a complete cycle of reporting and tracking.

INTERFACES: PIRS
Project/2

ENVIRONMENT: VAX 3900
ORACLE RDMS
PIRS

NAME: **APS Financial Reporting**

PRINCIPAL USER: Advanced Photon Source

DESCRIPTION: This report generation system uses data from the IFS system to create more useful reports. The reports correlate costs to the Project's Work Breakdown Structure (WBS) code.

INTERFACES: Integrated Financial System
Project/2

ENVIRONMENT: VAX 3900
ORACLE RDBMS
SQL

NAME: **Master Index and Change Control System**

PRINCIPAL USER: Advanced Photon Source

DESCRIPTION: All project critical files and drawings are assigned unique control numbers and filed in the APS Document Control Center. This system tracks changes to production drawings and specifications in order to generate a detailed audit trail in compliance with DOE Order 4700.1.

INTERFACES: None

ENVIRONMENT: VAX 3900
ORACLE Relational
Database System
SQL

NAME: **Project/2**

PRINCIPAL USER: Advanced Photon Source

DESCRIPTION: Project cost and schedule software acquired from PSDI establishes a project performance baseline and tracks cost and schedule performance against the baseline.

INTERFACES: APS Electronic
Requisition System
APS Financial Reporting

ENVIRONMENT: VAX 3900
ORACLE RDMS
SQL

BIOLOGICAL AND MEDICAL RESEARCH

NAME: **BIMEQP**
(BIM Equipment Inventory)

PRINCIPAL USER: BIM Property Representive

DESCRIPTION: BIMEQP is an interactive menu- and command-driven forms input, database management, and report generator system. The system provides online search and summary reports of all equipment assigned to the cost center. It allows a search or sort of any desired field. The system allows for online updating of equipment files and data.

INTERFACES: None

ENVIRONMENT: PDP 11/44
RSX-11M , RDM
Interactive

NAME: **MSR**
(Maintenance Service Requests)

PRINCIPAL USER: BIM Facility Administration Office

DESCRIPTION: MSR is an interactive menu-and command-driven forms input, database management, and report generator system. The purpose of the system is to track the status of BIM maintenance service requests sent to the Plant Facilities and Services Division (PFS). At present, the system provides computer-generated maintenance and custodial service request forms and summary reports. The summary reports indicate the date of the request, the reference number of the request, description of the request, type of work, the completion status, and number of days past the issue date.

INTERFACES: None

ENVIRONMENT: PDP 11/44
PRO-350 Personal Computer
RSX-11M and P/OS, RDM
Interactive

NAME: **PO (Purchase Orders)**

PRINCIPAL USER: BIM Division Administration

DESCRIPTION: PO is an interactive menu- and command-driven forms input, database management, and report generator system. The purpose of the system is to track purchase order status and to provide summary reports. At present, the system tracks late issue shipment and the receiving and cost status of all open purchase requisitions.

Proposed enhancements include computer generation of purchase orders, user access to allow input of pre-purchase order information, and user access for direct inquiries on the status of purchase requests. In addition, spread sheet and graphics interfaces are available for further management analysis.

INTERFACES: None

ENVIRONMENT: PDP 11/44
PRO-350 Personal Computer
RSX-11M and P/OS, RDM
Interactive

NAME: **RFS (Request for Service)**

PRINCIPAL USER: BIM Facility Administration Office

DESCRIPTION: RFS is an interactive menu- and command-driven forms input, database management, and report generator system. The system issues and tracks service requests for work performed by the Plant Facility and Services Installations Group and the ANL Central Machine Shop. At present, the system provides computer-generated Request for Service forms and summary reports of activities.

INTERFACES: None

ENVIRONMENT: PDP 11/44
PRO-350 Personal Computer
RSX-11M and P/OS, RDM
Interactive

CHEMICAL TECHNOLOGY

NAME: **Budget Plots**

PRINCIPAL USER: CMT Budget Section and Program Managers requesting it

DESCRIPTION: The program plots actual costs versus budget for year-to-date data taken from the Division Cost Summary and Budget Report.

INTERFACES: None

ENVIRONMENT: VAX 6220
Datatrieve, Forms Management System (FMS), CA-DISSPLA
Interactive

NAME: **CMT/MST Bibliographic Database System**

PRINCIPAL USER: Editorial Services Group

DESCRIPTION: The system provides camera-ready lists of staff publications and professional activities. It generates many different types of lists: Monthly lists of submittals and publications, quarterly updates for individual authors' files, annual lists for FTPs (sorted by cost code), annual lists for each Division's Review Committees (sorted by group and/or category), etc. It can easily generate publication statistics, such as the total number of papers published during a given period and the percentage of those which involve non-ANL coauthors.

INTERFACES: None

ENVIRONMENT: VAX 6220
Datatrieve, FMS
Interactive

NAME: **Cost Code Assignments**

PRINCIPAL USER: Division Office and all CMT Offices Authorizing Service Requests, Procurements, or Stock Issues

DESCRIPTION: The system provides a listing of all accounts which CMT employees or other Argonne National Laboratory personnel assigned to Cost Centers 107 and 269 may use. It provides for rapid update of the database with the addition or deletion of new accounts or employees.

INTERFACES: None

ENVIRONMENT: VAX 6200
Datatrieve
Interactive

NAME: **Cost Code Listing**

PRINCIPAL USER: CMT Director's Office

DESCRIPTION: The system stores all cost codes, listing title, Argonne National Laboratory activity number and subaccount numbers, B&R number, and principal investigator responsible for each major account and subaccount. Cost Code Listing allows rapid updating of all codes and sorting by any of the fields.

INTERFACES: None

ENVIRONMENT: VAX 6200
Datatrieve, FMS
Interactive

NAME: **Effort Reporting Database**

PRINCIPAL USER: CMT Budget and Personnel Group

DESCRIPTION: This system maintains effort data in a CMT VAX database to track effort, generate reports (projections, year-to-date, and manager work sheets), and prepare 10799-00 memorandums to Accounting.

INTERFACES: None

ENVIRONMENT: VAX 6220
Datatrieve, Relational Data Base (RDB), Terminal Data Management System (TDMS)

NAME: **Equipment Location and Inventory System**

PRINCIPAL USER: CMT Division Property Representatives

DESCRIPTION: The system lists ANL number, location, program, and person assigned as custodian for each capital equipment item assigned to Cost Center Nos. 107 and 269. Sorting by each field is permissible. Updating of the data set occurs as part of the system used for notifying various CMT offices of changes in personnel assignments or terminations of employees. The system reads back data recorded by a bar-code scanner and updates the location of equipment items stored in the database.

INTERFACES: None

ENVIRONMENT: VAX 6200
Datatrieve, FMS
Interactive

NAME: **Job Control and Effort Reporting System**

PRINCIPAL USER: Analytical Chemistry Laboratory

DESCRIPTION: The system permits online entry and update of both in-progress and completed jobs. It also permits online entry of changes for each job as they accrue. The Job Control and Effort Reporting System generates reports by job number, cost code, analyst, submitter, date of entry, and others.

INTERFACES: None

ENVIRONMENT: VAX 6200
Datatrieve, TDMS
Interactive

NAME: **Maintenance Service Request Log (MSR)**

PRINCIPAL USER: CMT Services and Support Services

DESCRIPTION: The log provides an online "tickler file" which allows Services and Support personnel to determine the status of all requests to PFS for maintenance quickly and issue a report on all open requests.

INTERFACES: None

ENVIRONMENT: VAX 6200
Datatrieve
Interactive

NAME: **Office Location and Telephone Listing**

PRINCIPAL USER: CMT Division Office

DESCRIPTION: The program provides a listing of office locations and telephone numbers of all Building 205 occupants and CMT and CMT-ACL personnel located in other buildings. It allows rapid update of the database as new personnel join or leave CMT or CMT-ACL or receive new assignments.

INTERFACES: None

ENVIRONMENT: VAX 6200
MASS-11 Manager
Interactive

NAME: **Performance Evaluation Data Base**

PRINCIPAL USER: Division Management

DESCRIPTION: This system stores position descriptions, measures of effectiveness, and related information for all CMT job categories. Performance evaluation forms are automatically generated from the data base.

INTERFACES: None

ENVIRONMENT: VAX 6200
MASS-11 Word Processing and Manager
Interactive

NAME: **Sensitive Item Database**

PRINCIPAL USER: CMT Divisional Property Representative

DESCRIPTION: This program allows online entry, update, retrieval, and report generation of items in the sensitive item database. It generates reports by CSI number, custodian, description, location, cost center, and ANL Number.

INTERFACES: None

ENVIRONMENT: VAX 6200
Datatrieve
Interactive

NAME: **Stores Ordering System**

PRINCIPAL USER: All CMT VAX users

DESCRIPTION: This program allows all CMT VAX users to order ANL Stores materials through electronic mail. The format provides a menu which allows users to complete the order request by simply filling in the blanks displayed on the terminal. Authorized users may also order from the AMOS catalogue.

INTERFACES: None

ENVIRONMENT: VAX 6200
Datatrieve, TDMS
Interactive

CHEMISTRY

NAME: **Fiscal Planning and Control System**

PRINCIPAL USER: Chemistry Budget Officer and Division Administrators

DESCRIPTION: This system compiles budget data, models staffing options, tracks monthly costs, compares spending to budgets, estimates spending patterns, examines spending alternatives, and projects yearly costs.

INTERFACES: None

ENVIRONMENT: MacIntosh II
Excel Spreadsheet

NAME: **Procurement Tracking and Control System**

PRINCIPAL USER: Chemistry Budget Officer and Computer Services Group

DESCRIPTION: This user-friendly, screen-oriented data entry, modification, display and report generator system facilitates the tracking of the purchase order process, obligations by cost center, equipment location/ownership, ANL numbers and serial numbers. The stored data includes requisition number/date, purchase order number/date, requestor, owner, cost codes, text descriptions and ten other order attributes. The system provides a variety of search and report utilities. It is also easy to make online ad hoc searches of the contents of selected fields and display or print the data of interest.

INTERFACES: None

ENVIRONMENT: VAX 11/780
Datatrieve
Interactive

CHIEF FINANCIAL OFFICER

NAME: **ADP Historical Costs by Cost Element**

PRINCIPAL USER: Office of the Chief Financial Officer

DESCRIPTION: The database contains a record of the administrative data processing costs for financial work, broken down into monthly charges per cost element, with adjustments required to reflect the current cost element definitions. The data includes annotations regarding late adjustments and other pertinent information along with the current year's budget by month for each cost element. An interface with IFS for cost data would be desirable.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 5

NAME: **FACET Attendance**

PRINCIPAL USER: Office of the Chief Financial Officer

DESCRIPTION: This database records the members of the Financial Application Committee to Effect Telesis (FACET) and others on the distribution list. It includes the monthly attendance data.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 5

NAME: **IFS Project**

PRINCIPAL USER: Office of the Chief Financial Officer

DESCRIPTION: This database retains detailed records on the effort and cost for the individual work projects that compose the Integrated Financial System (IFS) project.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 5

NAME: **Report Distribution Records for Laboratory and Cost Center**

PRINCIPAL USER: Office of the Chief Financial Officer

DESCRIPTION: At the laboratory level this spreadsheet records the name and origin of each report. It indicates the number of copies produced and the type of recipient. At the cost center level it indicates the number and name of required reports and the individual recipients.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 4

Accounts Payable

NAME: **Active Consultant Subcontract**

PRINCIPAL USER: Office of the Chief Financial Officer, Accounts Payable

DESCRIPTION: This program provides listings of active consultant subcontracts, including payment records, by individual, subcontract number, hourly rate, cost center, etc. It also prints the 1099s at the end of the year.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 3

NAME: **AMOS Statistical Sample Review**

PRINCIPAL USER: Office of the Chief Financial Officer, Accounts Payable

DESCRIPTION: This spreadsheet lists and calculates AMOS "MR" lines on which exceptions (shortages, breakages, substitutions) have occurred, for comparison to a specific statistical sampling performed by MS - Receiving.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 5

NAME: **AMPS P.O.'s Closed Subject to Billing**

PRINCIPAL USER: Office of the Chief Financial Officer, Accounts Payable

DESCRIPTION: This program arranges, in P.O. number order, AMPS and AMPS/STS P.O.'s closed subject to billing. Accounts Payable enters, arranges,

and generates listings of closed P.O.'s on a monthly basis. The listings assist in reconciling Accrued Liabilities accounts for outstanding debit balances.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 5

NAME: **ANL-88 Authorization**

PRINCIPAL USER: Office of the Chief Financial Officer, Accounts Payable

DESCRIPTION: This is is a listing in alpha order of persons authorized to sign ANL-88s (request for employee reimbursement). It provides easy reference for the person processing reimbursements, in order to insure that an authorized signature appears.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 4

NAME: **Annual Consultant Reporting (ACR)**

PRINCIPAL USER: Office of the Chief Financial Officer, Accounts Payable

DESCRIPTION: ACR is a reporting system which provides seven standard reports at the end of a fiscal year on the private contractors the Laboratory uses. The detailed payments made to consultants are keyed into an Entrex file each October and then used as input to the SAS reporting programs, generally in November.

This system provides historical information on private individuals, which division management uses to analyze consultant activities.

The system should add monthly reporting, as well as other information on individual contracts.

INTERFACES: None

ENVIRONMENT: Building 201 Computers
Central IBM Computers
SAS
Batch

NAME: **Check Writing--Accounts Payable System (CWR-AP)**

PRINCIPAL USER: Office of the Chief Financial Officer, Accounts Payable

DESCRIPTION: The Check Writing system provides online data collection to enter Accounts Payable vouchers, edit their validity, and print checks. In addition, CWR-AP transmits "To Be Paid" data from AMPS to the Entrex 600 for check writing and incorporation into audit totals. After the Entrex completes the transactions, the system transmits an acknowledgment of payment file back to the HP 3000 computer.

The system also transfers data to the central IBM computers for extensive audit reporting and for building reconciliation files.

INTERFACES: Check Reconciliation--Accounts Payable Checks
AMPS

ENVIRONMENT: Entrex 600
Entrex language
Interactive

NAME: **Debit Memo Recap**

PRINCIPAL USER: Office of the Chief Financial Officer, Accounts Payable

DESCRIPTION: This spreadsheet records outstanding A/P debit memos by date, vendor name, PO # and amount, and ages them. This listing assists in reconciling the A/P debit memo general ledger account.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 4

NAME: **Honorarium Listing**

PRINCIPAL USER: Office of the Chief Financial Officer, Accounts Payable

DESCRIPTION: This program lists, by honorarium number and payee, all honorarium fees paid out for the current calendar year. At year end, the information forms the basis to generate 1099s. Also, the listings are helpful when questions arise, as they allow immediate location of information.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 4

NAME: **Matheson Container Deposits**

PRINCIPAL USER: Office of the Chief Financial Officer, Accounts Payable

DESCRIPTION: This proposed spreadsheet contains information used to credit division with gas cylinder returns. Data in file is PO #, cost code, cylinder deposit, cylinders on hand, requisitioner, and location of gas.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 5

NAME: **Monthly Demurrage**

PRINCIPAL USER: Office of the Chief Financial Officer, Accounts Payable

DESCRIPTION: This program contains current month activity by vendor. It uses accrual reversals and current month payments to calculate accruals, and updates total actual charges for the month.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 5

NAME: **Purchase Order Accrual**

PRINCIPAL USER: Office of the Chief Financial Officer, Accounts Payable

DESCRIPTION: This program operates on multi-cost coded purchase orders with up to 150 individual items. It generates accrual sheets after the monthly entry of obligations and payments. The system eliminates hand writing and calculating several pages of accruals each month. An upload interface to IFS is desirable.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 4

NAME: **Recap of AMOS Statistical Samples vs. User Division Statistics**

PRINCIPAL USER: Office of the Chief Financial Officer, Accounts Payable

DESCRIPTION: This program compares AMOS statistical samples performed in MS - Receiving with User Division statistics. It compiles data from several MS samples in order to analyze Division exception reporting practices and to calculate ANL's loss percentage.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 5

NAME: **Returnable Container Recap**

PRINCIPAL USER: Office of the Chief Financial Officer, Accounts Payable

DESCRIPTION: This program lists Returnable Containers with deposits which are carried on the balance sheet by vendor quantity on hand and deposit amount. Upon payment or crediting of deposits, the program recalculates current balances for the account reconciliation.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 5

NAME: **Section Statistics**

PRINCIPAL USER: Office of the Chief Financial Officer, Accounts Payable

DESCRIPTION: Section Statistics tracks the number of vouchers approved each month by approver and by invoice type. Statistics are available by calendar and fiscal year.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 5

NAME: **Subcontracts Reporting System**

PRINCIPAL USER: Office of the Chief Financial Officer, Accounts Payable

DESCRIPTION: This proposed system would be a specialized data collection and reporting system to assist the Accounts Payable area in Subcontract processing.

