A PROPOSAL TO THE

NUCLEAR REGULATORY COMMISSION

TO PROVIDE

PUBLICATION DISTRIBUTION SERVICES

PART I: TECHNICAL/MANAGEMENT PROPOSAL

IN RESPONSE TO

RFP: RS-ADM-79-390

July 10, 1979 ·

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SECTION A

UNDERSTANDING THE REQUIREMENT

I. INTRODUCTION

The Nuclear Regulatory Commission (NRC) has defined' substan-
tive enhancements to an already major requirement for support of
the Division of Technical Information and Document Control (DTIDC).
This section presents our understanding of the mission and ob-
jectives of the DTIDC, its relationship with other offices within
NRC and the role we are to play in support of DTIDC.' While we
currently provide support services, we are aware that this new
scope of work means a thorough review and redefinition of both the
NRC system and services that support it.

The Nuclear Regulatory Commission, Division of Technical In-
formation and Document Control was established to coordinate the
dissemination of all documents under NRC's control to interested
parties. This activity involves a spectrum of government and non-
government entities' requirements for varying quantities of
NRC publications. Identifying these offices, companies, and in-
dividuals is one aspect of the problem; the DTIDC personnel are
also charged with maintaining the various documents in inventory
with its inherent range of associated problems; and finally ful-
fillment of distribution requests. The functions and services
encompassed by DTIDC's responsibilities have expanded and evolved
constantly over the last several years.

In 1977, CDSI was awarded a contract o provide services in
support of the distribution system, inven ry storage, and tracking
and fulfillment services. During the course of this contract, we
have been deeply involved with NRC in the growth and refinement of
services and capabilities in each area. After a thorough review
of the new scope of work, we see the opportunity to provide the

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total system and operational support requirement for the Division. The functional areas as now defined involve five major aspects:

- Distribution System Support and Services
- NRC Inventory Management
- Fulfillment Services
- NRC Publication Sales Program
- Project Support

These are very closely related areas, distinguished only by the aspect of DTIDC support. We currently provide services in each of these functional areas except NRC Publication Sales. Our understanding of the current requirements is presented below in summary by each of the functional areas. No attempt has been made in the following summary to distinguish new versus old services...we are focusing on your new statement of requirements.

II. TASK DEFINITION

Each functional area has elements which are unique while also requiring some interaction with the other functional areas. The services that we understand are required for each area are presented in summary form. Our specific approach, techniques, and controls are addressed in the next section, Technical Approach.

A. Distribution System Support and Services

The concept of total contractor support services, by one versatile contractor, is rare in government/contractor relationships. The requirements in this instance are so closely interrelated that the approach is a logical progression. Contracting with CDSI for Inventory Management, Distribution System and Services, Fulfillment, the NRC Publication Sales Program, and the associated functions will produce efficiencies for NRC in the form of simplified communication and much better overall control. This type of effort is especially attractive to CDSI since it has proven effective on numerous projects when we function as an extension of the client by providing "complete" service.

The opportunity to enhance the support operation is substantially greater because of our current in-depth working knowledge of the intricacies of DTIDC requirements. We understand the immediate urgency associated with distribution requests, the need for reliable inventory information, and the need for good recordkeeping for both administrative and accounting purposes. Not only are we cognizant of the real meaning of the scope of work, but there is also a corporate commitment to a solid communication line between CDSI and DTIDC. Over the course of the current contract, we've learned to speak the same language, to the benefit of CDSI and NRC. Our skills and services used by NRC have grown and will continue to grow.

Successful performance in all areas simultaneously requires the organization and application of appropriate talents with specialized equipment and facilities into a cohesive project team. We have the team and a corporate commitment to excellence.

Our plan for accomplishing this objective is described in the section that follows.

SECTION C

OTHER PERTINENT INFORMATION

In the previous sections and paragraphs, we have addressed our understanding (the "what") and technical approach (the "how") of the support and performance of the NRC DTIDC requirements. These requirements represent monitorable procedures, controls and activities that are specific elements of the overall support to DTIDC's objectives. Equally important to the success of the project effort, but more difficult to address, are the less tangible elements of good client-contractor communications, responsiveness to DTIDC requirements, and the use of innovative techniques. In addition, there are items which require special attention, such as use of government equipment and space. These are presented next.

I. COMMUNICATIONS AND RESPONSIVENESS

Good client-contractor communications are a major element in the success of any large-scale project. This is especially true in the context of a support project with such diverse elements as this one. It is important that NRC contract management, DTIDC project management, CDSI corporate management, project management and staff all have active and open lines of communication. Like any other system, if a line of communications is displaced, the entire system is affected. All parties must communicate freely and openly, but within prescribed procedures of authority. Maintaining good communications will be a major objective of the CDSI project and management team.

