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5th Floor, Hunt Library  
Carnegie Mellon University  
4909 Frew Street  
Pittsburgh, PA 15213-3890  
Telephone: 412-268-2434  
Email: [huntinst@andrew.cmu.edu](mailto:huntinst@andrew.cmu.edu)  
Web site: [www.huntbotanical.org](http://www.huntbotanical.org)

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Hunt Institute was dedicated in 1961 as the Rachel McMasters Miller Hunt Botanical Library, an international center for bibliographical research and service in the interests of botany and horticulture, as well as a center for the study of all aspects of the history of the plant sciences. By 1971 the Library's activities had so diversified that the name was changed to Hunt Institute for Botanical Documentation. Growth in collections and research projects led to the establishment of four programmatic departments: Archives, Art, Bibliography and the Library.

August 19, 1969

Office of Research Services  
Campus

Director of Research  
Assistant Dean Kopleman

Attached are ~~sixe~~TAXIR BOOKS compiled from the ORS Test-Bank of Awarded Proposals.

These BOOKS were devised by our staff to test the flexibility of the system and to demonstrate the system's capacity. The information content may or may not be interesting to administrators.

It is suggested that you devise other BOOKS which would provide information you would need.

The TAXIR demonstration QUERIES are contained in folder Two and the report on the systems aspects will be in Folder Three. Folder Four will contain supporting and documentary information.

Sincerely,

(G.M. Herah for-)

David J. Rogers,  
Director

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TAXIMETRICS LABORATORY  
UNIVERSITY OF COLORADO

INSTRUCTION MANUAL FOR KEYPUNCH AND KEYTAPE OPERATORS  
AND  
PROCEDURES USED IN THE  
OFFICE OF RESEARCH SERVICES SAMPLE BANKS

BY  
SIGRID R. HILKEY

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INSTRUCTION MANUAL FOR KEYPUNCH AND KEYS TAPE OPERATORS,  
TAXIMETRICS LABORATORY

Introduction

This manual has been designed to introduce the TAXIR keypunch or keytape operator to general methods of data preparation used by the Taximetrics Laboratory and, more specifically, to those methods used in preparation of the Office of Research Services sample data banks. The manual may become useful in training new keypunch/keytape operators should the Taximetrics Laboratory continue and progress; should it become desirable to install the Taximetrics system as a permanent feature of ORS, those concerned may find the procedures outlined here of value.

To these ends, the manual has been divided into two parts. Part I will accommodate new Taximetrics operators and researchers desiring very general knowledge of how their data will be prepared; Part II will interest the operator and staff members concerned with continuation of the ORS banks. The mildly interested reader will find a very general summary of Part I by reading Section I of each topic in Part I under A, B, and C.



(3 in the "most significant digit" column and 1 for the remaining 79 characters) should be entered in the program mode on the keytape. The drum card on the keypunch, if one is used (and one need not be) should read "IAAAAAAAAAA...A" (No. 1 in the MSD column and A's filling the remaining columns). These will program the machines to record only lower-case characters unless the upper-case key is depressed while typing, since alpha characters outnumber numeric in most data. For all numeric data, consult Figure 1.

## B. The Data and Their Preparation

1. The material for application of TAXIR is usually a body of data consisting of known facts or statistics about a collection of articles, specimens, situations, or other phenomena. The possessor of such a body of data, called the researcher, will work with Taximetrics Laboratory staff members (often the operator) in arranging the data for recording and selecting the most appropriate input device.

The data are first grouped into items, each item consisting of specific information about one member of the collection. A number of characteristics considered worthy of immediate or repeated retrieval are selected by the researcher from those available; these become the descriptors. The descriptors are arranged in a fixed order agreeable to both the Lab staff and the researcher (not necessarily in order of importance) producing a descriptor list. The "raw" data in the collection are prepared for the input device by transferring the information specified by the descriptor list for every item to be entered in the data bank on brief forms or some other intermediate medium. If the information required for recording is readily available for every item and the data do not need further translation, the forms need not be used; the information to be recorded may be read directly from the researcher's files or specimens and transmitted directly to the input device.

### 2. Specific instructions for preparing data

a. Gathering the data. Ideally, the researchers using the TAXIR system will already have the data assembled on forms for the operator. If not, the operator may be called upon to transfer the data

to forms, translate the data into code while recording, or even derive data from the researcher's files and transfer these characters to forms before actually recording the data.

b. Descriptors. The researcher may need assistance in assigning the descriptors he wishes to use for organizing his data. It is helpful for the operator to have some knowledge of the operation of TAXIR, the forms data may take, and the end products (books and printouts), unless members of the staff are available for ready consultation. Descriptors should not repeat information or contain information that will not be needed by the researcher; they should be kept short (79 characters, excepting two or three "overlong" descriptors) and as few as possible.

c. The descriptor list. The researcher will most probably have his data organized into units of some kind, "natural" or otherwise. Past examples have been contracts, proposals, plant specimens, animal specimens, etc. If not, a suitable unit must be found to constitute the item. A unique item number is assigned to each such unit; as the first descriptor, it is the most important of the list and creates the most important index to the collection. The item number is most valuable if it provides a ready access number related to the data in such a way that given any item number, the researcher can find the related article, specimen, or file in his collection.

Additional descriptors are selected to complete the list. When the researcher is satisfied with the descriptor list, it should be typed and submitted to the staff for approval. When acceptable to both staff and researcher, it should be typed in final form and distributed.

When assembling the descriptor list, the operator should consult with staff members to make sure that all data they need for writing queries will be available on the list. This may save time and tempers later when time is at a premium. The "technical" descriptor list will serve as an example.

d. Coding, naming, and ordering. There are various alternatives available within the system for recording data. If a known list of all possible entries can be assembled for a descriptor, such as the months of the year (see "Dates" paragraph preceding operator's descriptor list), it saves typing time and computer space to use a code system. All possible alternatives are listed, forming a vocabulary, and each entry is assigned a number, beginning with 1. As the data are entered, the code number assigned to the desired entry is typed instead of the entry itself. In the end product, however, the code number does not appear; the desired entry represented by the typed code number is shown printed out. This coding procedure is arranged for by the programmer, from the descriptor list.

Ordering is indicated on the list if the information contained in any position indicated by a descriptor may for any reason be printed in consecutive numerical or alphabetic order. Examples might be days, years, amounts, peoples' names, etc.

Naming is indicated if the contents of the descriptor position will never need to be arranged in any order for any book, or if the possibilities for entries in the descriptor position are so varied as to preclude ordering of any kind. Examples might be a short comment descriptor, an entry (like account number) that changes for every item, or a descriptor with only two alternatives (yes/no).

e. Use of NA, UNKNOWN, and blank descriptors.

NA (meaning "not applicable") should be recorded when the information usually recorded in that descriptor position does not apply to this particular item. Use on agreement of staff and researcher.

UNKNOWN should be entered only if the information has been sought and can't be found. Should also be used in descriptors and under circumstances agreed upon by the researcher and the staff.

Blank descriptors are used when the information to be entered for a descriptor field is not available at the time of recording, is to be entered at a later date, or will remain unknown. If information is to be inserted, be sure to reserve space on the cards or tape ample for insertion. Blank descriptors are often preferable to UNKNOWN for the researcher's printouts, unless he wishes unknown information to be specified. Six blank descriptors could appear ( , , , , , ) or ( , , , , , )--with or without a space indicating omission.

### C. Recording the Data

1. Data are derived, if necessary, and transferred onto forms; if forms are not considered necessary, the "raw" data may be recorded directly into the input device. This necessitates a machine near the researcher's collection or, alternately, removing the collection or files to the machine. The data or derived information are subsequently recorded in convenient working sections.

When such a unit has been recorded, the tapes or cards are subjected to a "Minivet" operation, a superficial correction program designed to indicate to the operator improperly used punctuation, operands, or symbols. A printout is obtained from this operation, giving the operator an opportunity to see the complete text of the information she has recorded and to make the necessary corrections. The operator corrects the cards or tape according to the printout and notes changes made.

When all data have been recorded and "cleaned" in this manner, they are fed onto a "master tape" for future manipulation. Using the descriptor list and referring to the printout, the staff will compose queries and compose programs to generate books. The operator may be called upon to provide information on recording procedures or parameters of the data she has recorded at this point.

The operator may be requested to train another operator to record data for the same data bank, in the event of her absence or illness or for permanent installation of TAXIR for the researcher.

## 2. Specific recording procedures

Unless the data collection is small, it is not advisable to record all the data for a bank in one section. If changes need be made at any time or if modifications are made to the system, fewer data will consequently be subject to correction. The bulk of the recording medium will also place limitations on the volume of data recorded at one time; a few tapes or boxes of IBM cards are the most that can be conveniently transported for computer processing.

a. Get off on the right foot! If the keytape is to be used, it is advisable, unless the tape is completely new, to clean tapes thoroughly before recording data. If the tape contains information undetected by the keytape (binary coded), irritating erasures may be necessary to achieve a complete printout for the Minivet. If necessary, the "tape erase forward" may be used to manually clean the tape immediately before recording.

If the keypunch is used, it may be wise to check with staff members on the proper kind of cards used for data; the red-edged cards are ordinarily reserved for Fortran programming only. Check your card supply often to avoid running short.

b. The typing format. As can be seen from the sample printout (Fig. 2), the data are entered in "free form" fashion, one line at a time. The descriptors must be entered for each item in the proper order according to the descriptor list. The typed information satisfying a descriptor within an item may be called a field. Fields should be limited to 79 characters plus one comma except for "overlong" descriptors. Commas are used to separate fields within each item, and care must be

taken not to insert commas for any other reason. Each item is concluded with an asterisk. Figure 1 shows acceptable punctuation and the corresponding "electronic images" producing them for the TAXIR system.

It is preferable to keep fields intact on a single line instead of dividing any field onto two lines. Each line, therefore, should end with a comma, except for lines contained within an "overlong" descriptor. There will consequently be unused columns or blank spaces at the end of most lines, facilitating both corrections and later insertions when necessary.

At present, the TAXIR programs allow two or three overlong descriptors (taking more than one line of typing) to be included in the last few descriptor positions for each item. If it appears during the recording process that other descriptors will require fields exceeding one line in length, the staff should be consulted so that modifications can be made where necessary. It will be the operator's job to abbreviate or condense information to fit into one line where possible. Display descriptors, not completely developed at present in TAXIR, may also be available for certain uses. These may contain undistorted operands and parentheses and may also accommodate more than one line within their fields. Consultation with staff will be necessary for their use.

c. System operands. When they appear in the data to be recorded, the Fortran operands AND, OR, and NOT and parentheses should not be typed. Arrangements should be made between staff and researcher to substitute for operands or to distort the words in the text to prevent recognition by the computer. These words may be immediately preceded by a slash (/) or a period (.) when necessarily typed, to achieve distortion.

