

GUIDELINES FOR THE PREPARATION OF SPECIFICATION, SELECTION AND ACQUISITION OF ADP SYSTEMS

A. PURPOSE

This handbook provides guidance and assistance to personnel involved in the ADP procurement process. Although the information is not all-inclusive and should not be considered an exhaustive checklist, it describes acceptable practices and procedures derived from actual ADP procurement experience.

B. BACKGROUND

1. Congress granted to the General Services Administration (GSA) the sole authority to procure:

- a. Automatic Data Processing Equipment (ADPE)
- b. Proprietary Software
- c. Maintenance Services
- d. ADPE Supplies
- e. ADPE Services.

2. The Agency is required to comply with the Federal Property Management Regulations as published by GSA concerning the procurement of ADPE and services. The statutory basis for such regulations, PL 89-306, applies Government-wide and supersedes the application of the Agency's authorities in this area under PL 81-110, the Central Intelligence Agency Act of 1949.

3. GSA delegated authority to the Agency "in respect to the lease, purchase, and/or maintenance of ADPE and related items when required for intelligence information processing, communications, or intelligence operations." This delegation of procurement authority becomes void if the Agency does not follow certain procedures prescribed by GSA.

4. Procurement Note No. 73, dated 23 January 1974, assigns the responsibility for all ADP-related procurement to the Automatic Data Processing and Engineering Section, Contracts Management Branch, Procurement Division, OL (ADP/ES/CMB/PD/OL). Headquarters Regulation (HR) 1-14J assigns to Director of Joint Computer Support the responsibility of reviewing and coordinating proposals for the acquisition of computer programs and equipment.

5. To ensure compliance with the Delegation of Procurement Authority (DPA), the Agency has adopted this handbook as a guide.

6. When seeking competition, the Agency must prepare its solicitations in conformance with the content and format of the "Solicitation Document for ADP Systems." An accompanying document to be issued to industry with the Solicitation Document is the "General Instructions to Offerors Governing Proposal Preparation."

7. In addition to this handbook, the following issuances are important to the ADP procurement process.

- a. The applicable procurement regulations, e.g., Federal Procurement Regulations (FPR) or Armed Services Procurement Regulations (ASPR).

b. Federal Management Circular (FMC) 74-5 which provides policies and procedures relating to the selection and acquisition of ADPE.

c. Part 101-32 of the Federal Property Management Regulations (FPMR).

(1) FPMR 101-32.2 sets forth the requirements and procedures governing the use of existing Government ADP facilities on a shared basis.

(2) FPMR 101-32.3 provides the policies and procedures relating to the reutilization of Government-owned and leased excess ADPE.

(3) FPMR 101-32.4 sets forth specific policies and procedures relating to the procurement and contracting for ADPE, software, and maintenance services. In addition, this FPMR Subpart identifies some mandatory clauses which must be used in solicitations for ADPE and related items.

(4) FPMR 101-32-403-5 provides policies and procedures governing the sole source procurement of ADPE.

d. The Standard Solicitation Document for ADP Systems and accompanying document for offerors, entitled "General Instructions to Offerors Governing Proposal Preparation" are designed to achieve a practicable and useful degree of uniformity in ADP procurements. These documents are available on request to ADP&ES/CMB/PD/OL.

8. Before preparing a Document, user components should be aware that GSA has executed a number of contracts for ADP supplies and hardware which may be used in lieu of a solicitation. Some of these contracts constitute mandatory sources of supply.

Examples are contracts for teleprocessing, magnetic tape, disk drives, tape drives, disk packs and computer memory, among others. It should also be noted that these mandatory contracts and the articles covered thereunder change from year to year.

However, if some machines for an ADP system are acquired from requirements contracts, it may affect the prime contractor responsibility for the system. In some instances the use of such contracts may relieve the vendor of all prime contractor responsibilities, including systems integration.

9. The following is a checklist for use in preparing ADP solicitations. It is not all-inclusive, but touches the high spots only. Subject to availability of personnel, OJCS and Procurement Division/OL will assist user offices with any of the items contained herein.

a. Is the objective of the Solicitation Document clear?

b. Are the required standards, such as ASCII code, specified?

c. Are the mandatory requirements clearly stated?

d. Is each of the desirable features clear, and are supportable dollar values established?

e. Are the requirements for a benchmark demonstration or operational capability demonstration clear? Are they adequate to demonstrate the required capability?

f. Are the evaluation criteria clear?

g. Is the basis for award, including the basis for evaluating desirable features, clear?

h. If there are unusual or limiting features in the Solicitation Document, are they clearly stated?

i. Is a systems life stated? (One must be.)

j. Is the method of lease/purchase analysis stated?

k. Does the material reflect compliance with:

(1) FMC 74-5: Management, acquisition and utilization of automatic data processing (ADP). (See paragraph C, D, E, F)

(2) OMB Bulletin 60-6 with respect to studies preceding the acquisition of ADPE. (See paragraph C)

(3) FPMR 101-32.2 with respect to ADP resources.

(4) FPMR 101-32.3 with respect to reutilization of ADPE. (See paragraph E)

(5) FPMR 101-32.4 with respect to procurement policy and procedures.

(6) FPMR 101-32.13 with respect to implementation of Federal Information Processing Standards Publications (FIPS PUBS) in Solicitation Documents.

(7) FPMR 101-35.1 with respect to communications.

C. PRELIMINARY STUDIES

1. FMC 74-5 and OMB Bulletin 60-6 require that the Agency make certain preliminary studies before a procurement action can take place where the anticipated purchase price will exceed \$100,000 or the anticipated monthly rental will exceed \$2500. Below this dollar level procurement files should be documented to include appropriate management justification and approval.