INTERFACES: IFS
AMPS

ENVIRONMENT: IBM Personal Computer
DBase

Budget Office

NAME: **Analysis of Regular FTEs By Organizational ALD**

PRINCIPAL USER: Office of the Chief Financial Officer, Budget Office

DESCRIPTION: This program provides information on official budget FTEs, year-to-date averages, and monthly plans from programmatic divisions for comparison and analysis. An IFS interface would be helpful.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 5

NAME: **ANL Capital Investment History**

PRINCIPAL USER: Office of the Chief Financial Officer, Budget Office

DESCRIPTION: This sytem creates a graphic representation of the Laboratory's total capital investment from FY 1951 through the past fiscal year. The graph includes depreciation on a scale compared to the total capital investment.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 4

NAME: **ANL Operating Funds History**

PRINCIPAL USER: Office of the Chief Financial Officer, Budget Office

DESCRIPTION: This system includes a program spread sheet and graphs of the Laboratory actual direct program cost and FTE's from FY 81. It also includes an estimate of cost and FTE's.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 5

NAME: **Approved Funding Plan (AFP)**

PRINCIPAL USER: Office of the Chief Financial Officer, Budget Office

DESCRIPTION: This system updates the Approved Funding Plan at the alpha level as the Laboratory receives funding changes from DOE throughout the year.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 5

NAME: **APS Monthly Financial Status Report**

PRINCIPAL USER: Office of the Chief Financial Officer, Budget Office

DESCRIPTION: This report provides detailed information on the APS Division with data such as B R account, beginning G50, New BA, YTD actual, Open Commitments, etc.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 4

NAME: **Argonne Club**

PRINCIPAL USER: Office of the Chief Financial Officer, Budget

DESCRIPTION: This system maintains information on Argonne Club expenses and revenues for the fiscal year. It stores monthly and fiscal year information in various activity areas such as pool, picnic, etc.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 4

NAME: **CC200 and CC298 Monthly**

PRINCIPAL USER: Office of the Chief Financial Officer, Budget Office

DESCRIPTION: This report monitors all activity for Laboratory General Expense and Illinois General Expense work projects. It details monthly cost and compares to budget. An interface to IFS is desirable.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 4

NAME: **DAXERC**

PRINCIPAL USER: Office of the Chief Financial Officer, Budget Office

DESCRIPTION: This spreadsheet is reference sorted by Argonne East and Argonne West and has information for 3 years on Direct Allocations.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 5

NAME: **Detailed Year-End Program Summary**

PRINCIPAL USER: Office of the Chief Financial Officer, Budget Office

DESCRIPTION: This program provides a detailed year-end summary by 5 digit code. An interface to IFS is desirable.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 4

NAME: **Direct Allocations**

PRINCIPAL USER: Office of the Chief Financial Officer, Budget Office

DESCRIPTION: This program gives details on Direct Allocations by divisions for Argonne East and Argonne West on SPM, B U, Custodial, ESH, QAD, Radiation Monitoring. Plant Services and Technical Talent Pool.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 5

NAME: **Engineering Research Direction (ERD)**

PRINCIPAL USER: Office of the Chief Financial Officer, Budget Office

DESCRIPTION: This report provides ERD management with operating funds status report formatted by account within B&R. Identified in the report are prior year uncosted balance, current year BA, cumulative funding, BO and anticipated GSO balances.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 5

NAME: **Equipment Funds Availability Report**

PRINCIPAL USER: Office of the Chief Financial Officer, Budget Office

DESCRIPTION: This report identifies the available equipment fund balances by B&R account and by responsible organizations.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 5

NAME: **Estimated Operating Cost Comparison**

PRINCIPAL USER: Office of the Chief Financial Officer, Budget Office

DESCRIPTION: This program provides the ability to calculate dollar and FTE's for fiscal year comparison of various dollar level scenarios.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 4

NAME: **Financial Data Book**

PRINCIPAL USER: Office of the Chief Financial Officer, Budget Office, Management Council

DESCRIPTION: These spread sheets provide previous year actuals, current actuals, and estimates for Inventory, Equipment, Operating, Non-Direct Cost Centers and FTE levels. It permits quarterly updating.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 5

NAME: **Fiscal Year Approved Funding Program**

PRINCIPAL USER: Office of the Chief Financial Officer, Budget Office

DESCRIPTION: On a monthly basis, the program details by control level the obligations and costs authorized in DOE's official document.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 5

NAME: **Fiscal Year Best Estimate Exercise**

PRINCIPAL USER: Office of the Chief Financial Officer, Budget Office

DESCRIPTION: This program is an aid to management discussion and action. It determines FTE deltas between fiscal years at a detail level.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 5

NAME: **Fiscal Year-End Report**

PRINCIPAL USER: Office of the Chief Financial Officer, Budget Office

DESCRIPTION: This program provides details of the DOE B&R structure of ending prefinancing amounts

for use in recasting and comparing with DOE reports. An interface to IFS would be helpful.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 5

NAME: **Fiscal Year Program Planning Control**

PRINCIPAL USER: Office of the Chief Financial Officer, Budget Office

DESCRIPTION: This program incorporates information on prior fiscal year cost, GSO and FTE's, current year plan, President's Budget and ANL request. Interfaces to IFS and BUD are desirable.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 5

NAME: **Fiscal Year Status of Funding on APS**

PRINCIPAL USER: Office of the Chief Financial Officer, Budget Office

DESCRIPTION: This spreadsheet generates information on the current Divbud by program, with ALD area and FTE actuals both current month and year to date. Interfaces to IFS and BUD are desirable.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 4

NAME: **Fiscal Year Status of Obligations**

PRINCIPAL USER: Office of the Chief Financial Officer, Budget Office

DESCRIPTION: This program contains information on ANL's prefinancing position to monitor potential problems. The information is at control level. This report is run monthly and an interface to IFS is desirable.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 5

NAME: **Funds Availability Report for PR**

PRINCIPAL USER: Office of the Chief Financial Officer, Budget Office

DESCRIPTION: This financial analysis report shows the availability of funds for both B/O and B/A by account within B&R. Items identified include total funds authorized, cost ceiling, percentage of funds expended, open commitments, projected fiscal year cost, projected end of year cost, and authorization variances.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 4

NAME: **Funds Control System (FCS)**

PRINCIPAL USER: Office of the Chief Financial Officer, Budget Office

DESCRIPTION: The Funds Control System tracks the allocation of Financial Plan dollars to cost centers and controls the input of fiscal data into the Divbud system.

The primary benefit of FCS is the control it provides for feeding data into the Divbud system.

INTERFACES: Divbud
Costbud

ENVIRONMENT: Central IBM Computers
PL/I
Batch, interactive

NAME: **Indirect Expense, Service Centers, Direct Allocations, and YN-01 monthly Report**

PRINCIPAL USER: Office of the Chief Financial Officer, Budget Office

DESCRIPTION: This report separates all standard rate variances into planned and unplanned cost and recoveries. An IFS interface is desirable.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer Supercalc 4

NAME: **Inventory Budget Status**

PRINCIPAL USER: Office of the Chief Financial Officer, Budget Office

DESCRIPTION: This monthly report provides management with an updated financial status of the Laboratory's inventory position. The report covers Common Use Stores, Other Special Materials, Collateral Funds, Special Process Spares, Fuel Fabrication, Special Reactor Material, and Other Materials.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer Supercalc 4

NAME: **Monthly General Purpose Equipment Status Report**

PRINCIPAL USER: Office of the Chief Financial Officer, Budget Office

DESCRIPTION: The GPE Status Report details by cost center the status of the GPE funding for both current year funds and prior year funds. The source of the information is Accounting's Equipment Authorization and Budget Report. An interface to IFS is desirable.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer Supercalc 4

NAME: **Prime Control Reconciliation**

PRINCIPAL USER: Office of the Chief Financial Officer, Budget Office

DESCRIPTION: This program provides information for the monthly reconciliation of DOE's Approved Funding Plan and ANL's prime contract.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer Supercalc 5

NAME: **Program Budget Summary**

PRINCIPAL USER: Office of the Chief Financial Officer, Budget Office

DESCRIPTION: Program Budget Summary incorporates BER WPAS submission.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer Supercalc 5

NAME: **Safeguards & Security Obligations & Cost Reports**

PRINCIPAL USER: Office of the Chief Financial Officer, Budget Office

DESCRIPTION: This report provides a financial table which identifies budget authorization and incurred cost for ANL-E and ANL-W. It also classifies funding authorization and cost (operating, capital equipment, and construction) for each of the Safeguards Security program areas.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer Supercalc 4

NAME: **Severance Reports**

PRINCIPAL USER: Office of the Chief Financial Officer, Budget Office

DESCRIPTION: This report identifies all activity generated against the Severance Reserve by ALD and shows the current status of the reserve.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 5

NAME: **Status of Funding - Operating Cost**

PRINCIPAL USER: Office of the Chief Financial Officer, Budget Office

DESCRIPTION: This provides a detailed report on operating cost such as Funded BA BO, Anticipated BA BO, YTD Budget and YTD Actual.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 5

NAME: **Status of Funds - Physical Research**

PRINCIPAL USER: Office of the Chief Financial Officer, Budget Office

DESCRIPTION: This report gives detailed information on the APS Division with data such as B R, Account, Beginning G50, New BA, YTD Actual, Open Committments, etc.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 4

NAME: **WHWNALD**

PRINCIPAL USER: Office of the Chief Financial Officer, Budget Office

DESCRIPTION: This spreadsheet shows GSO, status, new funding, current funds allocations and ALD tax.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 5

NAME: **Work for Others Report (1)**

PRINCIPAL USER: Office of the Chief Financial Officer, Budget Office

DESCRIPTION: This program provides a detailed report on all WH (DOE Contractors) and WN (Private Contractors) orders. An IFS interface is desirable.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 5

NAME: **Work for Others Report (2)**

PRINCIPAL USER: Office of the Chief Financial Officer, Budget Office

DESCRIPTION: This program orders 40-04 and 40-08 accounts by B&R and by ALD. It indicates goods and services on order, current year obligations, total money available and current funds allocated.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 5

NAME: **Work for Others Report (3)**

PRINCIPAL USER: Office of the Chief Financial Officer, Budget Office
Strategic Planning Office
distributes to DOE-CH
Quarterly

DESCRIPTION: This program reports the status of 40-04, 40-08, WH, and WN accounts by sponsor. An interface to IFS is desirable.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 5

NAME: **Work Proposal/Summary Report**

PRINCIPAL USER: Office of the Chief Financial Officer, Budget Office

DESCRIPTION: This spread sheet is useful in preparing the DOE annual budget submission. It categorizes by B&R and program account and covers three fiscal years, (i.e., current fiscal year, President's budget year, and budget request year). It also summarizes GSO, B/A, B/O and equipment dollars.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 4

NAME: **WPAS Schedules**

PRINCIPAL USER: Office of the Chief Financial Officer, Budget Office

DESCRIPTION: This system maintains supplementary schedules from the WPAS cycle. It updates the previous fiscal year files with future FY budgeting needs provided to budget administrators by the scientific budgeting staff. It eliminates tedious retyping of revised data.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 4

Cost Accounting

NAME: **Annual Fire Insurance Report**

PRINCIPAL USER: Office of the Chief Financial Officer, Cost Accounting

DESCRIPTION: This report estimates the cost of replacing facilities should they be destroyed by fire or explosion. The Department of Energy supplies inflation factors by calendar year to calculate the estimates.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 4

NAME: **Building and Utility Distribution**

PRINCIPAL USER: Office of the Chief Financial Officer, Cost Accounting

DESCRIPTION: This system calculates the Building and Utility allocation per cost center using consumption estimates per building for mechanics, steam, electricity, water, and M&S in conjunction with C/C 501 and 510's budget.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 5

NAME: **Contractual Open Commitment Report**

PRINCIPAL USER: Office of the Chief Financial Officer, Cost Accounting

DESCRIPTION: This report is a recap of contractual open commitments. It becomes part of the greybook report.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 5

NAME: **Cost Center 296 Report**

PRINCIPAL USER: Office of the Chief Financial Officer, Cost Accounting

DESCRIPTION: This report is a recap of monthly cost for telephone vs. monthly budgets.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 5

NAME: **Custodial Allocation**

PRINCIPAL USER: Office of the Chief Financial Officer, Cost Accounting

DESCRIPTION: This system calculates the custodial allocation per cost center using building estimates for custodians in conjunction with C/C 504's budget.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 5

NAME: **Data Entry**

PRINCIPAL USER: Office of the Chief Financial Officer, Cost Accounting

DESCRIPTION: Data for mainframe systems such as payroll, IFS and many others is keyed and uploaded. Numerous proofing reports are produced.

INTERFACES: Central IBM Computers

ENVIRONMENT: IBM Personal Computer
Rode PC
4GL JR

NAME: **Distribution of Electrical Cost to Programs and Buildings in the ZGS (3XX) Area**

PRINCIPAL USER: Office of the Chief Financial Officer, Cost Accounting

DESCRIPTION: This worksheet distributes current month electrical cost under a fixed allocation schematic plan. It allocates cost directly to programs or to building occupants based upon percent of occupancy.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 5

NAME: **DOE Construction Directive Authorization Close Out**

PRINCIPAL USER: Office of the Chief Financial Officer, Cost Accounting

DESCRIPTION: This data set contains total engineering and direct construction costs for completed construction, DOE project numbers, funding classifications, directive numbers, project title, location, delegation of authority, start and completion dates of phases of construction, and modification number. The system could interface with IFS.

INTERFACES: None.

ENVIRONMENT: IBM Personal Computer
Supercalc 4

NAME: **Electrical Data**

PRINCIPAL USER: Office of the Chief Financial Officer, Cost Accounting

DESCRIPTION: This spreadsheet retains the dollars and kilowatt hours of electrical consumption by month and for the year to date. The summary accounts for consumption by buildings.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 5

NAME: **Month-End Journal Entries**

PRINCIPAL USER: Office of the Chief Financial Officer, Cost Accounting

DESCRIPTION: This system allows the Office of the Chief Financial Officer to generate month-end closing entries quickly by updating generic closing entries which are processed into IFS.

INTERFACES: Mainframe

ENVIRONMENT: IBM Personal Computer
Wylbur

NAME: **OFA Memo**

PRINCIPAL USER: Office of the Chief Financial Officer, Cost Accounting

DESCRIPTION: This report provides the unbilled amount on each OFA account to the Budget Office.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 5

NAME: **Other Federal Agency Invoicing**

PRINCIPAL USER: Office of the Chief Financial Officer, Cost Accounting

DESCRIPTION: This system contains the cost and billing record for each OCF account showing current funding, total cost, total billed, and unobligated funds. The program also generates the monthly invoice for each account. It inlcudes the DOE-required add-ons.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 5

NAME: **Percentage Distribution Entries**

PRINCIPAL USER: Office of the Chief Financial Officer, Cost Accounting

DESCRIPTION: This report collects cost during the month in an expense account and distributes it at month end by percentage.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 5

NAME: **Plant & Equipment Changes in Commitment Balances**

PRINCIPAL USER: Office of the Chief Financial Officer, Cost Accounting

DESCRIPTION: This system contains monthly changes in commitment values for plant and equipment by program number. It lists the changes for reporting to DOE monthly via IFS. A direct interface to IFS is desirable.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
DBase III

NAME: **Plant Ledger System**

PRINCIPAL USER: Office of the Chief Financial Officer, Cost Accounting

DESCRIPTION: The purpose of the system is to inventory all buildings of the Laboratory and improvements to the buildings, to record depreciation, and to produce plant ledger reports.

INTERFACES: IFS

ENVIRONMENT: Central IBM Computers
PL/I

NAME: **Statement of Capital Equipment Not Related to Construction (Greybook)**

PRINCIPAL USER: Office of the Chief Financial Officer, Cost Accounting

DESCRIPTION: This reporting system contains program titles and B&R numbers, funds obligated under latest revision to prime contract, to-date fund cost, open commitments, estimated balances, and balance of funds available at each month end. An interface to IFS is desirable.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 5

NAME: **Statement of Plant Acquisition and Construction Projects (Greybook)**

PRINCIPAL USER: Office of the Chief Financial Officer, Cost Accounting

DESCRIPTION: This report contains program and project titles, DOE project numbers, funds obligated under latest revision to prime contact, to-date fund costs, open commitments, estimated balances, and balance of funds available at each month end. An IFS interface is desirable.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer Supercalc 5

NAME: **Statement of Undistributed Cost**

PRINCIPAL USER: Office of the Chief Financial Officer, Cost Accounting

DESCRIPTION: This report uses data from the IFS Cost of Operations Ledger and Statement of Operating Cost. The purpose of this report is to analyze cost in C/C 662 and determine actual undistributed cost.

INTERFACES: None.

ENVIRONMENT: IBM Personal Computer Supercalc 4

General Accounting

NAME: **Allowance For Loss: Stores Inventory, Current Use and Excess**

PRINCIPAL USER: Office of the Chief Financial Officer, General Accounting

DESCRIPTION: This program is helpful in reconciling General Ledger accounts.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer Supercalc 4

NAME: **Amenities Report - ACK 05300**

PRINCIPAL USER: Office of the Chief Financial Officer, General Accounting

DESCRIPTION: This report gives a breakdown of monthly cost in this ACK and lists a running balance for each sub-account number.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer Supercalc 5

NAME: **Amenities Report - ACK 05411**

PRINCIPAL USER: Office of the Chief Financial Officer, General Accounting

DESCRIPTION: This report gives a breakdown of the monthly cost in this ACK by ALD. It includes cumulative cost based on the University of Chicago fiscal year.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer Supercalc 4

NAME: **ANL Financial Statements (Greybook)**

PRINCIPAL USER: Office of the Chief Financial Officer, General Accounting

DESCRIPTION: This database contains the complete financial information of the Laboratory. It includes a balance sheet, statement of projects, operating fund report by program, source of operating cost expenditures, plant and equipment cost by program, reimbursable work cost and revenue, plant and equipment activity non-fund, and all other activity non-fund. This report could interface some statements with IFS.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 4

NAME: **ANL Status of Funds Reporting**

PRINCIPAL USER: Office of the Chief Financial Officer, General Accounting

DESCRIPTION: This report shows Laboratory funding for operations, construction, and equipment vs. the current expenditures. Also, for operations, the report makes a projection of the estimated operating funding position of Argonne National Laboratory 45 days beyond the date Argonne's Budget Office prepares the report. A separate section indicates any control and reporting levels which are projecting shortfalls in available funds.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 4

NAME: **Bank Activity Summary**

PRINCIPAL USER: Office of the Chief Financial Officer, General Accounting

DESCRIPTION: This summary contains the average daily balances for voucher and payroll accounts, allowance for tax deposits, average daily uncollected balances, balances available, balances required, and balance surplus/shortage.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 4

NAME: **Changes in Financial Position**

PRINCIPAL USER: Office of the Chief Financial Officer, General Accounting

DESCRIPTION: This program is a comparative statement of previous and current fiscal years' financial position.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 4

NAME: **Check Reconciliation--Accounts Payable Checks**

PRINCIPAL USER: Office of the Chief Financial Officer, General Accounting

DESCRIPTION: For many years unit record equipment within the Laboratory matched returned checks with issued checks. In 1982 General Accounting transferred responsibility for the matching of cleared checks against issued checks to the Laboratory's servicing bank. The Check Writing--Accounts Payable (CWR-AP) System transfers data to the central IBM computing complex, prepares audit reports and magnetic tapes for submission to the servicing bank.

INTERFACES: Check Writing--Accounts Payable System

ENVIRONMENT: Central IBM Computers
PL/I
Batch

NAME: **Contract Funds Worksheet**

PRINCIPAL USER: Office of the Chief Financial Officer, General Accounting

DESCRIPTION: The worksheet contains Argonne National Laboratory funding for operations, construction and equipment for each DOE contract modification to the prime contract.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 4

NAME: **Deferred Credits - Capital Leases - Non-Fund**

PRINCIPAL USER: Office of the Chief Financial Officer, General Accounting

DESCRIPTION: This worksheet lists all Purchase Orders related to capital leases, showing the monthly payment and balancing with the general ledger. An interface to IFS is desirable.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer Supercalc 4

NAME: **Depreciation Distribution**

PRINCIPAL USER: Office of the Chief Financial Officer, General Accounting

DESCRIPTION: This program shows the distribution of depreciation to ANL Programs.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer Supercalc 4

NAME: **Equipment Register Balancing Asset and Reserve**

PRINCIPAL USER: Office of the Chief Financial Officer, General Accounting

DESCRIPTION: This reconciliation worksheet performs a reconciliation of the Argonne National Laboratory Equipment Register with the DOE-IFS and Argonne National Laboratory General Ledger.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer Supercalc 4

NAME: **Estimated Time Deposit**

PRINCIPAL USER: Office of the Chief Financial Officer, General Accounting

DESCRIPTION: This program projects time deposit requirements.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer Supercalc 4

NAME: **Fiscal Year Contract Advances**

PRINCIPAL USER: Office of the Chief Financial Officer, General Accounting

DESCRIPTION: This system shows contract advance split by fund types for September and for the fiscal year for DOE.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer Supercalc 4

NAME: **Fiscal Year End Entries**

PRINCIPAL USER: Office of the Chief Financial Officer, General Accounting

DESCRIPTION: This program shows journal entries closing ANL's nominal accounts to the equity accounts.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer Supercalc 4

NAME: **Fund WD**

PRINCIPAL USER: Office of the Chief Financial Officer, General Accounting

DESCRIPTION: This report shows cumulative costs and contract advances since the beginning of the Nuclear Waste Fund Program.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer Supercalc 4

NAME: **Inventory Work in Process - Illinois and Idaho**

PRINCIPAL USER: Office of the Chief Financial Officer, General Accounting

DESCRIPTION: This inventory shows source documents and value charged to Work in Progress. It also contains miscellaneous information necessary to monitor and keep Work in Progress on a current basis.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer Supercalc 4

NAME: **Letter of Credit**

PRINCIPAL USER: Office of the Chief Financial Officer, General Accounting

DESCRIPTION: This system shows daily cash draws for Voucher and Payroll Accounts from the Federal Reserve Bank.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer Supercalc 4

NAME: **National Energy Software Center**

PRINCIPAL USER: Office of the Chief Financial Officer, General Accounting

DESCRIPTION: This report lists monthly balances for each correct ACT registered with NESC.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer Multimate

NAME: **Nepal Forestry Project**

PRINCIPAL USER: Office of the Chief Financial Officer, General Accounting

DESCRIPTION: This program reconciles the General Ledger accounts relative to the Nepal Forestry Project.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer Supercalc 4

NAME: **Nuclear Waste Fund Equipment**

PRINCIPAL USER: Office of the Chief Financial Officer, General Accounting

DESCRIPTION: This program tracks equipment purchases and acquisitions.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer Supercalc 4

NAME: **Paymaster Bank Lists**

PRINCIPAL USER: Office of the Chief Financial Officer, General Accounting

DESCRIPTION: This spreadsheet records the banks, identification codes, and other pertinent information for the several hundred banks to which Argonne transmits employee paychecks electronically.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer Supercalc 4

NAME: **Plant and Equipment Depreciation Expense**

PRINCIPAL USER: Office of the Chief Financial Officer, General Accounting

DESCRIPTION: This program provides for a reconciliation of the Plant and Equipment Registers and depreciation with the General Ledger.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 4

NAME: **Rents Receivable**

PRINCIPAL USER: Office of the Chief Financial Officer, General Accounting

DESCRIPTION: This spreadsheet shows daily activity for lodging rents receivable.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 4

NAME: **Special Process Spares**

PRINCIPAL USER: Office of the Chief Financial Officer, General Accounting

DESCRIPTION: This reporting system contains the value balance for each facility for Special Process Spares.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 4

NAME: **Travel Expense Report and Cash Advance Collection**

PRINCIPAL USER: Office of the Chief Financial Officer, General Accounting, Accounts Payable

DESCRIPTION: These programs record ANL-55 expense reports due and ANL-161 travel cash advance balances due. They produce collection notices on unpaid accounts from travelers, "no travel" lists for accounts over 30 days, and specialized inventory reports by age of account. The database also allows inquiry into individual TA's by TA number and traveler name.