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d. Consistency is extremely important for proper operation of TAXIR. Spelling, punctuation, abbreviations, spacing, etc. must remain as consistent as possible throughout the recording process. The researcher should take part in the selection of these forms and should be consulted for any confusing usages. If the same information is to be recorded in more than one field (or for the same descriptor position for more than one item), this information should always appear in exactly the same form every time. (Example: If "state of collection" is included as No. 5 on the descriptor list, the states recorded should always be abbreviated exactly the same way each time-- Nevada should always be typed NEVADA, not NEV or NEV.) This allows the computer to identify the same information the same way each time it is encountered; it also facilitates querying as the programmer can anticipate the form each descriptor will take and how the computer will identify each possible field.

e. Unless the bank is very small (and the operator's memory very long), it is advisable to keep vocabularies for each descriptor (lists of all possible entries for each field) or notes on which abbreviations are used, where and what punctuation was used within each field, etc.

The operator should consult with staff members regularly during the recording process to insure that 1) she is aware of all modifications in the programming that may have occurred which might affect her recording procedures, and 2) that she is adhering to correct technical procedures established by TAXIR.

If requested, time records should be kept of her various operating procedures. Use of a stopwatch may be required for figuring actual recording time for each item.

When convenient, or after a specified volume of data have been recorded, the operator should turn the recorded data over to a staff member for the Minivet operation. "Turnaround" for such a procedure at the Computing Center will take from a few hours to overnight. The data medium and the accompanying printout are then picked up for inspection and correction.

The Minivet program provides indications in the right margin of the printout of all usages of operands and parentheses within the data. Corrections can be made where necessary after proofing the printout. Unless unlimited use of the recording machine is available to the operator, it is more convenient to proof the printout before the correction operation, making notations in red where corrections are needed. A check or other notation should also be made when the separate corrections have been made, and a note made on the front of the printout when the corrections have all been completed. Comma counts, spellings, omissions, duplications, etc. should all be corrected at this time.

A second or third Minivet may be run, if necessary, before the recorded information is ready to put onto the master tape. All comma counts should be correct as indicated on the printout; incorrect items will be automatically be eliminated when filed on the master tape if the comma count is not correct.

If requested, all time spent on proofing and correcting should be recorded in whatever detail is considered desirable.

When all corrections are complete, the staff should be informed that the recorded data are "clean" and ready for the master tape.

If only one or two tapes are available for use to the operator, the contents must be fed onto the master tape before she can continue recording data. Ideally, two or even three tapes would be assigned to her; the interruptions and waiting periods during computer processing would be minimized in this way.

It might also be advisable, if time permits, to have the Minivet deck explained to the operator and its proper addition to the data for Minivetting recorded for her use, to save time in the absence of the staff member responsible for this procedure.

## II. THE OFFICE OF RESEARCH SERVICES SAMPLE BANK

### A. The Input Device

The keypunch was chosen as most appropriate input device for the sample because of the versatility of IBM cards over magnetic tape. Since the descriptor list at the time of this decision was amended almost regularly, since the exact nature of the multiple-bank structure was not permanently established, and since some empty descriptors were to be filled in at a later date, cards could be more readily inserted and re-assembled than could space on magnetic tape be allotted for future changes.

## B. The Data

### 1. Proposal bank

The ORS data consisted of information on personnel, dates, budgets, and proposed research taken from selected proposals and contracts which were pulled from the ORS files for purposes of recording this information for the bank. The ORS staff member aiding TAXIR was Tom Stewart.

Seven banks were decided upon, to be created in this approximate order: 1) proposal data; 2) award data; 3) budget breakdown for proposed research by years; 4) budget breakdown for awarded proposals by year; 5) termination data; 6) budget breakdown for funds spent by year; and 7) faculty data. G. F. Estabrook was the TAXIR staff member consulting.

Approximately three weeks were spent on preliminary transferral of data and experimenting with various arrangements of the descriptor list. When the consulting staff member returned from abroad, technical advice on the best arrangement of the list, the most feasible structure for and number of banks, and the construction of a "technical" descriptor list was received. The descriptor list was "fixed" within the next week, typed, and copies of the list were distributed to concerned staff members. Information was re-copied where necessary and the remainder of the desired information transferred to forms. The "technical" descriptor list was duplicated to serve as a form, with all but the descriptor name and number blanked out for duplication purposes; the information was written in by hand on the forms. Since the budget information required steady use of an adding machine, forms are considered beneficial for at least this aspect of data recording.

a. Item number

Several alternatives for item numbers were proposed and discussed, including agency grant number and a composite number indicating department and department proposal number devised by Tom Stewart. The agency grant number was found to change on Public Health Service awards from year to year, and the consulting staff member rejected the composite number as too long and redundant. It was decided to assign one number to each research activity, beginning with 1, on a random basis for the sample. This activity number would serve as the connecting link between data banks as they developed.

Consecutive item numbers were so assigned; proposals for continuation of an activity already in progress was treated as a separate proposal. "Similar" proposals sent to more than one agency simultaneously or at different times were all treated as separate proposal items. Since small budget differences and overhead rates were frequent for these "similar" proposals, ORS also handles such items as separate proposals.

Actual "punching" of proposal data only took about two days. The data were Minivetted a day or two later and the printout was corrected the day following. Sixty items were included in the proposal bank.

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Notes to Cost/Effectiveness:

Average time for transferring information from the proposal to forms was from 30 to 45 minutes, possibly longer if an abstract was composed for the form.

Average time for punching an item was 10 to 15 minutes, depending again on the length of the abstract. The average item required 20 cards, 3/4 of the cards required by the abstract.

The printout was corrected in 3 hours and 45 minutes. All but 1/2 hour correction time was consumed by altering system operands that appeared in the abstract, principally, and occasionally in the other data.

## 2. Award bank

Some technical problems already solved in the creation of the proposal descriptor list, the award list was formed in a relatively short time. Typed copies were given to concerned staff members; the list was again used as a transferral form after duplication. The list was not actually considered "fixed," even at this time; data were pulled with fingers crossed that the list would not change sufficiently to warrant pulling additional information or recopying. (Certain problems had not been worked out sufficiently to consider the list final, like the "imminent project reports" list desired by ORS.)

Thirty of the proposals from the proposal bank that had been awarded were selected for the sample award bank. Awards were treated as separate items excepting Public Health Service awards; these are "approved" and awarded annually, even for research activities extending for two or more years. They are thus more "renewals" than simple periodic payments; the PHS grant number also changes each year (last digit gives year of continuation). All such yearly awards to the same research activity were, however, given the same item number for purposes of the sample. If some other arrangement is worked out, this procedure may be subject to change. Each item in the sample award bank was linked by identical item number to its proposal item in the proposal bank.

The last 18 descriptors in each item remained blank: the information for 16 of the positions was not yet available (it would be obtained later) and the other two were open for the reporting arrangement mentioned above when it was decided upon.

The Taximetrics Laboratory was anxious to begin experimenting with the bank and to obtain early "books" for "show" purposes, so the data

were punched with the understanding that the "internal" correction program being devised would be used to manipulate and rearrange the data if such became necessary. Punching award data took a full day.

The award data were kept separate from the proposal data throughout the recording and Minivet process. After correction, the award data were considered "complete" enough to do preliminary experimenting, and the staff knuckled down to the problems involved in composing sample queries and book programs. A listing of the integrated data was made on the IBM 470, followed by the 4600 listing. Both were used for reference when working out queries.

While the staff was thus entertained, attempts to obtain the missing information were made. Telephoning proved very unsuccessful; secretaries and clerks wanted a typed list of the information we needed so they could work on it when more convenient. Questionnaires were quickly drawn up, xeroxed at ORS, and mailed through campus mail on the same afternoon to principal investigators of projects in the award sample; questionnaires were not sent to those whose projects were not near completion.

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Notes to Cost/Effectiveness:

Time required for punching each award item was 7 minutes; average cards per item were 5 for data only, and 7 including the extra item number card and extra asterisk card for Minivet purposes.

Correction time for the award Minivet printout was one hour.

At the urging of G. Hersh, Systems Analyst for Taximetrics Laboratory, several principal investigators or their secretaries were informed of the imminent mailing of the questionnaires and asked if they could find time to complete them as far as possible and return them. Most were friendly; one harried prof was a bit belligerent. Since most all the questionnaires were returned within the first week, the effects of telephoning over simple mailing upon questionnaire return time could not be determined. The questionnaire form used is included as Fig. 5.

The staff, meanwhile, discovered that additional information was needed and that certain changes would be necessary to complete queries. I was not informed of the changes officially, but by examining the data they seem to be as follows:

- 1) Rounding off all amounts to nearest \$10, \$100, or \$1 000
- 2) Dropping dollar signs from amounts recorded; permission to use this sign had been obtained previously. This change was probably made to save on computer-storage area
- 3) Eliminating periods before all operands used in the abstract; this was probably a result of a new modification in the system
- 4) Use of slashes instead of periods immediately preceding operands in all but display descriptors, where they were eliminated
- 5) Separating the indirect cost rate descriptor into two descriptors
- 6) Using blank descriptors instead of UNKNOWN for unknown amounts
- 7) Three descriptors were dropped from the list and one added.

The data then had to be almost completely repunched. Since the operator was during this last week preparing this manual, she was not involved in the repunching process. A sample of the printout following these changes (if available) will be included as Fig. 3.

All questionnaires arriving by mail up until the operator's departure were turned over to Mr. Hersh. It is not known if the data were inserted before queries done or if this information was put aside for a future project.

The proposal and awarded proposal banks were the only two finished. Forms were tentatively drafted showing the information to go into these banks; some of these are shown as Figs. 6 and 7.

### C. Recording the Data

#### 1. OPERATOR'S DESCRIPTOR LIST

WITH INFORMATION ON WHERE TO FIND AND HOW TO TYPE  
DATA FOR DESCRIPTORS

Dates: These procedures are to be followed for all dates in ORS data, except Descriptor No. 15. Dates have been separated into three constituent descriptors for each date.

1) Day - Type actual day of month as two digits, zero-filling to left where needed.

Examples: 01, 31, 23, etc.

2) Month- Type code number instead of month name according to list below. Do not zero-fill to left for one-digit code-numbers.

Examples: 1, 5, 12, etc.

- 1) January
- 2) February
- 3) March
- 4) April
- 5) May
- 6) June
- 7) July
- 8) August
- 9) September
- 10) October
- 11) November
- 12) December

Example: July 4, 1969,  
would appear as:

04,7,1969,

3) Year - Type year as four digits.

Examples: 1962, 1968, etc.

Codes: Vocabularies have been provided throughout the list for coded descriptors, after the fashion shown in the list of month codes above. All code numbers are typed as shown without zero-filling to two digits, and followed by a comma like all other descriptors.

Vocabularies: For those descriptors where a large selection is offered, from which the most appropriate entry is chosen, vocabularies of possible entries and their formats are given for convenience. Any additions should be noted on the list.

Sources: The first line in each descriptor note tells where to look for the information for that descriptor.

AWARDED PROPOSAL DESCRIPTOR LIST

THE FIRST 66 DESCRIPTORS, WHEN SEPARATED FROM THE REMAINING AWARD DESCRIPTORS, CONSTITUTE THE PROPOSAL DESCRIPTOR LIST.