Another important factor in effective communications is the responsiveness provided to the client--DTIDC. Automated processes must be run on schedule; and technical control and processing functions must be performed on schedule. The activities of DTIDC are especially dependent upon timeliness of regular processes, accuracy in records, whether inventory sales or distribution lists, and responsiveness to external requirements. In order to assure our ability to be responsive, our Project Manager will work closely with

the DTIDC Project Officer to plan for and schedule technical and/or clerical staff, equipment and facilities in advance of requirements. Those requirements which are unscheduled will be dealt with as high priority events. Any special vendor resource commitments or anticipated delays will be reviewed immediately with DTIDC personnel.

II. INNOVATIVE TECHNIQUES

The use of innovative techniques throughout the NRC project has great potential for improving the effectiveness and efficiency of the various elements of the distribution support, fulfillment, inventory, and sales programs. Both our management and staff have in the past and will continue to seek new approaches and methods to improve our support of DTIDC throughout the term of the project. The following are samples of such innovative techniques which might be used in meeting the objectives of this project.

A. Cadre Approach

CDSI will assume the cost of relocating the Bell & Howell Inserter and Sealing machine and the Clamco Shrink Wrap machine, the microfiche cabinets, and the annual maintenance of the maintenance-certified machines thereafter during the contract period.

IV. DEVIATIONS AND EXCEPTIONS

No exceptions have been taken with any of the stated'requirements of the Request for Proposal. We have attempted to address each of the RFP requirements showing our qualifications and/or approach to satisfy these requirements.

V. SUBCONTRACTORS

As an organization committed to a broad scale of services and tailored systems for a growing list of clients, CDSI will provide all services needed for this project from existing corporate resources. For the proposed service to the Nuclear Regulatory Commission, we expect that no subcontractors will be engaged. All facilities, equipment and staff necessary for this project will come from the existing resources of CDSI. We do, however, plan to use government-furnished equipment and supplies.

VI. FACILITIES

We believe that we currently have all the facilities required for use by our NRC project team. All facilities mentioned in this proposal are located at or within 1 block of our corporate headquarters at 7315 Wisconsin Avenue, Bethesda, Maryland. We presently occupy more than 65,000 square feet in our Bethesda offices, which are convenient to NRC in Bethesda and the entire Washington Metropolitan area.

Recently acquired facilities on Pearl Street in Bethesda have tremendously enhanced our mailing/inventory/fulfillment capabilities. Key attributes of the 25,000 square foot facility include:

- Loading dock and freight elevator
- 20,000 cubic feet of shelf storage (documents)
- 10,000 square foot mailing operation
- Conference Center

- Terminal and data entry rooms
- Telephone rooms with WATS lines
- Data collection areas
- Secure file storage
- Shredder
- Independently locking files

Our current extensive data entry capabilities include two Mohawk 2400 key-to-disk systems with 14 key entry stations, three PERTEC CMC XL40 key-to-disk systems with 20 key entry stations, IBM 129 and 029 keypunch machines. Our data entry services operate two shifts daily. A pool of over 30 part-time personnel are on call to help in peak load periods.

We currently operate our own data center to service the computing requirements of our clients. The data center houses:

1) IBM 370/155 — CPU with 2 Megabytes of Memory (due 7/13/79)

1) IBM 370/135 — CPU with 1 Megabyte of Memory

1) IBM 2540 — Card reader/punch

1) IBM 2501 — Card reader

3) IBM 1403 — Printers with PN print chains

6) IBM 2319 — Disk drives (2-system permanent mounted)

12) IBM 3330-II — Equivalent (Telex) Dual Density (200 Megabyte) disk drives (3-system reserved - permanent mounted/9 user mounted) (4 due in 7/79)

10) IBM 3420-5 — Equivalent (Telex) - self-loading 9 track tape drives

As a "full service" organization, we also have three delivery vans (drivers are bonded) that circulate twice daily throughout the Washington area and serve clients such as NRC on a dedicated basis. A summary of our equipment resources is presented in Exhibit C.2.