INTERFACES: Travel Office PC

ENVIRONMENT: IBM Personal Computer
DBase III

NAME: **Unliquidated Contract Obligations**

PRINCIPAL USER: Office of the Chief Financial Officer, General Accounting

DESCRIPTION: This report shows Argonne's fiscal year-end financial situation regarding current funding, fiscal year cost, and remaining funds to continue operations. The report could interface with IFS and BUD.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 4

NAME: **Word Processing**

PRINCIPAL USER: Office of the Chief Financial Officer, General Accounting

DESCRIPTION: General Accounting uses a personal computer for writing, editing, storing, and retrieving data in a word processing format. The principal uses are letter writing, procedure writing, report compilation, and file storage.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
MultiMate

Payroll

NAME: **Integrated Payroll System**

PRINCIPAL USER: Office of the Chief Financial Officer, Payroll Section

DESCRIPTION: This system assists the Laboratory's Payroll Section in preparing biweekly and monthly payrolls. It provides for weekly, monthly, quarterly, and annual reporting of payroll-related information via

approximately 95 reports. The system is an expanded version of a typical paycheck preparation system in that it incorporates the Laboratory's unique retirement processing, accrual processing, absence processing, time card processing, and reporting.

Terminals in the Payroll Section at Argonne-East provide for online updating of employee payroll data as well as viewing personnel demographic data. This system is part of the integrated Human Resource Management System.

The system has the same technical features as described in the System Synopsis for the Integrated Personnel Management System.

INTERFACES: 12 Laboratory and External Systems

ENVIRONMENT: Central IBM Computers
Cobol, CICS, SAS
Batch, Interactive

NAME: **Medical/Dental/Life/Dep. Life/LTD Contract Premiums**

PRINCIPAL USER: Office of the Chief Financial Officer, Payroll

DESCRIPTION: This program maintains tables to report all ANL medical/dental/life/dependent life/long-term disability plan contract premiums and employee/employer premiums for insurance coverage. The tables show rates for payments to insurance companies, H.M.O.'s, and for calculating amounts for leaves of absence, terminations, fringe benefits, and retirees.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 4

NAME: **Overtime Hours and Premium Payments**

PRINCIPAL USER: Office of the Chief Financial Officer, Payroll

DESCRIPTION: This program computes the premium cost of overtime, gross earnings, regular hours, shift premium, and overtime hours for Annual D.O.E. and Semi-Annual D.O.E. reports for non-organized personnel and the technicians.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 4

NAME: **Payroll Imaging**

PRINCIPAL USER: Office of the Chief Financial Officer, Payroll

DESCRIPTION: Several payroll documents are made available to payroll clerks for online processing. Images of time cards and the corresponding data record are maintained on LAN Servers. The extracted data file is uploaded for central processing.

INTERFACES: IBM Mainframe
3COM Network

ENVIRONMENT: IBM Mainframe
Metafile

NAME: **Retiree Medical Payment**

PRINCIPAL USER: Office of the Chief Financial Officer, Payroll

DESCRIPTION: This report is a listing of retirees who pay cash for medical coverage. Tracks payments instead of using manual cards.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 4

NAME: **RIFS List**

PRINCIPAL USER: Office of the Chief Financial Officer, Payroll

DESCRIPTION: This listing is a safeguard against re-employment of RIF personnel via Subcontracts. Makes sure no one is contracted until allowable.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 4

NAME: **Total Disability Employee List**

PRINCIPAL USER: Office of the Chief Financial Officer, Payroll

DESCRIPTION: This report is a listing of long-term disability employees for whom the Laboratory is paying full coverage to Connecticut General (CG). It is the basis for monthly reports, which include additions and cancellations. Payroll forwards the list to CG each year in January.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Supercalc 4

COMPUTING AND TELECOMMUNICATIONS

NAME: **Bug Tracking System**

PRINCIPAL USER: Computing and Telecommunications, User Services Section

DESCRIPTION: The User Services Section secretary maintains a Wylbur file to track the status of reported system bugs and suggestions. User Services consultants provide input to the system with the Problem Report forms sent to individuals investigating these reported problems. When work is complete, the consultants return the forms to User Services where the secretary updates the data file. Various members of Computing and Telecommunications review the bimonthly reports in preparation for a Bug Meeting, which considers the status of reported problems.

INTERFACES: None

ENVIRONMENT: Central IBM Computers
Wylbur
PL/I
Batch

NAME: **Computer Protection Program System**

PRINCIPAL USER: ANL Computer Protection Program, Manager

DESCRIPTION: This database contains the names, sensitivity, manager, and a description of all computer applications in the Laboratory. It also contains the names of the Assistant Computer Protection Manager for each sensitive computer and the names of the Computer Protection Program Representatives for each ANL organization.

INTERFACES: 3COM Network

ENVIRONMENT: Macintosh II
Odessa Helix II

NAME: **Document Inventory and Charging Systems**

PRINCIPAL USER: Computing and Telecommunications, User Services Section

DESCRIPTION: The Account Services group maintains a database of the documents distributed by Computing and Telecommunications. The addition of a new manual causes updating of the file. A program used to generate billing records reads the database for title information and documents the appropriate counts when manuals are purchased. SAS programs report on the availability and justification of manuals.

INTERFACES: Account Mapping File

ENVIRONMENT: Central IBM Computers
CMS
VSAM
PL/I
SAS

NAME: **Information Expert (IE)**

PRINCIPAL USER: Computing and Telecommunications, Management Information Systems

DESCRIPTION: IE was purchased from Management Science America, Inc. (MSA) as part of the Integrated Financial System Project. IE is a general purpose fourth-generation report writer that can produce reports from data stored on the IBM mainframe computers. IE produces all the financial reports each month from IFS. IE has both online and batch components. In FY1990, MIS plans to release IE to the financial users at large so they can produce their own reports.

INTERFACES: None

ENVIRONMENT: Central IBM Computers
CICS
MVS batch

NAME: **KOMAND Computing Resource Usage Accounting**

PRINCIPAL USER: All Computer Users and Computing and Telecommunications Management

DESCRIPTION: KOMAND is a comprehensive set of compatible programs that provides an integrated job-accounting and chargeback system for computers.

Listed below are the individual system components:

- Data Center Accounting System (DAS) which provides job and interactive session costing and computing resource utilization reporting.
- Resource Billing System (RBS) which provides formal cost center billing, periodic, and year-to-date financial reporting.
- KOMAND Tools System (KOMTOOLS) which provides easy user access and analysis of the KOMAND database. The Statistical Analysis System (SAS) is the basis for KOMTOOLS.

The most important feature of KOMAND is its integrated database. It provides a central repository for all information about the computer installation's workload. With usage, cost, and accounting information in one location, a single resource utilization report can obtain pertinent data from all three sources.

As a management tool KOMAND meets the cost information needs of managers throughout the Laboratory:

- Financial management can distribute data processing expenses equitably while obtaining an accurate picture of project related costs.
- Computing and Telecommunications management can clearly demonstrate the effectiveness and economy of its services.
- Computing and Telecommunications management has the data it needs to justify equipment acquisition and to carry out capacity planning and performance measurements.
- User management receives cost information it can understand and receives it quickly enough to make appropriate choices and changes.

The KOMAND system may expand to provide computerized budget management capability which would determine remaining budget, update expenses, and allow file maintenance and inquiry.

KOMAND may eventually extend computer usage accounting and chargeback to various other IBM and PDP/VAX computers throughout the Laboratory.

INTERFACES: PACE Database
IFS

ENVIRONMENT: Central IBM Computers
Assembler
COBOL
PL/I
SAS
Batch

NAME: **Network Database**

PRINCIPAL USER: Computing and Telecommunications: Network Section, Operations Section, Account Services, and Division Office

DESCRIPTION: The Network Database program keeps accurate and up-to-date records on the various hardware and software managed by the Network Section of Computing and Telecommunications. The Network Database builds a monthly accounting file that is input to KOMAND for distributing data communication service charges to users.

The Network Database program is capable of adding, deleting, changing, and listing data from information dealing with hardware, sysgen, actual usage, and the different pools. The program consists of CMS EXECs, a number of XEDIT macros, and a SAS program. The program is menu driven and allows a user to receive current information about the status of equipment and software. At the close of each month the program permanently updates the files of the database and generates a report that is distributed to the Network Database users.

INTERFACES: Hardware Data File
Pool Data File
Sysgen Data File
Usage Data File

ENVIRONMENT: Central IBM Computers
CMS
XEDIT
EXEC2
SAS
Batch

NAME: **Newsletter Mailing List**

PRINCIPAL USER: Computing and Telecommunications, User Services Section

DESCRIPTION: User Services distributes newsletters to all Argonne National Laboratory employees with computing accounts and to outside users and individuals who request copies.

The Mailing List collects badges from the account mapping file maintained by Account Services to obtain mailing labels for Argonne National Laboratory users. The system selects name and address information from the HRS database on the basis of these badges. Programs that process the name and address file produce either cheshire labels for the newsletter or single labels for bulletins.

The User Services Section secretary maintains a file containing names and addresses of people outside Argonne National Laboratory. This file produces single labels for the newsletter and for bulletins.

INTERFACES: Account Mapping File
HRS

ENVIRONMENT: Central IBM Computers
PL/I
Inquire
CMS
Batch

NAME: **Service Request Tracking System**

PRINCIPAL USER: Computing and Telecommunications, Management Information Systems

DESCRIPTION: The Service Request Tracking System records the receipt of the service request, requestor's cost code, responsibility assigned for the work, and the estimates for effort cost and schedule for the job. As the job progresses, estimates are revised as necessary and the final completion date is entered on the service request file. Reports of the work-in-progress by responsibility, charge number, or scheduled date are run upon request.

INTERFACES: None

ENVIRONMENT: Central IBM Computers
Batch
Mark IV

NAME: **Telephone Directory (TD)**

PRINCIPAL USER: Telephone Services

DESCRIPTION: The Telephone Directory System produces the Argonne National Laboratory telephone book by selecting information from the Integrated Personnel Management System file for formatting at the central computing complex into camera-ready copy for the telephone book.

This system uses existing personnel data, which reduces the cost of producing the telephone directory.

INTERFACES: Integrated Personnel Management System (IPMS)

ENVIRONMENT: Central IBM Computers
PL/I
Script
Batch

NAME: **Telecommunications Information System (TIS)**

PRINCIPAL USER: Computing and Telecommunications

DESCRIPTION: TIS consists of several application packages purchased with the PBX and several programs which operate on the Central IBM Computer. The packages operate on NEC hardware which is directly connected to the PBX switch. Call data is transferred from the PBX switch to the NEC machine where the application software costs the calls and stores them for subsequent processing. The systems provide for managing the equipment inventory, cost distribution of calls and equipment, work order processing, directory lookup, dedicated circuit management and billing for phone calls as persons check out of the lodging facility.

INTERFACES: IFS
PBX

ENVIRONMENT: NEC, IBM
Batch, Interactive

EDUCATIONAL PROGRAMS

NAME: **DEP Mailing List**

PRINCIPAL USER: Division of Educational Programs

DESCRIPTION: The system generates mailing labels for use on program announcements. It also records and stores information on DEP Program Participants for annual submittal to DOE.

INTERFACES: None

ENVIRONMENT: Central IBM Computers

NAME: **Expert Positions**

PRINCIPAL USER: Division of Educational Programs

DESCRIPTION: This system matches U.S. scientists with overseas IAEA expert positions.

INTERFACES: None

ENVIRONMENT: TRS 80 Microcomputer

NAME: **Lecturers and Courses**

PRINCIPAL USER: Division of Educational Programs

DESCRIPTION: The system maintains a record of lecturers in the IAEA courses (at Argonne National Laboratory). The information includes current mailing address, the lecture presented, educational background, job specialty, and sector of employment.

INTERFACES: None

ENVIRONMENT: Central IBM Computers

NAME: **OJT Participants**

PRINCIPAL USER: Division of Educational Programs

DESCRIPTION: The system matches participants to on-the-job positions available through the IAEA for jobs in the United States.

INTERFACES: None

ENVIRONMENT: TRS 80 Microcomputer

NAME: **Participants and Courses**

PRINCIPAL USER: Division of Educational Programs

DESCRIPTION: The system keeps a record of participants in the IAEA courses (at Argonne National Laboratory). The records include current mailing address, the course attended, educational background, job specialty and sector of employment.

INTERFACES: None

ENVIRONMENT: Central IBM Computers

NAME: **University Interactions (proposed)**

PRINCIPAL USER: Division of Educational Programs

DESCRIPTION: This system would allow all divisions to input their various university interactions outside the scope of the Division of Educational Programs. The information would enter the fiscal year cycle. Laboratory management could use the data to prepare information reports for DOE, the University of Chicago and other agencies as required.

INTERFACES: Unknown

ENVIRONMENT: Central IBM Computers

EBR-II

NAME: **EBRVAXA**

PRINCIPAL USER: EBR-II Division

DESCRIPTION: This system handles both technical and administration applications within the EBR-II Division. Proposed administrative tasks include electronic mail, engineering department master task data bank, engineering print listing, sensitive system listing, M&S expenditure database, reactor modification status logs, distribution of effort, monthly department progress reports and department historical data. EBR-II plans an eventual network with other department computer capabilities.

INTERFACES: None

ENVIRONMENT: VAX 11/750
UNIX
Interactive

ENERGY, ENVIRONMENTAL AND BIOLOGICAL RESEARCH

NAME: **Continuing Education Survey**

PRINCIPAL USER: CECE Council, Division of Education Programs, and Personnel

DESCRIPTION: EBA used the CMT VAX Datatrieve database management applications program to establish a data file containing information on all respondents to the CECE survey on continuing education. Fields include the badge number; division; supervisory code; pay status; field, class, and category of courses; class format detail; and comments. Sorting is available by any field to provide users with selected survey results.

The survey form did not request pay status and supervisory codes originally. Adding this information required research and manual entry by Personnel staff because an interface to obtain the material electronically was lacking.

INTERFACES: None

ENVIRONMENT: VAX 11/750
Datatrieve
Interactive

NAME: **Cost Center 274 Budget**

PRINCIPAL USER: Budget Personnel and ALD Office

DESCRIPTION: This spreadsheet monitors budget cost-to-date and total cost for each category/element and estimated remaining cost. The report requires monthly updating. The capability to extract cost data from IFS and load it directly into the worksheet would eliminate manual inputting and reduce preparation time.

INTERFACES: None

ENVIRONMENT: Macintosh
Excel

NAME: **DOE Approved Funding Program Worksheets**

PRINCIPAL USER: Budget Personnel and Budget Administrators

DESCRIPTION: The system provides a report that lists the 5-digit account numbers for each B&R category, account title, program manager, carry-over BA, new BA, cum BA, BO, equipment, estimated new BA, estimated BO, and estimated equipment. Monthly updating permits accurate monitoring of funds for the fiscal year. Slight modification produces a year-end summary by program.

INTERFACES: None

ENVIRONMENT: Macintosh
Excel

NAME: **EBA Work for Others Worksheets**

PRINCIPAL USER: Budget Personnel and ALD Office

DESCRIPTION: This spreadsheet lists by B&R number the account number, division, agency, expiration date, carry-over funds, allocated BO, subcontracts, cost this FY, and proposal number. Sorting is available by any field. The report requires monthly updating. The capability to extract cost data from IFS and load it directly into the worksheet would eliminate manual inputting and reduce preparation time.

INTERFACES: None

ENVIRONMENT: Macintosh
Excel

NAME: **FTE and Funding History**

PRINCIPAL USER: ALD Office

DESCRIPTION: The database contains each B&R number, the DOE secretarial office, the ANL program area, new BA, BO, and FTE's for FY1978 through FY1990 (estimates). Updating takes place as needed. The program allows sorting of any field and production of reports in any user-specified format. Obtaining year-end costs and FTE's from IFS would eliminate manual inputting.

INTERFACES: None

ENVIRONMENT: VAX 11/750
Datatrieve
Interactive

NAME: **FTE and Funding Status by Program Area**

PRINCIPAL USER: ALD Office and Program Managers

DESCRIPTION: This system includes a file maintained on Digicalc (CMT VAX) which produces a report listing by program manager, B&R numbers, carry-over BA, new BA, cum BA, BO, estimated new BA, estimated BO, BO variance, estimated GSO, cost to date, remaining funds, costbud estimates, WPAS FTE s, costbud FTE's, and to-date FTE's. A second file, maintained on IBM/CMS, includes graph instructions and data for plotting straight line estimates, costbud estimates, and cost-to-date amounts for FTE's and funding. By combining these files, the system generates a one-page report for each program area showing numerical and graphic cost versus estimate trends. Updating of the datasets is on a monthly basis. An interface with IFS to obtain costbud estimates and FTE's as well as cost data from the EIS system would eliminate manual input.

INTERFACES: None

ENVIRONMENT: VAX 11/750
CMS
Digicalc
Tellagraf
Interactive

NAME: **Institutional Plan**

PRINCIPAL USER: ALD Office and
Program Managers

DESCRIPTION: This system maintains two datasets using spreadsheet and word processing applications programs. Storage of the funding data is in the format of the institutional plan tables. Each program area updates its section of the tables as appropriate. The ALD office then consolidates all the information. Text data is also in the appropriate format. Once each program area revises its section, the ALD office electronically collects and consolidates the text and uses electronic mail or other file transfer methods to transmit the consolidated information to the Director of Strategic Planning and the ANL Budget Office.