1. Item number  
Assign in sequential order, one number per research activity. See specific data information for details.  
Item numbers 1 through 71 have been assigned for the sample banks, excluding 43, 44, 45, 46, 47, 48, 49, and 52.
  
2. CU college  
Routing sheet  
Name of college from which proposal was submitted. Examples are:  
ARTS /AND SCIENCES
  
3. CU department or organization submitting proposal  
Routing sheet  
Entries should be made uniformly.  
Samples are:  
PSYCHOLOGY DEPT  
DEPT MOLECULAR CELLULAR /AND  
DEVELOPMENTAL BIOLOGY  
  
The operator's information was taken from the proposal or routing sheet and is not as uniform as desirable. Future efforts should be made to obtain a list of departments. If possible, it will be included in this manual as Fig. 4.
  
4. CU proposal number  
Routing sheet; top of proposal cover sheet.  
This is a composite number: the first 2 digits are the last two numbers of the year in which this proposal was submitted to ORS; the next 2-3 digits are a code number indicating agency to which proposal is being submitted; the last 2-3 digits indicate the sequential number of all proposals going through ORS. The "same" proposal being sent to four different agencies would be entered as four different proposals:  
  
69.5.137 (NSF)  
69.1.138 (AFOSR)  
69.8.139 (NASA)  
69.3.140 (ONR)

- |                            |   |
|----------------------------|---|
| 5. Day of receipt in ORS   | Routing sheet   |
| 6. Month of receipt in ORS | Code. Routing sheet.  |
| 7. Year of receipt in ORS  | Routing sheet   |
| 8. Day of routing          | Routing sheet (next to signature of ORS staff member)               |
| 9. Month of routing        | Routing sheet.<br>Code.   |
| 10. Year of routing        | Routing sheet   |
| 11. Agency                 | Routing sheet; cover sheet of proposal.<br>Keep entries consistent. |

NATIONAL SCIENCE FOUNDATION  
AIR FORCE OFFICE OF SCIENTIFIC  
RESEARCH  
PUBLIC HEALTH SERVICE  
AMERICAN CANCER SOCIETY

The award data also contains agency descriptors (2). Since agency will not change, future operators may discuss with staff members the possibility of replacing this descriptor with the two award agency descriptors.

- |                                 |  |
|---------------------------------|--|
| 12. Day of submission to agency | Letter accompanying proposal to agency.  |
| 13. Month of submission         | " Code   |
| 14. Year of submission          | "  |
| 15. Agency deadline             | Routing sheet, top right.<br>Type as one field: 2 digits for day,<br>3 letters for month, 4 digits for year. |

04 JUL 1969,

- |                     |  |
|---------------------|--|
| 16. Activity leader | Routing sheet; cover sheet of proposal<br>Type last name first, then first name<br>or initial + period, then middle name<br>or initial + period.<br>Example:<br>BROWN JAMES B.<br>BROWN J.B. |
|---------------------|--|

17. Day of proposed start      Usually specified on cover sheet of proposal or in proposal.
18. Month of proposed start      " Code.
19. Year of proposed start      "
20. Day proposed project ends      If not specified on proposal cover sheet, derive by adding duration to beginning date.
21. Month proposed project ends      " Code
22. Year proposed project ends      "
23. Duration of project      Derive if not specified on cover sheet. Type number of months.
24. Research category      After scanning text of proposal, select one from vocabulary.
- BASIC RESEARCH  
APPLIED RESEARCH  
DEVELOPMENT  
EQUIPMENT PROCUREMENT  
TRAINING  
INSTITUTE  
(additions may be written in)
25. Security classification      All proposals should be listed as unclassified (4) unless specifically stated otherwise. Code.
- 1) Top secret  
2) Secret  
3) Confidential  
4) Unclassified
26. Location of work      Scan text of proposal and select one or specify other location in 79 characters or less.
- BOULDER CAMPUS  
DENVER CENTER  
COLORADO SPRINGS CENTER

## 27. Specific discipline

After scanning text of proposal,  
select one from vocabulary

## Astronomy

LABORATORY ASTROPHYSICS  
OPTICAL ASTRONOMY  
RADIO ASTRONOMY  
THEORETICAL ASTROPHYSICS  
XRAY-GAMMA RAY-NEUTRINO ASTRONOMY

## Chemistry

INORGANIC CHEMISTRY  
ORGANIC CHEMISTRY  
ORGANO-METALLIC CHEMISTRY  
BIOLOGICAL CHEMISTRY  
PHYSICAL CHEMISTRY

## Physics

ACOUSTICS  
ATOMIC /AND MOLECULAR PHYSICS  
CONDENSED MATTER PHYSICS  
ELEMENTARY PARTICLE PHYSICS  
OPTICAL PHYSICS  
NUCLEAR STRUCTURE  
PLASMA PHYSICS

## Mathematics

ALGEBRA  
ANALYSIS  
APPLIED MATHEMATICS  
COMPUTER SCIENCE  
FOUNDATIONS /AND LOGIC  
GEOMETRY  
STATISTICS  
TOPOLOGY

## Atmospheric Sciences

AERONOMY  
METEOROLOGY  
SOLAR-TERRESTRIAL ATMOSPHERES  
WEATHER MODIFICATION  
EXTRA-TERRESTRIAL ATMOSPHERES

## Geological Sciences

ENGINEERING GEOPHYSICS  
GENERAL GEOLOGY  
GEODESY /AND GRAVITY  
GEOMAGNETISM  
HYDROLOGY  
INORGANIC CHEMISTRY  
ISOTOPIC GEOCHEMISTRY  
LABORATORY GEOPHYSICS  
PALEOMAGNETISM  
PALEONTOLOGY  
PHYSICAL GEOGRAPHY /AND CARTOGRAPHY  
SEISMOLOGY

## Oceanography

CHEMICAL OCEANOGRAPHY  
GEOLOGICAL OCEANOGRAPHY  
PHYSICAL OCEANOGRAPHY  
MARINE GEOPHYSICS

## Engineering

AEROSPACE ENGINEERING  
CHEMICAL ENGINEERING  
ELECTRICAL ENGINEERING  
CIVIL ENGINEERING  
INDUSTRIAL ENGINEERING  
MECHANICAL ENGINEERING

## Biology

MOLECULAR BIOLOGY  
CELLULAR BIOLOGY  
TISSUE-ORGAN BIOLOGY  
ORGANISMAL BIOLOGY  
POPULATION BIOLOGY  
ECOSYSTEM BIOLOGY  
ANATOMY  
BIOCHEMISTRY  
EMBRYOLOGY  
EVOLUTIONARY BIOLOGY  
GENETICS  
MICROBIOLOGY  
NUTRITION /AND METABOLISM  
PARASITOLOGY  
PATHOLOGY  
RADIOBIOLOGY  
PHYSICAL ANTHROPOLOGY  
PHARMACOLOGY  
IMMUNOLOGY  
MARINE BIOLOGY  
PLANT SCIENCES

## Psychology

ANTHROPOLOGY  
ECONOMICS  
LINGUISTICS  
HISTORY /AND PHILOSOPHY OF SCIENCE  
SOCIOLOGY  
SOCIO-ECONOMIC GEOGRAPHY

28. Area of Interest

After scanning text of proposal,  
select one from vocabulary.

HEALTH SCIENCE RELATED  
OCEANOGRAPHY RELATED  
AGRICULTURAL SCIENCE RELATED  
WATER INFORMATION RELATED  
SCIENCE INFORMATION RELATED  
AIR POLLUTION RELATED  
OPERATIONS RESEARCH RELATED  
URBAN PROBLEMS RELATED  
TRANSPORTATION RELATED  
COMMUNICATION RELATED  
SPACE SCIENCE RELATED  
COMPUTER SCIENCE RELATED  
ATMOSPHERIC SCIENCE RELATED  
POPULATION CONTROL RELATED  
EDUCATIONAL RELATED  
ECONOMIC OPPORTUNITY RELATED

(additions possible)

29. Procurement method

Sometimes difficult to determine;  
ultimate decision by ORS staff.  
Assume "unsolicited" unless otherwise  
specified.

Code

- 1) Unsolicited
- 2) Request for proposal

30. Proposed type of instrument

Routing sheet; ultimate decision by  
ORS staff.

Code

- 1) Grant
- 2) Fixed-price contract
- 3) Cost contract

31. Proposed cost of  
improvements

Routing sheet.  
Type dollar amount to nearest \$100.  
Do not type dollar sign.

32. Radioactive sources

Routing sheet.  
Type YES or NO as indicated; NA should  
be typed as NO.

33. Animal subjects

"

34. Human subjects

"

35. Hazardous materials

"

36. Number of professional personnel on proposed project

Derive from personnel list, or derive from budget. Do not zero-fill to left. "Professional" personnel include all titles of Principal Investigator, Co-principal Investigator, Research Associate, etc.

Descriptors 37-42 should be derived from the budget and typed as number of man-months. Man-months should be rounded to nearest whole man-month; 1/2 should be counted as next higher unit. (5.5 = 6).

37. Proposed professional AY support by agency

38. Proposed professional summer support by agency

39. Proposed student AY support by agency

"Students" include Graduate Research Assistants, etc.

40. Proposed student summer support by agency

41. Proposed technical support from agency

"Technical" personnel include most hourly help (unless specified student), laboratory help, etc. All personnel not included in professional, student and administrative categories should be listed as technical personnel.

42. Proposed administrative support by agency

"Administrative" personnel include secretaries, administrative assistants, etc.

43. Proposed indirect cost base

Budget; usually shown as \_\_\_\_\_% of (base) \_\_\_\_\_ Code.

- 1) Salaries
- 2) Direct costs
- 3) Business office

44. Proposed indirect cost rate

Budget, in conjunction with No. 43. Type percent as \_\_\_\_\_%.

Descriptors 45 through 57 are dollar amounts found in the budget. If not specified, derive proper amount or consult ORS staff member. Round off amounts to nearest \$100 unless otherwise specified. Do not type dollar sign.

- |  |   |
|--|---|
| 45. Proposed salaries/wages                              | Do not include fringe benefits as wages.  |
| 46. Proposed fringe benefits                             |   |
| 47. Proposed permanent equipment                         |   |
| 48. Proposed expendable supplies                         |   |
| 49. Proposed domestic travel                             |   |
| 50. Proposed foreign travel                              |   |
| 51. Proposed computer cost                               |   |
| 52. Proposed publication cost                            |   |
| 53. Proposed consultants                                 |   |
| 54. Proposed other direct costs                          |   |
| 55. Proposed total direct costs                          | Round to nearest \$1000   |
| 56. Proposed indirect costs                              |   |
| 57. Proposed total requested                             | Round to nearest \$1000   |
| 58. Proposed professional AY support by University       | Budget. Show in number of man-months.   |
| 59. Proposed other salaried support by University        | "   |
| 60. Proposed category of other commitments by University | Budget.<br>Name budget category of "other commitments," such as<br>PERMANENT EQUIPMENT<br>EXPENDABLE SUPPLIES<br>This descriptor should not include tuition waivers or reductions, fringe benefits, salary, or indirect cost commitments. |
| 61. Proposed amount of other commitments                 | Give amount in dollars for other commitments listed in Descriptor 60, to nearest \$100.   |

62. Proposed indirect cost reduction      Budget.  
Dollar amount of indirect cost commitment; round to nearest \$100
63. Proposed total University contribution      Budget.  
Amount to nearest \$100 of total University commitment; should include everything, even categories not included in Descriptors 60-61.
64. Proposed total project cost      Budget; derive if not specified.  
Add total requested from agency to total CU commitment (for all years) and type amount to nearest \$1000

These two descriptors should be typed as 65 and 66 when typing up data for the proposal bank, and as 133 and 134 when arranging data for awarded proposal bank.

