GENERAL ELECTRIC
COMPUTERS

GE-625/635
PERT/COST

ADVANCE INFORMATION

GENERAL ELECTRIC

XCPB-1384

GE-625/635
PERT/COST

REFERENCE MANUAL

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PREFACE

The GE-625/635 PERT/COST advance information manual, XCPB-1384, is published to provide general information for programmers and systems analysts using General Electric PERT/COST written for the GE-625/635 operating system.

This manual supersedes the GE-625/635 PERT/COST advance information manual, XCPB-1190.

Suggestions and criticisms relative to form, content, purpose, or use of this manual are invited. Comments may be sent on the Document Review Sheet in the back of this manual or may be addressed directly to Documentation Standards and Publications, B-90, Computer Equipment Department, General Electric Company, 13430 North Black Canyon Highway, Phoenix, Arizona 85029.

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ILLUSTRATIONS

1. INTRODUCTION

Management, in attempting to make more effective use of manpower and money, has become interested in the Program Evaluation and Review Technique (PERT) originated in 1958 by the U. S. Navy for use in the Polaris Missile System development.

In response to requests for such a system, General Electric provides PERT/TIME and PERT/COST programs for the GE-625/635 computers.

Information concerning the PERT/TIME program may be found in the GE-625/635 PERT/TIME reference manual, CPB-1139, and the GE-625/635 PERT/TIME system support information manual, CPB-1192.

The GE-625/635 PERT/COST program design is based on the specifications in the DOD and NASA GUIDE PERT/COST Systems Design manual, June 1962, and the Supplement No. 1 to DOD and NASA GUIDE PERT/COST Output Reports manual, March 1963.

These manuals and three volumes in the USAF PERT series -- Volume III, PERT/COST System Description Manual, December 1963, Volume IV, PERT/COST System Computer Handbook, Part 1, December 1963, and Volume V, PERT Implementation Manual, April 1964 -- provide a detailed description of the use of the PERT/COST system. All of these manuals are obtainable from the Superintendent of Documents, Pentagon Building, Washington, D. C.

HARDWARE REQUIREMENTS

System configuration requirements for the GE-625/635 PERT/COST program are:

- Central processor with 45k core storage for PERT/COST exclusive of the system software;
- Card reader;
- Printer;
- Minimum of 5 to 7 utility tapes and disc, or
- Maximum of 14 magnetic tapes with no disc. (See "File Requirements" in Chapter 5 for further clarification.)

SUPPORT PROGRAM REQUIREMENTS

The GE-625/635 PERT/COST system is operated under the control of the GE-625/635 Comprehensive Operating Supervisor (GECOS). Information regarding the GE-625/635 operating environment may be found in the following manuals:

GE-625/635 Programming Reference Manual, CPB-1004;

GE-625/635 General Loader, CPB-1008;

GE-625/635 Comprehensive Operating Supervisor, CPB-1195;

GE-625/635 File and Record Control, CPB-1003;

GE-625/635 System Editor, CPB-1138.

2. BASIC CONCEPTS

To use the GE-625/635 PERT/COST program the work to be performed must be defined in terms of work breakdown, work packages, and relationship of cost information to existing network and TIME information.

WORK BREAKDOWN

Before using PERT/COST, the relationship between a project and its dependent components is drawn in the manner shown in Figure 1. This is known as a work breakdown structure.

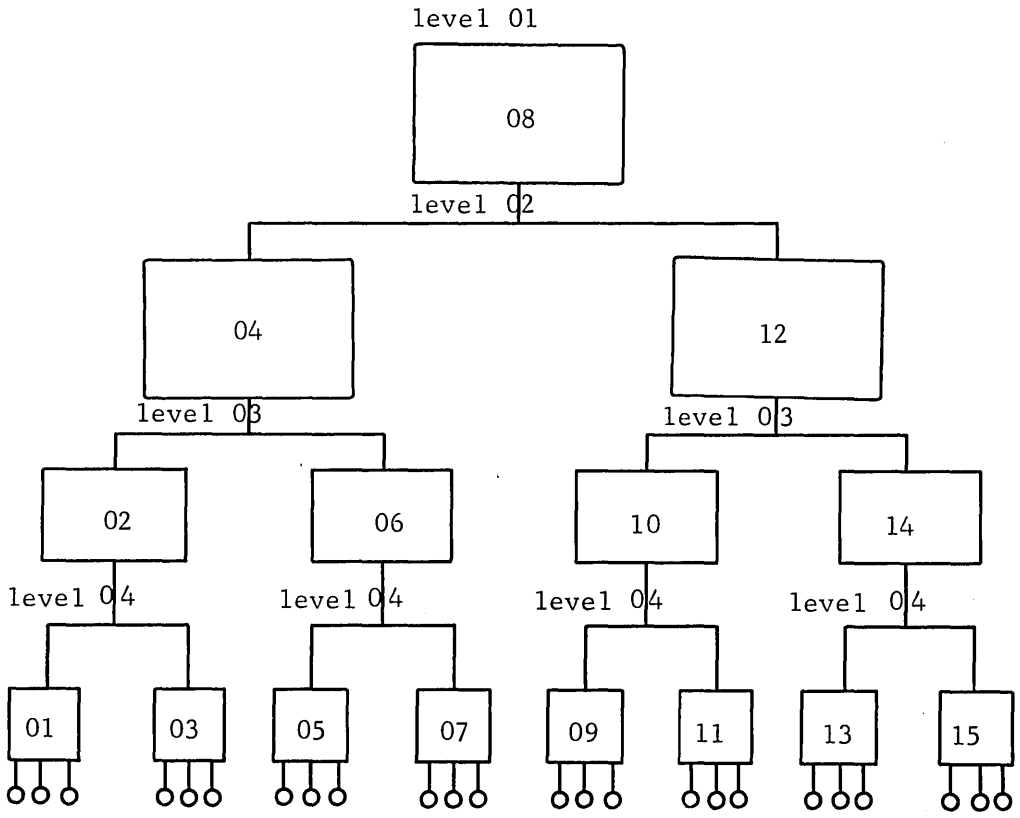

Figure 1. Sample Work Breakdown Structure

The major end item, representing a project or unit most convenient for the user's needs, is broken down successively into smaller end items and eventually into work packages.

Summary Item

Each end item, into which costs are summarized up the work breakdown structure, is known as a summary item. In Figure 1, there are fifteen summary items.

Summary Number

Each summary item is given a unique summary number. The summary number represents an item into which costs are accumulated.

Level

The level number represents the position of the work package or summary item within the work breakdown structure. The highest summary item in the structure is always assigned to level 1. Each successively lower summary item is on a lower level. Level numbers may not exceed two digits.

Parents

Each summary item is the parent to the item below it. A parent summary number must be at a higher level than that of any of its children. An error and program halt occurs if a parent is not on a higher level than any of its children. The program gives a warning diagnostic if the level code of a charge or summary number is not on the next level below that of its parent, or a charge or summary number has no parent (unless the summary number is on level 1). In Figure 1, summary number 08 is a parent to summary numbers 04 and 12; summary number 04 is a parent to summary numbers 02 and 06.

Work Package

The lowest level items are the work packages. They represent the level necessary for effective control. Each work package corresponds to the activity or group of activities denoted by a start event and an end event in a PERT/TIME network. In PERT/COST a work package is defined by a unique charge number, performing organization, resource code combination. The small circles in Figure 1 represent the work packages.

Charge Number

The charge number is a unique work package cost identification. It is used only for elementary items in the work breakdown structure (i.e., a summary number having no children, such as summary numbers 01, 03, and 05 in Figure 1).

Performing Organization

The performing organization is the organization which actually does the work involved or provides the resource involved.

Resource Code

The resource code represents the type of resource used in the work package, such as material or labor.

Reporting Organization

The reporting organization is the organization that prepares the cost estimates, that is, the organization represented by the contract number.

Responsible Organization

The responsible organization is the organization that is responsible for accomplishing the work package (the organization that manages the work).

COST ESTIMATES

After the work breakdown structure has been defined, cost estimates must be prepared for each work package, taking into consideration the available manpower and resources in order to perform the job in the required amount of time. The cost piece is applied to a unique charge number, performing organization, resource code combination. Its most frequent application is at the elementary level. It could, however, be applied at any summary level.

In the sample work breakdown structure shown in Figure 1, cost estimates assigned to summary numbers 01, 03, 05, and 07 provide enough information for the PERT/COST program to provide cost estimates for summary numbers 02 and 06 which in turn provide enough information for a cost estimate for summary number 04.

USING PERT/COST

The PERT/COST program is used to develop realistic cost pictures, allocate manpower and resources to better advantage, and identify areas which might involve costly delays.

Establishing the Basic Information

When starting a new PERT/COST structure, the level, parent, and description of each work breakdown structure unit should be included. Resource estimates, budgeted values, and any existing TIME information are entered at this time in order to build an adequate master file. Actual costs may be added as they become available.

Using the Options

The usefulness of the PERT/COST structure may be increased by adding valuable information to the master file, such as:

- start and end dates and events,
- responsible organization and contract number,
- special rates to be applied to budget and estimate cost pieces,
- cost categories that include several resource codes,
- overhead percentages applied to specific levels, or
- report, cutoff, or release dates for reports.

Using the Cycling Feature

PERT/COST can be used to its greatest advantage after the information has been built onto the master file. Management can see where revised schedules and estimates have to be made, using PERT/COST to evaluate and improve existing plans. This is accomplished by regular study of estimated cost to completion, by comparing estimated, budgeted, and actual costs, and by comparing estimated and actual time of each associated network activity.

NORMAL LOGIC FLOW

Figure 2 shows the type of information used as input to PERT/COST and the kind of output that may be requested.

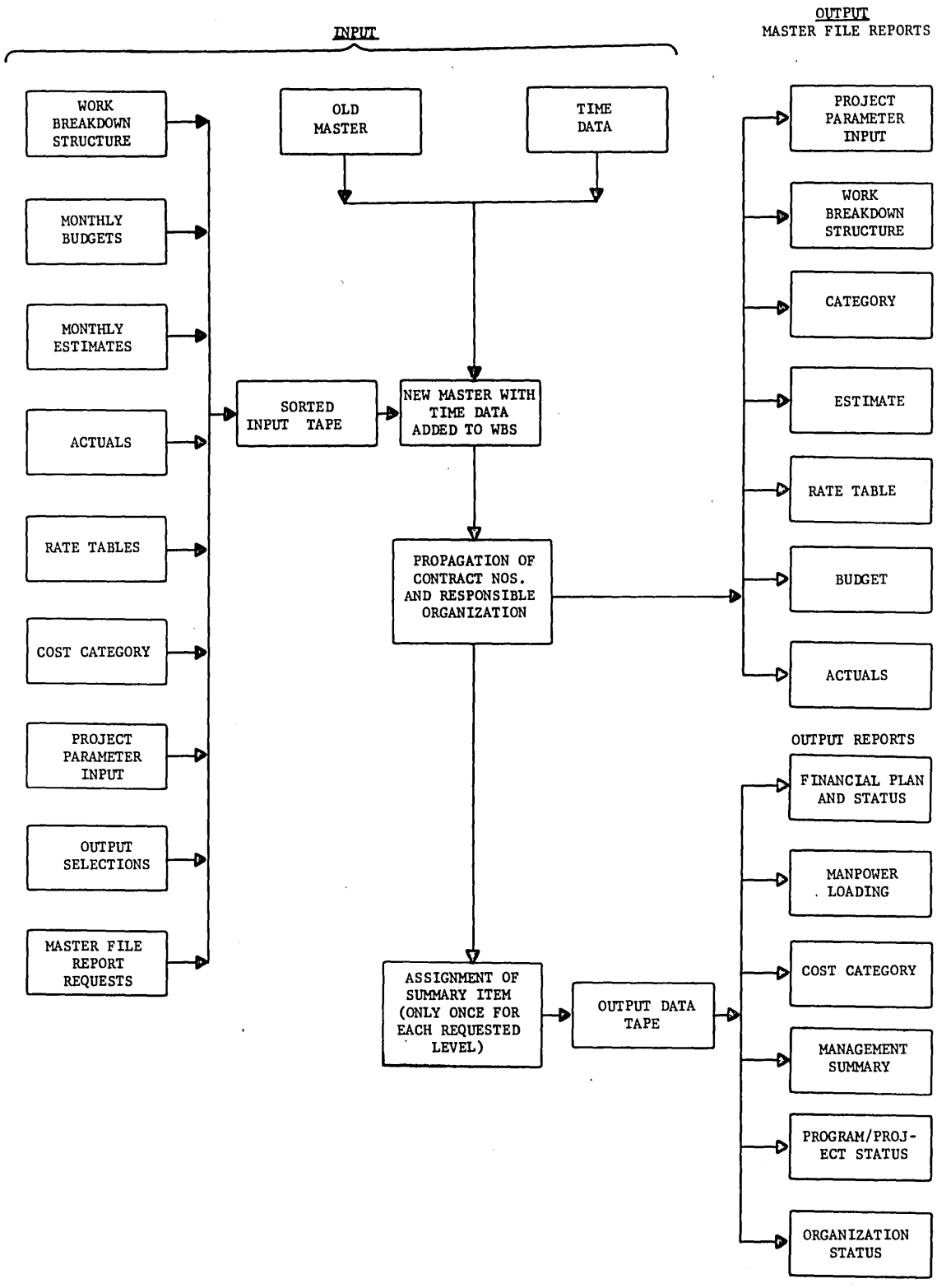

Figure 2. Normal Logic Flow

LIMITATIONS

Table sizes and input formats for the GE-625/635 PERT/COST program permit maximums of:

- 99 levels,
- 1000 charge or summary numbers,
- 364 resource codes for each category,
- 156 resource estimates,
- 156 budget values, and
- 156 months span in the rate table.

The master file and the TIME file are each limited to one reel of tape.

3. INPUT DESCRIPTION

There are nine types of input cards. These are listed below with their card type identifiers.

W = Work breakdown structure card

4 = Estimating card

5 = Budget card

M = Master file information

P = Project parameter input card

O = Output request card

6 = Cost category card

R = Rate table card

A = Actual card

CODING FORMS

There are five coding forms available for the GE-625/635 PERT/COST input cards:

- CE-232 for work breakdown structure cards (see Figure 3);
- CE-233 for estimating and budget cards (see Figure 4);
- CE-234 for master file information, project parameter input cards, and output request cards (see Figure 5);
- CE-235 for cost category and rate table cards (see Figure 6);
- CE-236 for actual cards (see Figure 7).

The input cards are described in detail on the following pages.

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WORK BREAKDOWN CARDS

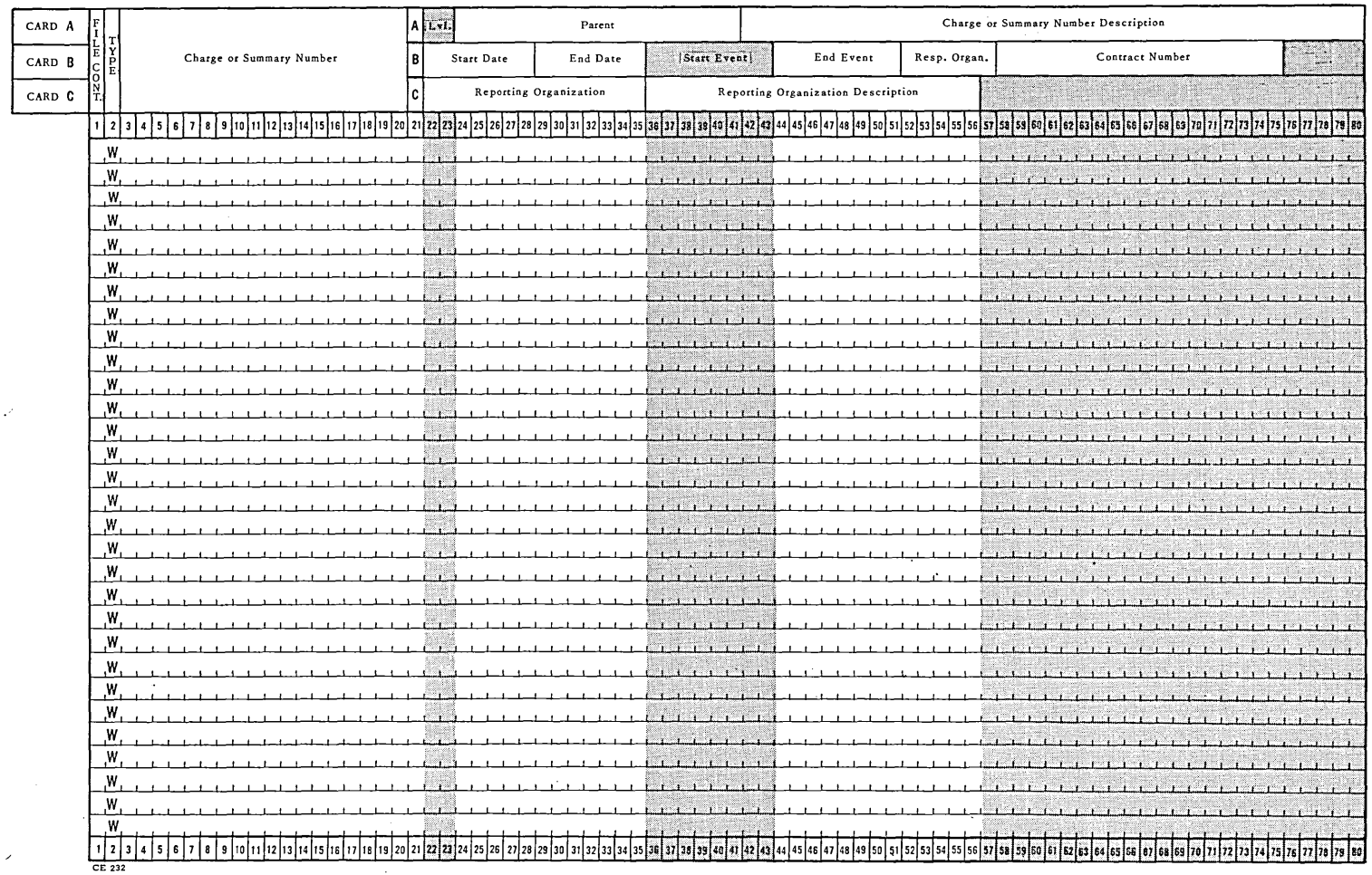

Figure 3. Work Breakdown Structure Coding Form

WORK BREAKDOWN STRUCTURE CARD 1

The first work breakdown structure card is used to indicate the level, parent, and description of a particular charge or summary number. There must be one of these cards for each charge or summary number when building the file or when adding a new charge or summary number.

DATA	COLUMNS	DESCRIPTION
File control	1	The column 1 file control field is restricted to the following characters: D = deletion; a deletion prevents the old master file card identified by this card type, control field, and sequence column from appearing on the new master. The remainder of this card is not used. blank or A = addition to the master file; C = changes to cards already on the master file. In addition to the card type, the control field, and the sequence column, the only information necessary on a card headed by a C is that which has changed. Ignored fields are updated with the information which appears on the old master file.
Card type	2	This column contains a W for work breakdown structure card.
Charge or summary number	3-20	This field contains a unique designation of the particular item or element of the work breakdown structure being defined.
Sequence	21	An A indicates that this is the first work breakdown structure card for this charge or summary number.
Level	22-23	This field contains the number of the tier or level on the work breakdown structure at which this charge or summary number appears.

DATA	COLUMNS	DESCRIPTION
Parent	24-41	Enter the summary number of the higher item on the program breakdown into which the time and cost data for this item are summarized. If the parent is not at the next higher level, a precautionary diagnostic will be produced and normal processing will continue.
Charge or summary number description	42-80	This field contains an alphanumeric description of the summary item being defined.

WORK BREAKDOWN STRUCTURE CARD 2

The second work breakdown structure card is used to indicate the start and end dates and start and end events that correspond to the TIME network. It also includes the responsible organization and the contract number for this charge or summary number. This card must be present when using budget or estimate cards; otherwise it is optional.

DATA	COLUMNS	DESCRIPTION
File control	1	See work breakdown structure card 1.
Card type	2	This column contains a W for work breakdown structure card.
Charge or summary number	3-20	This is the same as work breakdown structure card 1.
Sequence	21	This column contains a B for second work breakdown structure card for this charge or summary number.
Start date	22-28	Enter the scheduled start date for this charge or summary number in day, month, year order (01JUN67). This date indicates when the monthly type costs (card types 4 and 5) applicable to this charge or summary number are to be applied.
End date	29-35	Enter the scheduled finish date for this charge or summary number in day, month, year order (03JUN67).
Start event	36-43	This field contains the network event corresponding to the start of this charge or summary number.

DATA	COLUMNS	DESCRIPTION
End event	44-51	This field contains the network event corresponding to the end of this charge or summary number.
Responsible organization	52-57	Enter the internal organization responsible for the accomplishment of the work defined by the charge or summary number.
Contract number	58-75	Enter the numeric designation, or a representative code, for the contract(s) or agreement(s) included in each report.
	76-80	Not used.

WORK BREAKDOWN STRUCTURE CARD 3

The third work breakdown structure card is used to indicate the reporting organization identifier and description. This card is optional.

DATA	COLUMNS	DESCRIPTION
File control	1	See work breakdown structure card 1.
Card type	2	This column contains a W for work breakdown structure.
Charge or summary number	3-20	This is the same as work breakdown structure card 1.
Sequence	21	Enter C for third work breakdown structure card for this charge or summary number.
Reporting organization	22-35	This field contains the designation of the total (or part of the total) system program or project that is identified with the reporting organization (i.e., the contractor).
Reporting organization description	36-56	Enter an alphanumeric name or identification of the organization responsible for the work identified in the contract number.
	57-80	Not used.

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ESTIMATING AND BUDGET CARDS

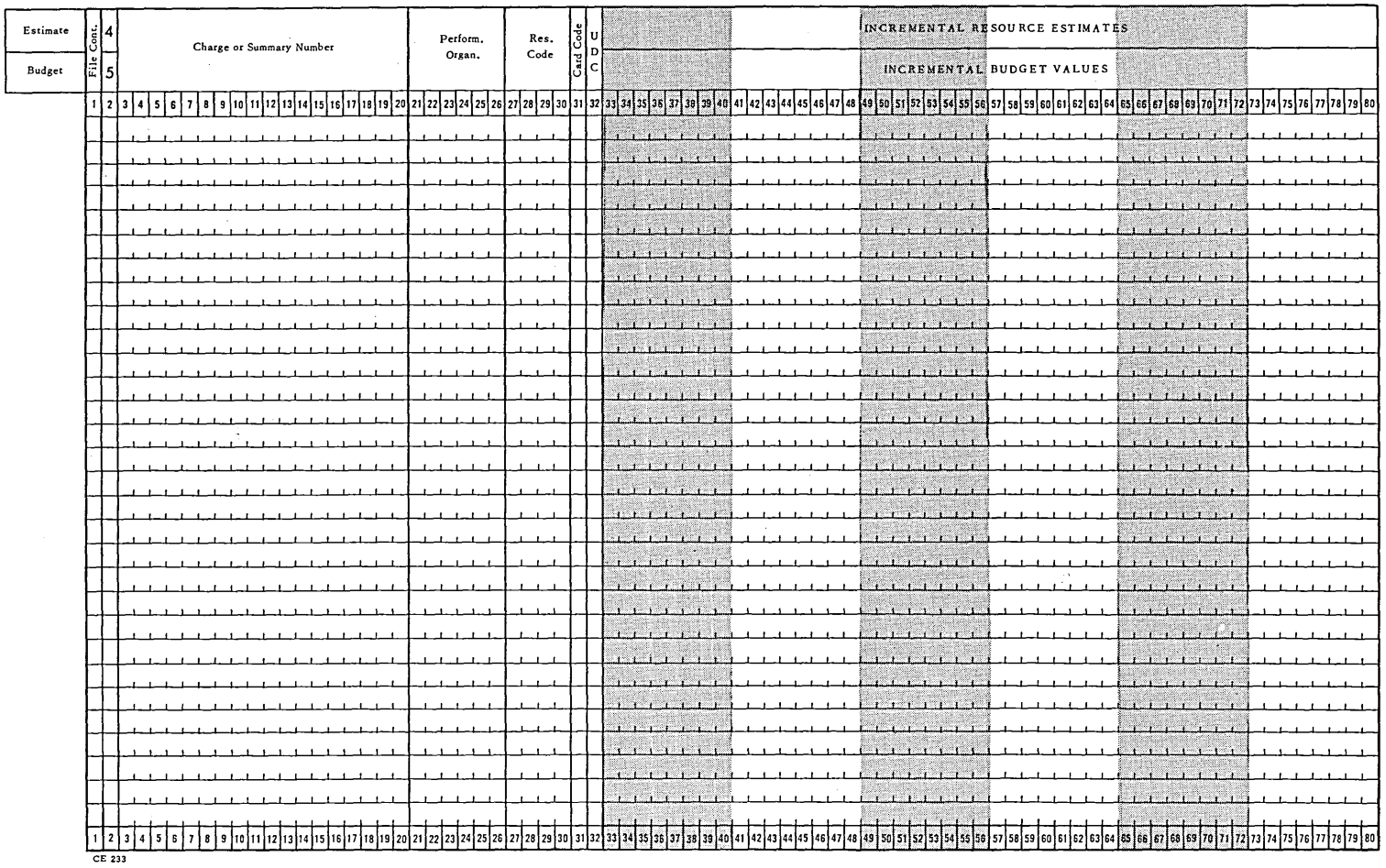

Figure 4. Estimating and Budget Coding Form

ESTIMATING CARD

The estimating card is used to enter resource estimates for specific reporting cycles in their relationship to the scheduled start date of the summary or charge number. There may be none or up to 26 of these cards.