The systems studies must include a determination that the use of ADP is essential. Such determinations should be preceded by, and based upon, the results of well-documented studies, which provide adequate factual basis for concluding (1) that the functions or processes for which the ADPE can be used are essential to perform; and (2) that the systems, procedures, and methods to be employed in performing these functions or processes have been designed to achieve the highest practicable degree of effectiveness with optimum efficiency and operational economy. A carefully documented ADPE systems study would normally include the following:

a. Definitive indications of the benefits that are expected to accrue from the proposed system that cannot otherwise be attained and justification for these benefits in terms of economic gains or improved management effectiveness.

b. A general description of the data processing needs of the activity in relation to the basic mission of the activity.

c. Workload and employment statistics describing the magnitude of the activity's problem.

d. A chart depicting the organizational effect of ADPE on the activity, as well as showing the location of the proposed data processing function.

e. Flow charts supplemented by clear and precise narrative indications of the nature and scope of each application. There should be included, for each application, the following:

(1) A description of the contents and proposed outputs.

(2) A description of the content and source of all input data.

(3) Record lengths and number of records.

(4) Processing frequencies.

f. Narrative descriptions of those present systems which correspond to the proposed applications.

g. Detailed comparative cost data for the proposed system, adjusted by improvements developed in the course of the study.

h. Indication of personnel implications in terms of reduced or augmented staffing needs.

i. Indications of the availability of and expected costs of site preparations.

j. A projected schedule should be provided covering plans for equipment selection, detailed application development, personnel training and orientation and site preparation, installation, transition, and attainment of normal operations.

k. Indications that consideration was given to locating or obtaining equipment which could be shared with other components in the Agency or with other agencies.

l. All factors which might have a bearing upon top management's decision, including problems or disadvantages.

D. PRESENTATION OF REQUIREMENTS FOR ADPE

Systems specifications are to be designed to ensure free competition among equipment manufacturers.

The methods of presenting requirements are data systems specifications (i.e., workload data), equipment performance requirements and a combination thereof.

1. DATA SYSTEMS SPECIFICATIONS

The preferred method for describing requirements is by means of a data systems specification. This method includes: (a) the delineation of the objective which the system is intended to accomplish, and (b) the data processing requirements underlying that accomplishment. The latter includes:

- a. thruput requirements
- b. file description, record size, etc.
- c. transaction volume and descriptions
- d. card and printer I/O volumes
- e. terminal I/O volumes
- f. information on sequence requirements
- g. timing or turnaround restrictions, etc.

The advantage of such a workload description is that it allows each vendor to configure his system to best meet the requirements. Thus, Vendor A can propose a different mix of tapes, disks, and memory than Vendor B.

2. EQUIPMENT PERFORMANCE REQUIREMENTS

The equipment performance requirements approach, while less desirable than the workload description, can be used with fairness, if done intelligently and carefully. This method involves specifying minimum performance requirements for each item; e.g., memory cycle time, disk size and speed, tape speeds, printer speeds, etc. However, if the specifications are not chosen very carefully, this method invariably results in vendor bias. In addition, such a method does not take into account the fact that Vendor A may perform the workload with a faster printer and a slower tape system than specified. However, if the solicitation specifies performance rates which fall within the range of most vendors and measures system performance with a benchmark, a fair and equitable procurement should result.

3. COMBINED WORKLOAD AND PERFORMANCE SPECIFICATIONS

The most common method of presenting requirements is to use a combined approach, whereby certain requirements are specified in terms of workload and others in terms of equipment performance requirements.

E. GSA's EXCESS LIST

A determination must be made that nothing on GSA's "excess" list can fulfill the office requirements. The Chief, ADP&ES/CMB/PD/OL has the "excess" lists from GSA.

Users of computer equipment should periodically review GSA's "excess" lists to determine if any of their needs can be satisfied by equipment declared excess by other Federal agencies. This includes both new requirements and requirements now satisfied by leased equipment. Requests for excess shipment are usually serviced on a first-come first-service basis, but the using offices can get a head start if GSA is notified in advance of Agency needs.

GSA has established a list of ADPE requirements for which demand may be potentially satisfied from excess or exchange/sale ADPE when reported.

Using components should notify OL/PD/ADP&ES of requirements or "wants" when these requirements are first recognized if they could be potentially satisfied by equipment declared excess by other agencies. OL/PD/ADP&ES will then notify GSA of the "wants." Want list requirements are automatically canceled six months from the date they are established. They are renewable, however, if the requirement is not satisfied and the equipment is still desired.

F. POSSIBLE UPGRADE

An evaluation must be made of the possibility of upgrading the present system versus procuring a replacement system.

The selection of new ADPE to replace and upgrade equipment on-hand is frequently possible within the same or a new product line of the vendor supplying the existing equipment. Usually such new equipment is compatible with existing equipment and offers a better cost-performance ratio than is currently being achieved. These replacement possibilities, often advanced by unsolicited proposals, generally appear attractive on the surface. However, several factors should be evaluated before making a decision to proceed with the replacement. These include:

1. If the replacement is to be made without a competitive evaluation, it is a sole-source procurement and subject to the regulations governing sole-source procurements.

2. If the replacement is being contemplated because of a workload that is causing a saturation of existing facilities, other actions should also be considered. They are: (1) *revalidate* the workload and data processing requirements to determine if a reduction can be effected, and (2) *determine* the possibility of improving the performance of existing facilities through program modifications, rescheduling, or the selective replacement of software or peripheral devices which offer greater efficiency or lower cost. By making such improvements, it may be possible to streamline the current process to equal or exceed the improvement achieved through complete replacement of the equipment.

3. The use of alternate commercial sources of supply (such as leasing companies) or alternate methods of contracting for the existing equipment (such as the purchase of leased equipment), might result in equally significant cost/benefit improvements.