They should both be typed beginning a new card or a new line.

65/133. Project title

Give title in full. This is an overlong descriptor and can cover more than one line. Do not type comma until end of title is reached.

66/134. Project abstract

Abstract should be included in proposal somewhere. If not, write a short abstract (not more than 200 words). If abstract looks difficult or enough information is not available to compose one, consult ORS staff member. If no information can be found, enter

ABSTRACT NOT AVAILABLE\*

In descriptor.

Asterisk should follow abstract, as it will always be last descriptor on list.

AWARD DESCRIPTORS BEGIN HERE.

65. Awarded? Type YES or NO. All items in the award bank will show YES.
66. University account number Contract sheet filed with contract and award papers. Consists of six digits and one hyphen; type as shown on contract. Example: 1708-48
67. Major organization/agency Contract sheet. Note agency and select major and minor agency from listing.
68. Lesser organization/agency "

Below are all major/lesser organizations entered for the sample bank.

<u>Major Organizations</u> #67	<u>Lesser Organizations</u> #68
NATIONAL SCIENCE FOUNDATION	NONE
DEPT HEALTH EDUCATION /AND WELFARE	PUBLIC HEALTH SERVICE
DEPT HEALTH EDUCATION /AND WELFARE	OFFICE OF EDUCATION
DEPT OF DEFENSE	AIR FORCE OFFICE OF SCIENTIFIC RESEARCH
DEPT OF DEFENSE	US ARMY MEDICAL RESEARCH /AND DEVELOPMENT COMMAND
RESEARCH CORPORATION	NONE
NATIONAL AERONAUTICS /AND SPACE ADMINISTRATION	NONE
SEARLE FOUNDATION	NONE

(additions possible)

69. Source of funds	Derive from agency. Ask ORS staff If not sure of entry. Code
	1) Federal 2) State 3) Foundation 4) Individual 5) Industry 6) County 7) City 8) Other
70. Agency account number	Agency communications. Type just as shown unless parentheses appear; omit parentheses.
71. Day of award notice	Agency communication.
72. Month of award notice	" Code
73. Year of award notice	"
74. Type of instrument	Routing sheet; contract sheet Code
	1) Grant 2) Fixed-price contract 3) Cost contract
75. Day of starting	Agency communication of award notice.
76. Month of starting	Letter of award notice. Code
77. Year of starting	Letter of award notice.
78. Duration of project	Award notice or derive. Type in number of months project will be active.
79. Day of termination	Award notice or derive.
80. Month of termination	" Code.
81. Year of termination	"

82. Status  
Sometimes difficult to determine.  
Derive from reading over contract.  
Code  
1) New  
2) Continued  
3) Renewal

Most awards are new.

83. Year of continuation  
Derive.  
If not Public Health Service award,  
enter 0.

84. Renewal planned?  
Difficult to determine; ask ORS  
staff member.  
Type YES or NO.

85. Extension in time?  
Check amendment sheets in proper  
space. Type number of months if  
extension was made; if no, type 0.

86. Number of professional  
personnel on project  
Derive from budget.  
See Descriptor 36 for definition.

Descriptors 87-92 should be derived from budget. Type number of man-months  
rounded to nearest whole man-month.

87. Professional AY support  
by agency

88. Professional summer support  
by agency

89. Student AY support by agency  
See Descriptor 39 for definition.

90. Student summer support by  
agency

91. Technical support by agency  
See Descriptor 41 for definition.

92. Administrative support by  
agency.  
See Descriptor 42 for definition.

93. Indirect cost base

Budget. Usually shown as \_\_\_% of  
\_\_\_\_\_ (base).

Code.

- 1) Salaries
- 2) Direct costs
- 3) Business office expenses
- 4) No indirect costs

94. Indirect cost rate

Budget, in conjunction with Descriptor  
93. Type percent figure; do not use  
percent sign.

Descriptors 95-107 are dollar amounts derived from the budget and should  
be rounded to the nearest \$10 unless otherwise specified. Do not type  
the dollar sign.

95. Salaries/wages

Do not include fringe benefits in amount.

96. Fringe benefits

97. Permanent equipment

98. Expendable supplies

99. Domestic travel

100. Foreign travel

101. Computer costs

102. Publication costs

103. Consultants

104. Other direct costs

105. Total direct costs

106. Indirect costs

107. Total received

108. Professional AY support  
by University

Derive from budget.  
Type number of man-months rounded to  
nearest whole man-month.

109. Other salaried support

"

110. Category of other commitments . Budget. Type name of budget category indicated for commitments by the University; do not include amounts for salaries, fringe benefits, tuition waivers or reductions, or indirect costs.
111. Amount of other commitments Budget. Type amount for Descriptor 110 rounded to nearest \$10.
112. Indirect cost reduction Budget. Type amount of commitment for University for indirect costs to nearest \$10.
113. Total University contribution Budget. Type total amount (all categories) of University contribution to nearest \$10.
114. Total project cost Add total received and total University contribution; type amt to nearest \$100.
115. Government equipment Information from Ray Friese, ORS.  
Type YES or NO
116. Reporting frequency Information from respective accountants at ORS. Code.  
1) Monthly  
2) Quarterly  
3) Semiannually  
4) Annually
117. Building usage Type abbreviation of building from following list.

## 117. Building usage

Enter selection from below as shown.

<u>Building Name</u>	<u>Abbreviation</u>
Architecture	ARCH
Armory	ARMR
Business Annex	B-AN
Boulder Extension	B-EX
Building and Grounds	BGRN
Business	BUS
Chemistry	CHEM
Cyclotron	CYCL
Denison	DENN
Ekeley	EKLY
Engineering Center	ENGR
Fieldhouse	FLDH
Fine Arts	ARTS
Fleming Law	LAW
Geology	GEOL
Greenhouse-1 (Macky)	GH-1
Greenhouse-2 (Hale)	GH-2
Guggenheim	GUGG
Hale	HALE
Heating Plant	HEAT
Health Physics	HPHY
Hellems Annex	H-AN
Hellems	HLMS
Henderson Museum	HEND
High Altitude Observatory	HAO
Hillside Court	HILL
Hunter	HUNT
Institute of Behavioral Sciences-1 (1416 Broadway)	IBS1
Institute of Behavioral Sciences-2 (1516 Broadway)	IBS2
Institute of Behavioral Sciences-3 (1424 Broadway)	IBS3
Institute of Behavioral Sciences-4 (1220 Grandview)	IBS4
Joint Institute for Laboratory Astrophysics	JILA
Ketchum	KTCH
Laboratory for Atmospheric and Space Physics	LASP
Life Sciences Research No. 1	LSR1
Life Sciences Research No. 2	LSR2
Macky	MCKY
Main	MAIN
McKenna	MKNA
Men's Gym	MGYM
Music	MUSC
Norlin Library	LIBR
Observatory	OBSR
Physics	PHYS

<u>Building Name</u>	<u>Abbreviation</u>
Physical Sciences Research No. 1	PSR1
Physical Sciences Research No. 2	PSR2
Physical Sciences Research No. 3	PSR3
Regent Hall	RGNT
Service Building (East Campus)	SERV
Stadium	STAD
Team House	TEAM
Theatre	THEA
University Club	CLUB
University Memorial Center	UMC
Wardenburg Student Health	WARD
Warehouse	WHSE
Women's Gym	WGYM
Woodbury	WDBY
Alumni Center	ALUM

Temporary Buildings

Old Student Health	TB-1
Anthropology - 926 Green Mountain	TB-9
Storage Shed - East of Women's Gym	TB10
Storage Shed - North of Stadium	TB11
Storage Shed - Northeast of Stadium	TB12
Storage Shed - North of Health Physics	TB13
Storage Shed - East Warehouse Yard	TB14
Storage Shed - West Warehouse Yard	TB15
924 Green Mountain	TB16
930 Green Mountain	TB17
932 Green Mountain	TB18
924 Broadway	TB19
930 Broadway	TB20
934 Broadway	TB21
1849 Athens	TB22
Storage Shed - Southeast of TB-11	TB23
Storage Shed - Nuclear Physics	TB24
Storage Shed - Nuclear Physics	TB25
Storage Shed - Nuclear Physics	TB26
2202 Arapahoe	TB27
1844 Hillside	TB31
1809 Athens	TB36
1817 Athens	TB37
1825 Athens	TB38
1833 Athens	TB39
1841 Athens	TB40
1310 - 19th	TB41

1818 Marine	TB42
1826 Marine	TB43
1424 15th	TB44
Warehouse Shed 1-North end	TB45
Warehouse Shed 2-North center	TB46
Warehouse Shed 3-South center	TB47
Warehouse Shed 4-South end	TB48
19th at Creek (steam conversion)	TB49
Warming House (N of Womens Gym)	TB50
Asphalt Roll Covered -Practice Field	TB54
White Frame - Practice Field	TB55
Frame - 19th - N of TB-49	TB56
Frame - S of Faculty/Staff Apts	TB57
HAO Tunnel	TB58
Grey Shed with Tin Roofnext to TB-13	TB59
Ticket Booth -NW corner of Rifle Range	TB60
Ticket Booth -N of Service Road	TB61
Ticket Booth -NW corner of Stadium	TB62
Ticket Booth -NE corner of Stadium	TB63
Metal Siding Shed -S of Twinburger	TB64
Rest Room/Equipment Bldg -E Campus	TB65
1330-32 Grandview	TB66
Warehouse Shed No. 5	TB67

#### Housing

Aden Hall	ADEN
Athens Court	ATHN
Baker Hall	BKER
Brackett Hall	BKRT
Cockerell Hall	CKRL
Crosman Hall	CROS
East Campus Court	ECCT
Faculty Apts	FACA
Farrand Hall	FRND
Hallett Hall	HLET
Kittredge Res. Halls	KITT
Libby Hall	LIBY
Marine Family Housing	MRFM
Nichols Hall	NCHL
President's Residence (NEW)	PRES
Reed Hall	REED
Sewall Hall	SEWL
University Village	UVET
Willard Hall	WLRD
Williams Village	WMVG

#### Other

Mountain Research Station	ALP
National Bureau of Standards	NBS

- |  |  |
|--|--|
| 118. Room usage  | Type room numbers as listed on questionnaire, separated by semicolons.   |
| 119. Square footage                                      | Ask ORS staff member for instructions on how to figure footage. Since descriptor was added after data were pulled, the operator did not have to calculate this (thank you, God). ORS must have a list of square footage available. |
| 120. Human test-subject review complete?                 | Obtain from ORS staff member. Type YES or NO.  |
| 121. Number doctoral candidates participating in project | Questionnaire.   |
| 122. Number doctoral candidates paid by activity         | "  |
| 123. Number doctoral candidates on scholarships          | "  |
| 124. Number dissertations based on activity              | "  |
| 125. Number masters candidates participating             | "  |
| 126. Number masters candidates paid by activity          | "  |
| 127. Number masters candidates on scholarships           | "  |
| 128. Number masters theses based on activity             | "  |
| 129. Number undergraduates participating                 | "  |
| 130. Number undergraduates paid by activity              | "  |

131. Number of undergraduates on scholarships	Questionnaire
132. Extraordinary support	Overlong descriptor to be of accumulative, comment form. ORS staff will insert comments.
(133)Project title	Insert here for awarded proposal bank. Overlong descriptor
(134)Project abstract	Overlong descriptor.