DATA	COLUMNS	DESCRIPTION
File control	1	See work breakdown structure card 1.
Card type	2	Enter 4 for estimating card.
Charge or summary number	3-20	This is the same as work breakdown structure card 1.
Performing organization	21-26	Enter the identification of the department or organization that will do the work.
Resource code	27-30	This field contains the identification of the particular manpower skill or material type used by the performing organization.
Card code	31	The card code is directly related to the resource estimates in columns 33-80. For the first six reporting cycles (the first cycle representing the scheduled start date) the card code is A; for cycles seven through twelve the card code is B, etc. The maximum number of cards is 26. Each card must be assigned a unique letter in ascending order beginning with A.
UDC	32	The Unit Description Code (UDC) is an identifier of the types of values appearing further on this card. The characters which are permitted in this field are: H = labor (man)-hours M = man-months D = direct dollars T = total dollars In order to effect a conversion, such as man-hours to direct dollars, the character entered in this column must be correlated to the corresponding performing organization, resource code entries in the rate table. Note that, if man-months are indicated, the proper conversion in the hour-month tables is performed.

DATA	COLUMNS	DESCRIPTION
Resource estimates	33-40 41-48 49-56 57-64 65-72 73-80	The values placed in these six fields will be automatically assigned to specific reporting cycles in reference to the scheduled start date of the summary or charge number. (For further details, see the explanation for card code of this card.)

BUDGET CARD

The budget card is used to enter budget values for specific reporting cycles in their relationship to the scheduled start date of the summary or charge number. There may be none or up to 26 of these cards.

DATA	COLUMNS	DESCRIPTION
File control	1	See work breakdown structure card 1.
Card type	2	Enter 5 for budget card.
Charge or summary number	3-20	This is the same as work breakdown structure card 1.
Performing organization	21-26	This field contains the identification of the department or organization that will do the work.
Resource code	27-30	Enter the identification of the particular manpower skill or material type used by the performing organization.
Card code	31	The card code is directly related to the budget values in columns 33-80. For the first six reporting cycles (the first cycle representing the scheduled start date), the card code is A; for cycles seven through twelve the card code is B, etc. The maximum number of cards is 26. Each card must be assigned a unique letter in ascending order beginning with A.
UDC	32	See the UDC field in the estimating card for UDC values and their meanings.
Budget values	33-40 41-48 49-56 57-64 65-72 73-80	The values placed in these 6 fields will be automatically assigned to specific reporting cycles in reference to the scheduled start date of the summary or charge number. (For further details, see the explanation for card code on this card.)

NOTE: A value of work option in column 52 of the Project Parameter Input card was added after this form was printed. See the input data description for values to be entered in this field.

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MASTER FILE INFORMATION CARD

Columns	Field
1	
2	TYPE (M)
3	
4–9	Old Master
10–15	New Master
16–21	New Time
22	UPDATE
23	PPI MFR.
24	WBS MFR.
25	EST MFR.
26	BUD MFR.
27	ACT MFR.
28	RATE MFR.
29	CAT MFR.
30–80	

PROJECT PARAMETER CARD

Columns	Field
1	File Cont.
2	TYPE (P)
3	SEQ.
4–10	Overhead % No. 1
11–12	LVL
13–19	Overhead % No. 2
20–21	LVL
22–35	Term (Span)
36–42	Cutoff Date
43–51	Release Date
52–80	

OUTPUT REQUEST CARDS

Columns	Field
1	
2	TYPE (Ø)
3	
4–5	Man. Sum.
6–7	Proj. Stat.
8–9	Organ. Status: RCPR
10–11	Organ. Status: PCRR
12–13	Organ. Status: PC
14–15	Organ. Status: CP
16–17	Fin. Plan: MC
18–19	Fin. Plan: M
20–21	Manpower Load: RMPC
22–23	Manpower Load: RM
24–25	Manpower Load: PMR
26–27	Cost Cat.
28–80	

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Figure 5. Master File, Project Parameter, and Output Request Coding Form

MASTER FILE INFORMATION CARD

There is only one master file information card. It indicates which files are present in this running and requests various master file reports.

DATA	COLUMNS	DESCRIPTION
File control	1	This column is of no significance on this card.
Card type	2	This column contains an M for master file.
Sequence	3	Since one card is sufficient to define the necessary parameters for this card type, this column is normally blank. Unlike most card types this card is not entered onto the master file, and numeric sequence entries have no meaning.
Old master	4-9	Any entry in this field indicates that an old master file is present. WARNING: If this card is not present or this field is left blank and there is an existing old master file, it will be destroyed.
New master	10-15	Any entry in this field indicates that the user wants to save the generated new master file. The necessary control card ($ TAPE) must be entered in the file control section.
New TIME file	16-21	Any entry in this field indicates that a new TIME file from the GE-625/635 PERT/TIME program is present. This must be file 07 from that program sorted in event number order. Any TIME information from the old master file is dropped and new information is selected from the new TIME file as needed. The entire TIME file is copied onto the new master file for possible future reference. If these six columns are ignored, any existing TIME data is copied from the old master file onto the new master file and the indicated information is made available for the output sections.
Update run	22	Any entry into this field causes "current cycle" actuals appearing on the old master to be added into the "all previous" actuals as the new master is written. Actuals appearing on update cards on this run are accumulated into the current cycle.

DATA	COLUMNS	DESCRIPTION
Master file reports	23-29	Any entry in the appropriate column causes the below-named report to be generated.
	23	Project parameter input report
	24	Work breakdown structure report
	25	Estimate report
	26	Budget report
	27	Actual report
	28	Rate report
	29	Category report
	30-80	Not used.

PROJECT PARAMETER INPUT CARD

There is only one project parameter input card. It is used to enter various parameters for each project. These items include overhead percent numbers and their levels, the term of the increment, cutoff date, and release date.

DATA	COLUMNS	DESCRIPTION
File control	1	This field has no significance on this card.
Card type	2	This column contains a P for charge or summary number category.
Sequence	3	An entry of A defines the first of the project parameter input cards. Currently, only one exists, and this field may be ignored.
Overhead percent number 1	4-10	This is a general percentage factor to be applied to the total of budget and estimate costs applied to (or summing into) an end item. A decimal point is assumed between the third and fourth characters.
Applicable level	11-12	This field defines the level at which the overhead percent number 1 applies. All costs applied to (or summing into) end items at this level will be increased by the indicated percentage.
Overhead percent number 2	13-19	This is an independent percentage factor but similar to overhead percent number 1.

DATA	COLUMNS	DESCRIPTION
Applicable level	20-21	This is the level at which overhead percent number 2 applies.
Term (Span)	22-35	This is the beginning and ending date for the total increment being covered in the report (01JAN6631DEC66). If the total project time is covered, the comment TOTAL PROGRAM may be used.
Cutoff date	36-42	This is the cutoff date for the period of actual costs being reported.
Release date	43-51	This is the date that the report is to be released to management. In the event of subsequent rerun and redistribution of reports, it is permissible to suffix the report release date with a revision number.
Value of work option	52	Three options are available for the value of work performed calculation. This option is specified by a 1, 2, or 3 for the following results. 1 = The value of work performed is calculated for each performing organization/resource code combination and totals accumulated up the work breakdown structure. 2 = The value of work performed is calculated at the summary or charge number level and accumulated up the work breakdown structure. 3 = The value of work performed is calculated on the totals accumulated at each level of the work breakdown structure. If no option is specified, option 2 will be used.
	53-80	Not used.

OUTPUT REQUEST CARD

The output request card indicates which output reports are needed from this running. These reports include the management summary report, the program/project status report, four possible varieties of organization status reports, two possible financial plan and status reports, three possible manpower loading reports, and a cost category status report.

DATA	COLUMNS	DESCRIPTION
File control	1	This field has no significance on this card.
Card type	2	This column contains an Ø for output request card.
Sequence	3	This column must contain an alphabetical sequencing for each card used. Unlike most card types this card is not entered onto the master file, and numeric sequence entries have no meaning. Up to ten output request cards may be used, and letters may be skipped.
Output report requests	4-27	Output reports are requested by level. Enter the level at which each report is desired in the appropriate columns as listed below. If a report is desired at more than one level, multiple output request cards must be used.
	4-5	Management summary report.
	6-7	Program/project status report.
	8-9	Responsible organization, charge number, performing organization, resource code.
Organization status reports	10-11	Performing organization, charge number, responsible organization, resource code.
	12-13	Performing organization, charge number.
	14-15	Charge number, performing organization.
	16-17	Financial plan and status report by month and charge.

DATA	COLUMNS	DESCRIPTION
	18-19	Financial plan and status report by month.
Manpower loading reports	20-21	Resource, month, performing organization, charge number.
	22-23	Resource, month.
	24-25	Performing organization, month, resource.
	26-27	Cost category status report.
	28-80	Not used.

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RATE TABLE AND CATEGORY CARDS

CATEGORY / RATE TABLE	FILE CONT.	6 / R	CATEGORY IDENT. / PERFORM. ORGAN.	RES. CODE	EFFECT. DATE	BEG	SEQ.	SEQ.	CATEGORY MEMBERS: UNIT CONV. FACTOR	OVERHEAD UNIT CONV. FACTOR	OVERHEAD CONV. %
1	2	3 4 5 6 7 8	9 10 11 12	13 14 15 16 17	18	19	20 21 22 23 24 25 26 27 28 29 30	31 32 33 34 35 36 37 38 39 40 41	42 43 44 45 46 47 48	49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80	

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Figure 6. Rate Table and Category Coding Form

CATEGORY CARD

There are times when it is convenient for the user to see cost data grouped according to its resources rather than by the organization involved. The category card permits the user to group similar resources into categories for reporting purposes. This card is optional. When it is used, there can be more than one of these cards.

DATA	COLUMNS	DESCRIPTION
File control	1	See work breakdown structure card 1.
Card type	2	Enter 6 for category.
Category identification	3-20	This is an alphanumeric identifier for this category.
Sequence	21	Since more than one card might be necessary to define the parameters for this card type, this sequence field must contain an alphabetical sequencing for each card used. Up to 26 cards may be used to define up to 364 category members (i.e., resource codes for each category). Letters may be skipped.
Category number	22-25	Each alphabetically sequenced card defines up to 14 resource codes belonging to this category. A card does not have to be full, even though it is followed by later cards in the sequence.
	26-29	
	30-33	
	34-37	
	38-41	
	42-45	
	46-49	
	50-53	
	54-57	
	58-61	
	62-65	
	66-69	
	70-73	
	74-77	
	78-80	Not used.

RATE TABLE CARD

The rate table card is used to enter rates to be applied to budget and estimate cost pieces. This card is optional.

DATA	COLUMNS	DESCRIPTION
File control	1	See work breakdown structure card 1.
Card type	2	Enter R for rate table card.
Performing organization	3-8	This field contains the identification of the department or organization that will do the work.
Resource code	9-12	This field contains the identification of the particular manpower skill or material type used by the performing organization.
Effective date	13-17	This is the date in month, year order (JUN66) that the rate described on this card takes effect. This rate takes precedence over any chronologically previous rate for cost pieces falling in this time period.
Budget or estimate	18	This column allows different rates to be applied to budget and estimate cost pieces. A blank entry specifies that the rate entry is applicable to both budget and estimate. A "B" indicates the rate is for budget only; an "E" indicates estimate only.
Sequence	19	Since one card is sufficient to define the necessary parameters for this card type, this column is normally blank.
Unit conversion factor	20-30	This is the number of equivalent dollars per unit for this rate. A decimal point is assumed between the eighth and ninth digits.
Overhead unit conversion	31-41	This is the overhead unit conversion amount for this rate. A decimal point is assumed between the eighth and ninth digits.
Overhead conversion percent	42-48	The dollar amount as obtained through the unit conversion factor will be raised by this indicated percentage. A decimal point is assumed between the third and fourth digits. An entry in the overhead unit conversion factor causes this field to be ignored.
	49-80	Not used.

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ACTUAL CARDS

FILE CONT.	TYPE	CHARGE OR SUMMARY NUMBER	PERFORMING ORGAN.	RES. CODE	SEQ.	UDC	SIGN	UNIT AMOUNT	
1	2	3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	21 22 23 24 25 26	27 28 29 30	31	32	33	34 35 36 37 38 39 40 41	42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80
	A								
	A								
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1	2	3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	21 22 23 24 25 26	27 28 29 30	31	32	33	34 35 36 37 38 39 40 41	42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

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Figure 7. Actual Cards Coding Form

ACTUAL CARD

The actual card is used to enter the number of units that are to be converted into dollars.

DATA	COLUMNS	DESCRIPTION
File control	1	See work breakdown structure card 1.
Card type	2	This column contains an A for actual card.
Charge or summary number	3-20	This is the same as work breakdown structure card 1.
Performing organization	21-26	Enter the identification of the department or organization that will do the work.
Resource code	27-30	Enter the identification of the particular manpower skill or material type used by the performing organization.
Sequence	31	Since one card is sufficient to define the necessary parameters for this card type, this column is normally blank.
UDC	32	See the UDC field in the estimating card for UDC values and their meanings.
Sign	33	If a minus sign is entered here the unit amount will be subtracted from the current actuals carried on the old master to correct previous amounts erroneously entered. If this column is left blank or a plus sign is entered, the values are added to those on the old master.
Unit amount	34-41	This is the number of units (man-hours, for example) that are to be converted to dollars. The conversion depends on the specific UDC code entered.
	42-80	Not used.

SUMMARY OF INPUT REQUIREMENTS

The project parameter input, master file information, and output request cards are always required in running a PERT/COST cycle. For usage of the remaining cards see Figure 8. Note that when entering any cost data, there must either have been a WBS2 card entered previously, or else one must be entered on this running.

	WBS1	WBS2	WBS3	EST	BUD	ACT	RATE	CATEGORY
When entering a new charge or summary no.	R	0	0					
When entering cost estimates	*	*	0	R			0	
When entering budgeted costs	*	*	0		R		0	
When entering actual costs	*	0	0			R		
When special rates are to be applied	*						R	
When using categories	*							R

Legend:

R = Required

* = Required if not previously entered

0 = Optional

space = irrelevant

Figure 8. Input Requirements Chart

INPUT TO SAMPLE PROBLEM

The following pages show the input data used to produce the reports shown in Chapter 4.

GE-625/635 PERT/COST

MASTER FILE INFORMATION CARD

Col. 1	TYPE (2)	3	Old Master (4–9)	New Master (10–15)	New Time (16–21)	UPDATE (22)	PPI MFR. (23)	WBS MFR. (24)	EST MFR. (25)	BUD MFR. (26)	ACT MFR. (27)	RATE MFR. (28)	CAT MFR. (29)	30–80
	MA				NEWTIM		R	R	R	R	R	R	R	

PROJECT PARAMETER CARD

File Cont. (1)	TYPE (2)	SEQ. (3)	Overhead % No. 1 (4–10)	LVL (11–12)	Overhead % No. 2 (13–19)	LVL (20–21)	Term (Span) (22–35)	Cutoff Date (36–42)	Release Date (43–51)	Value of Work Option (53)	54–80
	PA		1.000000	02	02.00000	03	TOTAL PROGRAM	01JUN66	RELEASE D	1	

OUTPUT REQUEST CARDS

1	TYPE (2)	3	Man. Sum. (4–5)	Proj. Stat. (6–7)	Organ. Status RCPR (8–9)	PCRR (10–11)	PC (12–13)	CP (14–15)	Fin. Plan MC (16–17)	M (18–19)	Manpower Load RMPC (20–21)	RM (22–23)	PMR (24–25)	Cost Cat. (26–27)	28–80
	Ø				02	02	02	02							
	Ø														
	Ø														
	Ø														
	Ø														
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GE-625/635 PERT/COST

WORK BREAKDOWN CARDS

Card	Col. 1 File Cont.	Col. 2 Type	Cols. 3–20 Charge or Summary Number	Col. 21	Fields (cols. 22–80)
CARD A			Charge or Summary Number	A	Lvl. (22–23) · Parent (24–41) · Charge or Summary Number Description (42–80)
CARD B			Charge or Summary Number	B	Start Date (22–28) · End Date (29–35) · Start Event (36–43) · End Event (44–51) · Resp. Organ. (52–57) · Contract Number (58–77)
CARD C			Charge or Summary Number	C	Reporting Organization (22–35) · Reporting Organization Description (36–56)

File Cont.	Type	Charge or Summary Number	Card	Lvl.	Parent	Charge or Summary Number Description
	W	SUMMARY NUMBER 01	A	04	SUMMARY NUMBER 02	SUMMARY NUMBER 01 DESCRIPTION
	W	SUMMARY NUMBER 02	A	03	SUMMARY NUMBER 04	SUMMARY NUMBER 02 DESCRIPTION
	W	SUMMARY NUMBER 03	A	04	SUMMARY NUMBER 02	SUMMARY NUMBER 03 DESCRIPTION
	W	SUMMARY NUMBER 04	A	02	SUMMARY NUMBER 08	SUMMARY NUMBER 04 DESCRIPTION
	W	SUMMARY NUMBER 05	A	04	SUMMARY NUMBER 06	SUMMARY NUMBER 05 DESCRIPTION
	W	SUMMARY NUMBER 06	A	03	SUMMARY NUMBER 04	SUMMARY NUMBER 06 DESCRIPTION
	W	SUMMARY NUMBER 07	A	04	SUMMARY NUMBER 06	SUMMARY NUMBER 07 DESCRIPTION
	W	SUMMARY NUMBER 08	A	01		SUMMARY NUMBER 08 DESCRIPTION
	W	SUMMARY NUMBER 09	A	04	SUMMARY NUMBER 10	SUMMARY NUMBER 09 DESCRIPTION
	W	SUMMARY NUMBER 10	A	03	SUMMARY NUMBER 12	SUMMARY NUMBER 10 DESCRIPTION
	W	SUMMARY NUMBER 11	A	04	SUMMARY NUMBER 10	SUMMARY NUMBER 11 DESCRIPTION
	W	SUMMARY NUMBER 12	A	02	SUMMARY NUMBER 08	SUMMARY NUMBER 12 DESCRIPTION
	W	SUMMARY NUMBER 13	A	04	SUMMARY NUMBER 14	SUMMARY NUMBER 13 DESCRIPTION
	W	SUMMARY NUMBER 14	A	03	SUMMARY NUMBER 12	SUMMARY NUMBER 14 DESCRIPTION
	W	SUMMARY NUMBER 15	A	04	SUMMARY NUMBER 14	SUMMARY NUMBER 15 DESCRIPTION
	W					

File Cont.	Type	Charge or Summary Number	Card	Start Date	End Date	Start Event	End Event	Resp. Organ.	Contract Number
	W	SUMMARY NUMBER 01	B	01JAN65	01APR65	00000110	00000510		
	W	SUMMARY NUMBER 03	B	01FEB65	01MAY65	00000120	00000520		
	W	SUMMARY NUMBER 05	B	01MAR65	01JUN65	00000130	00000530		
	W	SUMMARY NUMBER 06	B	01APR65	01JUL65	00000140	00000540	RESP 3	
	W	SUMMARY NUMBER 07	B	01MAY65	01AUG65	00000150	00000550		
	W	SUMMARY NUMBER 09	B	01JUN65	01SEP65	00000160	00000560		
	W	SUMMARY NUMBER 11	B	01JUL65	01OCT65	00000200	00000565		
	W	SUMMARY NUMBER 12	B	01AUG65	01NOV65	00000210	00000600		CONTRACT NUMBER 2
	W	SUMMARY NUMBER 13	B	01SEP65	01DEC65	00000220	00000610		
	W	SUMMARY NUMBER 15	B	01OCT65	01JAN66	00000230	00000620		
	W	SUMMARY NUMBER 04	B					RESP 2	
	W	SUMMARY NUMBER 10	B						CONTRACT NUMBER 3
	W	SUMMARY NUMBER 08	B					RESP 1	CONTRACT NUMBER 1
	W								

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GE-625/635 PERT/COST

WORK BREAKDOWN CARDS

Card	Col. 1	Col. 2	Cols. 3–20	Col. 21	Cols. 22–23	Cols. 24–35	Cols. 36–56	Cols. 57–80
CARD A	FILE CONT.	TYPE	Charge or Summary Number	A	Lvl.	Parent	Charge or Summary Number Description	
CARD B	FILE CONT.	TYPE	Charge or Summary Number	B	Start Date	End Date	Start Event / End Event / Resp. Organ.	Contract Number
CARD C	FILE CONT.	TYPE	Charge or Summary Number	C	Reporting Organization		Reporting Organization Description	

1	2	3–20	21	22–35	36–56	57–80
	W	SUMMARY NUMBER 08	C	REPORT ORGAN 1	REPORT ORGAN 1 DESCR	
	W	SUMMARY NUMBER 12	C	REPORT ORGAN 2	REPORT ORGAN 2 DESCR	
	W	SUMMARY NUMBER 14	C	REPORT ORGAN 3	REPORT ORGAN 3 DESCR	
	W	SUMMARY NUMBER 15	C	REPORT ORGAN 4	REPORT ORGAN 4 DESCR	
	W					
	W					
	W					
	W					
	W					
	W					
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	W					

