NASA TECHNICAL MEMORANDUM

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ADP CORRESPONDENCE SYSTEM: UNSOLICITED PROPOSAL EVALUATION TRACKING APPLICATION

Users Manual and Documentation

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Washington, D.C. 20546

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16. Abstract

Correspondence Control Systems entail ADP procedures for receipt, tracking and processing-time analyses of large volumes of paper work items. Unsolicited research proposals may be handled by correspondence system techniques. This report provides a complete description of such a system, designed to be used by non-ADP clerical personnel. In addition to operating instructions, sufficient design and conceptual information is provided to allow use or adaption of the system in related applications. The complete COBOL program and documentation are available.

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TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

ILLUSTRATIONS

ILLUSTRATIONS (Continued)

PREFACE

NASA traditionally has recognized the need for responding promptly to unsolicited proposals for research and development. A three month average is the goal for either rejecting a proposal or beginning procurement action. The Office of University Affairs, as the responsible office for handling unsolicited proposals, established in the early 1960's a manual tracking and follow-up system to ensure effective proposal processing.

The newly installed "n^{th} generation" system presented here, therefore, represents a distillation of some 15 years of proposal-handling experience. The techniques which have thus emerged provide easy visibility to each organization's proposal handling activities. As a result, both the participating organizations and NASA management can identify areas of good performance and situations calling for improvement.

While this report concentrates on the ADP aspects of the proposal system, necessary related background material allows an overview of proposal activities. The system, itself, may be of use to other organizations with similar proposal responsibilities, or, indeed, for application in its more generalized function as a correspondence control system. The system will function well for a wide range of incoming items, such as mail inquiries, which must be distributed for action, tracked and disposed of on a reasonable time scale.

NASA centers, other agencies or outside organizations desiring further information on the proposal handling system should contact:

National Aeronautics and Space Administration
Office of University Affairs, Code P
Washington, D.C. 20546

Copies of the Programmer's Manual and Source Programs are available for sale from NASA's Computer Software Management and Information Center (COSMIC). Information regarding price and order forms may be obtained by contacting:

COSMIC
Suite 112, Barrow Hall
The University of Georgia
Athens, GA 30602
Telephone: (400) 542-3265

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ADP CORRESPONDENCE SYSTEM:
UNSOLICITED PROPOSAL EVALUATION TRACKING APPLICATION
Users Manual and Documentation

I. INTRODUCTION

The Office of University Affairs (OUA) is responsible for handling unsolicited proposals sent to NASA by educational institutions. Agency policy encourages the unsolicited proposal technique for establishing NASA-University relationships; this concept is maintained through ensuring acknowledgement, prompt evaluation, and timely notice to the proposer of acceptance or rejection. The mainstay of this process is a computerized system for controlling the proposal flow.

An understanding of the ADP system developed for proposal tracking is more easily gained by considering the context in which proposals are reviewed and decisions made. NASA is a mission-oriented agency which funds proposals only when the work is good, the effort meets a long- or short-range mission need, and, of course, there are sufficient funds available in the scientific or engineering area represented by the proposal. Two important points, thus, emerge: (1) nothing is funded as "assistance," and (2) decisions as to mission applicability must be made by people intimately familiar with detailed mission requirements.

A. Proposal Review Process

The resultant process is summarized in Figure 1. Proposals are received by the OUA, acknowledged, and forwarded for evaluation to the NASA installations which have a potential interest in the proposal. Only one representative installation is shown in the figure; however, there are some ten of these throughout the country. The proposal is evaluated (by techniques beyond the scope of this report) and a decision made either to accept or reject. If it is accepted, the procurement action is requested, an award is made to the school, and the OUA is notified.

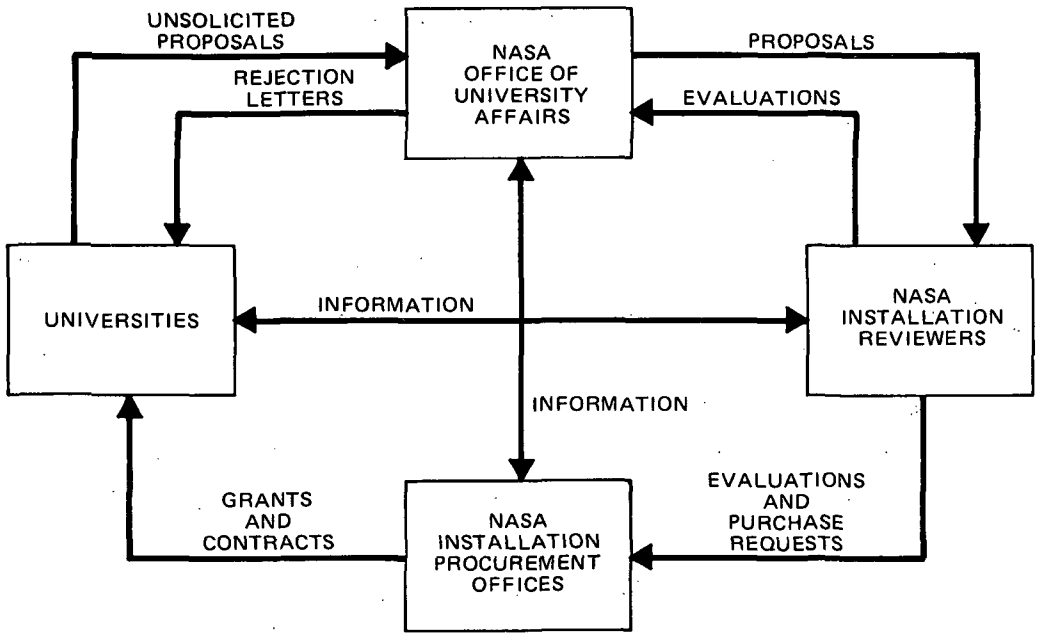


Figure 1. Unsolicited Proposal Handling Relationships

The acceptance process differs from rejection. All acceptance is decentralized. Any NASA installation reviewing a proposal may fund it and work directly with the school. It is not necessary for all reviewing installations to "report in" before a proposal can be funded. However, if an installation rejects a proposal it notifies OUA; if all reviewing installations indicate rejection, OUA formally notifies the proposer.

B. Proposal Review Follow-Up

The NASA goal is for all proposals to be evaluated and responses provided within three months of receipt. If the proposal is for continuation of an on-going project, response should be made before the ending date of the effort underway. To achieve these results, follow-up is required. With some 2,500 individual proposals handled each year, manual effort must be minimized. Thus, the present ADP system provides a monthly listing describing proposals under evaluation, responsible installations, and the length of time each proposal has been under evaluation. Each reviewing installation receives a listing showing only its own proposals. However, each reviewing installation also receives an extensive tabular analysis of evaluation times throughout the agency. Several breakouts are presented so the recipients may conduct as detailed an examination of their proposal activities as might be necessary in achieving satisfactory performance.

C. System Design Concepts

Proposal handling is primarily a bulk processing clerical operation which must be accomplished quickly and accurately by a small number of people. The accompanying ADP system is designed to fit easily into this environment. Thus, practically no knowledge of ADP is required of those who input material and up-date the system. There is extensive automatic editing to detect errors in the material input. When an error is detected, a simple message describes the nature of the mistake. When an error does occur, the entire input cards for the proposal are rejected to avoid complicated corrections on parts of records. The accuracy level of the system is held to that generally experienced in clerical operations to avoid needless "over-editing."

A "post-audit" or back-up file maintenance capability is provided so the supervisor of the proposal-handling group has direct access to the data to make over-ride corrections, as required. The final control on accuracy is obtained from the users of the monthly lists. Their detailed reviews quickly reveal minor discrepancies which are readily corrected by file maintenance.

D. Other Applications

The proposal system is actually a specialized version of a more general correspondence handling system. In this sense, its main advantage is optimization from the standpoint of the user, i.e., simplicity of input, edit, correction, and output. In general it is adaptable to any paper handling process involving the basic questions of: Who sent it? When? Who is supposed to reply? Did they? How long does it take to act?

The ease with which the present techniques may be used in their more generalized sense is illustrated in the Appendix, Part C. A brief design description of a correspondence handling system is developed as an illustration.

The remainder of this report will be devoted to a detailed description of operating the proposal system (clerical level) and of the system itself (design parameter level). Some of the general information on system reports may be of interest to all readers.

II. SYSTEM REPORTS

A good feel for the proposal system can be had from examination of the output reports, particularly those intended for the proposal reviewers. The inventory listing and the statistical analyses are in this category. A file listing and several measures of items handled are used for internal purposes only.

A. Inventory Listing

A separate section of the inventory listing is available for each office reviewing a particular proposal. Figure 2 is a typical sample of the list. Features of special note are:

RUN DATE: 09/05/75
AS OF DATE: 07-31-75

CDA MANAGEMENT INFORMATION SYSTEM
PROPOSAL INVENTORY FOR SL

100DAM1S0073
PAGE 50

COMMENTS

UNDER REVIEW LESS THAN 3.0 MONTHS

72C41 TEXAS SOUTHERN UNIV CONT: GF NSG-9005 WILSON, R. E.
COLLECTION AND CONCENTRATION OF SOLAR ENERGY USING FRESNEL TYPE LE
NSES

UNDER REVIEW 3.0 - 5.9 MONTHS

02C42 CALIF, UNIV-SAN DIEGO ALFVEN,H
SCIENTIFIC BASIS FOR SPACE RESEARCH PRIORITIES.

02C93 MINN, U-MINNF-ST PAUL CONTINUATION PROPOSAL NIER,AO
CONTINUATION OF PROGRAM FOR THE DEVELOPMENT AND APPLICATION OF MAS
S SPECTROMETERS TO STUDIES OF THE EARTH'S UPPER ATMOSPHERE AND PLA
NETARY ATMOSPHERES.

02C98 SO ILL UNIV-CARBONDL CONTINUATION PROPOSAL YOPP,J.H.
CHARACTERIZATION OF THE DEVELOPMENTAL PHYSIOLOGY OF A PREVIOUSLY U
NSTUDIED LIFE-FORM, THE DELICATELY FALLOPHILIC BLUE-GREEN ALGA, APH
ANOTHECE PALOPHYTICA.

UNDER REVIEW 6.0 - 8.9 MONTHS

01715 COLORADO, UNIV - BOULDR SCHOFFSTALL,AR
PROBIOTIC PHOSPHORYLATION WITH TETRAPOLYPHOSPHATE.

01742 TEXAS A&M UNIVERSITY YOUNG,AT
MEASURE THE ROTATION OF VENUS SPECTROSCOPICALLY.

UNDER REVIEW 9.0 - 12.0 MONTHS

01100 WASHINGTON, UNIV OF GOODINI,FC
SIMULATION OF WEATHERING UNDER A POLAR ENVIRONMENT.

01211 ARIZONA, UNIV OF FINK,U
ARIZONA-NASA HIGH ALTITUDE ATLAS OF THE INFRA-RED SOLAR SPECTRUM.

01265 MO, UNIV OF - ROLLA PLUMMER,PL
A MOLECULAR MODEL FOR ICE NUCLEATION AND GROWTH.

Figure 2. Proposal Inventory—Sample Page

1. The center line of the heading specifies the office responsible for evaluating the proposals. ("SL" is the abbreviation for the Planetary Programs Division in NASA Headquarters.) There is a similar section for each of the 30-odd reviewing offices and field installations.
2. The length of time under review is calculated from the date of receipt by NASA and the as-of-date of the report. The proposals are grouped under header labels which specify the length of time the proposals have been under review, i.e., less than 3 months, 3.0-5.9 months, etc.
3. Each entry consists of a proposal number, name of submitting institution, proposal title, and name of proposal principal investigator.
4. If the proposal is for continuation of an on-going project, this is indicated by either listing the prior agreement number (NSG-9009 in Figure 2) or "continuation proposal" when the prior number is not readily available.
5. Proposals are dropped from this list whenever a reviewer rejects or funds a proposal, i.e., the evaluation is completed. If a review states the proposal will definitely be funded at some later date it is dropped from the regular inventory and placed on an "intent-to-fund" list (Figure 3). The implications of this category will be discussed in a later section.

Every three months (or more frequently if necessary) each reviewing office is sent a copy of its inventory list. This alerts the office to overdue evaluations, i.e., proposals under review for more than three months, and provides a ready mechanism for correction of any errors in the inventory list itself. The comments column is designed for this latter purpose; it is not intended as a substitute for a complete evaluation report on the proposal. The "intent-to-fund" (Figure 3) variation on the inventory is distributed as a reminder that procurement requests must be prepared for the listed proposals.

B. Analytical Tables

The analytical tables are quite complex, but are intended for use only by the individual in each installation who has particular management responsibility for analyzing institution proposal evaluation performance.

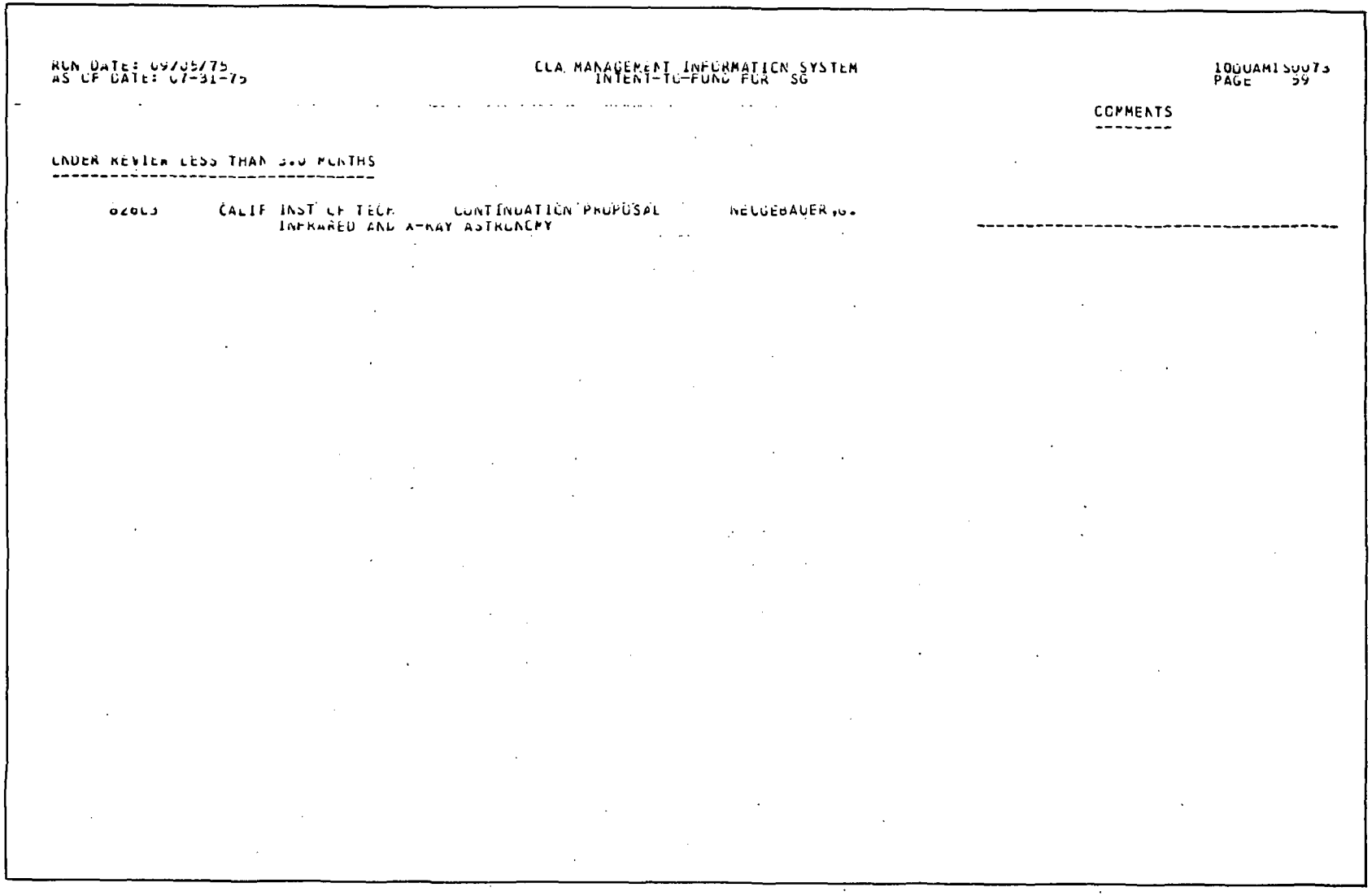


Figure 3. Intent-to-Fund Proposal Inventory Variation

The tables are "re-set" each year, i.e., analyses are only produced for activity occurring during the current fiscal year. Proposals received during the prior year are, of course, carried over into the new fiscal year if evaluation has not been completed. It is important to note that the tables show evaluations due; this is not the same as the number of proposals under review, as many proposals are reviewed by several offices. For this reason the last line on each table shows both the number of evaluations and the (smaller) number of proposals involved.

The content of the analytical tables is best understood by examining the tables themselves. Therefore, an entire analytical report is reproduced on the following pages. Figure 4 is a prefatory page while Figures 5-10 (Tables I-VI) are the basic tables. There are subsets to Tables I-IV and VI (not illustrated here) which subdivide the information on proposals for new awards (subset A) and proposals for continuation of on-going work (subset B). They are identical in format to Tables I-IV and VI, but are distinguished by use of the A or B designator and a plain English statement in each table heading.

Figure 4 provides a capsule description of the contents of each table. It should be studied carefully by those using the tables in detail, as very important distinctions among the tables are made.

Table I provides a count of all proposals which are still under review. Table II shows tallies of proposals accepted for funding and Table III contains the totals for proposals which have been rejected by all NASA reviewing installations. Table IV offers an overview of all the types of proposal activity during the fiscal year including the data from Tables I-III. It should be noted that this table contains additional statistics on negative evaluations, i.e., negative reports on proposals which have not yet been rejected by all installations. Therefore, Table IV will never reflect the exact total of Tables I-III.

This report tabulates proposal evaluation activity from the beginning of the fiscal year through the "as of" date. The data cover all unsolicited proposals for which evaluation was initiated or completed during the fiscal year. The population increases each month; hence, the most representative data for any particular office occur as the fiscal year wanes. The data are primarily in terms of evaluations so that the performance of individual offices may be displayed. That is, if a single proposal is under review at three centers, it is tabulated three times. However, a final line on each table lists the actual number of proposals under evaluation.

Each of the six tables (with the exception of Table V) consists of three parts: The basic table and its two component parts. For example, Table I displays data on all evaluations outstanding, whereas IA concerns itself only with evaluations of proposals submitted for new awards and IB relates only to continuations of ongoing projects. Brief comments on each table follow:

Table I – Evaluation Outstanding—This is a simple count of all evaluations which have not been completed and returned to OUA by the various offices. Time under review is shown. The "average months per evaluation" figures are minimums as they reflect only evaluation time to date.

Table II – FY Acceptances—This table tallies the time required to evaluate proposals which were eventually accepted during the part of the fiscal year covered by the report. These proposals are not included in Table I. The "average months per evaluation" reflects the actual elapsed time required for proposal evaluation. Only review time prerequisite to acceptance is counted. Offices returning negative evaluations are not listed.

Table III – FY Rejections—Similar to Table II, except rejections are tallied. It is important to note that this table tallies evaluations only after all NASA evaluators have rejected a particular proposal. Thus, its primary purpose is to provide information about proposals for which rejection letters have been sent, rather than to analyze all of the negative evaluations provided by a particular office or center.

Table IV – FY Evaluations of All Types—This table includes data on all evaluations due for action. It includes evaluations listed in Tables I, II, and III, plus negative evaluations for proposals which may have been rejected by individual offices, but not by NASA (see III, above). Its purpose is to provide a view of all types of proposal activity during the fiscal year. The "average months per evaluation" data in this table is valuable for comparing performance of various offices. However, the figures are still minimal; they contain active proposals (from Table I) for which evaluation is incomplete.

Table V – Intent-to-Fund—A proposal is counted *only* in this table when an evaluation states that future acceptance is definite. (The proposal *is not* listed on the inventory of evaluations outstanding). Upon actual acceptance, data on the proposal are included in Tables II, IV and VI.

Table VI – FY Evaluation and Proposal Disposition—All evaluations required during the year are categorized by the types of action taken by each office: Still under evaluation; accepted or rejected. Both counts and percentages are provided. The basic data are identical with those used in Table IV; only the method of presentation varies.

Figure 4. Analytical Tables—Preface

TABLE I

OFFICE OF UNIVERSITY AFFAIRS
UNIVERSITY PROGRAM MANAGEMENT INFORMATION SYSTEM

13UARS00073
BUA00001
PAGE 1

RUN DATE 09/05/75

EVALUATION STATUS OF UNSOLICITED UNIVERSITY PROPOSALS
EVALUATIONS OUTSTANDING AS OF 07-31-75

EVALUATING DIVISION OR CENTER	NUMBERS OF EVALUATIONS BY AGE					TOTAL NUMBER OF EVALUATIONS	AVERAGE MONTHS PER EVALUATION
	UNDER 3.0 MONTHS	3.0 TO 5.9 MONTHS	6.0 TO 8.9 MONTHS	9.0 TO 12.0 MONTHS	OVER 12.0 MONTHS		
ARC	51	12	4			67	2.0
C	40	19	3			62	2.0
DC	1	1				2	3.0
E			1			1	7.0
EH		1	1	2		4	8.5
ERC		1				1	4.0
ES			2			2	8.0
FRC	2					2	1.0
GSFC	25	13				38	1.8
JPL				1		1	10.0
JSC		1				1	4.0
K	1					1	
KSC	4	2				6	2.0
LERC	10	14	1	1		26	3.4
MP	7	3	2			12	3.1
MR	12	6			1	19	3.2
MSFC	3	2	1			6	3.5
NSTL		1				1	5.0
NT		2	1			3	4.6
PY	8	9				17	2.8
S	1					1	1.0
RE	2					2	1.0
RR	4	3	1	3	1	12	5.1
R#		2				2	3.5
SC	54	30	5	4		93	2.7
SL	29	12	2	3		46	2.8
SM	3	9	4	5		21	4.6
ST	8	3				11	1.9
WS	1					1	1.0
XF		1				1	4.0
XYZ	2	1				3	1.6
YX	1	1				2	1.5
TOTALS	271	149	28	17	2	467	2.7

NOTE: THE 467 EVALUATIONS REPRESENT 401 PROPOSALS FOR AN AVERAGE OF 1.1 EVALUATIONS PER PROPOSAL.

Figure 5. Analytical Table I—Active Proposals

TABLE II

RUN DATE 09/05/75

OFFICE OF UNIVERSITY AFFAIRS
UNIVERSITY PROGRAM MANAGEMENT INFORMATION SYSTEM

10UAR500073
BUA08004
PAGE 4

EVALUATION STATUS OF UNSOLICITED UNIVERSITY PROPOSALS
FY ACCEPTANCES AS OF 07-31-75

EVALUATING DIVISION OR CENTER	NUMBERS OF EVALUATIONS BY AGE					TOTAL NUMBER OF EVALUATIONS	AVERAGE MONTHS PER EVALUATION
	UNDER 3.0 MONTHS	3.0 TO 5.9 MONTHS	6.0 TO 8.9 MONTHS	9.0 TO 12.0 MONTHS	OVER 12.0 MONTHS		
ARC	16	1			1	20	2.3
GI	28	2				30	1.1
GC		1				1	5.0
GSFC	11	1	1			13	1.6
KSC	2					2	1.0
LaRC	5	2				7	2.4
MA	1			1	1	3	12.3
MSFC	3					3	
FY	5	2		2		9	3.7
RA	1					1	2.0
SC	8	8	1	1		18	3.0
SL	12	1				13	1.4
SM	3	4				7	2.5
MS			1			1	6.0
TOTALS	97	22	3	4	2	128	2.3

NOTE: THE 128 EVALUATIONS REPRESENT 128 PROPOSALS FOR AN AVERAGE OF 1.0 EVALUATIONS PER PROPOSAL.

Figure 6. Analytical Table II—Acceptances

TABLE III

RUN DATE 09/05/75

OFFICE OF UNIVERSITY AFFAIRS
UNIVERSITY PROGRAM MANAGEMENT INFORMATION SYSTEM

10UARS00073
BUA05007
PAGE 7

EVALUATION STATUS OF UNSOLICITED UNIVERSITY PROPOSALS
BY REJECTIONS AS OF 07-31-75

EVALUATING DIVISION OR CENTER	NUMBERS OF EVALUATIONS BY AGE: UNDER 3.0 MONTHS	3.0 TO 5.9 MONTHS	6.0 TO 8.9 MONTHS	9.0 TO 12.0 MONTHS	OVER 12.0 MONTHS	TOTAL NUMBER OF EVALUATIONS	AVERAGE MONTHS PER EVALUATION
C	2	1				3	2.3
GSFC		2				2	4.5
KSC	2					2	2.0
LERC	2		1	4		7	7.2
MP		1			1	2	8.5
MR	2					2	2.0
MSFC		1	2	2	1	6	8.1
PY		1	2		1	4	10.5
SG	1	1		1		3	5.3
SL					2	2	13.5
SP				1		1	9.0
TOTALS	9	7	5	8	5	34	6.9

NOTE: THE 34 EVALUATIONS REPRESENT 32 PROPOSALS FOR AN AVERAGE OF 1.0 EVALUATIONS PER PROPOSAL.