## 2. TECHNICAL DESCRIPTOR LIST

Descriptors 1 through 63 plus 133 and 134 constitute the proposal items.  
The remaining award items added produce the awarded proposal list (1-134).

1. Item number			
2. CU college	Name		
3. University department or org.	Name		
4. University proposal number	Name		
5. Day of receipt in ORS	Ordered from 1-31.	1) January 2) February 3) March 4) April	
6. Month of receipt in ORS	Code	5) May 6) June 7) July 8) August	9) September 10) October 11) November 12) December
7. Year of receipt in ORS	Ordered from 1960 to 1970		
8. Day of routing	Same as 5		
9. Month of routing	Code	Same as 6	
10. Year of routing	Same as 7		
11. Agency	Name		
12. Day of submission	Same as 5		
13. Month of submission	Code	Same as 6	
14. Year of submission	Same as 7		
15. Agency deadline	Name		
16. Activity leader	Name		
17. Day of proposed start	Same as 5		
18. Month of proposed start	Code	Same as 6	
19. Year of proposed start	Same as 7		
20. Day proposed project ends	Same as 5		
21. Month proposed project ends	Code	Same as 6	
22. Year proposed project ends	Ordered from 1960 to 1975		
23. Duration of project	Ordered from 0 to 60 in months		

24. Research category	Name	Basic research Applied research Development Equipment procurement Training Institute Other -----
25. Security classification	Code	1) Top secret 2) Secret 3) Confidential 4) Unclassified
26. Location of work	Name	Boulder campus Denver center, etc.
27. Specific discipline	Name	See listing
28. Area of interest	Name	See listing
29. Procurement method	Code	1) Unsolicited 2) Request for proposal
30. Proposed type of instrument	Code	1) Grant 2) Fixed-price contract 3) Cost contract
31. Proposed cost of improvements	Ordered from	0 to 100 000 by 100
32. Radioactive sources	Name	Yes/no
33. Animal subjects	Name	Yes/no
34. Human subjects	Name	Yes/no
35. Hazardous materials	Name	Yes/no
36. Proposed number of professional personnel on project	Ordered from	0 to 15
37. Proposed professional AY support by agency	Ordered from	0 to 200 in man-months
38. Proposed professional summer support by agency	same as 37	
39. Proposed student AY support by agency	Ordered from	0 to 300 in man-months
40. Proposed student summer support by agency	Ordered from	0 to 100 in man-months
41. Proposed technical support by agency	Ordered from	0 to 510 in man-months

42. Proposed administrative support by agency	Ordered from 0 to 25 in man-months
43. Proposed indirect cost base	Code      1) Salaries 2) Direct costs 3) Business office
44. Proposed indirect cost rate	Name      Service charge %
45. Proposed salaries/wages	Ordered from 0 to 1 000 000 by 100 in dollars
46. Proposed Fringe benefits	Ordered from 0 to 300 000 by 10
47. Proposed permanent equipment	Ordered from 0 to 500 000 by 100.
48. Proposed expendable supplies	Ordered from 0 to 200 000 by 100
49. Proposed domestic travel	Ordered from 0 to 50 000 by 100
50. Proposed foreign travel	Ordered from 0 to 20 000 by 100
51. Proposed computer cost	Ordered from 0 to 100 000 by 100
52. Proposed publication cost	Ordered from 0 to 20 000 by 100
53. Proposed consultants	Same as 51
54. Proposed other direct costs	Ordered from 0 to 35 000 by 100
55. Proposed total direct Costs	Ordered from 0 to 2 000 000 by 1 000
56. Proposed indirect costs	Ordered from 0 to 500 000 by 100.
57. Proposed total requested	Ordered from 0 to 2 500 000 by 1 000.
58. Proposed professional AY support by University	Ordered from 0 to 200 in man-months.
59. Proposed other salaried support by University	Ordered from 0 to 100 in man-months
60. Proposed category of other commitments by University	Name.

- |  |   |
|--|---|
| 61. Proposed amount of other commitments   | Ordered from<br>0 to 100 000 by 100 in dollars  |
| 62. Proposed indirect cost reduction       | Ordered from<br>0 to 200 000 by 100 in dollars  |
| 63. Proposed total University contribution | Ordered from<br>0 to 500 000 by 100 in dollars  |
| 64. Proposed total project cost            | Ordered from<br>0 to 3 000 000 by 1 000   |
| 65. Awarded                                | Name      Yes/no  |
| 66. University account number              | Name  |
| 67. Major organization/agency              | Name  |
| 68. Lesser organization/agency             | Name  |
| 69. Source of funds                        | Code      1) Federal<br>2) State<br>3) Foundation<br>4) Individual<br>5) Industry<br>6) County<br>7) City<br>8) Other |
| 70. Agency Account Number                  | Name  |
| 71. Day of award notice                    | Ordered from<br>1 to 31   |
| 72. Month of award notice                  | Code  |
| 73. Year of award notice                   | Ordered from<br>1960 to 1974  |
| 74. Type of instrument                     | Code      1) Grant<br>2) Fixed-price contract<br>3) Cost contract   |
| 75. Day of starting                        | Same as 71  |
| 76. Month of starting                      | Same as 72  |
| 77. Year of starting                       | Same as 73  |
| 78. Duration of project                    | Ordered from<br>0 to 84 in months   |
| 79. Day of termination                     | Same as 71  |
| 80. Month of termination                   | Same as 72  |
| 81. Year of termination                    | Same as 73  |

82. Status	Code	1) New 2) Continued 3) Renewal
83. Year of continuation	Ordered from	0 to 7
84. Renewal planned?	Name	Yes/no
85. Extension in time?	Name	Number of months extension
86. Number of professional personnel on project	Ordered from	0 to 15
87. Professional AY support by agency	Ordered from	0 to 200 in man-months
88. Professional summer support by agency	Ordered from	0 to 200 in man-months
89. Student AY support by agency	Ordered from	0 to 300 in man-months
90. Student summer support by agency	Ordered from	0 to 100 in man-months
91. Technical support by agency	Same as 90	
92. Administrative support by agency	Ordered from	0 to 25 in man-months
93. Indirect cost base	Code	1) Salaries 2) Direct costs 3) Business office
94. Indirect cost rate	Name	%
95. Salaries/wages	Ordered from	0 to 1 000 000 by 10.
96. Fringe benefits	Ordered from	0 to 300 000 by 10.
97. Permanent equipment	Ordered from	0 to 500 000 by 10.
98. Expendable supplies	Ordered from	0 to 200 000 by 10.
99. Domestic travel	Ordered from	0 to 50 000 by 10.
100. Foreign travel	Ordered from	0 to 20 000 by 10.
101. Computer cost	Ordered from	0 to 100 000 by 10.

102. Publication cost	Ordered from 0 to 20 000 by 10
103. Consultants	Ordered from 0 to 100 000 by 10
104. Other direct costs	Ordered from 0 to 35 000 by 10
105. Total direct costs	Ordered from 0 to 2 000 000 by 10
106. Indirect costs	Ordered from 0 to 500 000 by 10
107. Total received	Ordered from 0 to 2 500 000 by 10
108. Professional AY support by University	Ordered from 0 to 200 in man-months
109. Other salaried support	Ordered from 0 to 100 in man-months
110. Category of other commitments	Name
111. Amount of other commitments	Ordered from 0 to 100 000 by 10 in dollars
112. Indirect cost reduction	Ordered from 0 to 200 000 by 10 in dollars
113. Total University contribution	Ordered from 0 to 500 000 by 10 in dollars
114. Total project cost	Ordered from 0 to 3 000 000 by 100
115. Government equipment	Name Yes/no
116. Reporting frequency	Code 1) Monthly 2) Quarterly 3) Semiannually 4) Annually
117. Building usage	Name Building (see list of abbreviations)
118. Room usage	Name Room number
119. Square footage	Ordered from 0 to 50 000 by 100 in square feet
120. Human test-subject review complete	Name Yes/no
121. Number doctoral candidates participating	Ordered from 0 to 10

122. Number doctoral candidates paid by activity	Ordered from 0 to 10
123. Number doctoral candidates on scholarships	Same as 122
124. Number dissertations based on activity	Same as 122
125. Number masters candidates participating	Ordered from 0 to 6
126. Number masters candidates paid by activity	Same as 125
127. Number masters candidates on scholarships	Same as 125
128. Number masters theses based on activity	Same as 125
129. Number undergraduates participating	Ordered from 0 to 10
130. Number undergraduates paid by activity	Same as 129
131. Number of undergraduates on scholarship	Same as 129
132. Extraordinary support	Name      Overlong descriptor to be of accumulative-comment form
133. Project title	Name      Overlong descriptor
134. Project abstract	Name      Overlong descriptor (200 words or less)

## 6000 SERIES CHARACTER CODE CHART

FORTRAN Source Language Character	Internal BCD Code	Card Punch Code	FORTRAN Source Language Character	Internal BCD Code	Card Punch Code
A	01	12-1	+	45	12
B	02	12-2	-	46	11
C	03	12-3	*	47	11-8-4
D	04	12-4	/	50	0-1
E	05	12-5	(	51	0-8-4
F	06	12-6	)	52	12-8-4
G	07	12-7	\$	53	11-8-3
H	10	12-8	=	54	8-3
I	11	12-9	blank(space)	55	space
J	12	11-1	,	56	0-8-3
K	13	11-2	.	57	12-8-3
L	14	11-3			
M	15	11-4			
N	16	11-5			
O	17	11-6			
P	20	11-7			
Q	21	11-8			
R	22	11-9			
S	23	0-2			
T	24	0-3			
U	25	0-4			
V	26	0-5			
W	27	0-6			
X	30	0-7			
Y	31	0-8			
Z	32	0-9			
0	33	0			
1	34	1			
2	35	2			
3	36	3			
4	37	4			
5	40	5			
6	41	6			
7	42	7			
8	43	8			
9	44	9			
			Additional Printer Characters		
			≡	60	0-8-6
			[	61	8-7
			]	62	0-8-2
			:	63	8-2
			#	64	8-4 *
			↑	65	0-8-5
			v	66	11-0
			^	67	0-8-7
			+	70	11-8-5
			+	71	11-8-6
			<	72	12-0
			>	73	11-8-7
			≤	74	8-5
			≥	75	12-8-5
			] >	76	12-8-6
			;	77	12-8-7
			not used	00	

\* The 8-4 punch is produced by the apostrophe (') on an IBM 026 keypunch.