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ESTIMATING AND BUDGET CARDS

Estimate / Budget	File Cont.	Charge or Summary Number	Perform. Organ.	Res. Code	Card Code	U D C	INCREMENTAL RESOURCE ESTIMATES / INCREMENTAL BUDGET VALUES
	4	SUMMARY NUMBER 0.7	P.O. 0.6	R.C. 0.3	A	T	4,0,0,0,0 4,0,0,0,0 4,0,0,0,0 4,0,0,0,0 4,0,0,0,0 4,0,0,0,0
	4	SUMMARY NUMBER 0.7	P.O. 0.5	R.C. 0.4	A	T	3,0,0,0,0 3,0,0,0,0 3,0,0,0,0 3,0,0,0,0 3,0,0,0,0 3,0,0,0,0
	4	SUMMARY NUMBER 0.7	P.O. 0.4	R.C. 0.5	A	T	2,0,0,0,0 2,0,0,0,0 2,0,0,0,0 2,0,0,0,0 2,0,0,0,0 2,0,0,0,0
	4	SUMMARY NUMBER 0.7	P.O. 0.3	R.C. 0.6	A	T	1,0,0,0,0 1,0,0,0,0 1,0,0,0,0 1,0,0,0,0 1,0,0,0,0 1,0,0,0,0
	4	SUMMARY NUMBER 0.6	P.O. 0.2	R.C. 0.4	A	T	3,6,0,0,0,0
	4	SUMMARY NUMBER 0.6	P.O. 0.1	R.C. 0.3	A	T	3,4,0,0,0,0
	4	SUMMARY NUMBER 0.5	P.O. 0.4	R.C. 0.4	A	T	3,1,0,0,0,0 3,2,0,0,0,0
	4	SUMMARY NUMBER 0.5	P.O. 0.3	R.C. 0.3	A	T	2,9,0,0,0,0 3,0,0,0,0,0
	4	SUMMARY NUMBER 0.5	P.O. 0.2	R.C. 0.2	A	T	2,7,0,0,0,0 2,8,0,0,0,0
	4	SUMMARY NUMBER 0.5	P.O. 0.1	R.C. 0.1	A	T	2,5,0,0,0,0 2,6,0,0,0,0
	4	SUMMARY NUMBER 0.3	P.O. 0.3	R.C. 0.2	A	T	1,0,0,0,0 2,3,0,0,0,0 2,4,0,0,0,0
	4	SUMMARY NUMBER 0.3	P.O. 0.3	R.C. 0.1	A	T	2,0,0,0,0 2,1,0,0,0,0 2,2,0,0,0,0
	4	SUMMARY NUMBER 0.3	P.O. 0.2	R.C. 0.2	A	T	3,0,0,0,0 1,9,0,0,0,0 2,0,0,0,0,0
	4	SUMMARY NUMBER 0.3	P.O. 0.2	R.C. 0.1	A	D	4,0,0,0,0 1,7,0,0,0,0 1,8,0,0,0,0
	4	SUMMARY NUMBER 0.3	P.O. 0.1	R.C. 0.2	A	D	5,0,0,0,0 1,5,0,0,0,0 1,6,0,0,0,0
	4	SUMMARY NUMBER 0.3	P.O. 0.1	R.C. 0.1	A	D	6,0,0,0,0 1,3,0,0,0,0 1,4,0,0,0,0
	4	SUMMARY NUMBER 0.1	P.O. 0.3	R.C. 0.2	A	D	6,0,0,0,0 1,1,0,0,0,0 1,2,0,0,0,0
	4	SUMMARY NUMBER 0.1	P.O. 0.2	R.C. 0.2	A	D	4,0,0,0,0 7,0,0,0,0 8,0,0,0,0
	4	SUMMARY NUMBER 0.1	P.O. 0.3	R.C. 0.1	A	D	5,0,0,0,0 9,0,0,0,0 1,0,0,0,0,0
	4	SUMMARY NUMBER 0.1	P.O. 0.2	R.C. 0.1	A	D	3,0,0,0,0 5,0,0,0,0 6,0,0,0,0
	4	SUMMARY NUMBER 0.1	P.O. 0.1	R.C. 0.2	A	D	2,0,0,0,0 3,0,0,0,0 4,0,0,0,0
	4	SUMMARY NUMBER 0.1	P.O. 0.1	R.C. 0.1	A	D	1,0,0,0,0 1,0,0,0,0 2,0,0,0,0
	4	SUMMARY NUMBER 1.5	P.O. 0.1	R.C. 0.7	A	M	1,3 6
	4	SUMMARY NUMBER 1.5	P.O. 0.7	R.C. 0.3	A	M	1,2 7
	4	SUMMARY NUMBER 1.3	P.O. 0.3	R.C. 0.6	A	M	7 1,0
	4	SUMMARY NUMBER 1.5	P.O. 0.2	R.C. 0.4	A	M	1,0 9
	4	SUMMARY NUMBER 1.5	P.O. 0.6	R.C. 0.3	A	M	1,1 8
	4	SUMMARY NUMBER 1.3	P.O. 0.5	R.C. 0.4	A	M	5 1,3
	4	SUMMARY NUMBER 1.3	P.O. 0.4	R.C. 0.5	A	M	6 1,2
	4	SUMMARY NUMBER 1.3	P.O. 0.1	R.C. 0.1	A	H	1,3,0,0,0 1,0,0,0

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ESTIMATING AND BUDGET CARDS

Estimate / Budget	File Cont.	Charge or Summary Number	Perform. Organ.	Res. Code	Card Code	UDC	INCREMENTAL RESOURCE ESTIMATES / INCREMENTAL BUDGET VALUES
	4	SUMMARY NUMBER 1,2	PO 0,3	RC 0,2	AH		1,2,0,0,0
	4	SUMMARY NUMBER 1,1	PO 0,2	RC 0,4	AH		8,0,0,0
	4	SUMMARY NUMBER 1,2	PO 0,1	RC 0,3	AH		9,0,0,0
	4	SUMMARY NUMBER 1,2	PO 0,3	RC 0,1	AH		1,1,0,0,0
	4	SUMMARY NUMBER 1,2	PO 0,4	RC 0,4	AH		1,0,0,0,0
	4	SUMMARY NUMBER 1,1	PO 0,4	RC 0,5	AH		6,0,0,0
	4	SUMMARY NUMBER 1,1	PO 0,3	RC 0,6	AH		7,0,0,0
	4	SUMMARY NUMBER 0,9	PO 0,1	RC 0,1	AH		4,0,0,0
	4	SUMMARY NUMBER 1,1	PO 0,5	RC 0,4	AH		5,0,0,0
	4	SUMMARY NUMBER 0,9	PO 0,3	RC 0,2	AH		3,0,0,0
	4	SUMMARY NUMBER 0,9	PO 0,2	RC 0,2	AH		1,0,0,0
	4	SUMMARY NUMBER 0,9	PO 0,3	RC 0,1	AH		2,0,0,0
	5	SUMMARY NUMBER 1,1	PO 0,2	RC 0,4	AH		8,0,0,0
	5	SUMMARY NUMBER 1,3	PO 0,1	RC 0,1	AH		1,3,0,0,0
	5	SUMMARY NUMBER 1,2	PO 0,1	RC 0,3	AH		9,0,0,0
	5	SUMMARY NUMBER 1,2	PO 0,4	RC 0,4	AH		1,0,0,0,0
	5	SUMMARY NUMBER 1,2	PO 0,3	RC 0,2	AH		1,2,0,0,0
	5	SUMMARY NUMBER 1,2	PO 0,3	RC 0,1	AH		1,1,0,0,0
	5	SUMMARY NUMBER 1,1	PO 0,4	RC 0,5	AH		6,0,0,0
	5	SUMMARY NUMBER 1,1	PO 0,3	RC 0,6	AH		7,0,0,0
	5	SUMMARY NUMBER 0,9	PO 0,1	RC 0,1	AH		4,0,0,0
	5	SUMMARY NUMBER 1,1	PO 0,5	RC 0,4	AH		5,0,0,0
	5	SUMMARY NUMBER 0,9	PO 0,3	RC 0,2	AH		3,0,0,0
	5	SUMMARY NUMBER 0,9	PO 0,2	RC 0,2	AH		1,0,0,0

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ESTIMATING AND BUDGET CARDS

Estimate / Budget	File Cont.	Charge or Summary Number	Perform. Organ.	Res. Code	Card Code	UDC	INCREMENTAL RESOURCE ESTIMATES / INCREMENTAL BUDGET VALUES
	4 / 5						
	5	SUMMARY NUMBER 0,1	PO 0,3	RC 0,1	A	D	5,0,0,0,0 / 9,0,0,0,0 / 1,0,0,0,0
	5	SUMMARY NUMBER 0,7	PO 0,6	RC 0,3	A	T	4,0,0,0,0 / 4,0,0,0,0 / 4,0,0,0,0 / 4,0,0,0,0 / 4,0,0,0,0 / 4,0,0,0,0
	5	SUMMARY NUMBER 0,7	PO 0,5	RC 0,4	A	T	3,0,0,0,0 / 3,0,0,0,0 / 3,0,0,0,0 / 3,0,0,0,0 / 3,0,0,0,0 / 3,0,0,0,0
	5	SUMMARY NUMBER 0,7	PO 0,4	RC 0,5	A	T	2,0,0,0,0 / 2,0,0,0,0 / 2,0,0,0,0 / 2,0,0,0,0 / 2,0,0,0,0 / 2,0,0,0,0
	5	SUMMARY NUMBER 0,7	PO 0,3	RC 0,6	A	T	1,0,0,0,0 / 1,0,0,0,0 / 1,0,0,0,0 / 1,0,0,0,0 / 1,0,0,0,0 / 1,0,0,0,0
	5	SUMMARY NUMBER 0,6	PO 0,2	RC 0,4	A	T	3,6,0,0,0,0
	5	SUMMARY NUMBER 0,6	PO 0,1	RC 0,3	A	T	3,4,0,0,0,0
	5	SUMMARY NUMBER 0,5	PO 0,4	RC 0,4	A	T	3,1,0,0,0,0 / 3,2,0,0,0,0
	5	SUMMARY NUMBER 0,5	PO 0,3	RC 0,3	A	T	2,9,0,0,0,0 / 3,0,0,0,0,0
	5	SUMMARY NUMBER 0,5	PO 0,2	RC 0,2	A	T	2,7,0,0,0,0 / 2,8,0,0,0,0
	5	SUMMARY NUMBER 0,5	PO 0,1	RC 0,1	A	T	2,5,0,0,0,0 / 2,6,0,0,0,0
	5	SUMMARY NUMBER 0,3	PO 0,3	RC 0,2	A	T	1,0,0,0,0 / 2,3,0,0,0,0 / 2,4,0,0,0,0
	5	SUMMARY NUMBER 0,3	PO 0,3	RC 0,1	A	T	2,0,0,0,0 / 2,1,0,0,0,0 / 2,2,0,0,0,0
	5	SUMMARY NUMBER 0,3	PO 0,2	RC 0,2	A	T	3,0,0,0,0 / 1,9,0,0,0,0 / 2,0,0,0,0,0
	5	SUMMARY NUMBER 0,3	PO 0,2	RC 0,1	A	D	4,0,0,0,0 / 1,7,0,0,0,0 / 1,8,0,0,0,0
	5	SUMMARY NUMBER 0,3	PO 0,1	RC 0,2	A	D	5,0,0,0,0 / 1,5,0,0,0,0 / 1,6,0,0,0,0
	5	SUMMARY NUMBER 0,3	PO 0,1	RC 0,1	A	D	6,0,0,0,0 / 1,3,0,0,0,0 / 1,4,0,0,0,0
	5	SUMMARY NUMBER 0,1	PO 0,3	RC 0,2	A	D	6,0,0,0,0 / 1,1,0,0,0,0 / 1,2,0,0,0,0
	5	SUMMARY NUMBER 0,1	PO 0,2	RC 0,2	A	D	4,0,0,0,0 / 7,0,0,0,0 / 8,0,0,0,0
	5	SUMMARY NUMBER 0,1	PO 0,2	RC 0,1	A	D	3,0,0,0,0 / 5,0,0,0,0 / 6,0,0,0,0
	5	SUMMARY NUMBER 0,1	PO 0,1	RC 0,2	A	D	2,0,0,0,0 / 3,0,0,0,0 / 4,0,0,0,0
	5	SUMMARY NUMBER 0,1	PO 0,1	RC 0,1	A	D	1,0,0,0,0 / 1,0,0,0,0 / 2,0,0,0,0
	5	SUMMARY NUMBER 1,5	PO 0,1	RC 0,7	A	M	1,3 / 6
	5	SUMMARY NUMBER 1,5	PO 0,7	RC 0,3	A	M	1,2 / 7
	5	SUMMARY NUMBER 1,3	PO 0,3	RC 0,6	A	M	7 / 1,0
	5	SUMMARY NUMBER 1,5	PO 0,2	RC 0,4	A	M	1,0 / 9
	5	SUMMARY NUMBER 1,5	PO 0,6	RC 0,3	A	M	1,1 / 8
	5	SUMMARY NUMBER 1,3	PO 0,5	RC 0,4	A	M	5 / 1,3
	5	SUMMARY NUMBER 1,3	PO 0,4	RC 0,5	A	M	6 / 1,2
	5	SUMMARY NUMBER 0,9	PO 0,3	RC 0,1	A	H	2,0,0,0 / 1,2,0,0,0

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GE-625/635 PERT/COST

RATE TABLE AND CATEGORY CARDS

CATEGORY / RATE TABLE	FILE CONT.	& / R	CATEGORY IDENT. PERFORM. ORGAN.	RES. CODE	EFFECT. DATE	BEG	SEQ.	SEQ.	CATEGORY MEMBERS: UNIT CONV. FACTOR	OVERHEAD UNIT CONV. FACTOR	OVERHEAD CONV. %
			RPO 0,7	RC 0,3	DEC 6,7			A	4,0,0,0		0,0,0,1
			RPO 0,2	RC 0,2	JAN 6,6			A	3,0,0,0	1,0,0,0	
			RPO 0,3	RC 0,1	JAN 6,6			A	3,5,0,0	2,0,0,0	
			RPO 0,3	RC 0,2	JAN 6,6			A	3,7,5,0	3,0,0,0	
			RPO 0,1	RC 0,1	JAN 6,6			A	4,0,0,0	1,0,0,0	
			RPO 0,5	RC 0,4	JAN 6,6			A	4,2,5,0	2,0,0,0	
			RPO 0,4	RC 0,5	JAN 6,6			A	4,5,0,0	3,0,0,0	
			RPO 0,3	RC 0,6	JAN 6,6			A	4,7,5,0	1,0,0,0	
			RPO 0,2	RC 0,4	JAN 6,6			A	5,0,0,0	2,0,0,0	
			RPO 0,1	RC 0,3	JAN 6,6			A	3,0,0,0	3,0,0,0	
			RPO 0,4	RC 0,4	JAN 6,6			A	4,0,0,0		5,0,0,0,0
			RPO 0,6	RC 0,3	JAN 6,6			A	5,0,0,0		4,0,0,0,0
			RPO 0,7	RC 0,3	JAN 6,6			A	3,0,0,0		3,0,0,0,0
			RPO 0,1	RC 0,7	JAN 6,6			A	4,0,0,0		2,0,0,0,0
			RPO 0,2	RC 0,2	FEB 6,6			A	5,0,0,0		1,0,0,0,0
			RPO 0,3	RC 0,1	MAR 6,6			A	3,0,0,0		9,0,0,0,0
			RPO 0,3	RC 0,2	MAY 6,6			A	4,0,0,0		8,0,0,0,0
			RPO 0,1	RC 0,1	AUG 6,6			A	5,0,0,0		7,0,0,0,0
			RPO 0,5	RC 0,4	NOV 6,6			A	3,0,0,0		6,0,0,0,0
			RPO 0,4	RC 0,5	JAN 6,7			A	4,0,0,0		5,0,0,0,0
			RPO 0,3	RC 0,6	APR 6,7			A	5,0,0,0		4,0,0,0,0
			RPO 0,2	RC 0,4	JUN 6,7			A	3,0,0,0		3,0,0,0,0
			RPO 0,1	RC 0,3	JUL 6,7			A	4,0,0,0		2,0,0,0,0
			RPO 0,4	RC 0,4	SEP 6,7			A	5,0,0,0		1,0,0,0,0
			RPO 0,6	RC 0,3	OCT 6,7			A	3,0,0,0		5,0,0,0

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GE-625/635 PERT/COST

ACTUAL CARDS

FILE CONT.	TYPE	CHARGE OR SUMMARY NUMBER	PERFORMING ORGAN.	RES. CODE	SEQ.	UDC	SIGN	UNIT AMOUNT
	A	SUMMARY NUMBER 01	PO 01	RC 01	A	H		1000
	A	SUMMARY NUMBER 01	PO 03	RC 01	A	H		2000
	A	SUMMARY NUMBER 03	PO 02	RC 01	A	H		3000
	A	SUMMARY NUMBER 05	PO 01	RC 01	A	D		1000
	A	SUMMARY NUMBER 06	PO 01	RC 03	A	D		2000
	A	SUMMARY NUMBER 07	PO 05	RC 04	A	M		1
	A	SUMMARY NUMBER 09	PO 03	RC 02	A	M		2
	A	SUMMARY NUMBER 11	PO 03	RC 06	A	M		3
	A	SUMMARY NUMBER 12	PO 03	RC 01	A	T		1000
	A	SUMMARY NUMBER 13	PO 04	RC 05	A	T		2000
	A	SUMMARY NUMBER 15	PO 07	RC 03	A	T		3000
	A							
	A							
	A							
	A							
	A							
	A							
	A							
	A							
	A							
	A							
	A							
	A							
	A							
	A							
	A							
	A							
	A							
	A							
	A							

CE 236

The following is a list of the PERT/TIME data used as input with the data just described:

```
PROJECT S PROPULSION SYSTEM                                          TRW   18MAY65
01MSONETMSONET19MAY65180CT66100005
E
1        600       610        50
9        600       610 210816 5237   WU09 REQUEST QUOTATIONS FOR FILTER
1        610       620        30
9        610       620 210916 5237   WU10 PLACE PURCHASE ORDER FOR FILTER
1        620       630        10
9        620       630 210116 9710   WU02 WRITE APPV FILTER ACCEP TEST PROCDR
1        630       640        50
9        630       640      5237        RECEIVE FILTER FROM VENDOR
1        640       650        20
9        640       650 210116 9710 P1WU02 TEST FILTER PER ACCEP TEST PROCEDUR
1        565       660       100
9        565       660 210500 9521 P3WU06 VEHICLE INTEGRATION CHECK OUT
1        300       700        40
9        300       700 210200 9715 P1WU03 WRITE APPV REGULATOR SPECS
1        700       710        50
9        700       710 210800 5237   WU09 REQUEST QUOTATIONS FOR REGULATOR
1        710       720        30
9        710       720 210900 5237   WU10 PLACE PURCHASE ORDER FOR REGULATOR
1        720       730        20
9        720       730 210100 9710 P1WU02 WRITE APPV REGLTR ACCEP TEST PROCDR
1        730       740        70
9        730.      740      5237        RECEIVE REGULATOR FROM VENDOR
1        740       750        50
9        740       750 210100 9710 P1WU02 TEST REGULATOR PER ACCEP TEST PROCD
1        310       320       160
9        310       320 210317 9571 P2WU05 FABRICATE ASSEM FILL VALVE COMPONET
1        300       330       140
9        300       330 210219 9715 P1WU03 DESIGN RELEASE PLUMBING DRAWINGS
1        330       340       100
9        330       340 210319 9571 P2WU05 FABRICATE PLUMBING COMPONENTS
1        300       350       110
9        300       350 210200 9715 P1WU03 DESIGN RELEASE MANIFOLD DRAWINGS
1        350       360       100
9        350       360 210300 9571 P2WU05 FABRICATE MANIFOLD
1        300       400        50
9        300       400 210213 9715 P1WU03 DESIGN RELEASE PRESSURE VESSEL DRWG
1        400       410        50
9        400       410 210813 5237   WU09 REQUEST QUOTATIONS FOR PRES VESSEL
1        410       420        30
9        410       420 210913 5237   WU10 PLACE PURCHASE ORDER FOR PRESUR VES
1        420       430        30
9        420       430 210113 9710 P1WU02 WRITE APPV PV ACCEPT TEST PROCEDURE
1        430       440        80
9        430       440      5237        RECEIVE PRESSURE VESSEL FROM VENDOR
1        440       450        60
9        440       450 210713 9712 P3WU08 TEST PRESSURE VESSEL PER ACCEPT PRO
1        320       460        60
9        320       460 210600 9522 P3WU07 INTEGRT TEST FILL VALVE IN FEED SYS
1        340       460        50
9        340       460 210600 9522 P3WU07 INTEGRT PLUMBING IN FEED SYS TEST
```

```
1         360       460        40
9         360       460 210600 9522 P3WU07 INTEGRAT MANIFOLD IN FEED SYS TEST
1         450       460        40
9         450       460 210500 9521 P3WU06 INTEGRAT PRESS VESSEL FEED SYS TEST
1         550       460        40
9         550       460         9521       INTEGRT VALVES IN FEED SYS TEST
1         650       460        40
9         650       460 210500 9521 P3WU06 INTEGRAT FILTER IN FEED SYS TEST
1         750       460        40
9         750       460 210500 9521 P3WU06 INTEGRAT REGULATOR IN FEED SYS TEST
1         300       500        40
9         300       500 210214 9715 P1WU03 WRITE APPV VALVE SPECS
1         500       510        50
9         500       510 210814 5237   WU09 REQUEST QUOTATIONS FOR VALVES
1         100       110        60
9         100       110 210000 9703   WU01 FORMULATE PROPULSION SYS SPECIFICAT
1         110       120        40
9         110       120 210200 9715   WU03 LAYOUT SYS MECH STRUC INTERFACES
1         120       130        50
9         120       130 210000 5230   WU01 PLACE PURCHASE ORDER FOR ENGINE
1         130       140       200
9         130       140 210000 9733   WU01 WRITE APPV ENGINE ACCEPT TEST PROCD
1         140       150        40
9         140       150 210000 9733   WU01 TEST ENGINE PER ACCEPTANC PROCEDURE
1         150       160        40
9         150       160 210000 5250   WU01 RECEIVE ENGINE FROM VENDOR
1         120       200        30
9         120       200 210000 9715   WU01 LAYOUT TANKAGE MECH STRUC INTERFACE
1         200       210        70
9         200       210 210211 9715 P1WU03 DESIGN RELEASEF2 TANK DRAWINGS
1         210       220       230
9         210       220 210411 9570 P2WU04 FABRICATE F2TANK COMPONENTS
1         230       220        20
9         230       220 210400 9570 P2WU04 ASSEMBLE TEST F2TANK INSULA
1         210       230       100
9         210       230 210411 9570 P2WU04 FABRICATE F2TANK INSULATION
1         220       240       110
9         220       240 210611 9522 P3WU07 ASSEMBLE TEST F2TANK
1         200       260        70
9         200       260 210212 9715 P1WU03 DESIGN RELEASEH2 TANK DRAWINGS
1         260       270       230
9         260       270 210412 9570 P2WU04 FABRICATE H2TANK COMPONENTS
1         280       270        20
9         280       270 210400 9570 P2WU04 ASSEMBLE TEST H2TANK INSULATION
1         260       280       100
9         260       280 210400 9570 P2WU04 FABRICATE H2TANK INSULATION
1         270       290       110
9         270       290 210612 9522 P3WU07 ASSEMBLE TEST H2 TANK
1         120       300        50
9         120       300 210200 9517 P1WU03 LAYOUT FEED SYS MECH STRUC INTERFAC
1         300       310       180
9         300       310 210217 9715 P1WU03 DESIGN RELEASE FILL VALVE DRAWINGS
1         510       520        30
```

```
9          510       520 210914 5237   WU10 PLACE PURCHASE ORDER FOR VALUV
1          520       530       40
9          520       530 210114 9710 P1WU02 WRITE APPV VALVE ACCEP TEST PROCEDR
1          530       540       90
9          530       540        5237        RECEIVE VALVES FROM VENDOR
1          540       550       50
9          540       550 210114 9710   WU02 TEST VALVES PER ACCEP TEST PROCEDUR
1          160       560      110
9          160       560 210500 9521   WU06 INTEGRATE ENGINE IN COMPLETE SYSTEM
1          240       560       40
9          240       560 210500 9521 P3WU06 INTEGRATE TESTF2 TANK IN COMPLE SYS
1          290       560       40
9          290       560 210500 9521        INTEGRATE TESTH2 TANK IN COMPLE SYS
1          460       560        0
9          460       560 210500 9521 P3WU06 INTEGRATE TEST FEED SYS IN COMP SYS
1          560       565       60
9          560       565 210600 9735 P3WU07 TEST COMPLETE SYS IN VEHICLE
1          300       600       40
9          300       600 210216 9715 P1WU03 WRITE APPV FILTER SPECS
3 2                  100             051865 PROJECT START
```

4. OUTPUT REPORTS

There are twelve output reports in the GE-625/635 PERT/COST program. These are selected by the output report options on the output request card. These reports include a management summary report, a program/ project status report, four organization status reports, two financial plan status reports, three manpower loading reports, and a cost category report.

All of these reports have the same heading information. Figure 9 shows the format of the headings followed by an explanation of how this information is obtained.