The mere availability of equipment within the incumbent vendor's product line which is compatible with the installed equipment and which may offer a better cost/performance ratio is *not*, therefore, a sufficient sole-source justification. The policy objectives of defining system specifications as the basis for selection to encourage free competition among qualified suppliers, and of making the selection on the basis of capability and overall cost, apply in these cases as they do in the initial selection. Decisions reached in this regard should be properly documented, including a

statement of the anticipated cost/benefit improvements against which actual results can be analyzed.

G. PERFORMANCE VALIDATION

Depending upon the size and complexity of the user's requirement, Agency components must specify either or both of the following methods of performance validation in the solicitation document.

1. BENCHMARK DEMONSTRATION

a. A known portion of the workload which is representative of the entire workload and consists of a mix of benchmark programs, data and output results, is provided to those offerors who specifically request the benchmark package. This should assist offerors in judging the scale and complexity of equipment and software necessary to complete the user's workload.

b. Each responsive offeror must demonstrate his capability to run these representative programs successfully. Since it is normally not practicable to require each offeror to test the entire data system, the importance of selecting appropriately representative programs cannot be over emphasized. These benchmark programs should be written in a standard higher level programming language; e.g. (ANSI FORTRAN or ANSI COBOL) and should be capable of being processed during a single half-day benchmark demonstration. Ordinarily, *properly selected* benchmarks will demonstrate that the offeror's proposed system contains adequate memory and input/output devices, that the throughput speeds are sufficient to do the entire job, and that the software proposed is operative and adequate. The benchmark demonstration will provide timing data upon which to base timing validations. Therefore, the user must equate each of the benchmarks to a portion of the total workload so that proper extension can be made.

2. OPERATIONAL CAPABILITY DEMONSTRATION

When it is not feasible to benchmark the complete proposed configuration, the user may require the offeror to perform an operational capability demonstration (i.e., functional demonstration) on those devices or components which are not part of a benchmark demonstration. This operational capability demonstration should be designed to prove that all proposed items meet the required capabilities and that they operate efficiently as an integral ADP system.

H. SYSTEMS LIFE EVALUATION COSTING FOR ADPE

GENERAL—A good comparative cost analysis is essential to the ADP procurement process. To use this technique properly, it is necessary to bring together all costs that arise during the stated systems life. In addition, the following points must be considered: systems life, present value discount methodology, residual value, and the various procurement methods available.

1. SYSTEMS LIFE

FMC circular 74-5 requires that the systems (items) life be established by the Government based upon requirements and stipulated in the Solicitation Document. The "systems or items life" means a forecast or projection of the period which begins with the installation of the systems or items and ends when the need for such systems or items has terminated. Systems or items life is not synonymous with actual life of the equipment.

2. PRESENT VALUE DISCOUNT METHODOLOGY

The present value discount methodology as set forth herein formalizes a single discount rate of 10 percent for all Federal agencies. The single rate is approximately the

long-run opportunity cost of capital in the private sector. Under this concept, the payments made over time will be adjusted to reflect the present value of those payments as of the date of contract award. Therefore, "all expenses" incurred while waiting for equipment delivery or incurred after installation during the stated life of the system must be adjusted to reflect present value. "All expenses" includes not only the offeror's prices (equipment, software, and support) over the systems life but also predetermined in-house expenses for ADPE installation and operation.

The following formula is to be used in calculating present value cost:

$$\begin{matrix} \text{Expected} \\ \text{Monthly} \\ \text{Cost} \end{matrix} \quad \times \quad \begin{matrix} \text{Discount} \\ \text{Factor} \\ \text{for 10\%} \end{matrix} \quad = \quad \begin{matrix} \text{Present} \\ \text{Value} \\ \text{Cost} \end{matrix}$$

The end-of-month discount factors for 10% are as follows:

Month	Factor	Month	Factor	Month	Factor	Month	Factor
1	.992 089	31	.781 752	61	.616 009	91	.485 406
2	.984 240	32	.775 567	62	.611 136	92	.481 566
3	.967 454	33	.769 432	63	.606 301	93	.477 757
4	.968 729	34	.763 345	64	.601 505	94	.473 977
5	.961 066	35	.757 306	65	.596 746	95	.470 227
6	.953 463	36	.751 315	66	.592 025	96	.466 507
7	.945 920	37	.745 371	67	.587 342	97	.462 817
8	.938 436	38	.739 474	68	.582 695	98	.459 155
9	.931 012	39	.733 624	69	.578 085	99	.455 523
10	.923 647	40	.727 821	70	.573 512	100	.451 919
11	.916 340	41	.722 063	71	.568 975	101	.448 344
12	.909 091	42	.716 351	72	.564 474	102	.444 797
13	.901 899	43	.710 683	73	.560 008	103	.441 278
14	.894 764	44	.705 061	74	.555 578	104	.437 787
15	.887 686	45	.699 483	75	.551 183	105	.434 324
16	.880 663	46	.693 950	76	.546 822	106	.430 888
17	.873 696	47	.688 460	77	.542 496	107	.427 479
18	.866 784	48	.683 013	78	.538 205	108	.424 098
19	.859 927	49	.677 610	79	.533 947	109	.420 742
20	.853 124	50	.672 249	80	.529 723	110	.417 414
21	.846 375	51	.666 931	81	.525 532	111	.414 112
22	.839 679	52	.661 655	82	.521 375	112	.410 836
23	.833 036	53	.656 421	83	.517 250	113	.407 586
24	.826 446	54	.651 228	84	.513 158	114	.404 361
25	.819 908	55	.646 076	85	.509 098	115	.401 162
26	.813 422	56	.640 965	86	.505 071	116	.397 989
27	.806 987	57	.635 894	87	.501 075	117	.394 840
28	.800 603	58	.630 863	88	.497 111	118	.391 786
29	.794 269	59	.625 873	89	.493 179	119	.388 617
30	.787 986	60	.620 921	90	.489 277	120	.385 543