VII. MANAGEMENT AND QUALITY ASSURANCE PROCEDURES

We believe that the management and quality assurance procedures we utilize are the key to our successful accomplishment of client technical and production objectives. These controls involve the

DATA CENTER

- One IBM 370/155 (2 Megabytes of Memory)
- One IBM 370/135 (1 Megabyte of Memory)
- Ten 9-track tapes (3420-5 1600/800 BPI) - self-loading
- Eighteen disks (Twelve 3330-11, 200 million bytes each and six 2319, 29 million bytes each)
- One 7211 High Speed Printer (2200 lines/minute)
- Two high speed printers (1403-N1)
- One card reader/punch (2540)
- One card reader (2501)
- Both DOS/VS and OS/VS1 capabilities are available

DATA ENTRY EQUIPMENT

- Three PERTEC XL40 D/E systems with 20 local (2000 character screen) keystations and data communications ports (2780/3780 communications protocol)
- Five IBM 029's

REMOTE JOB ENTRY/DATA ENTRY EQUIPMENT

- Two Mohawk 2400 (64K Memory)
    Fourteen keyboards
    Two 9-track tapes
    One 7-track tape
    One card reader
    One high-speed extended character printer
    Communications Modem
    Four disks
    IBM 3780 Communications Protocol
- Four Anderson Jacobsen 830 Communications Terminals
- CRT - ADDS Model 580
- Thirty CRT's, various manufacturers

DUPLICATING AND COPYING EQUIPMENT

- One Xerox 7000 with collating
- One Xerox 3400 with collating
- One Xerox 2400
- One Xerox 3100
- Qwip Telecopier
- One Xerox 5400 with collating

FULFILLMENT FACILITIES

- High security vault with 50,000 cubic feet area
- Magnacraft address labeling machine
- Philipsburg Master Mailer
- Pitney-Bowes 5600 automatic letter feeder/sealer/counter
- Pitney-Bowes postage machine with regular postage meter head
- Bunn Tying machines (two)
- Stevens Industries two-station Carousel
- Baumfolder

DELIVERY VEHICLES (Three Vans)

Exhibit C.2 Corporate Equipment Resources

IX. FACILITY INSPECTIONS/FACILITY ACCESS DURING NON-BUSINESS PERIODS

Our experience in supporting the DTIDC requirements has made our staff aware of the periodic need for (1) access to inventory storage, and/or (2) inspection of all facilities by NRC representatives. When appropriate, arrangements have been and will continue to be made for CDSI staff support during periods outside the normal work period. The normal work period is considered to be Monday through Firday, 8:30 a.m. to 5:30 p.m. After contract award, we will provide the names and telephone numbers of CDSI staff assigned to provide emergency access.

SECTION E. RELATED CORPORATE EXPERIENCE

CLIENT:	Nuclear Regulatory Commission
CONTRACTING OFFICER:	Tim Hagan (301) 427-4420
TECHNICAL OFFICER:	Steve Scott (301) 492-7566
CONTRACT NUMBER:	NRC-10-78-399
CONTRACT VALUE	$377,000
PERIOD OF PERFORMANCE:	November 1977 - In Progress

DESCRIPTION OF SERVICES

CDSI designed, developed, implemented, and operates an automated document distribution system for the U.S. Nuclear Regulatory Commission (NRC). NRC currently maintains a document distribution list with approximately 25,000 individual records. From these records, we are able to produce mailing lists based on (1) Corporate type, (2) Document Code, (3) Corporate titles, (4) Alpha Sort on Six-line entry, (5) Zip Code Sort, (6) Subject interest, (7) Licenses, (8) Agreement States, and (9) any combination of the above. Some records are to receive bulk quantities under certain lists, but not under others. The services performed are:

- Maintain the accuracy of the NRC Document Distribution List;

- Produce six-line, four-up, computer-generated address labels compatible with NRC's Bell & Howell MAGNACRAFT on 24-hour notice;

- Provide on-call distribution services including assembling, packaging, labeling and mailing within 72 hours;

- Develop and implement an inventory control program to provide NRC information on current status, the inventory of documents distributed, stored, and microfiched and;

- Produce a series of management reports.

The functions performed by our staff in providing document distribution to NRC are described below:

- <u>Maintain accuracy of the NRC Document Distribution List</u>. There are approximately 20,000 records on the list. Accuracy is defined as being current within seventy-two hours of notification of change, addition or deletion in record, with a data character error rate not to exceed one percent of total record count. Changes,

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additions or deletions are furnished either telephonically
(and confirmed in writing) or in writing. We are responsible
for furnishing NRC evidence that any directed record action
has been accomplished. This evidence is documented in the
monthly transaction report. Approximately one thousand each
of additions, deletions, and changes occur monthly.

- Produce four-up computer address labels with six lines that
are compatible with the features of NRC's Bell and Howell
"MAGNA CRAFT". Labels are to be produced, as required, for
an estimated 1,000 standard and/or custom patterns required
to distribute NRC documents. Labels are available within
twenty-four hours of notification of requirement by NRC.
Gummed labels are frequently required. An estimated 150,000
labels for 300 different distributions are required monthly.

- Pickups at NRC occur within one hour of notification. We
then package, label and deliver to NRC, those items which
require distribution. All jobs are completed within seventy-two
hours after notification. The items vary in size from post-
card to documents 8 1/2 inches by 17 inches by 10 inches. Jobs
vary in size from 1 to 10,000.