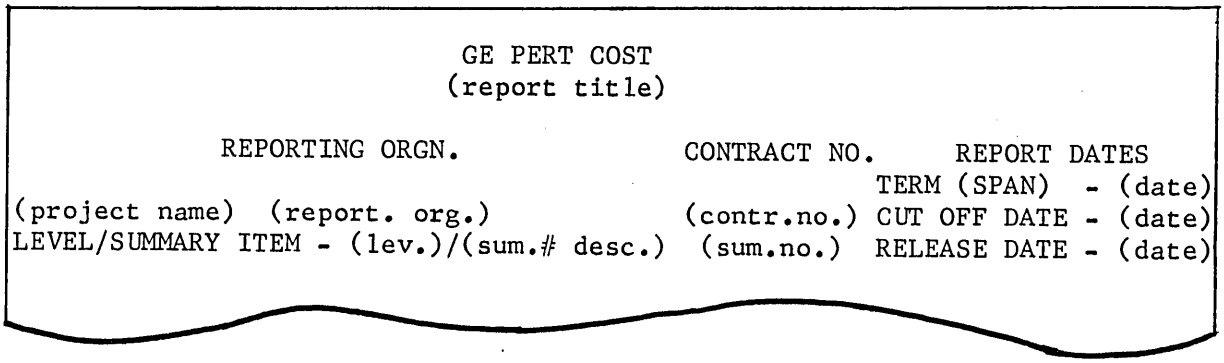

Figure 9. Headings of Output Reports

Information	Source
Report title	Output report card, columns 4-27
Project name	Work breakdown structure card 3, columns 22-35
Reporting organization	Work breakdown structure card 3, columns 36-56
Contract number	Work breakdown structure card 2, columns 58-75
Level number	Work breakdown structure card 1, columns 22-23

Information	Source
Charge or summary number description	Work breakdown structure card 1, columns 42-80
Charge or summary number	Work breakdown structure card 1, columns 3-20
Term (span) date	Project parameter input card, columns 22-35
Cutoff date	Project parameter input card, columns 36-42
Release date	Project parameter input card, columns 43-51

In addition to selecting the reports that he needs, the user must also carefully select the appropriate level of reporting. Any of the PERT/COST reports may be produced at any level of the work breakdown structure.

The sample reports used in the remainder of this chapter are based on the test data described in the preceding chapter.

MANAGEMENT SUMMARY REPORT

The Management Summary Report tells management which area or areas of the program may need management attention. It shows the current and projected cost status of the total program and of each of the major component items or elements within the program.

The Management Summary Report presents cost information for each level of the work breakdown structure; that is, a level 1 Management Summary Report provides level 1 and 2 cost data, level 2 Management Summary Report provides level 2 and 3 cost data, etc. These cost values have been summed upward through the work breakdown structure.

Figure 10 is a sample of the Management Summary Report.

Cost of Work

The cost of work is calculated for the work performed to date and the projected totals at completion and is shown in thousands of dollars.

- Work Performed to Date. The work performed to date figures include the value of work performed, the actual cost, and the (overrun)/underrun.

•• Value of Work. The user specifies on the project parameter input card whether he wants the value of work performed calculated:

- for each performing organization, resource code combination and totals accumulated up the work breakdown structure;
- at the summary or charge number level and accumulated up the work breakdown structure; or
- on totals accumulated at each level of the work breakdown structure.

For those combinations that are not yet in progress, the value of work performed is zero. For those combinations that are completed, the value is the planned total cost.

For those combinations that are in progress, the value is computed as follows:

$$\text{Value of Work Performed} = \frac{\text{Actual Total Cost} \times \text{Planned Total Cost}}{\text{Latest Revised Estimate}}$$

•• Actual Cost. The actual cost is the sum of all the actual costs to date for this charge or summary number.

•• (Overrun)/Underrun. The (overrun)/underrun to date is calculated by subtracting the actual cost from the value of work performed.

The percentage of work performed is printed just above the dollar amount and is calculated by dividing the (overrun)/underrun by the value of work to date.

Values which represent overrun are enclosed in parentheses.

• Projected Totals at Completion. The projected totals at completion include planned costs, the latest revised estimate, and the projected (overrun)/underrun.

•• Planned Cost. Planned costs are shown by charge or summary number for any level of the work breakdown structure and are summed upward through the work breakdown structure.

•• Latest Revised Estimate. The latest revised estimate is computed for each charge/summary number appearing in this report. For those charge/summary numbers not yet in progress, this figure represents the estimated total costs. For those combinations in progress, this figure represents the actual total costs incurred to date plus the amount of total costs estimated for completion. For those combinations that are completed, this figure represents the actual total costs incurred.

•• Projected (Overrun)/Underrun. The projected (overrun)/underrun is computed for each charge/summary number. This figure represents the difference between planned total costs and the latest revised estimate.

An underrun condition exists when:

Latest Revised Estimate < Planned Total Costs.

An overrun condition exists when:

Planned Total Costs < Latest Revised Estimate,
and is indicated by parentheses around the figure.

(Overrun)/underrun is also computed as a percentage of the planned total costs; this is computed as follows:

$$\text{Percent (Overrun)/Underrun} = \frac{\text{(Overrun)/Underrun}}{\text{Planned Total Costs}}$$

Schedule Information

Schedule information is obtained from the PERT/TIME file.

• Most Critical Slack. The most critical slack is displayed for each charge/summary number appearing in the report. It represents the slack associated with the end event of the corresponding charge/summary number.

• Completion Date. Completion dates are printed for each charge/summary number appearing on the report. These values represent the actual, scheduled, earliest, and latest completion dates, and are taken from the PERT/TIME file.

• Schedule Calendar. The schedule calendar consists of a monthly calendar for the current year and the next year, and a yearly calendar for the next four years. (The column heading "9012" stands for 1969, 1970, 1971, and 1972.) Any schedule information occurring before the printed schedule is contained in the prior ("P") column and any schedule information occurring after the printed schedule is contained in the later ("L") column. If the cutoff date is after the tenth of the month, the TIME NOW line falls between the report month and the following month. If the cutoff date is on or before the tenth of the month the TIME NOW line falls between the report month and the preceding month.

GE PERT COST
MANAGEMENT SUMMARY REPORT

PAGE 1

REPORT ORGAN 1 DESCR	REPORTING ORGN.	CONTRACT NO.	REPORT DATES.
	REPORT ORGAN 1	CONTRACT NUMBER 1	TERM (SPAN)- TOTAL PROGRAM
			CUT OFF DATE- 01JUN66
LEVEL/SUMMARY ITEM- 2/SUMMARY NUMBER 04	DESCRIPTION	SUMMARY NUMBER 04	RELEASE DATE- RELEASE D

ITEM	COST OF WORK $(000)						MOST CRIT SLACK (WKS)	COMPL. DATE	SCHEDULE
	WORK PERFORMED TO DATE			TOTALS AT COMPLETION					S-SCHED COMPL DATE--TOTAL A-ACTUAL COMPL DATE-ITEM E-EARLIEST COMPL DATE-CRITICAL L-LATEST COMPL DATE---ITEM
	VALUE	ACTUAL COST	(OVERRUN) UNDERRUN	PLANNED COST	LATEST REVISED EST	PROJECTED (OVERRUN) UNDERRUN			P YR 1966 JFMAM.JJASOND 1967 JFMAMJJASOND 1968 1 L YR
SUMMARY NUMBER 04		DESCRIPTION							
LEVEL 02			1.00			1.00			
SUMMARY NUMBER 04	4,570	16	4,554	7,000	16	6,984	+090.0		
SUMMARY NUMBER 02		DESCRIPTION							
LEVEL 03			.99			1.00			
SUMMARY NUMBER 02	990	12	978	3,420	12	3,408	+090.0		
SUMMARY NUMBER 06		DESCRIPTION							
LEVEL 03			1.00			1.00		22FEB66	E
SUMMARY NUMBER 06	3,580	4	3,576	3,580	4	3,576	+090.0	26APR66	L
									TIME NOW

Figure 10. Management Summary Report

PROGRAM/PROJECT STATUS REPORT

The primary purpose of the Program/Project Status Report (Figure 11) is to back up the Management Summary Report. The two reports contain similar information. This is highlighted in the Management Summary Report for managers and is presented in detail in the Program/Project Status Report for analysis. The former report is divided for distribution and the latter remains intact as reference material for the entire portion of the program for which reports are prepared. The Program/Project Status Report serves as the tie to the networks, since it contains the beginning and ending event number for every summary item and the end event which appears on the most critical path. It also shows the scheduled or actual, earliest, and latest completion dates, and the slack for each of the charge/summary numbers. With this information, the analyst can go directly to the proper portion of the network, and the PERT/TIME reports for additional information.

All dollar information is calculated in the same manner as in the Management Summary Report.

First and Last Event Numbers

The first and last event numbers represent those events whose occurrence dates mark the start and end of the corresponding charge/summary number.

Scheduled or Actual Completion Date

The scheduled or actual completion date represents the scheduled (T_S) or actual (A) dates associated with the last event number shown in the preceding column.

Earliest/Latest Completion Dates

The earliest/latest completion dates represent the S_E and S_L, respectively of the last event number (shown previously).

Most Critical Slack

The most critical slack represents the slack associated with the end event of the corresponding charge or summary number.

Cost of Work

The cost of work is shown as work performed to date and totals at completion and is represented as thousands of dollars. These costs are

summed upward through the work breakdown structure. When a specific level is selected, this report will show all of the charge/summary numbers connected to those numbers on the desired level. For example, when a Program/Project Status Report is requested for level 2 on the work breakdown structure shown in Figure 1, this report would show the total costs for the charge/summary numbers as follows:

	First Page	Second Page
Level/Summary Item	2/04	2/12
Charge Number	02	10
	06	14
	01	09
	03	11
	05	13
	07	15

(Note that a Management Summary Report requested for level 2 would include only levels 2 and 3.)

o Work Performed to Date. The value of work performed to date and the latest revised estimate are computed for each charge/summary number appearing on this report in the same manner previously described for the Management Summary Report.

o Totals at Completion. This report presents total costs in the form of planned and latest revised estimates computed in the same manner as described for the Management Summary Report.

GE PERT COST
PROGRAM/PROJECT STATUS REPORT

REPORT ORGAN 1 DESCR	REPORTING ORGN.	CONTRACT NO.	REPORT DATES.
	REPORT ORGAN 1		TERM (SPAN)- TOTAL PROGRAM
LEVEL/SUMMARY ITEM- 2/SUMMARY NUMBER 04	DESCRIPTION OF SUMMARY NUMBER 04		CUT OFF DATE- 01JUN66
			RELEASE DATE- RELEASE D

IDENTIFICATION				TIME STATUS			COST OF WORK $(000)					
							WORK PERFORMED TO DATE			TOTALS AT COMPLETION		
CHARGE OR SUMMARY NUMBER	LEVEL	FIRST EVENT NO.	LAST EVENT NO.	SCHED/ ACT (A) COMPL DATE	EARLIEST + LATEST COMPL DATE	MOST CRIT SLACK (WKS)	VALUE	ACTUAL COST	(OVERRUN) UNDERRUN	PLANNED COST	LATEST REVISED ESTIMATE	PROJECTED (OVERRUN) UNDERRUN
SUMMARY NUMBER	04		DESCRIPTION			+090.0			1.00			1.00
SUMMARY NUMBER 04	02						4,570	16	4,554	7,000	16	6,984
SUMMARY NUMBER	02		DESCRIPTION			+090.0			.99			1.00
SUMMARY NUMBER 02	03						990	12	978	3,420	12	3,408
SUMMARY NUMBER	06		DESCRIPTION		22FEB66	+090.0			1.00			1.00
SUMMARY NUMBER 06	03	140	540		26APR66	540	3,580	4	3,576	3,580	4	3,576
SUMMARY NUMBER	01		DESCRIPTION		02NOV65	+090.0			.99			.99
SUMMARY NUMBER 01	04	110	510		04JAN66	510	990	12	978	990	12	978
SUMMARY NUMBER	03		DESCRIPTION		23NOV65	+090.0						1.00
SUMMARY NUMBER 03	04	120	520		25JAN66	520				2,430		2,430
SUMMARY NUMBER	05		DESCRIPTION		21DEC65	+090.0			1.00			1.00
SUMMARY NUMBER 05	04	130	530		22FEB66	530	2,280	1	2,279	2,280	1	2,279
SUMMARY NUMBER	07		DESCRIPTION		29MAR66	+090.0			1.00			1.00
SUMMARY NUMBER 07	04	150	550		31MAY66	550	600	1	599	600	1	599

Figure 11. Program/Project Status Report

ORGANIZATION STATUS REPORTS

There are four kinds of Organization Status Reports available. These may be by responsible organization, charge number, performing organization, resource code (Figure 12); by performing organization, charge number, responsible organization, resource code (Figure 13); by performing organization and charge number (Figure 14); and by charge number and performing organization (Figure 15).

These reports are a shredout of the data base from which the Management Summary Report is developed. The costs are accumulated according to various combinations of charge number, responsible organization, performing organization, and resource code. For both hours and dollars, costs appear in the form of actual, planned (budget), and estimated costs.

Man-Hours

On this report man-hours are not summed upward through the work breakdown structure. For example, when an Organization Status Report is requested for level 2 of the work breakdown structure in Figure 1, the report would show summary number 04 as the summary item at the top of the page. The body of the report would then show man-hours associated with each of the performing organization, resource code combinations tied to charge or summary numbers 04, 02, 06, 01, 03, 05, and 07. The sequence in which the charge number, performing organization, resource code combinations appear in the body of this report is controlled by the user.

After all man-hours related to items 04, 02, 06, 01, 03, 05, and 07 are listed, the report would then show item 12 as the summary item at the top of the next page. The body of the report would then show the man-hours associated with each of the performing organization, resource code combinations tied to charge or summary numbers 12, 10, 14, 09, 11, 13, and 15.

To obtain man-hours for each of the combinations in the entire system, only one level of this report must be selected. This is the top level at which man-hours are entered in the system.

Man-hours are reported as work to date and totals at completion.

- Work to Date. Current cycle hours are added to all previous hours and accumulated for the component combination defined by the specific report.

- Totals at Completion. The totals at completion are reported as planned man-hours, latest revised estimate, and projected (overrun)/underrun.

•• Planned Man-Hours. Planned man-hours are the accumulation of budget values for the component combination defined by the specific report. This represents a value covering the duration of the cost piece from the start date onward.

•• Latest Revised Estimate. The latest revised estimate is computed for each component combination. For those combinations not yet in progress, this value represents the total number of estimated man-hours. For those combinations in progress, this value represents the actual man-hours expended to date plus the total number of man-hours estimated for completion. For those combinations that are completed, this value represents the actual number of man-hours that were expended.

•• Projected (Overrun)/Underrun. The projected (overrun)/underrun is also computed for each combination. This value represents the difference between planned man-hours and the latest revised estimate.

An underrun condition exists when:

Latest Revised Estimate < Planned Man-Hours.

An overrun condition exists when:

Planned Man-Hours < Latest Revised Estimate,
and is indicated by parentheses around the figure.

Direct Costs

The explanation in the previous section relating to man-hours also applies to direct costs. In addition, the costs that were entered as hours have been converted to dollars by the applicable rate. The totals represent accumulation of the converted costs along with costs that were entered as dollars.

Time Data

The most critical slack and the scheduled or actual completion date for each charge/summary number appears on this report. The most critical slack represents the slack associated with the end event of the corresponding charge/summary number. If this event has a scheduled date (T_S) associated with it, this date will appear in this column. If this event has been completed, an actual date (A) will appear in this column.

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ORGANIZATION STATUS REPORT
BY RESP ORGN, CHARGE NUMBER, PERF ORGN, RES CODE

	REPORTING ORGN.	CONTRACT NO.	REPORT DATES
REPORT ORGAN 1 DESCR	REPORT ORGAN 1	CONTRACT NUMBER 1	TERM (SPAN)- TOTAL PROGRAM
LEVEL/SUMMARY ITEM- 2/SUMMARY NUMBER 04	DESCRIPTION SUMMARY NUMBER 04		CUT OFF DATE- 01JUN66
			RELEASE DATE- RELEASE D

IDENTIFICATION				MANHOURS				DIRECT COSTS $(000)				TIME	
				WORK TO DATE	TOTALS AT COMPLETION			WORK TO DATE	TOTALS AT COMPLETION				
CHARGE NUMBER	RESP ORGN	PERF ORGN	RES CODE	ACTUAL	PLANNED	LATEST REVISED ESTIMATE	PROJECTED (OVERRUN) UNDERRUN	ACTUAL	PLANNED	LATEST REVISED ESTIMATE	PROJECTED (OVERRUN) UNDERRUN	MOST CRIT SLACK (WKS)	SCHED OR ACT(A) COMPL DATE
SUMMARY NUMBER 01 DESCRIPTION													
SUMMARY NUMBER 01	RESP 2	P0 01	RC01	1,000		1,000	(1,000)	5	40	5	35	90.0	
			RC02						90		90	90.0	
		P0 02	RC01						140		140	90.0	
			RC02						190		190	90.0	
		P0 03	RC01	2,000		2,000	(2,000)	7	240	7	233	90.0	
			RC02						290		290	90.0	
											84.79		
TOTAL								12	990	12	978		
SUMMARY NUMBER 03 DESCRIPTION													
SUMMARY NUMBER 03	RESP 2	P0 01	RC01						330		330	90.0	
			RC02						360		360	90.0	
		P0 02	RC01	3,000		3,000	(3,000)		390		390	90.0	
			RC02						420		420	90.0	
		P0 03	RC01						450		450	90.0	
			RC02						480		480	90.0	
											84.79		
TOTAL									2,430		2,430		
											95.36		
TOTAL								12	3,420	12	3,408		

Figure 12. Organization Status Report A

GE PERT COST PAGE 2

ORGANIZATION STATUS REPORT
BY RESP ORGN, CHARGE NUMBER, PERF ORGN, RES CODE

	REPORTING ORGN.	CONTRACT NO.	REPORT DATES
REPORT ORGAN 1 DESCR	REPORT ORGAN 1	CONTRACT NUMBER 1	TERM (SPAN)- TOTAL PROGRAM
LEVEL/SUMMARY ITEM- 2/SUMMARY NUMBER 04	DESCRIPTION SUMMARY NUMBER 04		CUT OFF DATE- 01JUN66
			RELEASE DATE- RELEASE D

IDENTIFICATION				MANHOURS				DIRECT COSTS $(000)				TIME	
				WORK TO DATE	TOTALS AT COMPLETION			WORK TO DATE	TOTALS AT COMPLETION				
CHARGE NUMBER	RESP ORGN	PERF ORGN	RES CODE	ACTUAL	PLANNED	LATEST REVISED ESTIMATE	PROJECTED (OVERRUN) UNDERRUN	ACTUAL	PLANNED	LATEST REVISED ESTIMATE	PROJECTED (OVERRUN) UNDERRUN	MOST CRIT SLACK (WKS)	SCHED OR ACT(A) COMPL DATE
SUMMARY NUMBER 05 DESCRIPTION													
SUMMARY NUMBER 05 RESP 3		PO	01 RC01					1	510	1	509	90.0	
		PO	02 RC02						550		550	90.0	
		PO	03 RC03						590		590	90.0	
		PO	04 RC04						630		630	90.0	
											79.00		
TOTAL								1	2,280	1	2,279		
SUMMARY NUMBER 06 DESCRIPTION													
SUMMARY NUMBER 06 RESP 3		PO	01 RC03					2	340	2	338	90.0	
		PO	02 RC04						360		360	90.0	
											49.00		
TOTAL								2	700	2	698		
SUMMARY NUMBER 07 DESCRIPTION													
SUMMARY NUMBER 07 RESP 3		PO	03 RC06						60		60	90.0	
		PO	04 RC05						120		120	90.0	
		PO	05 RC04	160		160	(160)	1	180	1	179	90.0	
		PO	06 RC03						240		240	90.0	
											99.00		
TOTAL								1	600	1	599		
											94.00		
TOTAL								4	3,580	4	3,576		

Figure 12. Organization Status Report A (cont'd.)

GE PERT COST PAGE 1

ORGANIZATION STATUS REPORT
BY PERF ORGN, CHARGE NUMBER, RESP ORGN, RES CODE

	REPORTING ORGN.	CONTRACT NO.	REPORT DATES
REPORT ORGAN 1 DESCR	REPORT ORGAN 1	CONTRACT NUMBER 1	TERM (SPAN)- TOTAL PROGRAM
LEVEL/SUMMARY ITEM- 2/SUMMARY NUMBER 04	DESCRIPTION SUMMARY NUMBER 04		CUT OFF DATE- 01JUN66
			RELEASE DATE- RELEASE D

IDENTIFICATION				MANHOURS				DIRECT COSTS $(000)				TIME	
				WORK TO DATE	TOTALS AT COMPLETION			WORK TO DATE	TOTALS AT COMPLETION				
CHARGE NUMBER	RESP ORGN	PERF ORGN	RES CODE	ACTUAL	PLANNED	LATEST REVISED ESTIMATE	PROJECTED (OVERRUN) UNDERRUN	ACTUAL	PLANNED	LATEST REVISED ESTIMATE	PROJECTED (OVERRUN) UNDERRUN	MOST CRIT SLACK (WKS)	SCHED OR ACT(A) COMPL DATE
SUMMARY NUMBER 01 DESCRIPTION													
SUMMARY NUMBER 01	RESP 2	P0 01	RC01	1,000		1,000	(1,000)	5	40	5	35	90.0	
			RC02						90		90	90.0	
											25.00		
TOTAL								5	130	5	125		
SUMMARY NUMBER 03 DESCRIPTION													
SUMMARY NUMBER 03	RESP 2	P0 01	RC01						330		330	90.0	
			RC02						360		360	90.0	
											25.00		
TOTAL									690		690		
SUMMARY NUMBER 05 DESCRIPTION													
SUMMARY NUMBER 05	RESP 3	P0 01	RC01					1	510	1	509	90.0	
											9.00		
TOTAL								1	510	1	509		
SUMMARY NUMBER 06 DESCRIPTION													
SUMMARY NUMBER 06	RESP 3	P0 01	RC03					2	340	2	338	90.0	
											69.00		
TOTAL								2	340	2	338		
											7.75		
TOTAL								8	1,670	8	1,662		

Figure 13. Organization Status Report B

ORGANIZATION STATUS REPORT
BY PERF ORGN, CHARGE NUMBER, RESP ORGN, RES CODE

	REPORTING ORGN,	CONTRACT NO,	REPORT DATES
REPORT ORGAN 1 DESCR	REPORT ORGAN 1	CONTRACT NUMBER 1	TERM (SPAN)- TOTAL PROGRAM
			CUT OFF DATE- 01JUN66
LEVEL/SUMMARY ITEM- 2/SUMMARY NUMBER 04	DESCRIPTION SUMMARY NUMBER 04		RELEASE DATE- RELEASE D

IDENTIFICATION				MANHOURS				DIRECT COSTS $(000)				TIME	
				WORK TO DATE	TOTALS AT COMPLETION			WORK TO DATE	TOTALS AT COMPLETION				
CHARGE NUMBER	RESP ORGN	PERF ORGN	RES CODE	ACTUAL	PLANNED	LATEST REVISED ESTIMATE	PROJECTED (OVERRUN) UNDERRUN	ACTUAL	PLANNED	LATEST REVISED ESTIMATE	PROJECTED (OVERRUN) UNDERRUN	MOST CRIT SLACK (WKS)	SCHED OR ACT(A) COMPL DATE
SUMMARY NUMBER 01 DESCRIPTION													
SUMMARY NUMBER 01	RESP 2	PO 02	RC01						140		140	90.0	
			RC02						190		190	90.0	
											7.75		
TOTAL									330		330		
SUMMARY NUMBER 03 DESCRIPTION													
SUMMARY NUMBER 03	RESP 2	PO 02	RC01	3,000		3,000	(3,000)		390		390	90.0	
			RC02						420		420	90.0	
											7.75		
TOTAL									810		810		
SUMMARY NUMBER 05 DESCRIPTION													
SUMMARY NUMBER 05	RESP 3	PO 02	RC02						550		550	90.0	
											7.75		
TOTAL									550		550		
SUMMARY NUMBER 06 DESCRIPTION													
SUMMARY NUMBER 06	RESP 3	PO 02	RC04						360		360	90.0	
											7.75		
TOTAL									360		360		
											7.75		
TOTAL									2,050		2,050		

Figure 13. Organization Status Report B (cont'd.)