Figure 7. Analytical Table III—Rejections

TABLE IV — OFFICE OF UNIVERSITY AFFAIRS — 10UAR500073
RUN DATE 09/05/75 — UNIVERSITY PROGRAM MANAGEMENT INFORMATION SYSTEM — 8UA08010
PAGE 10

EVALUATION STATUS OF UNSOLICITED UNIVERSITY PROPOSALS
BY EVALUATIONS OF ALL TYPES AS OF 07-31-75

EVALUATING DIVISION OR CENTER	NUMBERS OF EVALUATIONS BY AGE: UNDER 3.0 MONTHS	3.0 TO 5.9 MONTHS	6.0 TO 8.9 MONTHS	9.0 TO 12.0 MONTHS	OVER 12.0 MONTHS	TOTAL NUMBER OF EVALUATIONS	AVERAGE MONTHS PER EVALUATION
ARC	71	13	4		1	89	2.1
C	72	23	3		1	99	1.8
CC	1	2				3	3.6
E			1	1		2	8.0
ER	1	1	1	2		5	7.0
ERC		1				1	4.0
ES			2			2	8.0
FRC	2					2	1.0
GSFC	46	10	1			59	1.9
JPL				1		1	10.0
JSC		1				1	4.0
K	1					1	
KS	1					1	
KSC	8	2				10	1.8
LARC	1					1	2.0
LERC	18	17	2	0		43	4.0
MP	8	4	2		1	15	3.7
MR	18	7		1	2	28	3.8
MSFC	8	3	3	2	1	17	4.1
NSTL		1				1	5.0
NT		2	1			3	4.6
PY	13	12	2	2	1	30	4.1
S	1					1	1.0
RE	3					3	.6
RR	6	3	1	3	1	14	4.5
RS	1	2				3	2.3
RX	1					1	2.0
SG	53	59	6	0		114	2.8
SL	41	15	2	3	2	63	2.9
SM	0	14	4	4		30	4.2
ST	9	3				12	1.8
WS	1		1			2	3.5
AF		1				1	4.0
XYZ	2	1				3	1.6
YA	1	1				2	1.5
TOTALS	400	188	36	31	10	663	2.8

NOTE: THE 663 EVALUATIONS REPRESENT 558 PROPOSALS FOR AN AVERAGE OF 1.1 EVALUATIONS PER PROPOSAL.

Figure 8. Analytical Table IV—All Actions

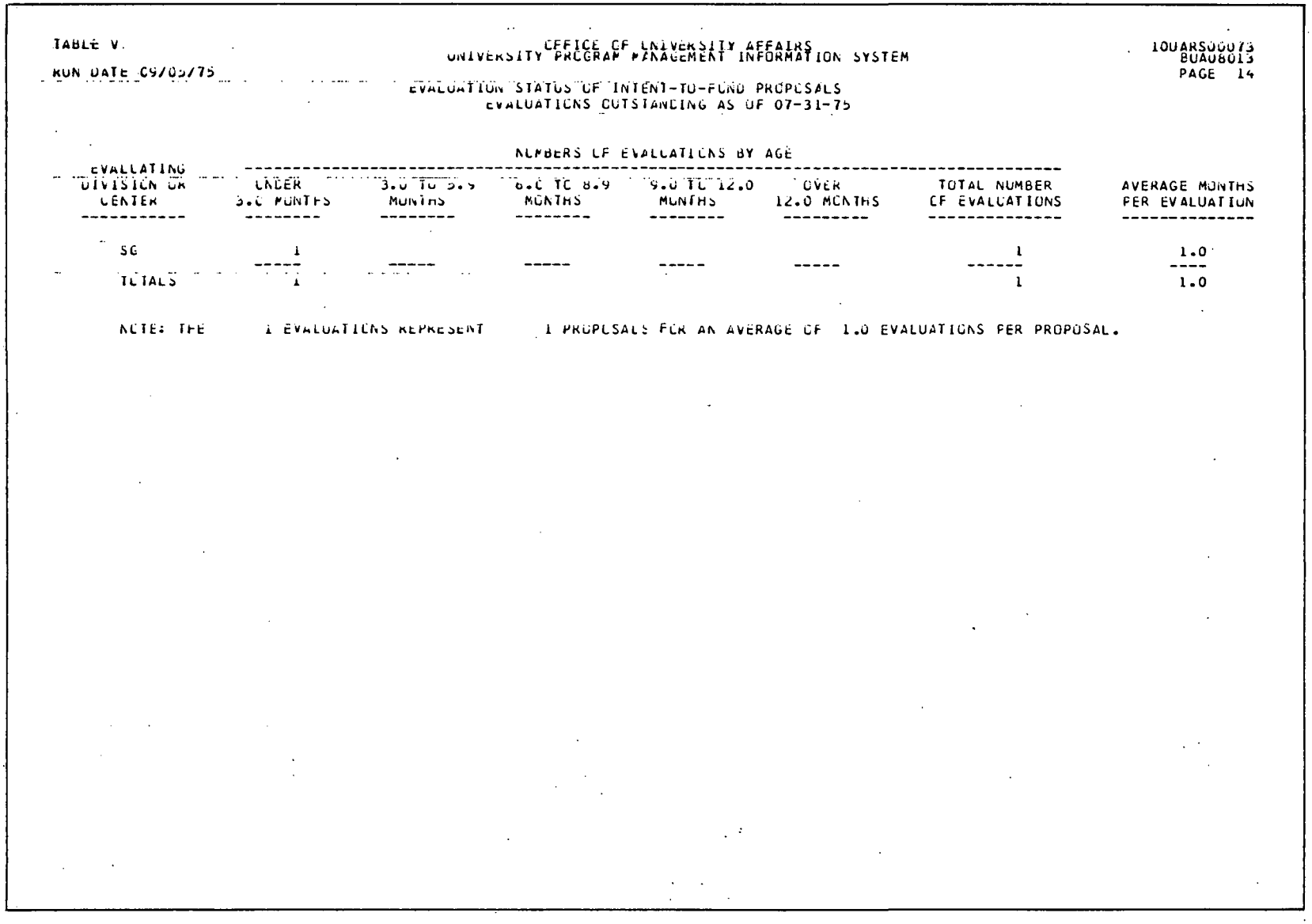


TABLE V.

RUN DATE 09/05/75

OFFICE OF UNIVERSITY AFFAIRS
UNIVERSITY PROGRAM MANAGEMENT INFORMATION SYSTEM

10UARS00073
8UA08013
PAGE 14

EVALUATION STATUS OF INTENT-TO-FUND PROPOSALS
EVALUATIONS OUTSTANDING AS OF 07-31-75

EVALUATING DIVISION OR CENTER	NUMBERS OF EVALUATIONS BY AGE					TOTAL NUMBER OF EVALUATIONS	AVERAGE MONTHS PER EVALUATION
	UNDER 3.0 MONTHS	3.0 TO 5.9 MONTHS	6.0 TO 8.9 MONTHS	9.0 TO 12.0 MONTHS	OVER 12.0 MONTHS		
SG	1					1	1.0
TOTALS	1					1	1.0

NOTE: THE 1 EVALUATIONS REPRESENT 1 PROPOSALS FOR AN AVERAGE OF 1.0 EVALUATIONS PER PROPOSAL.

Figure 9. Analytical Table V—Intent to Fund

TABLE VI

RUN DATE 08/05/75

OFFICE OF UNIVERSITY AFFAIRS
UNIVERSITY PROGRAM MANAGEMENT INFORMATION SYSTEM

EVALUATION AND PROPOSAL DISPOSITION
BY ACTIVITY AS OF 07-31-75

10UARS0007S
BUA00014
PAGE 15

DIVISION OR CENTER	UNDER REVIEW NO.	UNDER REVIEW PERCENT	REJECTED NO.	REJECTED PERCENT	ACCEPTED NO.	ACCEPTED PERCENT	TOTAL COUNT
ARC	67	75.2	2	2.2	20	22.4	89
C	62	62.6	7	7.0	30	30.3	99
CO	2	66.6			1	33.3	3
E	1	50.0	1	50.0			2
ER	4	80.0	1	20.0			5
ERC	1	100.0					1
ES	2	100.0					2
FRC	2	100.0					2
GSFC	36	64.4	8	13.5	13	22.0	59
JPL	1	100.0					1
JSC	1	100.0					1
K	1	100.0					1
KS			1	100.0			1
KSC	6	60.0	2	20.0	2	20.0	10
LARC			1	100.0			1
LERC	26	60.4	10	23.2	7	16.2	43
MM	12	80.0	3	20.0			15
MR	19	67.8	6	21.4	3	10.7	28
MSFC	6	35.2	8	47.0	3	17.6	17
NSTL	1	100.0					1
NT	3	100.0					3
PY	17	56.6	4	13.3	9	30.0	30
S	1	100.0					1
RE	2	66.6	1	33.3			3
RR	12	85.7	2	14.2			14
RW	2	66.6	1	33.3			3
RX					1	100.0	1
SB	93	81.5	3	2.6	18	15.7	114
SL	46	73.0	4	6.3	13	20.6	63
SM	21	70.0	2	6.6	7	23.3	30
ST	11	91.6	1	8.3			12
WS	1	50.0			1	50.0	2
XP	1	100.0					1
XYZ	3	100.0					3
YX	2	100.0					2
TOTAL EVALUATIONS	467	70.4	68	10.2	128	19.3	663
TOTAL PROPOSALS	396	71.3	32	5.7	128	22.9	558

Figure 10. Analytical Table VI—Workload Distribution

Table V is a special case. When a reviewing office completes an evaluation, but cannot fund an accepted proposal immediately, it is not fair to the office to count the proposal as "under evaluation." On the other hand, if the promised funding does not materialize, the proposal slips into limbo. The intend-to-fund list, by establishing a middle position, avoids both of these problems. An "intent" proposal stays on this list until it is funded. The age shown is still calculated from the date of receipt by NASA. In the event any of the intent proposals gets unduly old, follow-up to complete the funding action (or to change the status) is readily accomplished.

Finally, Table VI presents counts and percentages for all categories of evaluation activity by each office. This table can be used for workload analysis at any given time. The percentages are calculated to reflect the total workload distribution of NASA evaluation activity. Thus, the percentages are calculated using the total proposals received (663 in this table), which results in the following figures: percent of evaluations under review, 70.4%; percent rejected, 10.2%; and percent accepted, 19.3%. The percentage expressions for "completed evaluations" can be calculated by using the proposal totals, 68 rejected and 128 accepted, which result in 34.6% and 65.4%, respectively.

C. File Listing

The heart of the proposal system is the file list report. It uses most of the information in the system data base. (See the Appendix, Part A, for data base layout.) Figure 11 is a typical file listing page. All of the items shown are taken directly from the data base, except for "age," which is calculated. Individual items on the list are:

1. Control Number. These are assigned sequentially upon receipt of the proposal. The file listing is arranged in order by the control number which serves as the file identifier. (In the example, there are missing numbers as this file listing represents the first period of a FY and contains only those proposals carried over from the last FY for which evaluations have not been completed.)

RUN DATE: 09-05-75
AS OF DATE: 07-31-75

CUA MANAGEMENT INFORMATION SYSTEM
PROPOSAL FILE LISTING

100UAMIS0073
PAGE 009

CONTROL NUMBER	INSTITUTION	REVCODE, DISP.	MG	AGE	DI=BGNL DI=SEDI	WI=DISP	CONTINUATION OF	IN CASE ED OR ES	INVESTIGATOR	PROPOSED (K$)
02C13	MICH, UNIV-ANN ARBOR	SG	F	4.1	03-12-75 03-12-75	07-12-75	C THEORETICAL AND EXPERIMENTAL STUDIES OF PLASMA INTERACTI ON AND FLOW OVER BODIES IN SPACE.		SAMIR,U.	62700
02C19	CALIF INST OF TECH	SG		1.6	03-13-75 06-13-75	--------	C RESEARCH IN SOLAR FLARES AND THE STRUCTURE OF THE SOLAR ATMOSPHERE.		ZIRIN,H.	217115
02C28	CAL STATE U-LG BEACH	MA		4.6	03-14-75 03-14-75	--------	NGR-44-001-15 IMBEDDING METHODS FOR LINEAR AND NON-LINEAR STABILITY AN D VIBRATION PROBLEMS.		ZAGUSTIN,EA	19717
02C29	CALIF, U-S BARBARA	SL	F	4.1	03-14-75 03-14-75	07-14-75	C SOLAR SYSTEM PHYSICS.		PEALE,SJ	35472
02C33	COLORADO, UNIV-BOULDR	CERC	F	3.1	03-17-75 03-17-75	06-17-75	RETORTING AND PHYSICAL FRACTURING OF OIL-SHALE ORE BY ME ANS OF MICROWAVE HEATING.		WALL,ET	297490
02C35	MICH, UNIV-ANN ARBOR	C		4.5	03-17-75 03-17-75	--------	DEFINITION OF TIRE PROPERTIES REQUIRED FOR LANDING SYSTE M ANALYSIS.		CLARK,SK	37540
02C39	CORNELL UNIVERSITY	SG		4.5	03-17-75 03-17-75	--------	C A MULTI-BAND FAR-INFRARED SURVEY WITH A BALLOON-BORNE TE LESCOPE.		HARWIT,M	50000
02C41	MISSISSIPPI STATE C	NSTL		4.5	03-17-75 03-17-75	--------	DESIGN OF A SOLAR POWERED WATER-HYACINTH DRYER.		FORBES,RE	9420
02C42	CALIF, UNIV-SAN DIEGO	SL MM		4.5 1.5	03-17-75 03-17-75 06-15-75	-------- 08-15-76	SCIENTIFIC BASIS FOR SPACE RESEARCH PRIORITIES.		ALFVEN,H	50000
02C52	PENNSYLVANIA STATE U	CI AR CARC	D	16.1 3.5 2.0	03-18-75 05-20-76 04-18-75 03-18-75	09-20-77 -------- 05-18-75	THE MOTION OF THE POLARON.		WHITFIELD,G	122909
02C56	CALIF, UNIV-L ANGELES	CERC		4.5	03-19-75 03-19-75	--------	INVESTIGATION OF AERCELASTIC EFFECTS IN WIND TURBINES.		FREIDMANN,P	68273
02C60	HARVARD UNIVERSITY	SG		4.4	03-20-75 03-20-75	--------	C RESEARCH IN VACUUM ULTRAVIOLET SPECTROSCOPY.	1	PARKINSON,WH	352000

Figure 11. File Listing

2. Institution (Name). Standard names for each school, maintained on a separate listing (OUA-MIS UNICODE System), are used. Considerations of sorting and retrieving by university name are discussed in the Appendix, Part A.

3. Revcode, Disp., Mo-age. The three parts to this grouping are:

   a. Reviewing Code--This is the symbol for the office evaluating the proposal. A maximum of 6 office codes may be listed.

   b. Disposition--There are three possible entries: "D" indicates an office has rejected a proposal; "F" indicates funding; and a blank means "no response." Whenever an "F" is entered for one office, all remaining blanks are automatically changed to "D" to indicate that no further evaluation is required.

   c. Mo-age.--This is the age in months it has taken a particular office to review a proposal. It is calculated from the date a proposal was sent to an office and the date a disposition (see above) response is received. Where a proposal is still under review the file "as-of" date is used instead of the disposition date.

4. DT-RCVD/DT-SENT. The top date in this column shows when the proposal was received by NASA. The next 1-6 dates indicate when it was physically sent for evaluation to each reviewing office listed.

5. DT-DISP. A disposition date enters the file each time an evaluation is completed and an "F" or "D" placed in the "DISP" column. The disposition date is used in calculating how long a proposal has been under evaluation.

6. Proposal Title. The title is shown exactly as presented by the proposer. Titles exceeding the limit of 264 positions are truncated.

7. CONTINUATION OF. When an extension proposal is received, the identification number of the grant/contract is entered. If the proposer does not indicate the I.D. number of his current agreement, C" is entered where the proposal is obviously a continuation request.

8. INVESTIGATOR. The name of the principal investigator proposed by an institution is entered. A total of 15 positions are available for the name. For longer names, initials and finally the name itself are truncated.

9. IN FD. "Intent-to-fund" status is indicated by an "I." (See last proposal in Figure 11.)
10. PROCOST. The cost in dollar amounts requested by the proposer is given for each proposal.
11. CASE, OB, FS. (Reserved for CASE data. See Appendix, Part A.)

D. Activity Tracking

Two additional tabulations are available for analyzing the proposal workload. A counter (Figure 12) at the end of the file listing analyzes the file contents in terms of proposals (not individual evaluations). All active proposals (new and continuation) are shown regardless of their fiscal year of receipt. The completed proposals (funded and rejected) are only those for which action was taken during the current fiscal year. "Intent" proposals, by definition, are active and, therefore, totalled in the active column.

The table shown in Figure 13 tallies monthly proposal actions in terms of receipts, fundings, rejections, and the amount of funds requested. "Rejection" here signifies a negative response on the part of all evaluators. It only shows data for the current fiscal year. (The first two months of FY 77, which begins October 1, 1976, are illustrated.)

III. SYSTEM FLOW

Understanding of the activities leading up to the previously described reports production is best gained by following the life cycle of a proposal. This chapter provides an overview of the normal flow of activities from the time a new proposal is received until evaluation is completed. The various input forms and activities required to support the tracking system are described briefly. Detailed instructions for completion and use of the input forms are provided in Chapters IV and V.

A generalized view of proposal flow was presented in Figure 1. Figures 14 and 15 give more detailed flow pictures needed to understand the actual "hands on" ADP aspect of the proposal system. The external flow or

AS OF DATE: 07-31-75 NUMBER AND AMOUNT SUMMARY OF UNIVERSITY PROPOSALS

TYPE	ACTIVE		COMPLETED-AWARDED		COMPLETED-REJECTED		TOTALS	
	NO.	AMOUNT	NO.	AMOUNT	NO.	AMOUNT	NO.	AMOUNT
NEW	190	14,548,008	44	1,800,188	26	3,384,590	260	19,732,786
CONT.	211	19,737,343	84	4,532,281	8	229,013	303	24,498,637
INTENT	1	101,986	---	---	---	---	1	101,986
TOTALS	402	34,387,337	128	6,332,469	34	3,613,603	564	44,333,409

Figure 12. File Listing Counter

PRIOR FISCAL YEAR ENDED 09-30-76

AS OF DATE: 12-01-76 CURRENT FISCAL YEAR UNIVERSITY PROPOSAL HANDLING ACTIVITY

ACTION	MONTH OCT	NOV	DEC	JAN	FEB	MARCH	APRIL	MAY	JUN	JULY	AUG	SEPT	TOTAL
PRESEAL RECEIPTS													
NUMBER *	38	100											138
$1,000S	1002	10021											11023
NOA ENDED	25	30											55
ALL REJECTED	20	8											28

* May not add to total due to rounding.

Figure 13. Monthly Activity Table

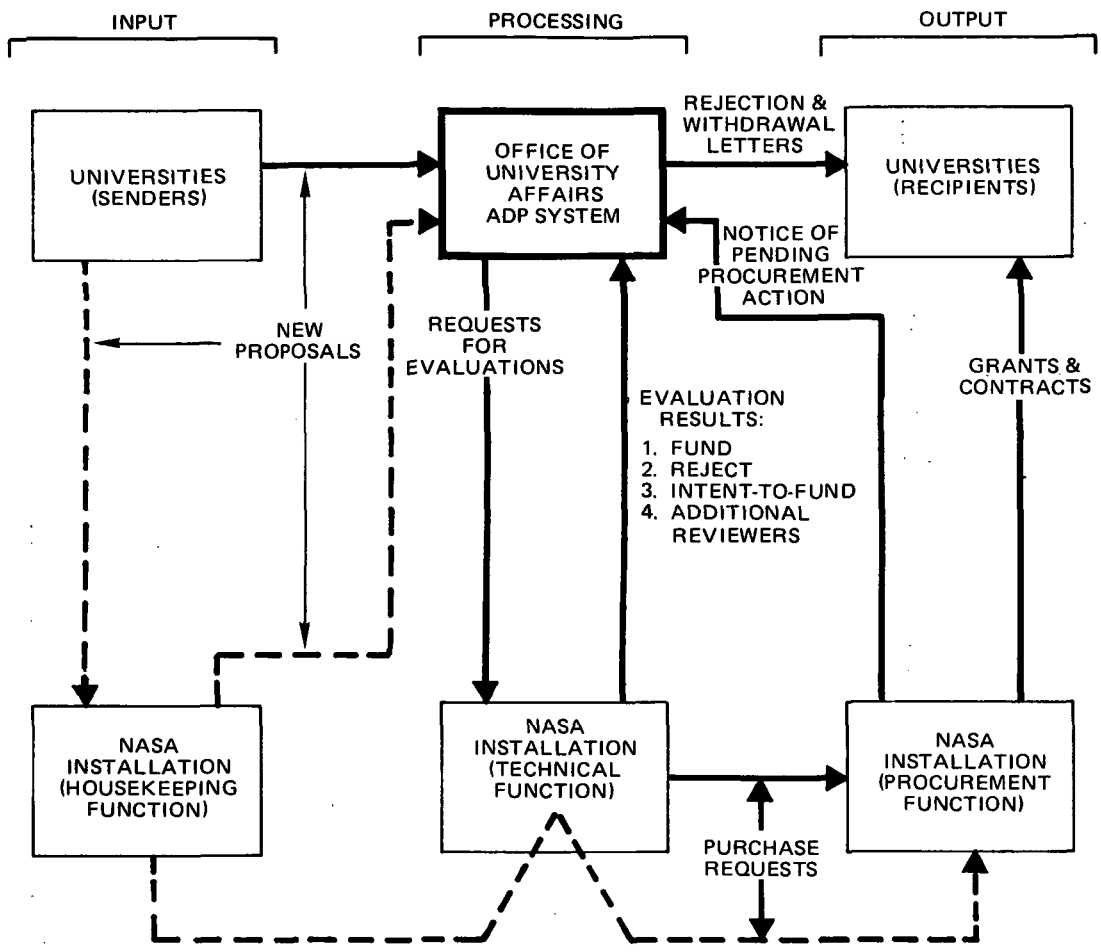


Figure 14. NASA Proposal Flow and ADP System Interfaces

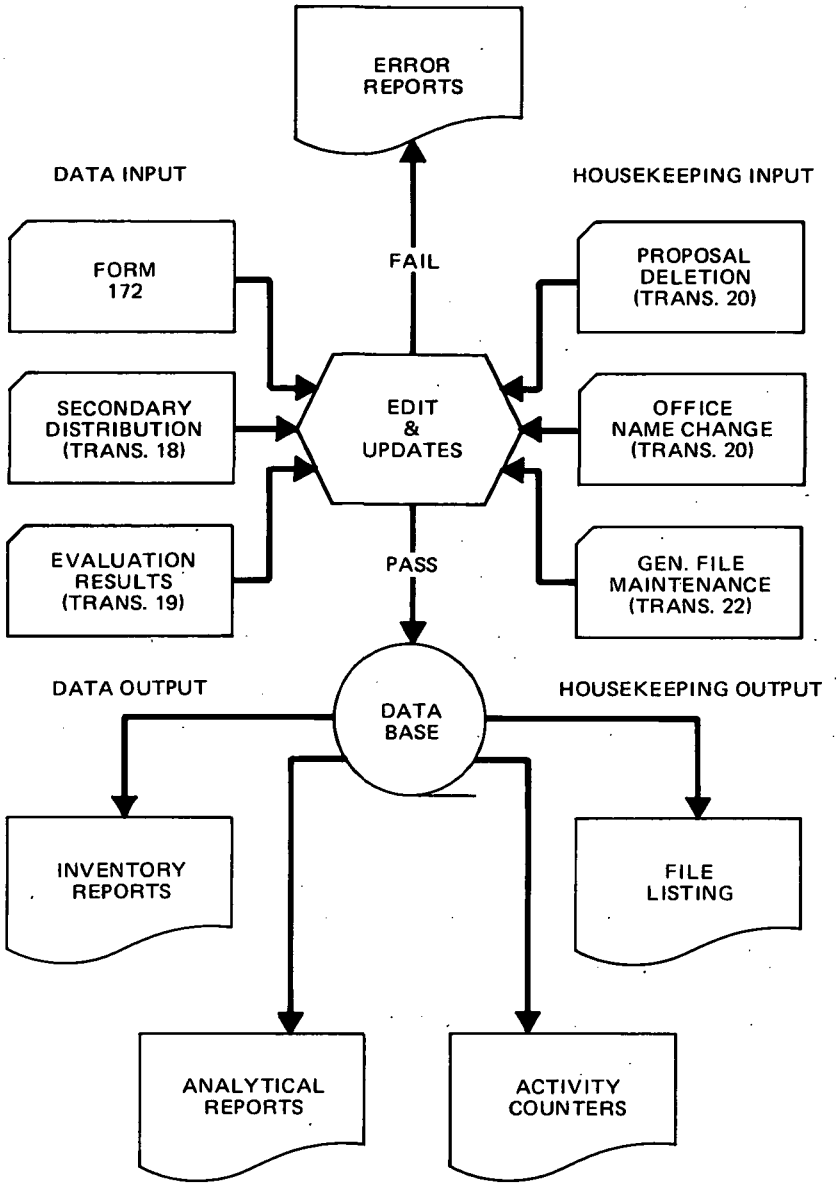


Figure 15. ADP Proposal System Flow

environment is covered by Figure 14 while Figure 15 details the internal flow within the Office of University Affairs, i.e., the heavy-bordered area of Figure 14. As a matter of simplicity of illustration, universities appear twice and installations appear three times in the external flow diagram. Each appearance represents the same organization but in a different role.

The annual volume handled by the depicted system amounts to some 2,000 new proposals submitted by about 300 universities. Any given proposal may involve one or more of NASA's 10 installations.

A. Receipt of New Proposal

The process begins with receipt by NASA of a valid unsolicited proposal from a university. (Definitions of "valid" and "unsolicited" are beyond the scope of this report and are not critical to understanding the ADP processing.) Any proposal which has not been acted upon previously by NASA is considered to be a new proposal, i.e., a request to continue a previously funded project is a new proposal, not a change to the proposal upon which the project was originally based.

NASA instructions require that proposals be sent by the universities directly to the Office of University Affairs (OUA). Occasionally, a proposal will be sent to a NASA installation (dashed lines in Figure 14) which, in turn, forwards it to OUA. Regardless of the path taken, the handling upon OUA receipt is the same: preparation of a "Proposal Status Record," NASA Form 172.