- CDSI developed and inplemented an inventory control program
within thirty days after we were awarded the contract.
The system provides NRC status information on the NRC's
inventory of documents distributed, stored, and microfiched.
There are presently 5,100 documents in the manual inventory
system and the inventory expands by an estimated 1,200
documents per year. The following information is retrievable:

    - Inventory Control Number
    - Document Title (variable format)
    - Document Report Number (variable format)
    - Number of Copies Inventoried
    - Other Available (Prices) (variable format)
    - Microfiche Number (variable format)
    - Copies in Stock
    - Reorder Schedule
    - Contact Agency (NRC component, e.g., John Doe/NRR)
    - Copies Distributed (Mechanism/source, e.g., phone
      request/public)

- A series of management reports to provide control for document
printing estimates.

    All ADP development work is done in ANSI COBOL and processed on
    CDSI IBM 370/135.

CLIENT:.	Department of Energy
	Office of Data Systems Support

CONTRACT NUMBER: EC-77-C01-8574

PERIOD OF PERFORMANCE: June 1977 to June 1979

CONTRACT VALUE: $625,000.

CONTRACTING OFFICER: Mr. Richard Sutter
Room 204, Railway Labor Bldg.
400 1st Street, N.W.
Washington, D.C. 20007
(202) 376-9127

TECHNICAL OFFICER: Mr. Ken Brown
Forrestal Building, Room BH081
1000 Independence Avenue, S.W.
Washington, D.C. 20585
(202) 252-6576

DESCRIPTION OF SERVICES:

A major contract was awarded to CDSI for technical suyport to the Department of Energy (DOE) in the development, enhancement and maintenance of computerized energy information systems. We maintained existing programs and performed system enhancements through development of additional programs.

For this contract, we have performed the following services:

o Analyzed and defined requirements for program changes and
  system enhancements;

o Performed system design

o Wrote programming and developed JCL;

o Tested to verify system changes;

o Documented systems and programming tasks;

o Developed user manuals; and

o Trained personnel in system operation.

In the analysis process, CDSI reviewed all available system and program documentation and provided a plan to indicate scheduling and milestones for each task order. Documentation was developed for required modifications. We programmed changes using the original system language, and developed JCL to

execute and integrate the programs. System changes were verified by running the programs using test data. Following modification, CDSI performed system operation through one production cycle for further verification. A series of training sessions was conducted for user personnel to acquaint them with system modifications.

DOE required use of COBOL and FORTRAN programming languages. TSO, SUPERWYLBUR, and IBM JCL were employed extensively during the development of programs. In several tasks the ADABAS data management system was used, and other major tasks also required use of the Computer-Generated Graphics System with microfiche output.

To date, we have provided support to DOE in several areas:

o Oil Import Program System (FOIPS)

o Coal Supply Curve Generation System;

o Action Tracking System (ACTS);

o Oil and Gas Reserves Name and Address System;

o Monthly Energy Review (MER) Data Base;

o ERD MTIS Correspondence Control System;

o Institutional Planning System (IPS);

o Project Accountability Scheduling System (PASS);

o Mandatory Oil Import Project (MOIP); and

o Strategic Petroleum Reserve Inventory System (SPRIS).

These tasks are described in the following pages.

OIL IMPORT PROGRAM SYSTEM (FOIPS)

This system is designed to produce reports detailing oil imports, as well as Strategic Petroleum Reserves figures and calculations. Under the contract, CDSI determined the criteria necessary to produce the reports and submitted a task plan containing requirements for data and system function, specifications for data base and program, and a detailed test plan.

We developed design specifications, and wrote, coded, compiled and unit tested the programs necessary to produce the reports, using existing live data for the testing. All programs and related JCL were optimized to the extent that optimization was practical. ANSI COBOL was the language used. An existing SUPERWYLBUR Macro was modified to allow for interactive running of the programs.

Testing, which was conducted in an operational environment, generated a report to verify the correctness of record selection. It also included a file dump of the input file. Demonstration/training sessions were given in the operation of the system to assure complete understanding of the new reporting capability.

COAL SUPPLY CURVE GENERATION SYSTEM

We analyzed the existing coal data base and associated model, and enhanced both the data base and the model to provide for additional analyses. These analyses included regionalization of marginal mines, modification of productivity estimates, revised calculation of reclamation costs, and internalizing of cleaning costs.

After finalizing system requirements, CDSI made extensive enhancements to the basic program and conducted successful runs. We performed some major program modifications to regionalize the acceptance of seam-thickness-versus-mine-size distribution information, to modify interpolation of mine-costing so that no changes are made for drift mines, to add the ability to accept reclamation cost for deep mines, and the ability to calculate black lung exposure insurance as a separated overhead item.