GE PERT COST PAGE 1

ORGANIZATION STATUS REPORT
BY PERF ORGN, CHARGE NUMBER

	REPORTING ORGN.	CONTRACT NO.	REPORT DATES
			TERM (SPAN)- TOTAL PROGRAM
REPORT ORGAN 1 DESCR	REPORT ORGAN 1	CONTRACT NUMBER 1	CUT OFF DATE- 01JUN66
LEVEL/SUMMARY ITEM- 2/SUMMARY NUMBER 04	DESCRIPTION SUMMARY NUMBER 04		RELEASE DATE- RELEASE D

IDENTIFICATION				MANHOURS				DIRECT COSTS $(000)				TIME	
				WORK TO DATE	TOTALS AT COMPLETION			WORK TO DATE	TOTALS AT COMPLETION				
CHARGE NUMBER	RESP ORGN	PERF ORGN	RES CODE	ACTUAL	PLANNED	LATEST REVISED ESTIMATE	PROJECTED (OVERRUN) UNDERRUN	ACTUAL	PLANNED	LATEST REVISED ESTIMATE	PROJECTED (OVERRUN) UNDERRUN	MOST CRIT SLACK (WKS)	SCHED OR ACT(A) COMPL DATE
SUMMARY NUMBER 01		PO 01		1,000		1,000	(1,000)	5	130	5	125	90.0	
SUMMARY NUMBER 03									690		690	90.0	
SUMMARY NUMBER 05								1	510	1	509	90.0	
SUMMARY NUMBER 06								2	340	2	338	90.0	
											7.75		
	TOTAL							8	1,670	8	1,662		

Figure 14. Organization Status Report C

GE PERT COST PAGE 2

ORGANIZATION STATUS REPORT
BY PERF ORGN, CHARGE NUMBER

	REPORTING ORGN.	CONTRACT NO.	REPORT DATES
REPORT ORGAN 1 DESCR	REPORT ORGAN 1	CONTRACT NUMBER 1	TERM (SPAN)- TOTAL PROGRAM
LEVEL/SUMMARY ITEM- 2/SUMMARY NUMBER 04	DESCRIPTION SUMMARY NUMBER 04		CUT OFF DATE- 01JUN66
			RELEASE DATE- RELEASE D

IDENTIFICATION				MANHOURS				DIRECT COSTS $(000)				TIME	
				WORK TO DATE	TOTALS AT COMPLETION			WORK TO DATE	TOTALS AT COMPLETION				
CHARGE NUMBER	RESP ORGN	PERF ORGN	RES CODE	ACTUAL	PLANNED	LATEST REVISED ESTIMATE	PROJECTED (OVERRUN) UNDERRUN	ACTUAL	PLANNED	LATEST REVISED ESTIMATE	PROJECTED (OVERRUN) UNDERRUN	MOST CRIT SLACK (WKS)	SCHED OR ACT(A) COMPL DATE
SUMMARY NUMBER 02		P0 02							330		330	90.0	
SUMMARY NUMBER 03				3,000		3,000	(3,000)		810		810	90.0	
SUMMARY NUMBER 05									550		550	90.0	
SUMMARY NUMBER 06									360		360	90.0	
											7.75		
	TOTAL								2,050		2,050		

Figure 14. Organization Status Report C (cont'd.)

GE PERT COST PAGE 1

ORGANIZATION STATUS REPORT
BY CHARGE NUMBER, PERF ORGN

	REPORTING ORGN.	CONTRACT NO.	REPORT DATES
REPORT ORGAN 1 DESCR	REPORT ORGAN 1	CONTRACT NUMBER 1	TERM (SPAN)- TOTAL PROGRAM
LEVEL/SUMMARY ITEM- 2/SUMMARY NUMBER 04	DESCRIPTION SUMMARY NUMBER 04		CUT OFF DATE- 01JUN66
			RELEASE DATE- RELEASE D

IDENTIFICATION				MANHOURS				DIRECT COSTS $(000)				TIME	
				WORK TO DATE	TOTALS AT COMPLETION			WORK TO DATE	TOTALS AT COMPLETION				
CHARGE NUMBER	RESP ORGN	PERF ORGN	RES CODE	ACTUAL	PLANNED	LATEST REVISED ESTIMATE	PROJECTED (OVERRUN) UNDERRUN	ACTUAL	PLANNED	LATEST REVISED ESTIMATE	PROJECTED (OVERRUN) UNDERRUN	MOST CRIT SLACK (WKS)	SCHED OR ACT(A) COMPL DATE
SUMMARY NUMBER 01		PO 01		1,000		1,000	(1,000)	5	130	5	125	90.0	
		PO 02							330		330	90.0	
		PO 03		2,000		2,000	(2,000)	7	530	7	523	90.0	
	TOTAL							12	990	12	84.79 978		

Figure 15. Organization Status Report D

GE PERT COST PAGE 1

ORGANIZATION STATUS REPORT
BY CHARGE NUMBER, PERF ORGN

	REPORTING ORGN,	CONTRACT NO,	REPORT DATES
REPORT ORGAN 2 DESCR	REPORT ORGAN 2	CONTRACT NUMBER 2	TERM (SPAN)- TOTAL PROGRAM
			CUT OFF DATE- 01JUN66
LEVEL/SUMMARY ITEM- 2/SUMMARY NUMBER 12	DESCRIPTION SUMMARY NUMBER 12		RELEASE DATE- RELEASE D

IDENTIFICATION				MANHOURS				DIRECT COSTS $(000)				TIME	
				WORK TO DATE	TOTALS AT COMPLETION			WORK TO DATE	TOTALS AT COMPLETION				
CHARGE NUMBER	RESP ORGN	PERF ORG	RES CODE	ACTUAL	PLANNED	LATEST REVISED ESTIMATE	PROJECTED (OVERRUN) UNDERRUN	ACTUAL	PLANNED	LATEST REVISED ESTIMATE	PROJECTED (OVERRUN) UNDERRUN	MOST CRIT SLACK (WKS)	SCHED OR ACT(A) COMPL DATE
SUMMARY NUMBER 09		PO 01			14,000		14,000		70		70		
		PO 02			14,000		14,000		70		70		
		PO 05		320	28,000	320	27,680	1	98	1	97		
	TOTAL							1	238	1	71.21 237		

Figure 15. Organization Status Report D (cont'd.)

FINANCIAL PLAN AND STATUS REPORT

The Financial Plan and Status Report provides data for monthly comparison (at any given level) of actual costs and/or latest revised estimates against planned costs, and thus serves as a tool for monitoring the financial plans.

Financial Plan 1 (see Figure 16) shows historical (prior month) cumulative costs for each charge number. Both incremental and cumulative costs by charge number are shown for each future month within the time period identified in the report dates.

Financial Plan 2 is prepared for higher levels of management by printing only totals for each month. (See Figure 17.)

The total costs shown on these reports have not been summed up through the work breakdown structure. They are costs that are associated directly with the corresponding charge/summary numbers appearing on these reports. Incremental costs and cumulative costs are printed in thousands of dollars.

Latest Revised Estimate

The latest revised estimate is computed both incrementally and cumulatively by month for each summary item at a chosen level by summing all of the monthly cost estimates for that item.

(Over) Under Plan

(Over) under plan is also computed both incrementally and cumulatively. This figure represents the difference between the planned total costs and the latest revised estimate.

An underplan condition exists when:

Latest Revised Estimate < Planned Total Costs.

An overplan condition exists when:

Planned Total costs < Latest Revised Estimate,
and is indicated by parentheses around the figure on the report.

GE PERT COST
FINANCIAL PLAN AND STATUS REPORT
BY MONTH, CHARGE NUMBER

	REPORTING ORGN.	CONTRACT NO.	REPORT DATES
REPORT ORGAN 1 DESCR	REPORT ORGAN 1	CONTRACT NUMBER 1	TERM (SPAN)-
			CUT OFF DATE- 01JUN65
LEVEL/SUMMARY ITEM- 2/SUMMARY NUMBER 04	DESCRIPTION SUMMARY NUMBER 04		RELEASE DATE- RELEASE D

MONTH	CHARGE NUMBER	INCREMENTAL COST $(000)				CUMULATIVE COST $(000)			
		ACTUAL	PLANNED	LATEST REVISED ESTIMATE	(OVER) UNDER PLAN	ACTUAL	PLANNED	LATEST REVISED ESTIMATE	(OVER) UNDER PLAN
JAN65	SUMMARY NUMBER 01		210	210			210	210	
	TOTAL		210	210			210	210	
FEB65	SUMMARY NUMBER 01		360	360			570	570	
	SUMMARY NUMBER 03		210	210			210	210	
	TOTAL		570	570			780	780	
MAR65	SUMMARY NUMBER 03		1,080	1,080			1,290	1,290	
	TOTAL		1,080	1,080			1,860	1,860	
APR65	SUMMARY NUMBER 01		420	420			990	990	
	SUMMARY NUMBER 05		1,120	1,120			1,120	1,120	
	TOTAL		1,540	1,540			3,400	3,400	
MAY65	SUMMARY NUMBER 03		1,140	1,140			2,430	2,430	
	SUMMARY NUMBER 07		100	100			100	100	
	TOTAL		1,240	1,240			4,640	4,640	
JUN65	SUMMARY NUMBER 07		100	100			200	200	
	TOTAL		100	100			4,740	4,740	
JUL65	SUMMARY NUMBER 05		1,160	1,160			2,280	2,280	
	SUMMARY NUMBER 07		100	100			300	300	
	TOTAL		1,260	1,260			6,000	6,000	
AUG65	SUMMARY NUMBER 07		100	100			400	400	
	TOTAL		100	100			6,100	6,100	
SEP65	SUMMARY NUMBER 06		700	700			700	700	
	SUMMARY NUMBER 07		100	100			500	500	
	TOTAL		800	800			6,900	6,900	

Figure 16. Financial Plan and Status Report 1

GE PERT COST
FINANCIAL PLAN AND STATUS REPORT
BY MONTH, CHARGE NUMBER

	REPORTING ORGN.	CONTRACT NO.	REPORT DATES
REPORT ORGAN 1 DESCR	REPORT ORGAN 1	CONTRACT NUMBER 1	TERM (SPAN)-
LEVEL/SUMMARY ITEM- 2/SUMMARY NUMBER 04	DESCRIPTION SUMMARY NUMBER 04		CUT OFF DATE- 01JUN65
			RELEASE DATE- RELEASE D

MONTH	CHARGE NUMBER	INCREMENTAL COST $(000)				CUMULATIVE COST $(000)			
		ACTUAL	PLANNED	LATEST REVISED ESTIMATE	(OVER) UNDER PLAN	ACTUAL	PLANNED	LATEST REVISED ESTIMATE	(OVER) UNDER PLAN
OCT65	SUMMARY NUMBER 07		100	100			600	600	
	TOTAL		100	100			7,000	7,000	
TOTAL PERIOD							7,000	7,000	

Figure 16. Financial Plan and Status Report 1 (cont'd.)

GE PERT COST
FINANCIAL PLAN AND STATUS REPORT
BY MONTH

	REPORTING ORGN.	CONTRACT NO.	REPORT DATES
REPORT ORGAN 1 DESCR	REPORT ORGAN 1	CONTRACT NUMBER 1	TERM (SPAN)-
			CUT OFF DATE- 01JUN65
LEVEL/SUMMARY ITEM- 2/SUMMARY NUMBER 04	DESCRIPTION SUMMARY NUMBER 04		RELEASE DATE- RELEASE D

		INCREMENTAL COST $(000)				CUMULATIVE COST $(000)			
MONTH	CHARGE NUMBER	ACTUAL	PLANNED	LATEST REVISED ESTIMATE	(OVER) UNDER PLAN	ACTUAL	PLANNED	LATEST REVISED ESTIMATE	(OVER) UNDER PLAN
JAN65			210	210			210	210	
FEB65			570	570			780	780	
MAR65			1,080	1,080			1,860	1,860	
APR65			1,540	1,540			3,400	3,400	
MAY65			1,240	1,240			4,640	4,640	
JUN65			100	100			4,740	4,740	
JUL65			1,260	1,260			6,000	6,000	
AUG65			100	100			6,100	6,100	
SEP65			800	800			6,900	6,900	
OCT65			100	100			7,000	7,000	
TOTAL PERIOD							7,000	7,000	

Figure 17. Financial Plan and Status Report 2

MANPOWER LOADING REPORT

The Manpower Loading Report shows manpower loading for various summary levels within the program. There are three types of Manpower Loading Reports. These are: by resource, month, performing organization, charge number as in Figure 18; by resource and month as in Figure 19; or by performing organization, month, resource as in Figure 20.

The Manpower Loading Report lists actual, planned, and latest estimated monthly man-hours by type of manpower. This provides data which depicts man-hours utilization by month for each labor skill and/or performing organization.

Man-Hours

Only those charge/summary numbers bearing man-hours or man-months appear on this report. Total man-hours are shown for each month.

The latest revised estimate for the current month and the prior month is the sum of the actual costs. The latest revised estimate for future months is the sum of the actuals to date plus the sum of the budgeted amounts.

The (overplan)/underplan is also computed for each combination. This value represents the difference between planned man-hours and the latest revised estimate.

An underplan condition exists when:

Latest Revised Estimate < Planned Man-Hours.

An overplan condition exists when:

Planned Man-Hours < Latest Revised Estimate,
and is indicated by parentheses around the figure.

Time Data

Time data for this report is the same as for the Management Summary Report.

GE PERT COST
MANPOWER LOADING REPORT
BY RESOURCE, MONTH, PERF ORGN, CHARGE NO;

	REPORTING ORGN.	CONTRACT NO.	REPORT DATES
REPORT ORGAN 2 DESCR	REPORT ORGAN 2	CONTRACT NUMBER 2	TERM (SPAN)-
LEVEL/SUMMARY ITEM- 2/SUMMARY NUMBER 12	DESCRIPTION SUMMARY NUMBER 12		CUT OFF DATE- 01JUN65
			RELEASE DATE- RELEASE D

IDENTIFICATION				MANHOURS				TIME
MONTH	RES (SKILL) CODE	PERF ORGN	CHARGE NUMBER	ACTUAL	PLANNED	LATEST REVISED ESTIMATE	(OVER) UNDER PLAN	MOST CRIT SLACK (WKS)
JUN65	RC01	PO 01	SUMMARY NUMBER 09		4,000	4,000		
		PO 03	SUMMARY NUMBER 09		2,000	2,000		
TOTAL					6,000	6,000		
AUG65	RC01	PO 01	SUMMARY NUMBER 09		10,000	10,000		
		PO 03	SUMMARY NUMBER 09		12,000	12,000		
			SUMMARY NUMBER 12		11,000	11,000		190.0
TOTAL					33,000	33,000		
SEP65	RC01	PO 01	SUMMARY NUMBER 13		13,000	13,000		190.0
TOTAL					13,000	13,000		
OCT65	RC01	PO 03	SUMMARY NUMBER 12		3,000	3,000		190.0
TOTAL					3,000	3,000		
NOV65	RC01	PO 01	SUMMARY NUMBER 13		1,000	1,000		190.0
TOTAL					1,000	1,000		
TOTAL					56,000	56,000		

Figure 18. Manpower Loading Report 1

GE PERT COST
MANPOWER LOADING REPORT
BY RESOURCE, MONTH, PERF ORGN, CHARGE NO.

	REPORTING ORGN.	CONTRACT NO.	REPORT DATES
REPORT ORGAN 2 DESCR	REPORT ORGAN 2	CONTRACT NUMBER 2	TERM (SPAN)-
LEVEL/SUMMARY ITEM- 2/SUMMARY NUMBER 12	DESCRIPTION SUMMARY NUMBER 12		CUT OFF DATE- 01JUN65
			RELEASE DATE- RELEASE D

IDENTIFICATION				MANHOURS				TIME
MONTH	RES (SKILL) CODE	PERF ORGN	CHARGE NUMBER	ACTUAL	PLANNED	LATEST REVISED ESTIMATE	(OVER) UNDER PLAN	MOST CRIT SLACK (WKS)
JUN65	RC02	PO 02	SUMMARY NUMBER 09		1,000	1,000		
		PO 03	SUMMARY NUMBER 09		3,000	3,000		
TOTAL					4,000	4,000		
AUG65	RC02	PO 02	SUMMARY NUMBER 09		13,000	13,000		
		PO 03	SUMMARY NUMBER 09		11,000	11,000		
			SUMMARY NUMBER 12		12,000	12,000		190.0
TOTAL					36,000	36,000		
OCT65	RC02	PO 03	SUMMARY NUMBER 12		2,000	2,000		190.0
TOTAL					2,000	2,000		
TOTAL					42,000	42,000		

Figure 18. Manpower Loading Report 1 (cont'd.)

GE PERT COST
MANPOWER LOADING REPORT
BY RESOURCE, MONTH

	REPORTING ORGN.	CONTRACT NO.	REPORT DATES
REPORT ORGAN 2 DESCR	REPORT ORGAN 2	CONTRACT NUMBER 2	TERM (SPAN)-
LEVEL/SUMMARY ITEM- 2/SUMMARY NUMBER 12	DESCRIPTION SUMMARY NUMBER 12		CUT OFF DATE- 01JUN65
			RELEASE DATE- RELEASE D

IDENTIFICATION				MANHOURS				TIME
MONTH	RES (SKILL) CODE	PERF ORGN	CHARGE NUMBER	ACTUAL	PLANNED	LATEST REVISED ESTIMATE	(OVER) UNDER PLAN	MOST CRIT SLACK (WKS)
	RC01							
JUN65					6,000	6,000		
AUG65					33,000	33,000		
SEP65					13,000	13,000		
OCT65					3,000	3,000		
NOV65					1,000	1,000		
	TOTAL				56,000	56,000		

Figure 19. Manpower Loading Report 2

GE PERT COST
MANPOWER LOADING REPORT
BY RESOURCE, MONTH

	REPORTING ORGN.	CONTRACT NO.	REPORT DATES
REPORT ORGAN 2 DESCR	REPORT ORGAN 2	CONTRACT NUMBER 2	TERM (SPAN)-
			CUT OFF DATE- 01JUN65
LEVEL/SUMMARY ITEM- 2/SUMMARY NUMBER	12	DESCRIPTION SUMMARY NUMBER 12	RELEASE DATE- RELEASE D

IDENTIFICATION				MANHOURS				TIME
MONTH	RES (SKILL) CODE	PERF ORGN	CHARGE NUMBER	ACTUAL	PLANNED	LATEST REVISED ESTIMATE	(OVER) UNDER PLAN	MOST CRIT SLACK (WKS)
	RCC2							
JUN65					4,000	4,000		
AUG65					36,000	36,000		
OCT65					2,000	2,000		
	TOTAL				42,000	42,000		

Figure 19. Manpower Loading Report 2 (cont'd.)

GE PERT COST
MANPOWER LOADING REPORT
BY PERF ORGN, MONTH, RESOURCE

	REPORTING ORGN.	CONTRACT NO.	REPORT DATES
REPORT ORGAN 2 DESCR	REPORT ORGAN 2	CONTRACT NUMBER 2	TERM (SPAN)-
			CUT OFF DATE- 01JUN65
LEVEL/SUMMARY ITEM- 2/SUMMARY NUMBER 12	DESCRIPTION SUMMARY NUMBER 12		RELEASE DATE- RELEASE D

IDENTIFICATION				MANHOURS				TIME
MONTH	RES (SKILL) CODE	PERF ORGN	CHARGE NUMBER	ACTUAL	PLANNED	LATEST REVISED ESTIMATE	(OVER) UNDER PLAN	MOST CRIT SLACK (WKS)
JUN65	RC01	P0 01			4,000	4,000		
TOTAL					4,000	4,000		
AUG65	RC01	P0 01			10,000	10,000		
	RC03				9,000	9,000		190.0
TOTAL					19,000	19,000		
SEP65	RC01	P0 01			13,000	13,000		190.0
TOTAL					13,000	13,000		
OCT65	RC03	P0 01			5,000	5,000		190.0
	RC07				2,600	2,600		190.0
TOTAL					7,600	7,600		
NOV65	RC01	P0 01			1,000	1,000		190.0
TOTAL					1,000	1,000		
DEC65	RC07	P0 01			960	960		190.0
TOTAL					960	960		
		TOTAL			45,560	45,560		

Figure 20. Manpower Loading Report 3

GE PERT COST
MANPOWER LOADING REPORT
BY PERF ORGN, MONTH, RESOURCE

	REPORTING ORGN.	CONTRACT NO.	REPORT DATES
REPORT ORGAN 2 DESCR	REPORT ORGAN 2	CONTRACT NUMBER 2	TERM (SPAN)-
LEVEL/SUMMARY ITEM- 2/SUMMARY NUMBER	12	DESCRIPTION SUMMARY NUMBER 12	CUT OFF DATE- 01JUN65
			RELEASE DATE- RELEASE D

IDENTIFICATION				MANHOURS				TIME
MONTH	RES (SKILL) CODE	PERF ORGN	CHARGE NUMBER	ACTUAL	PLANNED	LATEST REVISED ESTIMATE	(OVER) UNDER PLAN	MOST CRIT SLACK (WKS)
JUN65	RC02	PO 02			1,000	1,000		
TOTAL					1,000	1,000		
JUL65	RC04	PO 02			8,000	8,000		
TOTAL					8,000	8,000		
AUG65	RC02	PO 02			13,000	13,000		
TOTAL					13,000	13,000		
SEP65	RC04	PO 02			6,000	6,000		
TOTAL					6,000	6,000		
OCT65	RC04	PO 02			2,000	2,000		190.0
TOTAL					2,000	2,000		
DEC65	RC04	PO 02			1,440	1,440		190.0
TOTAL					1,440	1,440		
		TOTAL			31,440	31,440		

Figure 20. Manpower Loading Report 3 (cont'd.)

MASTER FILE REPORTS

In addition to the output reports, the PERT/COST program produces reports of information currently on the master file. These reports are straight record listings in the input card format for that report. They are requested in columns 23-29 of the master file information card.