3. RESIDUAL VALUE

Usually, the computer system at the end of its stated life still has some value to the Government. This value may reflect the fact that the initial using activity may keep the system longer than planned or some other Government activity may reutilize the hardware. The future lease payments saved, as well as the resale value of the equipment at the end of the stated systems life, affect residual value. The residual value varies with each activity. However, for general purpose equipment it is expected that after a five-year systems life the equipment should still be worth approximately 20-30

percent of the purchase price, and after eight years about 10 percent. The following formula can be used to determine residual value:

$$\text{Purchase Price} * X \text{ _____\% } X \begin{array}{l} \text{Present Value} \\ \text{discount factor} \\ \text{for last month of} \\ \text{systems life} \end{array} = \text{Residual Value}$$

Any procurement option (e.g., Purchase, Lease-to-Ownership, etc.) that results in the Government owning the system(s) will have the residual value deducted from the systems life cost for evaluation purposes.

4. PROCUREMENT METHODS

Systems life costing should be calculated for each procurement method offered. Examples of the plans currently being offered are:

a. PURCHASE

Outright purchase after installation and acceptance of equipment.

b. LEASE

(1) *Lease with Purchase Option*

Lease with option to purchase after predetermined intervals of time. The purchase price is usually reduced by subtracting rental credits as set forth in the offeror's proposal. Purchase option credits greater than 100 percent of monthly charges will not be considered in evaluating offers for award.

(2) *Long Term Lease*

Such plans may provide multi-year leasing at determinable prices where the agency exercises a renewal option at the end of each fiscal year.

(3) *LeaseTo-Ownership Plan or Lease With Title Transfer Plan*

A plan whereby title transfers after payment of ___ months of rental, but usually with no obligation, or less obligation, to continue to lease than in (4) below. Normally, title transfer does not occur in less than six years.

(4) *Installment Purchase Plan*

A plan whereby the Government exercises an option to purchase the equipment upon payment of ___ months of payments. It is frequently offered as a fixed term installment plan usually for 36 or 60 months in which the Government either is granted title immediately, or title is passed at the end of the contract.

Normally, an installment purchase plan cannot be consummated using annual appropriations.

Care should be taken during negotiations to ensure that the Government retains accrued credits and/or equity under any of the plans in 4.b above should the requirement cease or funds no longer be available. It is desirable to negotiate for the transfer of accrued credits to GSA should this case arise, so that GSA can find another user and retain the equity and any purchase option credits. At least a 90 day transfer plan should be available. The negotiator also has to be careful that equipment discontinuance is not hampered by restrictions on when the equipment can be dropped from the plan, or restrictions on the adding of new equipment. Ideally, the contract should contain no penalties for cancellation at the end of each fiscal year. It is imperative, however, that statutory "anti-deficiency" restraints be considered before entering into any multi-year lease or installment plan contracts.

*Including the operating software, if priced separately (i.e., unbundled) from the equipment purchase price, and if a perpetual license has been obtained by the Government. Instead of the straight purchase price, the sum of all invoice payments to be made to the contractor may be used as the basis for this calculation.

Caution should be exercised in entering into a contract under the plans outlined in 4.b.(3) and 4.b.(4) above, because often the problems of ownership, such as risk of loss or damage, taxes, and insurance, immediately fall on the Government and are avoided by the contractor. These plans offer profit advantages to the contractor when he can pass these costs and risks on to the Government. Accordingly, since the offeror does not have to include such contingencies in his pricing, commensurate price reductions must be a part of the negotiation objectives under these conditions.

I. ECONOMIC ANALYSIS

The comparative cost analysis of the alternative methods of acquisition should be followed with great care and precision. Frequently, the same vendor will not be low on both lease and purchase plans. Exhibits A thru D on the following pages show examples of different lease and purchase plans, as computed under the present value discount methodology. In addition, if no purchase funds or insufficient purchase funds are available, but outright purchase appears to be the most economical procurement method, the matter should be forwarded to GSA in accordance with the provisions of FPMR 101-32.403-4 for a determination as to whether the ADP Fund can be used.

**EXHIBIT A
ADPE SYSTEMS LIFE COST BY FISCAL YEAR**

	0	1	2	3	4	5	6	TOTAL
1. Lease basis with- option-to purchase (option exercised at the end of 18 months)								
a. Lease (including maintenance) 1st 12 months ...		\$156,000						\$156,000
b. Lease (including maintenance) 13th month thru 18th month			\$78,000					78,000
c. Purchase Price ...			610,000					610,000
d. Purchase option credit of 80% of rentals paid (\$234,000 x 80%)			(187,200)					(187,200)
e. Maintenance of Gov't-owned Equipment 2nd year (6 mos.- \$14,835)			\$14,835					14,835
3rd year				\$29,670				29,670
4th year					\$29,670			29,670
5th year						\$29,670		29,670
6th year							\$29,670	29,670
Total a thru e		\$156,000	\$515,635	\$29,670	\$29,670	\$29,670	\$29,670	\$790,315
Adjustment Factor	1.00	.909091	.826446	.751315	.683013	.620921	.564474	
Adjusted Total		\$141,818	\$426,144	\$22,292	\$20,265	\$18,423	\$16,748	\$645,690
Less Residual Value (\$610,000 x 20% x .564474)								68,866
								\$576,824

REMARKS ON EXHIBIT A

1. The present value cost is determined by using a discount rate of 10 percent carried to six decimal places and assumes end-of-year costs. The discount factor for the last month of each year was used (i.e., 12 mos.=.909091; 24 mos.=.826446; 36

mos.=.751315; 48 mos.=.683013; 60 mos.=.620921; 72 mos.=.564474) for the sample analysis. In an actual economic analysis, agencies should use the end-of-month discount factors shown in Section H of this handbook.