INTERFACES: None

ENVIRONMENT: VAX 11/750
Digicalc
Mass II
Interactive

NAME: **Project Graph and Summary of Cost Data by Month**

PRINCIPAL USER: Fossil Energy Program
Budget Analyst

DESCRIPTION: This program produces a graph which shows cost by month against a linear reference line and cost figures by major cost grouping for each month. Electronically obtained cost data from IFS would eliminate manual inputting and reduce preparation time.

INTERFACES: None

ENVIRONMENT: VAX 11/780
Datatrieve
Interactive

NAME: **Various Administrative Reports**

PRINCIPAL USER: ALD Office and
Fossil Energy Technology
Personnel

DESCRIPTION: EBA uses the CMT VAX Datatrieve Database Management Applications Program for production of reports where flexibility and formatting of data is of equal or more importance than calculations. The program allows sorting by any fields or by any length strings. It produces reports in any user-specified format. Several of these appear in the individual synopses and are, for the most part, budget related. Several other applications are:

- **Publications List**: The database includes all Fossil Energy-related publications with fields for title, author(s), company, date published, subject,and report number.
- **Proposal and FTP Lists**: The database includes all Fossil Energy-related FTPs and proposals and includes fields for title, sponsor, principal investigator, lead division, assigned number, date of last revision.
- **Viewgraphs**: The database includes all Fossil Energy viewgraphs and includes fields for title, subject, number, media type, and location filed.
- **Equipment Inventory**: This program produces a report which lists the ANL number, location, program assigned as custodian, inventory tag number, serial number, and short description for each capital equipment item assigned to the divisions. It is particularly useful to be able to sort the equipment list by program when trying to locate equipment during annual inventories.

INTERFACES: None

ENVIRONMENT: VAX 11/750
Datatrieve
Interactive

NAME: **Various Budget and Funding Summaries**

PRINCIPAL USER: Budget Personnel
and ALD Office

DESCRIPTION: EBA uses the Digicalc applications program on the CMT VAX extensively for generation of various budget and funding reports. Digicalc is a spread sheet which requires user input but performs rapid calculations, data manipulation, sorting, consolidation of worksheets and transfer of data between worksheets. The capability to extract cost data from IFS and load it directly into the worksheets would eliminate manual inputting and reduce preparation time. The following list indicates a *few* of the many reports this program routinely generates:

1. **Cost Center Allocations**: provides a report of allocations by cost center for all accounts within a given program area. The reports are also a means of notifying the EBA Budget Analyst and the Budget Office of any new or revised allocations or of any expected new funding. Updating occurs as required.

2. **Cost Center 274 Budget**: monitors budget, cost to date and total cost for each category/element and estimated remaining cost. The report requires monthly updating.

3. **EBA Work For Others Worksheets**: lists by B&R number the account number, program manager, title, agency, expiration date, carry-over funds, new funds, cum funds, estimated new funds, estimated cost, and open or closed status. Sorting is available by any field. The report requires monthly updating.

4. **FTP Calculation Schedule**: provides a format for the user to input man-months, rates, M&S, contracts, etc., plus information on forward financing to allow for "what if" planning for FTP preparation.

5. **Invoice Tracking**: provides a record of all contracts including information on the full contract amount, amount allocated in the current fiscal year and amount invoiced to date. Updating occurs as invoices are received.

6. **Manpower Plans**: provides details of all budgeted effort assigned to specific programs. The report is useful for manpower planning and tracking of actual expenditures.

7. **Project Budget Schedules**: provides individualized program budgets containing man-months, effort, M&S, GLS, DA, subcontracts and indirect costs as compared to funding.

8. **Severance Reserve Analysis**: provides a list by B&R number of total original reserve, institutional contribution, additional reserve added, rebates, actual RIFs by fiscal year, and remaining reserve. The report requires periodic updating as changes occur.

9. **U of C Amenities Report**: shows allocation of the EBA portion of the U of C Amenities account, actual costs incurred by event and date, and remaining balance for each program manager. The program automatically transfers each allocation and total cost to a master summary worksheet showing total account balances. (In process.)

INTERFACES: None

ENVIRONMENT: VAX 11/780
Digicalc
Interactive

NAME: **Various Budgetary Tables and Graphs**

PRINCIPAL USER: ALD Office

DESCRIPTION: This system maintains numerous files to prepare tables or graphs when needed.

INTERFACES: None

ENVIRONMENT: VAX 11/750
CMS
Tellagraf
Interactive

ENERGY SYSTEMS

NAME: **Anticipated Funding**

PRINCIPAL USER: Energy Systems Division Office

DESCRIPTION: This spreadsheet provides a report that monitors anticipated new initiative funding as well as additional funding for existing programs. It lists program title, sponsor office, program manager, current status, expected program size, and probability of funding.

INTERFACES: None

ENVIRONMENT: Macintosh Computer
Excel

NAME: **Budget Estimate Worksheet**

PRINCIPAL USER: Energy Systems
Division Office

DESCRIPTION: This spreadsheet contains effort and overhead rates for the current fiscal year and estimated rates for the next three fiscal years, to assist in estimating program budgets for DOE Field Work Proposals and Work for Others Proposals. It is submitted with the proposal for approval by the appropriate Laboratory offices.

INTERFACES: None

ENVIRONMENT: Macintosh Computer
Excel

NAME: **Current and Projected Effort Rate Worksheet**

PRINCIPAL USER: Energy Systems
Division Office

DESCRIPTION: This spreadsheet holds the base effort rates for each personnel category and computes the effort rate for the following two years with an appropriate escalation factor. For each personnel category, the system applies the divisional burden to the base rate and determines the fully burdened rate for the Laboratory by applying an average escalation rate for Laboratory indirect charges.

INTERFACES: None.

ENVIRONMENT: Macintosh Computer
Excel

NAME: **Division Funding Worksheet**

PRINCIPAL USER: Energy Systems
Division Office

DESCRIPTION: This spreadsheet provides a report listing of the B&R code, account number, program manager, carryover BA, new BA, cumulative BA, and BO allocations for all programs in the division. Updates are made as new funding is received to permit accurate monitoring of fiscal year funding.

INTERFACES: None

ENVIRONMENT: Macintosh Computer
Excel

NAME: **Milestone Log**

PRINCIPAL USER: Director, Conservation
and Renewable Programs

DESCRIPTION: This database tracks milestones from a cross section of Conservation and Renewable programs and prints reports of overdue milestones for review by the Principal Investigator.

INTERFACES: None

ENVIRONMENT: Macintosh Computer
Filemaker

NAME: **Personnel Safety Training Database**

PRINCIPAL USER: Energy Systems
Division Office

DESCRIPTION: This database tracks the radiation, fire training, and safety training of all ES personnel and produces reports of those that need additional or updated training.

INTERFACES: None

ENVIRONMENT: Macintosh Computer
Filemaker

NAME: **Principal Assignments**

PRINCIPAL USER: Energy Systems
Division Office and
Program Managers

DESCRIPTION: This is an Excel file containing current principal assignments for each divisional program and cost code. Associate Divisonal Directors and Program Managers receive monthly updated reports.

INTERFACES: None

ENVIRONMENT: Macintosh Computer
Excel

NAME: **Subcontract Database System**

PRINCIPAL USER: Energy Systems
Division Office

DESCRIPTION: This database system tracks all subcontracts issued by the division. Menu-driven command files maintain the database by storing information on new contracts and modifying the information on existing contracts. The system periodically generates the following reports:

1. University Subcontracts sorted by purchase requisition number and contract number.
2. Individual Subcontracts sorted by purchase requisition number and contract number.
3. Subcontracts sorted by purchase requisition number and contract number.
4. Total contracts by cost code.
5. Contracts within one month of expiration.

INTERFACES: None

ENVIRONMENT: Macintosh Computer
Filemaker

ENGINEERING PHYSICS

NAME: **Application System - Project Management**

PRINCIPAL USER: Laboratory Project Managers

DESCRIPTION: This system provides project control capabilities for PERT/CPM scheduling, resource allocation, and costing. The system is interactive and very user friendly. It provides on-screen reports and graphics as well as printed reports and plotted networks, bar charts, and histograms of resource usage.

INTERFACES: Accounting System
(to be developed)

ENVIRONMENT: Central IBM Computers

NAME: **Automated Financial**

PRINCIPAL USER: Engineering Physics
Division Office

DESCRIPTION: A comprehensive collection of data base files that allow budgeting/cost tracking for all division accounts (both dollars and manpower). Software currently prices overheads and accounts for monthly variances.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
DBase IV

NAME: **Cost Reports**

PRINCIPAL USER: Engineering Physics

DESCRIPTION: These tailored files, updated monthly, contain both operating and equipment cost reports for cost centers 115, 116, 117 and 211 and record FTE as well as current costs and commitments.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer

NAME: **Divisional Files**

PRINCIPAL USER: Engineering Physics
Management

DESCRIPTION: The system includes database, spreadsheet and word processor software which will generate personnel files, maintain publication files, control documents, and provide budget information.

INTERFACES: Human Resource System

ENVIRONMENT: IBM Personal Computer
DBase IV
Multiplan
Lotus 1-2-3
Word Processor

NAME: **FMS Special**

PRINCIPAL USER: Engineering Physics

DESCRIPTION: This specially tailored package of Laboratory Standard Reports presents monthly cost data from varying databases. The package also includes effort reporting.

INTERFACES: None

ENVIRONMENT IBM Personal Computer
Financial Management System
Wylbur

NAME: **FNG Administrative Management**

PRINCIPAL USER: Fast Neutron Generator
Engineering Physics

DESCRIPTION: The FNG Group has fully committed administrative data processing to the IBM PC for both word processing and file storage.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer

NAME: **Maintenance Data System**

PRINCIPAL USER: ATSR Operations Personnel
Engineering Physics

DESCRIPTION: The Maintenance Data System schedules monthly and annual maintenance for the Argonne Thermal Source Reactor (ATSR). It stores data which is instantly retrievable for comparison purposes.

INTERFACES: None

ENVIRONMENT: DEC LSI 11/23
MDS Fortran Program

NAME: **Maintenance Management Program (MMP)**

PRINCIPAL USER: ZPPR/AFSR
Operational Personnel
Engineering Physics

DESCRIPTION: The Maintenance Management Program (MMP) schedules monthly and annual maintenance for the Zero Power Plutonium Reactor (ZPPR) and the Argonne Fast Source Reactor (AFSR). It stores instantly retrievable data for the reactor maintenance programs.

INTERFACES: VAC Computer System

ENVIRONMENT: Maintenance Management Program Software

NAME: **Manpower Projections**

PRINCIPAL USER: Engineering Physics

DESCRIPTION: This system provides management with an overview of all personnel, their assignments, and the manpower available for various programs. The system uses two programs:

1. By account--shows all personnel involved in the program, projected effort, and the total projected effort cost.

2. By individual person--reflects assigned/ unassigned effort.

3. These programs require updating on a regular basis (usually monthly) in order to reflect correct assignments.

INTERFACES: None

ENVIRONMENT: Central IBM Computers
Wylbur
Batch

NAME: **Materials Management**

PRINCIPAL USER: Engineering Physics
ZPPR Operations

DESCRIPTION: This system updates database files in real time to reflect fuel and materials loaded into the ZPPR reactor. It also generates loading records used by the analysts to model the reactor configurations. The system permits scientists to determine the location of any fuel piece instantly and trace its history.

INTERFACES: None

ENVIRONMENT: ZPPR Concurrent Computer System
Reliance Software
ZPPR Software

NAME: **Microcomputer Project Management Applications**

PRINCIPAL USER: Project Management Systems Office,
Engineering Physics

DESCRIPTION: The Project Management Systems Office has developed a series of project management applications for use on microcomputers. The applications include: LOTUS PRO-JECT 6, PMS-II, DBase Procurement Status Log, and an SC-2 Manpower Projection Worksheet. These applications provide the project manager with tools for making an assessment of his project which include cost estimating, scheduling, manpower projecting, and procurement status tracking. The project manager may display and maintain the information with color graphics.

INTERFACES: Other PC software as indicated by software package in use.

ENVIRONMENT: IBM Personal Computer
DOS 3.1
Graphics Printer
HP-7475A Plotter

NAME: **Procurement Log (Mainframe Version)**

PRINCIPAL USER: Engineering Physics

DESCRIPTION: This program identifies all procurements by account or Work Project. It represents a manager's base cost allocation. The program reflects all procurement data by account, element, estimated cost and schedule versus actual cost and schedule, and projected requirements not yet let.

This program is a vital tool for managers in controlling cost. It requires monthly updating.

INTERFACES: None

ENVIRONMENT: Central IBM Computers
As (Application System)
CMS

NAME: **RERTR Management**

PRINCIPAL USER: Engineering Physics
RERTR Program Management

DESCRIPTION: This local area network uses database and spreadsheet programs for file maintenance, projections, and budget control of the RERTR program. The system also uses word processor and graphics software to assist in preparation of letters, slides, and reports.

INTERFACES: Ethernet (3 COM)
LAN

ENVIRONMENT: Central IBM Computers
IBM Personal Computers
DBase III
Multiplan
MS Word

ENVIRONMENTAL ASSESSMENT AND INFORMATION SCIENCES

NAME: **Anticipated Funding**

PRINCIPAL USER: Environmental Assessment and Information Sciences Division Office

DESCRIPTION: This database provides a report that monitors anticipated new initiative funding as well as additional funding for existing programs. It lists program title, sponsor office, program manager, current status, proposal number, principal investigator, and optionally, the final funding date, dollar amount, and cost code. This database also allows for the tracking of current proposals through the laboratory system. It allows for a multiple number of sorts, such as proposal number, principal investigator and sponsor. Updates are made as proposals are processed.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer DBase IV

NAME: **Budget Estimate Worksheet**

PRINCIPAL USER: Environmental Assessment and Information Sciences Division Office

DESCRIPTION: This spreadsheet contains effort and overhead rates for the current fiscal year and estimated rates for the next four fiscal years, to assist in estimating program budgets for DOE Field Work Proposals and Work for Others Proposals. It is submitted with the proposal for approval by the appropriate Laboratory offices.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer Lotus 1-2-3

NAME: **Current and Projected Effort Rate Worksheet**

PRINCIPAL USER: Environmental Assessment and Information Sciences Division Office

DESCRIPTION: This spreadsheet holds the base effort rates for each personnel category and computes the effort rate for the following two years with an appropriate escalation factor. For each personnel category, the system applies the divisional burden to the base rate and determines the fully burdened rate for the Laboratory by applying an average escalation rate for Laboratory indirect charges.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer Lotus 1-2-3

NAME: **Division Funding Worksheet**

PRINCIPAL USER: Environmental Assessment and Information Sciences Division Office

DESCRIPTION: This spreadsheet provides a report listing of the B&R code, account number, program manager, carryover BA, new BA, cummulative BA, and BO allocations for all programs in the division, as well as allocations to other divisions. Updates are made as new funding is received to permit accurate monitoring of fiscal year funding. Monthly updates are made to track program expenditures but an interface to IFS monthly actuals to insert the current month divisional costs of each active cost code automatically would be desirable.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer Lotus 1-2-3

NAME: **Personnel Effort Matrix Program**

PRINCIPAL USER: Environmental Assessment and Information Sciences Division Office

DESCRIPTION: This database system consists of two linked databases for personnel information and effort matrix. It provides a month-by-month analysis of personnel coverage over program accounts. The system contains accounts and effort levels for all divisional personnel, composed of the historical records and FY projections. Database command files automatically produce the following major monthly reports:

1. Effort by individual.

2. Effort by account number and personnel category.

3. Summary effort by account.

Menu-driven command procedures allow the modification of individual records by month, addition of new personnel, termination of personnel, effort reporting by section, FY effort reporting by individual, and summaries by account over periods of time.

Other reports are obtainable directly through the database management system command language. The system has the potential to replace the current effort card system by transferring information from the groups to the division office and then to Accounting electronically.

INTERFACES: None

ENVIRONMENT: VAX
Datatrieve

NAME: **Principal Assignments**

PRINCIPAL USER: Environmental Assessment and Information Sciences Division Office and Program Managers

DESCRIPTION: This is a Dbase file containing current principal assignments for each divisional program and cost code. Associate Division Directors and Program Managers receive the monthly updated reports.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Dbase IV

ENVIRONMENTAL RESEARCH

NAME: **Chemical Inventory Database**

PRINCIPAL USER: Environmental Research Divison Office

DESCRIPTION: This interactive program, in the development stage, will maintain an inventory of chemicals in the ER division by location, quantity, and responsible party. It will be used to distribute Material Safety Data Sheets and to track chemical storage. The program produces a report of chemical inventory by location, and another report of inventory by substance. The database can also be used for online query to locate specific materials or to list subsets of the database.

INTERFACE: None

ENVIRONMENT: Macintosh Personal Computer
Filemaker

NAME: **Project and Effort Reporting Database**

PRINCIPAL USER: Environmental Research Financial Office

DESCRIPTION: This menu-driven program on the CMT VAX maintains databases for project information (title, ANL activity number, B&R number, title, principal investigator, budgets, cost-to-date, manmonths, and other codes), 7-digit cost code information, personnel information, and monthly effort data. Preliminary effort reports are created each month prior to effort card preparation. Monthly budget information and costs are also entered each month to create a variety of reports. The program allows rapid updating and sorting to produce many different report formats including the 14999-00 memorandums to Accounting and year end reports sorted by program, sponsor, account number, size of program, etc. The ability to download the monthly costs from the IFS system would be desirable to avoid manual inputting of data. This system was also established with the anticipation of being able to transmit effort information electronically each month.

INTERFACE: None

ENVIRONMENT: VAX 6220
Datatrieve, Relational
Data Base (RDB)
Terminal Data Management
System (TDMS)
FMS

NAME: **Cost Estimate Worksheets**

PRINCIPAL USER: Environmental Research
Financial Office

DESCRIPTION: This spreadsheet contains effort and overhead rates for the current fiscal year and estimates rates for the next two years, to assit in estimated rates for the next two years, to assist in estimating program budgets for DOE FWPs and WFO propsals. The report produced goes to the Budget Office for approval prior to formal submittal of documents.

INTERFACE: None

ENVIRONMENT: VAX 6220
CCALC-Plus

NAME: **Funding Worksheet**

PRINCIPAL USER: Environmental Research
Financial Office

DESCRIPTION: This spreadsheet provides a report listing of the B&R Codes, account numbers, titles project managers, Carryover BA, New BA, Cumulative BA, and BO allocations for all programs in the division. It also notes high percentage anticipated funding. Updates made as new funding is received permit accurate monitoring of fiscal year financial status.

INTERFACE: None

ENVIRONMENT: VAX 6220
CCALC-Plus

HIGH ENERGY PHYSICS

NAME: **SHELF**

PRINCIPAL USER: High Energy Physics
Division

DESCRIPTION: SHELF is an interactive program which maintains the electronics equipment inventory for High Energy Physics and supplies the user with requested information about items in the inventory. The database is set up as an indexed file with keyed access and uses the indexed sequential access method (ISAM). SHELF will prompt the user for required responses and, depending on the qualifiers entered, can list out a subset of the inventory examined or a single record located.