Figure 21 shows a sample of each of the following master file reports:

- Project Parameter Input Report
- Cost Category Report
- Rate Report
- Work Breakdown Structure Report
- Budget Report
- Estimate Report
- Actual Report

```
        MASTER FILE REPORTS - PROJECT PARAMETER REPORT                    DATE  01JUN66          PAGE     1

P       10000002 02000003TOTAL PROGRAM 01JUN66RELEASE 01


        MASTER FILE REPORTS - CATEGORY REPORT                             DATE  01JUN66          PAGE     1

6     CAT 01ASUMMARY NUM          ER  01SUMMARY NUMBER  05SUMMARY NUMBER  06
6     CAT 02ASUMMARY NUM          ER  03SUMMARY NUMBER  07
6     CAT 03ASUMMARY NUM          ER  09SUMMARY NUMBER  13SUMMARY NUMBER  12
6     CAT 04ASUMMARY NUM          ER  11SUMMARY NUMBER  15


        MASTER FILE REPORTS - RATE TABLE REPORT                           DATE  01JUN66          PAGE     1

R  PO  01RC01          4000          1000                EFFECTIVE DATE  JAN66
R  PO  01RC01          5000                        70000 EFFECTIVE DATE  AUG66
R  PO  01RC03          3000          3000                EFFECTIVE DATE  JAN66
R  PO  01RC03          4000                        20000 EFFECTIVE DATE  JUL67
R  PO  01RC07          4000                       200000 EFFECTIVE DATE  JAN66
R  PO  02RC02          3000          1000                EFFECTIVE DATE  JAN66
R  PO  02RC02          5000                       100000 EFFECTIVE DATE  FEB66
R  PO  02RC04          5000          2000                EFFECTIVE DATE  JAN66
R  PO  02RC04          3000                        30000 EFFECTIVE DATE  JUN67
R  PO  03RC01          3500          2000                EFFECTIVE DATE  JAN66
R  PO  03RC01          3000                        90000 EFFECTIVE DATE  MAR66
R  PO  03RC02          3750          3000                EFFECTIVE DATE  JAN66
R  PO  03RC02          4000                        80000 EFFECTIVE DATE  MAY66
R  PO  03RC06          4750          1000                EFFECTIVE DATE  JAN66
R  PO  03RC06          5000                        40000 EFFECTIVE DATE  APR67
R  PO  04RC04          4000                       500000 EFFECTIVE DATE  JAN66
R  PO  04RC04          5000                        10000 EFFECTIVE DATE  SEP67
R  PO  04RC05          4500          3000                EFFECTIVE DATE  JAN66
R  PO  04RC05          4000                        50000 EFFECTIVE DATE  JAN67
R  PO  05RC04          4250          2000                EFFECTIVE DATE  JAN66
R  PO  05RC04          3000                        60000 EFFECTIVE DATE  NOV66
R  PO  06RC03          5000                       400000 EFFECTIVE DATE  JAN66
R  PO  06RC03          3000                         5000 EFFECTIVE DATE  OCT67
R  PO  07RC03          3000                       300000 EFFECTIVE DATE  JAN66
R  PO  07RC03          4000                         0001 EFFECTIVE DATE  DEC67
```

Figure 21. Master File Reports

```
        MASTER FILE REPORTS - WORK BREAKDOWN REPORT                    DATE  01JUN66          PAGE      1


    W  SUMMARY NUMBER  01    A   04    SUMMARY NUMBER  02  SUMMARY    NUMBER    01     DESCRIPTION
    W  SUMMARY NUMBER  01    B   01JAN65   01APR65   00000110   00000510
    W  SUMMARY NUMBER  01    Z             S   02NOV65     04JAN66                  +090.0
    W  SUMMARY NUMBER  02    A   03    SUMMARY NUMBER  04  SUMMARY    NUMBER    02     DESCRIPTION
    W  SUMMARY NUMBER  03    A   04    SUMMARY NUMBER  02  SUMMARY    NUMBER    03     DESCRIPTION
    W  SUMMARY NUMBER  03    B   01FEB65   01MAY65   00000120   00000520
    W  SUMMARY NUMBER  03    Z             S   23NOV65     25JAN66                  +090.0
    W  SUMMARY NUMBER  04    A   02    SUMMARY NUMBER  08  SUMMARY    NUMBER    04     DESCRIPTION
    W  SUMMARY NUMBER  04    B                                                RESP 2
    W  SUMMARY NUMBER  05    A   04    SUMMARY NUMBER  06  SUMMARY    NUMBER    05     DESCRIPTION
    W  SUMMARY NUMBER  05    B   01MAR65   01JUN65   00000130   00000530
    W  SUMMARY NUMBER  05    Z             S   21DEC65     22FEB66                  +090.0
    W  SUMMARY NUMBER  06    A   03    SUMMARY NUMBER  04  SUMMARY    NUMBER    06     DESCRIPTION
    W  SUMMARY NUMBER  06    B   01APR65   01JUL65   00000140   00000540  RESP 3
    W  SUMMARY NUMBER  06    Z             S   22FEB66     26APR66                  +090.0
    W  SUMMARY NUMBER  07    A   04    SUMMARY NUMBER  06  SUMMARY    NUMBER    07     DESCRIPTION
    W  SUMMARY NUMBER  07    B   01MAY65   01AUG65   00000150   00000550
    W  SUMMARY NUMBER  07    Z             S   29MAR66     31MAY66                  +090.0
    W  SUMMARY NUMBER  08    A   01                        SUMMARY    NUMBER    08     DESCRIPTION
    W  SUMMARY NUMBER  08    B                                                RESP 1   CONTRACT NUMBER  1
    W  SUMMARY NUMBER  08    C   REPORT ORGAN 1    REPORT ORGAN  1 DESCR
    W  SUMMARY NUMBER  09    A   04    SUMMARY NUMBER  10  SUMMARY    NUMBER    09     DESCRIPTION
    W  SUMMARY NUMBER  09    B   01JUN65   01SEP65   00000160   00000560
    W  SUMMARY NUMBER  09    Z             S   28JUN66     28JUN66
    W  SUMMARY NUMBER  10    A   03    SUMMARY NUMBER  12  SUMMARY    NUMBER    10     DESCRIPTION
    W  SUMMARY NUMBER  10    B                                                  CONTRACT NUMBER  3
    W  SUMMARY NUMBER  11    A   04    SUMMARY NUMBER  10  SUMMARY    NUMBER    11     DESCRIPTION
    W  SUMMARY NUMBER  11    B   01JUL65   01OCT65   00000200   00000565
    W  SUMMARY NUMBER  11    Z             S   09AUG66     09AUG66
    W  SUMMARY NUMBER  12    A   02    SUMMARY NUMBER  08  SUMMARY    NUMBER    12     DESCRIPTION
    W  SUMMARY NUMBER  12    B   01AUG65   01NOV65   00000210   00000600           CONTRACT NUMBER  2
    W  SUMMARY NUMBER  12    C   REPORT ORGAN 2    REPORT ORGAN  2 DESCR
    W  SUMMARY NUMBER  12    Z             S   28SEP65     08FEB66                  +190.0
    W  SUMMARY NUMBER  13    A   04    SUMMARY NUMBER  14  SUMMARY    NUMBER    13     DESCRIPTION
    W  SUMMARY NUMBER  13    B   01SEP65   01DEC65   00000220   00000610
    W  SUMMARY NUMBER  13    Z             S   02NOV65     15MAR66                  +190.0
    W  SUMMARY NUMBER  14    A   03    SUMMARY NUMBER  12  SUMMARY    NUMBER    14     DESCRIPTION
    W  SUMMARY NUMBER  14    C   REPORT ORGAN 3    REPORT ORGAN  3 DESCR
    W  SUMMARY NUMBER  15    A   04    SUMMARY NUMBER  14  SUMMARY    NUMBER    15     DESCRIPTION
    W  SUMMARY NUMBER  15    B   01OCT65   01JAN66   00000230   00000620
    W  SUMMARY NUMBER  15    C   REPORT ORGAN 4    REPORT ORGAN  4 DESCR
    W  SUMMARY NUMBER  15    Z             S   23NOV65     05APR66                  +190.0
```

Figure 21. Master File Reports (cont'd.)

MASTER FILE REPORTS - MONTHLY BUDGET REPORT DATE 01JUN66 PAGE 1

5	SUMMARY NUMBER	01	PO	01	RC01	A D	10000	10000		20000		
5	SUMMARY NUMBER	01	PO	01	RC02	A D	20000	30000		40000		
5	SUMMARY NUMBER	01	PO	02	RC01	A D	30000	50000		60000		
5	SUMMARY NUMBER	01	PO	02	RC02	A D	40000	70000		80000		
5	SUMMARY NUMBER	01	PO	03	RC01	A D	50000	90000		100000		
5	SUMMARY NUMBER	01	PO	03	RC02	A D	60000	110000		120000		
5	SUMMARY NUMBER	03	PO	01	RC01	A D	60000	130000		140000		
5	SUMMARY NUMBER	03	PO	01	RC02	A D	50000	150000		160000		
5	SUMMARY NUMBER	03	PO	02	RC01	A D	40000	170000		180000		
5	SUMMARY NUMBER	03	PO	02	RC02	A T	30000	190000		200000		
5	SUMMARY NUMBER	03	PO	03	RC01	A T	20000	210000		220000		
5	SUMMARY NUMBER	03	PO	03	RC02	A T	10000	230000		240000		
5	SUMMARY NUMBER	05	PO	01	RC01	A T		250000			260000	
5	SUMMARY NUMBER	05	PO	02	RC02	A T		270000			280000	
5	SUMMARY NUMBER	05	PO	03	RC03	A T		290000			300000	
5	SUMMARY NUMBER	05	PO	04	RC04	A T		310000			320000	
5	SUMMARY NUMBER	06	PO	01	RC03	A T						340000
5	SUMMARY NUMBER	06	PO	02	RC04	A T						360000
5	SUMMARY NUMBER	07	PO	03	RC06	A T	10000	10000	10000	10000	10000	10000
5	SUMMARY NUMBER	07	PO	04	RC05	A T	20000	20000	20000	20000	20000	20000
5	SUMMARY NUMBER	07	PO	05	RC04	A T	30000	30000	30000	30000	30000	30000
5	SUMMARY NUMBER	07	PO	06	RC03	A T	40000	40000	40000	40000	40000	40000
5	SUMMARY NUMBER	09	PO	01	RC01	A H	4000		10000			
5	SUMMARY NUMBER	09	PO	02	RC02	A H	1000		13000			
5	SUMMARY NUMBER	09	PO	03	RC01	A H	2000		12000			
5	SUMMARY NUMBER	09	PO	03	RC02	A H	3000		11000			
5	SUMMARY NUMBER	11	PO	02	RC04	A H	8000		6000			
5	SUMMARY NUMBER	11	PO	03	RC06	A H	7000		7000			
5	SUMMARY NUMBER	11	PO	04	RC05	A H	6000		8000			
5	SUMMARY NUMBER	11	PO	05	RC04	A H	5000		9000			
5	SUMMARY NUMBER	12	PO	01	RC03	A H	9000		5000			
5	SUMMARY NUMBER	12	PO	03	RC01	A H	11000		3000			
5	SUMMARY NUMBER	12	PO	03	RC02	A H	12000		2000			
5	SUMMARY NUMBER	12	PO	04	RC04	A H	10000		4000			
5	SUMMARY NUMBER	13	PO	01	RC01	A H	13000		1000			
5	SUMMARY NUMBER	13	PO	03	RC06	A M	7		10			
5	SUMMARY NUMBER	13	PO	04	RC05	A M	6		12			
5	SUMMARY NUMBER	13	PO	05	RC04	A M	5		13			
5	SUMMARY NUMBER	15	PO	01	RC07	A M	13		6			
5	SUMMARY NUMBER	15	PO	02	RC04	A M	10		9			
5	SUMMARY NUMBER	15	PO	06	RC03	A M	11		8			
5	SUMMARY NUMBER	15	PO	07	RC03	A M	12		7			

Figure 21. Master File Reports (cont'd.)

MASTER FILE REPORTS - MONTHLY ESTIMATE REPORT DATE 01JUN66 PAGE 1

4	SUMMARY NUMBER	01	PO	01	RC01	A D	10000	10000		20000		
4	SUMMARY NUMBER	01	PO	01	RC02	A D	20000	30000		40000		
4	SUMMARY NUMBER	01	PO	02	RC01	A D	30000	50000		60000		
4	SUMMARY NUMBER	01	PO	02	RC02	A D	40000	70000		80000		
4	SUMMARY NUMBER	01	PO	03	RC01	A D	50000	90000		100000		
4	SUMMARY NUMBER	01	PO	03	RC02	A D	60000	110000		120000		
4	SUMMARY NUMBER	03	PO	01	RC01	A D	60000	130000		140000		
4	SUMMARY NUMBER	03	PO	01	RC02	A D	50000	150000		160000		
4	SUMMARY NUMBER	03	PO	02	RC01	A D	40000	170000		180000		
4	SUMMARY NUMBER	03	PO	02	RC02	A T	30000	190000		200000		
4	SUMMARY NUMBER	03	PO	03	RC01	A T	20000	210000		220000		
4	SUMMARY NUMBER	03	PO	03	RC02	A T	10000	230000		240000		
4	SUMMARY NUMBER	05	PO	01	RC01	A T		250000			260000	
4	SUMMARY NUMBER	05	PO	02	RC02	A T		270000			280000	
4	SUMMARY NUMBER	05	PO	03	RC03	A T		290000			300000	
4	SUMMARY NUMBER	05	PO	04	RC04	A T		310000			320000	
4	SUMMARY NUMBER	06	PO	01	RC03	A T						340000
4	SUMMARY NUMBER	06	PO	02	RC04	A T						360000
4	SUMMARY NUMBER	07	PO	03	RC06	A T	10000	10000	10000	10000	10000	10000
4	SUMMARY NUMBER	07	PO	04	RC05	A T	20000	20000	20000	20000	20000	20000
4	SUMMARY NUMBER	07	PO	05	RC04	A T	30000	30000	30000	30000	30000	30000
4	SUMMARY NUMBER	07	PO	06	RC03	A T	40000	40000	40000	40000	40000	40000
4	SUMMARY NUMBER	09	PO	01	RC01	A H	4000		10000			
4	SUMMARY NUMBER	09	PO	02	RC02	A H	1000		13000			
4	SUMMARY NUMBER	09	PO	03	RC01	A H	2000		12000			
4	SUMMARY NUMBER	09	PO	03	RC02	A H	3000		11000			
4	SUMMARY NUMBER	11	PO	02	RC04	A H	6000		6000			
4	SUMMARY NUMBER	11	PO	03	RC06	A H	7000		7000			
4	SUMMARY NUMBER	11	PO	04	RC05	A H	6000		8000			
4	SUMMARY NUMBER	11	PO	05	RC04	A H	5000		9000			
4	SUMMARY NUMBER	12	PO	01	RC03	A H	9000		5000			
4	SUMMARY NUMBER	12	PO	03	RC01	A H	11000		3000			
4	SUMMARY NUMBER	12	PO	03	RC02	A H	12000		2000			
4	SUMMARY NUMBER	12	PO	04	RC04	A H	10000		4000			
4	SUMMARY NUMBER	13	PO	01	RC01	A H	13000		1000			
4	SUMMARY NUMBER	13	PO	03	RC06	A H	7		10			
4	SUMMARY NUMBER	13	PO	04	RC05	A H	6		12			
4	SUMMARY NUMBER	13	PO	05	RC04	A H	5		13			
4	SUMMARY NUMBER	15	PO	01	RC07	A H	13		6			
4	SUMMARY NUMBER	15	PO	02	RC04	A H	10		9			
4	SUMMARY NUMBER	15	PO	06	RC03	A H	11		8			
4	SUMMARY NUMBER	15	PO	07	RC03	A H	12		7			

Figure 21. Master File Reports (cont'd.)

MASTER FILE REPORTS - ACTUAL INPUT REPORT DATE 01JUN66 PAGE 1

A	SUMMARY NUMBER	01	PO	01	RC01	00005000	00000000	00001000	00000000	00000000	00000000
A	SUMMARY NUMBER	01	PO	03	RC01	00006540	00000000	00002000	00000000	00000000	00000000
A	SUMMARY NUMBER	03	PO	02	RC01	00000000	00000000	00003000	00000000	00000000	00000000
A	SUMMARY NUMBER	05	PO	01	RC01	00000000	00001000	00000000	00000000	00000000	00000000
A	SUMMARY NUMBER	06	PO	01	RC03	00000000	00002000	00000000	00000000	00000000	00000000
A	SUMMARY NUMBER	07	PO	05	RC04	00001000	00000000	00000160	00000000	00000000	00000000
A	SUMMARY NUMBER	09	PO	03	RC02	00001382	00000000	00000320	00000000	00000000	00000000
A	SUMMARY NUMBER	11	PO	03	RC06	00002760	00000000	00000480	00000000	00000000	00000000
A	SUMMARY NUMBER	12	PO	03	RC01	00001000	00000000	00000000	00000000	00000000	00000000
A	SUMMARY NUMBER	13	PO	04	RC05	00002000	00000000	00000000	00000000	00000000	00000000
A	SUMMARY NUMBER	15	PO	07	RC03	00003000	00000000	00000000	00000000	00000000	00000000

Figure 21. Master File Reports (cont'd.)

RATE ERROR REPORT

Any errors found during the processing of budget and estimate figures in the user's rate tables are listed on the rate error report. Figure 22 shows a sample rate error listing. This listing is by performing organization and resource code. Budget and estimate types are identified as B and E respectively.

GE PERT COST
RATE ERROR LISTING

PERF ORGN	RES CODE	MONTH	TYPE
PO 01	RC01	JUN65	
	RC01	JUN65	B
	RC01	AUG65	B
	RC01	AUG65	E
	RC01	SEP65	B
	RC01	SEP65	E
	RC01	NOV65	B
	RC01	NOV65	E
	RC03	AUG65	B
	RC03	AUG65	E
	RC03	OCT65	B
	RC03	OCT65	E
	RC07	OCT65	B
	RC07	OCT65	E
	RC07	DEC65	B
	RC07	DEC65	E
PO 02	RC01	JUN65	
	RC02	JUN65	B
	RC02	AUG65	B
	RC02	AUG65	E
	RC04	JUL65	B
	RC04	JUL65	E
	RC04	SEP65	B
	RC04	SEP65	E
	RC04	OCT65	B
	RC04	OCT65	E
	RC04	DEC65	B
	RC04	DEC65	E

Figure 22. Rate Error Report

GE PERT COST
RATE ERROR LISTING

PERF ORGN	RES CODE	MONTH	TYPE
P0 03	RC01	JUN65	
	RC01	JUN65	B
	RC01	AUG65	B
	RC01	AUG65	E
	RC01	OCT65	B
	RC01	OCT65	E
	RC02	JUN65	
	RC02	JUN65	B
	RC02	AUG65	B
	RC02	AUG65	E
	RC02	OCT65	B
	RC02	OCT65	E
	RC06	JUN65	
	RC06	JUL65	B
	RC06	JUL65	E
	RC06	SEP65	B
	RC06	SEP65	E
	RC06	NOV65	B
	RC06	NOV65	E
P0 04	RC04	AUG65	B
	RC04	AUG65	E
	RC04	OCT65	B
	RC04	OCT65	E
	RC05	JUL65	B
	RC05	JUL65	E
	RC05	SEP65	B
	RC05	SEP65	E
	RC05	NOV65	B
	RC05	NOV65	E
P0 05	RC04	JUN65	
	RC04	JUL65	B
	RC04	JUL65	E
	RC04	SEP65	B
	RC04	SEP65	E
	RC04	NOV65	B
	RC04	NOV65	E
P0 06	RC03	OCT65	B
	RC03	OCT65	E
	RC03	DEC65	B
	RC03	DEC65	E
P0 07	RC03	OCT65	B
	RC03	OCT65	E
	RC03	DEC65	B
	RC03	DEC65	E

Figure 22. Rate Error Report (cont'd.)

5. OPERATING PROCEDURES

All of the cards necessary to operate PERT/COST are included in the card deck sent to the user. The user only needs to supply an identification as required by his installation on the $ IDENT card and his input data which must follow the formats described in Chapter 3. The input data may be in any order since the entire package of data will be sorted in the PERT/COST program. For improved efficiency it is suggested that an H* file be saved and used in place of the binary deck.

DECK SETUP

Figure 23 shows the PERT/COST deck sequence. Shaded cards indicate those added to or supplied by the user.

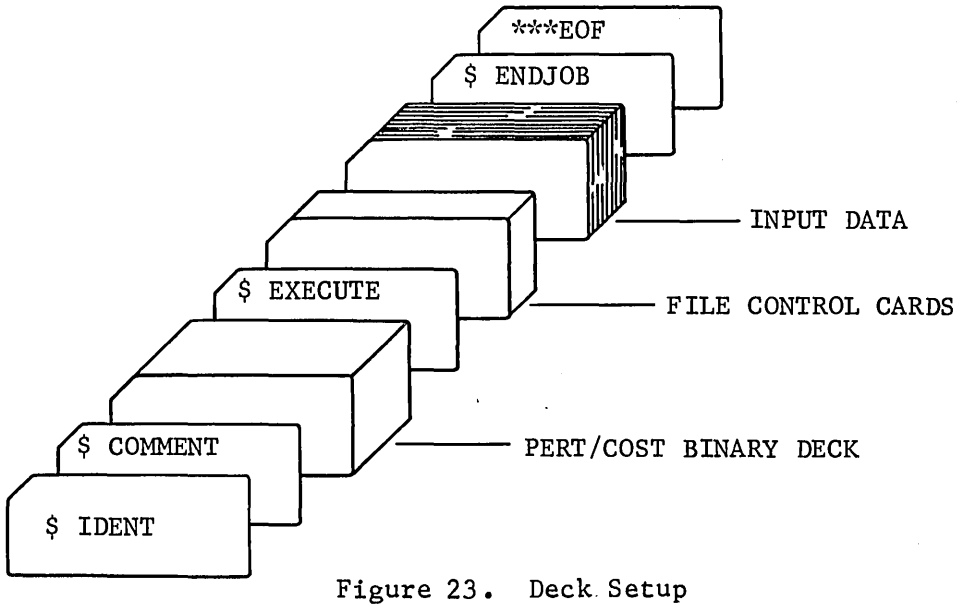

Figure 23. Deck Setup

The file control cards may be varied according to the rules listed under File Requirements in this chapter.

The following is a list of the control cards used in running the sample problem.

```
$       EXECUTE
$       LIMITS   50,45000,,5000
$       TAPE     R*,X5D,,,,R*-EE
$       DISC     T2,X5,4L          OLD MASTER
$       DISC     T3,X6,10L                 NEW  MASTER
$       TAPE     T4,X7D,,1509,,TIMECOSTDATA          TIME DATA
$       NTAPE    S1,A,3                    SORT COLLATION
$       DISC     D1,X10,10L                AUXILIARY TIME
$       DISC     T1,X11,10L                SORT 1, SORTED INPUT, MODIFIED MASTER
$       TAPE     T6,X12S           SORT 3,MODIFIED OUTPUT
$       DISC     T5,X13,4L         SORT 2, MODIFIED MASTER
$       DISC     T7,X14,10L                SORT 4, REPORT SCRATCH
$       DISC     D2,X15,2L         RATE FILE
$       DISC     D3,X16,3L         CATEGORY FILE
$       DISC     D4,X17,2L         TITLE FILE
$       DISC     D5,X18,2L         ERROR FILE
$       DISC     H*,X19,75R
$       SYSOUT   RF
$       DATA     IN

$       ENDJOB
***EOF
```

FILE REQUIREMENTS

The following table shows the files in PERT/COST and their usage.

Note that T1, T5, and D5 are used for a second file after they are no longer needed for the first one.

File Name	Usage	When Required	Storage
T1	Sorted input Modified master	Always required	Tape or disc
T2	Old master	Always required. This is the file from the last running of PERT/COST. On the initial run this may be assigned to a disc file, or a blank tape may be mounted.	Tape
T3	New master	Always required. If the user does not wish to save the new master file he may put it on the disc. Otherwise it must be on tape.	Tape or disc
T4	TIME file	This is file 07 from GE-625/635 PERT/TIME. It must be present on the initial build of the master file and whenever the user wishes to insert new TIME data.	Tape
T5	Modified output Report scratch file	Always required	Tape or disc
T6	Sorted output	Always required	Tape or disc
S1 S2 S3	Sort collation files	Always required	Tape
D1	Auxiliary TIME	Always required	Tape or disc
D2	Rate table	Always required	Tape or disc
D3	Category	Always required	Tape or disc
D4	Title	Always required	Tape or disc
D5	Rate error Scratch file	Always required	Tape or disc

PROGRAMMED MESSAGES

The following is a list of the messages produced by PERT/COST and the names of the subroutines producing them.