Other modifications included the addition of cleaning loss percentages and cleaning cost parameters, continued initialization of various arrays, extensive changes to the cost computation logic, and an amended report format. Minor changes were required to correct errors in the user's data base and to bring the results of the model's calculations within reasonable limits.

CDSI generated graphics for new supply curves, and performed runs, tests, and validations. Analytical and programming support was provided during user validation runs, and this support is continuing on an as-needed basis.

ACTION TRACKING SYSTEM (ACTS)

An interactive, tutorial edit, update and query system was designed and developed by CDSI. It permits storage and retrieval of topical energy information, as well as addition and modification of records. Both the retrieval and update programs can be used interactively on a BDAM file by valid users. The records were expanded to enlarge several fields and to allow a new field to be inputted. We then tested and documented the programs.

Enhancements were made to the update, retrieval and report programs. These changes facilitated handling of the system and altered the retrieval program, creating a weekly control record and enabling users to print all ACTS updated that week. Text editing features were added to provide increased legibility of the printed ACTS. Existing program documentation was altered to reflect these changes. In addition, CDSI provided data entry support using the update and retrieval programs.

CDSI modified all the programs to convert them from Federal Energy Administration use to DOE use. This required alterations to the update, retrieval and print programs already in use. Three fields had to be deleted and three added. A conversion program was written to change the data base, converting control numbers and changing data to a new format. When the user encountered problems with the transaction files filling up, we altered the update to warn the user when the files were filling up and to initiate a run to dump the file onto tape.

Additional technical support was provided in several problem areas. In order to speed up data entry and cut processing time, a terse conversational mode was implemented. This mode eliminated a number of prompts and displays unnecessary for experienced personnel. But the existing verbose conversational mode was left intact for use by inexperienced data entry clerks.

Because of the expanded scope of the DOE ACT System, the Table of Contents of the ACTS book had become excessively time-consuming to produce manually. Amendment of the retrieval program allowed for automated weekly production of a Table of Contents reflecting the additions and changes to the file during that time.

A weekly summary of overdue and upcoming ACTS was being produced from the retrieval program in a complicated and time-consuming iteration. We automated the summary so as to produce the required listing on one demand, cutting processing time and clerical labor.

Existing program documentation was altered to reflect all changes.

OIL AND GAS RESERVES NAME AND ADDRESS SYSTEM

Modification to the existing First Purchaser Name and Address System were made by CDSI to achieve DOE compliance with requirements of the Oil and Gas Reserves System.

Three major program changes were involved in the work. The update program was modified to allow addition, deletion and replacement of fields and records on the name and address file; the label generation program now allows selection of labels based on status code; and the master print program displays contents (by record) on the name and address file. Additional tasks performed at user request were the development of a JCL sort prior to the label program and a generation data group for the name and address master file. All programs were tested and their documentation modified.

MONTHLY ENERGY REVIEW (MER) DATA BASE

To provide enhancement in line with user needs, CDSI designed and developed an interactive system capable of creating a data base containing MER tables and coordinates for graphic output and update of the data base on a monthly basis.

CDSI's initial task was definition of the data base structure. This task was complicated by the fact that we had not written the existing programs. We then coded and tested the update program and wrote a new instruction sheet so that the user has an up-to-date reference for the commands of the program. While the reporting program was designed and coded, the system was enhanced to allow use of the update program to build the data base. The calculation-average command for the update program was coded, tested and implemented. Upgrading of the print program resulted in the ability to print revisions, sources and footnotes. The program was also coded to produce graphs. Documentation was written, testing was performed, and the new options were explained to the user.

ENERGY RESEARCH AND DEVELOPMENT MANAGEMENT AND TECHNICAL INFORMATION SYSTEM (ERO MTIS) FOR CORRESPONDENCE CONTROL

CDSI designed and developed a batch edit, update and report system providing for storage and retrieval of tracking data on correspondence relating to energy information. The system accepts word processing input and files it in an ADABAS data base management structure so that the data base can be updated and accessed to report current information.

Two programs were designated and written by CDSI: an update program allowing the user to create, change and delete records on the ADABAS file structure; and a report program to print copies of the new and modified records for review. Both programs were tested and documented for compliance to DOE standards. Operational procedures were included as part of the documentation. A major element in the task was the need for a file structure suitable for the volume and nature of the correspondence information. After analyzing both the DADBAS and the BDAM structures, we chose the former, based largely on the fact that the expandable data management system was more suitable for the volume of information involved.

INSTITUTIONAL PLANNING SYSTEM (IPS)

CDSI provided major enhancements to the institutional Planning System which was developed by DOE in support of the Office of Energy Research. The Institutional Planning System provides critical data concerning five-year programs of laboratories, a capability to rapidly analyze resource requirements, and a control system for rapid evaluation of resource allocation among program elements.