INTERFACES: None

ENVIRONMENT: VAX 11/780
Fortran
Interactive

HUMAN RESOURCES

NAME: **Applicant Flow System (AFS)**

PRINCIPAL USER: Human Resources Department

DESCRIPTION: This system maintains data and produces reports on the 8,000 applicants who apply to Argonne National Laboratory annually, and also on Argonne National Laboratory employees who wish to transfer. The system generates five standard batch reports and provides terminal access to the system databases with 35 standard terminal output reports available.

This system reduces the clerical activities associated with processing applications and provides management with better reporting and tracking of applicants. The Human Resources Department funded the Requirement Definition and Design Alternatives phases of a new Applicant Information System in FY1987.

INTERFACES: None

ENVIRONMENT: Central IBM Computers
PL/I, Inquire
Batch, Interactive

NAME: **Compensation Review and Reporting**

PRINCIPAL USER: Human Resources Department

DESCRIPTION: This system performs a variety of activities to assist the Compensation Section of the Human Resources Department. The system gathers, analyzes, and processes annual review information. It enters and processes merit and general increases, and analyzes compensation survey data. The system generates a multitude of standard reports, ad hoc requests, and analyses.

The system provides maximum flexibility with minimal and controlled cost through the use of online terminals in the division allowing for either immediate processing where necessary or batch processing at reduced rates for larger non-priority jobs. The versatility of SAS as both a statistical analysis tool and a report writer satisfies the dual requirements of data analysis and reporting that are inherent in the compensation function.

INTERFACES: Human Resource System
Integrated Personnel Management System

ENVIRONMENT: Central IBM Computers
SAS
Batch, interactive

NAME: **Conflict of Interest System**

PRINCIPAL USER: Human Resources Department

DESCRIPTION: This Human Resources LAN system allows for electronic recording and reporting of the conflict of interest forms.

INTERFACES: Human Resource Central
Employee Database Extract

ENVIRONMENT: 3COM LAN
Clipper Compiled Dbase
IBM Personal Computer-PS/2

NAME: **Education Reimbursement System**

PRINCIPAL USER: Human Resources Department

DESCRIPTION: This system keeps track of educational assistance. The data includes person, major, semester, and course information.

INTERFACES: Human Resource Central
Employee Database Extract

ENVIRONMENT: 3COM LAN
Clipper Compiled Dbase
IBM Personal Computer-PS/2

NAME: **Employee Offer Tracking System**

PRINCIPAL USER: Human Resources Department

DESCRIPTION: Employment can track and report on all of the offers made for positions at the Laboratory.

INTERFACES:

ENVIRONMENT: 3COM LAN
Clipper Compiled Dbase
IBM Personal Computer-PS/2

NAME: **Employee Quikinfo Screen**

PRINCIPAL USER: Human Resources Department

DESCRIPTION: This program provides a quick one-screen composite on any employee at the Laboratory since the early 1980's.

INTERFACES: Human Resource Central
Employee Database Extract

ENVIRONMENT: 3COM LAN
Clipper Compiled Dbase
IBM Personal Computer-PS/2

NAME: **Onsite Education Training System**

PRINCIPAL USER: Available Laboratory-wide to any divisional representative with an IBM Personal Computer, clone, or network

DESCRIPTION: This is a system to help divisions keep meaningful definitions and accurate account of scheduling and attendance. A central system accumulates all the division's data.

INTERFACES: Personnel System Extract

ENVIRONMENT: IBM Personal Computer-PS/2
3COM network ready
Clipper Compiled DBase

MATERIALS AND COMPONENTS TECHNOLOGY

NAME: **Divisional Budget Interface**

PRINCIPAL USER: Materials and Components Technology Budget Personnel

DESCRIPTION: The description of our Divisional Budget Interface system will be sent as soon as the principal user is back from vacation.

INTERFACES:

ENVIRONMENT:

NAME: **HRS**

PRINCIPAL USER: Materials and Components Technology Administrative Personnel

DESCRIPTION: The HRS system updates information for the ANL Telephone book, badge lists, lists by payroll number, HRS maintenance reports, and additional personnel information.

INTERFACES: HRS
ANLPHONE

ENVIRONMENT: CMS
Macintosh Personal Computers
Dec 2

NAME: **QUICKMAIL**

PRINCIPAL USER: Materials and Components Technology Employees with Macintosh Personal Computers

DESCRIPTION: Electronic mail system for Macintosh.

INTERFACES: Sun Workstations can send and receive QUICKMAIL electronic mail to and from the Macintosh personal computers

ENVIRONMENT: Macintosh
QUICKMAIL
Sun Workstations

MATERIAL SCIENCE

NAME: **Budget and Expenses Electron Microscopy Center**

PRINCIPAL USER: Manager HVEM

DESCRIPTION: This database contains the expenses of the HVEM Facility for 1982-1989. It includes equipment, services, repair parts, repair services, and user support.

INTERFACES: Parallel Printer

ENVIRONMENT: Compaq Deskpro
Apple Macintosh II
DBase III and Framework
Wide Carriage Printer
Apple LaserWriter

NAME: **Cost/Budget Comparison**

PRINCIPAL USER: MSD Management, with some reports and plots provided to group leaders.

DESCRIPTION: Data sources are: 1) effort from MSD's effort system, 2) budget from Argonne National Laboratory's Divbud system, and 3) costs from the Program and Divisional Cost Summary reports of Argonne National Laboratory's IFS or FMS. The program records effort and costs for an account on a monthly basis, sums to generate the year-to-date data, and compares the data to the budget on a linear basis. Summing of data for several accounts is flexible; therefore, it is possible to generate summaries by organizational substructure as well as by programmatic structure. A second program generates monthly plots for comparing costs with budget and for depicting the accumulative difference between expenditures and budget.

Other separate reports in the budget and costs area are:

1. Chronology of operating cost budget allocations.
2. Budget funding matrix by organizational substructure.
3. Summary of Costs/Budget Comparison by Argonne National Laboratory account, including DOE and Argonne National Laboratory titles for accounts.
4. Listing of equipment authorization by organizational substructure, including comparison by account numbers of authorizations with budget on a linear basis.
5. Listing of work projects and acknowledgments and comparison of costs with budget on a linear basis.
6. Summary of telephone costs for the month and fiscal year, including a list of the highest users for the month and fiscal year.
7. Summary of operating costs by cost element by month for divisional overhead and programmatic accounts.
8. Summary of CTD changes by organization structure by account by month.

INTERFACES: Divbud, IFS, FMS

ENVIRONMENT: Central IBM Computers
Apple Macintosh II
Fortran
Wylbur
PL/1
Batch

NAME: **Effort Reports**

PRINCIPAL USER: MSD Management, with some reports provided to group leaders.

DESCRIPTION: The main program, installed in 1978, generates the following reports:

- Effort by account number in pay category in group.
- Effort by group in pay category in account number.
- Effort by account number in pay category.
- Effort by account number.

Other separate items related to effort are:

- Monthly list of distribution of effort changes (entries, exits, changes in category or group, etc.)
- Chronology of group complement.
- Forms for section/group leaders to verify monthly distribution of effort.
- Effort by individual by account within each group as compared with projected effort based on budget in ANL's Divbud system.

INTERFACES: None

ENVIRONMENT: Central IBM Computers
PL/I, Wylbur
Apple Macintosh II
Batch

NAME: **Facility Use Dated**

PRINCIPAL USER: Manager and Technical Coordinator
HVEM-TANDEM Facility

DESCRIPTION: This database contains a day-by-day log of the use of the HVEM-TANDEM Facility, proposal number, authors, when used, time used, percentage ANL use, comments, and experimental conditions, grouped in overlapping 1-year periods.

INTERFACES: Serial Printer

ENVIRONMENT: Apple Macintosh II
Appleworks Framework
DBase III
Compaq Deskpro
Apple LaserWriter II

NAME: **Facility Users Mailout Forms**

PRINCIPAL USER: Manager and Technical Coordinator
HVEM-TANDEM Facility

DESCRIPTION: This database and word processor contains mailout forms to users of the HVEM-TANDEM Facility to obtain status and time remaining for their proposals. It produces semi-annual reports.

INTERFACES: Serial Printer

ENVIRONMENT: Apple Macintosh II
Appleworks Framework
DBase III
Compaq Deskpro
Apple LaserWriter II

NAME: **Interviewee Database**

PRINCIPAL USER: MSD Division Office

DESCRIPTION: This database lists all candidates who have applied for positions within the Division and tracks the progress of their application.

INTERFACES: None

ENVIRONMENT: Apple Macintosh II

NAME: **Personnel Reports**

PRINCIPAL USER: MSD Management, with some reports provided to all division personnel

DESCRIPTION: The primary program, first used in 1970, generates the following reports:

- Alphabetical list of personnel with Laboratory and home telephone and address information.
- Laboratory location and telephone directory.
- List of personnel in organizational substructure with Laboratory location and telephone number.
- Payroll number/name list.
- Name/payroll number list.
- Personnel by job title.
- Report for verification of input data.

Other separately maintained personnel lists are:

- Future employees.
- Temporary and DEP appointments.
- Personnel entries to and exits from division.
- Occupied space by group with responsible personnel.

INTERFACES: None

ENVIRONMENT: Central IBM Computers
Apple Macintosh II
PL/I
Wylbur
Batch

NAME: **Proposal File HVEM-TANDEM**

PRINCIPAL USER: Manager HVEM and Technical Coordinator
HVEM-TANDEM Facility

DESCRIPTION: This database contains lists of HVEM-TANDEM Facility users, proposals submitted, Steering Committee actions, type of experiment, user affiliation, and funding.

INTERFACES: Serial Printer

ENVIRONMENT: Apple Macintosh II
Appleworks Framework
DBase III
Compaq Deskpro

NAME: **Publication Database**

PRINCIPAL USER: MSD Division Office

DESCRIPTION: This database maintains records on the status of all publications submitted by the Division as well as information on the publication reference.

INTERFACES: None

ENVIRONMENT: Apple Macintosh II

MATHEMATICS AND COMPUTER SCIENCE

NAME: **ACRF Proposals**

PRINCIPAL USER: MCS Division Office
Personnel

DESCRIPTION: This lists researchers who have submitted a proposal to use the ACRF computing systems.

INTERFACES: None

ENVIRONMENT: Sun Workstation,
UNIX Sun OS

NAME: **ACRF User Citations**

PRINCIPAL USER: MCS Division Office
Personnel

DESCRIPTION: This list includes publications and presentations which cite use of the Advanced Computing Research Facility.

INTERFACES: None

ENVIRONMENT: Sun Workstation,
UNIX Sun OS

NAME: **Calendar of Meetings, Vacations, and Travel**

PRINCIPAL USER: All MCS Personnel

DESCRIPTION: This database is available to all MCS personnel. It contains known meetings, vacations, and travel.

INTERFACES: None

ENVIRONMENT: Sun Workstation,
Sun OS

NAME: **Database of Computer Scientists and Mathematicians**

PRINCIPAL USER: All MCS Personnel

DESCRIPTION: This database lists approximately 2,000 computer scientists and mathematicians with their work addresses and telephone numbers.

INTERFACES: None

ENVIRONMENT: Sun Workstation,
UNIX Sun OS

NAME: **MCS ADP Equipment List**

PRINCIPAL USER: MCS Division Office

DESCRIPTION: This database keeps track of all MCS ADP equipment, location, user, configuration, cost, S/N, ANL #, etc.

INTERFACES: None

ENVIRONMENT: Sun Workstation,
UNIX Sun OS

NAME: **MCS Applicant Database**

PRINCIPAL USER: MCS Division Office
Personnel

DESCRIPTION: This system tracks all employee applications for the MCS Division.

INTERFACES: None

ENVIRONMENT: Sun Workstation,
Sun OS

NAME: **MCS Effort Distribution**

PRINCIPAL USER: MCS Division Office

DESCRIPTION: The system keeps track of all MCS employees, charges their effort in man-months to a specific cost code, and reflects total effort costs for MCS.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Multiplan

NAME: **MCS Employee Address Telephone, Computer Email, and Address Information**

PRINCIPAL USER: All MCS Personnel

DESCRIPTION: This database lists all MCS employees with their home address, telephone number, ANL location, and Email address (with employee approval).

INTERFACES: None

ENVIRONMENT: Sun Workstation,
UNIX Sun OS

NAME: **MCS M&S Estimates**

PRINCIPAL USER: MCS Division Office

DESCRIPTION: This database assists MCS Division management in detailed estimating of FY M&S costs.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Multiplan

NAME: **MCS Office Assignments**

PRINCIPAL USER: MCS Division Office

DESCRIPTION: This system assists MCS Division Management in making office assignments. It ensures maximum utilization of space for our many summer visitors.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Multiplan

NAME: **MCS Standing Orders**

PRINCIPAL USER: MCS Division Office

DESCRIPTION: This database lists all MCS Standing Orders for computers, maintenance, software, etc. It reflects cost, cost codes, vendors, expiration date, P.O.#, etc.

INTERFACES: None

ENVIRONMENT: Sun Workstation,
UNIX Sun OS

NAME: **MCS Technical Memos and Preprints**

PRINCIPAL USER: MCS Division Office Personnel

DESCRIPTION: This database includes a list of all MCS-generated technical memoranda and preprints.

INTERFACES: None

ENVIRONMENT: Sun Workstation,
UNIX Sun OS

NAME: **MCS Temporary Hires and Visitors**

PRINCIPAL USER: MCS Division Office

DESCRIPTION: This database keeps track of our numerous temporary employees, anticipated hire date, cost code, termination date, etc.

INTERFACES: None

ENVIRONMENT: Sun Workstation,
UNIX Sun OS

NAME: **Preparation of MCS Field Work Proposals**

PRINCIPAL USER: MCS Division Office

DESCRIPTION: This database assists MCS Management in the yearly preparation of the DOE Field Work Proposals.

INTERFACES: None

ENVIRONMENT: Sun Workstation,
UNIX Sun OS

MEDICAL DEPARTMENT

NAME: **Medical Department Administrative System**

PRINCIPAL USER: Medical Department

DESCRIPTION: The purpose of this system is to collect administrative information for the Health Department on a variety of subjects and activities. The plan is to integrate the system with the mainframe Integrated Medical System.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer-AT
DBase III

NAME: **Integrated Medical System (IMS)**

PRINCIPAL USER: Health Department

DESCRIPTION: IMS is ANL's employee health database and medical test data management system. Data entry occurs through IBM Personal Computers which use DBase III and IV entry screens and data validation. The system uploads the data to the Central IBM computer and adds it to the database. At this level IMS is integrated with the Human Resource Management System to access the pertinent aspects of employee demographics. The central IBM computer maintains the total database, archives the terminated records and provides a report writing facility for individual medical records. It also downloads data on employees for reporting purposes and for scheduling through the Health Screening Program.

MD is installing with a 3Com Network a bridge to Human Resources. Visual Testing will interface with IMS to accompany Audio and Electrocardiogram Testing already in place. Plans include development of a partial Medical Database Downloader, automation of employee sickness and injury tracking, and development of an automated Medical History.

INTERFACES: Integrated Personnel Management System
Environment, Safety and Health System

ENVIRONMENT: IBM Personal Computer-XT
IBM Personal Computer-AT
Toshiba 3200SX Portable
SuperCalc 5
Multimate II
DBase III
DBase IV
PageMaker
Central IBM Computers
Batch, Interactive

NATIONAL ENERGY SOFTWARE CENTER

NAME: **ACCESS Information Storage, Retrieval and Reporting System**

PRINCIPAL USER: National Energy Software Center (NESC) Personnel

DESCRIPTION: The objective of the ACCESS system is to automate the NESC software exchange and information center operation. ACCESS uses information in the following dissimilar but interrelated databases:

- TOC: Table of contents or directory of library packages distributed by the center.
- ABS: Abstracts describing each program in the center's collection.
- PKG: The program packages themselves.
- INS: Registered installation and other customer information (mailing address, distribution services, etc.), together with a summary of the library packages at that installation.
- REQ: Pending requests for program packages.
- STA: Detailed transmittal information on filled requests.
- SCA: Information regarding DOE approval/disapproval for requests from sensitive countries.

INTERFACES: None

ENVIRONMENT: IBM 4331
PL/I
CMS

OFFICE OF THE DIRECTOR

NAME: **Institutional Plan Financial Database**

PRINCIPAL USER: Strategic Planning Office

DESCRIPTION: This database contains data for each of the nine multiprogram laboratories run by the Department of Energy. The data comes from annual Institutional Plans and includes budget authorizations (actual and projected) for FY1979 through FY1994. The data categories include operating, equipment, construction, and total authorization by major B&R codes.

INTERFACES: Plotfile Database

ENVIRONMENT: IBM Personal Computer
Lotus 1-2-3

NAME: **Profile Database**

PRINCIPAL USER: Strategic Planning Office

DESCRIPTION: This database contains a downloaded version of the Institutional Plan database. The program permits the user to create a file suitable for producing plots using Tellagraph on the mainframe. The program allows the user to select laboratories, range of years, and type of data (operating, equipment, construction, or total) and form linear combinations or ratios of linear combinations of the data. The program sorts data by laboratory or sums across laboratories. It will express results in actual or user-selected base-year dollars. It can produce individual or cumulative plots.

INTERFACES: IBM 3033
Institutional Plan
Financial Database

ENVIRONMENT: IBM Personal Computer
DBase III

NAME: **Statistical Sampling**

PRINCIPAL USER: Internal Audit

DESCRIPTION: This program allows the creation, selection, and evaluation of physical unit sampling. The user supplies parameters of upper error limit, expected error rate, confidence level, and population size. The program provides the sample size, generates and prints a random sample, and can then evaluate the completed sample for achieved error rate and confidence level.

INTERFACES: None

ENVIRONMENT: IBM PC with BASICA

NAME: **Work for Others Database**

PRINCIPAL USER: Work For Others - Strategic Planning Office

DESCRIPTION: This database contains data concerning every work for others proposal processed by the Work For Others Office. Data includes: proposal number and title, principal investigator, submitting division and ALD, funding information, processing dates, and agency/company proposal sent to. This database is the source of monthly summary reports.

INTERFACES: None

ENVIRONMENT: IBM PS/2 Model 70
DBase III

NAME: **Work for Others Tracking Database**

PRINCIPAL USER: Work For Others - Strategic Planning Office

DESCRIPTION: This database contains data concerning every work for others proposal from the beginning to present, including all revisions. The system tracks the whereabouts of each proposal by date and includes the data to profile subcontracting, equipment and other financial data. This database is useful to track and provide historical data about proposals and sponsors.

INTERFACES: IBM 3033
Financial Database
Equipment Register

ENVIRONMENT: IBM PS/2 Model 70
DBase IV
Quattro Pro

OFFICE OF PUBLIC AFFAIRS

NAME: **Conference Services System**

PRINCIPAL USER: Office of Public Affairs

DESCRIPTION: The Conference Services System provides the Office of Public Affairs with an automated means to record, manage, and input data used in conference planning. The system consists of registration reports, financial reports, and mailing labels.

This system includes online updating and both online and batch reporting.

INTERFACES: None

ENVIRONMENT: Central IBM Computers
Inquire
Batch, interactive

NAME: **Mail Management System**

PRINCIPAL USER: Office of Public Affairs

DESCRIPTION: The Office of Public Affairs uses the Mail Management System to manage and input data for mailing lists and labels. The data consists of approximately 6,000 names and addresses categorized by major interest.

The major benefit of this system is the ability to organize and retain data in both general and specific groups.