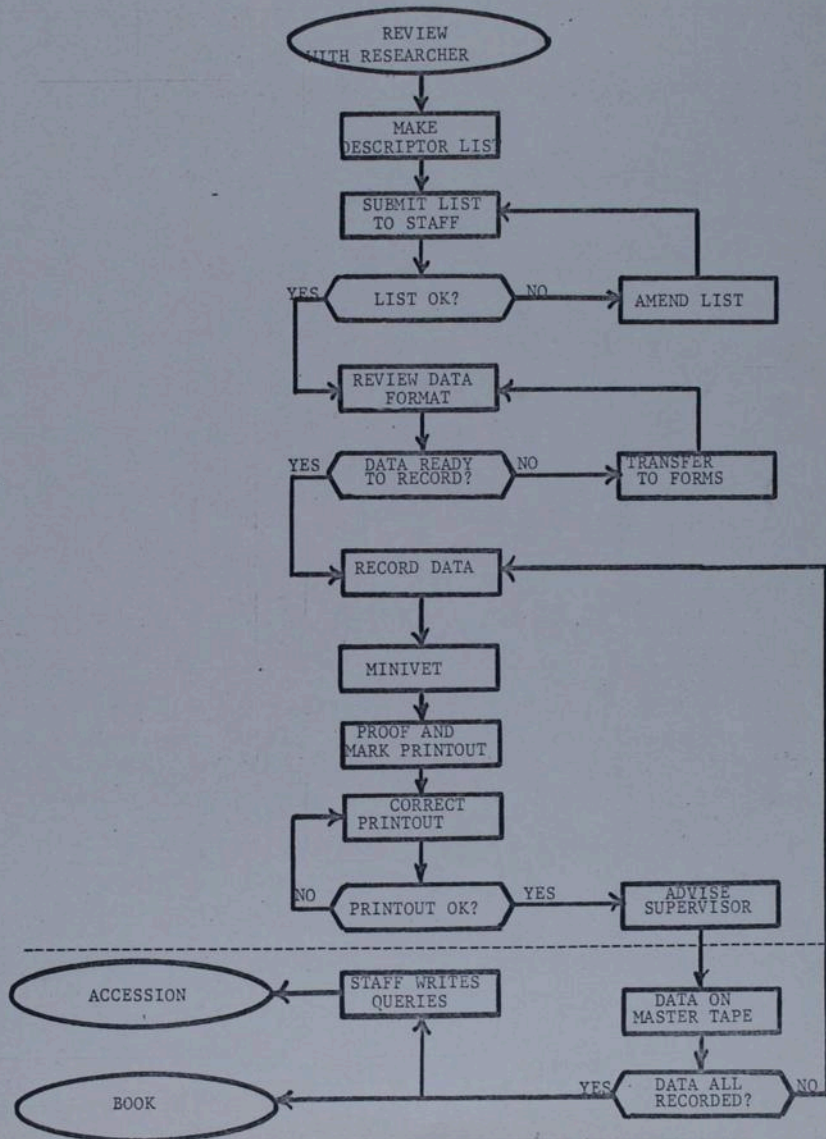
BE RESOLVED INTO MEDIUM EFFECTS ON THE RATES OF THE FORWARD AND REVERSE REACTIONS.\*

23 ARTS AND SCIENCES, DEPT MOLECULAR CELLULAR AND DEVELOPMENTAL BIOLOGY,  
67.7.269,18,08,1967,UNKNOWN,,AMERICAN CANCER SOCIETY,18,08,1967,,  
HAM RICHARD G.,01,03,1968,31,08,1969,18,BASIC RESEARCH,4,BOULDER CAMPUS,  
CELLULAR BIOLOGY,HEALTH SCIENCE RELATED,1,1,NA,NO,YES,NO,NO,2,16,8,9,6,36,0,  
UNKNOWN,634200,82915,812620,69000,50,80,50,50,50,52625,860230,512525,372759,  
0,0,NA,50,50,50,572755,  
1630-70,AMERICAN CANCER SOCIETY,NONE,3,E-505,19,01,1968,2,01,03,1968,24,  
28,02,1970,1,NA,UNKNOWN,NO,2,9,4,5,3,18,0,25 PCT OF 832930 ,AND 950110,  
521550,51130,512520,66000,40,50,50,50,50,51750,843050,88230,557660,  
0,0,0,0,0,0,NA,50,50,50,557660,NCNE,  
.....

DEFINED MEDIA FOR CLONAL GROWTH OF CELLS TAKEN DIRECTLY FROM THE MAMMALIAN BODY,  
THE GOAL OF THE RESEARCH PROGRAM OUTLINED IN THIS PROPOSAL IS THE DEVELOPMENT OF  
DEFINED CULTURE MEDIA WHICH WILL SUPPORT CLONAL GROWTH OF CELLS TAKEN DIRECTLY  
FROM THE MAMMALIAN BODY. THE ABILITY TO CULTURE SUCH CELLS FOR PROLONGED PERIODS  
IN CHEMICALLY CHARACTERIZED MEDIA WILL OPEN MANY NEW POSSIBILITIES FOR STUDIES  
OF INTERACTIONS WITH ENVIRONMENT GENE REGULATION AND DIFFERENTIATION IN  
MAMMALIAN CELLS. THE GOAL IS TO DEVELOP CULTURE MEDIA WITH THE FOLLOWING  
PROPERTIES - 1) CHEMICALLY DEFINED AND REPRODUCIBLE 2) NUTRITIONALLY COMPLETE  
AND SPECIFICALLY BALANCED FOR OPTIMUM GROWTH OF UNALTERED DIPLOID MAMMALIAN  
CELLS 3) CAPABLE OF SUPPORTING CLONAL GROWTH WITHOUT CONDITIONING OR SUPPLEMEN-  
TATION 4) ABLE TO SUPPORT GROWTH OVER EXTENDED PERIODS OF A VARIETY OF TYPES OF  
CELLS TAKEN DIRECTLY FROM THE MAMMALIAN BODY 5) CAPABLE OF SUPPORTING THE PROGENY  
OF SPECIFIC DIFFERENTIATED CELLS AND EITHER MAINTAINING THEIR DIFFERENTIATION  
IN VITRO OR PROVIDING A DEFINED BASAL MEDIUM FOR STUDIES OF THE NATURE OF DIFF-  
ERENTIATION PROMOTING FACTORS.\*

24 ARTS AND SCIENCES, CHEMISTRY DEPT, 64.4.28, UNKNOWN,, UNKNOWN,,  
PUBLIC HEALTH SERVICE, UNKNOWN,, JORNE PAUL, 01, 10, 1964, 30, 09, 1965, 12,  
BASIC RESEARCH, 4, BOULDER CAMPUS, CHEMISTRY, HEALTH SCIENCE RELATED, 1, 1, NA,

SIMPLE FLOWCHART  
OF  
OPERATOR'S DUTIES (TAXIR)



## UNIVERSITY OF COLORADO

BOULDER, COLORADO 80302

GRADUATE SCHOOL  
OFFICE OF RESEARCH SERVICES  
380 WILLARD HALL

June 9, 1969

Dear \_\_\_\_\_:

For statistical purposes, the Office of Research Services would like to obtain the following information for their files concerning the specified account.

Account No. \_\_\_\_\_

Agency \_\_\_\_\_

Grant or Contract No. \_\_\_\_\_

1. Which buildings were used by personnel on this account?
2. Which rooms in the above buildings?
3. How many doctoral candidates participated in the project represented by this account? \_\_\_\_\_
4. No. doctoral candidates paid by activity \_\_\_\_\_
5. No. doctoral candidates on scholarships \_\_\_\_\_
6. No. dissertations based on activity \_\_\_\_\_
7. No. masters candidates participating on project \_\_\_\_\_
8. No. masters candidates paid by activity \_\_\_\_\_
9. No. masters candidates on scholarships \_\_\_\_\_
10. No. masters theses based on activity \_\_\_\_\_
11. No. undergraduates participating in activity \_\_\_\_\_
12. No. undergraduates paid by activity \_\_\_\_\_
13. No. undergraduates on scholarships \_\_\_\_\_
14. Has the human test subject review been completed? \_\_\_\_\_

Please fill out this form as completely as possible and return to Miss S. Hilkey, 380 Willard Hall, Campus. Thank you.

## TERMINATION SUMMARY

1. Grant number: \_\_\_\_\_
2. Total amount expended: \$ \_\_\_\_\_
3. Amount unexpended: \$ \_\_\_\_\_
4. Category unexpended: \_\_\_\_\_
5. Amount overexpended: \$ \_\_\_\_\_
6. Category overexpended: \_\_\_\_\_
7. Renewed or continued?     Yes     No
8. Publication index: \_\_\_\_\_
9. Invention index: \_\_\_\_\_
10. Closing comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## FACULTY BANK SUMMARY FORM

1. Faculty member: \_\_\_\_\_  
(last name, first name, middle initial)
- 2.. Social Security Number: \_\_\_\_\_
3. University account: \_\_\_\_\_
4. Percent time AY support by agency: \_\_\_\_\_
5. Percent time AY support by University: \_\_\_\_\_
6. Percent time, summer months: \_\_\_\_\_
7. Project title: \_\_\_\_\_  
\_\_\_\_\_  
(optional if first-page descriptor used)
8. Sponsoring agency: \_\_\_\_\_
9. Contract amount: \$ \_\_\_\_\_
10. Controlling University department: \_\_\_\_\_
11. Principal Investigator?  Yes  No

DESCRIPTOR LIST

OFFICE OF RESEARCH SERVICES  
PROPOSALS

PROPOSAL INFORMATION DESCRIPTORS

General Proposal Information

- |                                   |      |
|-----------------------------------|------|
| 1. Item number                    | Both |
| 2. CU college submitting proposal | Name |
| 3. University department or org.  | Name |
| 4. University proposal number     | Name |
| 5. Day of receipt in ORS          | Both |
| 6. Month of receipt in ORS        | Code |
| 7. Year of receipt in ORS         | Both |
| 8. Day of routing                 | Both |
| 9. Month of routing               | Code |
| 10. Year of routing               | Both |
| 11. Agency submitted to           | Name |
| 12. Day of submission to agency   | Both |
| 13. Month of submission to agency | Code |
| 14. Year of submission to agency  | Both |
| 15. Agency deadline               | Name |
| 16. Activity leader               | Name |
| 17. Day of proposed start         | Both |
| 18. Month of proposed start       | Code |
| 19. Year of proposed start        | Both |
| 20. Day proposed project ends     | Both |
| 21. Month proposed project ends   | Code |
| 22. Year proposed project ends    | Both |
| 23. Duration of project           | Both |