B. Completion of Form 172

The Form 172 is the key element in both the ADP and manual aspects of the proposal handling system; hence, it will be extensively discussed. Errors in its preparation can dog the proposal during the entire evaluation and disposition cycle. It is a manifolded or "snap-out" form with seven copies and interleaved carbon paper. Each copy is slightly different, tailored to its specific use in the system. The entire form is depicted in Figure 16. System functions for each copy are briefly described.

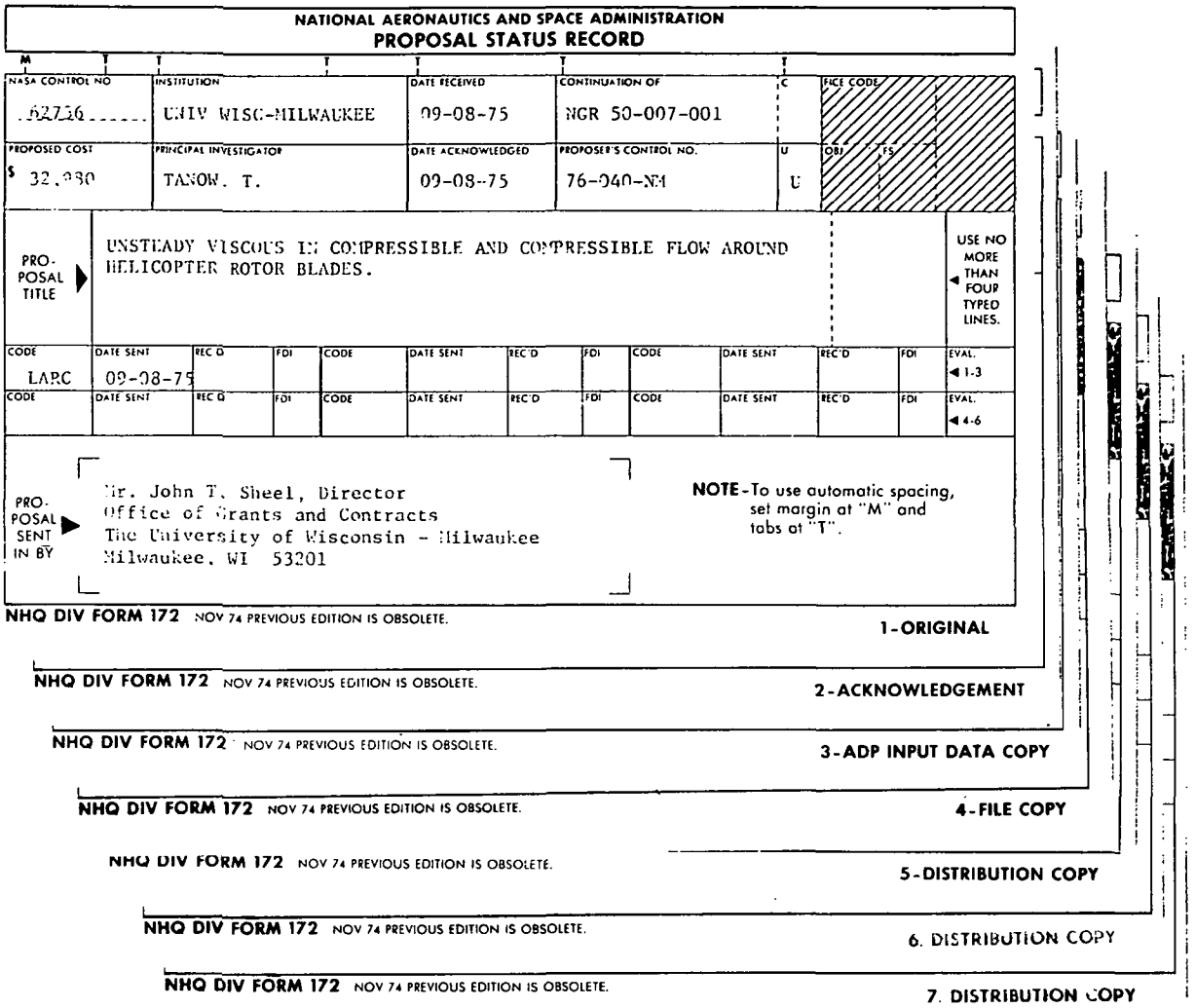


Figure 16. Proposal Status Record (Form 172) Manifold Set

1. Original, white. Complete descriptive information, plus the initial evaluating offices, is entered. The original is then detached and filed manually by institution. No further typed entries are ever made, only manual ones.
2. Acknowledgement, white. Receipt of the proposal is acknowledged by mailing this copy (Figure 17) to the sender. The blacked out areas conceal the identity of the evaluators and internal coding which might confuse the sender. The back of the form, shown as Figure 18, is a brief acknowledgement letter.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
PROPOSAL STATUS RECORD

NASA CONTROL NO.	INSTITUTION	DATE RECEIVED	CONTINUATION OF
62756	UNIV WISC-MILWAUKEE	09-08-75	NGR 50-007-001
PROPOSED COST	**PRINCIPAL INVESTIGATOR**	**DATE ACKNOWLEDGED**	**PROPOSER'S CONTROL NO.**
$ 32,980	TANOW, T.	09-08-75	76-040-NM

PROPOSER'S FILE COPY

PROPOSAL TITLE

UNSTEADY VISCOUS IN COMPRESSIBLE AND COMPRESSIBLE FLOW AROUND HELICOPTER ROTOR BLADES.

PRO-POSAL SENT IN BY ▶

Mr. John T. Sheel, Director
Office of Grants and Contracts
The University of Wisconsin - Milwaukee
Milwaukee, WI 53201

This record copy acknowledges receipt of the proposal described above. Further information is on the back.

NHQ DIV FORM 172 NOV 74 PREVIOUS EDITION IS OBSOLETE.

2-ACKNOWLEDGEMENT

Figure 17. Form 172 Acknowledgement (Copy 2, Front)

Your proposal is now being evaluated by NASA's technical staff. A brochure containing additional details on proposal preparation, submission and review is available upon request. Note that our receipt and retention of the proposal does not place an obligation on the Government to pay any cost incurred in its preparation and submission nor for any work started before a support agreement is awarded.

We appreciate your desire to contribute to NASA's programs and will notify you of the results of our evaluation as soon as it is completed.

Please cite the "NASA Control No." in communications regarding this proposal. Inquiries should be addressed to:

Proposal Control Officer
Office of University Affairs
Code PY
National Aeronautics and Space Administration
Washington, D.C. 20546

Figure 18. Form 172 Acknowledgement (Copy 2, Back)

3. ADP Input Data Copy, pink. This is the Form 172 input shown in the system flow diagram, Figure 15. It is designed for keypunch "as is," and direct input to the system. Only data and instructions of concern to the keypunch operators are shown. The pink copy (Figure 19) is used only to input information about new proposals at the time of initial receipt processing. Once it has been submitted it is not to be removed from the "stack" for change or additions. Any errors detected after preparation are corrected elsewhere by the procedures described in Chapters IV and V.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
PROPOSAL STATUS RECORD

1-11 (File I. D.)	12-35	36-43	44-57	58	59-65		79-80
62756	UNIV WISC-MILWAUKEE	09-08-75	NGR 50-007-001				P1
12-21	22-43	44-51	[redacted]	52	53-54	55-56	79-80
32,980	TANOW, T.	09-08-75		U			P2

12-77

UNSTEADY VISCOUS IN COMPRESSIBLE AND COMPRESSIBLE FLOW AROUND HELICOPTER ROTOR BLADES.

79-80 P3 THRU P6 AS NEEDED

12-16	17-24	[redacted]	25-29	30-37	[redacted]	38-42	43-50	[redacted]	79-80
LARC	09-08-75								R1
12-16	17-24		25-29	30-37		38-42	43-50		79-80
									R1

▲ CD #

[redacted]

KP Notes:
1. Put File I.D. (cc 1-11) on all cards.
2. Punch "R" cards only when there are some data in cc 12-50.
3. Punch as is.

NHQ DIV FORM 172 NOV 74 PREVIOUS EDITION IS OBSOLETE.

3-ADP INPUT DATA COPY

Figure 19. Form 172 ADP Input Data Copy (Copy 3)

4. File Copy, yellow. This copy (Figure 20) is placed in the official file containing the proposal and other paperwork generated during the evaluation process.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
PROPOSAL STATUS RECORD

NASA CONTROL NO.	INSTITUTION	DATE RECEIVED	CONTINUATION OF	C
62756	UNIV WISC-MILWAUKEE	09-08-75	NGR 50-007-001	
PROPOSED COST	**PRINCIPAL INVESTIGATOR**	**DATE ACKNOWLEDGED**	**PROPOSER'S CONTROL NO.**	**U**
$ 32,980	TANOW, T.	09-08-75	76-040-NM	U

PROPOSAL TITLE: UNSTEADY VISCOUS IN COMPRESSIBLE AND COMPRESSIBLE FLOW AROUND HELICOPTER ROTOR BLADES.

CODE	DATE SENT	REC'D	FDI	CODE	DATE SENT	REC'D	FDI	CODE	DATE SENT	REC'D	FDI	EVAL.
LARC	09-08-75											◀ 1-3
CODE	DATE SENT	REC'D	FDI	CODE	DATE SENT	REC'D	FDI	CODE	DATE SENT	REC'D	FDI	EVAL.
												◀ 4-6

PROPOSAL SENT IN BY:
Mr. John T. Sheel, Director
Office of Grants and Contracts
The University of Wisconsin - Milwaukee
Milwaukee, WI 53201

NHQ DIV FORM 172 NOV 74 PREVIOUS EDITION IS OBSOLETE. **4-FILE COPY**

Figure 20. Form 172 File Copy (Copy 4)

5. Distribution Copy, white. One copy of the form (Figure 21) goes with each proposal package sent out for evaluation. It is similar to copy 1, except that it is designed to be used for file purposes by the recipient. Thus, room is provided for the evaluators to note their "action," in lieu of the "Rec'd" and "FDI" areas needed by OUA. Copies 6 and 7 are identical to Copy 5. If distribution is made to more than 3 evaluators, photocopies are made; an additional 172 is not typed.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
PROPOSAL STATUS RECORD

NASA CONTROL NO.	INSTITUTION	DATE RECEIVED	CONTINUATION OF
62756	UNIV WISC-MILWAUKEE	09-08-75	NGR 50-007-001
PROPOSED COST	**PRINCIPAL INVESTIGATOR**	**DATE ACKNOWLEDGED**	**PROPOSER'S CONTROL NO.**
$ 32,980	TANOW, T.	09-08-75	76-040-NM

PROPOSAL TITLE: UNSTEADY VISCOUS IN COMPRESSIBLE AND COMPRESSIBLE FLOW AROUND HELICOPTER ROTOR BLADES.

CODE	DATE SENT	ACTION	CODE	DATE SENT	ACTION	CODE	DATE SENT	ACTION	EVAL.
LARC	09-08-75								◀ 1-3
CODE	DATE SENT	ACTION	CODE	DATE SENT	ACTION	CODE	DATE SENT	ACTION	EVAL.
									◀ 4-6

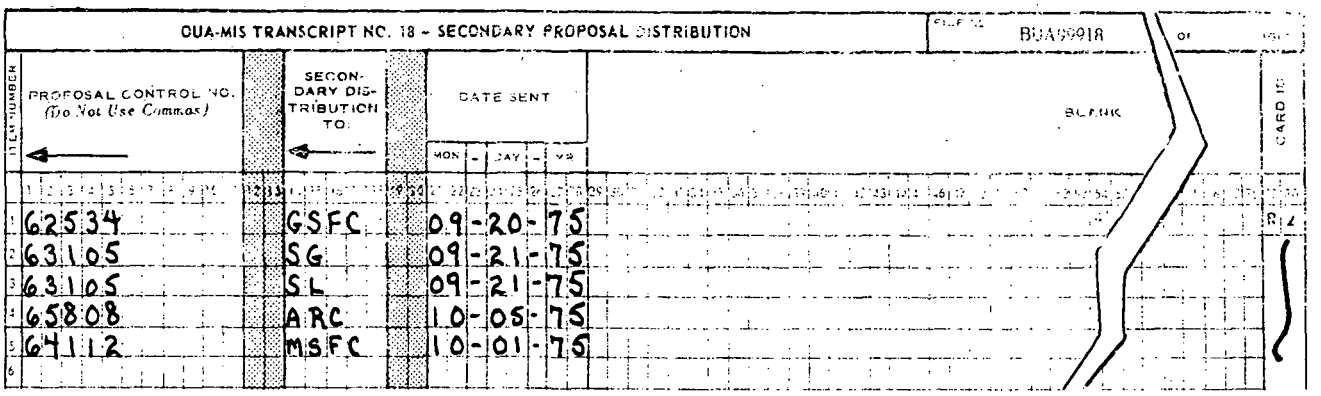
PROPOSAL SENT IN BY:
Mr. John T. Sheel, Director
Office of Grants and Contracts
The University of Wisconsin - Milwaukee
Milwaukee, WI 53201

NHQ DIV FORM 172 NOV 74 PREVIOUS EDITION IS OBSOLETE. **5-DISTRIBUTION COPY**

Figure 21. Form 172 Distribution Copy (Copies 5-7)

C. Secondary Distribution

Following the initial distribution of a proposal, the original evaluators may submit comments to OUA which would lead to the proposal's being evaluated by more offices. This is shown as "additional reviewers" under Evaluation Results in the flow chart, Figure 14. This information is added to the data base on Transcript No. 18, Secondary Proposal Distribution, as shown in Figure 22. At the same time, copy 4 of Form 172, resident in the official proposal file, is modified by hand to show the additional distribution and date.


OUA-MIS TRANSCRIPT NO. 18 - SECONDARY PROPOSAL DISTRIBUTION

BUA99918

ITEM NUMBER	PROPOSAL CONTROL NO. (Do Not Use Commas)	SECONDARY DISTRIBUTION TO:	DATE SENT MON - DAY - YR
1	62534	GSFC	09-20-75
2	63105	SG	09-21-75
3	63105	SL	09-21-75
4	65808	ARC	10-05-75
5	64112	MSFC	10-01-75
6			

BLANK

CARD IC

Figure 22. Secondary Distribution Transcript (T. 18)

D. Evaluation Results

In addition to the request for additional distribution, evaluation results are of two types: terminal and interim. A terminal result is either a decision to fund a proposal or to reject it. (Rejection may only be on the part of that evaluator, not necessarily on the part of NASA.) An interim decision, or "intent-to-fund" is a definite statement that the proposal will be funded in the near future, pending authorization to use monies for the proposal. These decisions enter the system on Transcript No. 19, Proposal Evaluation Received (Figure 23).

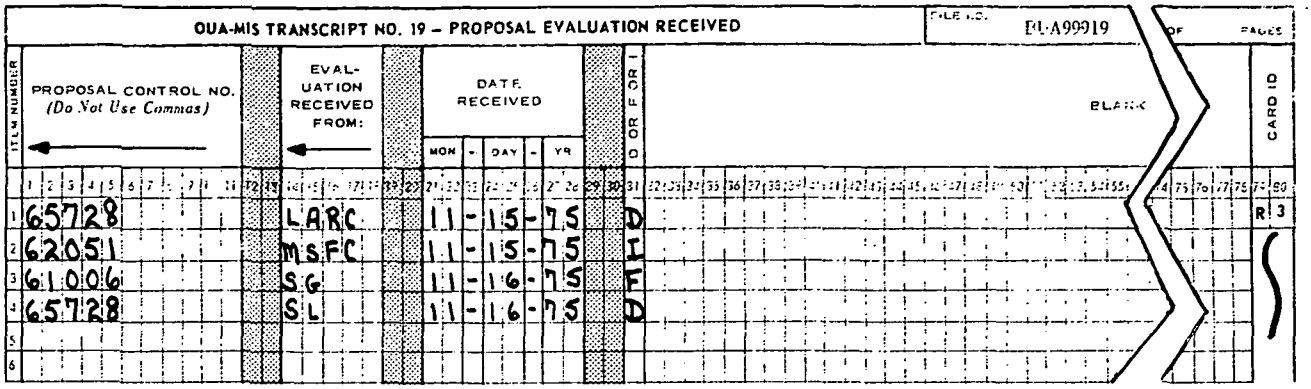


Figure 23. Evaluation Results Transcript (T. 19)

Fund, reject or intent is indicated by F, D and I, respectively. At the same time an installation prepares an "F" evaluation, a purchase request is forwarded to its local procurement office, thus initiating the process leading to award of a grant or contract.

Sometimes an installation will by-pass normal procedures by taking a directly received proposal and initiating procurement action without informing OUA. The horizontal dashed line in the flow chart, Figure 14, is an oversimplified representation of the path. The situation comes to light when a "notice of pending procurement action" reaches OUA. Since the evaluation has been completed, no entry is made in the ADP system. Alternately, the system will allow submission of both a Form 172 for a new proposal and a transcript entry indicating funding. The information on the action would be retained for the remainder of the fiscal year. This course, however, is rarely followed as the system is operated primarily to ensure prompt handling of active proposals, rather than to provide statistics on all proposals handled.

The three steps described above--new proposal receipt, additional distribution, and evaluation--complete the description of the input and processing actions of Figure 14 and the data input in Figure 15. The "output" part of Figure 15 involves little ADP activity. It is shown primarily for completeness and requires no further discussion.

E. Error Correction for Data Input

The system has integrated edit and update processing. This means that if the data inputs are correct, they will go into the data base; on the other hand, no incorrect information will be accepted. It will be rejected and printed in an error report. Each report will indicate the nature of the error so that it may be corrected and the entire input made again. In the case of a Form 172, it takes only one major error to cause all of the data on the form to be rejected. The entire form must be resubmitted.

The system does not edit for certain types of minor errors; thus omission of the principal investigator's name or a mispelling in a technical description does not cause Form 172 data to reject. Correction in such instances can be made by the system supervisor through the "override" or file maintenance techniques described in Part H, below.

F. Deletions

All data associated with a particular proposal may be permanently deleted from the system by a Transcript No. 20 entry (Figure 24).

Deletion is used sparingly, as it is required only in unusual circumstances, viz., withdrawal of a proposal, inadvertent entry of a non-university proposal or improper proposal number. When a proposal is deleted, its control number should not be re-used. If several actions against a proposal have already been submitted, such as Form 172, secondary distribution and evaluation received, it is not necessary to locate those items and remove them from the input. The deletion action is extremely powerful; it takes precedence over all other actions.

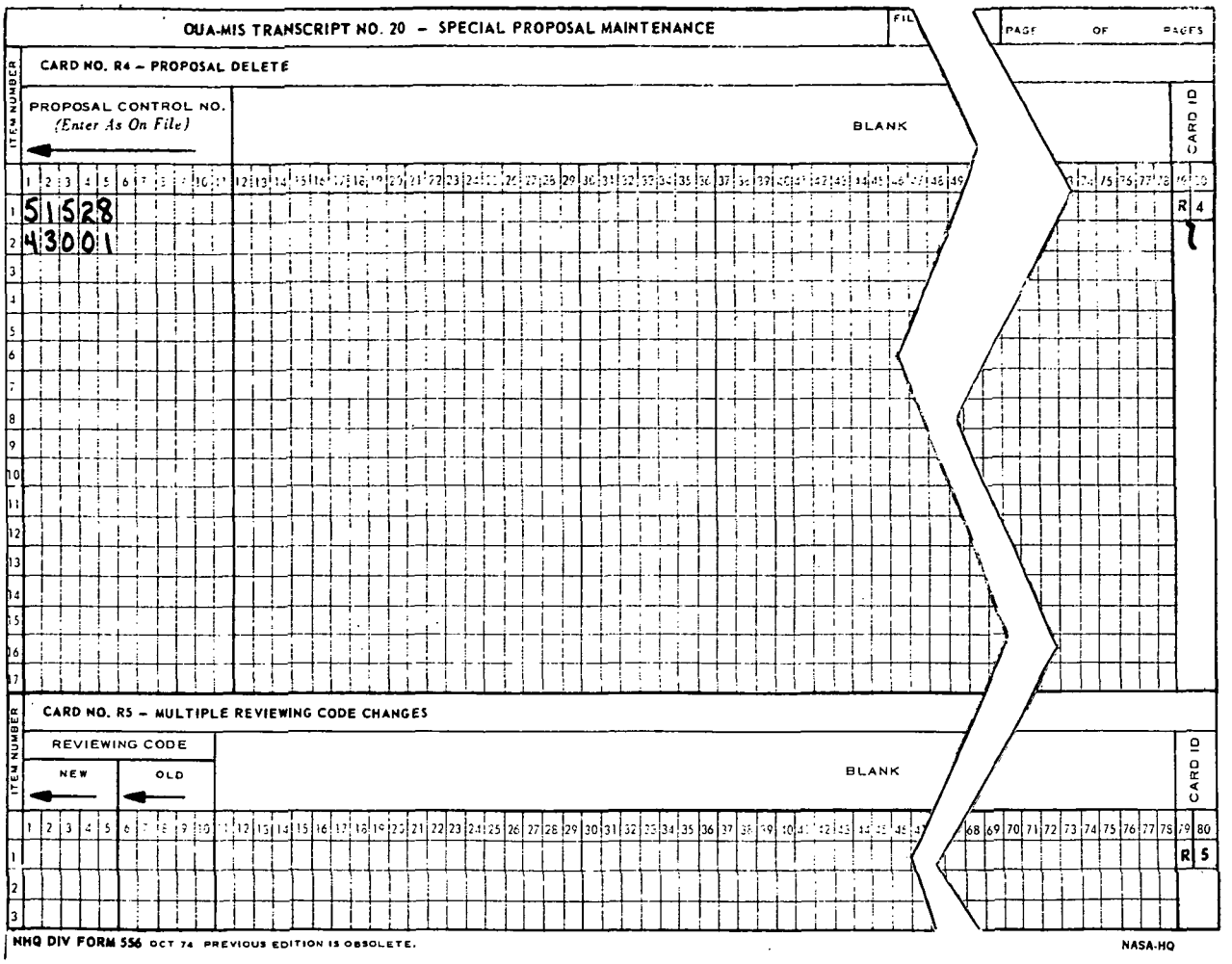


Figure 24. Deletion/Name Change Transcript (T. 20)

G. Office Code Changes

There are two general circumstances under which proposal evaluator reviewing codes must be changed.

1. Responsibility for proposal evaluation changes. In this instance the originally assigned reviewing office may be "closed out" by entering a "D" evaluation result, while the new reviewer's code is entered as secondary distribution. Alternately, the system supervisor may substitute one code for another by the file maintenance techniques (see Part H, below).
2. Reorganizations frequently result in recoding offices, but no change in review responsibility. This may affect hundreds of file entries--too many to be conveniently handled by changes to each proposal record. In this case provision is made on the bottom of Transcript No. 20 for changing all affected records at once. This change may be made at any time. It is a powerful "override" which adjusts not only records already in the data base but also new input which is submitted at the same time as Transcript No. 20.

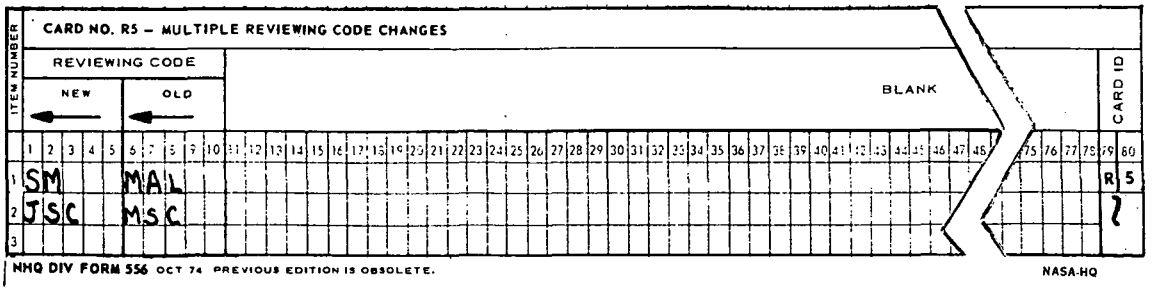


Figure 24 Repeated. Deletion/Name Change Transcript (T. 20) (Bottom Portion)

H. File Maintenance

The System Supervisor has direct access to the data base to make any corrections or changes desired to maintain system accuracy. Transcript No. 22, Basic Proposal Maintenance, is used. This transcript, however, must be used only in conjunction with the most recent file listing. That is, only data already on the file list may be changed. In a properly managed system the need to use this input mechanism will be minimal. There is an exception: if a proposal previously classified as "intent-to-fund" is subsequently to

be rejected, the intent flag on the file must be removed by inserting an asterisk in column 57 of the TC card, as illustrated in Figure 25. A detailed discussion of the extensive File Maintenance (FM) techniques appears in Chapter V.

I. Activity Counter

The inventory and analytical reports and the file listing outputs have been previously described. The final housekeeping output which completes the description of the Figure 15 system flow is the activity counter. This counter, Figure 26, tallies the input for any particular update, less any erroneous cards which may be rejected.