The system uses an online Inquire database.

INTERFACES: None

ENVIRONMENT: Central IBM Computers
Inquire
Batch, interactive

PLANT FACILITIES AND SERVICES

NAME: **Budget Program**

PRINCIPAL USER: PFS Administration and Budget

DESCRIPTION: This spreadsheet program is an open-ended tool used to prepare monthly budget estimates for Service Centers. It transfers the appropriate budget numbers from a worksheet area to Budget form formats. A macro in the spreadsheet prints the budget forms required by the Budget Office.

INTERFACES: None

ENVIRONMENT: AT&T 6300 Plus
Multiplan

NAME: **Custodial Overtime Reporting System**

PRINCIPAL USER: PFS Administration and Budget, Custodial Department

DESCRIPTION: This system is a necessary tool for management to fulfill a requirement of the union agreement. It makes available to union employees a weekly listing of overtime worked, overtime refused, absence, and total overtime worked by each week and year to date.

INTERFACES: Supervisor input
Timecards

ENVIRONMENT: Central IBM Computers
CMS-PL/I
Interactive

NAME: **Installations Service Request System**

PRINCIPAL USER: Plant Facilities and Services

DESCRIPTION: This system monitors and controls all service requests received by the Installations Group. The Installations Supervisor and Foremen use the data to schedule craft workloads and print work orders. Weekly entry of of effort and material maintains the currency of cost information.

This system provides on-line information concerning active and closed service requests, status of jobs in progress, craft backlog, completed work data, and cost control.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
DBase III Plus

NAME: **Lodging Cost Transfer System**

PRINCIPAL USER: Lodging

DESCRIPTION: This is a facility on a programmable cash register which generates electronic transactions for the Integrated Financial System. It eliminates manual preparation of entries and provides greater auditing and control of cash handling in Lodging.

INTERFACES: Integrated Financial System

ENVIRONMENT: Programmable Cash Register

NAME: **Maintenance Control and Reporting System (MCRS-4)**

PRINCIPAL USER: Plant Facilities and Services

DESCRIPTION: The Maintenance Control and Reporting System uses automated data procedures to:

- Identify all equipment and facilities requiring maintenance
- Describe the maintenance procedures involved
- Produce work orders and schedules
- Maintain a history of maintenance and repair work including:
  - Materials used
  - Man-hours involved
  - Crafts employed in providing the maintenance and repair work
  - Sub-contract costs
  - Spare parts inventory
- Process all forms of repair and service work orders

The benefits of MCRS include controlling the scheduling of preventive maintenance for Laboratory equipment, tracking manpower use, and aiding in scheduling personnel. Additionally, the system reports on the usability of equipment and has the capability of handling spare parts inventory.

INTERFACES: None (Interfaces to IFS and STS are planned.)

ENVIRONMENT: HP 3000
Interactive
Batch

NAME: **Maintenance Overtime Reporting System**

PRINCIPAL USER: PFS Administration and Budget, Building Maintenance

DESCRIPTION: This system is a necessary tool for management to fulfill a requirement of the union agreement. It makes available to union employees a weekly listing of overtime worked, overtime refused, absence, and total overtime worked by each week and year to date.

INTERFACES: Supervisor input
Timecards

ENVIRONMENT: Central IBM Computers
CMS-PL/I
Interactive

NAME: **Monthly Budget/Cost Comparison**

PRINCIPAL USER: PFS Administration and Budget

DESCRIPTION: A monthly spreadsheet summarizes the budgeted FTE's, actual costs for the prior fiscal year, current year budget, a straight line estimate vs. actual and variance, and a monthly plan estimate vs. actual and variance comparison. The report covers all Plant Facilities and Services cost centers grouped by Indirect Expense, Direct Allocation, Direct Program, Service Centers, and Other Expense.

INTERFACES: FMS

ENVIRONMENT: AT&T 6300 Plus
Multiplan

NAME: **Open ANL Construction Funded Projects**

PRINCIPAL USER: Plant Facilities and Services, Construction Project Coordinator

DESCRIPTION: This system lists all open construction projects. It provides DOE program information, ANL work project identification, name of project manager, costs to date, funding authorized, and project status. It is the source document for a monthly "Construction Project Status Report" to ANL and DOE management.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Multiplan

NAME: **Space and Occupancy Management Information System (SOMI)**

PRINCIPAL USER: Plant Facilities and Services

DESCRIPTION: This system keeps track of all buildings and rooms at Argonne National Laboratory-East. (Argonne National Laboratory-West can be added.) A function of SOMI is to charge the cost center for space use. There is an updating period every six months, during which several updates will be run and cost distribution reports produced.

SOMI provides quick access to space use information. The easy updating procedures of this system are another benefit.

INTERFACES: Human Resource System
Integrated Financial System

ENVIRONMENT: Central IBM Computers
Inquire, PL/I
Interactive

NAME: **Status of All Active Construction Projects**

PRINCIPAL USER: Plant Facilities and Services
ANL Management, DOE-CH and AAO

DESCRIPTION: This program provides monthly updating of the status of all active construction projects by DOE construction project number. It reports all costs to date and the balance of uncosted funds and compares with approved funding to report overruns or available unassigned funds. It reports on the status of work projects within each line item. These reports become part of the ANL monthly management report to DOE, "Construction Project Status Report".

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
Multiplan

Facilities Planning and Engineering

NAME: **Building 214 Directory**

PRINCIPAL USER: Plant Facilities and Services,
Facilities Planning and Engineering

DESCRIPTION: This directory states employee name, room number and telephone extension. Periodic updating reflects changes.

INTERFACES: None

ENVIRONMENT: NBI System 64

NAME: **Catalog and Reference Library Filing Index**

PRINCIPAL USER: Plant Facilities and Services,
Facilities Planning and Engineering

DESCRIPTION: This filing index covers the FPE catalog and reference library. The large volume of material requires frequent updating.

INTERFACES: None

ENVIRONMENT: NBI System 64

NAME: **Construction Project Data Sheets**

PRINCIPAL USER: Plant Facilities and Services,
Facilities Planning and Engineering

DESCRIPTION: This file contains Construction Project Data Sheets (Schedule 44) to submit to DOE/AAO semi-annually. However, because of frequent updating, the documents are internally useful in the interim.

INTERFACES: None

ENVIRONMENT: NBI System 64

NAME: **Cost Center 512 Directory**

PRINCIPAL USER: Plant Facilities and Services,
Facilities Planning and Engineering

DESCRIPTION: The directory reflects changes in personnel of the Cost Center as well as location and telephone extension.

INTERFACES: None

ENVIRONMENT: NBI System 64

NAME: **FPE File Listing**

PRINCIPAL USER: Plant Facilities and Services,
Facilities Planning and Engineering

DESCRIPTION: This listing of files in the PFS-FPE department office allows efficient retrieval of materials.

INTERFACES: None

ENVIRONMENT: NBI System 64

NAME: **FPE Procurement Log**

PRINCIPAL USER: Plant Facilities and Services, Facilities Planning and Engineering

DESCRIPTION: This program reflects actual and estimated costs and schedules for procurements, contracts, services by other divisions, and other miscellaneous expense (other than manpower effort within the cost center). The reports show data by account, service request and/or work project. Monthly updating makes this report a valued source of information for cost and schedule control.

INTERFACES: None

ENVIRONMENT: Central IBM Computers Wylbur

NAME: **FPE Service Request System**

PRINCIPAL USER: Plant Facilities and Services, Facilities Planning and Engineering

DESCRIPTION: This program provides a monthly cost and schedule analysis of all active service requests from other divisions within the cost center. It reports actual and projected effort, M&S, contracts, etc, along with any overrun/underrun situation.

Cost center personnel use these reports extensively for serve request status and cost and schedule control information.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer DBase III Plus

NAME: **Maintenance and Repair Request System**

PRINCIPAL USER: Plant Facilities and Services, Facilities Planning and Engineering

DESCRIPTION: The Maintenance and Repair Request System uses automated procedures to record all identified building and system deficiencies. The database includes recommended action, priority assignment, year of need, category of repair or replacement, cost estimate, and suggested funding source.

This system permits clear identification of the major maintenance or replacement needs of the Laboratory through easily-accessed information. The selection and reporting capabilities of the program provide assistance in the preparation of funding requests and long range work planning.

INTERFACES: None

ENVIRONMENT: NBI Personal Computer

NAME: **Monthly Construction Project Narrative Reports**

PRINCIPAL USER: Plant Facilities and Services, Facilities Planning and Engineering

DESCRIPTION: This program constructs narratives for the monthly Construction Project Status Report submitted to DOE/AAO. It updates approximately 50 narratives monthly for the DOE submittal and internal distribution.

INTERFACES: None

ENVIRONMENT: NBI System 64

NAME: **PFS-FPE Organization Chart**

PRINCIPAL USER: Plant Facilities and Services, Facilities Planning and Engineering

DESCRIPTION: This file maintains the organization chart for Cost Center 512. Updating occurs when necessary to show current PFS-FPE employees and their appropriate assignments.

INTERFACES: None

ENVIRONMENT: NBI System 64

NAME: **PRIMAVERA Project Planner**

PRINCIPAL USER: Plant Facilities and Services, Facilities Planning and Engineering

DESCRIPTION: PRIMAVERA Project Planner is a complete planning, scheduling, and cost control software program designed to evaluate and analyze schedules, allocate and level resources, and monitor costs for construction projects. The program uses the critical path method for scheduling based on network diagramming, but can also produce GANTT and PERT charts; uses precedence or arrow diagramming methods based on preceding or succeeding activities; and can accommodate up to 10,000 independent task/activities, 500 separate cost accounts, 20 code categories, and 96 separate resources (labor or equipment) per project. Reports are user-definable and consist of tabular data, bar charts, profile curves, and network diagrams. Scheduling is based upon standard calendar workdays.

INTERFACES: Microsoft Management Costing System

ENVIRONMENT: Any computer system with 512K memory and MS-DOS
(Note: PRIMAVERA is a licensed program)

NAME: **Proposed Project File**

PRINCIPAL USER: Plant Facilities and Services, Facilities Planning and Engineering

DESCRIPTION: This file lists proposed construction projects at ANL. Periodic updating reflects the current proposed project title, previous project title and project number.

INTERFACES: None

ENVIRONMENT: NBI System 64

NAME: **User's Guide to the Federal Building Life-Cycle Cost Computer Program**

PRINCIPAL USER: Plant Facilities and Services, Facilities Planning and Engineering

DESCRIPTION: The FBLCC computer program, in conjunction with the associated user's guide, provides computational tools and energy price data for performing life-cycle cost (LCC) analysis of federal buildings and related subsystems. FBLCC can evaluate two types of federal buildings: (1) LCC analysis of projects directly related to energy conservation and renewable energy, and (2) LCC analysis of projects not directly concerned with energy conservation or renewable energy. The U.S. Department of Energy's Federal Energy Management Program and the U.S. Office of Management and Budget in circular A-94 set forth the rules which are the basis for the methods and procedures used in these LCC analyses.

Performing a comparative LCC analysis of alternative building or subsystem designs can determine whether design improvements for rehabilitation of a federal building are cost effective in terms of reductions in future operating-related costs when evaluated in present value dollars.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer XT/AT

NAME: **Work Project Listing**

PRINCIPAL USER: Plant Facilities and Services, Facilities Planning and Engineering

DESCRIPTION: The listing covers active Cost Center 512 work projects and the responsible engineer. Updated monthly, the listing is useful in the coordination of the monthly Construction Project Status Report.

INTERFACES: None

ENVIRONMENT: NBI System 64

Maintenance

NAME: **Central Site Surveillance (CSS) Look-Up Alarm Points**

PRINCIPAL USER: Plant Facilities and Services, Maintenance

DESCRIPTION: This is a list of all look-up alarm points for the Central Site Surveillance System indicating type and location of alarm, personnel to be contacted if problems occur, and the priority of the alarm. Changes determine updating of the listing.

INTERFACES: None

ENVIRONMENT: NBI System 64
Records Processing

NAME: **Central Surveillance System (CSS)**

PRINCIPAL USER: Plant Facilities and Services, Maintenance

DESCRIPTION: This system provides surveillance of operating equipment via automatic alarms (approximately 2200) and also provides energy control functions, i.e., temperature adjustments and fan controls during off-hours. The personnel monitoring alarm system can readily determine type and location of malfunction and notify and dispatch necessary repair personnel.

INTERFACES: None

ENVIRONMENT: Motorola Field Equipment
VAX

NAME: **Energy Management Control System (EMCS)**

PRINCIPAL USER: Plant Facilities and Services, Maintenance

DESCRIPTION: This system monitors steam flow in eleven buildings and is expanding to control and monitor the Central Chilled Water System which is under design for the 200 Area; it will ultimately replace manual meter reading of steam flow.

INTERFACES: None

ENVIRONMENT: Johnson Controls
JC/85/40

NAME: **Facility Inspection Reporting**

PRINCIPAL USER: Plant Facilities and Services, Maintenance

DESCRIPTION: This report reflects the results of annual inspections required by DOE. Maintenance physically inspects each building onsite for deficiencies. The consolidated information on physical conditions can then be addressed by disciplines. The system eliminates repetitious reporting in the field.

INTERFACES: None

ENVIRONMENT: NBI System 64
Records Processing

NAME: **Maintenance Department Organization Chart**

PRINCIPAL USER: Plant Facilities and Services, Maintenance

DESCRIPTION: This file holds the organization chart of Maintenance Department personnel and requires frequent updating to reflect changes and relocation of personnel.

INTERFACES: None

ENVIRONMENT: NBI System 64
Word Processing

NAME: **Maintenance Department Purchase Order System**

PRINCIPAL USER: Plant Facilities and Services, Maintenance

DESCRIPTION: This system tracks all purchase orders issued by Maintenance Department. It allows better control of purchased items by building and requester and enhances budget planning.

INTERFACES: None

ENVIRONMENT: NBI System 64
Records Processing
Stat Math

NAME: **Maintenance Department Service Request System**

PRINCIPAL USER: Plant Facilities and Services, Maintenance

DESCRIPTION: This system tracks all service requests issued by the Maintenance Department and provides the status of requests by building, equipment, supervisor, and activity.

INTERFACES: None

ENVIRONMENT: NBI System 64
Records Processing

Safeguards and Security

NAME: **Security Administrative System**

PRINCIPAL USER: Plant Facilities and Services, Security

DESCRIPTION: The system maintains inventories, access lists, emergency call data, perimeter control, and alarm authorizations. It will update training manuals and orders with minimum effort and maintain records of training and qualifications as required by DOE on a continuing basis. Later additions of Multiplan and DBase II will allow for projecting overtime costs and various cost effectiveness reviews.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer

NAME: **Security Unusual Incidents System (SUI)**

PRINCIPAL USER: Plant Facilities and Services, Security

DESCRIPTION: This system currently exists as a collection and reporting system on the Entrex 600/50 with the intention to collect data until a full-function system is developed. SUI collects data concerning unusual incidents reported by the Security Department onsite and in the surrounding area and temporarily stores it on tape. These incidents may be auto accidents, medical emergencies, vandalism damage open doors, etc. This system produces three reports sequenced by:

- Area
- By whom submitted
- Type of first occurrence

Query and analysis capabilities are lacking. Replacement is planned for FY1988.

INTERFACES: None

ENVIRONMENT: Entrex 600
Entrex language

Special Materials

NAME: **Special Materials Information System (SMIS)**

PRINCIPAL USER: Plant Facilities and Services, Special Materials

DESCRIPTION: The system maintains a System 2000 database which stores information about special materials at Argonne National Laboratory East and Argonne National Laboratory West. Authorized users may request individual reports from a suite of 18 standard reports or request predetermined collections.

The benefits of this system are:

- Quick response to online inquiries
- Data security for each user

- Reports on request

Drawbacks to this system include:

- Manual intervention for database regeneration
- Extra copy of database necessary for use online

INTERFACES: None

ENVIRONMENT: Central IBM Computers
PL/I
ASM
System 2000
Batch, interactive

QUALITY ASSURANCE, ENVIRONMENT AND SAFETY

NAME: **Calibration Recall System (CARES)**

PRINCIPAL USER: Quality Assurance

DESCRIPTION: CARES provides control of all equipment that requires calibration. This system identifies equipment which is due for calibration and maintains a history of past calibration.

This system, developed in 1987, replaces the previous Mark IV CARES System.

INTERFACES: None

ENVIRONMENT: Central IBM Computers
SAS
Batch

NAME: **Direct Effort Reporting - QAD (DE-QES)**

PRINCIPAL USER: Quality Assurance

DESCRIPTION: This system produces two reports, one of which is strictly for projects within DE-QES. These reports are on direct effort distribution for six program categories, seven effort categories, and seven groups. Both reports contain current month and year-to-date totals.

One benefit of DE-QES is its direct effort summarization aimed at specific programs and projects. Another benefit is its display of current effort and maintenance of year-to-date totals.

INTERFACES: None

ENVIRONMENT: Central IBM Computers
PL/I
Batch

NAME: **Personal Computing**

PRINCIPAL USER: Quality Assurance,
Environmental Compliance

DESCRIPTION: The QES PC's are used in preparing audit and other reports, record keeping (e.g., the HR On-Site Education Tracking System, the ES NEPA database for Environmental Compliance at ANL) and other special and general uses.

INTERFACES: Safety Performance Management System (SPMS) at EG&G Idaho
Electronic Mail

ENVIRONMENT: IBM Personal Computer-PS/2 50 and 70
NEC Portable PC - Multispeed HD

REACTOR ANALYSIS AND SAFETY

NAME: **RAS Budget Control Program**

PRINCIPAL USER: RAS Administrative Personnel

DESCRIPTION: This system tracks past actuals and future estimates of effort man-months, effort costs, allocations, M&S, taxes, and total costs and calculates rates based on overhead budgets for all programs in the RAS Division. The system assists in budget control for each individual cost code.

INTERFACES: IFS

ENVIRONMENT: IBM Personal Computer
Lotus 1-2-3

NAME: **RAS Equipment and Sensitive Item System**

PRINCIPAL USER: RAS Administrative Personnel

DESCRIPTION: This system is a database of RAS equipment and sensitive items with fields identifying location, property number, custodian, and program. It allows sorts, selections, and summations in any combination. Data maintenance is kept current with each new purchase.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
DBase IV

NAME: **RAS Inventory (RAS-INV)**

PRINCIPAL USER: Reactor Analysis and Safety

DESCRIPTION: This system controls Loop and Test hardware and instrument inventories for the RAS Division.

RAS Inventory offers:

- More accurate control over inventory.
- Automated reporting of all receipt and disbursement activity.
- Immediate knowledge of availability of parts.

INTERFACES: None

ENVIRONMENT: Central IBM Computers
PL/I
Interactive

NAME: **RAS Publication File**

PRINCIPAL USER: RAS Administrative Personnel

DESCRIPTION: This system is a database of all RAS publications. It generates publication listings for FTP's and RAS Review Committees. Retrieval may be made by author and cost code.

INTERFACES: None

ENVIRONMENT: NBI Personal Computer

NAME: **RAS Purchase Order Tracking System**

PRINCIPAL USER: RAS Administrative Personnel

DESCRIPTION: This system is a database of all RAS purchase requisitions by item with fields identifying PR number, PO number, requisitioner, item description, estimated costs, actual costs, vendor, delivery dates, and programs. It allows sorts, selections, and summations in any combination.