24. Research and development category	Name	Basic research Applied research Development Equipment procurement Training Institute Other _____
25. Security classification	Code	1) Top secret 2) Secret 3) Confidential 4) Unclassified
26. Location of work	Name	Boulder campus, Denver center, etc.
27. Specific discipline	Name	See listing
28. Area of interest (problem relatedness)	Name	See listing
29. Procurement method	Code	1) Unsolicited 2) Request for proposal
30. Type of instrument	Code	1) Grant 2) Fixed-price contract 3) Cost contract
31. Cost of improvements or alterations	Both	Amt to nearest \$100
32. Radioactive sources	Name	Yes/No
33. Animal subjects	Name	Yes/No
34. Human subjects	Name	Yes/No
35. Hazardous materials	Name	Yes/No
36. Number of professional personnel on project	Both	
Agency Support Requested		
37. Professional AY support	Both	No. man-months
38. Professional summer support	Both	"
39. Student AY support	Both	"
40. Student summer support	Both	"
41. Technical support	Both	"
42. Administrative support	Both	"

43. Indirect cost rate	Name	<u>        </u> % of <u>                                </u>
44. Salaries and wages	Both	\$ amount
45. Fringe benefits	Both	"
46. Permanent equipment	Both	"
47. Expendable supplies	Both	"
48. Travel (domestic)	Both	"
49. Travel (foreign)	Both	"
50. Computer costs	Both	"
51. Publication costs	Both	"
52. Consultants	Both	"
53. Other direct costs	Both	"
54. Total direct costs	Both	"
55. Indirect costs	Both	"
56. Total requested from agency	Both	"
University Participation		
57. Professional AY support	Both	No. man-months
58. Other salaried support	Both	"
59. Category of other commitments	Name	"
60. Amount of other commitments	Both	\$ amount
61. Indirect cost reduction	Both	\$ amount
62. Total University contribution	Both	\$ amount
63. Total project cost	Both	\$ amount
64. Project title	Name	May be overlong
65. Project abstract	Name	Overlong descriptor, not over 200 words.

DESCRIPTOR LIST

OFFICE OF RESEARCH SERVICES  
AWARDED PROPOSALS

PROPOSAL INFORMATION DESCRIPTORS

General Proposal Information

- |                                   |      |
|-----------------------------------|------|
| 1. Item number                    | Both |
| 2. CU college submitting proposal | Name |
| 3. University department or org.  | Name |
| 4. University proposal number     | Name |
| 5. Day of receipt in ORS          | Both |
| 6. Month of receipt in ORS        | Code |
| 7. Year of receipt in ORS         | Both |
| 8. Day of routing                 | Both |
| 9. Month of routing               | Code |
| 10. Year of routing               | Both |
| 11. Agency submitted to           | Name |
| 12. Day of submission to agency   | Both |
| 13. Month of submission to agency | Code |
| 14. Year of submission to agency  | Both |
| 15. Agency deadline               | Name |
| 16. Activity leader               | Name |
| 17. Day of proposed start         | Both |
| 18. Month of proposed start       | Code |
| 19. Year of proposed start        | Both |
| 20. Day proposed project ends     | Both |
| 21. Month proposed project ends   | Code |
| 22. Year proposed project ends    | Both |
| 23. Duration of project           | Both |

24. Research and development category	Name	Basic research Applied research Development Equipment procurement Training Institute Other _____
25. Security classification	Code	1) Top secret 2) Secret 3) Confidential 4) Unclassified
26. Location of work	Name	Boulder campus, Denver center, etc.
27. Specific discipline	Name	See listing
28. Area of interest (problem relatedness)	Name	See listing
29. Procurement method	Code	1) Unsolicited 2) Request for proposal
30. Type of instrument	Code	1) Grant 2) Fixed-price contract 3) Cost contract
31. Cost of improvements or alterations	Both	Amt to nearest \$100
32. Radioactive sources	Name	Yes/No
33. Animal subjects	Name	Yes/No
34. Human subjects	Name	Yes/No
35. Hazardous materials	Name	Yes/No
36. Number of professional personnel on project	Both	
Agency Support Requested		
37. Professional AY support	Both	No. man-months
38. Professional summer support	Both	"
39. Student AY support	Both	"
40. Student summer support	Both	"
41. Technical support	Both	"
42. Administrative support	Both	"

43. Indirect cost rate	Name	<u>        </u> % of <u>                                </u>
44. Salaries and wages	Both	\$ amount
45. Fringe benefits	Both	"
46. Permanent equipment	Both	"
47. Expendable supplies	Both	"
48. Travel (domestic)	Both	"
49. Travel (foreign)	Both	"
50. Computer costs	Both	"
51. Publication costs	Both	"
52. Consultants	Both	"
53. Other direct costs	Both	"
54. Total direct costs	Both	"
55. Indirect costs	Both	"
56. Total requested from agency	Both	"
University Participation		
57. Professional AY support	Both	No. man-months
58. Other salaried support	Both	"
59. Category of other commitments	Name	"
60. Amount of other commitments	Both	\$ amount
61. Indirect cost reduction	Both	\$ amount
62. Total University contribution	Both	\$ amount
63. Total project cost	Both	\$ amount
64. University account number	Name	
65. Major organization/agency	Name	
66. Lesser organization/agency	Name	

67. Source of funds	Code	1) Federal 2) State 3) Foundation 4) Individual 5) Industry 6) County 7) City 8) Other
68. Agency account number	Name	
69. Day of award notice	Both	
70. Month of award notice	Code	1) January 2) February, etc.
71. Year of award notice	Both	
72. Type of instrument	Code	1) Grant 2) Fixed-price contract 3) Cost contract
73. Day of starting	Both	
74. Month of starting	Code	1) January, etc.
75. Year of starting	Both	
76. Duration of project	Both	No. months activity lasts
77. Day of termination	Both	
78. Month of termination	Code	1) January, etc.
79. Year of termination	Both	
80. Status	Code	1) New 2) Continued 3) Renewal
81. Year of continuation	Both	01, 02, 03, etc.
82. Renewal planned?	Name	Yes/No
83. Extension in time?	Name	No. months extension
84. No. professional personnel on project	Both	
Agency contribution		
85. Professional AY support	Both	No. man-months
86. Professional summer support	Both	"

87. Student AY support	Both	No. man-months
88. Student summer support	Both	"
89. Technical support	Both	"
90. Administrative support	Both	"
91. Indirect cost rate	Name	$\frac{\%}{}$ of _____
92. Salaries and wages	Both	\$ amount
93. Fringe benefits	Both	\$ amount
94. Permanent equipment	Both	\$ amount
95. Expendable supplies	Both	\$ amount
96. Travel (domestic)	Both	\$ amount
97. Travel (foreign)	Both	\$ amount
98. Computer costs	Both	\$ amount
99. Publication costs	Both	\$ amount
100. Consultants	Both	\$ amount
101. Other direct costs	Both	\$ amount
102. Total direct costs	Both	\$ amount
103. Indirect costs	Both	\$ amount
104. Total received from agency	Both	\$ amount
University contribution		
105. Professional AY support	Both	No. man-months
106. Professional summer support	Both	"
107. Student AY support	Both	"
108. Student summer support	Both	"
109. Technical support	Both	"
110. Administrative support	Both	"" "
111. Category of other commitments	Name	Budget category (excludes indirect cost reduction, tuition waiver/ reductions fringe benefits, etc.)

- |  |      |  |
|--|------|--|
| 112. Amount of other commitments                       | Both | \$ amount  |
| 113. Indirect cost reduction                           | Both | \$ amount  |
| 114. Total University contribution                     | Both | \$ amount  |
| 115. Total project cost                                | Both | \$ amount  |
| 116. Government equipment                              | Both | Amt. (if yes)/ No                                      |
| 117. Reporting data code                               | Code | 1) Monthly<br>2) Yearly<br>3) End of project           |
| 118. Date report(s) due                                | Name |  |
| 119. Building usage                                    | Name | Building (see abbreviation list)                       |
| 120. Room usage  | Name | Rooms  |
| 121. Human test-subject review completed?              | Name | Yes/No   |
| 122. No. doctoral candidates participating             |      |  |
| 123. No. doctoral candidates paid by activity          |      |  |
| 124. No. doctoral candidates on scholarships           |      |  |
| 125. No. dissertations based on activity               |      |  |
| 126. No. masters candidates participating              |      |  |
| 127. No. masters candidates paid by activity           |      |  |
| 128. No. masters candidates on scholarships            |      |  |
| 129. No. masters theses based on activity              |      |  |
| 130. No. undergraduates participating                  |      |  |
| 131. No. undergraduates paid by activity               |      |  |
| 132. No. of undergraduates on scholarships             |      |  |
| 133. Extraordinary support or other support to project | Name | Overlong descriptor to be of accumulative-comment form |
| 134. Project title                                     | Name | Overlong descriptor                                    |
| 135. Project abstract                                  | Name | Overlong descriptor (200 words or less)                |

DESCRIPTOR LIST

OFFICE OF RESEARCH SERVICES  
PROPOSALS

PROPOSAL INFORMATION DESCRIPTORS

General Proposal Information

1. Item number	Both
2. CU college submitting proposal	Name
3. University department or org.	Name
4. University proposal number	Name
5. Day of receipt in ORS	Both
6. Month of receipt in ORS	Code
7. Year of receipt in ORS	Both
8. Day of routing	Both
9. Month of routing	Code
10. Year of routing	Both
11. Agency submitted to	Name
12. Day of submission to agency	Both
13. Month of submission to agency	Code
14. Year of submission to agency	Both
15. Agency deadline	Name
16. Activity leader	Name
17. Day of proposed start	Both
18. Month of proposed start	Code
19. Year of proposed start	Both
20. Day proposed project ends	Both
21. Month proposed project ends	Code
22. Year proposed project ends	Both
23. Duration of project	Both

24. Research and development category	Name	Basic research Applied research Development Equipment procurement Training Institute Other _____
25. Security classification	Code	1) Top secret 2) Secret 3) Confidential 4) Unclassified
26. Location of work	Name	Boulder campus, Denver center, etc.
27. Specific discipline	Name	See listing
28. Area of interest (problem relatedness)	Name	See listing
29. Procurement method	Code	1) Unsolicited 2) Request for proposal
30. Type of instrument	Code	1) Grant 2) Fixed-price contract 3) Cost contract
31. Cost of improvements or alterations	Both	Amt to nearest \$100
32. Radioactive sources	Name	Yes/No
33. Animal subjects	Name	Yes/No
34. Human subjects	Name	Yes/No
35. Hazardous materials	Name	Yes/No
36. Number of professional personnel on project	Both	
Agency Support Requested		
37. Professional AY support	Both	No. man-months
38. Professional summer support	Both	"
39. Student AY support	Both	"
40. Student summer support	Both	"
41. Technical support	Both	"
42. Administrative support	Both	"

43. Indirect cost rate	Name	<u>        </u> % of <u>                                </u>
44. Salaries and wages	Both	\$ amount
45. Fringe benefits	Both	"
46. Permanent equipment	Both	"
47. Expendable supplies	Both	"
48. Travel (domestic)	Both	"
49. Travel (foreign)	Both	"
50. Computer costs	Both	"
51. Publication costs	Both	"
52. Consultants	Both	"
53. Other direct costs	Both	"
54. Total direct costs	Both	"
55. Indirect costs	Both	"
56. Total requested from agency	Both	"
University Participation		
57. Professional AY support	Both	No. man-months
58. Other salaried support	Both	"
59. Category of other commitments	Name	"
60. Amount of other commitments	Both	\$ amount
61. Indirect cost reduction	Both	\$ amount
62. Total University contribution	Both	\$ amount
63. Total project cost	Both	\$ amount
64. Project title	Name	May be overlong
65. Project abstract	Name	Overlong descriptor, not over 200 words.