2. Six year systems life.
3. Residual Value was determined as follows:

Purchase Price				Present Value Discount Factor for last month of systems life		Residual Value
\$610,000	X	20%	X	.564474	=	\$68,866

4. The solicitation document should clearly state how the purchase option will be evaluated for the purpose of award (e.g., in this exhibit, the option is exercised at the end of 18 months).

**EXHIBIT B
ADPE SYSTEMS LIFE COST BY FISCAL YEAR**

	0	1	2	3	4	5	6	TOTAL
I. Purchase Basis:								
a. Purchase Cost	\$610,000							\$610,000
b. Maintenance of Govt.-owned Equipment.								
1st year (9 mos.— after 90 day guarantee)		\$22,253						22,253
2nd year			\$29,670					29,670
3rd year				\$29,670				29,670
4th year					\$29,670			29,670
5th year						\$29,670		29,670
6th year							\$29,670	29,670
Total a-b	\$610,000	\$22,253	\$29,670	\$29,670	\$29,670	\$29,670	\$29,670	\$780,603
Adjustment Factor	1.00	.909091	.826446	.751315	.683013	.620921	.564474	
Adjusted Total	\$610,000	\$20,230	\$24,521	\$22,292	\$20,265	\$18,423	\$16,748	\$732,479
Less Residual Value (610,000 x 20% x .564474)								(\$68,866)
Total Cost								\$663,613

REMARKS ON EXHIBIT B

1. The present value cost is determined by using a discount rate of 10 percent carried to six decimal places and assumes end-of-year costs. The discount factor for the last month of each year was used (i.e., 12 mos.=.909091; 24 mos.=.826446; 36 mos.=.751315; 48 mos.=.683013; 60 mos.=.620921; 72 mos.=.564474) for the sample analysis. In an actual economic analysis, agencies should use the end-of-month discount factors shown in Section H of this handbook.

2. Six year systems life.
3. Residual Value was determined as follows:

Purchase Price				Present Value Discount Factor for last month of systems life		Residual Value
\$610,000	X	20%	X	.564474	=	\$68,866

**EXHIBIT C
ADPE SYSTEMS LIFE COST BY FISCAL YEAR**

	0	1	2	3	4	5	6	TOTAL
1. Lease to ownership plan (Title transfer at the end of six years) Lease \$12,000/month including maintenance								
a. 1st year		\$144,000						\$144,000
b. 2nd year			\$144,000					144,000
c. 3rd year				\$144,000				144,000
d. 4th year					\$144,000			144,000
e. 5th year						\$144,000		144,000
f. 6th year							\$144,000	144,000
Total a-f		\$144,000	\$144,000	\$144,000	\$144,000	\$144,000	\$144,000	\$864,000
Adjustment Factor	1.00	.909091	.826446	.751315	.683013	.620921	.564474	
Adjusted Totals		\$130,909	\$119,008	\$108,189	\$ 98,354	\$ 89,413	\$ 81,284	\$627,157
Less Residual Value (\$610,000 x 20% x .564474)								(\$ 68,866)
Total Cost								\$558,291

REMARKS ON EXHIBIT C

1. The present value cost is determined by using a discount rate of 10 percent carried to six decimal places and assumes end-of-year costs. The discount factor for the last month of each year was used (i.e., 12 mos. = .909091; 24 mos. = .826446; 36 mos. = .751315; 48 mos. = .683013; 60 mos. = .620921; 72 mos. = .564474) for the sample analysis. In an actual economic analysis, agencies should use the end-of-month discount factors shown in Section H of this handbook.

2. Six year systems life.

3. Residual Value was determined as follows:

Purchase Price				Present Value Discount Factor for last month of systems life		Residual Value
\$610,000	X	20%	X	.564474	=	\$68,866

**EXHIBIT D
ADPE SYSTEMS LIFE COST BY FISCAL YEAR**

	0	1	2	3	4	5	6	TOTAL
1. Straight 6 year lease \$11,000/month including maintenance								
a. 1st year		\$132,000						\$132,000
b. 2nd year			\$132,000					132,000
c. 3rd year				\$132,000				132,000
d. 4th year					\$132,000			132,000
e. 5th year						\$132,000		132,000
f. 6th year							\$132,000	132,000
Total a-f		\$132,000	\$132,000	\$132,000	\$132,000	\$132,000	\$132,000	\$792,000
Adjustment Factor	1.00	.909091	.826446	.751315	.683013	.620921	.564474	
Adjusted Total		\$120,000	\$109,091	\$ 99,174	\$ 90,158	\$ 81,962	\$ 74,511	\$574,896

REMARKS ON EXHIBIT D

1. The present value cost is determined by using a discount rate of 10 percent carried to six decimal places and assumes end-of-year costs. The discount factor for the last month of each year was used (i.e., 12 mos.=.909091; 24 mos.=.826446; 36 mos.=.751315; 48 mos.=.683013; 60 mos.=.620921; 72 mos.=.564474) for the sample analysis. In an actual economic analysis, agencies should use the end-of-month discount factors shown in Section H of this handbook.
2. Six year systems life.
3. Straight six year lease: residual value not applicable.

**SUMMARY SHEET OF EXHIBITS A-D
AS COMPUTED UNDER THE PRESENT
VALUE DISCOUNT METHODOLOGY**

Alternative Methods of Acquisition Depicted	Systems Life Cost Exhibits A—D
A. Lease basis with option to purchase (option exercised at the end of 18 months)	\$576,824
B. Purchase Basis	\$663,613
C. Lease to ownership plan (Title transfer at the end of six years)	\$558,291
D. Straight Six Year Lease	\$574,896

The exhibits are designed to depict the alternative methods of acquisition using the present value discount methodology. No attempt has been made in these exhibits to identify all costs associated with the acquisition of ADPE. In an actual economic analysis, cost to the Government includes not only the vendor prices (equipment software, support) over the system life, but also predictable inhouse expenses to ADPE installation and operation.