INTERFACES: IFS

ENVIRONMENT: IBM Personal Computer
DBase IV

NAME: **RAS Service Request Tracking System**

PRINCIPAL USER: RAS Administrative Personnel

DESCRIPTION: This system is a database of all RAS service requests with fields identifying requestor's name, estimated costs, service agency, and program. It allows sorts, selections, and summations in any combination and a comparison of actual costs versus estimated costs.

INTERFACES: IFS

ENVIRONMENT: IBM Personal Computer
DBase IV

NAME: **RAS Subcontract Tracking System**

PRINCIPAL USER: RAS Administrative Personnel

DESCRIPTION: This system is a database of all RAS subcontracts with fields identifying PR number, PO number, type of subcontract, subcontractor, subcontract beginning and ending dates, total cost of subcontract, and total amount invoiced to date. It allows sorts, selections, and summations in any combination.

INTERFACES: IFS

ENVIRONMENT: IBM Personal Computer
DBase IV

NAME: **RAS Travel Authorization Tracking System**

PRINCIPAL USER: RAS Administrative Personnel

DESCRIPTION: This system is a database of all RAS travel authorizations with fields identifying traveler's name, destination, beginning and ending dates of travel, purpose of trip, cost code charged, and estimated cost of travel. It permits sorts and selections in any combination.

INTERFACES: IFS

ENVIRONMENT: NBI Personal Computer

REACTOR EXPERIMENTS AND EXAMINATIONS

NAME: **REED Budget Control Program #1**

PRINCIPAL USER: REED Administrative Personnel

DESCRIPTION: This system tracks past actuals and future estimates of effort in man-months and work-for-others. It calculates the Division budget in man-months for input into the Division budget model on CMS and our Budget Control Program #2.

INTERFACES: IFS

ENVIRONMENT: IBM Personal Computer
Multiplan

NAME: **REED Budget Control Program #2**

PRINCIPAL USER: REED Administrative Personnel

DESCRIPTION: This system tracks past actuals and future estimates of effort in man months, and work for others as needed to update the monthly estimate program on CMS and our Budget Control Program #3.

INTERFACES: Budget Control Program #1.

ENVIRONMENT: IBM Personal Computer
Multiplan

NAME: **REED Budget Control Program #3**

PRINCIPAL USER: REED Administrative Personnel

DESCRIPTION: This system tracks past actuals and future estimates of effort and M&S for all accounts in the Division to keep base lines updated.

INTERFACES: Budget Control Program #2

ENVIRONMENT: IBM Personal Computer
Multiplan
IBM Dot Matrix Printer

SPECIAL PROJECTS OFFICE

NAME: **Contract Tracking System**

PRINCIPAL USER: Special Projects Office

DESCRIPTION: This database will track the progress of contract requisitions from the initial request through the actual payments to the contractors.

INTERFACES: None

ENVIRONMENT: IBM PC or compatible
MS/DOS
DBase III Plus

NAME: **Software Inventory**

PRINCIPAL USER: Special Projects Office
(Gaithersburg, MD)

DESCRIPTION: This system tracks software diskettes and supporting documentation at the Gaithersburg office. Each diskette and manual receives a unique identifier. A database records the location of each item.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer-XT
IBM Personal Computer-AT, or compatible
MS/DOS
Enable

NAME: **Travel Tracking System**

PRINCIPAL USER: Special Projects Office

DESCRIPTION: This database will follow the travel process from initial input to the automated printing of the TA and the completion of the travel for the division. Various output formats will be available.

INTERFACES: None

ENVIRONMENT: IBM PC or compatible
MS/DOS
DBase III Plus

SUPPORT SERVICES

NAME: **Manpower Reports**

PRINCIPAL USER: Support Services Division

DESCRIPTION: This system produces a monthly report identifying changes in staffing levels for distribution to the SSD departments.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer

NAME: **Position Descriptions**

PRINCIPAL USER: Support Services Division

DESCRIPTION: A Script driver file stores all position descriptions in the Support Services Division. This method allows staff to make minor changes to position descriptions without rekeying them in their entirety. It also provides the capability of electronically transmitting position descriptions to departments for review.

INTERFACES: None

ENVIRONMENT: Central IBM Computers

NAME: **Requisition Tracking System**

PRINCIPAL USER: Support Services Division

DESCRIPTION: This system tracks the status of ANL-214 forms. Personnel sends the forms to the SSD Division Office for distribution to the SSD departments. The departments return the ANL-214 forms to the Division Office. This procedure eliminates any need to make multiple copies of forms.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer

Central Shops

NAME: **Controlled Storage Inventory (CSI)**

PRINCIPAL USER: Support Services, Central Shops

DESCRIPTION: This system is designed to aid in controlling the dispersion of material of a critical nature to Argonne National Laboratory projects. The system provides reports in different sort sequences for quick reference.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
DBase III Plus

NAME: **Effort Reporting System**

PRINCIPAL USER: Support Services, Central Shops

DESCRIPTION: The system reports hours according to the divisional schedule.

INTERFACES: IFS/FMS

ENVIRONMENT: Central IBM Computers
CMS
Batch

NAME: **Maintenance Spare Parts Inventory/Control (in development)**

PRINCIPAL USER: Support Services, Central Shops

DESCRIPTION: This system automates the maintenance spare parts inventory in Building 363 using bar code technology. Bar code scanners collect data from bar code labels. Each part is assigned a number code and a reorder quantity. When inventory reaches the reorder quantity, the part number appears on a reorder list.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
ASAP!INSTOCK

NAME: **Purchase Order Tracking System**

PRINCIPAL USER: Support Services, Central Shops

DESCRIPTION: This database system permits the tracking of purchase orders for raw material, primarily metals, and miscellaneous hardware from initialization to payment. It sorts, selects and summarizes the data in any combination.

An interface with IFS for cost data would eliminate rekeying data.

INTERFACES: IFS

ENVIRONMENT: IBM Personal Computer
DBase III Plus

NAME: **Raw Material Inventory/ Control (in development)**

PRINCIPAL USER: Support Services, Central Shops

DESCRIPTION: This system automates raw material inventory in Building 382 using bar code technology. Bar code scanners collect data from bar code labels. Each time raw material is used, the quantity on hand is

decreased until it reaches the reorder point, at which time it appears on a reorder list.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
ASAP!INSTOCK

NAME: **Tool Crib Inventory/Tool Control (in development)**

PRINCIPAL USER: Support Services,
Central Shops

DESCRIPTION: This system automates tool crib inventory in Building 363 using bar code technology. Bar code scanners collect data from bar code labels. Each time inventory is used bar codes are scanned and inventory is decreased until the reorder quantity is reached, at which time the tool number appears on a reorder list. All tools are checked out of the tool crib using this bar code procedure. In addition to triggering reorder reminders, it also controls which individuals have tools checked out. The software generates a variety of management reports.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
ASAP!INSTOCK

Electronics

NAME: **Computer Maintenance Records**

PRINCIPAL USER: Support Services,
Electronics Computer
Maintenance Personnel

DESCRIPTION: Datatrieve logs and tracks spare parts. Plans include expanded maintenance record keeping to track failures by time, type, and system.

INTERFACES: None

ENVIRONMENT: VAX 11/730
VMS
Datatrieve

NAME: **Computer Maintenance Systems List**

PRINCIPAL USER: Support Services,
Electronics Computer
Maintenance Personnel

DESCRIPTION: This database is a list of computer systems and components serviced by EL and their schedule of preventive maintenance.

INTERFACES: None

ENVIRONMENT: PDP 11/73
RT-11
TSX
EDIT
PMSRCH (EL developed search and printout program)

NAME: **Personal Computer Maintenance Records**

PRINCIPAL USER: Support Services,
Electronics Personal Computer
Maintenance Personnel

DESCRIPTION: This system performs computerized record keeping for systems serviced, warranty periods, work performed, service call log, and other aspects of maintenance.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
MS DOS

NAME: **Property Records**

PRINCIPAL USER: Support Services,
Electronics Property
Representative

DESCRIPTION: This program keeps departmental property records up to date

INTERFACES: None

ENVIRONMENT: VAX 11/730
Datatrieve

NAME: **Time Tracking System**

PRINCIPAL USER: Support Services Division, Electronics

DESCRIPTION: An IBM Personal Computer produces reports from FISLABOR data after each processing period. The reports, distributed to the Section Heads, include labor hours rejected by FISLABOR and percent of hours sold on a time report period, month-to-date, and year-to-date basis.

INTERFACES: FMS

ENVIRONMENT: IBM Personal Computer

Environment, Safety and Health

NAME: **Accident (Injury/Illness) Statistics Spreadsheet**

PRINCIPAL USER: Support Services, Environment, Safety and Health Industrial Hygiene System

DESCRIPTION: This Lotus 1-2-3 spreadsheet application documents, compiles, and reports Incident Rate statistics to ESH management.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer-AT
Lotus 1-2-3
Always
Sidways
PC-Tools
Harvard Graphics

NAME: **Bioassay System**

PRINCIPAL USER: Support Services, Environment, Safety and Health

DESCRIPTION: The purpose of this system is to maintain the scheduling of employees for internal radioactive exposure monitoring analyses and to maintain the results of these analyses. BDS is responsible for creating, updating, and retrieving the records and fields which contain these schedules, analytical, and dosimetry data. The system includes files on all monitored employees, both active and terminated.

The full database is on the Central IBM computers. New interfaces allow access to the Integrated Personnel Management System via CMS and Kermit as well as mainframe backup and maintenance.

INTERFACES: Integrated Personnel Management System

ENVIRONMENT: IBM Personal Computer-XT
DBase III Plus
CICS
Cobol
Central IBM Computers

NAME: **Chemical Carcinogens**

PRINCIPAL USER: Support Services, Environment, Safety and Health

DESCRIPTION: This system records Class I and II carcinogens, their storage, location, and users for Industrial Hygiene. CTD will complete an improved structure and application programs by August 6, 1989.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer-XT
20 20 Bernoulli Box
DBase III Plus

NAME: **Design: Operating**

PRINCIPAL USER: Support Services, Environment, Safety and Health

DESCRIPTION: This system uses a DBase III Plus data file to record and track WP assignments requiring ESH interaction at Argonne East.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer

NAME: **Design/Operating Review - Pre-Construction Tracking Database**

PRINCIPAL USER: Support Services,
Environment, Safety and Health
Industrial Hygiene System

DESCRIPTION: This new database will track ANL construction projects from start to finish with reports to safety review and contractor orientation.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer-AT
DBase III Plus
1-2-3 Lotus

NAME: **ESH Automated Materials/ Payable System (AMPS) Monthly Reports**

PRINCIPAL USER: Support Services,
Environment, Safety and Health

DESCRIPTION: After retrieving and analyzing the Automated Materials Payable System data, this program generates reports that list and identify items ordered, name of the end user, quantity ordered, purchase order number, etc. It also flags items that carry the ESH "approval required indicator". In addition to the monthly reports, an annual report is produced to determine total quantities ordered for the year.

AMPS still cannot provide some information needed by ESH, such as purchase of various items at the requisition level and the name of the end user for purchases of "Special Materials." Also, standard units of measure do not exist for quantities ordered. The unit for any item can very betwen lot, case, each or bottle each time it is ordered.

INTERFACES: AMPS

ENVIRONMENT: Central IBM Computers
ESH microcomputers
Batch, interactive

NAME: **ESH Datamation System (proposed and partially implemented)**

PRINCIPAL USER: Support Services,
Environment, Safety and Health

DESCRIPTION: This system will fully process analog or digital data received directly from the measuring instruments and then update the appropriate ESH administrative record systems with the processed/ formatted data.

Four primary modules or functions will make the system fully operative:

1. Hardware/software interfaces for each instrument and data type.

2. Central processor/controller (probably a microcomputer) for each ESH Group/Section.

3. Data manipulation software under mainframe (VAX or IBM) control.

4. Software for updating of appropriate administrative record systems.

INTERFACES: Personnel System
ESH administrative
records systems

ENVIRONMENT: Central IBM Computers
ESH Microcomputers
Batch, interactive

NAME: **Environmental Monitoring System (EMS)**

PRINCIPAL USER: Support Services,
Environment, Safety and Health

DESCRIPTION: The system establishs files and performs calculations, analytical results, creates sampling schedules, and provides reports. The objective of this system is the total computerization and interaction of environmental protection record keeping and data acquisition.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer-XT
IBM Personal Computer-PS/2
DBase III Plus
Central IBM Computers

NAME: **Environmental Protection LAN System**

PRINCIPAL USER: Support Services,
Environment, Safety and Health

DESCRIPTION: The objective of the LAN system is to facilitate the technical and clerical functions and communications of the ESH Department and the sharing of software and hardware. The intent is to network the entire ESH department. However, initially the system will serve the ESH staff located in Building 200. After the system is up and operational, the staff located in Building 201 and in outlying buildings will also come on line.

All word processing, database files and software will be installed on the server in order to be accessed by authorized users to facilitate sharing of software. Output will be sent to the devices interfaced with the server. The LAN system will enable the clerical staff to incorporate technical charts, graphs and data directly into documents with a minimum of effort. The LAN system will also enable sharing of information and communication between staff members separated geographically.

INTERFACES: EMS record keeping system
Proposed IHCL record keeping system
MSDS databases
HP datafiles

ENVIRONMENT: 3Comm server
IBM Personal Computer-XT
IBM Personal Computer-PS/2
HP LaserPrinter
IBM ProPrinter

NAME: **External Radiation Exposure System**

PRINCIPAL USER: Support Services,
Environment, Safety and Health

DESCRIPTION: The External Radiation Exposure System collects data on a PC in Environment, Safety and Health, for Argonne personnel and Argonne visitors who are subject to shallow, deep, and neutron radiation.

The system maintains three levels of data:

1. Lifetime exposure
2. Year-to-date annual exposure
3. Monthly exposure by section

The PC system updates the data each month, then reports to management. The LIFETIME and (current) Year-To-Date Annual exposures are uploaded to the mainframe for integration into the ESH VSAM file, where they are available for online browsing. The detail (monthly exposure by section) data are uploaded to the mainframe where they are archived to tape, serving as a backup to the PC-based system.

INTERFACES: Human Resource System

ENVIRONMENT: IBM Personal Computer
Central IBM Computers

NAME: **Filter Testing**

PRINCIPAL USER: Support Services,
Environment, Safety and Health

DESCRIPTION: Certain high-efficiency filtered exhaust ventilation systems are tested periodically and/or following filter change. This program provides ESH-Industrial Hygiene with rapid, cross-indexed information retrieval about these systems and the results of their tests, and also provides semi-automated report generation.

A commerical software package provides data entry, updating of current files, creation of new files, interactive data inquiry, and report generation. The system requires no programming knowledge.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer-PS/2
DBase III Plus

NAME: **Health and Safety Manual**

PRINCIPAL USER: Support Services,
Environment, Safety and Health

DESCRIPTION: This program maintains an updated listing of current manual holders for distribution of revisions and additions to the manual.

INTERFACES: None

NAME: **Industrial Hygiene Chemcial Laboratory Record Keeping System (IHCL)**

PRINCIPAL USER: Support Services,
Environment, Safety and Health

DESCRIPTION: The system will establish record files and perform calculations, maintain analytical result files, create sampling schedules, and provide reports. The objective of this system is the total computerization and interaction of non-radiological sample record keeping and data acquisition.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer-XT
IBM Personal Computer-PS/2
DBase III Plus
Central IBM Computers

NAME: **Injury Records**

PRINCIPAL USER: Support Services,
Environment, Safety and Health

DESCRIPTION: This system is a DBase III Plus data file for recording work-related injuries.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
SPMP

NAME: **Inspection/Audit Recommendation Tracking System**

PRINCIPAL USER: Support Services,
Environment, Safety and Health
Industrial Hygiene System

DESCRIPTION: Inspection/Audit database documents, tracks, and closes safety recommendation.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer-AT
DBase III Plus
PC-Tools

NAME: **Inspection/Audit Tracking System**

PRINCIPAL USER: Support Services,
Environment, Safety and Health
Industrial Hygiene System

DESCRIPTION: This database tracks inspections and audits performed by ESH and DOE. recommendation.

INTERFACES: None proposed

ENVIRONMENT: IBM Personal Computer-AT
DBase III Plus
PC-Tools

NAME: **Instrument Calibration**

PRINCIPAL USER: Support Services,
Environment, Safety and Health

DESCRIPTION: When completed, this database will contain calibration records for all appropriate Industrial Hygiene instrumentation. It will provide due date notification as well as report generation.

A commercial software package provides data entry, updating of current files, creation of new files, interactive data inquiry, and report generation. The system requires no programming knowledge.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer-XT
DBase III Plus

NAME: **Laser Inventory, Argonne National Laboratory-East**

PRINCIPAL USER: Support Services, Environment, Safety and Health

DESCRIPTION: Laser Inventory, Argonne National Laboratory-East, provides ESH-Industrial Hygiene with rapid, cross-index information retrieval about lasers and laser systems located onsite. The program calls up and sorts files by Argonne National Laboratory number, type, brand, class, custodian, building, division, and date of survey. Each laser or laser system file contains additional information on technical specifications and safety features, as well as pertinent miscellaneous comments.

A commercial software package provides data entry, updating of current files, creation of new files, interactive data inquiry, and report generating. The system requires no programming knowledge.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer-PS/2
DBase III Plus

NAME: **MSDS Database**

PRINCIPAL USER: Support Services, Environment, Safety and Health

DESCRIPTION: This database sorts and finds the location of paper file copies of manufacturers' Material Safety Data Sheets (MSDS), by chemical name, trade name, CAS number, manufacturer, and user division. The Laboratory is required by law to provide MSDSs to any employee who requests them.

A commercial software package provides data entry, updating of current resources, creation of new records, report generation, and searching and sorting functions. No programming knowledge is required.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer-XT
20 20 megabyte Bernoulli Box
DBase III Plus

NAME: **Purchase Requisitions**

PRINCIPAL USER: Support Services, Environment, Safety and Health

DESCRIPTION: This is a DBase III Plus data file for recording and tracking all purchases made by the Department.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer

NAME: **Radiation Survey Instrument Inventory and Calibration Scheduling**

PRINCIPAL USER: Support Services, Environment, Safety and Health

DESCRIPTION: This system maintains an inventory of in-use hand-held radiation survey instruments and schedules periodic maintenance and calibration reports. The system operates on IBM PC systems using DBase III Plus.

The data includes instrument type, location, responsible individual, Argonne National Laboratory number and inspection and/or calibration schedule information. Output lists calibration and/or inspection notices.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer-XT

NAME: **Radiation Worker Program**

PRINCIPAL USER: Support Services, Environment, Safety and Health

DESCRIPTION: The Radiation Worker Program is a DBase III Plus System that tracks information on radiation workers at the Laboratory. The input

describes the individual's working areas, types of dosimetry and status of worker training.

Typical output provides status listing on training, dosimetry types etc.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
DBase III Plus

NAME: **Radioisotope Inventory Data System**

PRINCIPAL USER: Support Services,
Environment, Safety and Health

DESCRIPTION: The Health Physics-Radioisotope Inventory System is a database of the radioisotopes at the Argonne National Laboratory site. The system serves as an aid to area health physicists, as well as providing a service to researchers in locating sources they need.

ESH receives the data as part of the Source Control Program procedure. The input describes what the source is, where it is, when it was received, and who is responsible for it.

The system is currently operating on an IBM-PC using DBase III.