## OFFICE OF RESEARCH SERVICES

May 28, 1969

DESCRIPTOR LIST~~AWARD DATA~~

## AWARD DATA

- |                               |      |   |
|-------------------------------|------|---|
| 1. (Item number)              | Both | Activity number<br>(Punch on separate card.)  |
| 2. University account number  | Name |   |
| 3. Major organization/agency  | Name |   |
| 4. Lesser organization/agency | Name |   |
| 5. Source of funds            | Code | 1) Federal<br>2) State<br>3) Foundation<br>4) Individual<br>5) Industry<br>6) County<br>7) City<br>8) Other |
| 6. Agency account number      | Name |   |
| 7. Day of award notice        | Both |   |
| 8. Month of award notice      | Code | 1) January<br>2) February, etc.   |
| 9. Year of award notice       | Both |   |
| 10. Type of instrument        | Code | 1) Grant<br>2) Fixed-price contract<br>3) Cost contract   |
| 11. Day of starting           | Both |   |
| 12. Month of starting         | Code | 1) January, etc.  |
| 13. Year of starting          | Both |   |
| 14. Duration of project       | Both | No. months activity lasts   |
| 15. Day of termination        | Both |   |
| 16. Month of termination      | Code | 1) January, etc.  |
| 17. Year of termination       | Both |   |
| 18. Status                    | Code | 1) New<br>2) Continued<br>3) Renewal  |

19. Year of continuation	Both	01, 02, 03, etc.
20. Renewal planned?	Name	Yes/No
21. Extension in time?	Name	No. months extension
22. No. professional personnel on project	Both	
<u>Agency contribution</u>		
23. Professional AY support requested	Both	No. man-months
24. Professional summer support	Both	"
25. Student AY support	Both	"
26. Student summer support	Both	"
27. Technical support	Both	"
28. Administrative support	Both	"
29. Indirect cost rate	Name	% of _____
30. Salaries and wages	Both	\$ amount
31. Fringe benefits	Both	\$ amount
32. Permanent equipment	Both	\$ amount
33. Expendable supplies	Both	\$ amount
34. Travel (domestic)	Both	\$ amount
35. Travel (foreign)	Both	\$ amount
36. Computer costs	Both	\$ amount
37. Publication costs	Both	\$ amount
38. Consultants	Both	\$ amount
39. Other direct costs	Both	\$ amount
40. Total direct costs	Both	\$ amount
41. Indirect costs	Both	\$ amount
42. Total received from agency	Both	\$ amount

University contribution

43. Professional AY support	Both	No. man-months
44. Professional summer support	Both	"
45. Student AY support	Both	"
46. Student summer support	Both	"
47. Technical support	Both	"
48. Administrative support	Both	"
49. Category of other commitments	Name	Budget category (excludes indirect cost reduction, tuition waiver/reductions, fringe benefits, etc.)
50. Amount of other commitments	Both	\$ amount
51. Indirect cost reduction	Both	\$ amount
52. Total University contribution	Both	\$ amount
53. Total project cost	Both	\$ amount
54. Government equipment	Both	Amt (if yes)/No
55. Reporting data code	Code	1) Monthly 2) Yearly 3) End of project
56. Date report(s) due	Name	
57. Space usage	Name	Building (see abbreviation list)
58. Space usage	Name	Rooms
59. Human test-subject review completed?	Name	Yes/No
60. No. doctoral candidates participating		
61. No. doctoral candidates paid by activity		
62. No. doctoral candidates on scholarships		

63. No. dissertations based on activity
64. No. masters candidates participating
65. No. masters candidates paid by activity
66. No. masters candidates on scholarships
67. No. masters theses based on activity
68. No. undergraduates participating
69. No. undergraduates paid by activity
70. No. undergraduates on scholarships

71. Extraordinary support or other support to project

Name

Overlong descriptor to be of accumulative-comment form

DESCRIPTOR LIST

OFFICE OF RESEARCH SERVICES  
AWARDED PROPOSALS

PROPOSAL INFORMATION DESCRIPTORS

General Proposal Information

1. Item number	Both
2. CU college submitting proposal	Name
3. University department or org.	Name
4. University proposal number	Name
5. Day of receipt in ORS	Both
6. Month of receipt in ORS	Code
7. Year of receipt in ORS	Both
8. Day of routing	Both
9. Month of routing	Code
10. Year of routing	Both
11. Agency submitted to	Name
12. Day of submission to agency	Both
13. Month of submission to agency	Code
14. Year of submission to agency	Both
15. Agency deadline	Name
16. Activity leader	Name
17. Day of proposed start	Both
18. Month of proposed start	Code
19. Year of proposed start	Both
20. Day proposed project ends	Both
21. Month proposed project ends	Code
22. Year proposed project ends	Both
23. Duration of project	Both

24. Research and development category	Name	Basic research Applied research Development Equipment procurement Training Institute Other _____
25. Security classification	Code	1) Top secret 2) Secret 3) Confidential 4) Unclassified
26. Location of work	Name	Boulder campus, Denver center, etc.
27. Specific discipline	Name	See listing
28. Area of interest (problem relatedness)	Name	See listing
29. Procurement method	Code	1) Unsolicited 2) Request for proposal
30. Type of instrument	Code	1) Grant 2) Fixed-price contract 3) Cost contract
31. Cost of improvements or alterations	Both	Amt to nearest \$100
32. Radioactive sources	Name	Yes/No
33. Animal subjects	Name	Yes/No
34. Human subjects	Name	Yes/No
35. Hazardous materials	Name	Yes/No
36. Number of professional personnel on project	Both	
Agency Support Requested		
37. Professional AY support	Both	No. man-months
38. Professional summer support	Both	"
39. Student AY support	Both	"
40. Student summer support	Both	"
41. Technical support	Both	"
42. Administrative support	Both	"

43. Indirect cost rate	Name	<u>    </u> % of <u>                    </u>
44. Salaries and wages	Both	\$ amount
45. Fringe benefits	Both	"
46. Permanent equipment	Both	"
47. Expendable supplies	Both	"
48. Travel (domestic)	Both	"
49. Travel (foreign)	Both	"
50. Computer costs	Both	"
51. Publication costs	Both	"
52. Consultants	Both	"
53. Other direct costs	Both	"
54. Total direct costs	Both	"
55. Indirect costs	Both	"
56. Total requested from agency	Both	"

## University Participation

57. Professional AY support	Both	No. man-months
58. Other salaried support	Both	"
59. Category of other commitments	Name	"
60. Amount of other commitments	Both	\$ amount
61. Indirect cost reduction	Both	\$ amount
62. Total University contribution	Both	\$ amount
63. Total project cost	Both	\$ amount
64. University account number	Name	
65. Major organization/agency	Name	
66. Lesser organization/agency	Name	

67. Source of funds	Code	1) Federal 2) State 3) Foundation 4) Individual 5) Industry 6) County 7) City 8) Other
68. Agency account number	Name	
69. Day of award notice	Both	
70. Month of award notice	Code	1) January 2) February, etc.
71. Year of award notice	Both	
72. Type of instrument	Code	1) Grant 2) Fixed-price contract 3) Cost contract
73. Day of starting	Both	
74. Month of starting	Code	1) January, etc.
75. Year of starting	Both	
76. Duration of project	Both	No. months activity lasts
77. Day of termination	Both	
78. Month of termination	Code	1) January, etc.
79. Year of termination	Both	
80. Status	Code	1) New 2) Continued 3) Renewal
81. Year of continuation	Both	01, 02, 03, etc.
82. Renewal planned?	Name	Yes/No
83. Extension in time?	Name	No. months extension
84. No. professional personnel on project	Both	
Agency contribution		
85. Professional AY support	Both	No. man-months
86. Professional summer support	Both	"

87. Student AY support	Both	No. man-months
88. Student summer support	Both	"
89. Technical support	Both	"
90. Administrative support	Both	"
91. Indirect cost rate	Name	<u>        </u> % of <u>        </u>
92. Salaries and wages	Both	\$ amount
93. Fringe benefits	Both	\$ amount
94. Permanent equipment	Both	\$ amount
95. Expendable supplies	Both	\$ amount
96. Travel (domestic)	Both	\$ amount
97. Travel (foreign)	Both	\$ amount
98. Computer costs	Both	\$ amount
99. Publication costs	Both	\$ amount
100. Consultants	Both	\$ amount
101. Other direct costs	Both	\$ amount
102. Total direct costs	Both	\$ amount
103. Indirect costs	Both	\$ amount
104. Total received from agency	Both	\$ amount
University contribution		
105. Professional AY support	Both	No. man-months
106. Professional summer support	Both	"
107. Student AY support	Both	"
108. Student summer support	Both	"
109. Technical support	Both	"
110. Administrative support	Both	" " "
111. Category of other commitments	Name	Budget category (excludes indirect cost reduction, tuition waiver/ reductions, fringe benefits, etc.)

112. Amount of other commitments	Both	\$ amount
113. Indirect cost reduction	Both	\$ amount
114. Total University contribution	Both	\$ amount
115. Total project cost	Both	\$ amount
116. Government equipment	Both	Amt. (If yes)/ No
117. Reporting data code	Code	1) Monthly 2) Yearly 3) End of project
118. Date report(s) due	Name	
119. Building usage	Name	Building (see abbreviation list)
120. Room usage	Name	Rooms
121. Human test-subject review completed?	Name	Yes/No
122. No. doctoral candidates participating		
123. No. doctoral candidates paid by activity		
124. No. doctoral candidates on scholarships		
125. No. dissertations based on activity		
126. No. masters candidates participating		
127. No. masters candidates paid by activity		
128. No. masters candidates on scholarships		
129. No. masters theses based on activity		
130. No. undergraduates participating		
131. No. undergraduates paid by activity		
132. No. of undergraduates on scholarships		
133. Extraordinary support or other support to project	Name	Overlong descriptor to be of accumulative-comment form
134. Project title	Name	Overlong descriptor
135. Project abstract	Name	Overlong descriptor (200 words or less)