Subroutine	Normal Messages	Error Messages
MAINCT	MAINCT IN EXECUTION PERT/COST IS DONE	
SORTIN	SORTIN IN EXECUTION	(card image) ILLEGAL FILE CONTROL CHARACTER (card image) IGNORING RATE ENTRY BAD EFFECTIVE CYCLE (card image) ILLEGAL RECORD TYPE
MFROUT	MFROUT IN EXECUTION	
UPPPIN	UPPPIN IN EXECUTION	(card image) IGNORING A CHANGE CARD WITH NO MATCH (card image) IGNORING A DELETION WITH NO MATCH (card image) IGNORING AN ADDITION BECAUSE OF A MATCH (card image) ILLEGAL DELETION FOLLOWED BY A CHANGE (card image) IGNORING FIRST OF TWO ADDITIONS (card image) ACCEPTING THIS ONE (card image) CHANGE CARDS HAVE CONFLICTING REQUESTS (card image) 2 of 2
UPTIME	UPTIME IN EXECUTION	(Same as for UPPPIN)
UPCATG	UPCATG IN EXECUTION	(Same as for UPPPIN)
UPRATE	UPRATE IN EXECUTION	(Same as for UPPPIN)
UPWB1	UPWB1 IN EXECUTION	(Same as for UPPPIN plus the following) (card image) ILLEGAL SEQUENCE CHARACTER
UPWB2	UPWB2 IN EXECUTION	
UPWB3	UPWB3 IN EXECUTION	(end event number) WBS END EVENT HAS NO MATCH ON USERS TIME FILE
UPBUD	UPBUD IN EXECUTION	(Same as for UPPPIN)

Subroutine	Normal Messages	Error Messages
UPEST	UPEST IN EXECUTION	(Same as for UPPPIN)
UPACT	UPACT IN EXECUTION	(card image) ILLEGAL UDC CONTENTS (card image) ILLEGAL UNIT AMOUNT CONTENTS
OPCT	OPCT IN EXECUTION	
ASIG	ASIG IN EXECUTION	
SRTER	SRTER IN EXECUTION	
PROP	PROP IN EXECUTION	ERRORS CAUSED TERMINATION, SEE ERROR REPORT ERROR, SUMMARY NUMBER xxxxxxxxxxxxxxxxx ON LEVEL ABOVE PARENT (See Note) WARNING, PARENT OF SUMMARY NUMBER xxxxxxxxxxxxxxxxx NOT ON NEXT HIGHEST LEVEL WARNING, SUMMARY NUMBER xxxxxxxxxxxxxxxxx WITH NO PARENT IS NOT ON LEVEL 01 WARNING, POSSIBLE TAPE ERROR, CHECK BUDGET COST FOR SUMMARY NUMBER xxxxxxxxxxxxxxxxx WARNING, POSSIBLE TAPE ERROR, CHECK ESTIMATED COST FOR SUMMARY NUMBER xxxxxxxxxxxxxxxxx WARNING, POSSIBLE TAPE ERROR, CHECK ACTUAL COST FOR SUMMARY NUMBER xxxxxxxxxxxxxxxxx RATE TABLE EXCEEDED 500 LIMIT (See Note) Note: This error causes termination of the run.
PRJSTS	PRJSTS IN EXECUTION	BAD START DATE (Summary number and start date)

Subroutine	Normal Messages	Error Messages
OSRA	OSRA IN EXECUTION	BAD START DATE
OSRB	OSRB IN EXECUTION	BAD START DATE
OSRC	OSRC IN EXECUTION	BAD START DATE
OSRD	OSRD IN EXECUTION	BAD START DATE
MLD1	MLD1 IN EXECUTION	
MLD2	MLD2 IN EXECUTION	
MLD3	MLD3 IN EXECUTION	
FPL1	FPL1 IN EXECUTION	
FPL2	FPL2 IN EXECUTION	
RATERR	RATERR IN EXECUTION	

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		NO. TIB 600-190
SUBJECT: Corrections to XCPB-1384		REF. XCPB-1384

Remove the following pages from the GE-625/635 PERT/COST reference manual, replacing them with the attached pages.

Remove:

1-2	39-40
7-8	43-44
11-12	71-72
19-20	73-74
25-blank	82.1 - 82.2
27-28	83-84
29-30	85-blank

It is suggested that this cover sheet be placed in the front of the manual at the time the attached pages are inserted in the manual so that it may serve as a quick check to indicate that the changes made by this TIB have been incorporated into the manual.

1. INTRODUCTION

Management, in attempting to make more effective use of manpower and money, has become interested in the Program Evaluation and Review Technique (PERT) originated in 1958 by the U. S. Navy for use in the Polaris Missile System development.

In response to requests for such a system, General Electric provides PERT/TIME and PERT/COST programs for the GE-625/635 computers.

Information concerning the PERT/TIME program may be found in the GE-625/635 PERT/TIME reference manual, CPB-1139, and the GE-625/635 PERT/TIME system support information manual, CPB-1192.

The GE-625/635 PERT/COST program design is based on the specifications in the DOD and NASA GUIDE PERT/COST Systems Design manual, June 1962, and the Supplement No. 1 to DOD and NASA GUIDE PERT/COST Output Reports manual, March 1963.

These manuals and three volumes in the USAF PERT series -- Volume III, PERT/COST System Description Manual, December 1963, Volume IV, PERT/COST System Computer Handbook, Part 1, December 1963, and Volume V, PERT Implementation Manual, April 1964 -- provide a detailed description of the use of the PERT/COST system. All of these manuals are obtainable from the Superintendent of Documents, Pentagon Building, Washington, D. C.

HARDWARE REQUIREMENTS

System configuration requirements for the GE-625/635 PERT/COST program are:

- Central processor with 38k core storage for PERT/COST exclusive of the system software;
- Card reader;
- Printer;
- Minimum of 5 to 7 utility tapes and disc, or
- Maximum of 14 magnetic tapes with no disc. (See "File Requirements" in Chapter 5 for further clarification.)

SUPPORT PROGRAM REQUIREMENTS

The GE-625/635 PERT/COST system is operated under the control of the GE-625/635 Comprehensive Operating Supervisor (GECOS). Information regarding the GE-625/635 operating environment may be found in the following manuals:

GE-625/635 Programming Reference Manual, CPB-1004;

GE-625/635 General Loader, CPB-1008;

GE-625/635 Comprehensive Operating Supervisor, CPB-1195;

GE-625/635 File and Record Control, CPB-1003;

GE-625/635 System Editor, CPB-1138.

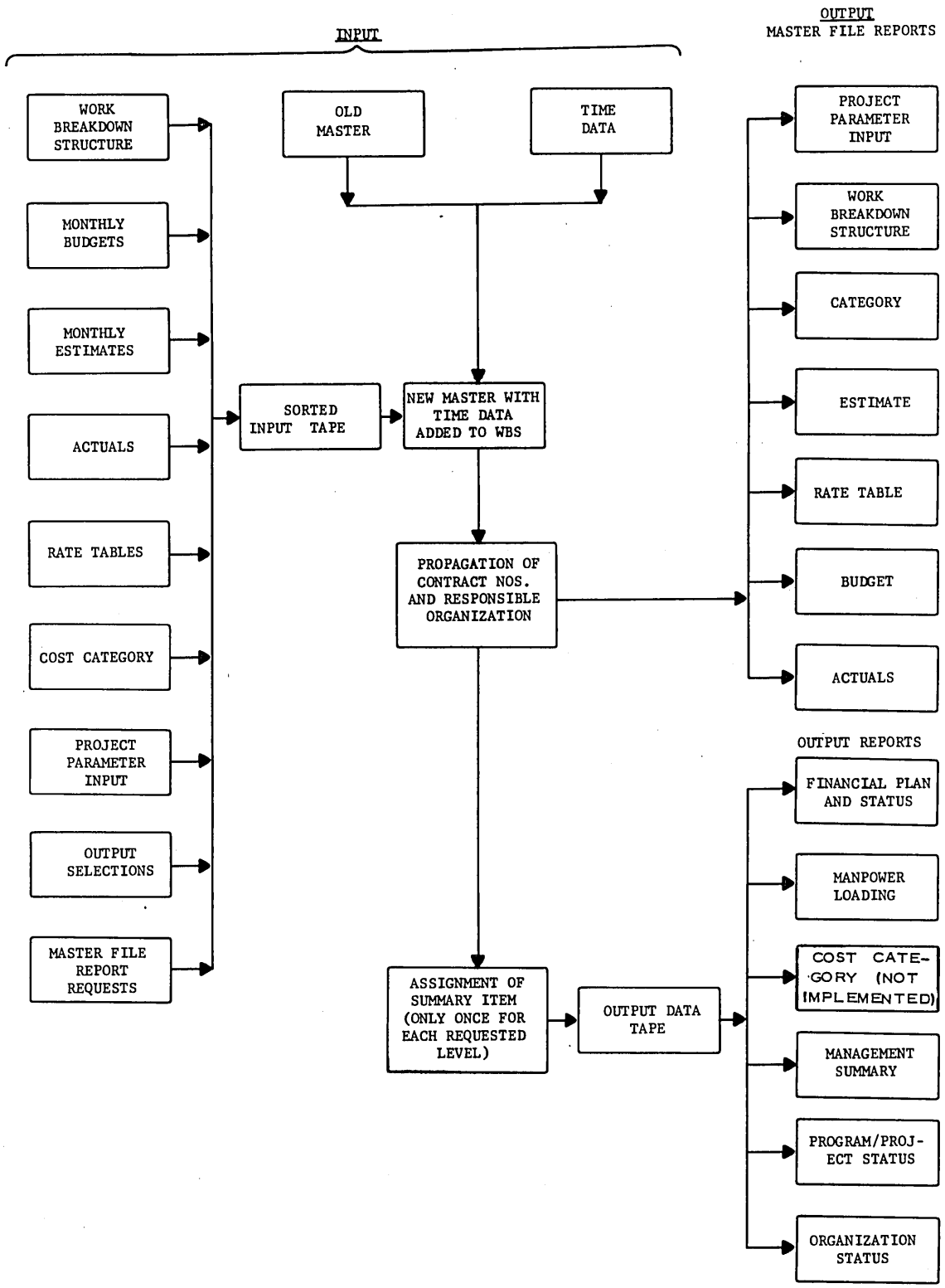

Figure 2. Normal Logic Flow

LIMITATIONS

Table sizes and input formats for the GE-625/635 PERT/COST program permit maximums of:

- 99 levels,
- 750 charge or summary numbers,
- 156 resource estimates,
- 156 budget values, and
- 156 months span in the rate table.

The master file and the TIME file are each limited to one reel of tape.

WORK BREAKDOWN STRUCTURE CARD 1

The first work breakdown structure card is used to indicate the level, parent, and description of a particular charge or summary number. There must be one of these cards for each charge or summary number when building the file or when adding a new charge or summary number; otherwise all cost data is ignored.

DATA	COLUMNS	DESCRIPTION
File control	1	The column 1 file control field is restricted to the following characters: D = deletion; a deletion prevents the old master file card identified by this card type, control field, and sequence column from appearing on the new master. The remainder of this card is not used. blank or A = addition to the master file; C = changes to cards already on the master file. In addition to the card type, the control field, and the sequence column, the only information necessary on a card headed by a C is that which has changed. Ignored fields are updated with the information which appears on the old master file.
Card type	2	This column contains a W for work breakdown structure card.
Charge or summary number	3-20	This field contains a unique designation of the particular item or element of the work breakdown structure being defined.
Sequence	21	An A indicates that this is the first work breakdown structure card for this charge or summary number.
Level	22-23	This field contains the number of the tier or level on the work breakdown structure at which this charge or summary number appears.

DATA	COLUMNS	DESCRIPTION
Parent	24-41	Enter the summary number of the higher item on the program breakdown into which the time and cost data for this item are summarized. If the parent is not at the next higher level, a precautionary diagnostic will be produced and normal processing will continue. This field is left blank for a level one entry.
Charge or summary number description	42-80	This field contains an alphanumeric description of the summary item being defined.

WORK BREAKDOWN STRUCTURE CARD 2

The second work breakdown structure card is used to indicate the start and end dates and start and end events that correspond to the TIME network. It also includes the responsible organization and the contract number for this charge or summary number. This card must be present when using budget or estimate cards; otherwise it is optional.

DATA	COLUMNS	DESCRIPTION
File control	1	See work breakdown structure card 1.
Card type	2	This column contains a W for work breakdown structure card.
Charge or summary number	3-20	This is the same as work breakdown structure card 1.
Sequence	21	This column contains a B for second work breakdown structure card for this charge or summary number.
Start date	22-28	Enter the scheduled start date for this charge or summary number in day, month, year order (01JUN67). This date indicates when the monthly type costs (card types 4 and 5) applicable to this charge or summary number are to be applied.
End date	29-35	Enter the scheduled finish date for this charge or summary number in day, month, year order (03JUN67).
Start event	36-43	This field contains the network event corresponding to the start of this charge or summary number.

MASTER FILE INFORMATION CARD

There is only one master file information card. It indicates which files are present in this running and requests various master file reports.

DATA	COLUMNS	DESCRIPTION
File control	1	This column is of no significance on this card.
Card type	2	This column contains an M for master file.
Sequence	3	Since one card is sufficient to define the necessary parameters for this card type, this column is normally blank. Unlike most card types this card is not entered onto the master file, and numeric sequence entries have no meaning.
Old master	4-9	Any entry in this field indicates that an old master file is present. CAUTION: If this card is not present or this field is left blank and there is an existing old master file, it will be destroyed.
New master	10-15	Any entry in this field indicates that the user wants to save the generated new master file. The necessary control card ($ TAPE) must be entered in the file control section.
New TIME file	16-21	Any entry in this field indicates that a new TIME file from the GE-625/635 PERT/TIME program is present. This must be file 07 from that program sorted in event number order. Any TIME information from the old master file is dropped and new information is selected from the new TIME file as needed. The entire TIME file is copied onto the new master file for possible future reference. If these six columns are ignored, any existing TIME data is copied from the old master file onto the new master file and the indicated information is made available for the output sections.
Update run	22	Any entry into this field causes "current cycle" actuals appearing on the old master to be added into the "all previous" actuals as the new master is written. Actuals appearing on update cards on this run are accumulated into the current cycle.

DATA	COLUMNS	DESCRIPTION
Master file reports	23-29	Any entry in the appropriate column causes the below-named report to be generated.
	23	Project parameter input report
	24	Work breakdown structure report
	25	Estimate report
	26	Budget report
	27	Actual report
	28	Rate report
	29	Category report
	30-80	Not used.

PROJECT PARAMETER INPUT CARD

There is only one project parameter input card. It is used to enter various parameters for each project. These items include overhead percent numbers and their levels, the term of the increment, cutoff date, and release date.

DATA	COLUMNS	DESCRIPTION
File control	1	This field has no significance on this card.
Card type	2	This column contains a P for project parameter input.
Sequence	3	An entry of A defines the first of the project parameter input cards. Currently, only one exists, and this field may be ignored.
Overhead percent number 1	4-10	This is a general percentage factor to be applied to the total of budget and estimate costs applied to (or summing into) an end item. A decimal point is assumed between the third and fourth characters.
Applicable level	11-12	This field defines the level at which the overhead percent number 1 applies. All costs applied to (or summing into) end items at this level will be increased by the indicated percentage.
Overhead percent number 2	13-19	This is an independent percentage factor but similar to overhead percent number 1.

RATE TABLE CARD

The rate table card is used to enter rates to be applied to budget and estimate cost pieces. Rates are applied only for this running. The budget and estimate values from the original input are carried on the master file unaffected by the rates. This card is optional.

DATA	COLUMNS	DESCRIPTION
File control	1	See work breakdown structure card 1.
Card type	2	Enter R for rate table card.
Performing organization	3-8	This field contains the identification of the department or organization that will do the work.
Resource code	9-12	This field contains the identification of the particular manpower skill or material type used by the performing organization.
Effective date	13-17	This is the date in month, year order (JUN66) that the rate described on this card takes effect. This rate takes precedence over any chronologically previous rate for cost pieces falling in this time period.
Budget or estimate	18	This column allows different rates to be applied to budget and estimate cost pieces. A blank entry specifies that the rate entry is applicable to both budget and estimate. A "B" indicates the rate is for budget only; an "E" indicates estimate only.
Sequence	19	Since one card is sufficient to define the necessary parameters for this card type, this column is normally blank.
Unit conversion factor	20-30	This is the number of equivalent dollars per unit for this rate. A decimal point is assumed between the eighth and ninth digits.
Overhead unit conversion	31-41	This is the overhead unit conversion amount for this rate. A decimal point is assumed between the eighth and ninth digits.
Overhead conversion percent	42-48	The dollar amount as obtained through the unit conversion factor will be raised by this indicated percentage. A decimal point is assumed between the third and fourth digits. An entry in the overhead unit conversion factor causes this field to be ignored.
	49-80	Not used.

CATEGORY CARD*

There are times when it is convenient for the user to see cost data grouped according to its resources rather than by the organization involved. The category card permits the user to group similar resources into categories for reporting purposes. This card is optional. When it is used, there can be more than one of these cards.

DATA	COLUMNS	DESCRIPTION
File control	1	See work breakdown structure card 1.
Card type	2	Enter 6 for category.
Category identification	3-20	This is an alphanumeric identifier for this category.
Sequence	21	Since more than one card might be necessary to define the parameters for this card type, this sequence field must contain an alphabetical sequencing for each card used. Up to 26 cards may be used to define up to 364 category members (i.e., resource codes for each category). Letters may be skipped.
Category number	22-25 26-29 30-33 34-37 38-41 42-45 46-49 50-53 54-57 58-61 62-65 66-69 70-73 74-77	Each alphabetically sequenced card defines up to 14 resource codes belonging to this category. A card does not have to be full, even though it is followed by later cards in the sequence.
	78-80	Not used.

* Cost category information may be entered on the master file, but the cost category report is not implemented.

GE-625/635 PERT/COST

ACTUAL CARDS

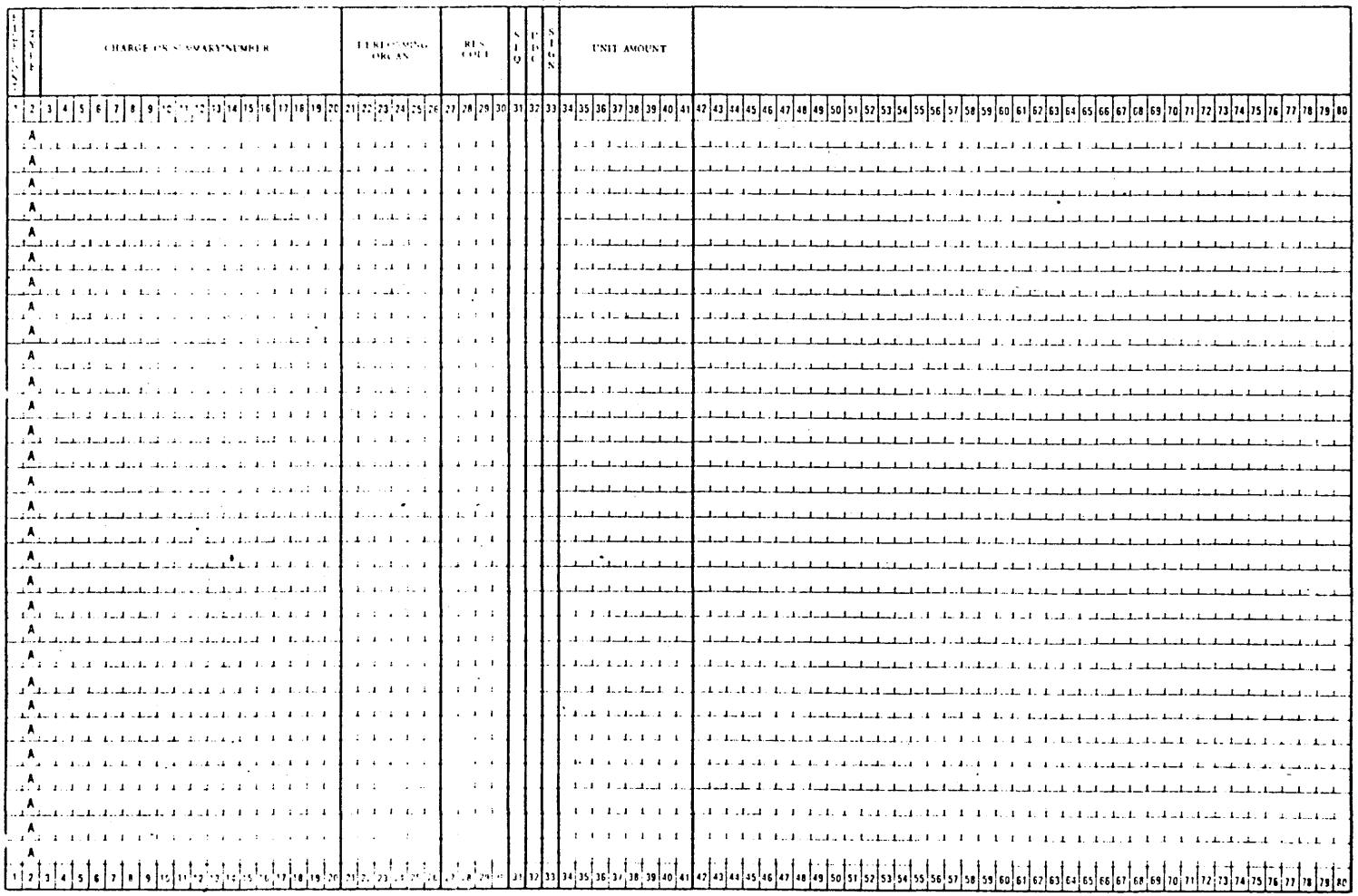

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Figure 7. Actual Cards Coding Form

ACTUAL CARD

The actual card is used to enter the number of units that are to be converted into dollars.

DATA	COLUMNS	DESCRIPTION
File control	1	See work breakdown structure card 1.
Card type	2	This column contains an A for actual card.
Charge or summary number	3-20	This is the same as work breakdown structure card 1.
Performing organization	21-26	Enter the identification of the department or organization that will do the work.
Resource code	27-30	Enter the identification of the particular manpower skill or material type used by the performing organization.
Sequence	31	Since one card is sufficient to define the necessary parameters for this card type, this column is normally blank.
UDC	32	See the UDC field in the estimating card for UDC values and their meanings.
Sign	33	If a minus sign is entered here the unit amount will be subtracted from the current actuals carried on the old master to correct previous amounts erroneously entered. If this column is left blank or a plus sign is entered, the values are added to those on the old master.
Unit amount	34-41	This is the number of units (man-hours, for example) that are to be converted to dollars. The conversion depends on the specific UDC code entered.
	42-80	Not used.

SUMMARY OF INPUT REQUIREMENTS

The master file information, and output request cards are always required in running a PERT/COST cycle. The project parameter input card is required when initializing a work breakdown structure. For usage of the remaining cards see Figure 8. Note that when entering any cost data, there must either have been a WBS2 card entered previously, or else one must be entered on this running.

	WBS1	WBS2	WBS3	EST	BUD	ACT	RATE
When entering a new charge or summary no.	R	0	0				
When entering cost estimates	*	*	0	R			0
When entering budgeted costs	*	*	0		R		0
When entering actual costs	*	0	0			R	
When special rates are to be applied	*						R

Legend:

R = Required

* = Required if not previously entered

0 = Optional

space = irrelevant

Figure 8. Input Requirements Chart

INPUT TO SAMPLE PROBLEM

The following pages show the input data used to produce the reports shown in Chapter 4.