Typical output includes lists of sources by area, ID number, survey date, etc., for area health physicists, as well as lists of particular sources by type for researchers.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
DBase III Plus

NAME: **Respirator Fitting, Training, and Recall Database**

PRINCIPAL USER: Support Services,
Environment, Safety and Health:

DESCRIPTION: This database provides rapid retrieval of information about the fitting and training status of respirator users at Argonne National Laboratory-East and about issue and recall dates of respiratory protective equipment. The program calls and sorts files by user name, payroll number, division, building, training date, fitting date, recall date, and respirator type.

A commercial software package provides data entry, updating of current files, creation of new files, report generation, and mailing label generation. The system requires no programming knowledge.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer-XT
DBase III Plus
20 20 Bernoulli Box

NAME: **Special Radiation Monitoring Data System**

PRINCIPAL USER: Support Services,
Environment, Safety and Health

DESCRIPTION: The Special Radiation Monitoring Data System is a data recording and reporting system for extremity dosimeters. The system includes any type of dosimeter for specific body parts. It uses Wylbur for data input to batch processing.

The data includes the monthly dosimeter readings and dosimeter setup, covering type, limits, and person.

INTERFACES: None

ENVIRONMENT: Central IBM Computers
Wylbur

NAME: **Travel**

PRINCIPAL USER: Support Services,
Environment, Safety and Health

DESCRIPTION: This system is a DBase III Plus data file for recording and tracking all travel for the Department.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer

NAME: **Workplace Exposure Record System**

PRINCIPAL USER: Support Services, Environment, Safety and Health

DESCRIPTION: This system is a DBase III Plus data file for recording workplace exposure measurements.

INTERFACES: None (Will eventually interface with Human Resources to obtain badge numbers and supervisors.)

ENVIRONMENT: IBM Personal Computer-XT 20 20 Bernoulli Box

NAME: **X-Ray and Radiation Producing Machine Survey Data System**

PRINCIPAL USER: Support Services, Environment, Safety and Health

DESCRIPTION: This system maintains an inventory listing of various ionizing radiation-producing devices (including x-ray machines, electron beam welders, electron microscopes, accelerators, etc.) on the Argonne National Laboratory site. Additionally, the program provides for inputting survey scheduling requirements.

The data describes the type of radiation-producing device, responsible person, location of device, Argonne National Laboratory number, and inspection schedule.

The program can generate lists of inspection schedules, as well as other specialized listings.

INTERFACES: None

ENVIRONMENT: Central IBM Computers Wylbur Batch, interactive

Materials and Services

NAME: **ADPE Reporting**

PRINCIPAL USER: Support Services, Materials and Services

DESCRIPTION: This system extracts data from the Property Management database with Inquire, uses SAS to convert the data format and calculate the total system value, and downloads to an IBM PC for transmittal to DOE all systems over $50 in value.

INTERFACES: Property Management System DOE ADPE/DS

ENVIRONMENT: IBM Personal Computer Inquire SAS Relay

NAME: **Cycle Inventory of Stores Items**

PRINCIPAL USER: Support Services, Materials and Services

DESCRIPTION: The system produces count sheets for each building location. After the count is entered, the system calculates variance between count and inventory quantities and produces a recount sheet if the variance is too great. After all counts are complete, it produces a reconciliation report for each inventory planner.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer DBase III

NAME: **Equipment Management System**

PRINCIPAL USER: Support Services, Materials and Services

DESCRIPTION: This system uses input at the receiving station to feed data on property, sensitive items, rental/lease items, and ad hoc operational equipment to the Property Register, ADP Report and Shadow Register.

The system integrates all this information to produce one document for transfer of an item that is both sensitive and property. It eliminates the need to input separately into each of these systems.

With full funding, the system will provide an online file for each cost center and the ability to search the whole file. This will enable users to manage their equipment more efficiently. Chemical Technology and Biological and Medical Research Divisions will no longer need to maintain separate systems.

INTERFACES: Property Register
ADP Report

ENVIRONMENT: Central IBM Computers
Batch, interactive

NAME: **Equipment Register Inventory (ER INV)**

PRINCIPAL USER: Support Services,
Materials and Services

DESCRIPTION: The Equipment Register Inventory System assists in conducting the Equipment Register inventory every two years. The system interacts with the Property Management System and reduces the hours required to conduct and resolve any problems with the equipment inventory.

The Property Management System will eventually include the functions performed by the Equipment Register Inventory and thus will eliminate this application.

INTERFACES: Equipment Register
Property Management System

ENVIRONMENT: Central IBM Computers
Mark IV, PL/I
Batch

NAME: **Gas Cylinder Tracking and Management (in development)**

PRINCIPAL USER: Support Services,
Materials and Service

DESCRIPTION: The system will track both vendor-owned and ANL-owned gas cylinders. It will track vendor-owned cylinders from arrival through the stock room, if necessary, to the user as a custodian. It will keep track of location and cost code for verification of distribution of demurrage charges. Upon return of the cylinder to the vendor, the record will go into a history file for possible later analysis.

The system will track ANL-owned cylinders onsite like vendor-owned cylinders. In addition, the system will track them at the vendor for early return.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
DBase III

NAME: **Precious Metals Inventory Tracking**

PRINCIPAL USER: Support Services,
Materials and Services

DESCRIPTION: This system consists of CMS programs to prompt for input and produce the necessary forms and SAS programs to update and report the inventory.

INTERFACES: None

ENVIRONMENT: Central IBM Computers
SAS
Batch, interactive

NAME: **Reportable Excess Automated Property System (REAPS)**

PRINCIPAL USER: Support Services,
Materials and Services

DESCRIPTION: This system uses an IBM Personal Computer which emulates a 3270 terminal for input into the DOE REAPS system.

INTERFACES: DOE computer in Germantown.

ENVIRONMENT: IBM Personal Computer
Relay

NAME: **Stores Catalog (SC)**

PRINCIPAL USER: Support Services,
Materials and Services

DESCRIPTION: SC is an online file of the Stores Catalog. A user can either search the catalog or print the catalog. Access to the Stores Catalog is through the user terminal, with output being printed at the terminal or any of the central computing complex high-speed printers. Supply personnel update the Stores Catalog using the CMS editor.

The Stores Catalog System provides the Laboratory with ready access to a file of all stock items in Supply. The system reduces the cost of printing the Stores Catalog. In addition, SC provides easy updating to keep the Stores Catalog current and accurate.

INTERFACES: None

ENVIRONMENT: Central IBM Computers
Script, CMS
Interactive

NAME: **Traffic Activity Data**

PRINCIPAL USER: Support Services,
Materials and Services

DESCRIPTION: **Outbound Shipping**. Data entry of information from the Shipping Order takes place at shipping time and later from the Freight Invoice. With this data, the system generates freight statements for accounts payable and transmits data files to a DOE data bank called SMAC. It files closed items in CMS for later reference.

Inbound Shipping: The system downloads data from the AMPS system to an IBM PC. The procedure of entering and processing the data is similar to that of the outbound shipping data.

INTERFACES: DOE data bank
(SMAC)
AMPS

ENVIRONMENT: Central IBM Computers
IBM Personal Computer
DBase III
Kermit

NAME: **Vehicle Maintenance Reporting (VMR)**

PRINCIPAL USER: Support Services,
Plant Facilities and Services

DESCRIPTION: The Vehicle Maintenance Reporting System creates Transportation System Management Reports geared to the operation and maintenance of motor vehicles. All data collected deals with the usage of fuel and lubricants, maintenance records of vehicles, and records of labor hours. This reporting system is run on a monthly basis.

The three benefits of this system are:

- Tracking maintenance costs by division/vehicle
- Tracking mileage usage and fuel consumption by vehicle/division/cost center
- Recording overall cost by division/cost center

INTERFACES: Financial Information
System

ENVIRONMENT: Central IBM Computers
SAS
Batch

Procurement

NAME: **IBM-Based Workstation Network**

PRINCIPAL USER: Support Services,
Procurement

DESCRIPTION: This system consists of twelve (12) workstations that allow for information transmission and data sharing among all workstations. It is used in the Subcontracts Section for database management, high capacity word processing, and contract inquiry.

INTERFACES: None

ENVIRONMENT: IBM Personal Computers
3 Share
Microsoft Word
Masterpack
DBase III Plus
R&R Relational
Report Writer

NAME: **Procurement/Subcontracts Log Automation**

PRINCIPAL USER: Support Services, Procurement

DESCRIPTION: The Procurement Department must frequently supply various statistics regarding purchasing and subcontracts. These requests come not only from DOE but also from many Laboratory divisions. The majority of the requests are for data not currently stored in AMPS; the retrieval of the data from logs and files is necessarily manual. Automation of the manual logs will create uniform documentation and improved retrieval capabilities.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer

NAME: **Purchasing--DOE Quarterly Report**

PRINCIPAL USER: Support Services, Procurement

DESCRIPTION: This report uses data in the Requisition, Subcontracts, and Purchasing systems to produce quarterly reports required by DOE.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer

NAME: **Purchasing System**

PRINCIPAL USER: Support Services, Procurement

DESCRIPTION: This system tracks manual purchase orders which AMPS cannot handle. It allows the buyer to establish the minimum period required for renewal for each manual order. The system generates a memo to the user 35 days before the minimum date indicated by the buyer so that the user can take action to ensure renewal order coverage.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer

NAME: **Requisition System**

PRINCIPAL USER: Support Services, Procurement

DESCRIPTION: Subcontracts uses an aging report system to track requisitions for each administrator. The Requisition System provides improved management control through its ability to react to problem requisitions that are otherwise delayed. It also provides a means to measure administrator workload and performance.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer

NAME: **Subcontracts System**

PRINCIPAL USER: Support Services, Procurement

DESCRIPTION: The system tracks all awarded subcontract actions (purchase orders, change orders, contracts, supplements, and work orders). It produces reports for administrators listing actions for which they are responsible. The system generates renewal notices based on completion data and sends memos to the responsible users. The memos include contract number, vendor, renewal date, requisition number(s) related to the expiring contract, contract administrator, and an explanation of actions the user must take.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer

NAME: **Vehicle Identification System (VIS)**

PRINCIPAL USER: Support Services, Security

DESCRIPTION: VIS provides for collecting information on vehicle ownership as part of the annual issuance of windshield stickers.

INTERFACES: Integrated Personnel Management System

ENVIRONMENT: IBM Personal Computer
DBase III

Travel

NAME: **Travel Accounting**

PRINCIPAL USER: Support Services, Travel

DESCRIPTION: With the expansion of services offered in the area of the Travel Office, tracking, controlling, and coordinating invoices and commissions in a timely manner is critical. The Travel Office is reviewing software packages that will allow it to interface with the existing SABRE system and improve the timeliness of review of Travel Office actions.

INTERFACES: SABRE System

ENVIRONMENT: IBM Personal Computer

NAME: **Travel Accounting**

PRINCIPAL USER: Support Services, Travel

DESCRIPTION: This system retrieves travel authorization status for Accounting and for users. It provides an audit trail for travel authorization and generates daily and period travel authorization activity statistics. The system replaces a manual index card tracking system.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer

Utilities

NAME: **Energy Management Metering Analysis (EMMA)**

PRINCIPAL USER: Plant Facilities and Services, Utilities

DESCRIPTION: EMMA provides customized printed forms for use by PFS meter readers for recording each of the hundreds of monthly electric, steam, and water meter readings. The meter readings become the basis for monthly electric, steam, and water consumption calculations for each building on site. The data helps to: (1) prepare monthly utilities charges for the Laboratory's cost centers; (2) detect abnormal use patterns that could trigger corrective maintenance action; and (3) prepare utilities consumption predictions for future budget submittals by using archived consumption data.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer
DBase III Plus

Waste Management Operations

NAME: **Hazardous Waste Retrieval System**

PRINCIPAL USER: Plant Facilities and Services, Waste Management Operations

DESCRIPTION: Daily updating of the Hazardous Waste Retrieval System maintains accurate records of hazardous waste received by PFS--Waste Operations for processing for disposal. This database lists thousands of chemicals, their standardized codes, characteristics and treatment methods, and the volume received each year. It allows quick retrieval of information and produces the required EPA Hazardous Waste reports.

INTERFACES: None

ENVIRONMENT: NBI SYSTEM 64ES
Team Up
(similar to DBase III)
Interactive

NAME: **Radioactive Waste System**

PRINCIPAL USER: Plant Facilities and Services,
Waste Management Operations

DESCRIPTION: Updated daily, the Radioactive Waste Retrieval System maintains accurate records of radioactive waste received by PFS Waste Operations for processing and packaging for offsite disposal. It is useful for the quick retrieval of information and to produce the required reports.

INTERFACES: WIN (Waste Information Network)
SWIMS (Solid Waste Information Management System)

ENVIRONMENT: NBI SYSTEM 64 and 64ES
Teamup
DBase II
Interactive

TECHNICAL INFORMATION SERVICES

NAME: **Bibliographic Control**

PRINCIPAL USER: TIS, Library Support Services
Bibliographic Control Group

DESCRIPTION: This program collects and maintains barcode inventory data of the current collection in the TIS libraries.

INTERFACES: Book master file

ENVIRONMENT: Central IBM Computers
IBM Personal Computer-PS/2
DBase III Plus

NAME: **Bibliographic Control Report Input**

PRINCIPAL USER: TIS, Library Support Services
Bibliographic Control Group
Reports Library

DESCRIPTION: This program processes the data records of scientific and technical reports (full-size and microfiche format) downloaded from the DOE Office of Scientific and Technical Information. Batch data sets update the Report Master file, assign report location, and produce labels for each report.

This program produces products for libraries at other DOE national laboratories.

INTERFACES: Report master file
New Reports Added to
TIS Libraries

ENVIRONMENT: Central IBM Computers
IBM Personal Computer-PS/2
PL/I
Batch

NAME: **Bibliographic Input**

PRINCIPAL USER: TIS, Library Support Services
Bibliographic Control Group

DESCRIPTION: This system uses datasets built on the IBM PC, which are transmitted to record proofing, sort-file generating, and print formatting programs.

These sequential data files show the current collection in the TIS libraries.

INTERFACES: Book master file

ENVIRONMENT: Central IBM Computers
IBM Personal Computer-PS/2
PL/I
Cobol
Batch

NAME: **Interlibrary Loan Accounts Receivable Program**

PRINCIPAL USER: TIS, Library Support Services
Publications Acquisitions Group
Interlibrary Loan Office

DESCRIPTION: This program issues invoices, tracks receivables and payments, and flags potentially uncollectible accounts.

It provides monthly listings of invoices, payments and uncollectible accounts for the Argonne National Laboratory accounting department.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer-PS/2
DBase III Plus

NAME: **Journal Renewal Program**

PRINCIPAL USER: TIS, Library Support Services
Publications Acquisitions Group

DESCRIPTION: The program handles journal subscriptions for the TIS libraries, divisions and departments, DOE-Chicago Operations Office, and New Brunswick Laboratory. It produces purchase orders, renewal notices, renewal lists, receiving reports, bid lists, subscriptions not renewed and claim letters for unbilled renewal orders, lists of journal subscriptions by library, by division, and by user, cost analysis and projections, and a current status report of all subscriptions.

INTERFACES: None

ENVIRONMENT: Central IBM Computers
IBM Personal Computer-PS/2
PL/I
Cobol
Batch

NAME: **New Books Added to TIS Libraries**

PRINCIPAL USER: Library users and staff
TIS staff

DESCRIPTION: This printed list announces new cataloged library materials. All libraries display the list, and there is a limited distribution to individuals and to Argonne National Laboratory-West.

INTERFACES: Bibliographic Input

ENVIRONMENT: Central IBM Computers
IBM Personal Computer-PS/2
PL/I
Batch

NAME: **New Reports Added to TIS Libraries**

PRINCIPAL USER: Library users
TIS staff

DESCRIPTION: This list announces new scientific and technical reports added to the TIS research libraries and the TIS Reports Library. It is displayed in all the libraries and has a limited distribution to individuals and to Argonne National Laboratory-West.

INTERFACES: Bibliographic Control
Report Input

ENVIRONMENT: Central IBM Computers
IBM Personal Computer-PS/2
PL/I
Batch

NAME: **Report Master File**

PRINCIPAL USER: TIS, Library Support Services
Bibliographic Control Group
Reports Library

DESCRIPTION: The report master file is a sequential data file of the scientific and technical reports held in the TIS libraries. This program enables general maintenance on a routine daily basis.

INTERFACES: None

ENVIRONMENT: Central IBM Computers
IBM Personal Computer-PS/2
PL/I
Cobol
Assembler
Batch

NAME: **Technical Publications Database**

PRINCIPAL USER: TIS, Technical Publications Services

DESCRIPTION: This preliminary database will contain data on all ANL-produced documents submitted to TIS for publications review, including classification and patent clearances. Data will include document tracking information and bibliographic information as well as ANL report inventory, publication costs, and clearance statistics.

This database is expected to become a part of the proposed TIS integrated library information system, providing online information retrieval to ANL staff.

INTERFACES: None

ENVIRONMENT: IBM Personal Computer-AT

NAME: **TIS Cost Recovery**

PRINCIPAL USER: TIS Division Office

DESCRIPTION: This program handles charges to ANL divisions for interlibrary loan service and online bibliographic searches, transferred to Cost Accounting monthly.

INTERFACES: Human Resource System
Financial Information System

ENVIRONMENT: IBM Personal Computer-PS/2
DBase III Plus

NAME: **TIS Libraries Book Catalog (on microfiche)**

PRINCIPAL USER: Library users
TIS staff

DESCRIPTION: This program produces a microfiche catalog of author, title, and subject indexes to all the cataloged materials in the TIS libraries. The microfiche format replaces card catalogs in the libraries. The program issues a complete cumulation every eight weeks and a weekly cumulative supplement between complete cumulations.

INTERFACES: Book master file

ENVIRONMENT: Central IBM Computers
IBM Personal Computer-PS/2
PL/I
Assembler
Batch

NAME: **TIS Libraries Journal Holdings List**

PRINCIPAL USER: Library Users
TIS staff

DESCRIPTION: This program lists the journals held in all the TIS libraries with library location and volume information to help users find the journals they seek. The program produces monthly lists in print and on microfiche for the libraries.

In addition to the lists for the libraries, the program produces additional lists in print or on PC diskette of the holdings of each library as required for use as a work list.

INTERFACES: None

ENVIRONMENT: Central IBM Computers
IBM Personal Computer-PS/2
PL/I
Batch

NAME: **TIS Libraries Reports Holdings List**

PRINCIPAL USER: Library users
TIS

DESCRIPTION: This program uses the reports master file to produce an indexed list of all primary and secondary report numbers and the location and format of these items in the TIS research libraries and in the report library. This list (in microfiche) is displayed in all the libraries and shows all reports received and placed into the collection since 1970.

INTERFACES: Report Master File

ENVIRONMENT: Central IBM Computers
IBM Personal Computer-PS/2
PL/I
Batch

NAME: **University of Chicago Library Cards**

PRINCIPAL USER: TIS, Library Support Services

DESCRIPTION: TIS processes the application and renewal of University of Chicago Library cards for Argonne National Laboratory employees. This program tracks cardholders (job title and home address information) and card expiration. TIS processes renewals for cardholders and notifies the University of Chicago of ANL employee termination.

This application also produces a list of cardholders and notification letters.

INTERFACES: Human Resource System

ENVIRONMENT: IBM Personal Computer-PS/2
DBase III Plus

INDEX

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01 / 29 / 91