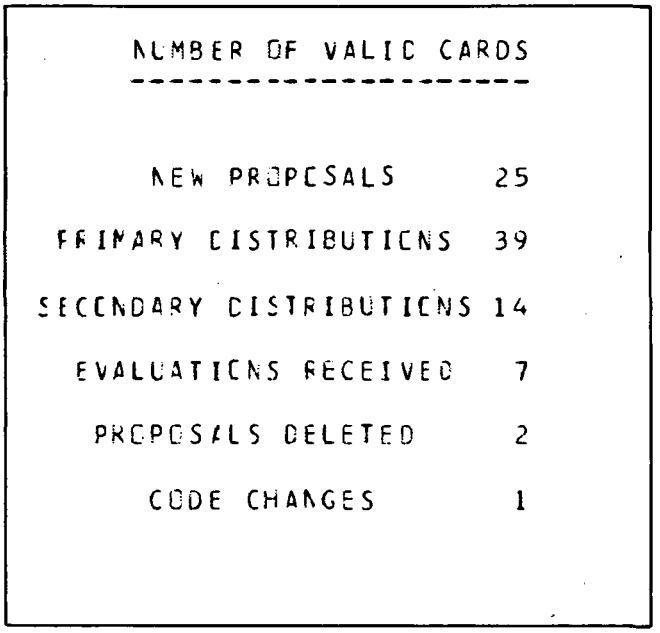
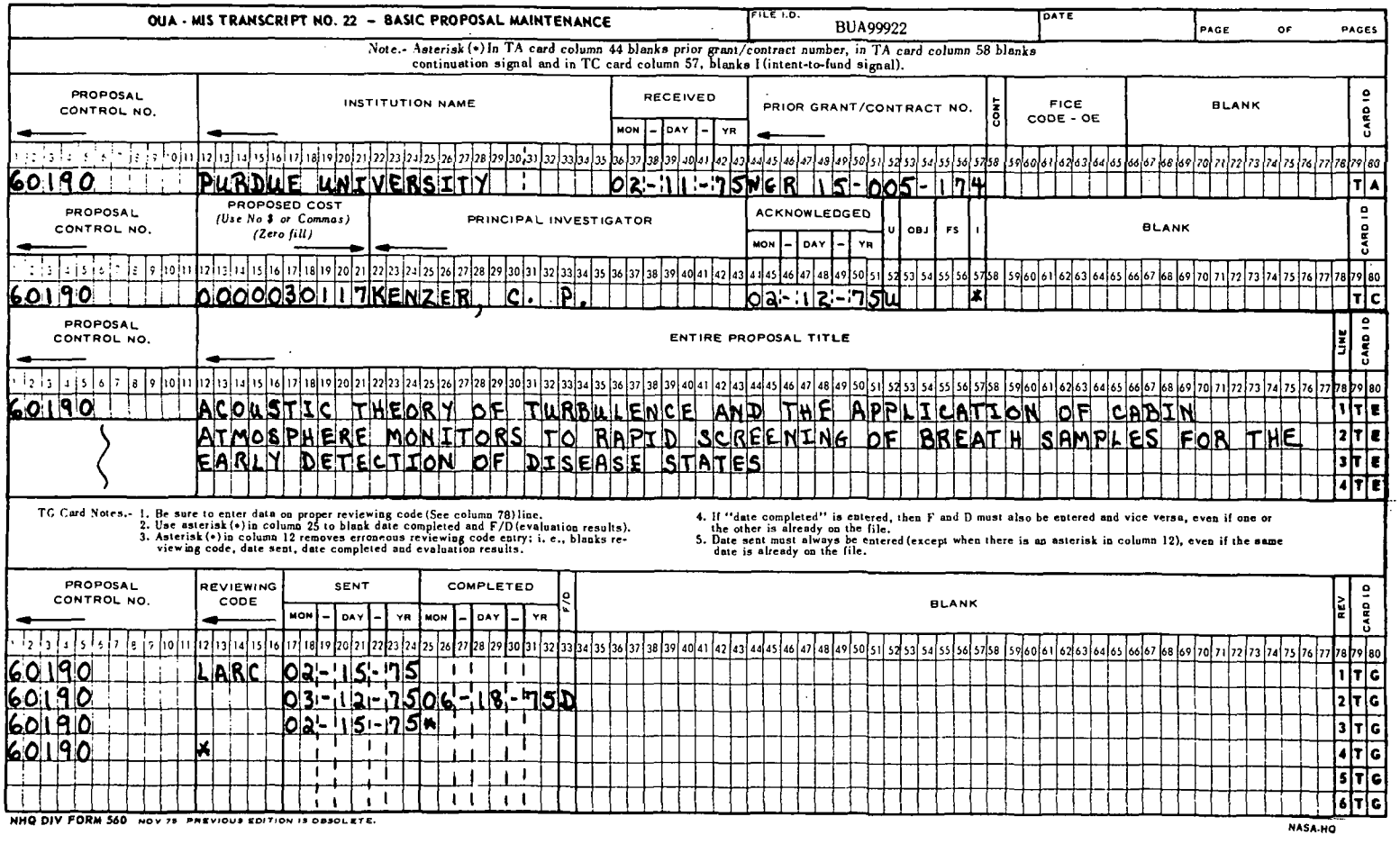


Figure 26. Input Activity Counter



OUA - MIS TRANSCRIPT NO. 22 – BASIC PROPOSAL MAINTENANCE

FILE I.D. BUA99922 | DATE | PAGE OF PAGES

Note.- Asterisk (*) In TA card column 44 blanks prior grant/contract number, in TA card column 58 blanks continuation signal and in TC card column 57, blanks I (intent-to-fund signal).

PROPOSAL CONTROL NO.	INSTITUTION NAME	RECEIVED MON – DAY – YR	PRIOR GRANT/CONTRACT NO.	CONT	FICE CODE - OE	BLANK	CARD ID
60190	PURDUE UNIVERSITY	02-11-75	NGR 15-005-174				TA

PROPOSAL CONTROL NO.	PROPOSED COST (Use No $ or Commas) (Zero fill)	PRINCIPAL INVESTIGATOR	ACKNOWLEDGED MON – DAY – YR	U	OBJ	FS	I	BLANK	CARD ID
60190	0000030117	KENZER, C. P.	02-12-75	W			*		TC

PROPOSAL CONTROL NO.	ENTIRE PROPOSAL TITLE	LINE	CARD ID
60190	ACOUSTIC THEORY OF TURBULENCE AND THE APPLICATION OF CABIN	1	TE
	ATMOSPHERE MONITORS TO RAPID SCREENING OF BREATH SAMPLES FOR THE	2	TE
	EARLY DETECTION OF DISEASE STATES	3	TE
		4	TE

TG Card Notes.- 1. Be sure to enter data on proper reviewing code (See column 78) line.
2. Use asterisk (*) in column 25 to blank date completed and F/D (evaluation results).
3. Asterisk (*) in column 12 removes erroneous reviewing code entry; i. e., blanks reviewing code, date sent, date completed and evaluation results.
4. If "date completed" is entered, then F and D must also be entered and vice versa, even if one or the other is already on the file.
5. Date sent must always be entered (except when there is an asterisk in column 12), even if the same date is already on the file.

PROPOSAL CONTROL NO.	REVIEWING CODE	SENT MON – DAY – YR	COMPLETED MON – DAY – YR	F/D	BLANK	REV	CARD ID
60190	LARC	02-15-75				1	TG
60190		03-12-75	06-18-75	D		2	TG
60190		02-15-75	*			3	TG
60190	*					4	TG
						5	TG
						6	TG

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Figure 25. System Supervisor File Maintenance Transcript (T. 22)

The "new proposals" entry is a count of the Forms 172 input, while the remaining entries are line-by-line counts of the items entered on the various transcripts. This counter is essential to proper system management, as it allows the Supervisor to determine if all input is actually going into the system when program validation or revalidation may be necessary. It also highlights certain unusual error conditions in which cards can "vanish." The counter appears as the last item on the error/update report.

J. Processing Schedule

1. Weekly Updates

The system normally should be updated weekly for ease in editing and error correction. When both proposal and evaluation receipts are low, reduction of the update frequency to three times or even twice a month may be acceptable. For weekly updates, input normally consists of Forms 172 and transcripts. These are sent to the computer room with the special External Source Data Input Submittal form shown in Figure 27. Items 4 and 8 on the form are critical to the proposal system operation.

Type of input (item 4) alerts the computer operators to what types of material are attached, i.e., Form 172, Transcript, or Card. Forms 172 and transcripts are the normal weekly input items. However, it is desirable to have as much as possible keypunched in advance to avoid delays when an update run is actually ordered. In this event all three types of input would be checked, or perhaps only "card," if everything had been keypunched in advance.

In item 8, "update files" is normally checked for the type of run requested. The as-of-date entered governs the age calculation of the proposals. Thus, for weekly updates the as-of-date should reflect the latest date that input material was prepared. The "prior FY ended" is preprinted on the forms and need not be changed during weekly update.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

EXTERNAL SOURCE DATA INPUT SUBMITTAL

SECTION I TO BE COMPLETED BY THE SUBMITTING OFFICE *(See instructions on reverse)*

1. SUB-SYSTEM TITLE	2. AS/OF DATE	3. FILE I.D.
OUA Proposal System	-- --	-- --

4. TYPE OF INPUT *(Card, tape, form, etc.)*	5. CONCERNING THE DATA NOW BEING SUBMITTED AS INPUT ON THIS FILE I.D. FOR THIS AS/OF DATE:			
___ Form 172 X Transcript ___ Card	*(Check one column on each item)*	YES	NO	*C. IF NO IS CHECKED ON ITEM 5, INDICATE BELOW WHEN REMAINDER OF SUBMISSION CAN BE EXPECTED.
6. NO. OF ITEMS OF INPUT --	A. WERE PARTIAL SUBMISSIONS MADE PRIOR TO THIS ONE?	--	--	
7. DISPOSITION OF INPUT ITEMS Return to originator	B. DOES THIS SUBMISSION COMPLETE THE TOTAL INPUT?	--	--	TIME -- DATE --

8. REMARKS

Run Requested (Check one):

X UAØ1 Update Files (Monthly or as required)

_____ UAØ2 End-of-Year Purge Run (Annual only: Deletes all completed proposals)

Dates (Enter both):

	Mon	Day	Yr
As-of-date	10	21	75
Prior FY ended	06	30	75

9. SIGNATURE OF SUBMITTING OFFICIAL	10. OFFICE CODE	11. TIME AND DATE SUBMITTED
[signature]	P	10/21/75

SECTION II TO BE COMPLETED BY DATA PREPARATION SECTION

12. ROUTING	13. LINE ITEM COUNT	14. LOG. NO.	15. PRODUCT CODE	16. PRIORITY	17. DUE DATE
18. RECIPIENT	19. ACTUAL COUNT	20. RELEASED TO		21. TIME AND DATE RELEASED	

22. REMARKS

NASA FORM 35 AUG 67 REPLACES NHQ FORM 35, FEB 67, WHICH MAY BE USED.

Figure 27. System Update Request

All output reports are produced during weekly update, but only the error report is of major concern. Any rejected data should be corrected by preparation of the proper cards for use in the next week's update. It is essential that these corrections be entered before the system is updated again, lest over-all accuracy deteriorate.

The other reports, particularly the file listing, should be given a quick review just to ensure that the system is still operating properly. If the report is being produced in response to a special request for current information it should, of course, be checked thoroughly before release.

2. Monthly Update

Monthly reports are produced in the same manner as weekly ones, except that the as-of-date is always entered as the last day of the month. It is very important that proposals and evaluations received during the month be input and the reports produced and distributed promptly. Thus, on the morning of the last working day of the month all transcripts and Forms 172 should be sent for keypunch, in order to finish by the morning of the second working day of the month. Upon receipt, the cards and all additional input required for the remainder of the month should be sent in for file update and reports production.

3. Year End Processing

The proposal system has a continuing component of proposals under review, and a periodic or fiscal year component, viz., acceptances and rejections. The active proposals are kept in the system until they are either funded or rejected. The completed proposals are dropped at the end of each fiscal year.

To illustrate, the following actions set up the system for FY 77.

a. Run the last monthly report (update files) for the year just ending. The as-of-date and the "prior FY ended date" will read 09-30-76 and 06-30-76, respectively.

b. Ensure that the system has operated and updated properly.

c. Request an "End-of-Year Purge Run." Do not input any data with it. The as-of-date will be 10-01-76 and the "prior FY ended date" will be 09-30-75.

d. Check for proper purge:

   -- The monthly activity counter (Figure 13) should be blank.
   -- The funded and completed columns of the file listing counter (Figure 12) should be blank.
   -- The Disposition and Date of Disposition columns on the File List (Figure 11) should be blank.
   -- The accepted and rejected columns on Tables VI, VIA and VIB should be blank.

The "purge" need not be physically run on the first day of the new year; however, failure to purge will result in erroneous or misleading file updates. If new input is submitted before the purge, the blank areas mentioned above might contain data. Once the purge is made, the data submittal form (Figure 27) should be reprinted with the new "prior FY ended date." All forms with the old date must be destroyed. (Inadvertent use of the wrong "prior" date will not do permanent harm to the data base. However, it will destroy the validity of the monthly activity counter for that particular run.)

IV. INPUT FORM PREPARATION

This chapter contains detailed instructions on when and how to use the Proposal Status Record, Form 172, and the input transcripts. In addition, it discusses the types of errors the computer will detect. Samples of each error message are given.

A. Preparation of Form 172

1. When to Prepare

The Proposal Status Record, Form 172, is completed when the following actions occur:

a. A new proposal is received from the proposer.

b. A new proposal is received from a Field Installation Office or another NASA Office wishing to review the proposal. (In this case, the receiving office would be included in the list of reviewers).

c. A receiving office expresses an "intent-to-fund" a newly received proposal. (A Transcript No. 19, indicating "intent," would also be prepared).

d. A receiving office indicates a decision not to fund a new proposal, but suggests (or OUA decides) that additional distribution should be made. (The receiving office would be shown on the list of reviewers, but an evaluation received of "D" should be entered on a Transcript No. 19).

2. General Instructions--Preparation of Form 172

a. Use 12-space-per-inch typewriter.

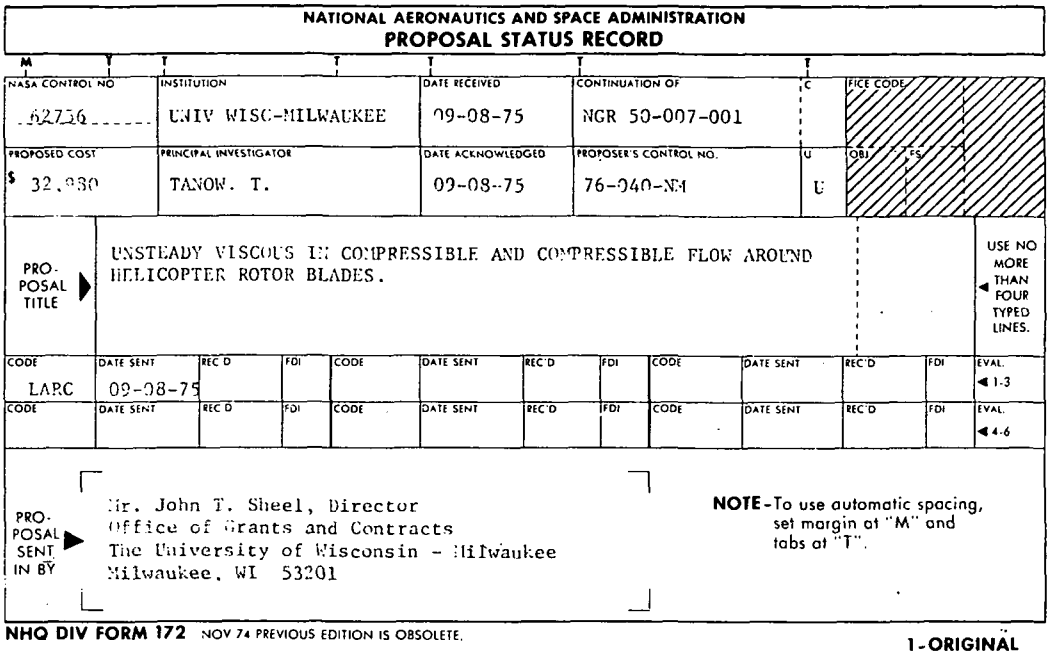
b. Keep all entries within their own blocks.

c. Use margin and tab sets for automatic spacing.

d. If an erasure or correction is necessary, make sure copy 3 for ADP is legible.

If a 172 is prepared in error it is not necessary to locate the ADP copy and destroy it. Merely request the Systems Supervisor to process a delete action against the proposal number. That particular proposal number should not be reassigned.

3. Specific Completion Instructions



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
PROPOSAL STATUS RECORD

NASA CONTROL NO	INSTITUTION	DATE RECEIVED	CONTINUATION OF	C	FICE CODE
62736	UNIV WISC-MILWAUKEE	09-08-75	NGR 50-007-001		
PROPOSED COST	**PRINCIPAL INVESTIGATOR**	**DATE ACKNOWLEDGED**	**PROPOSER'S CONTROL NO.**	**U**	**OBJ**
$ 32,930	TANOW. T.	09-08-75	76-040-NM	U	

PRO-POSAL TITLE: UNSTEADY VISCOUS IN COMPRESSIBLE AND COMPRESSIBLE FLOW AROUND HELICOPTER ROTOR BLADES.

USE NO MORE THAN FOUR TYPED LINES.

CODE	DATE SENT	REC'D	FDI	CODE	DATE SENT	REC'D	FDI	CODE	DATE SENT	REC'D	FDI	EVAL.
LARC	09-08-75											◀ 1-3
CODE	DATE SENT	REC'D	FDI	CODE	DATE SENT	REC'D	FDI	CODE	DATE SENT	REC'D	FDI	EVAL.
												◀ 4-6

PRO-POSAL SENT IN BY ▶
Mr. John T. Sheel, Director
Office of Grants and Contracts
The University of Wisconsin - Milwaukee
Milwaukee, WI 53201

NOTE - To use automatic spacing, set margin at "M" and tabs at "T".

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Figure 16 Repeated. Proposal Status Record (Form 172)

Block	Procedures
NASA Control No.	Typed on dotted line. Must be entirely numeric, i.e., control number cannot contain hyphens, commas, or blanks. Extreme care must be used to avoid using the same control number more than one time.
Institution	Standard university names, providing complete identification of school and campus, are used. A maximum of 25 letters and spaces are available. A current university list of "short names" is maintained by the Office of University Affairs (See Figure 28).
Date Received	Use stamp-in date for proposals received directly by OUA. For proposals sent via field

OFFICE OF UNIVERSITY AFFAIRS-NASA UNIVERSITY PROGRAM MANAGEMENT INFORMATION SYSTEM PAGE 1

UNICODE REPORT 2A STANDARD UNIVERSITY NAME AND CODE LIST BUZ7110d

AS OF MARCH 31, 1975 RUN DATE 05/09/75 ALPHABETICAL BY STATE

INSTITUTION FULL NAME	INSTITUTION ADDRESS	CONG DIST	STUDNT POP	INSTITUTION SHORT NAME
ALABAMA A&M UNIVERSITY	NORMAL, ALABAMA 35762	05	3306	ALABAMA A&M UNIV
ALABAMA STATE UNIVERSITY	MONTGOMERY, ALABAMA 36101	02	3272	ALABAMA STATE UNIV
ATHENS COLLEGE	ATHENS, ALABAMA 35611	05	772	ATHENS COLLEGE
AUBURN UNIVERSITY	AUBURN, ALABAMA 36830	03	14528	AUBURN UNIV-AUBURN
CALHOUN STATE COMMUNITY COLLEGE	DECATUR, AL 35601		3536	CALHOUN ST CMNTY COL
UNIVERSITY OF NORTH ALABAMA	FLORENCE, ALABAMA 35630		3487	UNIV OF NO ALABAMA
NORTHEAST ALABAMA STATE JUNIOR COLLEGE	RAINSVILLE, ALABAMA 35986		744	NE ALA STATE JR COL
OAKWOOD COLLEGE	HUNTSVILLE, ALABAMA 35806	05	852	OAKWOOD COLLEGE
SAMFORD UNIVERSITY	BIRMINGHAM, ALABAMA 35209		2977	SAMFORD UNIVERSITY
SNEAD STATE JUNIOR COLLEGE	BOAZ, ALABAMA 35957		1402	SNEAD ST JR COLLEGE
TALLADEGA COLLEGE	TALLADEGA, ALABAMA 35160	03	496	TALLADEGA COLLEGE
TUSKEGEE INSTITUTE	TUSKEGEE INSTITUTE, AL 36088	03	3353	TUSKEGEE INSTITUTE
UNIVERSITY OF ALABAMA - BIRMINGHAM	BIRMINGHAM, ALABAMA 35294	06	8489	UNIV ALA-BIRMINGHAM
UNIVERSITY OF ALABAMA - HUNTSVILLE	HUNTSVILLE, ALABAMA 35807	05	2962	UNIV ALA-HUNTSVILLE
UNIVERSITY OF ALABAMA - TUSCALOOSA	UNIVERSITY, AL 35486	03	14349	UNIV ALA-TUSCALOOSA
UNIVERSITY OF MONTEVALLO	MONTEVALLO, ALABAMA 35115	07	3132	UNIV OF MONTEVALLO
UNIVERSITY OF SOUTH ALABAMA	MOBILE, ALABAMA 36688	01	5621	UNIV OF SO ALABAMA
UNIVERSITY OF ALASKA - FAIRBANKS	FAIRBANKS, ALASKA 99701	01	3997	UNIV ALASKA-FAIRBNKS
ARIZONA STATE UNIVERSITY	TEMPE, ARIZONA 85281	01	30786	ARIZONA STATE UNIV
NORTHERN ARIZONA UNIVERSITY	FLAGSTAFF, ARIZONA 86001		8915	NORTHERN ARIZONA U
PRESCOTT COLLEGE	PRESCOTT, ARIZONA 86301	03	409	PRESCOTT COLLEGE
UNIVERSITY OF ARIZONA	TUCSON, ARIZONA 85721	02	27552	UNIV OF ARIZONA
ARKANSAS POLYTECHNIC COLLEGE	RUSSELLVILLE, ARKANSAS 72801		2271	ARKANSAS POLY COL
ARKANSAS STATE UNIVERSITY	STATE UNIVERSITY, AR 72467	01	6730	ARKANSAS STATE UNIV
HARDING COLLEGE	SEARCY, ARKANSAS 72143	02	2095	HARDING COLLEGE
UNIVERSITY OF ARKANSAS - FAYETTEVILLE	FAYETTEVILLE, ARKANSAS 72701	03	11804	UNIV ARKANSAS-FAYETV
UNIVERSITY OF ARKANSAS - LITTLE ROCK	LITTLE ROCK, ARKANSAS 72204	01	4790	UNIV ARKANSAS-LTL RK
UNIVERSITY OF ARKANSAS - MEDICAL CENTER	LITTLE ROCK, ARKANSAS 72201	02	857	U ARKANSAS-MEDL CNTR
UNIVERSITY OF ARKANSAS - MONTICELLO	MONTICELLO, AR 71655	04	1858	U ARKANSAS-MONTICELO
UNIV. OF ARKANSAS - PINE BLUFF	PINE BLUFF, AR 71601	04	2483	U ARKANSAS-PINE BLUF
ANTELOPE VALLEY COLLEGE	LANCASTER, CALIFORNIA 93534	18	4068	ANTELOPE VALLEY COL
CALIFORNIA INSTITUTE OF TECHNOLOGY	PASADENA, CALIFORNIA 91125	22	1499	CALIF INST OF TECH
CALIFORNIA STATE COLLEGE - STANISLAUS	TURLOCK, CALIFORNIA 95380		3433	CAL STATE COL-STANIS
CALIFORNIA STATE POLY UNIV - POMONA	POMONA, CA 91768	21	11016	CAL ST POLY U-POMONA
CALIFORNIA STATE UNIVERSITY - CHICO	CHICO, CALIFORNIA 95926	01	12830	CAL STATE U-CHICO
CALIFORNIA STATE UNIVERSITY - FRESNO	FRESNO, CA 93740		16872	CAL STATE U-FRESNO
CALIFORNIA STATE UNIVERSITY - FULLERTON	FULLERTON, CALIFORNIA 92634	39	18732	CAL STATE U-FULLERTN
CALIFORNIA STATE UNIVERSITY - HAYWARD	HAYWARD, CALIFORNIA 94542	10	15766	CAL STATE U-HAYWARD
CALIFORNIA STATE UNIVERSITY - LONG BEACH	LONG BEACH, CA 90840	34	28450	CAL STATE U-LG BEACH
CALIFORNIA STATE UNIVERSITY - LOS ANGELES	LOS ANGELES, CALIFORNIA 90032	29	24631	CAL STATE U-L ANGLES
CALIFORNIA STATE UNIVERSITY - NORTHRIDGE	NORTHRIDGE, CALIFORNIA 91324	27	25728	CAL STATE U-NRTHRDGE
CALIFORNIA STATE UNIVERSITY - SACRAMENTO	SACRAMENTO, CALIFORNIA 95819	03	20252	CAL STATE U-SACRAMEN
CHAPMAN COLLEGE	ORANGE, CALIFORNIA 92666		4127	CHAPMAN COLLEGE
DE ANZA COLLEGE	CUPERTINO, CALIFORNIA 95014	13	6348	DE ANZA COLLEGE
FOOTHILL COLLEGE	LOS ALTOS HILLS, CA 94022	12	9658	FOOTHILL COLLEGE
GOLDEN GATE UNIVERSITY	SAN FRANCISCO, CAL. 94105	06	5581	GOLDEN GATE UNIV
HARVEY MUDD COLLEGE	CLAREMONT, CA 91711	35	392	HARVEY MUDD COLLEGE

Figure 28. Standard University Name List (UNICODE Type 2A)

	installations, use date received by installation or the closest available approximation to it. The style for all dates is 00-00-00.
Continuation of	Grant/contract to be extended, as noted in proposal. Must be with same grantee/contractor. Maximum length is space available. May be blank. If proposal is obviously for continuation, but prior grant/contract number is not available, type "C" in the box. It is not necessary to consult other documents to see if the prior number can be located.
Proposed Cost	Use total amount requested in dollars. Write with commas.
Principal Investigator	Use surname followed by comma and given name or initials.
Date Acknowledged	Use date of OUA acknowledgment.
Proposer's Control Number	Maximum length is space available. Can be more than one line, if necessary.
U	Enter "U" for proposals from colleges and universities. Leave blank for proposals from any other source.
Proposal Title	Maximum size is 66 spaces--to dotted line--and 4 lines deep. Computer will ignore everything else. Avoid hyphenating words at the ends of lines.
Eval. Code 1-6	Reviewer's code. Cannot exceed 5 characters. At least one must be filled in. Use only those codes on Approved Distribution Code List (Figure 29). If more than 6 offices are on distribution consult the Proposal Control Officer to ensure that the 6 primary reviewers are listed. The remaining reviewers and dates sent should be noted by hand in the margin

Approved Distribution Code List
(As of October 29, 1975)

Headquarters		Centers
AA*	NT	ARC
AC*	P	FRC
AD*	RA	GSFC
BX*	RB	JPL
E*	RE	JSC
EC	RL	KSC
EE	RO	LARC
EK	RP	LERC
EP	RR	MSFC
ER	RS	NSTL
ES	RT	WFC
ET	RW	
FE	RX	
K*	S*	
KC	SB	
KT	SG	
MF*	SL	
MK*	ST	
MT*	SU	
N*	T	
NE	U	
NS		

NOTE: Only approved codes may be used on Form 172 or transcripts. Use of asterisked codes or any unlisted code requires approval of code P.