The following is a list of the PERT/TIME input data which produces the TIME file for PERT/COST.

```
PROJECT S PROPULSION SYSTEM                                          TRW   18MAY65
01MSONETMSONET19MAY65180CT66100005
E
1        600      610       50
9        600      610 210816 5237   WU09 REQUEST QUOTATIONS FOR FILTER
1        610      620       30
9        610      620 210916 5237   WU10 PLACE PURCHASE ORDER FOR FILTER
1        620      630       10
9        620      630 210116 9710   WU02 WRITE APPV FILTER ACCEP TEST PROCDR
1        630      640       50
9        630      640        5237        RECEIVE FILTER FROM VENDOR
1        640      650       20
9        640      650 210116 9710 P1WU02 TEST FILTER PER ACCEP TEST PROCEDUR
1        565      660      100
9        565      660 210500 9521 P3WU06 VEHICLE INTEGRATION CHECK OUT
1        300      700       40
9        300      700 210200 9715 P1WU03 WRITE APPV REGULATOR SPECS
1        700      710       50
9        700      710 210800 5237   WU09 REQUEST QUOTATIONS FOR REGULATOR
1        710      720       30
9        710      720 210900 5237   WU10 PLACE PURCHASE ORDER FOR REGULATOR
1        720      730       20
9        720      730 210100 9710 P1WU02 WRITE APPV REGLTR ACCEP TEST PROCDR
1        730      740       70
9        730      740        5237        RECEIVE REGULATOR FROM VENDOR
1        740      750       50
9        740      750 210100 9710 P1WU02 TEST REGULATOR PER ACCEP TEST PROCD
1        310      320      160
9        310      320 210317 9571 P2WU05 FABRICATE ASSEM FILL VALVE COMPONET
1        300      330      140
9        300      330 210219 9715 P1WU03 DESIGN RELEASE PLUMBING DRAWINGS
1        330      340      100
9        330      340 210319 9571 P2WU05 FABRICATE PLUMBING COMPONENTS
1        300      350      110
9        300      350 210200 9715 P1WU03 DESIGN RELEASE MANIFOLD DRAWINGS
1        350      360      100
9        350      360 210300 9571 P2WU05 FABRICATE MANIFOLD
1        300      400       50
9        300      400 210213 9715 P1WU03 DESIGN RELEASE PRESSURE VESSEL DRWG
1        400      410       50
9        400      410 210813 5237   WU09 REQUEST QUOTATIONS FOR PRES VESSEL
1        410      420       30
9        410      420 210913 5237   WU10 PLACE PURCHASE ORDER FOR PRESUR VES
1        420      430       30
9        420      430 210113 9710 P1WU02 WRITE APPV PV ACCEPT TEST PROCEDURE
1        430      440       80
9        430      440        5237        RECEIVE PRESSURE VESSEL FROM VENDOR
1        440      450       60
9        440      450 210713 9712 P3WU08 TEST PRESSURE VESSEL PER ACCEPT PRO
1        320      460       60
9        320      460 210600 9522 P3WU07 INTEGRT TEST FILL VALVE IN FEED SYS
1        340      460       50
9        340      460 210600 9522 P3WU07 INTEGRT PLUMBING IN FEED SYS TEST
```

```
1         360       460        40
9         360       460 210600 9522 P3WU07 INTEGRAT MANIFOLD IN FEED SYS TEST
1         450       460        40
9         450       460 210500 9521 P3WU06 INTEGRAT PRESS VESSEL FEED SYS TEST
1         550       460        40
9         550       460         9521        INTEGRT VALVES IN FEED SYS TEST
1         650       460        40
9         650       460 210500 9521 P3WU06 INTEGRAT FILTER IN FEED SYS TEST
1         750       460        40
9         750       460 210500 9521 P3WU06 INTEGRAT REGULATOR IN FEED SYS TEST
1         300       500        40
9         300       500 210214 9715 P1WU03 WRITE APPV VALVE SPECS
1         500       510        50
9         500       510 210814 5237   WU09 REQUEST QUOTATIONS FOR VALVES
1         100       110        60
9         100       110 210000 9703   WU01 FORMULATE PROPULSION SYS SPECIFICAT
1         110       120        40
9         110       120 210200 9715   WU03 LAYOUT SYS MECH STRUC INTERFACES
1         120       130        50
9         120       130 210000 5230   WU01 PLACE PURCHASE ORDER FOR ENGINE
1         130       140       200
9         130       140 210000 9733   WU01 WRITE APPV ENGINE ACCEPT TEST PROCD
1         140       150        40
9         140       150 210000 9733   WU01 TEST ENGINE PER ACCEPTANC PROCEDURE
1         150       160        40
9         150       160 210000 5250   WU01 RECEIVE ENGINE FROM VENDOR
1         120       200        30
9         120       200 210000 9715   WU01 LAYOUT TANKAGE MECH STRUC INTERFACE
1         200       210        70
9         200       210 210211 9715 P1WU03 DESIGN RELEASEF2 TANK DRAWINGS
1         210       220       230
9         210       220 210411 9570 P2WU04 FABRICATE F2TANK COMPONENTS
1         230       220        20
9         230       220 210400 9570 P2WU04 ASSEMBLE TEST F2TANK INSULA
1         210       230       100
9         210       230 210411 9570 P2WU04 FABRICATE F2TANK INSULATION
1         220       240       110
9         220       240 210611 9522 P3WU07 ASSEMBLE TEST F2TANK
1         200       260        70
9         200       260 210212 9715 P1WU03 DESIGN RELEASEH2 TANK DRAWINGS
1         260       270       230
9         260       270 210412 9570 P2WU04 FABRICATE H2TANK COMPONENTS
1         280       270        20
9         280       270 210400 9570 P2WU04 ASSEMBLE TEST H2TANK INSULATION
1         260       280       100
9         260       280 210400 9570 P2WU04 FABRICATE H2TANK INSULATION
1         270       290       110
9         270       290 210612 9522 P3WU07 ASSEMBLE TEST H2 TANK
1         120       300        50
9         120       300 210200 9517 P1WU03 LAYOUT FEED SYS MECH STRUC INTERFAC
1         300       310       180
9         300       310 210217 9715 P1WU03 DESIGN RELEASE FILL VALVE DRAWINGS
1         510       520        30
```

4. OUTPUT REPORTS

There are eleven output reports in the GE-625/635 PERT/COST program. These are selected by the output report options on the output request card. These reports include a management summary report, a program/ project status report, four organization status reports, two financial plan status reports, and three manpower loading reports.

All of these reports have the same heading information. Figure 9 shows the format of the headings followed by an explanation of how this information is obtained.

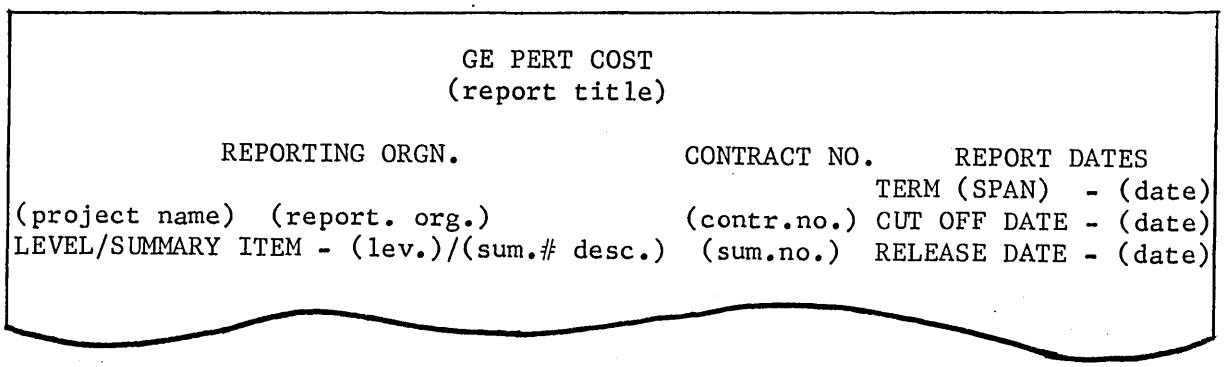

Figure 9. Headings of Output Reports

Information	Source
Report title	Output report card, columns 4-27
Project name	Work breakdown structure card 3, columns 36-56
Reporting organization	Work breakdown structure card 3, columns 22-35
Contract number	Work breakdown structure card 2, columns 58-75
Level number	Work breakdown structure card 1, columns 22-23

Information	Source
Charge or summary number description	Work breakdown structure card 1, columns 42-80
Charge or summary number	Work breakdown structure card 1, columns 3-20
Term (span) date	Project parameter input card, columns 22-35
Cutoff date	Project parameter input card, columns 36-42
Release date	Project parameter input card, columns 43-51

In addition to selecting the reports that he needs, the user must also carefully select the appropriate level of reporting. Any of the PERT/COST reports may be produced at any level of the work breakdown structure.

The sample reports used in the remainder of this chapter are based on the test data described in the preceding chapter.

MANAGEMENT SUMMARY REPORT

The Management Summary Report tells management which area or areas of the program may need management attention. It shows the current and projected cost status of the total program and of each of the major component items or elements within the program.

The Management Summary Report presents cost information for each level of the work breakdown structure; that is, a level 1 Management Summary Report provides level 1 and 2 cost data, level 2 Management Summary Report provides level 2 and 3 cost data, etc. These cost values have been summed upward through the work breakdown structure.

Figure 10 is a sample of the Management Summary Report.

Cost of Work

The cost of work is calculated for the work performed to date and the projected totals at completion and is shown in thousands of dollars.

- Work Performed to Date. The work performed to date figures include the value of work performed, the actual cost, and the (overrun)/underrun.

GE PERT COST
MANPOWER LOADING REPORT
BY PERF ORGN, MONTH, RESOURCE

	REPORTING ORGN.	CONTRACT NO.	REPORT DATES
REPORT ORGAN 2 DESCR	REPORT ORGAN 2	CONTRACT NUMBER 2	TERM (SPAN)-
LEVEL/SUMMARY ITEM- 2/SUMMARY NUMBER 12	DESCRIPTION SUMMARY NUMBER 12		CUT OFF DATE- 01JUN65
			RELEASE DATE- RELEASE D

IDENTIFICATION				MANHOURS				TIME
MONTH	RES (SKILL) CODE	PERF ORGN	CHARGE NUMBER	ACTUAL	PLANNED	LATEST REVISED ESTIMATE	(OVER) UNDER PLAN	MOST CRIT SLACK (WKS)
JUN65	RC02	PO 02			1,000	1,000		
TOTAL					1,000	1,000		
JUL65	RC04	PO 02			8,000	8,000		
TOTAL					8,000	8,000		
AUG65	RC02	PO 02			13,000	13,000		
TOTAL					13,000	13,000		
SEP65	RC04	PO 02			6,000	6,000		
TOTAL					6,000	6,000		
OCT65	RC04	PO 02			2,000	2,000		190.0
TOTAL					2,000	2,000		
DEC65	RC04	PO 02			1,440	1,440		190.0
TOTAL					1,440	1,440		
		TOTAL			31,440	31,440		

Figure 20. Manpower Loading Report 3 (cont'd.)

MASTER FILE REPORTS

In addition to the output reports, the PERT/COST program produces reports of information currently on the master file. These reports are straight record listings in the input card format for that report. They are requested in columns 23-29 of the master file information card.

Figure 21 shows a sample of each of the following master file reports:

- Project Parameter Input Report
- Rate Report
- Work Breakdown Structure Report
- Budget Report
- Estimate Report
- Actual Report

MASTER FILE REPORTS - PROJECT PARAMETER REPORT DATE 01JUN66 PAGE 1

P 10000002 02000003TOTAL PROGRAM 01JUN66RELEASE D1

MASTER FILE REPORTS - RATE TABLE REPORT DATE 01JUN66 PAGE 1

R	PO	01RC01	4000	1000		EFFECTIVE DATE	JAN66
R	PO	01RC01	5000		70000	EFFECTIVE DATE	AUG66
R	PO	01RC03	3000	3000		EFFECTIVE DATE	JAN66
R	PO	01RC03	4000		20000	EFFECTIVE DATE	JUL67
R	PO	01RC07	4000		200000	EFFECTIVE DATE	JAN66
R	PO	02RC02	3000	1000		EFFECTIVE DATE	JAN66
R	PO	02RC02	5000		100000	EFFECTIVE DATE	FEB66
R	PO	02RC04	5000	2000		EFFECTIVE DATE	JAN66
R	PO	02RC04	3000		30000	EFFECTIVE DATE	JUN67
R	PO	03RC01	3500	2000		EFFECTIVE DATE	JAN66
R	PO	03RC01	3000		90000	EFFECTIVE DATE	MAR66
R	PO	03RC02	3750	3000		EFFECTIVE DATE	JAN66
R	PO	03RC02	4000		80000	EFFECTIVE DATE	MAY66
R	PO	03RC06	4750	1000		EFFECTIVE DATE	JAN66
R	PO	03RC06	5000		40000	EFFECTIVE DATE	APR67
R	PO	04RC04	4000		500000	EFFECTIVE DATE	JAN66
R	PO	04RC04	5000		10000	EFFECTIVE DATE	SEP67
R	PO	04RC05	4500	3000		EFFECTIVE DATE	JAN66
R	PO	04RC05	4000		50000	EFFECTIVE DATE	JAN67
R	PO	05RC04	4250	2000		EFFECTIVE DATE	JAN66
R	PO	05RC04	3000		60000	EFFECTIVE DATE	NOV66
R	PO	06RC03	5000		400000	EFFECTIVE DATE	JAN66
R	PO	06RC03	3000		5000	EFFECTIVE DATE	OCT67
R	PO	07RC03	3000		300000	EFFECTIVE DATE	JAN66
R	PO	07RC03	4000		0001	EFFECTIVE DATE	DEC67

Figure 21. Master File Reports

```
        MASTER FILE REPORTS - WORK BREAKDOWN REPORT                    DATE  01JUN66                PAGE      1


    W  SUMMARY NUMBER  01    A  04    SUMMARY NUMBER  02  SUMMARY    NUMBER    01     DESCRIPTION
    W  SUMMARY NUMBER  01    B  01JAN65   01APR65   00000110   00000510
    W  SUMMARY NUMBER  01    Z            S   02NOV65     04JAN66                +090,0
    W  SUMMARY NUMBER  02    A  03    SUMMARY NUMBER  04  SUMMARY    NUMBER    02     DESCRIPTION
    W  SUMMARY NUMBER  03    A  04    SUMMARY NUMBER  02  SUMMARY    NUMBER    03     DESCRIPTION
    W  SUMMARY NUMBER  03    B  01FEB65   01MAY65   00000120   00000520
    W  SUMMARY NUMBER  03    Z            S   23NOV65     25JAN66                +090,0
    W  SUMMARY NUMBER  04    A  02    SUMMARY NUMBER  08  SUMMARY    NUMBER    04     DESCRIPTION
    W  SUMMARY NUMBER  04    B                                                RESP 2
    W  SUMMARY NUMBER  05    A  04    SUMMARY NUMBER  06  SUMMARY    NUMBER    05     DESCRIPTION
    W  SUMMARY NUMBER  05    B  01MAR65   01JUN65   00000130   00000530
    W  SUMMARY NUMBER  05    Z            S   21DEC65     22FEB66                +090,0
    W  SUMMARY NUMBER  06    A  03    SUMMARY NUMBER  04  SUMMARY    NUMBER    06     DESCRIPTION
    W  SUMMARY NUMBER  06    B  01APR65   01JUL65   00000140   00000540  RESP 3
    W  SUMMARY NUMBER  06    Z            S   22FEB66     26APR66                +090,0
    W  SUMMARY NUMBER  07    A  04    SUMMARY NUMBER  06  SUMMARY    NUMBER    07     DESCRIPTION
    W  SUMMARY NUMBER  07    B  01MAY65   01AUG65   00000150   00000550
    W  SUMMARY NUMBER  07    Z            S   29MAR66     31MAY66                +090,0
    W  SUMMARY NUMBER  08    A  01                        SUMMARY    NUMBER    08     DESCRIPTION
    W  SUMMARY NUMBER  08    B                                                RESP 1   CONTRACT NUMBER  1
    W  SUMMARY NUMBER  08    C  REPORT ORGAN 1    REPORT ORGAN  1 DESCR
    W  SUMMARY NUMBER  09    A  04    SUMMARY NUMBER  10  SUMMARY    NUMBER    09     DESCRIPTION
    W  SUMMARY NUMBER  09    B  01JUN65   01SEP65   00000160   00000560
    W  SUMMARY NUMBER  09    Z            S   28JUN66     28JUN66
    W  SUMMARY NUMBER  10    A  03    SUMMARY NUMBER  12  SUMMARY    NUMBER    10     DESCRIPTION
    W  SUMMARY NUMBER  10    B                                                        CONTRACT NUMBER  3
    W  SUMMARY NUMBER  11    A  04    SUMMARY NUMBER  10  SUMMARY    NUMBER    11     DESCRIPTION
    W  SUMMARY NUMBER  11    B  01JUL65   01OCT65   00000200   00000565
    W  SUMMARY NUMBER  11    Z            S   09AUG66     09AUG66
    W  SUMMARY NUMBER  12    A  02    SUMMARY NUMBER  08  SUMMARY    NUMBER    12     DESCRIPTION
    W  SUMMARY NUMBER  12    B  01AUG65   01NOV65   00000210   00000600          CONTRACT NUMBER  2
    W  SUMMARY NUMBER  12    C  REPORT ORGAN 2    REPORT ORGAN  2 DESCR
    W  SUMMARY NUMBER  12    Z            S   28SEP65     08FEB66                +190,0
    W  SUMMARY NUMBER  13    A  04    SUMMARY NUMBER  14  SUMMARY    NUMBER    13     DESCRIPTION
    W  SUMMARY NUMBER  13    B  01SEP65   01DEC65   00000220   00000610
    W  SUMMARY NUMBER  13    Z            S   02NOV65     15MAR66                +190,0
    W  SUMMARY NUMBER  14    A  03    SUMMARY NUMBER  12  SUMMARY    NUMBER    14     DESCRIPTION
    W  SUMMARY NUMBER  14    C  REPORT ORGAN 3    REPORT ORGAN  3 DESCR
    W  SUMMARY NUMBER  15    A  04    SUMMARY NUMBER  14  SUMMARY    NUMBER    15     DESCRIPTION
    W  SUMMARY NUMBER  15    B  01OCT65   01JAN66   00000230   00000620
    W  SUMMARY NUMBER  15    C  REPORT ORGAN 4    REPORT ORGAN  4 DESCR
    W  SUMMARY NUMBER  15    Z            S   23NOV65     05APR66                +190,0
```

Figure 21. Master File Reports (cont'd.)

```
$          LINK      L00F12,L00F11
                     UPEST PROGRAM
$          LINK      L00F13,L00F12
                     UPACTU PROGRAM
$          LINK      L00P00,L00F13
                     PROP PROGRAM
$          LINK      L00000,L00P00
                     OPCT PROGRAM
$          LINK      L00A00
                     ASIG PROGRAM
$          LINK      L00S00,L00A00
                     SRTER PROGRAM
$          LINK      L00R01,L00S00
                     PRJSTS PROGRAM
$          LINK      L00R02,L00R01
                     OSRA PROGRAM
$          LINK      L00R03,L00R02
                     OSRB ORIGRAN
$          LINK      L00R04,L00R03
                     OSRC PROGRAM
$          LINK      L00R05,L00R04
                     OSRD PROGRAM
$          LINK      L00R06,L00R05
                     FPL1 PROGRAM
$          LINK      L00R07,L00R06
                     FPL2 PROGRAM
```

```
$          LINK       L00R08,L00R07

                     MLD1 PROGRAM

$          LINK       L00R09,L00R08

                     MLD2 PROGRAM

$          LINK       L00R10,L00R09

                     MLD3 PROGRAM

$          LINK       L00R12,L00R10

                     RATERR PROGRAM

$          EXECUTE
$          LIMITS     50,38000,,10000
```

The following is a list of the control cards used in running the sample problem.

```
$      TAPE    R*,X5D,,,,R*-EE
$      DISC    T2,X5,4L          OLD MASTER
$      DISC    T3,X6,10L                 NEW  MASTER
$      TAPE    T4,X7D,,1509,,TIMECOSTDATA        TIME DATA
$      NTAPE   S1,A,3                    SORT COLLATION
$      DISC    D1,X10,10L                AUXILIARY TIME
$      DISC    T1,X11,10L                SORT 1, SORTED INPUT, MODIFIED MASTER
$      TAPE    T6,X12S           SORT 3,MODIFIED OUTPUT
$      DISC    T5,X13,4L         SORT 2, MODIFIED MASTER
$      DISC    T7,X14,10L                SORT 4, REPORT SCRATCH
$      DISC    D2,X15,2L         RATE FILE
$      DISC    D3,X16,3L         CATEGORY FILE
$      DISC    D4,X17,2L         TITLE FILE
$      DISC    D5,X18,2L         ERROR FILE
$      DISC    H*,X19,75R
$      SYSOUT  RF
$      DATA    IN

$      ENDJOB
***EOF
```

FILE REQUIREMENTS

The following table shows the files in PERT/COST and their usage.

Note that T1, T5, and D5 are used for a second file after they are no longer needed for the first one.

File Name	Usage	When Required	Storage
T1	Sorted input Modified master	Always required	Tape or disc
T2	Old master	Always required. This is the file from the last running of PERT/COST. On the initial run this may be assigned to a disc file, or a blank tape may be mounted.	Tape
T3	New master	Always required. If the user does not wish to save the new master file he may put it on the disc. Otherwise it must be on tape.	Tape or disc
T4	TIME file	This is file 07 from GE-625/635 PERT/TIME. It must be present on the initial build of the master file and whenever the user wishes to insert new TIME data.	Tape
T5	Modified output Report scratch file	Always required	Tape or disc
T6	Sorted output	Always required	Tape or disc
S1 S2 S3	Sort collation files	Always required	Tape
D1	Auxiliary TIME	Always required	Tape or disc
D2	Rate table	Always required	Tape or disc
D3	Category	Always required	Tape or disc
D4	Title	Always required	Tape or disc
D5	Rate error Scratch file	Always required	Tape or disc

The following is a list of the messages produced by PERT/COST and the names of the subroutines producing them.

Subroutine	Normal Messages	Error Messages
MAINCT	MAINCT IN EXECUTION PERT/COST IS DONE	
SORTIN	SORTIN IN EXECUTION	(card image) ILLEGAL FILE CONTROL CHARACTER (card image) IGNORING RATE ENTRY BAD EFFECTIVE CYCLE (card image) ILLEGAL RECORD TYPE THE FOLLOWING BAD START DATES HAVE BEEN REPLACED BY 01 (1st date in the calendar)(summary_number, start date)
MFROUT	MFROUT IN EXECUTION	
UPPPIN	UPPPIN IN EXECUTION	(card image) IGNORING A CHANGE CARD WITH NO MATCH (card image) IGNORING A DELETION WITH NO MATCH (card image) IGNORING AN ADDITION BECAUSE OF A MATCH (card image) ILLEGAL DELETION FOLLOWED BY A CHANGE (card image) IGNORING FIRST OF TWO ADDITIONS (card image) ACCEPTING THIS ONE (card image) CHANGE CARDS HAVE CONFLICTING REQUESTS (card image) 2 of 2
UPTIME	UPTIME IN EXECUTION	(Same as for UPPPIN)
UPCATG	UPCATG IN EXECUTION	(Same as for UPPPIN)
UPRATE	UPRATE IN EXECUTION	(Same as for UPPPIN)
UPWB1	UPWB1 IN EXECUTION	(Same as for UPPPIN plus the following) (card image) ILLEGAL SEQUENCE CHARACTER
UPWB2	UPWB2 IN EXECUTION	
UPWB3	UPWB3 IN EXECUTION	(end event number) WBS END EVENT HAS NO MATCH ON USERS TIME FILE
UPBUD	UPBUD IN EXECUTION	(Same as for UPPPIN)

Subroutine	Normal Messages	Error Messages
UPEST	UPEST IN EXECUTION	(Same as for UPPPIN)
UPACT	UPACT IN EXECUTION	(card image) ILLEGAL UDC CONTENTS (card image) ILLEGAL UNIT AMOUNT CONTENTS
OPCT	OPCT IN EXECUTION	
ASIG	ASIG IN EXECUTION	
SRTER	SRTER IN EXECUTION	
PROP	PROP IN EXECUTION	ERRORS CAUSED TERMINATION, SEE ERROR REPORT ERROR, SUMMARY NUMBER xxxxxxxxxxxxxxxxxx ON LEVEL ABOVE PARENT. (This error causes termination of the run.) WARNING, PARENT OF SUMMARY NUMBER xxxxxxxxxxxxxxxxxx NOT ON NEXT HIGHER LEVEL WARNING, SUMMARY NUMBER xxxxxxxxxxxxxxxxxx WITH NO PARENT IS NOT ON LEVEL 01 WARNING, BUDGET DATA GIVEN FOR NONEXISTENT SUMMARY NUMBER xxxxxxxxxxxxxxxxxx ALL COST DATA FOR IT IS IGNORED. WARNING, ESTIMATE DATA GIVEN FOR NONEXISTENT SUMMARY NUMBER xxxxxxxxxxxxxxxxxx ALL COST DATA FOR IT IS IGNORED. WARNING, ACTUAL DATA GIVEN FOR NONEXISTENT SUMMARY NUMBER xxxxxxxxxxxxxxxxxx ALL COST DATA FOR IT IS IGNORED.
Report Programs	(Program name) IN EXECUTION	BAD START DATE (Summary number and start date.)