J. COMPETITIVE ACQUISITION OF ADPE

1. SUBMISSION TO PROCUREMENT DIVISION, OL

The requesting component should provide to D/OJCS for concurrence a copy of the preliminary studies or a letter certifying that the studies have been completed. (List titles, dates, and locations.) The component also should provide specifications covering its requirements with a list of vendors who might be capable of bidding. After receiving the concurrence of D/OJCS, OL/PD/CMB/ADP&ES will solicit proposals from potential contractors.

2. PRESENTATION OF REQUIREMENTS

(See Section D of this handbook which discusses data systems specification, equipment performance requirements, and combined workload and performance specifications.)

3. INSTRUCTIONS FOR THE PREPARATION OF PROPOSALS

Solicitations should be prepared in conformance with the content and format of the "Solicitation Document for ADP systems." An accompanying document to be issued to industry with the Solicitation Document is the "General Instructions to Offerors Governing Proposal Preparation" and all proposals submitted must conform to these instructions.

The "General Instructions to Offerors Governing Proposal Preparation" and "Solicitation Document for ADP Systems" are lengthy documents. They have been put in the OJCS Time-Sharing System utilizing SCRIPT and are available to requesting components for copying into the P-space. This will enable them to write in their own mandatory and desirable specifications in accordance with their requirements. Contact ADP&ES/CMB/PD/OL for assistance.

4. COST INFORMATION

Attachment II of the Solicitation Document contains instructions for the submission of price tables in sufficient detail to allow complete analysis. Although use of these tables is optional, they should be used to the maximum practical extent.

5. EVALUATION FACTORS

To enable an offeror to prepare a proposal properly, the Solicitation Document must identify all the evaluation factors which are to be considered. In addition to the mandatory requirements, desirable features will be included where applicable. (See paragraph N.11. of this handbook for illustrations.) No factors other than those set forth in the Solicitation Document as evaluation criteria will be used in the evaluation of proposals. In this regard, the Comptroller General has determined that it is improper to use evaluation factors which are not revealed to all offerors. In addition, in those instances where the award may be made on a basis other than "lowest overall cost," it must be clearly stated in the Solicitation Document along with the criteria and methodology to be used in selecting the successful offeror.

6. EVALUATION OF TECHNICAL PROPOSALS

a. The technical proposals (along with a copy of the Solicitation Document) received by the Contracting Officer will be forwarded to the requesting component technical staff for evaluation. The cost data portion will be retained by the Contracting Officer for evaluation by the cost team. The technical staff must evaluate each proposal in strict conformity with the evaluation criteria of the RFP to determine whether each of the Government's mandatory requirements are met. In the case of desirable features, the technical evaluators must perform their evaluation in accordance with the evaluation criteria established and made known in the Solicitation Document.

b. The technical staff on behalf of the Contracting Officer, will be responsible for:

- (1) Validating the technical features of the proposal.
- (2) Ensuring that all offerors understand the Government's requirements.
- (3) Preparing all technical responses to questions from offerors.
- (4) Determining whether offerors meet the mandatory requirements that are not contingent upon successful benchmark tests, if such tests are to be part of the evaluation process. The technical staff will then recommend to the Contracting Officer whether any proposal that is rated unacceptable might be considered acceptable upon the furnishing of proposal revisions or clarifying data and the Contracting Officer will be so informed. The Contracting Officer will arrange for the submission of proposal revision or clarifying data in writing, and furnish it to the technical evaluators.
- (5) Scheduling the benchmark demonstration and/or operational capability demonstration in conjunction with the offerors who meet the mandatory requirements.

(6) Conducting the benchmark demonstration and/or operational capability demonstration and reporting the results to the Contracting Officer with recommendations as to the acceptance or nonacceptance of the offeror's performance.

7. NEGOTIATIONS

a. The Contracting Officer, in cooperation with technical personnel, will point out to each responsible offeror the ambiguities and uncertainties, if any, in his proposal.

The offeror should then be given a reasonable opportunity to support, clarify, correct, or revise his proposal as may result from the negotiations. Careful judgment should be exercised in determining the extent of discussions with the offeror. The time available, the expense and administrative limitations, and the size and significance of the procurement should all be considered in deciding on the type, duration, and depth of the discussions. Also, it is in the best interest of the Government to inform the offeror when it is apparent that an offeror can reduce the cost of his proposal (e.g., such as eliminating unnecessary hardware from the configuration).

b. It is essential to the competitive procurement process that all information contained in offerors' proposals be maintained in strict confidence. In no event during the evaluation period should any offeror be told the number of proposals received, prices, cost ranges, or the Government's cost estimate. No discussions with any offeror relative to any aspect of the procurement will be held without the prior concurrence of the Contracting Officer.

c. In order to properly terminate negotiations, the Contracting Officer will advise each responsible offeror in writing of the specified date and time of the closing of negotiations and that any revisions to their proposals should be submitted by that date. After the closing of negotiations and the receipt of any revisions, the Contracting Officer will select for award the proposal which offers the lowest overall cost (price and other factors considered) to the Government for satisfying all requirements for the stated life of the systems. For further elaboration on the conduct of negotiations and the selection of offerors for negotiations and award, refer to FPR 1-3.9804 and 1-3.805.

8. AWARD NOTICE AND DEBRIEFING

After award of contract to the successful offeror, the unsuccessful offerors should be notified promptly in writing and, if requested, will be provided with an oral debriefing and a copy of the contract.

K. PLANNING YOUR ADPE PROCUREMENT

Installing an ADP System involves a large number of discrete steps beyond the actual procurement of the ADP System. These include:

- Training of the professional staff
- Systems design
- Programming
- Implementation of the System
- Parallel operations
- Installing communications
- Site preparations
- etc.