In less than two months, CDSI prepared a Functional Requirements Document, Users Manual, Program Specification, a revised code structure incorporating 187 DOE Budget and Classification Codes, and a new report program. This latter program was coded, tested, debugged and made operational during the two-month task. In addition, in response to DOE request, we completely reviewed IPS and submitted alternatives for meeting expanded user requirements. The improvements will result in greatly increased user support, flexible report generation, and improved efficiency.

PROJECT ACCOUNTABILITY SCHEDULING SYSTEM (PASS)

This system has been designed to provide milestone information for all ADP systems within the Department of Energy. Input to the system is accepted in transaction form and maintained on a direct (BDAM) file which is used during the update phase. Outputs provide DOE management with summary, detailed and exception reports.

We are currently involved in the modification of the update and report programs, the development of additional reporting capabilities, and the documentation of the entire system at the DOE level 3 standard. Programs are written in ANS-COBOL using TSO, BDAM, and SUPERWYLBUR in the 370/168 environment.

MANDATORY OIL IMPORT PROGRAM (MOIP)

We are engaged in the enhancement and maintenance of the Mandatory Oil Import Program (MOIP) system which edits all transactions pertinent to the regulation and control of oil imported into the United States. In addition to tracking oil quantities, importing oil company records are maintained and audited against actual company records.

The MOIP system is composed of over forty programs written in ANS COBOL using Warnier's top-down, structured programming techniques. TSO, SUPERWYLBUR, and ADABAS were all used in the development and maintenance of the system.

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STRATEGIC PETROLEUM RESERVE INVENTORY SYSTEM (SPRIS)

The Strategic Petroleum Reserve Inventory System (SPRIS) was developed at the request of the Strategic Petroleum Reserve Office of Operations (SPRO) to meet requirements set forth in the Energy Policy and Conservation Act of 1975 (EPCA). The system permits SPRO to monitor, on a timely basis, oil inventories form purchase to final storage, and to report these inventories both in transit and at key SPR intermediate storage sites.

An interactive tutorial system has been designed to assist non-ADP personnel with the storage, update, and retrieval of oil inventory information from the system. This enhancement work has been programmed in ANS COBOL using TSO and SUPERWYLBUR.

SIMILARITY TO PROPOSED EFFORT

Since June 1977 we have successfully supported DOE in the analysis, design, development, implementation, operational support, and documentation of large-scale energy data collection and reduction systems. During this period, we have provided EIA with the service and cooperative environment that the current procurement requires. We are convinced that our professional staff can continue to provide the superior support that EIA seeks.

Specifically, we have designed and developed a batch edit, update and report system for the Energy Research and Development Management and Technical Information System (ERD MTIS) for correspondence control. We have designed and developed the Action Tracking System (ACTS), an interactive, tutorial edit, update, and query system for the storage and retrieval of topical energy information. We have developed design specifications, written, coded, compiled and unit tested ANSI COBOL programs and associated JCL in an IBM 370/168 interactive environment for the Oil Import Program System.

Additionally, we have analyzed the Coal Sypply Curve Generating System, resulting in modifications to the data base and model. We have modified the First Purchaser Name and Address System to comply with DOE requirements for the Oil and Gas Reserves Name and Address System. We have defined the data base structure of the Monthly Energy Review (MER) and enhanced the system through the design and development of an interactive system which involves the creation of MER tables and graphic output.

We are implementing an interactive Institutional Planning System (IPS) to assist DOE laboratories and facilities in addressing multi-year budget/planning projections of work activities to be performed at each location. We are actively supporting major enhancements to the Project Accountability System (PASS) used by DOE management at all levels as project monitoring mechanisms on all ongoing ADP tasks.

Department of Energy
Office of Data Systems Support
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PERFORMANCE

The DOE Support contract is in progress, having been renewed by the client. There have been no succeeding contracts, no overruns, incentives, or new awards associated with this contract.

CLIENT:

Central Pension Fund of the International
Union of Operating Engineers and Partici-
pating Employers
4115 Chesapeake Street, N.W.
Washington, D.C. 20016

CONTRACTING OFFICER:

Mr. Frank Gould
4115 Chesapeake Street, N.W.
Washington, L C. 20016
(202) 362-1000

TECHNICAL OFFICER:

Mr. Frank Gould
(202) 362-1000

DESCRIPTION OF SERVICES

The Central Pension Fund has contracted with CDSI to provide total data
processing support of its mission and objective. The plan offered by CPF has
over 305,000 participants and over 13000 pensioners. Each month the fund
receives over $4 million per month in contributions from approximately 15000
participating employees. Benefits payments total to the funds pension recipients
exceeds $1.6 million each month.