Figure 29. Approved Distribution Code List

after copies 2 and 3 have been removed. The evaluation code blocks may be used in any sequence. For less than 5 evaluators, use of 1, 2, 4 and 5 is suggested as automatic spacing is available for these blocks.

Eval. Date Sent 1-6 — Date proposal is sent for review. There must be a date for each evaluation code shown. If the proposal was received directly from a field installation, use the date (or close approximation) proposal was received by the installation. Date of OUA distribution should, of course, be used for any other evaluators.

Rec'd & FDI — These are rarely used when 172 is being initially completed. (Entries in these blocks will not go into the computer.) However, after the 172 set has been separated and the original put in the file, the date a review is received will be entered. The type of review is indicated by F (funded), D (rejected), or I (intent-to-fund).

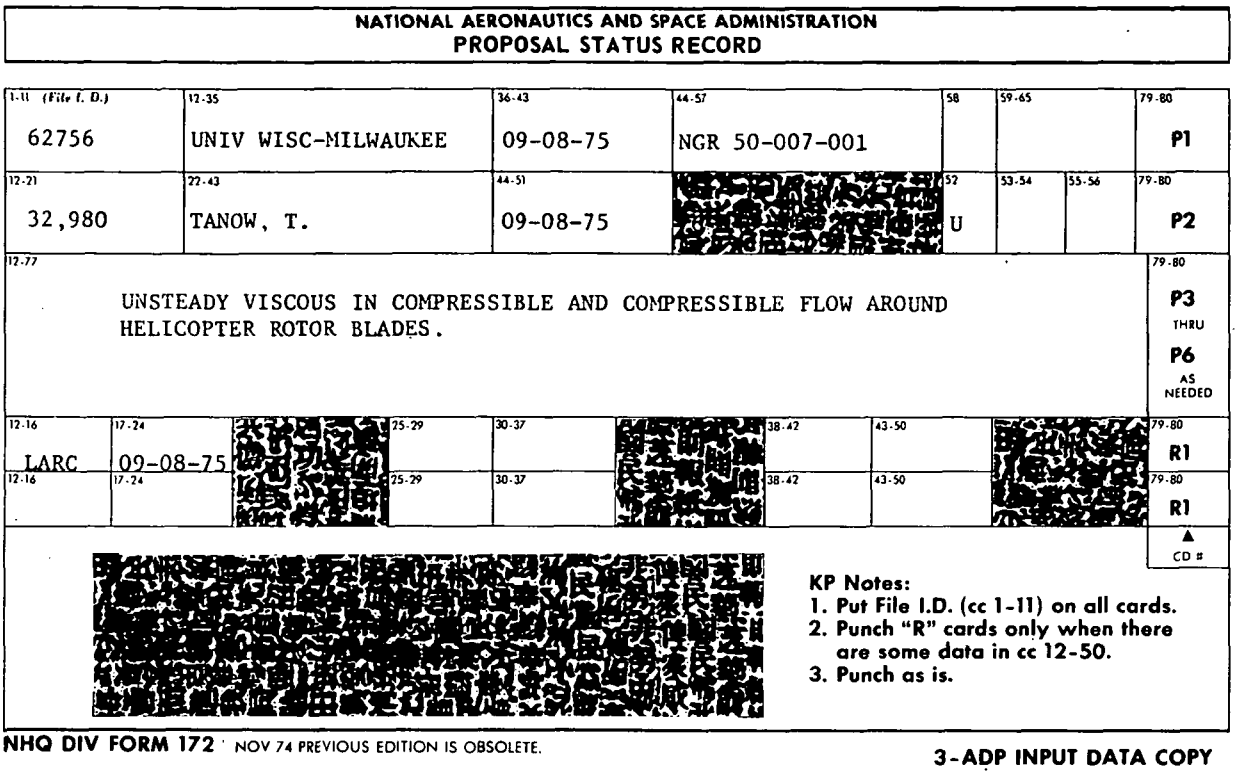
In special cases, when the evaluation results and date are available at the same time a proposal is entered into the system, the Form 172 is completed in the normal fashion and a Transcript No. 19 entry is made to record the evaluation results.

Proposal sent in by — Name and mailing address of the proposal originator. Keep within the space marked, so the address will show in a window envelope.

4. Error Messages

Up to 8 IBM cards result from a single Form 172 input. The relationship between the typed information and the card numbers

(P1 - P6 and up to two R1 cards) may be seen on Copy 3, Figure 19, which is repeated below. Each of these cards is subject to several machine edits. If any one card does not pass edit, all the cards related to a particular Form 172 are rejected. The 172 must then be resubmitted.



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
PROPOSAL STATUS RECORD

1-11 (File I. D.)	12-35	36-43	44-57	58	59-65	79-80
62756	UNIV WISC-MILWAUKEE	09-08-75	NGR 50-007-001			P1

12-21	22-43	44-51	52	53-54	55-56	79-80
32,980	TANOW, T.	09-08-75	U			P2

12-77: UNSTEADY VISCOUS IN COMPRESSIBLE AND COMPRESSIBLE FLOW AROUND HELICOPTER ROTOR BLADES.

79-80: P3 THRU P6 AS NEEDED

12-16	17-24	25-29	30-37	38-42	43-50	79-80
LARC	09-08-75					R1
12-16	17-24	25-29	30-37	38-42	43-50	79-80
						R1

CD #

KP Notes:
1. Put File I.D. (cc 1-11) on all cards.
2. Punch "R" cards only when there are some data in cc 12-50.
3. Punch as is.

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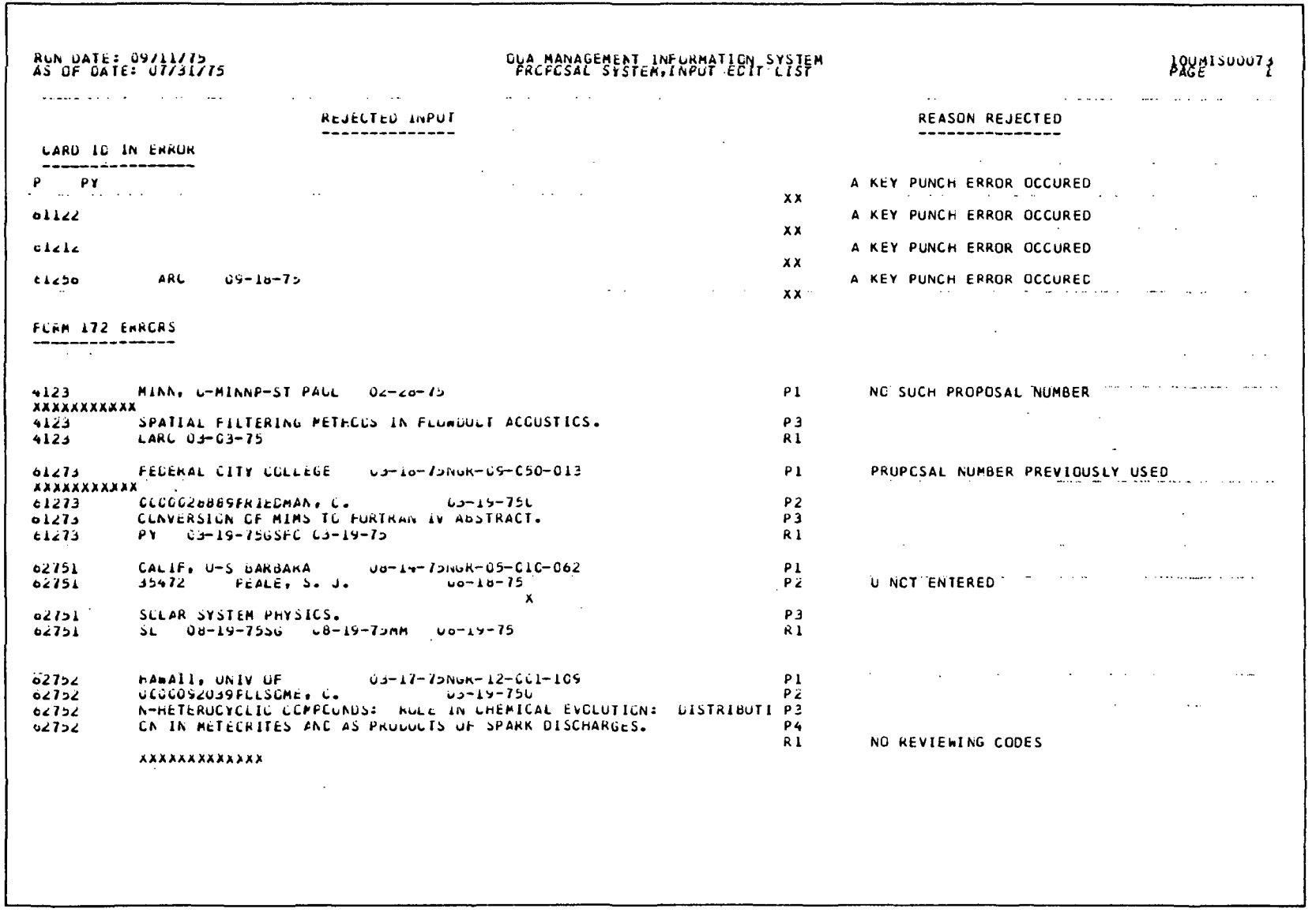
3-ADP INPUT DATA COPY

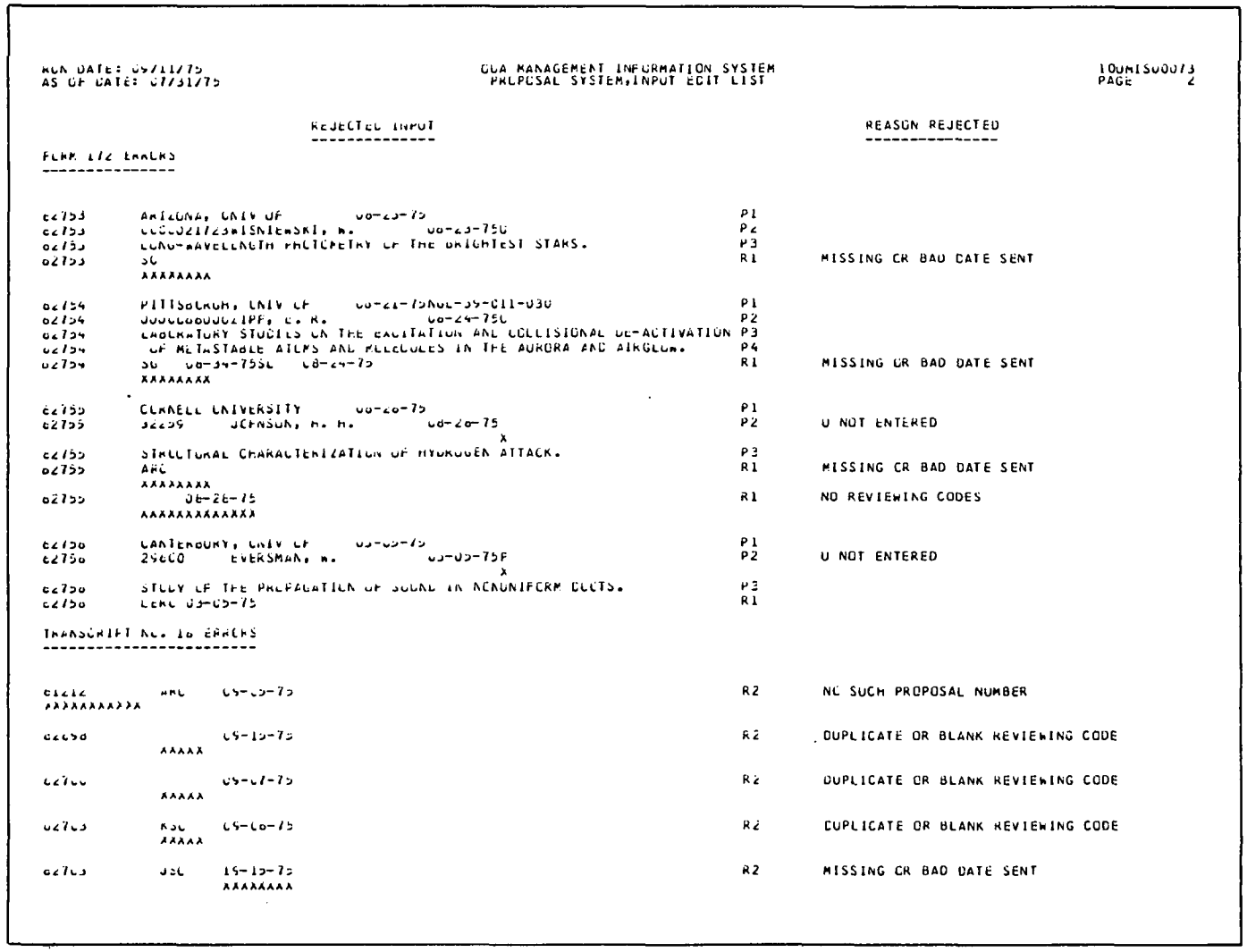
Figure 19 Repeated. Form 172 ADP Input (Copy 3)

A typical edit list with error messages for Form 171 appears in the middle of Figure 30. Note the X's under the proposal number, 4123; they are underneath the material in error. The problem is described in the message "no such proposal number." This, of course, is true since present proposals have 5 digits in the 60,000 series. Correction here involves not only correcting the ADP records, but the official file and any other place the erroneous proposal number may have been used.



```
RUN DATE: 09/11/75                    GSA MANAGEMENT INFORMATION SYSTEM                    10UMIS00073
AS OF DATE: 07/31/75                  PROPOSAL SYSTEM,INPUT EDIT LIST                      PAGE    1

                                REJECTED INPUT                          REASON REJECTED
                                --------------                          ---------------
 CARD ID IN ERROR
 ----------------
P    PY
                                                                  XX    A KEY PUNCH ERROR OCCURED
01122
                                                                  XX    A KEY PUNCH ERROR OCCURED
01212
                                                                  XX    A KEY PUNCH ERROR OCCURED
01250          ARC    09-18-75
                                                                  XX    A KEY PUNCH ERROR OCCURED

FORM 172 ERRORS
---------------

4123        MINN, U-MINNP-ST PAUL   02-20-75                      P1      NO SUCH PROPOSAL NUMBER
XXXXXXXXXXX
4123        SPATIAL FILTERING METHODS IN FLOWDUCT ACOUSTICS.       P3
4123        LARC 03-03-75                                         R1

01273       FEDERAL CITY COLLEGE    03-18-75NGR-09-050-013        P1      PROPOSAL NUMBER PREVIOUSLY USED
XXXXXXXXXXX
01273       CCCCC26889FRIEDMAN, C.          03-19-750             P2
01273       CONVERSION OF MIMS TO FORTRAN IV ABSTRACT.            P3
01273       PY   03-19-750SFC 03-19-75                           R1

02751       CALIF, U-S BARBARA      08-14-75NGR-05-010-062        P1
02751       35472     PEALE, S. J.          08-18-75              P2      U NOT ENTERED
                                              X
02751       SOLAR SYSTEM PHYSICS.                                 P3
02751       SL   08-19-750G   08-19-75MM   08-19-75               R1


02752       HAWAII, UNIV OF         03-17-75NGR-12-001-109        P1
02752       CCCCC92039FLLSOME, C.           03-19-750             P2
02752       N-HETEROCYCLIC COMPOUNDS:  ROLE IN CHEMICAL EVOLUTION:  DISTRIBUTI P3
02752       CN IN METEORITES AND AS PRODUCTS OF SPARK DISCHARGES.  P4
                                                                  R1      NO REVIEWING CODES
            XXXXXXXXXXXX
```

Figure 30. Common Error Messages



RUN DATE: 09/11/75
AS OF DATE: 07/31/75

OOA MANAGEMENT INFORMATION SYSTEM
PREPOSAL SYSTEM,INPUT EDIT LIST

10UMIS0073
PAGE 2

	REJECTED INPUT	REASON REJECTED
FORM 172 ERRORS		
02753	ARIZONA, UNIV OF 08-23-75	P1
02753	CCCC021723MISNIEWSKI, M. 08-23-75C	P2
02753	LONG-WAVELENGTH PHOTOMETRY OF THE BRIGHTEST STARS.	P3
02753	SC	R1 MISSING OR BAD DATE SENT
	XXXXXXXX	
02754	PITTSBURGH, UNIV OF 08-24-75AGE-39-011-030	P1
02754	JOOOOOOOOOZIPPE, C. R. 08-24-75C	P2
02754	LABORATORY STUDIES ON THE EXCITATION AND COLLISIONAL DE-ACTIVATION	P3
02754	OF METASTABLE ATOMS AND MOLECULES IN THE AURORA AND AIRGLOW.	P4
02754	SC 08-24-75SC 08-24-75	R1 MISSING OR BAD DATE SENT
	XXXXXXXX	
02755	CORNELL UNIVERSITY 08-26-75	P1
02755	32259 JOHNSON, R. H. 08-26-75	P2 U NOT ENTERED
	X	
02755	STRUCTURAL CHARACTERIZATION OF HYDROGEN ATTACK.	P3
02755	ARC	R1 MISSING OR BAD DATE SENT
	XXXXXXXX	
02755	08-26-75	R1 NO REVIEWING CODES
	XXXXXXXXXXXXX	
02756	CANTERBURY, UNIV OF 08-08-75	P1
02756	29660 EVERSMAN, W. 08-08-75F	P2 U NOT ENTERED
	X	
02756	STUDY OF THE PROPAGATION OF SOUND IN ACOUNIFORM DUCTS.	P3
02756	ERRC 08-08-75	R1
TRANSCRIPT NO. 10 ERRORS		
02612 XXXXXXXXXX	ARC 09-09-75	R2 NO SUCH PROPOSAL NUMBER
02698	09-10-75	R2 DUPLICATE OR BLANK REVIEWING CODE
	XXXXX	
02700	09-07-75	R2 DUPLICATE OR BLANK REVIEWING CODE
	XXXXX	
02703	RSC 09-08-75	R2 DUPLICATE OR BLANK REVIEWING CODE
	XXXXX	
02703	JSC 19-10-75	R2 MISSING OR BAD DATE SENT
	XXXXXXXX	

Figure 30 (Continued)

The same scheme is followed in the next three examples where the errors are "proposal number previously used," "U not entered," and "no reviewing codes." Note in each case how an X appears below the error and all other information entered on the Form 172 is printed out.

The examples shown below are variations on an edit used for all dates. Any missing dates or impossible ones, such as 08-34-75, will be rejected.

```
02753    ARIZONA, UNIV OF          08-23-75                          P1
02753    SCSC021723ISNIEMSKI, M.          08-23-75G                  P2
02753    LONG-WAVELENGTH PHOTOPETRY OF THE BRIGHTEST STARS.          P3
02753    SG                                                          R1      MISSING OR BAD DATE SENT
         XXXXXXXX

02754    PITTSBURGH, UNIV OF       08-21-75NSF-39-C11-030            P1
02754    JOOLCOOOJOZIPF, C. R.            08-24-75L                  P2
02754    LABORATORY STUDIES ON THE EXCITATION AND COLLISIONAL DE-ACTIVATION P3
02754     OF METASTABLE ATOMS AND MOLECULES IN THE AURORA AND AIRGLOW.  P4
02754    SG   08-34-75SL   08-24-75                                   R1      MISSING OR BAD DATE SENT
         XXXXXXXX
```

The next two proposals listed, 62755 and 62758, contain multiple errors. Here it may be seen that all errors produce messages and X's even though it only takes one error to cause a 172 to be rejected.

```
02755    CORNELL UNIVERSITY        08-26-75                          P1
02755    32659     JOHNSON, M. H.          08-26-75                  P2      U NOT ENTERED
                                           X
02755    STRUCTURAL CHARACTERIZATION OF HYDROGEN ATTACK.             P3
02755    ARL                                                         R1      MISSING OR BAD DATE SENT
         XXXXXXXX
02755         08-26-75                                               R1      NO REVIEWING CODES
         XXXXXXXXXXXXX

02756    CANTERBURY, UNIV OF       03-05-75                          P1
02756    29660     EVERSMAN, W.            03-05-75F                 P2      U NOT ENTERED
                                                  X
02756    STUDY OF THE PROPAGATION OF SOUND IN ACOUNIFORM DUCTS.      P3
02756    CERC 03-05-75                                               R1
```

Note that 62758 is similar to 62751 (Figure 30). In one instance the space for "U" was blank; in the other, the wrong letter, "P," was inserted. In either event the edit recognized "U not entered."

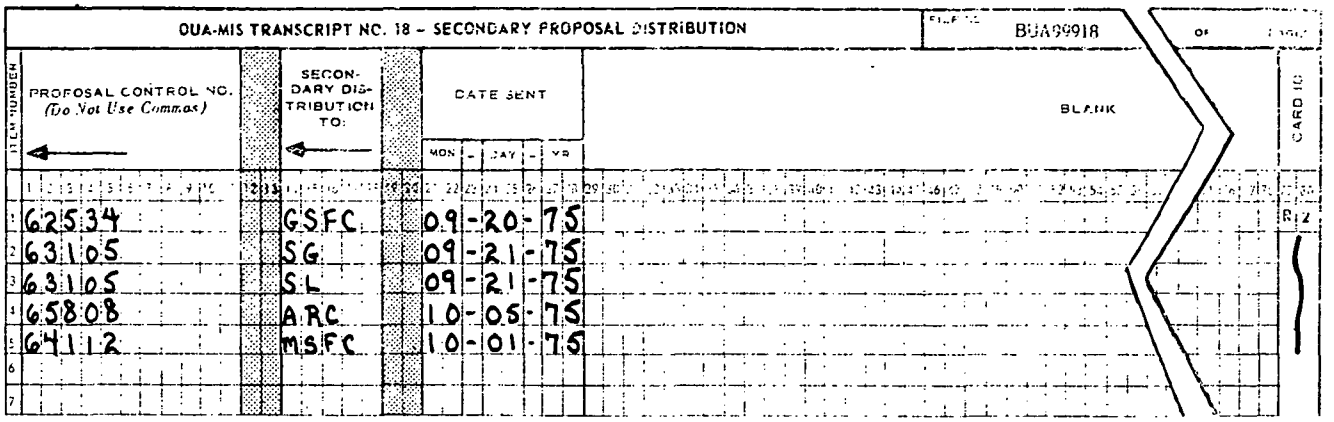
B. Secondary Distribution, Transcript No. 18

1. When to Prepare

Transcript No. 18 is used whenever a proposal is sent for evaluation to an office which was not originally listed on Form 172. At

the same time the transcript is prepared, the new evaluating office should be marked on the 172 in the official proposal file.

2. Specific Completion Instructions


OUA-MIS TRANSCRIPT NO. 18 - SECONDARY PROPOSAL DISTRIBUTION

BUA99918

ITEM NUMBER	PROPOSAL CONTROL NO. (Do Not Use Commas)	SECONDARY DISTRIBUTION TO:	DATE SENT MON - DAY - YR	BLANK	CARD ID
1	62534	GSFC	09-20-75		R 2
2	63105	SG	09-21-75		
3	63105	SL	09-21-75		
4	65808	ARC	10-05-75		
5	64112	MSFC	10-01-75		
6					
7					

Figure 22 Repeated. Secondary Distribution Transcript (T. 18)

Block	Procedure
Proposal No.	Enter proposal number starting at arrowhead. Only numbers may be used. No hyphens or letters.
Distribution to	Enter appropriate code from approved list (Figure 29), starting under the arrowhead.
Date Sent	Date of OUA distribution. Style is 00-00-00. Hyphens must be used.
Card I. D.	Extend wriggly line as far down the page as there are entries to the left.

3. Error Messages

The edit procedure for Transcript No. 18 is similar to that for the Form 172, except that only a single entry is rejected when there is an error. Various types of rejected cards and the reasons are given below. As with the Form 172, the correction consists of making a new transcript entry with the proper information.

TRANSCRIPT No. 10 ERRORS

61212 AMC 09-09-75 R2 NO SUCH PROPOSAL NUMBER
XXXXXXXXXX

The message "No such proposal number" for this transcript example usually occurs because there is an error (either on the transcript or in keypunch) in the proposal number, with the result that the illustrated 61212 cannot be found in the proposal data base. In correcting this type of error the file listing should be checked to see if such a proposal number is actually there. For instance, a Form 172 may have been prepared but misplaced before going into the data base.

62698 09-15-75 R2 DUPLICATE OR BLANK REVIEWING CODE
XXXXX

62700 09-07-75 R2 DUPLICATE OR BLANK REVIEWING CODE
XXXXX

"Duplicate or blank reviewing code" is a double check. For 62698 and 62700 a date is given for the additional distribution, but the code has been left out.