In addition to the above, the requesting components should allow for the normal operation of the ADP procurement cycle as a part of the entire process of system planning and implementation. In this regard, and for a variety of reasons, the time

spans for specific elements of the procurement cycle can vary markedly between procurements. The Contracting Officer will attempt to minimize procurement cycle times as much as possible by overlapping phases of the cycle where feasible.

L. USE OF "STANDARD SOLICITATION DOCUMENT FOR ADP SYSTEMS" AND DOCUMENT ENTITLED "GENERAL INSTRUCTIONS TO OFFERORS GOVERNING PROPOSAL PREPARATION"

The "Standard Solicitation Document for ADP Systems" and the "General Instructions to Offerors Governing Proposal Preparation" are designed for use in all negotiated ADP systems procurements and should be used to maximum practicable extent for all other negotiated ADP equipment procurements. The format and the clauses set forth in PART I, Section E Part II, Section G of the solicitation document have been arrived at after extensive negotiations with industry.

1. STANDARD SOLICITATION DOCUMENT FOR ADP SYSTEMS

For systems procurements, the following degrees of uniformity will apply to the respective Sections of the Standard Solicitation Document:

Part I, Sections A through D: It should not be necessary to revise the contents of these Sections for any ADP system procurements since these provisions are required either as a matter of law or regulation and generally are applicable to all government contracts of this type.

Part I, Section E: Use of clauses E.3.1, Option to Extend the Term of the Contract, and E.3.2, Option for Increased Quantity, will be in accordance with FPMR 101-32.408-5.

The clauses in Section E were developed through extensive negotiations with industry. Space has been provided in the appropriate clauses to provide components the flexibility needed to state their needs by filling in the blanks with percentages, time, etc. Accordingly, use of these clauses is recommended and encouraged when they meet the components' requirements. However, with the exception of E.3.1 and E.3.2, the clauses in this section may be modified as necessary to ensure that the solicitation adequately reflects the component needs. In those instances where it is necessary to modify these clauses, with the exception of filling in the blanks, each clause must be clearly identified so as to direct industry's attention to the new language. Normally, this should be done in a cover letter to the solicitation.

Part II, Sections F and H: Components will use these sections to depict their mandatory specifications and desirable features. The numbering system should be consistent with the other Sections in the Solicitation Document (e.g., F.1., F.1.1., F.1.1.1., etc.; or H.1., H.1.1., H.1.1.1., etc.).

Part II, Section G: The standard format and clauses, which are provided, should be used whenever they are appropriate to describe mandatory support requirements. Space has been provided to fill in specific percentages, dollar values, time requirements, etc. The component may also add or modify clauses in Section G, if necessary, in order to present its requirements.

Part III, Attachments I, II, III, IV: All attachments in this part should be tailored to the component requirements. However, the Glossary (Attachment I), which is provided, is standard and the definitions contained therein should not be changed or deleted. Additional definitions may be added as required.

2. GENERAL INSTRUCTIONS TO OFFERORS GOVERNING PROPOSAL PREPARATION

It should not be necessary to revise these instructions for any ADP system procurement.

M. COST PROGRAM

The cost program which is cited in the Attachment II of the Solicitation Document and documentation pertaining thereto, was developed by the Department of the Navy, ADPESO, Washington, D.C. 20376 and is available from ADP&ES/CMB/PD/OL.

1. PURPOSE

This program is provided to assist in the price analysis by performing the tedious computations involved in producing the Installation Summary Price Tables. The program can be used by both the offerors to generate the tables for their proposals and the procuring agency to verify the proposals that are submitted.

2. SCOPE

The program should be used in the procurement of ADP systems and to the maximum practicable extent in all other ADP equipment procurements.

3. LIMITATION ON LIABILITY

This program is provided at no charge upon request. The Department of the Navy assumes no responsibility for any results obtained from the use of this program.

4. GENERAL DESCRIPTION

The program is written in FORTRAN and may contain non-ANSI standard statements. Control cards are used to set up report headings and the size of the matrix to be used. The matrix consists of up to 45 rows, each reflecting a cost item in the proposal, and up to 120 columns, each representing one month in the systems life, beginning on the contract award date. Depending on the memory size of the machine used to run the cost program, the limits of 45 and 120 may be varied by changing the source code. Multiple matrices can be produced from a single run of the program. The data for each matrix is grouped together and read into the program, adding the data value to the matrix element (or elements) specified in the card. When all of the data cards are read for a given matrix, the computation of subtotals, totals, and adjusted (by present value discount factors) totals is performed and the matrix is printed. This sequence is repeated until all data cards are processed. Additional information regarding the format of control cards and data cards, input data sequence, output reports, error messages and run procedures is included in the documentation mentioned above.

N. GUIDANCE ON SPECIFIC SUBJECTS IN THE "STANDARD SOLICITATION DOCUMENTS FOR ADP SYSTEMS"

(All references below are to the subject document.)

1. REFERENCE PARAGRAPH D.19.

With regard to the use of hardware and/or software monitors, the Federal Computer Performance Evaluation and Simulation Center (FEDSIM), operated by the Department of the Air Force under a delegation of authority from GSA, is authorized to aid Federal agencies in the use of these and other tools which measure the utilization of components within an ADP system.

FEDSIM has considerable expertise in this area and Federal agencies are encouraged to use the FEDSIM as the single point of contact with industry concerning the installation or attachment of ADPE hardware and/or software monitors.

They perform all performance evaluation and simulation services on a cost-reimbursable basis. The mailing address is: Department of the Air Force, Federal Computer Performance Evaluation and Simulation Center (FEDSIM), Washington, D.C. 20330.