The function of the CPF automated system is to maintain accurate accounting
on the participating employers, employees and pension recipients. The system
functions are designed to provide these records in various forms for use by
fund personnel while minimizing the clerical support functions. The system
consists of over 200 products including such key stems as reports of employer
contributions, employee hours worked and contributions paid by the employers,
benefit calculations, pension checks, automated letters to employers and to
employees, federal tax statements, and administrative products.

We provide total support in the areas of computer facility management,
operations, data reduction, data validation, production control, document pick-
up and delivery, and application software development and enhancement. The CPF
application software is a closely associated set of modular subsystems comprising
nearly 200 COBOL programs developed and maintained by our staff over the past
six years. Also, our staff has undertaken numerous system tasks including the
upgrade of the system from IBM 360 to 370 hardware, and the evaluation and
selection of remote processing capabilities. Recent enhancements to the system
have added on-line inquiry and data modification to the existing capabilities.

SIMILARITY TO PROPOSED EFFORT

Because of the type and variety of services required, the accuracy re-
quired in the data, and the critical time constraints for system operation,
the CPF project is an excellent example of our ability to provide effective
support to the Nuclear Regulatory Commission.

We have developed precise operational procedures and standards for use by operations supervisors, console operators, data clerks, production control clerks, and data entry personnel. These procedures are designed to ensure the quality, accuracy and timeliness of the products, to ensure the most efficient use of computer and human resources, and to ensure conformance to requirements ·, and specifications.

We provide complete system processing support, from data collection to final report distribution, microfilming and mailing. We produce pre-listed reporting forms and mail them to participating employers each month. Our couriers pick up the completed responses from CPF offices. Production · specialists ensure that all source documents are logged, balanced, and entered into the system for processing. Data specialists scan the documents for completeness and reasonableness. Following this pre-edit, the data are keypunched and keyverified. The reduced data are subjected to extensive automated edit procedures.

Each month over 100,000 records are processed into the various subsystems. Detail procedures are defined for the level of involvement of CDSI personnel in correcting problems. A substantial effort is expended in maintaining complete detail of processing activities, dates, files used, etc. CDSI also maintains copies of key system products for use in verify system processing validity from product-to-product and subsystem-to-subsystem.

Effectively our staff function as an extension of the Central Pension Fund. Constant contact is maintained in order to satisfy the requirements of the funds administrative, supervisory, clerical personnel and any external associated of the fund. Over the course of our contract the automated system has expanded by over 75% in number of program units and by over 100% in system products. These additional activities are all provided in the same or reduced cyclical time frame today as initially established initially by the fund.

CLIENT: National Audiovisual Center (NAC)
National Archives Trust Fund Board,
GSA

CONTRACT NUMBER: NATFB-202

PERIOD OF PERFORMANCE: January 1978 - Present

VALUE: $50,000

CONTRACTING OFFICER Claudine Weiher
(202) 523-3076

TECHNICAL MONITOR: Robert Curry
(301) 783-1864

INVENTORY CONTROL AND ORDER PROCESSING SYSTEM

CDSI was selected by the National Archives Trust Fund Board to design, implement and maintain an inventory control and order processing system for sale by NAC of audiovisual aids including slides, films and charts.

SERVICES PERFORMED

- Requirements analysis;

- Design and implementation of a system to meet NAC needs;

- Keypunch operations; and

- Monitoring and maintenance of the operating system.

DESCRIPTION OF SERVICES

This NAC system is designed to meet three major needs. These are (1) inventory control, (2) order processing and (3) management reporting. The inventory control system tracks the inventory of 13,000 different items sold by the National Audiovisual Center (NAC). It keeps track of what is ordered, sold and stored.

Order processing consists of key punching and editing orders, and creating shipping documents or "rain check" back orders. CDSI notifies customers every 30, 60 and 90 days about the status of back orders. We also check for overpayment and underpayment and send appropriate refunds or supplemental bills.

- The Inventory Control Subsystem is a collection of transactions information which is stored on two mass sotrage files. The Inventory Master File contains control information and balance summaries for approximately 13,000 products. The other file is the Inventory Activity File, and it contains all the detailed information from the system source documents. The system fulfills the following requirements:

    - Controls to assure that all transactions affecting the inventory records are correctly posted.

    - Audit trails to show receipts, disbursements and adjustments to items.

    - Reports that indicate activity by product, reorder points for individual products and the current inventory status.

- The Order Processing Subsystem processes approximately 1,000 orders per week. The system produces (1) Packing Lists, (2) Inventory Pull Lists, (3) Payment Due Notices, (4) Refund Reports, (5) Backorder Reports and (6) 4-up Labels. In addition to the above reports, the system maintains an error suspense file and a backorder file. The system also updates the customer information data base.