62703 KSC 09-06-75 R2 DUPLICATE OR BLANK REVIEWING CODE
XXXXX

62703 JSC 15-15-75 R2 MISSING OR BAD DATE SENT
XXXXXXXX

For 62703 an attempt has been made to add additional distribution to KSC, but KSC is already listed as an evaluator. This error could result from KSC inadvertently being entered twice as an additional evaluator or could be the result of a typographical error, viz., KSC for JSC.

62671 JSC 09-20-75 R2 TOO MANY REVIEWING CODES
XXXXX

The "missing or bad date sent" message is the same sort of analysis previously mentioned in the discussion of the Form 172. The error in 72071 arose because there are already six evaluating offices for the proposal. This was determined by examination of the master file. This is a proposal-handling problem, not an ADP problem; it should be brought to the attention of the Proposal Control Officer.

C. Evaluation Results, Transcript No. 19

1. When to Prepare

A Transcript No. 19 entry is required whenever an evaluation indicating rejection, funding or intent-to-fund is received. Proper preparation requires that the proposal file be consulted prior to completing the transcript.

2. Specific Completion Instructions

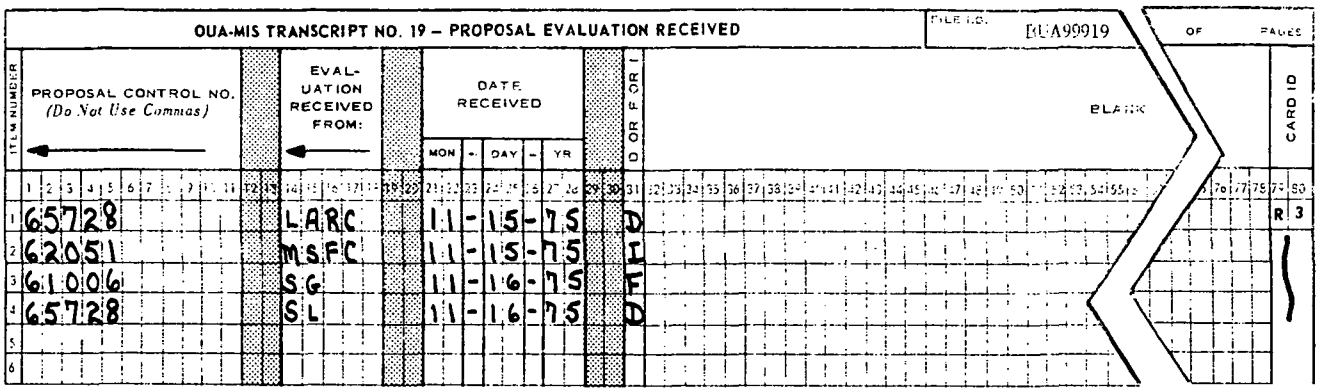


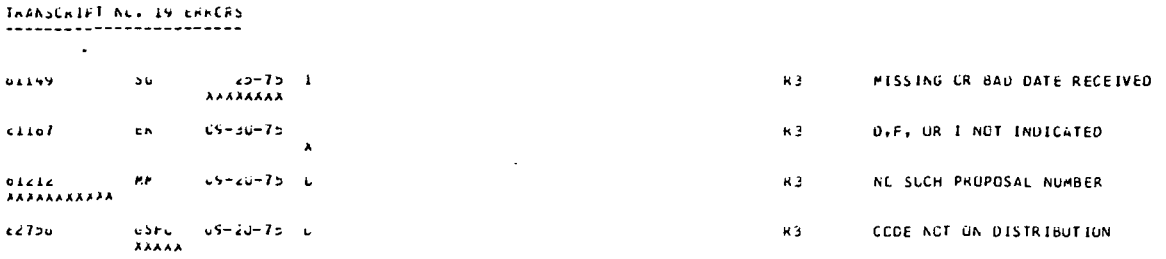
Figure 23 Repeated. Evaluation Results Transcript (T. 19)

Block	Procedure
Proposal Number	Enter proposal number starting at the arrowhead. Only numbers may be used, no hyphens or letters.
Evaluation from	Enter evaluating office code exactly as shown on Form 172 in the file. If distribution has not previously been made to an office which indicates rejection of the proposal, no transcript entry is required. If, however, the

	office not on the file is funding or intends to fund the proposal, two transcripts must be prepared: Transcript No. 19 to show the evaluation results and Transcript No. 18 to enter the receiving office code.
Date Received	Date OUA received evaluation. Style is 00-00-00. Hyphens must be used.
D, F or I	If the proposal file does not have a previous "intent-to-fund" evaluation, merely enter D (reject), F (funded) or I (intent-to-fund) depending upon the evaluation. When an intent-to-fund is specified, enter D for all other active reviewers on distribution. If the results of an evaluation are vague, i.e., D, F or I cannot be clearly specified, do not make a Transcript No. 19 entry. Evaluations of this nature should be brought to the attention of the Proposal Control Officer. If the proposal has had a previous "intent-to-fund" evaluation, and funding is now available, an F may be entered in the normal manner. If, however, a second evaluation from the office originally indicating "intent" shows that funding will not actually be made, enter a D and notify the Systems Supervisor that the intent-to-fund signal must be blanked out. (Asterisk in cc 57 of the TC card on the System Supervisor File Maintenance Transcript No. 22.)
Card I.D.	Extend the wriggly line as far down the page as there are entries to the left.

3. Error Messages

Messages associated with Transcript No. 19 are illustrated below. They are similar to those discussed previously, particularly the "missing or bad date received" and the "no such proposal number." The "D, F or I not indicated" will appear if the wrong letter has been entered or column 31 of the Transcript No. 19 has been left blank.



Note that here, too, X's highlight the location of the errors. The error in 62756, "Code not on distribution," illustrates a problem which can result from making a transcript input without looking at the actual distribution in the official proposal file (or on the proposal system master file listing).

D. Special Proposal Maintenance, Transcript No. 20

Transcript No. 20 is divided into two independent parts, the top half (card 4) used for deleting proposals and the bottom (card 5) used for multiple reviewing code changes.

1. Deletion

Entering the proposal control number and as much wriggly line as needed in the card ID column (R4) is all that is necessary to remove the entire record of a proposal from the data base. There is only one edit message, "No such proposal to delete." This will occur if the proposal number entered on the transcript does not match a proposal number on the file. Figure 31 shows two errors. Item 3 will not match, as it is an invalid number containing a letter. Item 4 will reject since it is improperly placed, covering

six rather than five spaces with a blank in place of the first number.

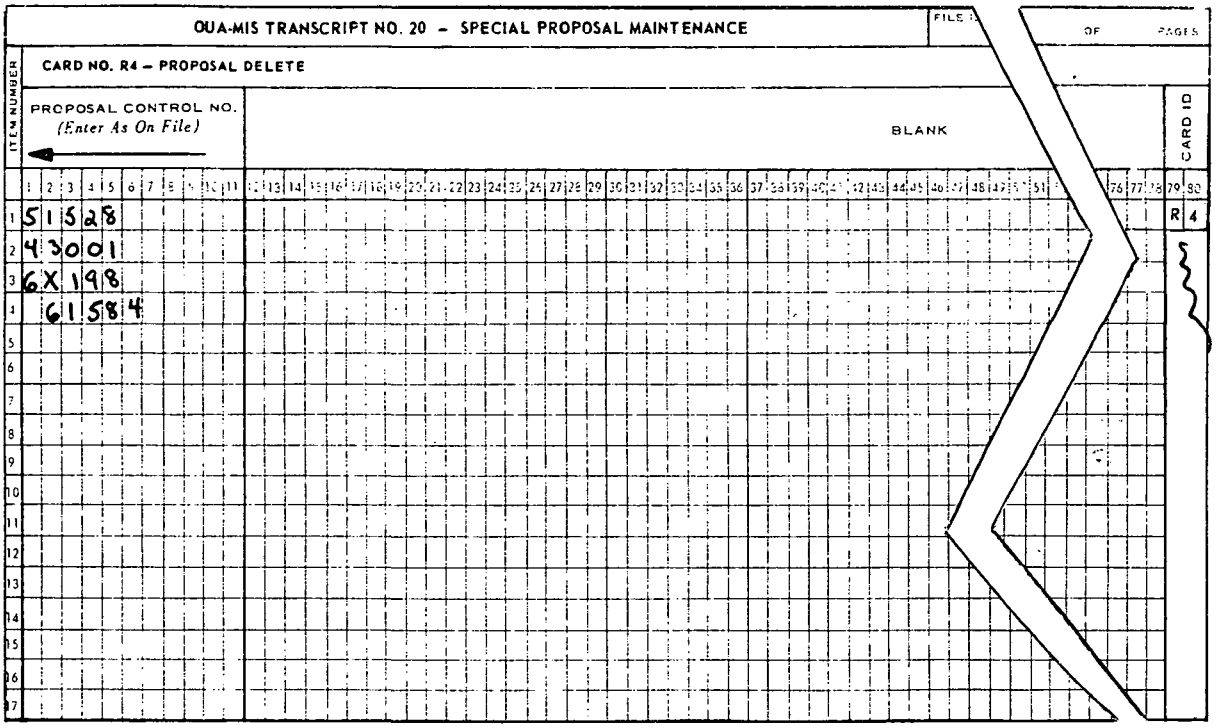


Figure 31. Deletion/ Name Change Transcript (T. 20)
(Top Portion, Card R4)

2. Multiple Code Changes

Use of this capability only requires entering the old code, the new code and the wriggly line as shown in the bottom (card R5) of the transcript.

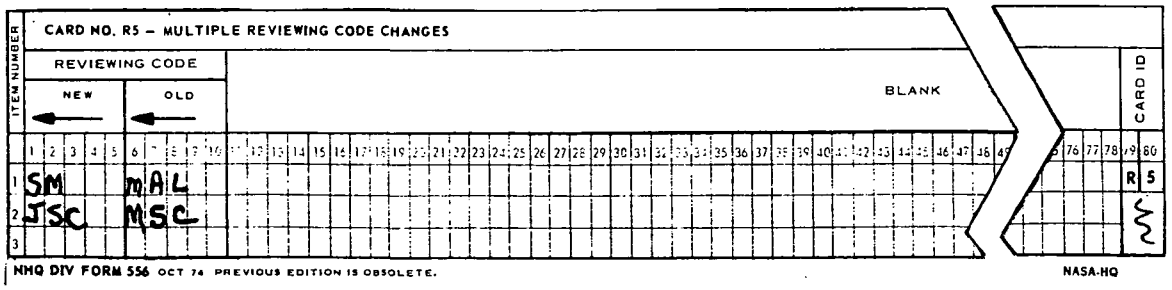
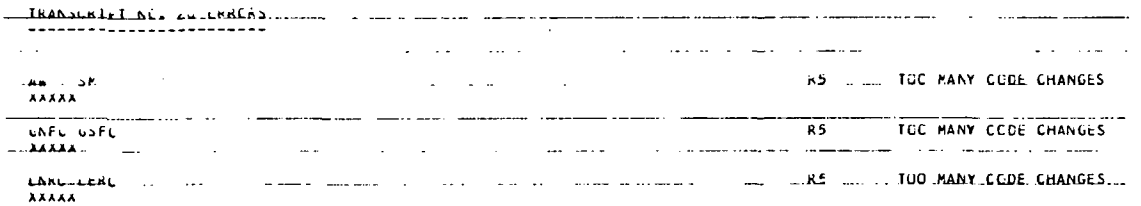


Figure 31 Repeated. Deletion/Name Change Transcript (T. 20)
(Bottom Portion, Card R5)

When this is done all evaluating codes on the file which match the old code--including any coming in at the same time on 172's or other transcripts--will automatically be changed to the new code. Self-explanatory error messages which might appear are as shown.

A maximum of three code change instructions may be input in any particular file update batch. Entering six code change cards simultaneously will result in the error message illustrated below. The first three were accepted, but the last three were rejected.



V. SPECIALIZED INPUT ACTIONS

The bulk of the transcript preparation and related error analysis activity has been described in the previous chapter. In addition, certain actions such as those related to "intent-to-fund" require action by the Systems Supervisor (Proposal Control Officer). This chapter is devoted to these and other important, but low-volume, actions which will generally be handled only by the System Supervisor, rather than the data or proposal clerks.

A. Card I.D. Difficulties

The first example is the "Card I.D. in error" section on the input edit list. This analysis is always the first item on the list. The message, "A key-punch error occurred," means that the card number is missing or invalid as indicated by the XX's.

CARD ID IN ERROR	REJECTED INPUT		REASON REJECTED
61131	ARC 03-23-73	XX	A KEY PUNCH ERROR OCCURED
02700	VANCEL DESIGN.	XX	A KEY PUNCH ERROR OCCURED
02700	CORRELATION STUDY OF HEAT TRANSFER ON TURBINE BLADES FOR FUTURE AC	XX	A KEY PUNCH ERROR OCCURED
61212	ARC 11-21-72RV 10-21-72RD 10-21-73	XX	A KEY PUNCH ERROR OCCURED

The Systems Supervisor must re-input all of these data on the proper transcript. The appropriate card number can be determined by analyzing the input edit list itself. Thus, in the above example, the first item rejected is obviously a multiple review in code change and should be re-input on Transcript No. 20 as it is an R5 card. The next two, 61122 and 61212, have information typical only of a delete action, i.e., the only entries are the proposal control numbers. This information would also be re-input on Transcript No. 20 using the R4 card. The final one, 61256, is readily seen as an attempt to enter an evaluation result of "F" for the office code "ARC." This would be re-input on Transcript No. 20 using the R3 card. Note that in all of these cases it is not necessary to use any proposal file. All the required information is obtained from the edit input list, combined with a knowledge of the proper use for each transcript.

B. 80/80 Input Card List

Each time the system is updated an "80/80 listing," an exact image of the keypunched cards, is produced. In normal operations this list is not used. However, it is invaluable in tracking down those errors where it is necessary to compare what went into the computer with what came out. Input transcripts or 172's are not reliable for this purpose as there may have been keypunch errors or a card may have been lost. As an example, the input card list shown as Figure 32 corresponds to the data which resulted in the edit list error messages shown in the example above. The missing card ID's (circled on Figure 32) are seen to be the exact ones producing the keypunch error messages in the "Card I.D. in error" section of the input edit list.

```
  INPUT CARD LIST

     SG                                                                    RS
MM   LS                                                                    RS
P    PY                                                                    O
4123       MINN, U-MINNF-ST PAUL   02-26-75                               P1
4123       70449     LAMBERT, R. F.          03-03-750                    P2
4123       SPATIAL FILTERING METHODS IN FLOWDUCT ACOUSTICS.                P3
4123       LARC 03-03-75                                                  R1
61122                                                                      O
61149        SG         25-75  I                                          R3
61167        ER      09-30-75                                             R3
61212                                                                      O
61212        ARC     09-05-75                                             R2
61212        RM      09-20-75  D                                          R3
61212      MIAMI UNIVERSITY                                               TA
61250        ARC     09-18-75  F                                          O
61273      FEDERAL CITY COLLEGE    03-10-75NGR-09-050-013                 P1
61273      28889     FRIEDMAN, C.          03-19-750                      P2
61273      CONVERSION OF MIMS TO FORTRAN IV ABSTRACT.                      P3
61273      PY   03-19-75GSFC 03-19-75                                     R1
61289                                                                     2TE
61289                                                                     4TE
61289                                                                     3TE
61289      MOLECULAR MODEL FOR CRYSTAL GROWTH                             5TE
61640      PY   12-23-7407-23-75C                                         8TG
62698            09-15-75                                                R2
62700            09-07-75                                                R2
62703        KSC     09-06-75                                            R2
62703        JSC     10-15-75                                            R2
62703        LERC                                                        R2
62750      VIRGINIA, UNIV OF       08-03-75                               P1
62750      74948     PARRISH, E. A.          08-03-750                    P2
62750      AN INVESTIGATION OF POTENTIAL APPLICATIONS OF OP-SAPS-OPERATIONAL  P3
62750      SAMPLED ANALOG PROCESSOR.                                       P4
62750      LARC 08-03-75                                                  R1
62751      CALIF, U-S BARBARA      08-14-75NGR-05-010-062                 P1
62751      35472     FEALE, S. J.            08-18-75                     P2
62751      SOLAR SYSTEM PHYSICS.                                          P3
62751      SL   08-19-75SG   08-19-75MM   08-19-75                       R1
62752      HAWAII, UNIV OF         03-17-75NGR-12-001-109                 P1
62752      52039     PELSOME, C.           03-19-750                      P2
62752      N-HETEROCYCLIC COMPOUNDS:  ROLE IN CHEMICAL EVOLUTION:  DISTRIBUTI P3
62752      ON IN METEORITES AND AS PRODUCTS OF SPARK DISCHARGES.           P4
62753      ARIZONA, UNIV OF        08-25-75                               P1
62753      21723     WISNIEWSKI, W.          08-25-750                    P2
62753      LONG-WAVELENGTH PHOTOMETRY OF THE BRIGHTEST STARS.             P3
62753      SO                                                             R1
62754      PITTSBURGH, UNIV OF     08-21-75NGL-39-011-030                 P1
62754      00000     ZIPF, E. R.             08-24-750                    P2
62754      LABORATORY STUDIES ON THE EXCITATION AND COLLISIONAL DE-ACTIVATION P3
62754       OF METASTABLE ATOMS AND MOLECULES IN THE AURORA AND AIRGLOW.   P4
62754      SG   08-24-75SL   08-24-75                                     R1
62755      CORNELL UNIVERSITY      08-26-75                               P1
62755      32259     JOHNSON, W. W.          08-26-75                     P2
62755      STRUCTURAL CHARACTERIZATION OF HYDROGEN ATTACK.                P3
62755           08-26-75                                                  R1
62755      ARC                                                            R1
62756      UNIV WISC-MILWAUKEE     09-06-75NGR 50-007-001                 P1
62756      32980     TANDA, T.               09-06-75L                    P2
62756      UNSTEADY VISCOUS INCOMPRESSIBLE AND COMPRESSIBLE FLOW AROUND HELIC P3
62756      OPTER ROTOR BLADES.                                            P4
62756      LARC 09-08-75                                                  R1
62756        GSFC   09-20-75  D                                          R3
62758      CANTERBURY, UNIV OF     03-05-75                               P1
62758      29600     EVERSMAN, W.            03-05-75P                    P2
62758      STUDY OF THE PROPAGATION OF SOUND IN NONUNIFORM DUCTS.         P3
62758      LERC 03-05-75                                                  R1
72071        SG      09-20-75                                            R2
92051
```

Figure 32. Input Card List Related to Common Error Messages

C. Proposal Number Duplication

If two new proposals are inadvertently assigned the same proposal number, the system will reject the second one, provided both 172's are not submitted at the same time in the same update batch.

If the duplicate proposal number is entered on the same date or even within a few days of the first entry, a special error condition results which must be resolved by the Systems Supervisor.

The clue that the same proposal number may have been assigned shows up in the input edit list example given below:

```
FORM 172 ERRORS
---------------

62756   . TEXAS, UNIV-AUSTIN      08-06-75NSG-5005          P1
                                                            P2      U. NOT ENTERED
                                          X
                                                            R1      NO.REVIEWING.CODES
          XXXXXXXXXXXXX
```

There is too much information missing from this proposal. Here it is important to look at the 80/80 list to determine exactly what cards were input.

```
   INPUT CARD LIST

AE   SG                                                                    R5
ANRC ARC                                                                   R5
AR   SL                                                                    R5
AM   SM                                                                    R5
GNFC GSFC                                                                  R5
LNRC LERC                                                                  R5
62756      TEXAS, UNIV-AUSTIN        08-06-75NSG-5005                      P1
62756      OLD DOMINION UNIV         08-20-75NGR-47-003-082                P1
62756   11535      LAMBERT, D. L.          08-07-750                       P2
62756   94034      CLAY, F. P.             08-21-750                       P2
62756      ANALYTICAL STUDY OF THE OPTIMUM GEOMETRIC CONFIGURATION OF A SPACE P3
62756      OBSERVATIONS OF EMISSION LINES IN M SUPERGIANTS.               P3
62756       SHUTTLE MATERIALS LABORATORY.                                 P4
62756      LARC 08-21-75                                                  R1
62756      ES   08-22-75                                                  R1
62756      GSFC 08-07-75                                                  R1
```

Figure 33. Input Card List Related to Infrequent Error Conditions

Reference to proposal 62756 shows immediately what has happened--a Texas, Univ-Austin, and an Old Dominion University proposal were given the same control number. It is not possible to tell what information belongs to each proposal.

Retrieval of the original Forms 172 from the manual file (Figures 34 and 35) shows that the Texas proposal was numbered 62756 on August 6, while the Old

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

PROPOSAL STATUS RECORD

M T T T T T T

NASA CONTROL NO.	INSTITUTION	DATE RECEIVED	CONTINUATION OF	C	FICE CODE
62756	OLD DOMINION UNIV	08-20-75	NGR-47-003-082		
PROPOSED COST	**PRINCIPAL INVESTIGATOR**	**DATE ACKNOWLEDGED**	**PROPOSER'S CONTROL NO.**	**U**	**OBJ / FS**
$ 94,634	CLAY, F. P.	08-21-75		U	

PRO-POSAL TITLE ▶ ANALYTICAL STUDY OF THE OPTIMUM GEOMETRIC CONFIGURATION OF A SHUTTLE MATERIALS LABORATORY.

◀ USE NO MORE THAN FOUR TYPED LINES.

CODE	DATE SENT	REC'D	FDI	CODE	DATE SENT	REC'D	FDI	CODE	DATE SENT	REC'D	FDI	EVAL.
LARC	08-21-75											◀ 1-3
ES	08-22-75											◀ 4-6

PRO-POSAL SENT IN BY ▶

NOTE-To use automatic spacing, set margin at "M" and tabs at "T."

NHQ DIV FORM 172 JUL 75 PREVIOUS EDITION MAY BE USED.

1-ORIGINAL

Figure 34. Form 172 for Proposal 62756, Second Version

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

PROPOSAL STATUS RECORD

M T T T T T T

NASA CONTROL NO.	INSTITUTION	DATE RECEIVED	CONTINUATION OF	C	FICE CODE
62756	TEXAS, UNIV-AUSTIN	08-06-75	NSG-5005		
PROPOSED COST	**PRINCIPAL INVESTIGATOR**	**DATE ACKNOWLEDGED**	**PROPOSER'S CONTROL NO.**	**U**	**OBJ / FS**
$ 11,535	LAMBERT, D. L.	08-07-75		U	

PRO-POSAL TITLE ▶ OBSERVATIONS OF EMISSION LINES IN M SUPERGIANTS.

◀ USE NO MORE THAN FOUR TYPED LINES.

CODE	DATE SENT	REC'D	FDI	CODE	DATE SENT	REC'D	FDI	CODE	DATE SENT	REC'D	FDI	EVAL.
GSFC	08-07-75											◀ 1-3
CODE	DATE SENT	REC'D	FDI	CODE	DATE SENT	REC'D	FDI	CODE	DATE SENT	REC'D	FDI	EVAL.
												◀ 4-6

PRO-POSAL SENT IN BY ▶

NOTE-To use automatic spacing, set margin at "M" and tabs at "T."

NHQ DIV FORM 172 JUL 75 PREVIOUS EDITION MAY BE USED. **1-ORIGINAL**

Figure 35. Form 172 for Proposal 62756, First Version

Dominion proposal received the same number on August 20. In this instance, the system was no doubt on a 2-week update cycle; hence, both 172's were in the same input batch. It is now necessary to correct the ADP records in addition to making any other non-ADP notifications to evaluators, proposers, etc.

When this type of multiple input is made three things can happen to the Form 172 cards:

1. Some of them will get on the proposal master file.
2. Some of them will reject and error messages will appear on the error edit listing.
3. Some of them will just vanish.

It is only necessary to look at the end result on the proposal file listing to determine what happened in order to correct the existing record. Comparing the listing, Figure 36, with the original 172's in Figures 34 and 35 leads to the following conclusions:

1. University Name--Old Dominion is listed instead of Texas. (Note also that Texas was a card that was rejected and listed on the error edit list example used on page 60.)
2. Reviewing Codes--GSFC and LARC are listed instead of LARC and ES. ES has disappeared.
3. All information on the first two lines of the 172 describes the Old Dominion proposal rather than the Texas proposal.
4. Proposal Title--There is a mixture of the two proposal titles shown on the list.

This confused situation, once identified, is easily corrected in two steps:

1. A new number is assigned to the Old Dominion proposal and a Form 172 submitted as though nothing has happened.
2. File maintenance is carried out directly on the data base to correct all of the information associated with 62756, including changing the name to Texas and any of the other information which is erroneous, i.e., entries which pertain to the Old Dominion proposal.

RUN DATE: 09-11-75 CUA MANAGEMENT INFORMATION SYSTEM 100UAMIS0073
AS OF DATE: 07-31-75 PROPOSAL FILE LISTING PAGE 045

CONTROL NUMBER	INSTITUTION	REVCODE, DISP.	MG-AGE	CI-RCVD CI-SENT	CI-DISP	CONTINUATION OF	IN CASE OF OR ES	INVESTIGATOR	PROPOST ($)
62756	OLD DOMINION UNIV			08-20-75		NGR-47-003-002		CLAY, F. P.	99034
		USFC	.2	08-07-75	--------	OBSERVATIONS OF EMISSION LINES IN M SUPERGIANTS.			
		LARC	.7	08-21-75	--------	SHUTTLE MATERIALS LABORATORY.			
62759	PRINCETON UNIVERSITY			09-05-75				DUKES, T. A.	112172
		AMRC	1.3	09-07-75	--------	FORMULATION OF CONTROL LAWS FOR TILT-ROTOR VTOL AIRCRAFT			
62760	CINCINNATI, UNIV OF			09-05-75				TABAKOFF, W.	73400
		MM	1.3	09-07-75	--------				
62761	STANFORD UNIVERSITY			10-03-75				POUND, G. M.	26977
		LERC	2.9	10-27-75	--------	THE INFLUENCE OF CO-ADSORPTION OF OXYGEN AND ALKALI METALS ON THE WORK FUNCTION OF SINGLE CRYSTAL TUNGSTEN SURFACES.			
		AE	2.9	10-27-75	--------				

Figure 36. File Listing for Proposal 62756, Combined Version

A full description of how this is accomplished through the use of Transcript No. 22 is presented in Part D, which follows.