2. REFERENCE PARAGRAPH E.4.

The warranty exclusion and limitation of damages clause may be modified to meet an agency's requirements by inserting, after the words "In no event," "except as stated"; when so modified the specific paragraph or clause identification must follow.

3. REFERENCE PARAGRAPH E.6.2.

An agency may require a return of the benchmark demonstration and must determine whether this provision is necessary to its specific procurement.

4. REFERENCE PARAGRAPH E.7.

When a procurement warrants the use of the liquidated damages clause, the Contracting Officer must use the utmost discretion to ensure that the provisions of FPR 1-1.315-2 are complied with. The rates and duration of liquidated damages should be considered on a case-by-case basis.

5. REFERENCE PARAGRAPH E.8.1.

Significant cost advantages may result by using the second Period of Rental clause which states that the Government will not discontinue rental of the equipment during any fiscal year except at the end of the systems life. This should be carefully weighed against the option to discontinue at any time, which generally will carry a cost in the contract. This is a matter of the component requirement and judgment.

6. REFERENCE PARAGRAPH E.8.2.

The component should not arbitrarily choose unlimited use versus limited use unless it is actually a user requirement. There may be a heavy cost associated with unlimited usage of the system.

7. REFERENCE SECTION F.

Along with mandatory specifications, all applicable clauses from FPMR 101-32.13 regarding compliance with Federal Information Processing Standards Publications must be included in Section F.

8. REFERENCE PARAGRAPH G.1.

The following *illustrations* are provided as a guide to Agency components in depicting their existing facilities in paragraph G.1.

EXISTING FACILITIES

The proposed equipment must fit within the spaces provided. A scaled diagram of the ADPE installation showing existing equipment, power panels, and communications terminal area should illustrate whether ample space is available. Equipment requiring operator attention (e.g., consoles, tape drives, etc.) must be located in space "A." "Clean" equipment (e.g., main frames, disk system, etc.) must be located in space "B." "Dirty" peripheral equipment (e.g., card punches, printers, etc.) must be located in space "C."

AVAILABLE POWER

Total available power is given below with a breakdown of the quantities available at each breaker panel. If more power is required, the contractor's additional re-

quirements for power should be shown as part of his submission in Section K. Examples are:

- 90 KVA 208V, 3 phase, 60 HZ
Panel PD: 3 breakers, 15A.
Panel PN-1: 3 breakers, 20A.
Panel PW: 3 breakers, 30A.
7 breakers, 15A.
Panel PX: 3 breakers, 15A.
- 13 KVA 208V, 1 phase, 60 HZ
Panel PI: 6 breakers, 15A.
Panel PJ: 6 breakers, 15A.
- 37 KVA 15V, 1 phase, 60 HZ
Panel PD: 2 breakers, 20A.
4 breakers, 15A.
Panel PX: 1 breaker, 15A.

AVAILABLE AIR CONDITIONING

Total available air conditioning is given below. Plenum minimum design temperature is 55 deg. F. Room design temperature is 72 deg. F. with a relative humidity range of 40-60 percent. If more air conditioning is required, the contractor's additional requirements for power should be shown as part of his submission in Section K. Examples are:

Plenum Air:	160,000 BTU/HR.
Chilled Water:	241,000 BTU/HR.

FLOOR AREA

The flooring is the available area remaining unused in the scaled diagram referenced above in EXISTING FACILITIES. Normal ADP flooring is 24-inch raised floor consisting of 24-inch square removable panels. The total available space should be stated in square feet.

ACCESS DOORS

State the dimensions of equipment space access doors. Examples are:

- Space "A": 69 inches x 83 $\frac{3}{4}$ inches
- Space "B": 93 inches x 96 inches
- Space "C": 69 $\frac{1}{2}$ inches x 106 $\frac{7}{8}$ inches
69 inches x 83 $\frac{3}{4}$ inches

9. REFERENCE PARAGRAPH G.4.14.3.

Significant cost advantages may result by using the second discontinuance clause which states that the Government will not discontinue maintenance in the middle of any fiscal year. This should be carefully weighed against the option to discontinue at any time, which generally will carry a cost in the contract. This is a matter of the user's requirement and judgment.

10. REFERENCE PARAGRAPH G.6.

Paragraph G.6. may be modified by a component depending upon its ADP requirement. The component will specify the manuals and program descriptions necessary to meet its requirements. Examples are: Manuals—Systems and Methods, Programming, Installation Physical Planning, Operator; Program Descriptions—Operating System, COBOL Compiler, FORTRAN Compiler, PL/1 Compiler, BASIC Compiler, Communications Software, Sort and Merge Utility.

The contractor may have the right to identify proprietary items and to restrict the use and distribution thereof.

11. REFERENCE SECTION H.

The requesting component should include all desirable features in this section and indicate the dollar value to the Government for each as shown in the following *illustrations*:

a. PROCESSOR BACKUP

Description—Backup of both processor subsystems accomplished by component redundancy (if main processor and preprocessor have identical program logic and instruction repertoire, component redundancy in the context above exists).

Dollar Worth to the Government—\$106,420

b. RANDOM ACCESS INPUT DATA

Description—Time-critical data will be randomly accessible in modules not larger than three million bits each in the Extremely High Capacity On-Line Storage.

Dollar Worth to the Government—\$9,480

c. COMMUNICATIONS FORTRAN

Description—Contractor provides ANSI compatible FORTRAN compiler.

Dollar Worth to the Government—\$6,000

COST OR PRICING DATA REQUIREMENTS

When it is determined in accordance with Federal Procurement Regulation (FPR) 41 CFR 1-3.807-3 that cost or pricing data is required, the appropriate clauses required by 41 CFR 1-3.814 including the certification of such data pursuant to 41 CFR 1-3.807-4 as well as clauses required by FPR Temporary Regulation 27 and supplements thereto, should be incorporated into the Solicitation Document.