- The Management Reporting Subsystem extracts data from the customer information data base from which reports vital to a successful business operation are produced. Some of these considerations are marketing analysis statistics and sales activity for particular product or types of products, or demonstrated by sales information.

The programs are run on a CDSI IBM 370/135 computer and are written in ANSI COBOL. Key CDSI personnel involved in the project are: Officer-in-Charge, Daniel Grove; Project Manager, Philip Ryave; and Production/Control Supervisor, Judy Spencer.

CLIENT:	U.S. Postal Service
	Philatelic Group Program Manager
	Office of Stamps

CONTRACTING OFFICER:	Mr. Gene P. Siggins
	475 L'Enfant Plaza West, S.W.
	Washington, D.C. 20260
	(202) 245-4865

TECHNICAL OFFICER:	Mr. Robert Janeski
	475 L'Enfant Plaza West, S.W.
	Washington, D.C. 20260
	(202) 245-4578

CONTRACT NUMBER:	104230-76-W-0542
CONTRACT VALUE:	$2,364,230
PERIOD OF PERFORMANCE:	September 1975 - In Progress

DESCRIPTION OF SERVICES

In 1975, the USPS sought a contractor who was able to provide a full range of support services for their Central Philatelic Fulfillment Program (FULPHIL). USPS chose CDSI to design, implement, and operate both automated and manual systems to fulfill customer orders for philatelic products. These products include special philatelic passports, posters, gift boxes, educational kits, commemorative panels and Bicentennial products. In addition to the actual fulfillment activity, one of the major objectives for this project was to build a data base of the names, addresses, order and demographic data of persons who order these products. Accuracy and purity of the data were prime considerations.

The system which we developed and are currently operating provides a wide range of services in support of the FULPHIL Program, including:

- Processing requests for information from the general public (both national and international)

- Fulfilling orders from customers for a multi-product line

- Providing shipping data on philatelic products

- Maintaining complete customer account records

- Protecting security of mailing list

- Maintaining stringent inventory security and control

- Developing market analysis statistics and research information

E-15

- Meeting U.S. Postal Service output requirements

Since the project's inception FULPHIL has:

- Deposited over $1,200,000.00 in USPS Trust Account

- Received over 2,817,000 philatelic products from inventory

- Disbursed over 872,000 items of philatelic products from inventory

- Keypunched and entered into a USPS Customer Account File over 355,000 addresses and product history codes

- Mailed over 362,700 Customer Information Requests, Educational Kits and Stamp Panels containing 465,180 inserts

SIMILARITY TO PROPOSED EFFORT

We established the systems and procedures to clerically process 15,000-20,000 orders per week. The procedures included batching, mail opening, order examination and edit, remittance verification, cash control, deposit preparation, coding for the automated portion of the system, and maintenance of strict control over batch integrity and data quality.

Once orders are screened, batched and coded, they are sent to data entry for conversion. The converted media flows into an automated system, which we developed, where rigorous edits are performed to insure the consistency and validity of the data. The edits are reviewed by quality control personnel, corrections are made, and the data is then used to update the FULPHIL customer data base.

The updating process generates picking tickets for pulling the customer order, and provides a series of management reports on orders, inventory, and sales activity. The picking ticket is used for withdrawing stock from the inventory of stamp products we maintain.

The orders are checked by quality control personnel, consolidated, packed and mailed by our shipping staff. The inventory is updated to reflect the withdrawals and a variety of accounting and management reports are prepared by the automated system. Because we are dealing with accountable (and negotiable) paper in the form of postage stamps, strict controls are exercised at every step of the operation.

In order to move thousands of orders through our facilities each week, we have developed highly structured production and control procedures. We have learned to separate the "routine" orders and "special" orders into different groups for processing. Data analysis and quality control procedures for orders without problems are different from those which require correction or additional information.

We have developed written procedures for each phase of our operations so that we can absorb the fluctuations in volume by expanding and contracting our work force and still be assured of consistency and quality in the work performed. We have learned how to manage the expansion and contraction of our work force to meet the flow of orders resulting from USPS promotional efforts.

The need for a valid customer data base has necessitated the development of strict data analysis and quality control procedures. The problem of dealing with accountable stamp products has also led us to develop stringent control techniques. The need to staff for a variable workload has taught us how to manage a business that must rely on clericals who must be trained and supervised carefully to ensure the maintenance of a continually high quality of output.

We enhanced the system to accommodate the use of minicomputers (IV Phase System IV-90) for data entry and front-end edit processing. In addition, several data files, including the product inventory, and customer subscription files are being installed on the minicomputer for on-line updating. Orders and mailing list update transactions are being transmitted to the central computer at the Western Area Supply Center in Kansas for updating and report production.