D. Basic Proposal Maintenance--Preparation of Transcript No. 22

1. When to Prepare

The Basic Proposal Maintenance (or File Maintenance, FM) Transcript is used to make direct changes to the data base. It is the most powerful type of input available in the system and, therefore, is used only when no other type of input is appropriate. Its main use is in correcting errors. It must also be used if a reviewing office decides to reject rather than fund a proposal previously designated as "intent-to-fund."

Important: Transcript No. 22 can only be used if the proposal number is already in the data base. Physical reference to the file listing must be made in the process.

An example of Transcript No. 22 was shown as Figure 25, in Chapter III, as part of the overall system flow description. In this part, the instructions for completion of each card on the form will be illustrated by showing the step-by-step preparation of a Transcript No. 22 to correct the error situation described above. The completed transcript is shown as Figure 37 at the end of the instruction section.

2. Specific Completion Instructions

a. TA Card

-- Proposal Control Number cc 1-11	Enter the control number, 62756, under the arrowhead exactly as shown on the file listing. The file list must be consulted before completing this card.

-- Institution Name

cc 12-35

Enter the name, TEXAS, UNIV-AUSTIN, starting under the arrowhead. The dotted line between columns 30 and 31 indicates the end of the normal 20-space name. However, a total of 25 spaces are available for the name, if required.

-- Received

cc 36-43

Enter the date, 08-06-75, to indicate the date the proposal was received by NASA. The style is always 00-00-00.

-- Prior Grant/ Contract Number

cc 44-57

Enter any combination of letters and/or numbers. In the example, the contract number is NSG-5005. Spaces and symbols can also be used. If a number is entered by mistake, put an * in column 44. It will blank out the prior grant/contract number.

-- CONT

cc 44-57

The letter "C" in this column (not used in the example) indicates that the proposal is for a continuation but the prior grant/contract number is not known. If a "C" is on the file by mistake, insert an * in cc 58.

-- FICE Code

(Reserved. Do not use.)

b. TC Card

-- Proposal Control Number

cc 1-11

(Same as for TA card.)

-- Proposed Cost

cc 12-21

Enter the exact dollar amount, right-justified. Do not use commas or $. Fill all the blank spaces with zeros. In the example, the dollar amount is entered as 0000011535.

-- Principal Investigator cc 22-43	Enter the last name first, followed by a comma and the initials or the first name, e.g., LAMBERT, D. L.
-- Date Acknowledged cc 44-51	Enter the date the proposal was received by NASA. This date does not appear on the file list, but can be obtained from the original 172. In the example, the date is given as 08-07-75.
-- U	Enter "U" in this column to indicate that this is a university project. This must appear on all file records.
-- OBJ & FS	(Reserved. Do not use.)
-- I cc 57	"I" indicates "intent-to-fund" and this code is normally entered on Transcript No. 19. However, it may be used during error correction procedures. The most common use of this column is to insert an * in order to delete an unwanted intent-to-fund proposal. The use of this column is not included in the example.

c. TE Cards

-- Entire Proposal Title cc 12-77	The entire proposal title must be entered in order to change any part of it. In the example, there is a one-line title entered.

d. TG Cards

These cards are used to modify information about evaluating codes. New evaluating codes may be added using a TG card only if no additional distribution or evaluation results cards (Transcripts Nos. 18 and 19, respectively) are submitted at

the same time. It is never safe to take a TG card action unless it is against an evaluating code already on the file listing. Furthermore, after a TG card action, the next file listing should be checked to ensure that the change was successful; if not, a new TG action is required.

The most important aspect to observe in using the TG cards is that each one affects a specific evaluator position on the file listing. Thus, the "REV" numbers 1-6 in column 78 relate to the "revcode" on the file listing. Using proposal 62756 in Figure 37 as an example, GSFC falls on the line controlled by 1TG, LARC by 2TG and so forth, for a maximum of six evaluating codes. Thus, in order to "hit" a particular evaluating code line in a proposal record it is essential that the proposal number be put on the appropriate REV TG card line.

With reference to the TG card examples in Figure 25, repeated below, the following actions will occur:

PROPOSAL CONTROL NO.	REVIEWING CODE	SENT MON - DAY - YR	COMPLETED MON - DAY - YR	F/D	BLANK	REV	CARD ID
60190	LARC	02-15-75				1	TG
60190		03-12-75	06-18-75	D		2	TG
60190		02-15-75	*			3	TG
60190	*					4	TG
						5	TG
						6	TG

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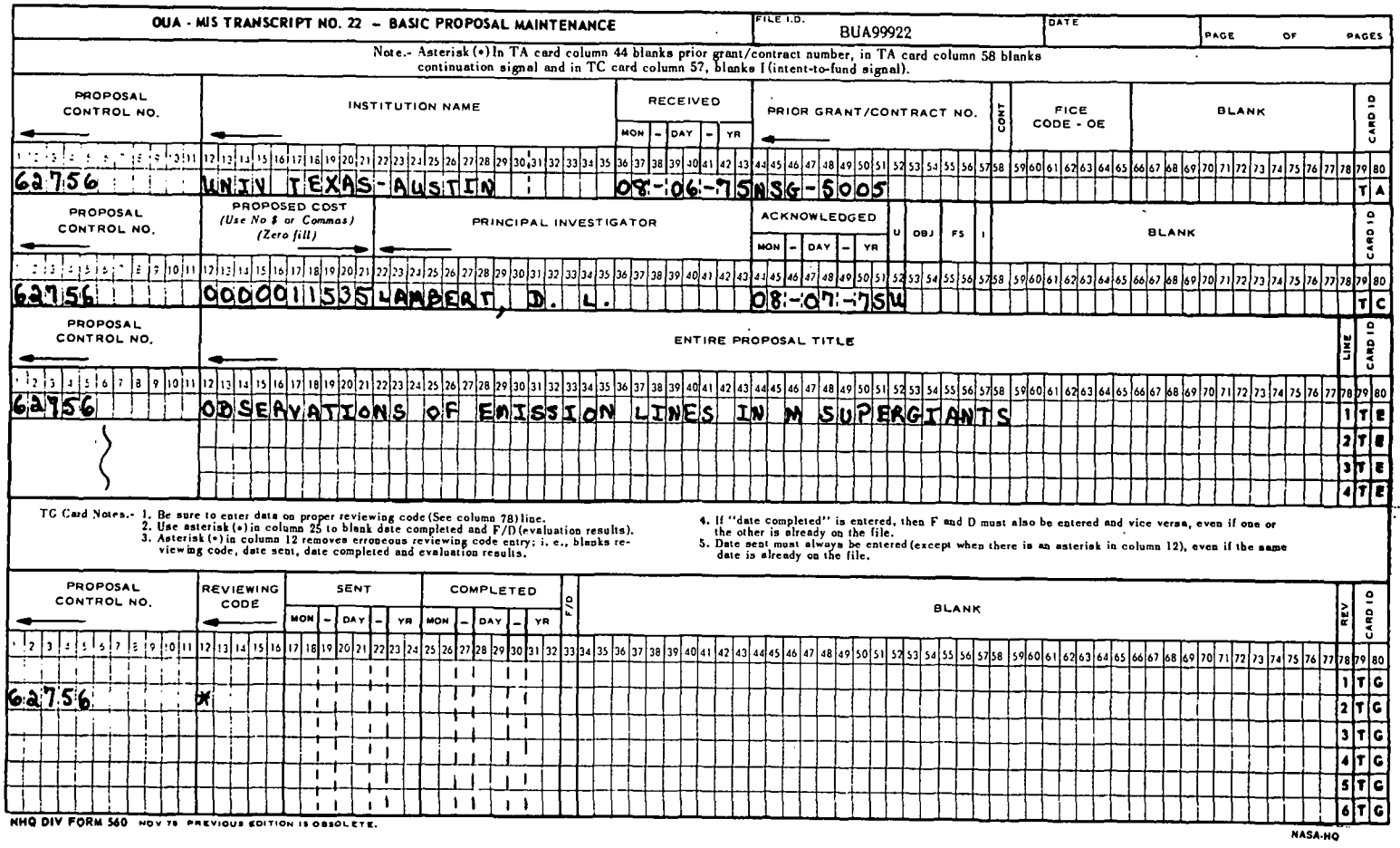
The input on 1TG will change the reviewing code to LARC and the date sent to 02-15-75. (Any evaluation received date and results on the file will remain unchanged since columns 25-33 are left blank.)



OUA - MIS TRANSCRIPT NO. 22 – BASIC PROPOSAL MAINTENANCE

FILE I.D. BUA99922 | DATE | PAGE OF PAGES

Note.- Asterisk (*) In TA card column 44 blanks prior grant/contract number, in TA card column 58 blanks continuation signal and in TC card column 57, blanks I (intent-to-fund signal).

PROPOSAL CONTROL NO.	INSTITUTION NAME	RECEIVED MON – DAY – YR	PRIOR GRANT/CONTRACT NO.	CONT	FICE CODE - OE	BLANK	CARD ID
62756	UNIV TEXAS-AUSTIN	08-06-75	NSG-5005				TA

PROPOSAL CONTROL NO.	PROPOSED COST (Use No $ or Commas) (Zero fill)	PRINCIPAL INVESTIGATOR	ACKNOWLEDGED MON – DAY – YR	U	OBJ	FS	I	BLANK	CARD ID
62756	0000011535	LAMBERT, D. L.	08-07-75	W					TC

PROPOSAL CONTROL NO.	ENTIRE PROPOSAL TITLE	LINE	CARD ID
62756	OBSERVATIONS OF EMISSION LINES IN M SUPERGIANTS	1	TE
		2	TE
		3	TE
		4	TE

TC Card Notes.-
1. Be sure to enter data on proper reviewing code (See column 78) line.
2. Use asterisk (*) in column 25 to blank date completed and F/D (evaluation results).
3. Asterisk (*) in column 12 removes erroneous reviewing code entry; i. e., blanks reviewing code, date sent, date completed and evaluation results.
4. If "date completed" is entered, then F and D must also be entered and vice versa, even if one or the other is already on the file.
5. Date sent must always be entered (except when there is an asterisk in column 12), even if the same date is already on the file.

PROPOSAL CONTROL NO.	REVIEWING CODE	SENT MON – DAY – YR	COMPLETED MON – DAY – YR	F/D	BLANK	REV	CARD ID
62756	X						TG
							TG
							TG
							TG
							TG
							TG

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Figure 37. Use of Transcript No. 22 to Correct Proposal 62756 Record

The input on the 2TG completely replaces whatever is on the record with the data input on the card. Note that no reviewing code is entered. This means that the reviewing code on the file is satisfactory and need not be changed.

The 3TG illustrates correction of an error. An evaluation completion date and evaluation results were entered by mistake on a Transcript No. 19. The asterisk removes the bad information. Note that the "date sent" is always entered for all of the actions, even if the same dates are already on the file.

The final example on the 4TG shows how to completely remove all information, including the reviewing code, on the fourth evaluating code line in the proposal inventory.

3. Error Messages

As this transcript is designed for the particularly skillful operator, there are only a limited number of error messages. Some of these are shown below.

TRANSCRIPT NO. 22 ERRORS

c1212 AAAAAAAAAA	PIMPA UNIVERSITY	TA	NO SUCH PROPOSAL ON FILE
c1209	MOLECULAR MODEL FOR CRYSTAL GROWTH	5TE X	WRONG LINE NUMBER
c1040	PY 12-23-7407-23-75L	8TG X	WRONG LINE NUMBER

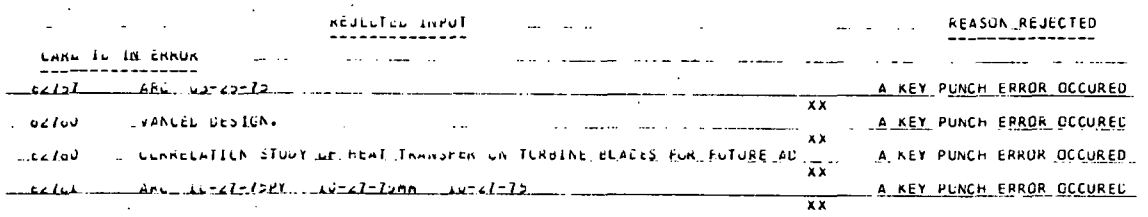
The "no such proposal on file" results either from a keypunch error or failure to consult the file listing while preparing a Transcript No. 22.

The "wrong line numbers" represents keypunch errors as there are no such cards as 5TE and 8TG. To correct the TE card error, all of the English must be re-input, even if three of the four lines are correct.

Four additional edit messages are not illustrated. There will be a "non-numeric characters" message if the proposed cost contains anything but numbers. The remaining three edits are on the TG cards. "Missing or bad date sent" results if the date is impossible or if the date was not entered. "Missing or bad completed date" results from an impossible date or entry of an evaluation result (F or D) without entering a completed date. "F or D not indicated" results from entering a completed date, but not an evaluation result.

E. Other Card Errors

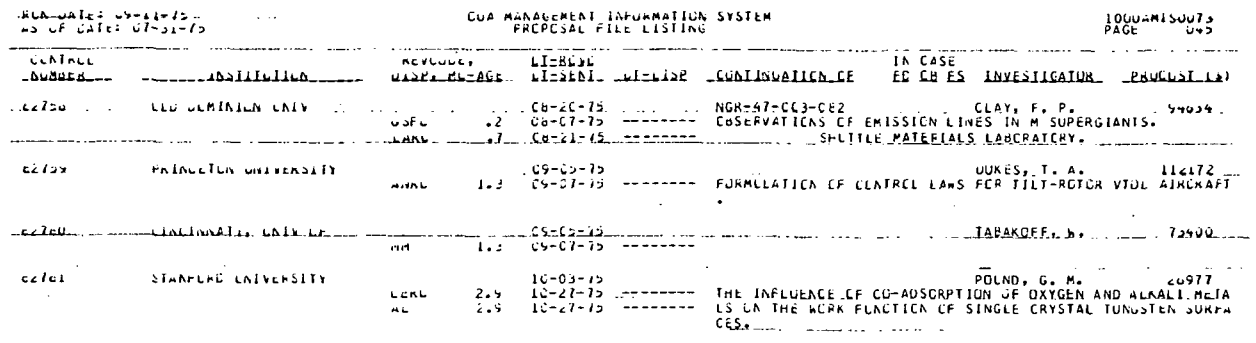
Three other types of errors with which the system operator will have to deal are shown in the sample error edit input list below.



CARD IS IN ERROR	REJECTED INPUT	REASON REJECTED
62757	ARC 03-69-12	A KEY PUNCH ERROR OCCURED
62760	VANCEL DESIGN.	A KEY PUNCH ERROR OCCURED
62760	CORRELATION STUDY OF HEAT TRANSFER ON TURBINE BLADES FOR FUTURE AC	A KEY PUNCH ERROR OCCURED
62761	ARC 11-67-12RX AD-67-12MA AM-67-12	A KEY PUNCH ERROR OCCURED

Each of these involves a rejection as a result of missing card I.D.'s. These particular messages have been chosen to show that corrections are not always made by simple re-submission of the input card. To start with, 62757 at the top of the list is similar to those previously discussed. It was input on an additional distribution transcript and may be re-input the same way.

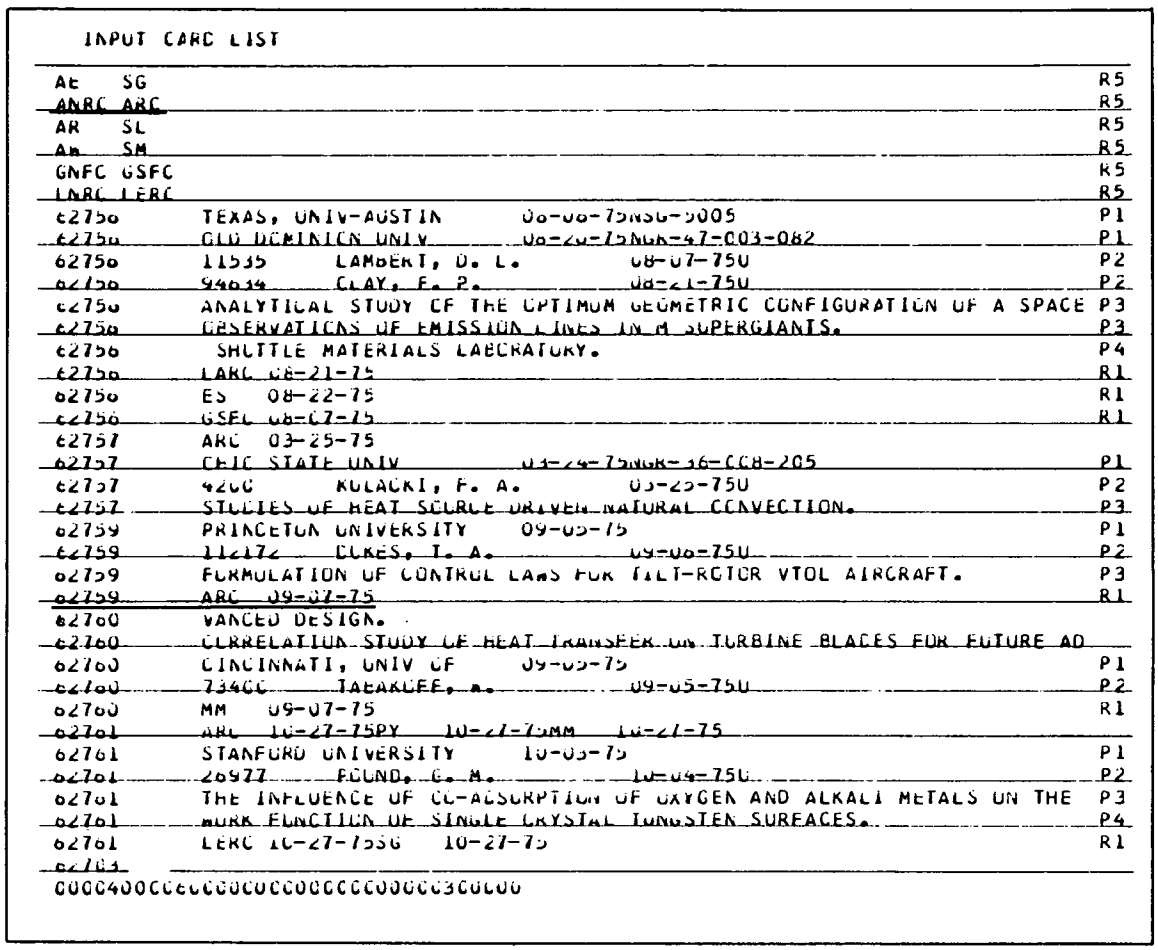
However, the next two lines of English for 62760 were originally input on a Form 172. Since 172 can only be made once, a different error correction procedure is required. (Note also that the lines are out of order; without the card numbers the system cannot determine the proper sequence.) The first step in correction is to examine the file listing for 62760 below. There is no English description at all. Therefore, it is only necessary to put the English directly into the file on Transcript No. 22.



CONTRACT NUMBER	INSTITUTION	REVCODE, DISP, RE-AGE	LI=RECVD LI=SENT	LI=LTRP	CONTINUATION CE	IN CASE FC CH FS	INVESTIGATOR	PROPOSAL (A)
62758	LED ZEPPELIN CAIV		08-20-75		NGR-47-003-082		CLAY, F. P.	94634
		USFC .2	08-07-75	--------	CONSERVATIONS OF EMISSION LINES IN M SUPERGIANTS.			
		LARC .7	08-21-75	--------	SHUTTLE MATERIALS LABORATORY.			
62759	PRINCETON UNIVERSITY		09-05-75				DUKES, T. A.	114172
		ANRC 1.3	09-07-75	--------	FORMULATION OF CONTROL LAWS FOR TILT-ROTOR VTOL AIRCRAFT			
62760	CALIFORNIA, UNIV OF		09-05-75				TABAKOFF, W.	72900
		MM 1.3	09-07-75	--------				
62761	STANFORD UNIVERSITY		10-03-75				POUND, G. M.	20977
		LERC 2.5	10-27-75	--------	THE INFLUENCE OF CO-ADSORPTION OF OXYGEN AND ALKALI METALS ON THE WORK FUNCTION OF SINGLE CRYSTAL TUNGSTEN SURFACES.			
		AE 2.5	10-27-75	--------				

Finally, there are three evaluating codes and dates sent for 62761 (the last item on the input edit list). Since these are all on one line, they could only have come from the R1 card on the Form 172. Reference to the original 172 will show that distribution was made to five offices, the three on the reject list and the two listed for the proposal on the file list above. Since a Form 172 cannot be resubmitted, the missing distribution is most easily handled by the Transcript No. 18 procedures for additional distribution.

Also of interest is the reviewing code "ANRC" for proposal 62759 on the file list. By examining the input card list for this update run (see Figure 33, repeated on the next page), it can be seen that the reviewing code was submitted as "ARC." However, at the same time a request was submitted to change all ARC codes to ANRC. This illustrates the concept that a code change affects both new incoming data and data already on the file.



```
   INPUT CARD LIST
AE    SG                                                                R5
ANRC  ARC                                                               R5
AR    SL                                                                R5
AR    SM                                                                R5
GNFC  GSFC                                                              R5
LNRC  LERC                                                              R5
62750       TEXAS, UNIV-AUSTIN       08-08-75NSG-5005                   P1
62750       GEO DOMINION UNIV        08-20-75NGR-47-003-082             P1
62750  11535      LAMBERT, D. L.           08-07-750                     P2
62750  94634      CLAY, F. P.              08-21-750                     P2
62750       ANALYTICAL STUDY OF THE OPTIMUM GEOMETRIC CONFIGURATION OF A SPACE P3
62750       OBSERVATIONS OF EMISSION LINES IN M SUPERGIANTS.            P3
62750        SHUTTLE MATERIALS LABORATORY.                              P4
62750       LARC 08-21-75                                              R1
62750       ES   08-22-75                                              R1
62750       GSFC 08-07-75                                              R1
62757       ARC  08-25-75
62757       OHIO STATE UNIV          08-29-75NGR-36-008-205             P1
62757  4266       KULACKI, F. A.           08-25-750                     P2
62757       STUDIES OF HEAT SOURCE DRIVEN NATURAL CONVECTION.           P3
62759       PRINCETON UNIVERSITY     09-05-75                           P1
62759  11217       CLARK, J. A.             09-08-750                     P2
62759       FORMULATION OF CONTROL LAWS FOR TILT-ROTOR VTOL AIRCRAFT.   P3
62759       ARC  09-07-75                                              R1
62760       VANCED DESIGN.
62760       CORRELATION STUDY OF HEAT TRANSFER ON TURBINE BLADES FOR FUTURE AD
62760       CINCINNATI, UNIV OF      09-05-75                           P1
62760  73466      TABAKOFF, W.             09-05-750                     P2
62760       MM   09-07-75                                              R1
62761       ARC  10-27-75PY   10-27-75MM   10-27-75
62761       STANFORD UNIVERSITY      10-03-75                           P1
62761  26977      FOUND, C. M.             10-04-750                     P2
62761       THE INFLUENCE OF CO-ADSORPTION OF OXYGEN AND ALKALI METALS ON THE P3
62761       WORK FUNCTION OF SINGLE CRYSTAL TUNGSTEN SURFACES.          P4
62761       LERC 10-27-75SG   10-27-75                                  R1
62764
C0004000CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
```

Figure 33 Repeated. Input Card List

APPENDIX

A. Data Base and Special Features

Figure 38 shows the actual file layout or record content of the data base, while Figure 39 relates the initial Form 172 input to the data base. Several fields are reserved or held for future expansion:

1. The Office of Education version of the Federal Interagency Council on Education (FICE-OE, item #6) code uniquely identifies each recognized school listed in the annual Office of Education Directory. Provision is made to input this code if more positive identification of schools is required. There is, however, no pre-programmed logic to use with the code. The code is not edited prior to file update, although it has a check digit. OE code assignments are randomized and are useful for matching and primary sorts.

   If this code is inserted and used in conjunction with an appropriate look-up table, standardized institution names can be used and additional report writers can be developed. For instance, using the standard University Affairs look-up table shown in Figure 40, reports can be printed which (1) group all proposals from the same university by sorting on the FICE-OE code, (2) sort proposals alphabetically by institution using the ALPHA code, and (3) sort proposals alphabetically by institution within state or country by using the OUA code. The NSF version of the FICE code is slightly different than the OE version. This becomes an important consideration when interagency data exchange is involved.

2. The CASE (Committee on Academic Science and Engineering) Objective of Study code (CASE-OBJ, item #11) divides university support into descriptive categories specified for government-wide use by OMB Circular A-46, "Standards for Statistical Surveys." Including these codes, shown in Figure 41, will allow analyses of "proposal pressure" to fund certain types of projects and analyses of rejections and funding trends in the various categories. (NASA work falls only into objectives 01-04 and 06.)

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

RECORD CONTENT

PAGE 1 OF 2

1. TITLE	2. DATE PREPARED	3. FILE I.D.

4. TYPE ☐a. CARD ☐b. TAPE ☐c. DISK ☐d. LIST ☐e. _____	5. RCD. LENGTH (Incl. 1)	6. BLOCKING FACTOR

7. PARITY ☐a. ODD ☐b. EVEN	8. MODE ☐a. LOAD ☐b. MOVE	9. SEQUENCE (Major-minor; use item numbers)

10. DESCRIPTION

ITEM NO. a.	STANDARD LABEL b.	LOCATION BEGIN c.	LOCATION END d.	ITEM NAME e.	Data Type	SIZE f.
1	CONT-NUM	1	11	Control Number	X	11
2	INST	12	35	Institution	X	24
3	DATE-REC	36	43	Date Received	X	8
a	MON-REC	36	37	Mo Received	9	2
b	DASH-1	38	38	Dash	X	1
c	DAY-REC	39	40	Day Received	9	1
d	DASH-2	41	41	Dash	X	1
e	YR-REC	42	43	Yr Received	9	2
4	PRIOR-GC	44	57	Prior G/C	X	14
5	CONT-FLAG	58	58	Continuation Flag	X	1
6	FICE-OE	59	65	FICE Code-OE Version	X	7
7	PRO-COST	66	75	Proposed Cost	9	10
8	PRIN-INVEST	76	97	Principal Investigator	X	22
9	DATE-ACK	98	105	Date Acknowledged	X	8
a	MON-ACK	98	99	Mon-Acknw	9	2
b	DASH-3	100	100	Dash	X	1
c	DAY-ACK	101	102	Day Acknowledged	9	2
d	DASH-4	103	103	Dash	X	1
e	YR-ACK	104	105	Year Acknowledged	9	2
10	TYP-INST	106	106	Type of Institution	X	1
11	CASE-OBJ	107	108	Case Objective of Study Code	X	2
12	CASE-FIELD	109	110	Case Field of Science Code	X	2
13	NARRAT1	111	176	Title, Line 1	X	66
14	NARRAT2	177	242	Title, Line 2	X	66
15	NARRAT3	243	308	Title, Line 3	X	66
16	NARRAT4	309	374	Title, Line 4	X	66
17	INTENT-FUND	375	375	Intent to Fund	X	1
18	SEG-REV1	376	402	Segment - Reviewer 1	X	27
a	REVIEW-OFC	376	380	Reviewing Office 1	X	5
b	DATE-SENT-1	381	388	Date Sent 1	X	8

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Figure 38. Record Content

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

RECORD CONTENT

PAGE 2 OF 2

1. TITLE	2. DATE PREPARED	3. FILE I.D.

4. TYPE ☐a. CARD ☐b. TAPE ☐c. DISK ☐d. LIST ☐e. _____	5. RCD. LENGTH (Incl. t)	6. BLOCKING FACTOR

7. PARITY ☐a. ODD ☐b. EVEN	8. MODE ☐a. LOAD ☐b. MOVE	9. SEQUENCE (Major-minor; use item numbers)

10. DESCRIPTION

ITEM NO. a.	STANDARD LABEL b.	LOCATION BEGIN c.	LOCATION END d.	ITEM NAME e.	Data Type	SIZE f.
1	MON-SENT-1	381	382	Mon-Sent 1	9	2
2	DASH-5	383	383	Dash	X	1
3	DAY-SENT-1	384	385	Day-Sent 1	9	2
4	DASH-6	386	386	Dash	X	1
5	YR-SENT-1	387	388	Yr-Sent 1	9	2
c	DATE-COMPL-1	389	396	Date Completed 1	X	8
1	MON-COMP-1	389	390	Mo Completed 1	9	2
2	DASH-7	391	391	Dash	X	1
3	DAY-COMPL-1	392	393	Day Completed 1	9	2
4	DASH-8	394	394	Dash	X	1
5	YR-COMPL-1	395	396	Yr Completed 1	9	2
d	CODE1	397	397	Evaluation Results 1	X	1
e	SEG-TAG1	398	402	Filler	X	5
19	SEG-REV2	403	429	Segment - Reviewer 2	X	27
20	SEG-REV3	430	456	Segment - Reviewer 3	X	27
21	SEG-REV4	457	483	Segment - Reviewer 4	X	27
22	SEG-REV5	484	510	Segment - Reviewer 5	X	27
23	SEG-REV6	511	537	Segment - Reviewer 6	X	27
24	FILLER	538	550	Filler	X	13

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Figure 38 (Continued)

Card	CC	Label
P1	1-11	CONT-NUM
P1	12-35	INST
P1	36-43	DATE-REC
P1	44-57	PRIOR-GC
P1	58	CONT-FLAG
P1	59-65	FICE-OE
P2	1-11	CONT-NUM
P2	12-21	PRO-COST
P2	22-43	PRIN-INVEST
P2	44-51	DATE-ACK
P2	52	TYP-INST
P2	53-54	CASE-OBJ
P2	55-56	CASE-FIELD
P3	1-11	CONT-NUM
P3	12-77	NARRAT1
P4	1-11	CONT-NUM
P4	12-77	NARRAT2
P5	1-11	CONT-NUM
P5	12-77	NARRAT3
P6	1-11	CONT-NUM
P6	12-77	NARRAT4
R1	1-11	CONT-NUM
R1	12-16	REVIEW-OFC-1
R1	17-24	DATE-SENT-1
R1	25-29	REVIEW-OFC-2
R1	30-37	DATE-SENT-2
R1	38-42	REVIEW-OFC-3
R1	43-50	DATE-SENT-3
R1	1-11	CONT-NUM
R1	12-16	REVIEW-OFC-4
R1	17-24	DATE-SENT-4
R1	25-29	REVIEW-OFC-5
R1	30-31	DATE-SENT-5
R1	38-42	REVIEW-OFC-6
R1	43-50	DATE-SENT-6

NOTE: Sequential number of Reviewing Offices on the R1 cards has been arbitrarily assigned for convenience. Actual sequencing on file is established by whatever random order the cards may be in during file creation.

Figure 39. Form 172 Card Location—Data Base Relationships

OFFICE OF UNIVERSITY AFFAIRS-NASA UNIVERSITY PROGRAM MANAGEMENT INFORMATION SYSTEM PAGE 1

UNICODE REPORT 1A STANDARD UNIVERSITY NAME AND CODE LIST BUZ71105

AS OF JUNE 23, 1975 RUN DATE 06/25/75 ALPHABETICAL BY STATE

INSTITUTION	LOCATION	OUA CODE	PROP CODE	FICE NSF	ALPHA CODE	STATUS CODE		STUDENT POP	FICE OE	CONG DIST
ALABAMA A&M UNIV	ALA	C0100100	01-001	0010025	A170500	GSX75X75N	F	3306	001002	05
ALABAMA STATE UNIV	ALA	00100150	01-009	0010058	A000000	GS N		3272	001005	02
ATHENS COLLEGE	ALA	C0100250	01-012	0010082	A506000	PDX75X75	F	772	001008	05
AUBURN UNIV-AUBURN	ALA	C0100300	01-003	0010090	A522000	GSX75X75	F	14528	001009	03
CALHOUN ST CMNTY COL	ALA	00100550		0010132	C060000	GS	F	3536	001013	
UNIV OF NO ALABAMA	ALA	001C08C0		0010165	U000000	GS	F	3487	001016	
NE ALA STATE JR COL	ALA	00100860		0010314	N295000	GS	F	744	001031	
OAKWOOD COLLEGE	ALA	00101600	01-006	0010330	0012000	PDX75X75N	F	852	001033	05
SAMFORD UNIVERSITY	ALA	C0101750		0010630	S000000	PD	F	2977	001063	
SNEAD ST JR COLLEGE	ALA	C01C19C0		0010389	S000000	GS		1402	001038	
TALLADEGA COLLEGE	ALA	001C24C0	01-007	0010462	T028000	PNX75X75N	F	496	001046	03
TUSKEGEE INSTITUTE	ALA	001026C0	01-005	0010504	T470000	PNX75X75N	F	3353	001050	03
UNIV ALA-BIRMINGHAM	ALA	C01042C0	01-010	0010520	U111000	GSX75X74	F	8489	001052	06
UNIV ALA-HUNTSVILLE	ALA	00105100	01-008	0010553	U112000	GSX75X75	F	2962	001055	05
UNIV ALA-TUSCALOOSA	ALA	C01C6700	01-002	0010512	U113000	GSX75X75	F	14349	001051	03
UNIV OF MONTEVALLO	ALA	001075C0	01-011	0010041	U188000	GSX74X74	F	3132	001004	07
UNIV OF SO ALABAMA	ALA	C01C88C0	01-013	0010579	U221000	GSX75X74	F	5621	001057	01
UNIV ALASKA-FAIRBNKS	ALAS	C02C01C0	02-001	0010637	U115000	GSX75X75	F	3997	001063	01
ARIZONA STATE UNIV	ARI	C0400300	03-001	0010819	A437500	GSX75X75	F	30786	001081	01
NORTHERN ARIZONA U	ARI	C04004C0		0010827	N305000	GS	F	8915	001082	
PRESCOTT COLLEGE	ARI	00400550	03-008	0010793	P492000	PNX75X75	F	409	001079	03
UNIV OF ARIZONA	ARI	004007C0	03-002	0010835	U116000	GSX75X75	F	27552	001083	02
ARKANSAS POLY COL	ARK	C05004C0	04-003	0010892	A000000	GS	F	2271	001089	
ARKANSAS STATE UNIV	ARK	C0500500	04-005	0010900	A439500	GS 72 72	F	6730	001090	01
HARDING COLLEGE	ARK	C0500900	04-002	0010975	H107000	PDX75X75	F	2095	001097	02
UNIV ARKANSAS-FAYETV	ARK	CC5C19C0	04-001	0011080	U117000	GSX75X75	F	11804	001108	03
UNIV ARKANSAS-LTL RK	ARK	CC503CC0	04-006	0011015	U118000	GSX75X75	F	4790	001101	01
U ARKANSAS-MEDL CNTR	ARK	CC5040C0	04-007	0011098	U118100	GS 73 73	F	857	001109	02
U ARKANSAS-MONTICELO	ARK	C0505000	04-008	0010850	U119000	GSX75X74	F	1858	001085	04
U ARKANSAS-PINE BLUF	ARK	C0506000	04-009	0010868	U120000	GSX75X74N		2483	001086	04
ANTELOPE VALLEY COL	CAL	C06C04C0		0011130	A391000	GL	F	4068	001113	18
CALIF INST OF TECH	CAL	00601500	05-002	0011312	C088000	PNX75X75	F	1499	001131	22
CAL ST COL-SAN BERNA	CAL	C0601535		0011429	C000000	GS		3217	001142	38
CAL STATE COL-STANIS	CAL	C06C1570	05-037	0011577	C000000	GS		3433	001157	
CAL ST POLY U-POMONA	CAL	C0601590		0011445	C088000	PN	F	11016	001144	21
CAL STATE U-CHICO	CAL	C0601630	05-076	0011460	C089000	GSX75X75	F	12830	001146	01
CAL STATE U-FRESNO	CAL	C0601650		0011478	C000000	GS		16872	001147	
CAL STATE U-FULLERTN	CAL	C0601670	05-071	0011379	C090000	GSX75X75	F	18732	001137	39
CAL STATE U-HAYWARD	CAL	C06C1690	05-028	0011387	C091000	GSX75X75	F	15766	001138	10
CAL STATE U-LG BEACH	CAL	C06C1730	05-013	0011395	C093000	GSX75X75	F	28450	001139	34
CAL STATE U-L ANGLES	CAL	CC601750	05-043	0011403	C094000	GSX75X75	F	24631	001140	29
CAL STATE U-NRTHRDGE	CAL	CC60177C	05-062	0011536	C095000	GSX75X74	F	25728	001153	27
CAL STATE U-SACRAMEN	CAL	C0601790	05-058	0011502	C096000	GSX75X75	F	20252	001150	03
CHAPMAN COLLEGE	CAL	CC6C187C		0011643	C000000	PN		4127	001164	
DE ANZA COLLEGE	CAL	00601850		0044800	D134000	GCX75X74		6348	004480	13
FOOTHILL COLLEGE	CAL	00601900	05-053	0011999	F223000	GLX75X75	F	9658	001199	12
GOLDEN GATE UNIV	CAL	CC6C58C0		0012054	G269000	PN	F	5581	001205	06

Figure 40. University Cross-Coding Lookup Table (UNICODE 1A)

Case Objective Code	Name
01	Research and Development (11--Basic Research) (12--Applied Research) (13--Development)
02	Fellowships, Traineeships, and Training Grants
03	R&D Plant
04	Facilities and Equipment for Instruction in Science and Engineering
05	General Support for Science and Engineering
06	Other Activities Related to Science and Engineering
07	All Other Activities

Figure 41. CASE Objectives

3. The CASE Field of Science code (CASE-FIELD, item #12) is in concept and use similar to the Objective code, except that it classifies technical effort into broad areas of science and engineering. Figure 42 contains the field list specified in OMB Circular A-46.

14. FIELD OF SCIENCE OR ENGINEERING *(Circle the one code number which represents the most appropriate field. See instructions on reverse)*

PHYSICAL SCIENCES	ENVIRONMENTAL SCIENCE *(Terrestrial and extraterrestrial)*	ENGINEERING	LIFE SCIENCES	SOCIAL SCIENCES
11 ASTRONOMY		41 AERONAUTICAL	51 BIOLOGY	71 ANTHROPOLOGY
12 CHEMISTRY		42 ASTRONAUTICAL	52 CLINICAL MEDICAL	72 ECONOMICS
13 PHYSICS		43 CHEMICAL	53 OTHER MEDICAL	73 HISTORY
19 PHYSICAL SCIENCES, NEC*	31 ATMOSPHERIC SCIENCES	44 CIVIL	59 LIFE SCIENCES NEC*	74 LINGUISTICS
	32 GEOLOGICAL SCIENCES	45 ELECTRICAL	PSYCHOLOGICAL	75 POLITICAL SCIENCE
	33 OCEANOGRAPHY	46 MECHANICAL	61 BIOLOGICAL	76 SOCIOLOGY
MATHEMATICS	39 ENVIRONMENTAL SCIENCES, NEC*	47 METALLURGY AND MATERIALS	62 SOCIAL ASPECTS	79 SOCIAL SCIENCE NEC*
21 ANY DISCIPLINE(S)		49 ENGINEERING, NEC*	69 PSYCHOLOGICAL, NEC*	OTHER SCIENCES **
				99 ALL DISCIPLINE(S)

* *Not Elsewhere Classified (For interdisciplinary projects and others not listed by discipline name)*
** *For interdisciplinary projects which cannot be classified within any of the preceding main fields*

Figure 42. CASE Fields of Science

4. Date acknowledged (DATE-ACK, item #9) is carried on the data base but not used. It is intended to be used in conjunction with the data received and the date sent for evaluation to monitor the timing of the pre-distribution processing steps. It was not programmed for the present system as elapsed processing times rarely exceed 2 days, thus requiring no special management attention.
5. As may be seen in Figure 38, the file contains 550 characters, 43 of which are blank. Five are assigned to each of the reviewing code segments while 13 are assigned to the file as a whole. They are reserved for future expansion.
6. Type of Institution (TYP-INST, Item #10) is the takeoff point for multipurpose use of the system. By modifying the input edit to pass other codes (P-Industry, N-Nonprofit, H-Hospitals, G-Government, etc.), the input stream, edit, update and data base may be used to process and store a mixture of proposals. Prior to printing the file listing or any reports, simple interrogation of the TYP-INST code will allow completely separate printouts for each category. The system was designed with such an expansion in mind. A similar technique is presently used for making the separation required to produce the "Intent-to-Fund" report (Figure 3).

A printout of the master file contents or data base is not necessary as the file listing (Figure 36) contains all of the data base fields except the acknowledgement date and the type of institution.

The system has one additional file mainly of interest to the maintenance or systems programmer. It is an 80-character control file which contains four items: as-of-date, fiscal year start date (in terms of last day of the prior fiscal year), return code and override code. Re-start capability is available through the control file, as the return codes determine which programs are to be run. Thus, the maintenance programmer, on request, can perform unusual operations such as running the reports without the edits or year-end purge. Such actions are not normally required, but may be useful in recovering from a major systems problem. The system has been built

around a single master file concept, a file which can reside either on tape or disk; as a result it is portable with only minimal JCL changes. Further details on the ADP aspects of the system appear in the programming documentation, which is available with the source statement package.

B. Specialized Program Actions

Several specialized routines or approaches in the program will be of interest to those intimately involved in using, trouble-shooting or adapting the system.

1. When any CODEx (x = 1 to 6) on the master file is updated (changed from ∅ or D) to F, all other CODEx fields in SEG-REV1 through SEG-REV6 are automatically updated with D, if the REVIEW-OFC associated with that SEG-REV is not blank.
2. Whenever a D is automatically entered in a CODEx, as above, the completion date associated with the F input which triggered the automatic routine is moved to DATE-COMPL fields associated with the D's.
3. The MO-AGE (time under review in months) as shown on the file list is recalculated at each master file update. If the DISP column is blank, then the age is the difference between the date the proposal was received (DATE-REC or DT-RCVC) and the file "as-of" date. For a non-blank DISP column, the age is calculated using the receipt date and the date the action was completed (DATE-COMPL or DT-DISP).
4. The only effects of an I input on the R3 card, CC31, or the TC card, CC57, are to print out the associated proposal on the intent-to-fund list instead of the proposal inventory and to count it only in statistical table V.
5. Input of an F in any CODEx automatically overlays the I, intent-to-fund, flag with a blank in the master file. (When I is input on the evaluation received transcript the CC14-16 and 21-28 are completed as for any other input. However, this is merely to simplify matters for the ADP clerks. With an I input, the entire file identifier is the proposal number; the other fields are ignored.
6. When there is an entry on the Form 172 in the "continuation of" block, the system automatically enters C in the C block during file update.

7. The annual purge removes all proposals with non-blank evaluation results (all D's or one F and the rest, if any, D). It also removes all REVIEW-OFCx and associated information for which CODEx = D. Thus, the master file does not give a complete review history (nor is it intended to) of a proposal which was partially reviewed in one fiscal year and carried over to the next fiscal year in an active status.
8. The annual purge has a hard-coded safety lock-out. It will only run if the input as-of-date is October 1. A year must be listed, but the value is not critical.
9. The file updates in input card number sequence, except for the delete (R4) and multiple code change (R5) which update last and next to last, respectively.
10. The edit defines valid proposal numbers as those between 60000 and 99999. This is an easily changed operational constraint. Only a minor program change is required to allow use of an 11-position alphanumeric file identifier.
11. If a change action having a proposal number greater than the last number already on the master file is input, the record will not update the master file or show up as a reject on its input edit list. It will vanish everywhere except on the input 80/80. This is a rare situation in normal operations and, of course, does not apply to Form 172 "add" input.
12. The activity counter (Figure 26) physically counts the following items:

	Items Counted
New Proposals	P1 cards
Primary Distribution	Number of review codes on R1 cards
Secondary Distribution	R2 cards
Evaluations Received	R3 cards
Proposals Deleted	R4 cards
Code Changes	R5 cards
File Maintenance Records	T cards

13. Proposals are distributed on the monthly activity table (Figure 13) on the basis of the following master file fields:

Receipt Month	- MON-REC
Funding Month	- MON-COMPL-x associated with CODEx = F
Rejection Month	- Where all CODEx = D, most recent MON-COMPL-x. This assumes a rejection letter is sent immediately after all reviews have been completed and in the same month. Except for possible "end-of-month" effects this approximation is close enough for management analyses of rejection activity trends.

The funding and rejection counts are mutually exclusive. Receipt-funding or receipt-rejection pairs in the internal count are valid.

14. Form 172 instructions specify that commas are to be used in the proposed cost. This is merely for clerical convenience. The program accepts the field, as is, removing any blanks or commas during an internal zero fill and justification routine. On Transcript No. 22, however, any FM to the cost field must be in proper all-numeric, right-justified, zero-filled form.
15. If a SEG-REV inadvertently reaches the master file with a missing REVIEW-OFC, the program will automatically delete the erroneous record. There is no error message. This situation can only arise from an improper TG card input.

C. Adaptions--Correspondence Systems Example

It has been mentioned earlier that the proposal handling system is a special version of a general correspondence system. Slight modifications in the broad program structure were made to adapt it to the specific purpose of tracking proposals. This section, therefore, will give an actual example of the simplicity with which the system can be applied to other needs.

For this example, an existing manual correspondence control system has been chosen rather arbitrarily; it came to the author's attention as a

result of a letter referred for reply. Characteristics are of particular importance: (1) ADP techniques are required only for tracking outstanding letters and ensuring timely replies (i.e., its function is active, not archival, as historical records are maintained manually); (2) all of the information needed for following the correspondence is available at the time of receipt and may be input to an ADP system on one Form--the equivalent of one set of cards; and (3) input techniques, edits and error messages must be easily handled by clerks with no ADP training to speak of. These are the exact main characteristics of the proposal system. To wit:

1. The system does not maintain a permanent birth-to-death record of incoming letters. At the end of the fiscal year completed items are deleted from the file, leaving, however, statistical tables of the overall performance of the various offices assigned to answer correspondence.
2. The initial record form, "correspondence control," is shown in Figure 43. The maximum amount of information available at time of initial preparation is illustrated. This card is exactly analogous to the original copy of the Form 172. Figure 44 makes this point by using the proper Form 172 fields to input all of the data on the Correspondence Control Form (the "date sent" is a bonus, not available on the Control Form).

   For actual use, the Form 172 typography would, of course, have to be changed. The important point is that the system cannot distinguish between use of the 172 to input normal proposal material and its use as a pseudo Correspondence Control Form.
3. The existing input and update techniques and forms are structurally the same. Thus, on the Form "172," use of the suspense date in the "continuation of" field automatically separates items without suspense dates ("new awards") from those with suspense dates ("continuations") in the statistical tables (see Chapter IIB, analytical tables). This also makes the suspense date appear on the file listing (Figure 11) and the inventory report (Figure 2) in the "continuation of" area.

FROM: Mr. John Doe, Electronic Dog Co.					10-25-75 DATE OF DOCUMENT		11-01-75 DATE RECEIVED		NO. 60002
TO: Director					SUSPENSE DATE 12-15-75		ACTION COPY TO P		
CLASSIFICATION --	INFO COPY TO ▶	A	AD	ADA	W				
DESCRIPTION *(Must be unclassified)* Wants to know if NASA is interested in synthesizing life forms.					REFERRED TO		RECEIVED BY		DATE
ENCLOSURES No Enclosures									
					REQUEST FOR *(Justify under Remarks)* ☐ EXTENSION ☐ TRANSFER				
REPLY NECESSARY ☒ WRITTEN *(Complete at right)* ☐ OTHER *(See Remarks)*					FOR SIGNATURE OF *(Name)* ☐ NO A		PREPARED BY		DATE ANSWERED
REMARKS Coordinate response with life sciences.									

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CORRESPONDENCE CONTROL

Figure 43. Typical Input for Existing Correspondence System

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PROPOSAL STATUS RECORD

M T T T T T T

NASA CONTROL NO.	INSTITUTION	DATE RECEIVED	CONTINUATION OF	C	FICE CODE
60002	Electronic Dog Co.	11-01-75	12-15-75		A
PROPOSED COST	**PRINCIPAL INVESTIGATOR**	**DATE ACKNOWLEDGED**	**PROPOSER'S CONTROL NO.**	**U**	**OBJ / FS**
$	John Doe	10-25-75	Director	U	--

PRO-POSAL TITLE ▶ Wants to know if NASA is interested in synthesizing life forms. No enclosures.

◀ USE NO MORE THAN FOUR TYPED LINES.

CODE	DATE SENT	REC'D	FDI	CODE	DATE SENT	REC'D	FDI	CODE	DATE SENT	REC'D	FDI	EVAL.
P	11-02-75											◀ 1-3
CODE	DATE SENT	REC'D	FDI	CODE	DATE SENT	REC'D	FDI	CODE	DATE SENT	REC'D	FDI	EVAL.
												◀ 4-6

PRO-POSAL SENT IN BY ▶ A AD ADA W

Coordinate response with life sciences.

NOTE-To use automatic spacing, *set margin at "M" and tabs at "T."*

NHQ DIV FORM 172 JUL 75 PREVIOUS EDITION MAY BE USED. **1-ORIGINAL**

Figure 44. Use of Proposal System Generalized Capability in a Correspondence Control System

Material inserted in the FICE code and OBJ fields is pre-programmed to go into the data base, even though these fields are not in current use in the proposal system. The U field is used as is, but redefined.

Thus, a U is inserted to indicate that a definite written response is required. Use of O or N references "other" and "no" on the "reply necessary" block on the original correspondence control. Coding of this nature puts only items requiring a written response in the ADP system, leaving the trivial O or N categories for manual tracking, if any is required. Indeed, if an O or N date is inadvertently input it will fail edit ("U not indicated").

The evaluating code block is used to indicate that code P has received the action copy of the letter. When P completes the action, an F is entered on Transcript No. 19 (evaluation results, Figure 23) in the normal fashion, indicating "finished." On the other hand, if code P demurs and the action is transferred to another office, a D is entered on Transcript No. 19, while the newly responsible office is handled as "secondary distribution," using Transcript No. 18 (Figure 22). An office may also request an extension of its suspense date. In this event the new data would be input on the File Maintenance Card TA, Transcript No. 22 (Figure 37).

In summary, input, edit, update and master file creation procedures require no structural modification to use the existing proposal system. in a common correspondence application. Thus, no new design or programming must be done for the most complex part of any ADP system. Cosmetic changes in headings and literals to reflect correspondence rather than proposal handling are trivial. The system is designed to calculate periods between dates in days. These are converted to months, as in the proposal application; by merely changing a divide instruction, they may be converted to weeks or even left as days.

Programming new or modified output reports, if desired, is a simple matter, given master file handling techniques. For example, an output report sequenced on suspense date might be desired. Even so, two output reports, the file listing and the inventory, can be used with only a few cosmetic changes. All of the analytical tables and some of the counters, however, may require more adjustment or suppression due to limited applicability. The nature of output resulting from correspondence input in these areas is left as an exercise for the reader.

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